

ARCHITECTURAL RECORD

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Thank you very much for your editorial on the new AIA Code of Ethics [RECORD, March 1986, page 9]. We have played this one with proper procedures, many questions have been asked, and the challenges have been answered. Your focus on the issue is timely and appreciated. Harry Harmon and his committee have done an outstanding job. We should adopt this new Code of Ethics, not because it is our professional obligation but because the public deserves to know the standards we wish to bear.

John A. Busby Jr., FAIA
President
American Institute of Architects
Washington, D. C.

The AIA Code of Ethics was passed at the Institute's June convention in San Antonio.—Editor

RECORD's July editorial [page 9] really says it all (or at least most of it) about architects and housing design. I'm glad you called Gutman's book to my attention.

The University of Illinois Graduate School, where I'm privileged to be a visiting professor, has for many years been attacking this problem in its housing design studio. This program, available to masters candidates, deals not only with physical design issues but with economic feasibility models, problems in which real people (individuals as well as developers) are clients, and other aspects intended to prepare architects to understand "the practical aspects of housing."

The whole housing market, not just "the rest" of it, is in need of "truly professional attention," and it is this which the University of Illinois School of Architecture addresses, along with other optional programs that help students get real about architecture.

John B. Hackler, FAIA
Peoria, Illinois

Now that there has been some commentary about "The Wright Hand" symposium held at the University of Michigan in April [RECORD, June 1986, page 91], it may be timely to add my own questions and comments about the event and those involved.

Among things to be questioned today, one is a tendency on the part of many who are most enthusiastic about Wright's legacy to carry their partisanship almost to the point of making organic architecture into some kind of new orthodoxy—certainly the last thing Wright himself would have wanted to see. He brought design freedom to the architectural profession that came after his time, spending much verbiage in early, middle, and later life warning against attempts to

merely follow the forms of his work.

Despite the partisanship, Wright's original ideas and design principles are still comparable to "discoveries" in a nearly scientific sense, in that they are non-proprietary principles, basic to the nature of architecture, that can be followed and used by anyone else, with productive results. Recent history bears this out, and it might be a suitable subject for some other symposium.

Even if Bruno Zevi may have been carried away by the heightened feelings generated by this large gathering of architects, artists, Wright enthusiasts, and curiosity-seekers, that, too, is understandable, for Wright has become a genuine cultural phenomenon. The growing number of publications about him and his work, even a quarter century after his passing, testifies to the continuing influence of his design discoveries.

Even in my student days it was apparent that there is essential partisanship in this great art of architecture. Yet, if "The Wright Hand" symposium was a partisan performance, can you think of a better cause to be partisan about than the enduring influence Wright has left for creative freedom and cultural relevance in architecture?
Stephen W. Osborn
Architect
East Lansing, Michigan

Corrections

The silicone-coated fiberglass fabric specified for the Ontario Pavilion at Expo '86 in Vancouver (RECORD, July 1986, pages 120-131) was inadvertently omitted from Manufacturers' Sources (page 190). The fabric should have been identified as *Vestar* by ODC, Inc.

The model photograph of an office tower currently under construction next to Carnegie Hall in New York City (RECORD, June 1986, page 71) should have been credited to ©Wolfgang Hoyt/ESTO.

The news item on the restoration of the Custom House in Boston (RECORD, June 1986, page 71) incorrectly named Bruce and Robert Beals as the developers. The Beals are actually only one development team of several that have submitted proposals to the city for the building's rehabilitation.

The photograph of the New York Shakespeare Festival Theater that appeared in RECORD's July issue (page 78) should have been credited to Stephen Senigo.

September 5 through January 4
The Function of Ornament: The Architecture of Louis Sullivan, an exhibition of sketches, working drawings, photographs, building fragments, and recently commissioned models of the architect's work; at the Chicago Historical Society, Chicago.

September 21-November 16
The Architecture of Frank Gehry, a retrospective exhibition of photographs, drawings, freestanding structures, and models of the architect's work from 1964 to the present; at the Walker Art Center, Minneapolis, Minn.

October 3 through December 21
New Architecture: Foster, Rogers, Stirling, an exhibition including photographs, models, film, and video, devoted to the work of the three British architects. A series of lectures and panel discussions will accompany the exhibit; at the Royal Academy of Arts, London.

October 8-9
"Building Professionalism: Preparation for Excellence," a seminar that will recognize the accomplishments of women and minorities in architecture and focus on career planning and development; at Florida A & M University. For information: School of Architecture, Florida A & M University, Tallahassee, Fla. 32307 (904/599-3244).

October 8-11
Designer's Saturday, the annual contract furnishings market and design symposium; in New York City at manufacturers' showrooms in Manhattan and at the new International Design Center in Long Island City, Queens.

October 9-11
"Designs on Montreal: Plans for the Future," an international conference and workshop series on urban design and the revitalization of the inner city; in Montreal. For information: James Forest, Communications Coordinator, 4530 Clark St., Suite 400, Montreal, Quebec H2T-2T4 (514/849-2449).

October 26-29
IFMA '86, the seventh annual conference and exposition on facility management, sponsored by the International Facility Management Association; at the Merchandise Mart, Chicago. For information: Kathy Thomas, IFMA, Summit Tower, Suite 1410, 11 Greenway Plaza, Houston, Tex. 77046 (713/623-4362).

November 8-9
Rehab Fair Northeast, the third annual exhibition of products and services used in the rehabilitation and maintenance of older buildings; at the New Scotland Avenue Armory, Albany, N. Y. For information: Historic Albany Foundation, 44 Central Ave., Albany, N. Y. 12206 (518/463-0622).

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Publication Office: 1221 Avenue of the Americas, New York, NY, 10020. ARCHITECTURAL RECORD (ISSN0003-858X) published monthly with additional issues in April and September by McGraw-Hill, Inc. Second-class postage paid at New York, NY and additional mailing offices. Postage paid at Windsor, Ontario, Canada. Registration Number 9617.

Postmaster: Please send address changes to: Fulfillment Manager, ARCHITECTURAL RECORD, P.O. Box 2025, Mahopac, NY 10541. THIS ISSUE is published in national and separate editions. Additional pages or separate editions numbered or allowed for as follows: Eastern Section 32Ea through 32Eh. Central Section 32Ca through 32Cf. Western Section 32Wa through 32Wd. Northern Section 32Na through 32Nb. Sunbelt Section 32Sa through 32Sd.

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It is in the air. Almost everybody is doing it. Many leading newspapers around the country now have their own architectural critics, and just last spring architectural criticism was aired on public television with the "Pride of Place" series by Robert A. M. Stern, prompting rampant criticism of this particular criticism, including an assessment in RECORD (June 1986, page 77). Next year the noted architectural historian and critic Spiro Kostof will bring to the public yet another television series, giving the critics of critics, who seem to be all of us, another happy chance to assess the assessors of our built culture, while, it is to be hoped, learning something at the same time. And the critics, generally a self-invented, self-taught group (at least in the methodology of criticism), are soon to be joined by a brand-new contingent of the specially trained. This month, here in New York City, Parsons/New School is launching a three-semester graduate program in architecture and design criticism, the first of its kind, directed by architectural critic Herbert Muschamp under the auspices of Parsons's head, James Wines.

Curiously, all this is occurring at a time when several outstanding architects, acclaimed as much for their theoretical writings as for built work, have completely withdrawn from the critical milieu, saying goodbye to all that in favor of devoting their energies to building buildings. Some of the younger architects we talk to seem to be of the same mind. Said French designer Philippe Starck to RECORD editor Karen Stein, who sought to discover the theoretical concepts which underlie his design of a tiny Parisian shop: "I have no theories, I have no ideas about esthetics, and I don't give a damn." She wrote up his shop anyway ("In the pink," which will appear in RECORD, mid-September, 1986).

We notice that a great many architects are trying to understand how the media work, some because they consider the press and television to be the root of all evil, their effects catastrophic, the cause of everything that is wrong in the world of architecture, or the world at large for that matter; others, more pragmatic, because they hope the media can be made to serve their purposes, a sensible idea if there ever was one. At this year's AIA Convention in San Antonio, the AIA Committee on Design sponsored a symposium on American architectural journalism, the subject being criticism and critical independence. Chaired by architect Mark Simon, there were three events: a series of short speeches by Robert Campbell of *The Boston Globe*, David Dillon of *The Dallas Morning News*, Tom Hines of the *Philadelphia Inquirer*, and Michael Sorkin of *The Village Voice*; an interview with Manuela Hoelterhoff of *The Wall Street Journal* by Suzanne Stephens; and a panel moderated by Ms. Stephens consisting of *Progressive Architecture's* John Morris Dixon, *Architecture's* Donald Canty, and myself. The newspaper critics set to rest the widely held belief that no newspaper can publish genuine architectural criticism because of its real-estate advertisers. (We all know of newspaper critics who have been fired or, at the very least, demoted to the society page for offending developers.) Admitting that their papers may be exceptions, they each claimed total freedom to write what they choose, their messages diminished only by limited space and poor or non-existent graphics. "Our tiny drawings," said Ms. Hoelterhoff, "make every building look like an appliance."

We three on the editors' panel, while possibly making the mistake of telling our audience more about our magazines than they needed or wanted to know, attempted to set right certain commonly held misconceptions, particularly the idea that the architectural trade press does not publish much criticism, presumably because of *its* advertisers. Actually, the building-product manufacturers who advertise couldn't care less, since the type of criticism that gets published rarely includes evaluation of specific product performance. If criticism in architectural publications is muted, this reflects the desire of the magazine's editors not to offend the architect or his client, period. In spite of this very real constraint, however, the architectural press regularly and consistently deals with major critical issues.

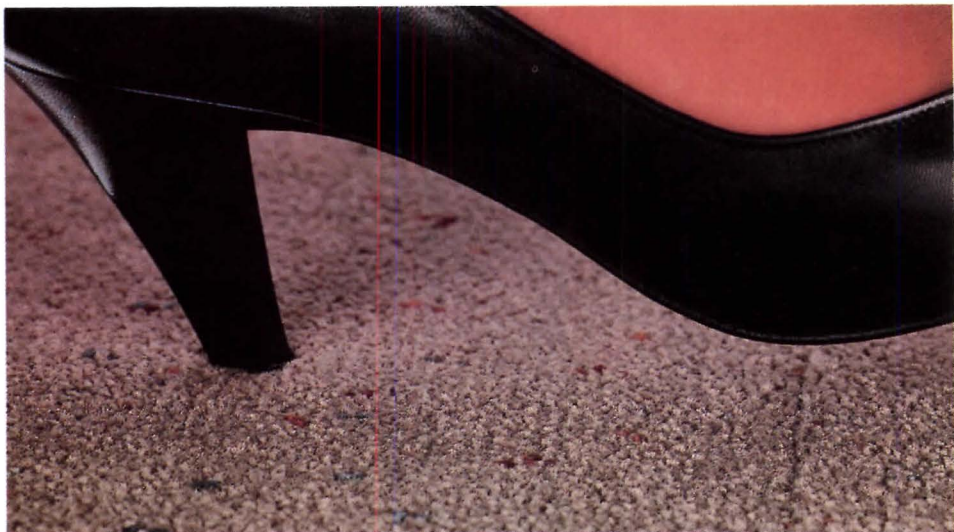
RECORD, for example, critically evaluates projects we deem to be worthy of such effort, namely buildings or urban schemes of great public importance, or those that aspire to High Art. Our Observations section, begun almost three years ago, has featured articles by, among others, Ada Louise Huxtable, Denise Scott Brown, Michael Sorkin, William Hubbard, and Roger Kimball. This month, in Observations, Michael Sorkin takes on Philip Johnson once again, but for the first time in our pages, while in the feature section RECORD editor Deborah Dietsch deals with I. M. Pei & Partners' Jacob K. Javits Convention Center. Dietsch's story has many layers: esthetic, technological, economic, political—and critical. There will be more like it.

Mildred F. Schmertz

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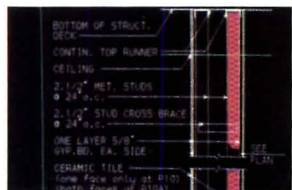
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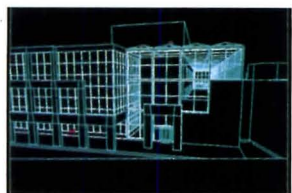
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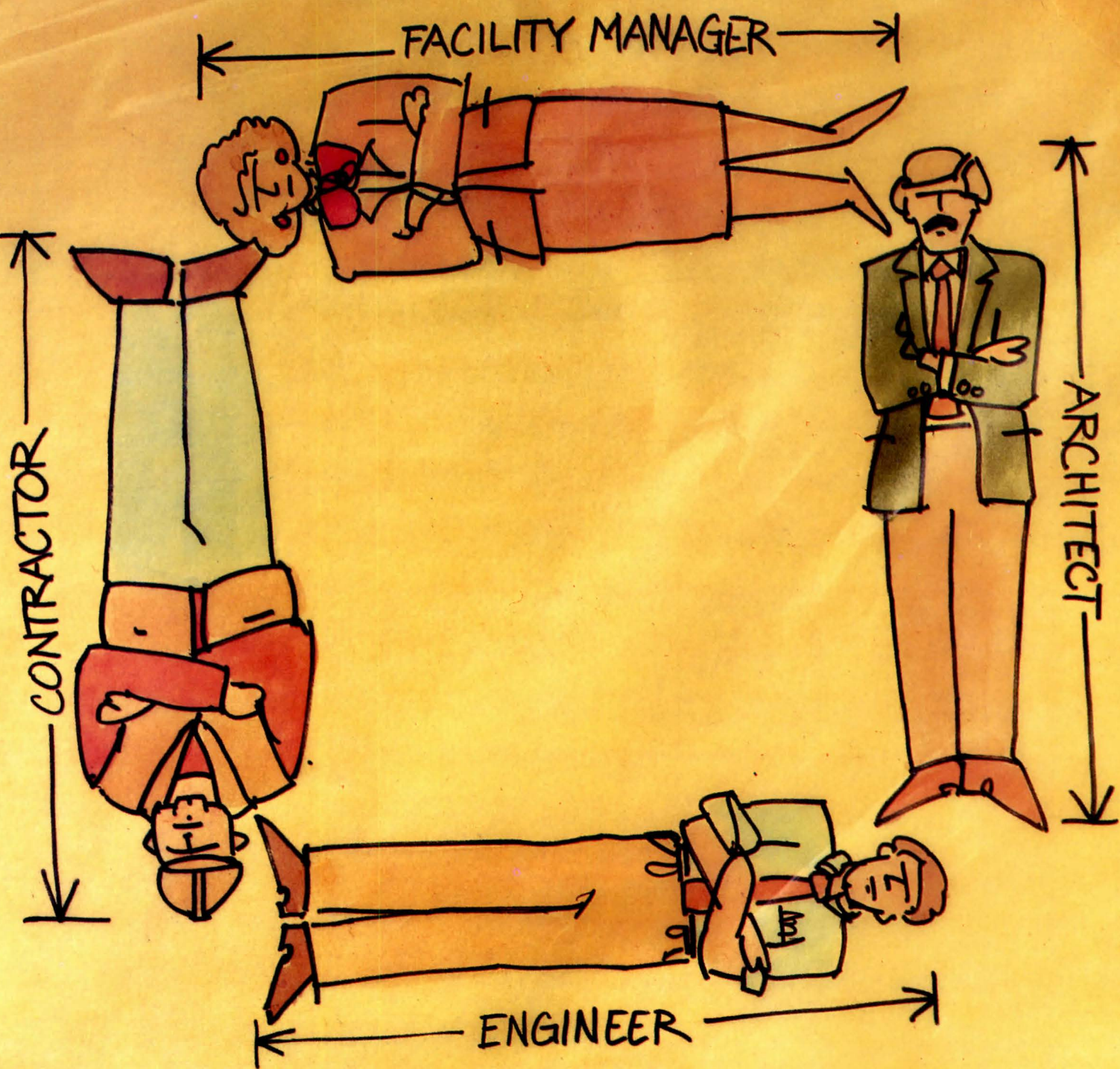
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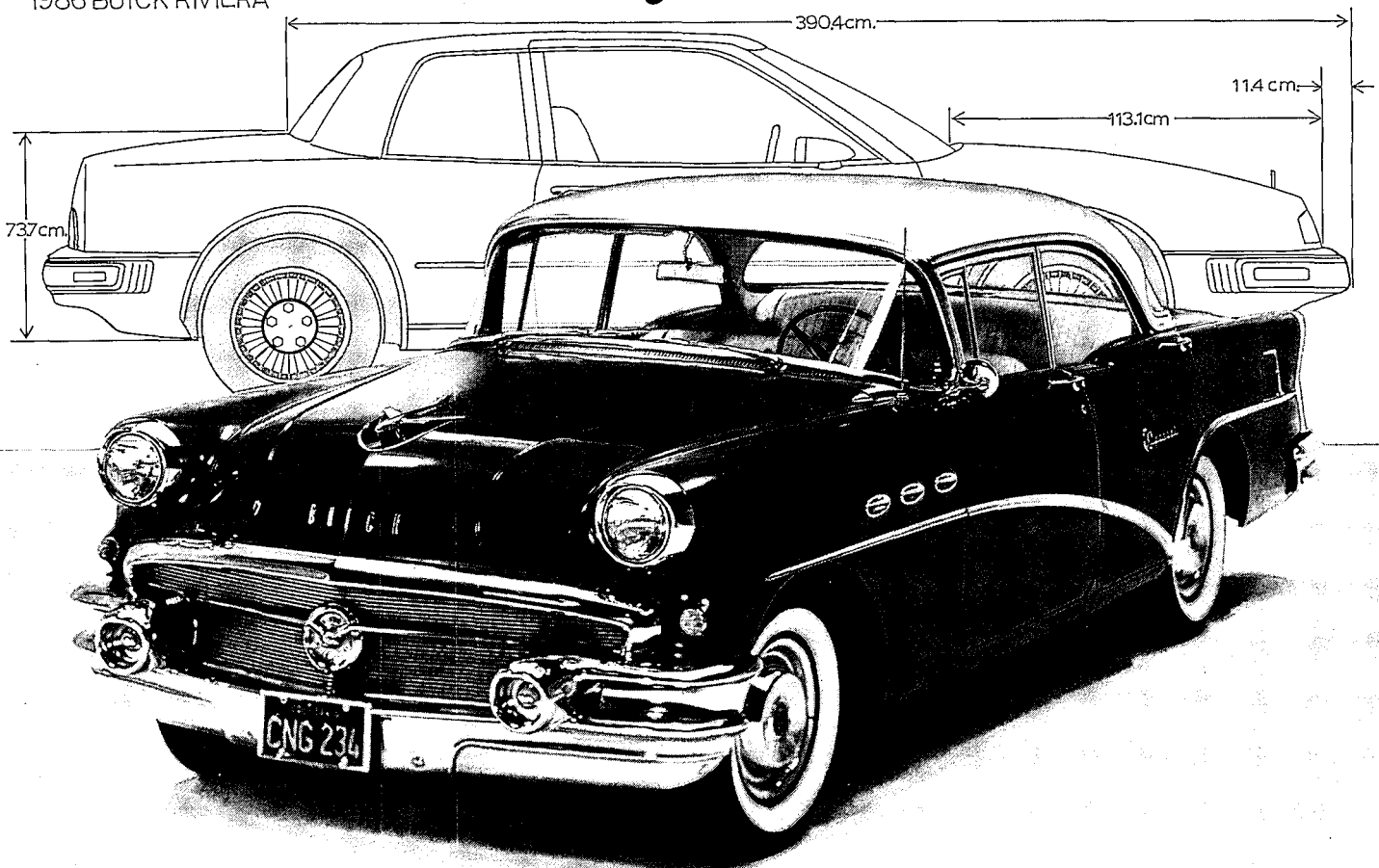
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Glass offers excellent clarity, abrasion resistance and weatherability. However, it offers only minimal impact resistance, and its design freedom comes at a cost.

ACRYLIC

While tougher than glass and initially less expensive than polycarbonate, acrylic offers only fair impact strength, no warranty and only a CC-2 flammability rating.

LEXAN[®] Polycarbonate: The uncompromising choice

LEXAN[®] polycarbonate is the most versatile glazing material available and it is CC-1 rated**.

Thirty times stronger than acrylic and 250 times stronger than glass, nothing protects your design and your client's investment better.

Today, LEXAN polycarbonate comprises a broad family of glazing products, each one tailored to meet specific performance requirements.

Among them:

LEXAN MR5 Sheet—Offering a state-of-the-art mar resistant coating on both sides, it's especially useful for high traffic areas.

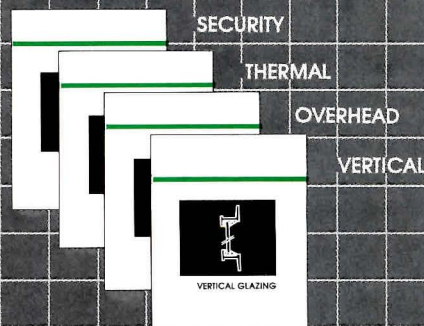
LEXAN XL Sheet—With a surface that resists yellowing and hazing, it offers on-site formability for curved applications.

LEXGARD[®] Laminates—In addition to a wide range of UL ballistics listings, they also provide forced entry protection.

LEXAN THERMOCLEAR[®] Sheet—This double-walled glazing offers economical thermal insulation.

All backed by the most comprehensive warranty† in the industry.

For more information on product selection or to subscribe to our free Glazing Seminar booklet series, call toll-free (800) 845-0600. Also refer to the 1986 Sweets Catalog, 8.26/Ge.

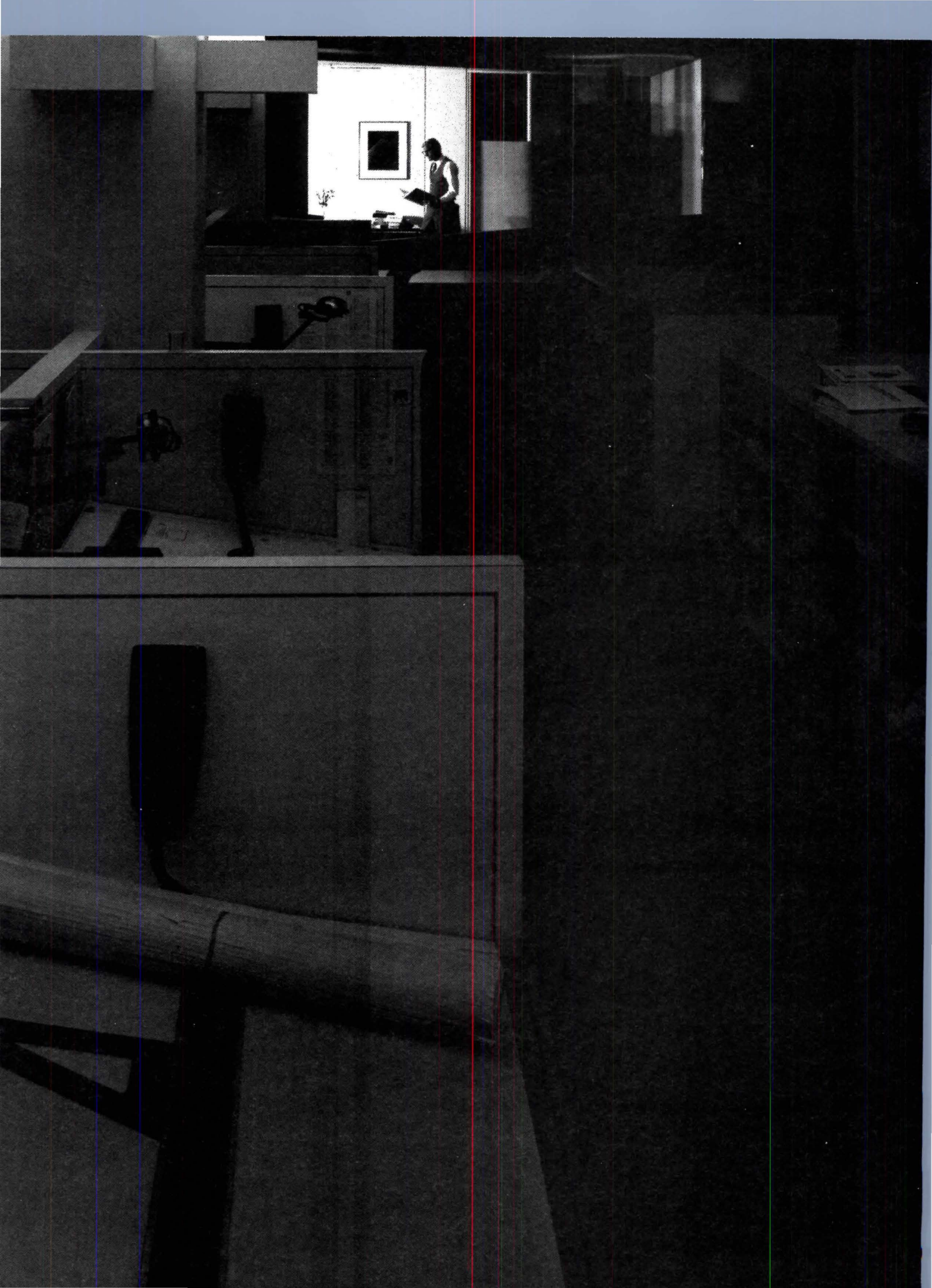


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Specify Manville.

You won't have to burn the midnight oil making roofing systems decisions.

Manville supplies all three major roofing systems: built-up, modified bitumen and single-ply.

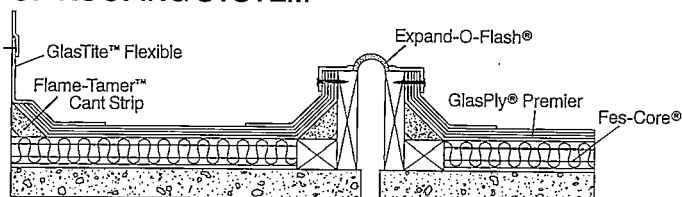
That's why Manville can eliminate a lot of after-hours work for you in the selection, design and specifications stage of your project. Manville can offer you impartial, objective recommendations resulting in the best possible roof for your building design. And this means you'll receive Manville quality in every component in the roofing system, from the deck up, including insulation, fasteners, accessories, and, of course, the membrane itself.

More than that, you can receive design and specification assistance from the industry's largest, most knowledgeable staff of full-time roofing specialists. Experienced district engineers work with you on your project from start to finish, including inspections and on-site problem solving.

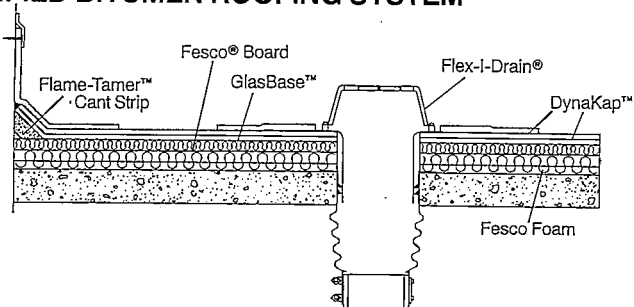
Manville gives you true single-source supply and backs it with single-source responsibility for the performance of the roofing system. Manville's unique guaranteed guarantee offers the roofing industry's broadest coverage.

Specify Manville and you'll save yourself a lot of time-consuming decision making. A helpful Manville roofing specialist is as close as your phone. Just call (303) 978-4900. For export, telex 41544104 JOHNMANVL DVR.

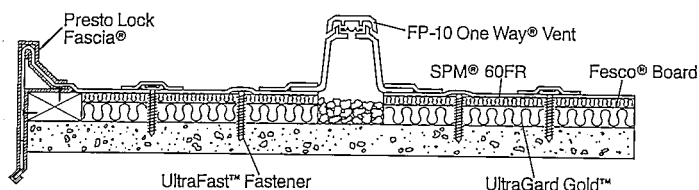
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Turn subflooring into a *smart flooring system in one step with environmentally safe Homasote 4-Way® Floor Decking.*

Smart builders have discovered that ordinary, hard, noisy, non-insulating wood subfloors are beneath them.

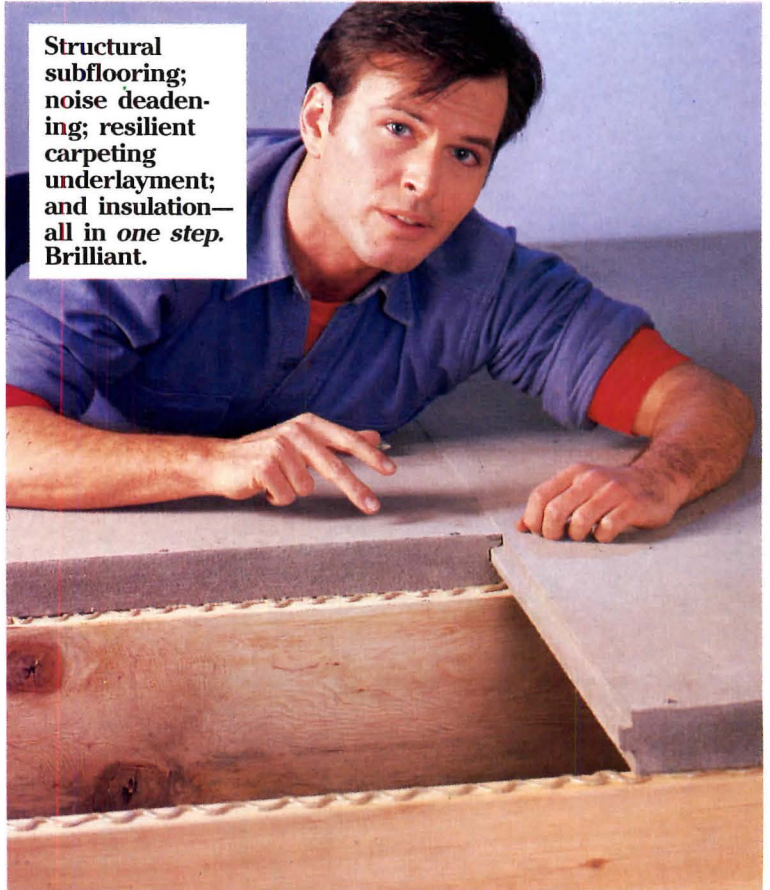
And they've found a better, smarter, more profitable alternative: the Homasote 4-Way® Floor Decking System.

Better, because it's *more* than just a structural subfloor.

It provides resilient carpeting underlayment. Adds up to R/4.5 insulation (six times the value of 5/8" wood subflooring). And deadens noise (system test ratings*: IIC-72; INR21; STC 50).

Smarter, because it's 100% environmentally safe, with absolutely *no* asbestos or formaldehyde additives. And it installs in one step.

Structural subflooring; noise deadening; resilient carpeting underlayment; and insulation—all in *one step*. Brilliant.



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More profitable, because its added performance can help convince today's energy and quality conscious buyers to sign on the bottom line.

Build this proven bottomline brilliance into *your* next commercial or residential job.

For full details, and free sample, call (609) 883-3300. Or write:

*Kodaras Acoustical Lab. Test Report 370-14-66; 370-17-66.

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C O M P A N Y

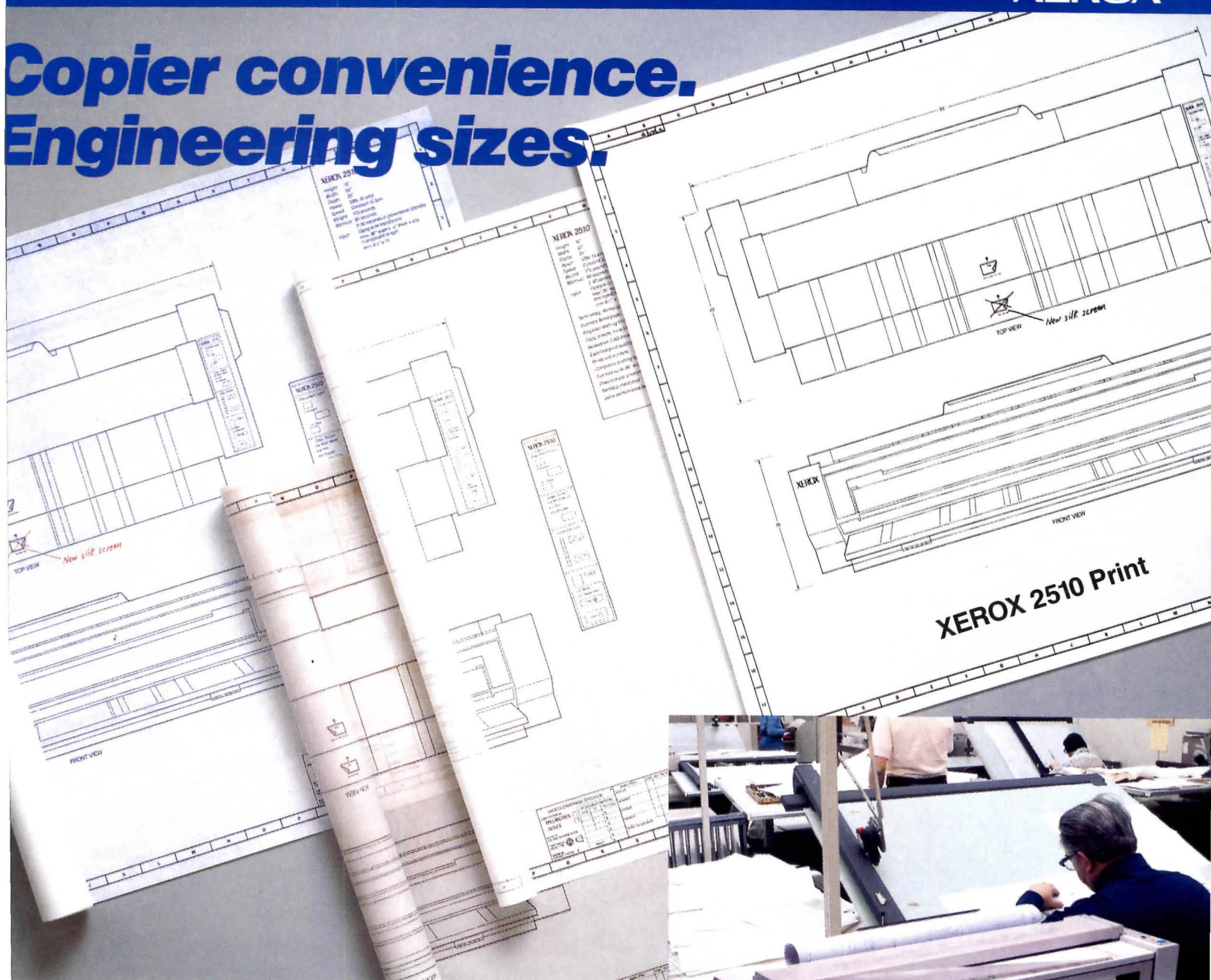
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Low rise to high rise...

Outperforms "Stone Age" methods!

Now! Get time-tested high rise construction benefits on your mid and low rise elevator shaft projects, too. Today more architects and builders are opting for faster, safer, any-weather USG[®] Cavity Shaft Wall Systems— at considerable savings over labor-intensive, space-wasting concrete block. Weighing in at only 10 psf, these proved working walls install from the corridor side. Less bulk and weight to tote and install means less structural steel, less manpower, less work all around. Even electrical

conduit installs faster, thanks to built-in vertical chaseways. Elevators run weeks sooner, too. Doesn't it make sense to incorporate the engineered design of the USG C-H stud system into the vital life safety walls of your buildings? Superior in every respect, these unique systems deliver fire ratings up to 4 hours and sound ratings from 39 to 50 STC. Call your USG representative. Or write to us for specifics at 101 S. Wacker Drive, Chicago, IL 60606-4385, Dept. AR986.

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BUILDING AMERICA

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A photograph of a building's exterior wall. The wall is covered in a light-colored, textured exterior insulation system. The wall features decorative horizontal bands and a corner detail. A brass lantern is mounted on a white pedestal in the foreground, partially obscured by green foliage. To the left, a window with a white frame and a green awning are visible. The ground in the foreground is paved with reddish-brown bricks.

**Details
you never
thought
possible
with
exterior
insulation
systems.**

STO exterior systems create a flexible, seamless thermal covering for the entire outside wall with all of its unexpected corners and turns. Even where the edges meet other materials, STO provides efficient weather-resistant seals for the most complete building protection. So . . . while you're designing magnificent details (or simple ones), STO is perfecting exterior systems and finishes that perform—right to the last detail.

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Exterior
Insulation
Systems



CIRCLE TOP WINDOWS HAV UNTIL NOW, THEY JUST COULDN'T

Circular windows have been a staple of architectural design for literally hundreds of years. Featured in homes of gentry, of substance, those who desired style, even some who just simply thought they looked nice. However, even with their aesthetic qualities they have lacked certain details. Not the least of which is the absence of the Andersen® label.

For you see, nothing bears this label until it promises the same precision and quality you've come to know and recommend in other Andersen products. Therefore, it is with considerable pride that we introduce this several-hundred-year-old concept into the Andersen line.



**ONE STYLE
NEVER FITS ALL.**

Most window manufacturers feature a universal circle top unit to be used with all window styles. It would seem that a shade of difference here and there is acceptable.

Perhaps to some, but not to us. We not only offer more stock sizes than any other manufacturer. We produce them in two styles. One compatible

with the Andersen Narroline® double-hung window, the other a perfect match with the Perma-Shield® casement/awning window. This allows only Andersen circle top windows to blend with the profile of both window styles inside and out. Which, if you follow the logic, makes any job you complete look like you planned it that way.

Our exclusive pre-formed rigid vinyl sheath on frame continues to form a full perimeter flashing and anchoring fin.

Andersen offers 4 exclusive glazings. Including special glass for high altitude.

Perma-Shield exterior is available in either white or Terratone.

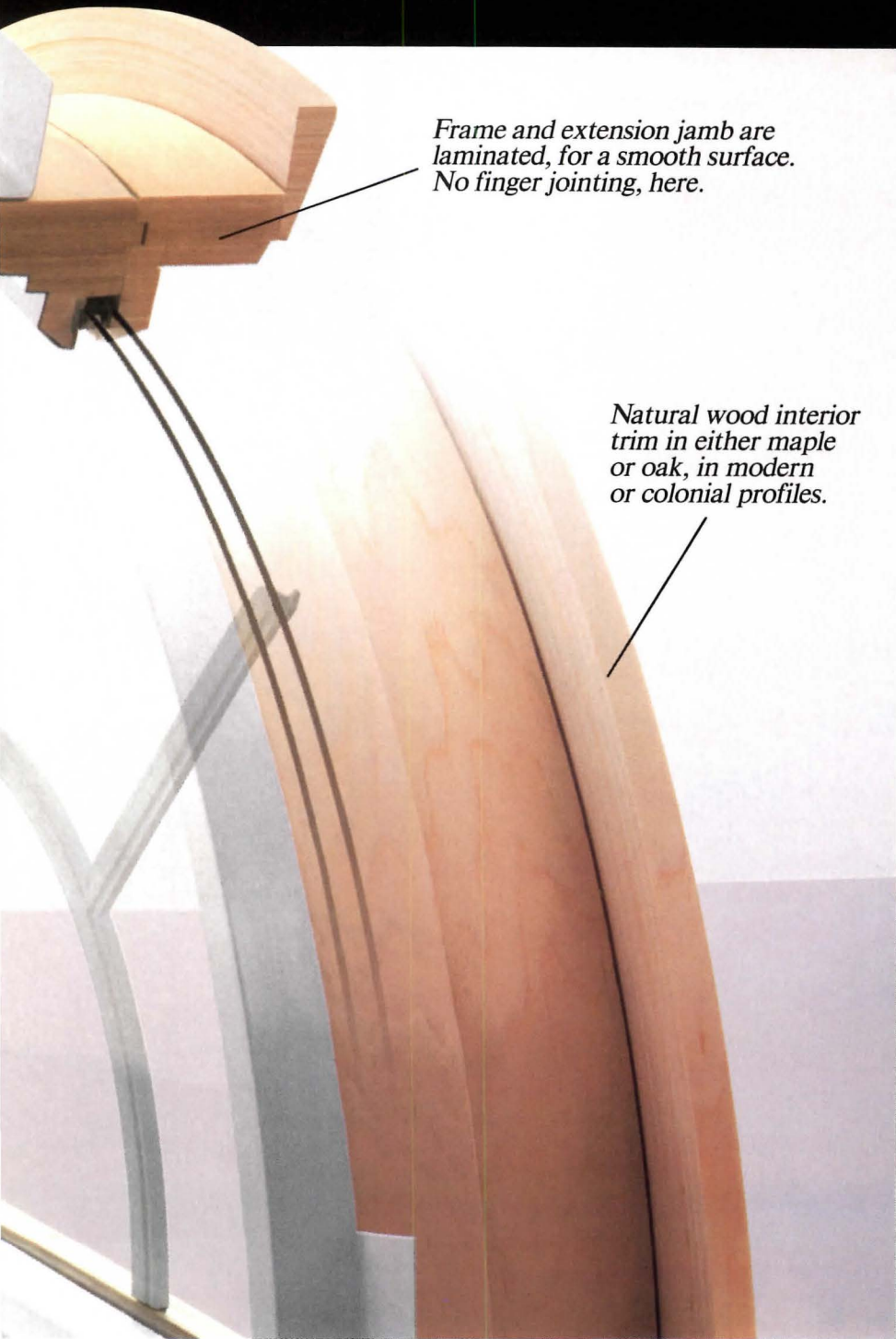
Grilles snap out for easy cleaning and can be painted or stained to match any interior.

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**THE ONLY CIRCLE TOPS
WITH ANDERSEN WINDOW
DESIGN AND PERFORMANCE.**

The soul of every Andersen Perma-Shield window is its exclusive construction. Andersen circle top windows are no exception. A solid wood core, nature's

STOOD THE TEST OF TIME. STAND THE TEST OF ANDERSEN.



Frame and extension jamb are laminated, for a smooth surface. No finger jointing, here.

Natural wood interior trim in either maple or oak, in modern or colonial profiles.

finest insulator, with a rigid vinyl sheath that makes for a nearly maintenance-free exterior, while the natural wood interior lends its beauty inside whether stained or painted.

Andersen circle top windows deal in two concepts of performance that have a beauty you can't necessarily see. Weathertightness and energy efficiency.

Since Andersen circle top windows were designed to be a perfect fit with either Narroline double-hung or Perma-Shield casement units, the fit will be precise and tight.

Plus, we offer 4 exclusive glazing options: revolutionary High-Performance and High-Performance Sun; plus, for installations where altitude exceeds 3,500 feet, we also offer a high-altitude option for both of these energy-efficient glazings.

So, no matter what the climate or location, Andersen circle tops add beauty to the design and intelligence to the construction.

SOME FINAL THOUGHTS TO ROUND OUT THE PICTURE.

In creating our new circle top windows, we sought to add details and options the others had somehow left out.

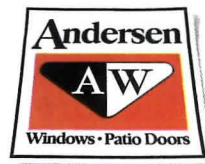
Take interior trim, for example. Two standard interior profiles are available, modern and colonial. And, they are available in either maple or oak. There's no finger jointing on the face here, either. The detailing is smooth and rich looking, instead of looking puzzled together. The exteriors are available in either white or Terratone.

Even the grillwork has the exclusive Andersen touch. The grilles are vinyl but have been treated so that they can be painted or stained on the inside.

There are, of course, a myriad of other details and finery regarding new Andersen circle top windows. And, we would be delighted to talk at length about them. For more information and persuasion, contact your Andersen distributor or see Sweet's File 8.16/An. Or, write us direct. Andersen Corp., Box 12, Bayport, MN 55003.

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Come home to quality.



Andersen

APPEALS TO THE MIND
AS WELL AS THE EYE.

Vector



At American Olean, our imagination is always focused on *finding new directions* in design materials—to create materials that will add new dimensions to the worlds you create. New Vector™ can help you take this aesthetic leap into the future.

Vector. A totally new porcelain ceramic material with the lustrous, space-age Dymalon™ shine. Technologically advanced and developed by the industry's most ambitious research effort. In 34 vivid, luminous colors, and the right size to make your

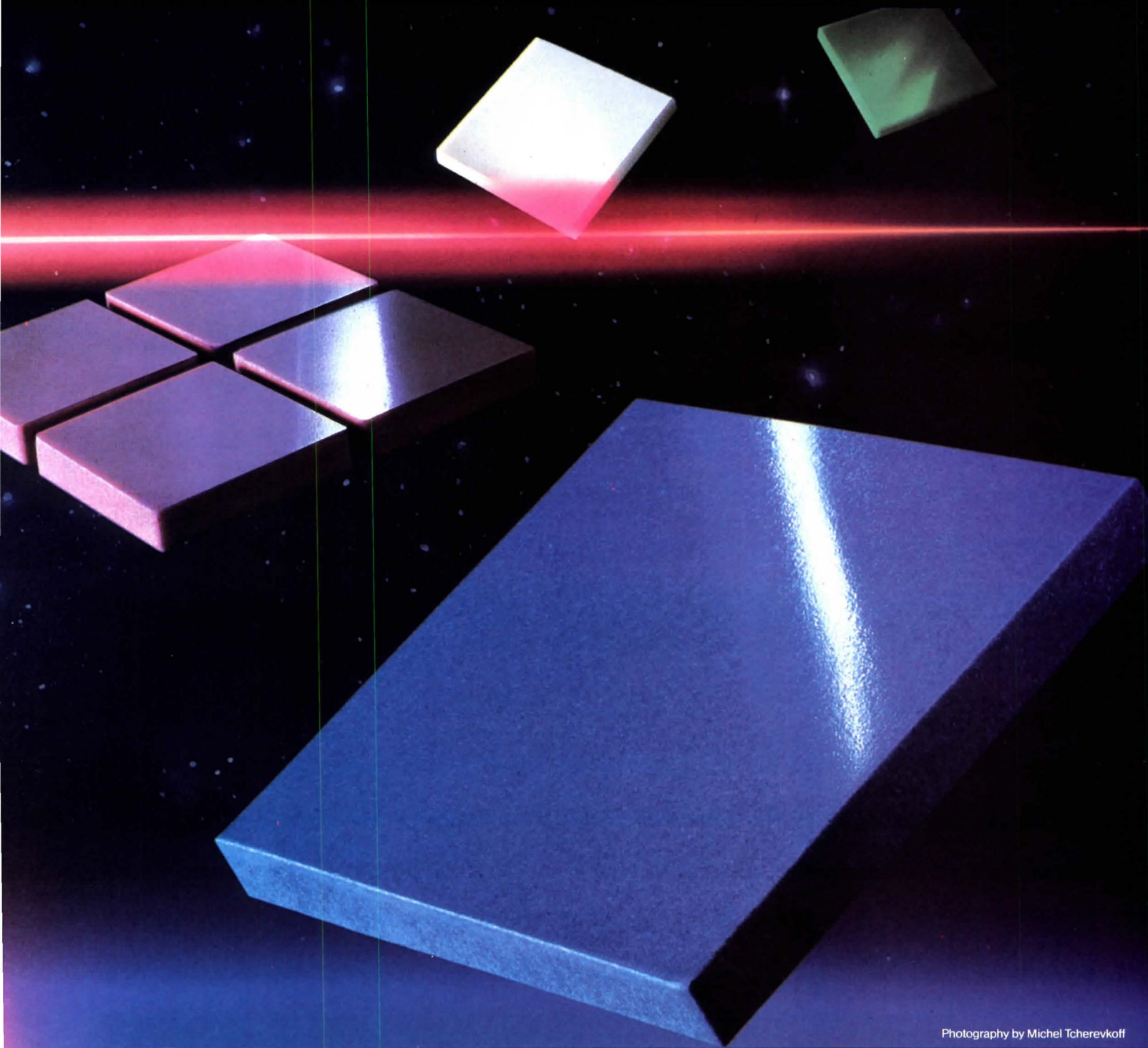
ideas come alive.

Bring a new focus to your projects with new Vector. For information, write American Olean Tile Company, 3334 Cannon Avenue, Lansdale, PA 19446-0271. Or call (215) 855-1111.

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**American
Olean
Tile**
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Photography by Michel Tcherevkoff

Touch the future with American Olean



© 1986 Bobrick Washroom Equipment

Look mom, no hands.

New! An extraordinary group of AutoPilot and TouchButton warm air dryers featuring solid state reliability, elegant low profile design, vandal resistance, and amazing durability. Want that good warm feeling? Specify Bobrick's new AirCraft™ Warm Air Dryers in your next washroom design. AutoPilot models with touch free operation, and TouchButton models with on-off feature (for energy savings), both with automatic shut off. Seven gorgeous cast iron vitreous enamel cover colors, 5-year field proven electronics. HandCraft™ Hand Dryers have a unique 2-position nozzle for drying hands and face. HairCraft™ Hair Dryers are ideal for health clubs.

All with low noise levels, even-flow air volume void of hot spots, vandal-resistant cover and nozzle, low profile silhouettes, 5 and 10 year warranties, and competitive prices. For further information contact your local Bobrick representative, or write Bobrick, 11611 Hart Street, North Hollywood, CA 91605-5882. 818/764-1000.



BOBRICK AirCraft™ Dryers

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**ICE & WATER SHIELD
PRESENTS
THE FINE ART
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A MASTERPIECE.**

When you create something innovative, dramatic, substantial, you ought to give it the best protection possible from costly water damage.

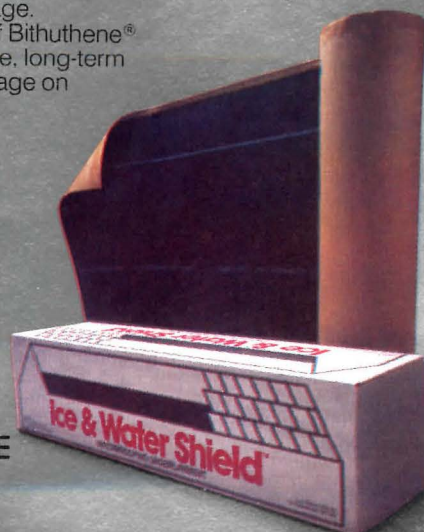
Ice & Water Shield—developed by the makers of Bithuthene® Waterproofing Systems—offers the most cost effective, long-term protection against ice dam and wind blown rain damage on the market today.

This tough, flexible self-adhering membrane installs easily under shingles, slate, shakes, tile, metal and around all building details where additional waterproofing is needed.

What's more, Ice & Water Shield never interferes with the integrity of your design because it's completely invisible after installation. For more information, contact E. R. Davis, W.R. Grace Construction Products Division, 62 Whittemore Ave., Cambridge, MA 02140. And protect your landmark from watermarks.

Ice & Water Shield™ GRACE

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Consistent Graphics and Colors

Rigid MODULITE® panels come in any size, in three styles, opaque, translucent or combination, can be framed or installed unframed.



MODULENS® panels provide sharp, clear identification day or night, indoors or out. Color and light transmission specifications are satisfied.

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Pannier Graphics can be your one source. Our proprietary process ensures consistent colors and graphics. Signs and decals are so durable they're **guaranteed for 10 years!** Call (215) 672-3600 for more information or to have a representative call for an appointment.



Flexible MODUCAL® decals with magnetic or adhesive backing can be used on flat or curved surfaces.

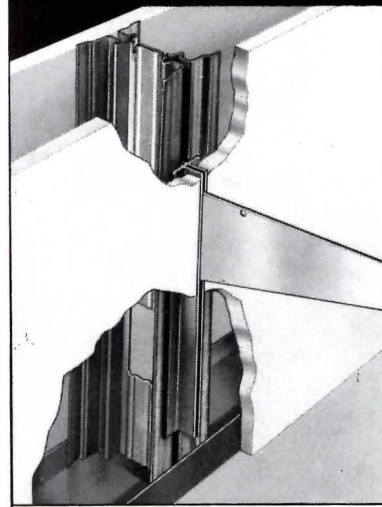


Pannier Graphics
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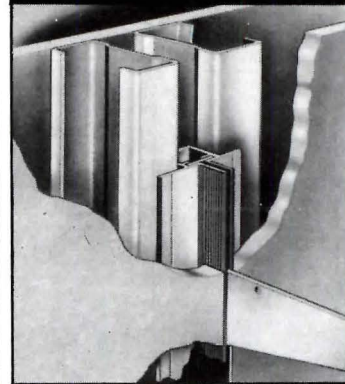
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Specify the best HIDDEN WALL SYSTEMS YOCA® | STUD-EZE™



YOCA stud is a combination metal wall stud and slotted insert. Accepts dry wall and provides concealed slotted standards to hold brackets for shelves, cornices, hangrail, etc. for stores, commercial and institutional construction.



STUD-EZE is a flanged aluminum housing, with slotted heavy duty steel insert, designed to work with metal studs/dry wall application. Concealed slotting holds brackets for shelves, cornices, hangrail, etc.

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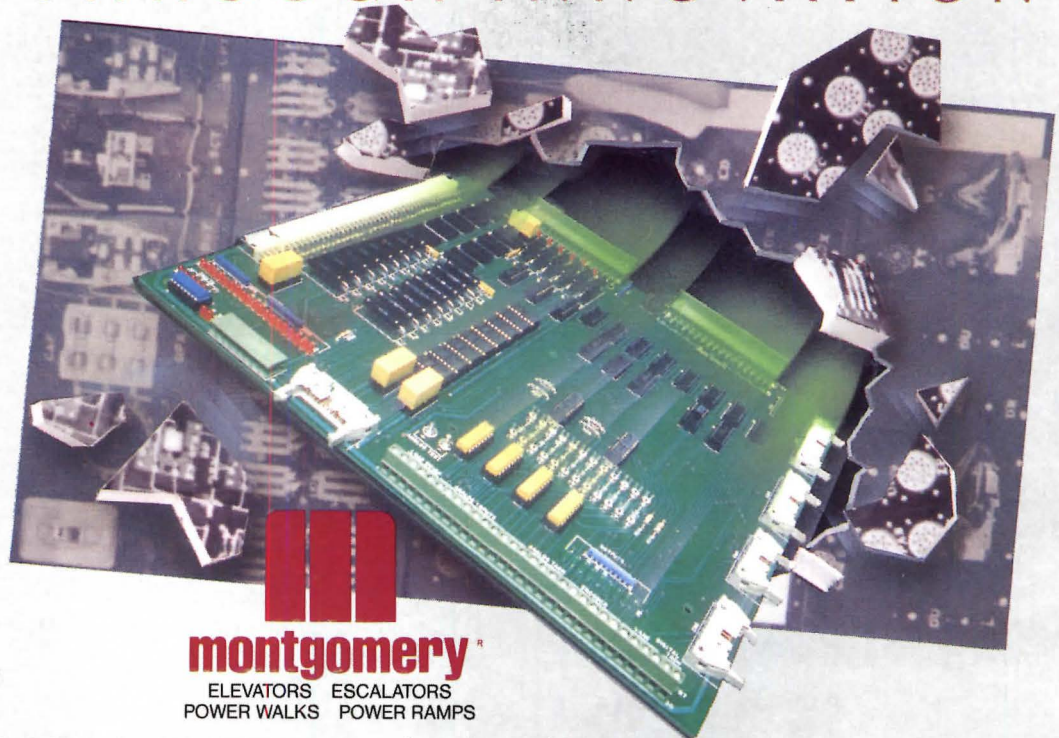
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How can you eliminate the barriers to improved performance of your existing elevators?

Montgomery innovations in micro-circuitry and advanced solid state systems shatter those barriers. Modernization systems from Montgomery maximize elevator service and minimize capitol expense.

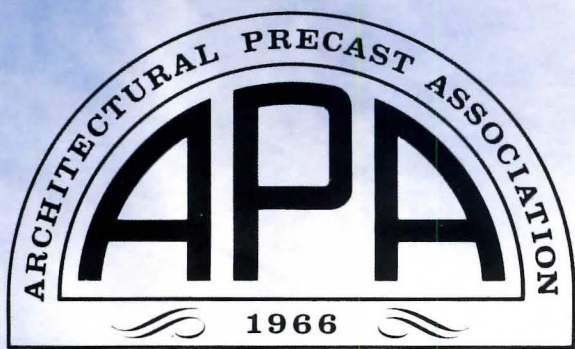


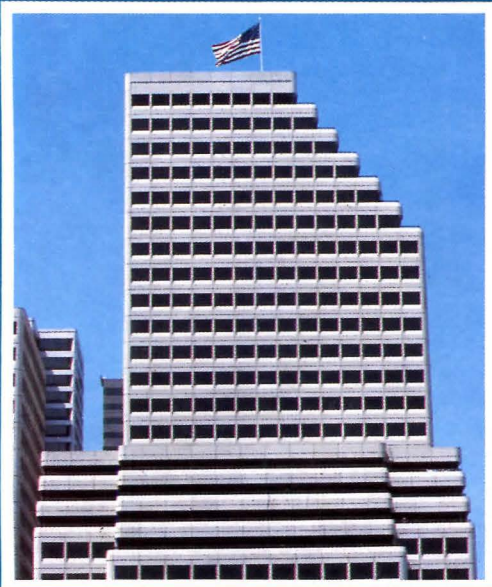
montgomery
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MONTGOMERY INNOVATION—A foundation for your growth.

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QUALITY CRAFTSMANSHIP

Design choices such as texture, color, shape and size are infinite with Architectural Precast Concrete.

Members of the Architectural Precast Association - **APA** - are professionals, pleased to share their specialized knowledge and experience with you. Your local **APA** producer is a custom craftsman who can understand the designer's wishes as well as save time and hold the line on the budget. Contact your local **APA** producer at the preliminary planning stage to insure that your imaginative concepts will be achieved.

When you think of quality, think of Architectural Precast Concrete . . . think **APA**.



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The fresh approach to ventilation.

You've probably never seen anything quite like this. A complete range of fans from Vent-Axia to help you keep your cool. From now on, when it comes to ventilation Vent-Axia has the answer.

Crisply styled to blend with interior decors, Vent-Axia fans come in five models to suit walls, ceilings, roofs, ducts, windows and even darkrooms, each in four sizes with outputs ranging from 133-1040 cu. ft. per minute. What's more there's a choice of matching backdraft dampers and speed controllers on all models.

Used on their own Vent-Axia fans quickly remove hot, stale, stuffy air and reduce condensation. Used to support air conditioning it becomes a powerful energy saver distributing air more effectively. Vent-Axia fans are high on performance and low on energy consumption.

Silent running too. Vent-Axia motors are totally enclosed and renowned for quiet, unflinching performance at any angle.

All other parts are manufactured from high quality polymeric materials so they won't corrode. The result is a range of axial propeller fans designed to last years longer than ordinary fans and proved worldwide.

Need more information? Call Sweets BUYLINE 800[®], toll free, for our nearest rep., or clip the coupon for fully detailed literature.



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MAIL ME THE VENT-AXIA LITERATURE.

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Company: _____

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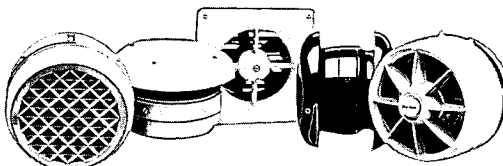
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City: _____

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AR5


Vent-Axia[®] Inc



No Sweat!



A major renovation and expansion of Atlanta's city-hall complex is pending. Restoration of the 60-year-old Gothic/Art Deco city-hall tower and construction of a 305,000-square-foot expansion will be done by the architectural joint venture of Muldawer-J/D/B-Harris, a consortium composed of Muldawer-Moultrie, Jova/Daniels/Busby, and Harris & Partners, all of Atlanta.

The new addition will occupy the

remainder of a full city block on which the 14-story tower now stands. The new building will be a low-rise structure whose cornice continues the line created by the first setback of the tower. The new wing has a stone and glass facade that reflects the motifs of the older building. Within the five-story screen is a setback glass-walled skin surrounding a large atrium that focuses, through its glass wall and

roof, on the city-hall tower.

The public spaces in the old building, will be restored and the exterior terra-cotta work repaired and replaced as necessary. Major rehabilitation of the mechanical, electrical, and elevator systems will also be accomplished.

The wing will house the new mayoral offices, a new city-council chamber, and various municipal offices.

The National Remodelers Council has given its annual Renaissance design awards for excellence in the design and construction of remodeling and rehabilitation projects. In the category for adaptive reuse (one of nine categories), Feltoon Parry Associates, a Philadelphia architectural firm, received a merit award for transforming a vacant windowless supermarket into a skylit office building with a central atrium that serves as the headquarters for the New Jersey State Lottery Agency.

The old Fort Pitt Hotel, built in 1905, once stood on the site of Grant and Liberty in Pittsburgh. Later this year the Vista International Pittsburgh at Liberty Center will open on the same site. The 619-room hotel will be the first new hotel to open in the downtown area in 26 years and will be tied to the Convention Center. Joint-venture architects are Burt Hill Kosar Rittelmann Associates and UDA Architects with TAC, Inc. as design consultants

Denis V. Boucher has joined the Boston-based architectural firm of Earl R. Flansburgh + Associates, Inc., as senior associate in the Space Planning & Interior Design department.

Spruce-up of New York City subway station features graphic exhibition



Accompanying the recently renovated upper level of the Fifth Avenue/53rd Street subway station in Manhattan is a lighted graphic exhibition. Cooperation between the 53rd Street Association and several New York City transit groups produced the exhibit, which highlights collections and activities from cultural institutions in the neighborhood.

Renovation of the upper level includes new ceramic tiles; new signage, such as adding "53rd Street" to the station's name; improved lighting; installation of acoustic material to the ceiling and sound-absorbing panels on the track level to reduce noise when trains enter or leave the station; and new turnstiles and railings in the mezzanines.

Lee Harris Pomeroy (above left) of New York City was project architect.



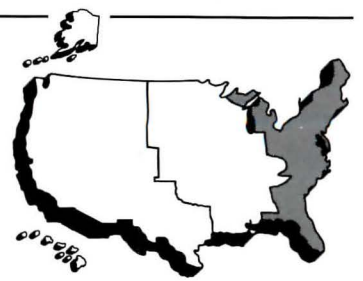
Local architects begin restoration of Washington's District Building



A full-scale restoration and renovation of Washington's District Building will be designed by local architects Devroux & Purnell.

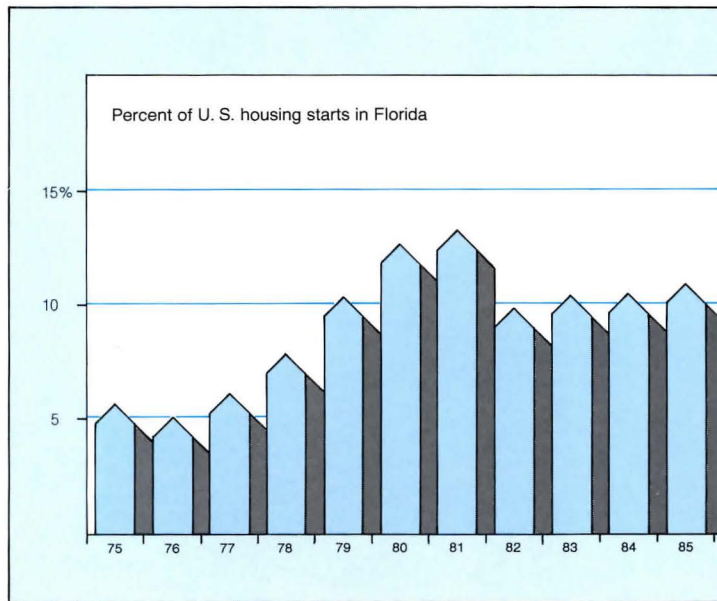
The 78-year-old, 282,000-square-foot structure, located at 14th St. N. W. and Pennsylvania Ave., is regarded by many experts as an excellent example of American Beaux-Arts classicism. Work thus far on the building has involved

evaluation of city agencies' needs for security and support facilities and preparation of schematic design documents. As the project continues, mechanical and electrical systems will be redesigned, and all architectural detailing on exterior facades, interior floors, roof, and courtyard areas restored. A city-council chambers addition, designed as infill space in the rear light court, is also planned.



The 1980s have witnessed a good number of regional economic success stories, from Massachusetts to Minnesota to California. But the decade's wunderkind award probably goes to Florida, where population, employment, and income are growing faster than any other large state in the country, and far faster than the national average. Florida has, of course, long been a magnet for retirees. But symbolized by IBM's personal-computer operations in Boca Raton, the state in the 1980s has also become home to numerous high-tech and defense-related companies that are luring increasing numbers of working-age people. Large increases in population of all ages have also spurred growth of major service, trade, and financial industries. Construction, of course, has also benefited from this rapid growth, and will continue to benefit—of no little importance considering that 10 percent of the country's new housing units are built in Florida.

At the moment, however, high-tech is in something of a slump. IBM's personal computers, in particular, are facing increased competition from low-priced Far Eastern competitors. Yet, perhaps surprisingly, prospects for solid growth stem in part from a group conventional wisdom holds to be



poor and struggling—retirees. But, contrary to newspaper reports of poverty among the elderly, senior citizens in Florida are, by and large, living quite well, thank you. As Social Security payments soared during the past decade, and as private pension plans improved, retirees started to live better. Retirees who sold their houses in the past half dozen years also realized huge capital gains.

Confirming these developments, a government report found that seniors own more assets than younger people and that their poverty rate is lower. For Florida, this trend is almost a guarantee of prosperity. And for the construction industry, it means a continued influx of people who can afford good housing and who will demand all the infrastructure that goes with a middle-class lifestyle.

Revived ruin

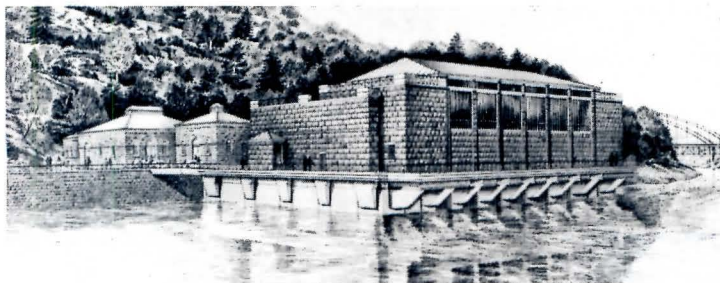


The Boston Society of Architects has named Graham Gund Architects of Cambridge as recipient of its Harleston Parker Award for the design of the Church Court condominium project. Three townhouses were built behind the remaining walls and tower of the Mount Vernon Church, destroyed by fire in 1978, and a new seven-story L-shaped building with 34 condominium units was also added.

Gatehouse wins 'Design Excellence' award from city arts unit

The New York City Arts Commission has conferred its "Design Excellence" award on the rehabilitated Croton Lake Gatehouse, a vital component of New York City's oldest water-supply system. The rehab was done by Metcalf and Eddy, and Hazen and Sawyer, both of New York City, for the city's Bureau of Water Supply. The commission praised the substantial effort made to match

the new design with that of the 100-year-old landmark. The new gatehouse will be faced with stone and covered with a terne-coated stainless-steel roof to match the existing structure. The rehabilitation is part of an overall multimillion-dollar improvement program that was initiated by the city in the mid-1960s to upgrade New York's water distribution network.



Calendar

September 11

"How to Implement and Manage an Effective A/E/P Quality Control Program," a seminar sponsored by Practice Management Associates, Ltd.; at the Hyatt Regency Hotel, Crystal City, Arlington, Va. For information: Betsy Miller, Practice Management Associates, 10 Midland Ave., Newton, Mass. 02158 (617/965-0055)

September 20-28

"Archifest," the Atlanta Chapter of the American Institute of Architects annual "celebration of the built environment" will take place in the Colony Square Piedmont Park area of midtown Atlanta. Open to the public, day and evening events will include children's walking tours, lectures by architects, panel discussions. For information: Dorothy Spence, Atlanta Chapter, American Institute of Architects, 1197 Peachtree St., N. E., Atlanta, Ga. 30361 (404/873-3207).

October 2-5

The biennial American Institute of Architects South Atlantic Convention for AIA members in North Carolina, Florida, and Georgia, sponsored by the Georgia Association of the AIA; at the Hyatt Regency Hotel, Savannah, Ga. See calendar item listed under September 20-28 for information.

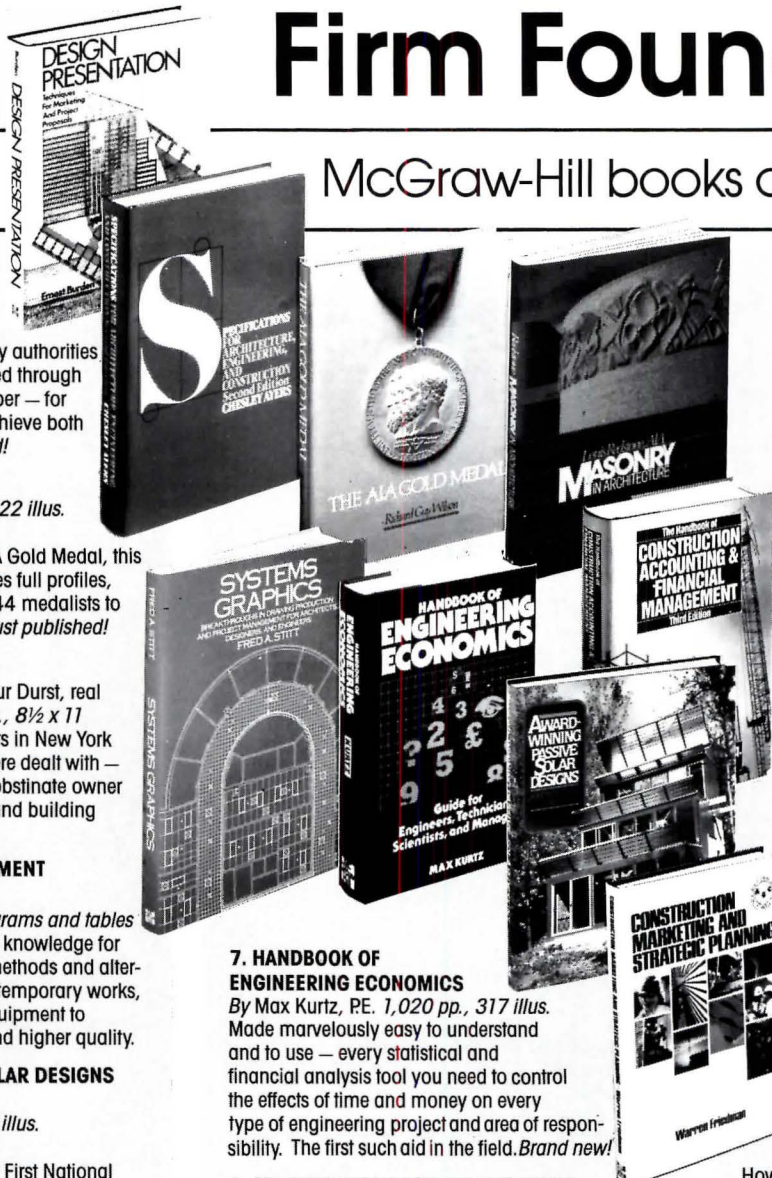
Philadelphia renovation nearing completion



The nearly complete restoration of the former Suburban Station Building, now One Penn Center at Suburban Station, has received the Downtown Preservation Development Award from the Central Philadelphia Development Corporation. Renovation architects are Francis, Cauffman, Wilkinson & Pepper, and the developer is Richard I. Rubin Company of Philadelphia.

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2. THE AIA GOLD MEDAL

By Richard Guy Wilson. 246 pp., 222 illus. (8 pp. in full color), 8½ x 11
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3. HOLDOUTS!

By Andrew Alpern, AIA, and Seymour Durst, real estate developer. 173 pp., 221 illus., 8½ x 11
A lively illustrated history of holdouts in New York since the 1800s — and how they were dealt with — shows what can happen when an obstinate owner forces major changes in planning and building design. *Just published!*

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By Frank Harris. 256 pp., with diagrams and tables
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5. AWARD-WINNING PASSIVE SOLAR DESIGNS Professional Edition.

By Jeffrey Cook, AIA. 288 pp., 208 illus. (including 68 photos), 8½ x 11
These 41 winning designs from the First National Passive Solar Design competition demonstrate an impressive number of passive solar solutions for a diversity of structures, from commercial buildings to residences, in a wide variety of terrains and climatic locations. *Brand new!*

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7. HANDBOOK OF ENGINEERING ECONOMICS

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Made marvelously easy to understand and to use — every statistical and financial analysis tool you need to control the effects of time and money on every type of engineering project and area of responsibility. The first such aid in the field. *Brand new!*

8. SPECIFICATIONS FOR ARCHITECTURE, ENGINEERING, AND CONSTRUCTION Second Edition. By Chesley Ayers, AIA, PE. 544 pp., 70 illus.
Specifications can make or break a project, and can even cause construction disasters. Here, in a new, up-to-date edition, is the one book to coordinate the requirements of spec writing and checking into a unified whole — with special emphasis on techniques to build safety into a project.

9. CONSTRUCTION MARKETING AND STRATEGIC PLANNING

By Warren Friedman. 288 pp., 70 illus.
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10. CONSTRUCTION DISASTERS Design Failures, Causes, and Prevention By Steven S. Ross and the Editors of *Engineering News Record* 407 pp., 144 photos, 62 line illus.
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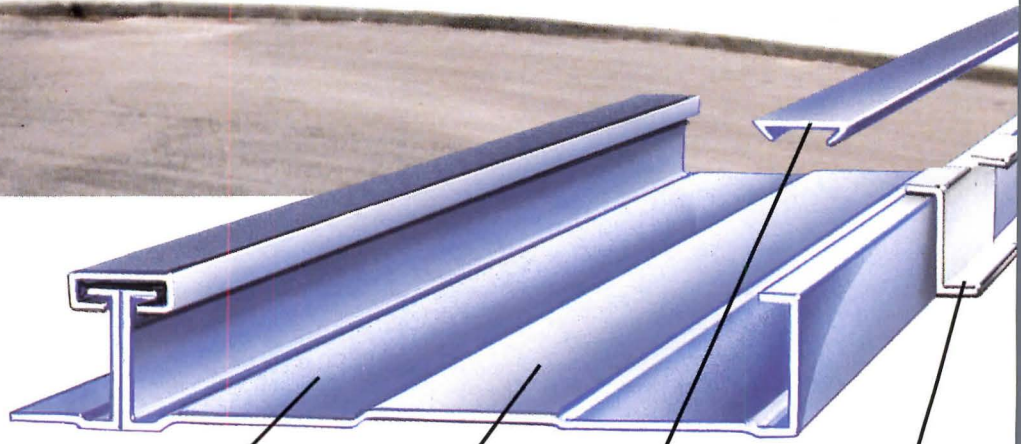
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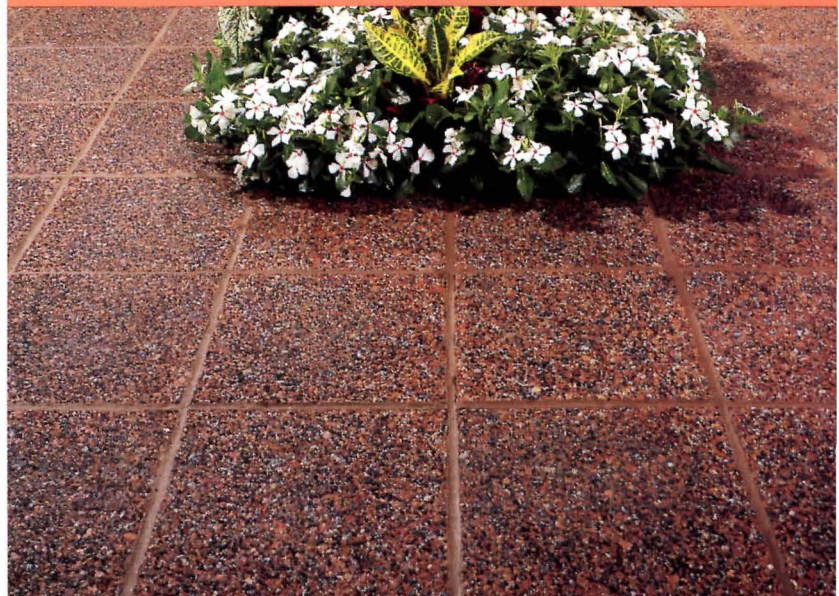
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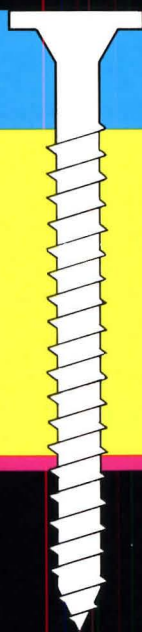


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Computer graphics show sets new record

In an atmosphere of optimism, the National Computer Graphics Association, an organization of companies that supply computer graphics to a broad range of businesses and professions, attracted some 35,000 attendees to its annual show earlier this year in Anaheim, Calif.—this despite an estimated loss in the computer-graphics industry of between \$100 and \$200 million in 1985.

There was a similar strong showing at Systems '86, a show specifically for the building-design and construction industry (page 41). NCGA president Tom Cain credited the rapid, recent adaption of PCs to graphics for both the show's success and at least part of what he saw as a coming industry rebound. For more information, contact the NCGA at 2722 Merrilee Dr., Suite 200, Fairfax, Va. 22031 (703/698-9600).

Survey of design firms shows profits up

The annual "Financial Statistics Survey" by the *Professional Services Management Journal* shows that profits for architects and engineers have risen by 0.6 percent over the past year to 9.5 percent of gross revenues. It also shows insurance premiums rose by 48 percent. Other information in the survey, separated by firm type, includes the average amounts spent for marketing, overhead, and computers. It compares cash to accrual accounting and fee multipliers and overhead rates for different firms. The survey is endorsed by the AIA, The American Consulting Engineers Council, and the Professional Services Management Association, among others. Copies of the report are available from PSMJ, 10 Midland Ave., Newton, Mass. 02158 (617/965-0055).

Average firms change owners after 20 years

Architectural, engineering, and planning firms will typically change owners after 20 years in business, according to a study conducted by the AIA, the American Consulting Engineers Council, and the Professional Services Management Association. The transition will take about 2 1/2 years. Three-quarters of the firms surveyed were founded by one or two people who now represent only 36 percent of all owners but continue to hold 61 percent of stock. Those firms in which the original owners' share has dropped below 51 percent tend to be the larger firms with more than 50 employees. The study also shows that only 65 percent of all firms have a valuation formula when they come to making an ownership transition agreement. For more information, contact the AIA at 1735 New York Ave., N.W., Washington, D. C. 20006

Interiors architects attack their liability problems by looking for better procedures

At a day-long session on July 25, the Interiors Committee of the American Institute of Architects began to help members change the way they do business in order to reduce their risk of being sued—and increase the chance of winning when they are. Although, so far, the surge in tort suits has had much less effect on interior architects than it has on those who design whole buildings, "one would have to be a modern Rip Van Winkle not to be aware of professional liability today," commented Victor O. Schinnerer's senior vice president Paul Genecki.

Even though architectural firms that concentrate on interiors may have rates that are 75 percent lower than those that design buildings, all rates are rising. Those firms in interiors may now pay rates as high as 10 percent of gross billings. Increasingly, the committee members pointed out, when there is any kind of loss, lawyers for the victim sue every potential plaintiffs they can think of. So the interior designers can expect to be named when a ceiling collapses or a piece of furniture falls apart.

The problems seem sure to intensify. As interiors architects become increasingly involved in designing furniture, they are vulnerable to suits involving not just professional liability but also

product liability. They, like building designers, are responsible for their consultants. As they more frequently advise on facilities management, they can be responsible for asbestos removal from a building they recommended a client lease, even if they didn't know that asbestos was present. And jobs that are not finished on time can lead to claims from both the clients for lost profits and the contractors, who may say the delays kept them from bidding on other jobs.

So far, such litigation is mostly theoretical. In Schinnerer-parent-company CNA's 30 years of covering architects, it has fielded some 50,000 claims, and can identify only 700 that had to do with interior design—far too few to serve as the basis of any actuarial decisions, said Genecki.

According to Roslyn Brandt, managing director of architects HOK New York and chairman of the AIA's Interiors Committee, that group's first priority in addressing the liability issue will be to improve data collection. As AIA associate general counsel Ava Abramowitz explained, claims currently are coded by insurance carriers according to the kind of damages sought rather than the kind of design defect that is alleged. So it is difficult to separate claims arising

from interior design from those from building design. Since so many firms practice in both areas, there has been no emphasis on making the separation.

As a first step in helping interior architects practice better, the Interiors Committee is going to come up with new coding methods that will let analysts pinpoint the interior design activities most likely to produce liability claims.

Step two will be to develop procedures for designers to use in their own offices to reduce the risk of suits. Another panelist at the July meeting, architect Arthur T. Kornblut, a partner in the law firm of Kornblut & Sokolove, warned that the way architects handle clients has much more to do with preventing lawsuits than the quality of design. The posture he suggested was to provide clients with recommendations only. In any critical matter, "It is absolutely essential to get the client to make the decision" so that the responsibility belongs to him if it turns out to have been a less-than-wise choice. And the next step is to create some record of the client's having made the decision, either initials on the architect's drawing or a memorandum outlining the conclusions of a phone call.

"Every project has problems," Kornblut reminded the audience, so the main difference between the 70 percent of projects for which problems are settled informally and the 30 percent that lead to some claim tends to be the degree of esteem the client holds for the designer. Returning phone calls and being affable are important. "If you can convey a sense of caring, it can cover up a multitude of sins." *Daniel Moskowitz, World News, Washington, D. C.*

RESIDENTIAL FIRE BARRIERS:

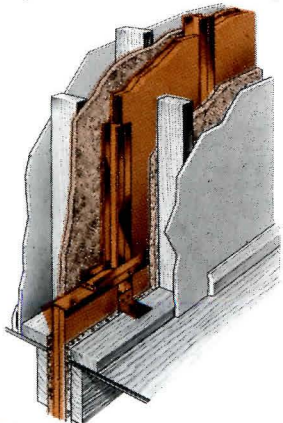
Good walls make good neighbors.

Providing effective fire protection and sound control economically are two of the biggest concerns in designing walls to separate occupancies of multi-residential projects.

Privacy, in terms of noise intrusion, and safety, in terms of protection from fire in adjacent units, are of critical importance in townhouses, low-rise apartments and condominiums. Potential residents want the same privacy and protection they'd have in single-family homes, but in a less-costly unit. Thus, specially designed masonry or drywall fire walls are usually specified for this purpose.

Masonry walls are still used in many parts of the country, but more often the choice is becoming one of several drywall partitions. To be certain that the selected system satisfies all the needs of this important fire-wall/party-wall application, the architect, developer or builder should carefully analyze the different systems available and choose the one that combines the desired performance with economical construction. Drywall systems are becoming increasingly popular for these important walls because of their light weight, economy, sound-attenuation qualities and inherent fire-resistance.

The following check-list contains the most important features and tests applicable to residential fire-wall performance. The checklist may be used as criteria for measuring the qualities of the various systems available. Comparing



Solid USG Area Separation Wall consists of two 1-in. thick, 24-in. wide USG Gypsum Liner Panels inserted into 2-in. USG Steel H-Studs between independently framed interior wall surfaces. Adding 1-in. THERMAFIBER® Sound Attenuation Fire Blankets on both sides of wall (as shown) provides 51 STC and satisfies strict fire code requirements.

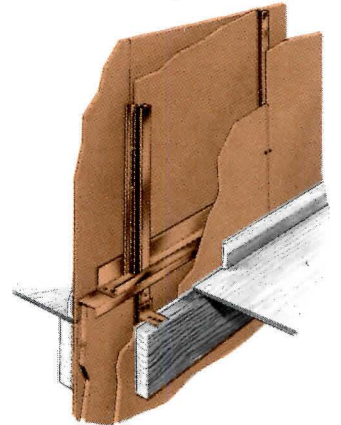
these criteria against the product literature from the various manufacturers and suppliers will show whether a selected system or "equal" has all the needed performance features:

- Meets applicable BOCA or SBCCI model code requirements for 2-hr. fire rating for party wall and/or fire wall.
- Can be designed to provide up to 3-hr. fire rating when required.
- Can be detailed to meet all existing codes or applicable agency requirements.
- Provides sound ratings of up to 57 Sound Transmission Class (STC) with a minimum 45 STC.
- Has ability to provide structural/fire protection of one unit when fire attacks adjacent unit.
- Has details to provide a cavity for electrical and mechanical services when needed.
- Provides minimum weight and thickness in a wall with effective sound and fire performance.
- Designed with minimum number of components.
- Installs with common trades found on the job.
- Installs easily with minimum workman skills.
- Permits all-weather construction.

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The solid system weighs as little as 9 lb./ft.² and is 3 to 6 in. thick, depending on the details used for 2 or 3-hr. fire ratings, plus independently framed interior wall

surfaces. STC ratings of 45 to 57 are also available. The cavity system also weighs as little as 9 lb./ft.², and is 3½ to 4⅞ in. thick (fire and sound ratings up to 3 hrs. and 57 STC). Since these are both dry-wall systems, no additional trades are needed. Also, the combination of all-weather construction, large-size (dry-wall) components and progressive construction results in low-cost, trouble-free construction and dependable scheduling.



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These two systems can be used in multi-family residential structures up to four stories high. The choice between the solid or cavity system depends on how the system relates to the building framing and the STC requirement.

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Construction economy update: Have we reached the peak?

An ominous gap has opened up between construction contracting—the industry's indicator of *future* construction and building products demand—and the various measures of current performance. Current construction activity (construction put in place, building-materials shipments, employment in construction) all remained strong through the first quarter of 1986 and, after more than three years of cyclical expansion, market activity was still reaching for a new peak. Contracting for new projects, on the other hand, slowed almost to a standstill in the fourth quarter of 1985 and then declined a sharp 7 percent in the opening quarter of 1986.

This is exactly the kind of lead-lag behavior to expect at the upper turning point of the building cycle. Yet, with the marketplace as politicized as it is by issues like tax reform and deficit reduction, the recent divergence of the basic construction indicators could be a false alarm.

The recent weakness in contracting for new construction—the key to the demand for building products during the second half of 1986—may not be as threatening as the first quarter's 7 percent decline implies. Uncertainty about the consequences of tax-reform proposals on real-estate development and on all public-works financing could explain much of the volatility in contracting for nonresidential construction since 1986 began.

It is reasonable to expect that a substantial number of commercial and public projects which might ordinarily have gone ahead during the first quarter were put "on hold" awaiting clarification of the tax issue. If so, a strong—although temporary—rebound might logically follow that clarification. An improved rate of contracting early in the second quarter supports this interpretation of events.

This is not to say that once the tax-reform legislation is finally resolved, construction contracting will revert to last year's high and rising pace. Uncertainty often produces the kind of stop-and-go response we have been seeing in recent months, as various proposals concerning depreciation and/or municipal bonds gain or lose support.

However, the ultimate response to tax reform itself can only be negative as the elimination of tax incentives makes marginal projects unprofitable. Office-building construction—long sustained above reasonable levels by tax incentives—is the most obvious example.

In the midst of the volatility that is being superimposed on the

building cycle by political events in 1986, it is a good idea to keep a few things in mind:

- Commercial and industrial building passed its peak before 1985 ended, and the overbuilt office component is highly vulnerable to steep decline.

- Public-works construction, lacking the support of federal programs, is increasingly dependent on local government financing.

- Housing, responding to lower interest rates, is the main source of support for the construction market in 1986.

For a short while longer, the current level of contracting will be sustained through a delicate balance of residential strength and nonresidential weakness. In a year (or less) the vulnerabilities of the nonresidential market will become dominant.

An economic scenario for 1986 and 1987 is—as it has been—a mixture of ups and downs

One of the few good things that can be said about an extended period of "semiprospersity" such as the economy has experienced since 1983 is that there's still plenty of room for more growth. Excess capacity abounds, and none of the usual "bottlenecks," such as market shortages, wage/price stresses, or other imbalances, that often signal the conclusion of a period of cyclical upswing are evident. In the absence of reasons to the contrary, conventional wisdom insists that expansion will just keep rolling along.

But mere room for expansion is not enough. Where will next year's growth come from? Not from the public sector. With mandatory deficit reduction the law of the land, the net effect of fiscal policy (spending and taxation combined) will amount to "fiscal drag." The Treasury will be taking more out of the economy's spending stream—relative to last year—than it will put in.

State and local governments will provide a modest stimulus as they try to fill the widening gaps left by federal domestic programs but, as a whole, the public sector will be close to neutral as a source of growth for the next few years.

Growth will not come from the business sector, either. McGraw-Hill's latest survey of capital-spending plans confirms the obvious. With more capacity on hand than needed, and facing the loss of tax incentives for investment, the industrial community plans to stand pat for the next several years until factory output catches up with this community's recent capital-spending binge. And the prospects of catching up are not looking so

good right now. Until rising exports begin to close the trade gap, the manufacturing sector is locked into sluggish growth.

If the plans that were evident as recently as May of this year materialize, investment in plant and equipment will be virtually unchanged for the next three years and continue at a level slightly below that of 1985.

Could there be a consumer-led expansion, then? The dependability of the consumer is, on one hand, the basis for continued expansion of total economic growth for the next couple of years. But lacking the support of either the public or business sectors, it is also the basis for a ceiling on growth of 3 percent per year or less.

The consumer sector is usually considered to be relatively passive, spending and saving reasonably steady proportions of its disposable income. As this happens, the consumer's contribution to the economy's growth is limited by the combination of employment and productivity, averaging between 2 1/2 and 3 percent per year when calculated in constant dollars. In 1986, consumer spending is increasing by close to 3 percent (one of the better years), and is likely to hold within the 2 1/2- to 3 percent range for the near future.

A more volatile form of consumer behavior—investment in housing—is helping the economy to do a little better in 1986 than its sluggish 1985 pace, however. In this year's favorable mortgage environment, house building is currently adding some spark to an otherwise rundown Gross National Product with a 10 percent advance. So, here is the outlook as of mid-1986.

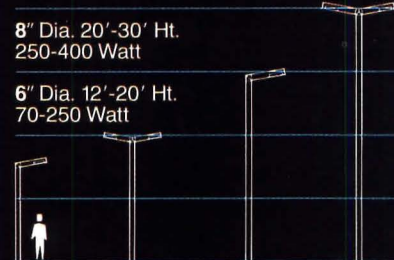
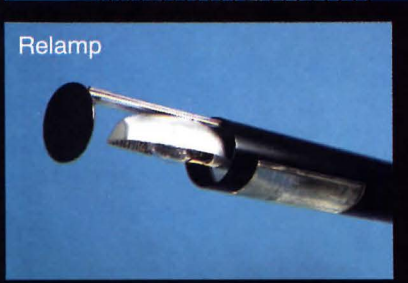
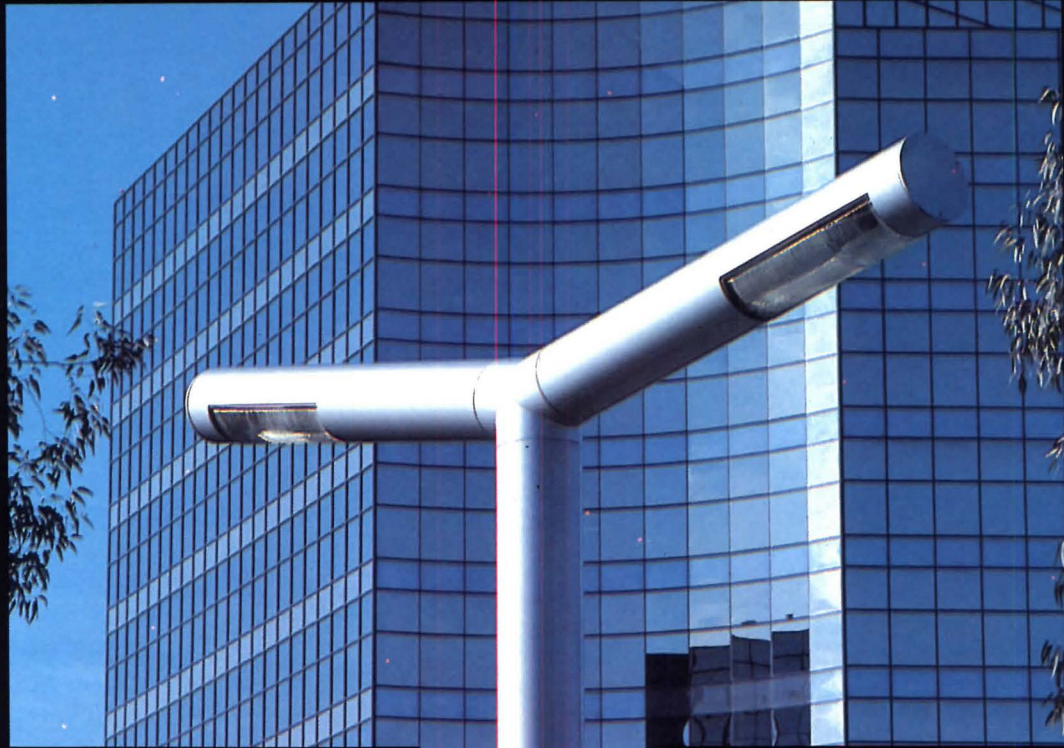
Nonresidential building will be helped somewhat by retail and institutional construction but, overall, the category will be down As it has for several years, office building will continue to dominate the near-term outlook for the nonresidential sector. From here on, however, office building will be restraining the market instead of driving it upward.

No construction market is more out of balance—and therefore more vulnerable—than offices. The "building boom that stayed too long" has left behind it a surplus of office space that is pushing the national vacancy rate toward 20 percent. Accelerated depreciation has been a major stimulus since 1982, but tax reform will soon be removing a lot of the incentive to build empty office buildings. In fact, the adjustment to overbuilding has already begun—in advance of tax reform.

The peak of contracting for offices—an annualized rate of 346

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1986 National Estimates Dodge Construction Potentials

Second Update
July 1986

		1985 Actual	1986 Forecast	Percent Change 1986/85
Nonresidential Buildings				
Floor Area (millions of square feet)	Office Buildings	342	265	-23
	Stores & Other Commercial	592	570	-4
	Manufacturing Buildings	154	135	-12
	Total Commercial & Manufacturing	1,088	970	-11
	Educational	100	100	—
	Hospital & Health	71	70	-1
	Other Nonresidential Buildings	136	137	+1
	Total Institutional & Other	307	307	—
	Total Nonresidential Buildings	1,395	1,277	-8
	Contract Value (millions of dollars)	Office Buildings	\$ 24,674	\$ 20,075
Stores & Other Commercial		22,771	22,550	-1
Manufacturing Buildings		7,472	6,775	-9
Total Commercial & Manufacturing		\$ 54,917	\$ 49,400	-10
Educational		\$ 8,810	\$ 8,975	+2
Hospital & Health		7,629	7,675	+1
Other Nonresidential Buildings		10,894	11,125	+2
Total Institutional & Other		\$ 27,333	\$ 27,775	+2
Total Nonresidential Buildings		\$ 82,250	\$ 77,175	-6
Residential Buildings				
Dwelling Units* (thousands of units)	One-Family Houses	961	1,150	+20
	Multi-Family Housing	836	700	-16
	Total Housekeeping Residential	1,797	1,850	+3
Floor Area (millions of square feet)	One-Family Houses	1,506	1,800	+20
	Multi-Family Housing	795	668	-16
	Nonhousekeeping Residential	102	88	-14
Total Residential Buildings	2,403	2,556	+6	
Contract Value (millions of dollars)	One-Family Houses	\$ 69,039	\$ 85,200	+23
	Multi-Family Housing	32,080	27,825	-13
	Nonhousekeeping Residential	7,125	6,450	-9
	Total Residential Buildings	\$108,244	\$119,475	+10
Nonbuilding Construction				
Contract Value (millions of dollars)	Transportation-Related Construction	\$ 24,868	\$ 24,450	-2
	Water-Related Construction	12,936	12,825	-1
	Total Public Works	\$ 37,804	\$ 37,275	-1
	Utilities	\$ 2,472	\$ 2,500	+1
Total Nonbuilding Construction	\$ 40,276	\$ 39,775	-1	
All Construction				
Contract Value (millions of dollars)	Total Construction	\$230,770	\$236,425	+2
	Dodge Index (1977 = 100)	164	168	+2

*F.W. Dodge basis.

million square feet—was reached in the second quarter of 1985. By the first quarter of 1986, volume had been cut back to 275 million square feet, but this rate of building was still excessive in view of the accumulation of surplus space.

Since most of the decline to date has been concentrated in the Southwest (where vacancy rates of 30 percent are not uncommon), it would appear that local-market imbalance, and not the impending extension of depreciation through tax reform, was the primary motive for the cutback over the past few quarters.

This suggests that still deeper declines lie ahead when tax reform adds an extra dimension to the problem. A decline of nearly 25 percent in 1986 to an estimated 265 million square feet will be only the beginning of an extended correction that will require the absorption of as much as 250 million square feet of excess space over the next several years.

Industrial construction won't be filling the void left by office building—at least not for a while. Contracting for manufacturing facilities bogged down at a weak 150 million square feet as long ago as mid-1984. It was no coincidence that 1984 was the year that the trade gap opened wide, domestic production stalled, and capacity utilization began to slip backwards.

More recently, this general condition of excess capacity has been aggravated by the oil-price war, leading to deeper cuts in the capital budgets of petroleum companies.

The latest capital-spending plans of U. S. manufacturers show an intent to hold investment in plant and equipment at last year's level until rising output takes up some of the slack. However, even that minimal goal isn't likely to be met in 1986 when contracting for industrial construction has been averaging only a weak 120 million square feet through most of the first half of the year.

Retail building is the exception to the otherwise sagging commercial and industrial-construction market. In response to the current high rate of homebuilding, the demand for stores and warehouses should be stronger in the second half of 1986. And with allowance for the typical lag between residential and retail building, 1987's first half should be equally strong.

The potential for improvement of store and warehouse contracting in the second half of 1986 will not, by itself, be enough to sustain total commercial and industrial building at last year's peak rate. The sharp break in office building and the slippage in manufacturing building will dominate the commercial and

industrial market, causing total contracting to recede from its 1985 peak of 1,088 million square feet to 970 million—a decline of 11 percent.

The continuing retreat of office building will be the main reason for a further reduction of total commercial and industrial building to just under 900 million square feet in 1987.

The underlying demand for institutional buildings (the balance of the nonresidential sector) is geared to demographics which are gradually becoming more favorable. However, short-run financial support for the construction of schools, health-care facilities, and public-administration buildings faces a mixed future. Municipal bonds, the major source of funding for schools and hospitals, will survive tax reform and retain their traditional tax-free status, but the scheduled expiration of General Revenue Sharing in 1987 will put a \$4-plus billion dent in the budgets of local governments.

In this environment of trade-offs, 1986 (and 1987) contracting for institutional buildings should hold close to last year's volume—between 300 million and 310 million square feet per year.

With commercial and industrial building facing an extended cyclical decline, the stabilizing influence of institutional building will limit the fall of total nonresidential building to 1,277 million square feet in 1986, a decline of 8 percent. In 1987, circumstances will be leading to an even lower volume of contracting.

Public works will also be down but to a lesser degree

The construction of transportation and environmental facilities provides the infrastructure that supports all residential, commercial, and institutional building. Here the risk is stagnation at an inadequate level due to the scarcity of public (especially federal) funds.

The prospect of continuing budgetary restraint on public programs is often aggravated by temporary "crises." In the first quarter of 1986, contracting dipped sharply due to unsettled conditions in the municipal-bond market. A second-quarter rebound, followed by a steadier rate of contracting during the remainder of the year, will nevertheless leave the 1986 total slightly below 1985's level.

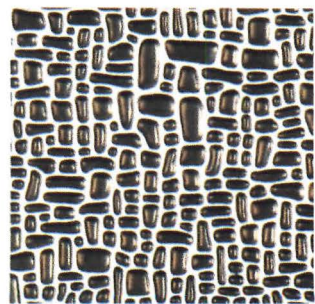
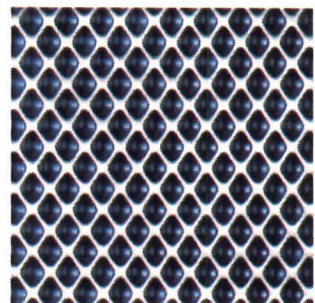
Apart from such short-term interruptions of funding, the need to adapt to the enduring constraints of federal deficit reduction and the shift to local funding will keep public-works construction at a disadvantage for several years. Compliance with Gramm-Rudman deficit targets has led to a freeze on federal funds available in 1986 for major construction programs. In

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1986 Regional Estimates Dodge Construction Potentials

Second Update
July 1986

North-east	CT, ME, MA, NH, NJ, NY, PA, RI, VT	1985	1986	Percent Change 1986/85	
		Actual	Forecast		
Contract Value (millions of dollars)	Nonresidential Buildings				
	Commercial and Manufacturing	\$ 8,312	\$ 7,750	- 7	
	Institutional and Other	4,663	4,775	+ 2	
	Total	\$12,975	\$12,525	- 3	
	Residential Buildings				
	One-Family Houses	\$11,427	\$15,125	+32	
	Multi-Family Housing	5,520	5,150	- 7	
	Nonhousekeeping Residential	1,034	1,000	- 3	
	Total	\$17,981	\$21,275	+18	
	Nonbuilding Construction				
Transportation-Related Construction	\$ 4,852	\$ 4,750	- 2		
Water-Related Construction	2,147	2,250	+ 5		
Utilities	437	475	+ 9		
Total	\$ 7,436	\$ 7,475	+ 1		
Total Construction	\$38,392	\$41,275	+ 8		
North Central	IL, IN, IA, KS, MI, MN, MO, NE, ND, OH, SD, WI				
		Nonresidential Buildings			
		Commercial and Manufacturing	\$10,482	\$ 9,700	- 7
		Institutional and Other	5,735	5,725	—
		Total	\$16,217	\$15,425	- 5
		Residential Buildings			
		One-Family Houses	\$10,556	\$14,250	+35
		Multi-Family Housing	4,670	4,450	- 5
		Nonhousekeeping Residential	1,106	1,025	- 7
		Total	\$16,332	\$19,725	+21
Nonbuilding Construction					
Transportation-Related Construction	\$ 5,966	\$ 5,975	—		
Water-Related Construction	2,617	2,675	+ 2		
Utilities	298	350	+17		
Total	\$ 8,881	\$ 9,000	+ 1		
Total Construction	\$41,430	\$44,150	+ 7		
South	AL, AR, DE, DC, FL, GA, KY, LA, MD, MS, NC, OK, SC, TN, TX, VA, WV				
		Nonresidential Buildings			
		Commercial and Manufacturing	\$22,030	\$19,350	-12
		Institutional and Other	10,303	10,550	+ 2
		Total	\$32,333	\$29,900	- 8
		Residential Buildings			
		One-Family Houses	\$29,453	\$33,925	+15
		Multi-Family Housing	12,470	9,950	-20
		Nonhousekeeping Residential	2,617	2,500	- 4
		Total	\$44,540	\$46,375	+ 4
Nonbuilding Construction					
Transportation-Related Construction	\$ 9,309	\$ 9,000	- 3		
Water-Related Construction	5,263	5,100	- 3		
Utilities	601	700	+16		
Total	\$15,173	\$14,800	- 2		
Total Construction	\$92,046	\$91,075	- 1		
West	AK, AZ, CA, CO, HI, ID, MT, NV, NM, OR, UT, WA, WY				
		Nonresidential Buildings			
		Commercial and Manufacturing	\$14,093	\$12,600	-11
		Institutional and Other	6,632	6,725	+ 1
		Total	\$20,725	\$19,325	- 7
		Residential Buildings			
		One-Family Houses	\$17,603	\$21,900	+24
		Multi-Family Housing	9,420	8,275	-12
		Nonhousekeeping Residential	2,368	1,925	-19
		Total	\$29,391	\$32,100	+ 9
Nonbuilding Construction					
Transportation-Related Construction	\$ 4,741	\$ 4,725	—		
Water-Related Construction	2,909	2,800	- 4		
Utilities	1,136	975	-14		
Total	\$ 8,786	\$ 8,500	- 3		
Total Construction	\$58,902	\$59,925	+ 2		

1987, the combination of deeper federal budget cutting and the termination of General Revenue Sharing will leave more of a financial void than state and local governments can make up. As a result, contracting for public-works construction appears headed for a steeper decline next year.

There are high-level hopes, with some moderation, from residential building

If the federal priorities of deficit reduction and tax reform seem to be casting a dark cloud over the nonresidential construction market, there's a silver lining. By providing the opportunity for more flexibility in monetary policy, deficit reduction could offset the upward pull on interest rates that will be coming from renewed inflation in the years ahead. The result: mortgage-rate stability, and a sustained high level of homebuilding.

How much housing will mortgage-rate stability close to 10 percent bring forth? Some optimists are forecasting as high as 2-million housing starts in 1986 and almost as many in 1987. The consensus of forecasters clusters closer to 1.9-million units this year, followed by 1.8-million. For several reasons, a slightly more conservative 1.85-million units in 1986 and 1.75-million in 1987 seems more credible.

• After three years of housing output of better than 1.7-million units, it is difficult to make a case for a large backlog of pent-up demand. Demographics of the mid-1980s, when household formation is averaging approximately 1.4-million per year, imply that total shelter demand (including replacements) does not exceed 2-million units. Of this total, more than 200,000 units of demand are met by manufactured and mobile homes, leaving a net demand for conventionally built units of 1.7 to 1.8 million annually.

• The benefits of "low" mortgage rates will be confined largely to single-family building, where a gain of as much as 20 percent is anticipated this year. Multifamily housing, which is vulnerable to the loss of accelerated depreciation through tax reform, is more likely to be down than up in 1986 as the apartment "tax-shelter market" loses its appeal.

• The "oil patch" won't deliver in 1986. The last time that housing starts reached 2-million units (1978), the West South Central region (Texas and the surrounding states) provided nearly 300,000 of them. However, considering its depressed energy-based economy, this region isn't likely to deliver 200,000 units in 1986. Even though the South Atlantic area (Florida, etc.) is headed for record volume this year,

the South as a whole, which typically accounts for 45 to 50 percent of national housing volume, will barely match last year's housing output in 1986.

Despite these limitations, the forecast of 1,150,000 one-family units and 700,000 multifamily units (F. W. Dodge basis) in 1986 still adds up to the best housing year so far in the 1980s. In 1987, one-family starts will nearly equal the strong 1986 total, but with tax reform in full effect, multifamily building will decline further.

Those concerned with the construction market should develop a strategy for a cyclical decline

After more than three years of cyclical expansion, the building market is highly vulnerable to reversal. For the time being, new-found strength in residential building is concealing some fundamental weakness in nonresidential construction. However, the booming housing market has little room for further improvement, and the handicaps of deficit reduction and tax reform will soon be brought to bear on public and commercial construction. As this happens, the present tenuous balance of strength and weakness will give way to the declining phase of the building cycle—by 1987, if not before. More about this in October.

Prepared by the Economics Department, McGraw-Hill Information Systems Company, George A. Christie, vice president and chief economist

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cluding the firm in a suit. Such policies should prohibit the performance of outside work on company time or property. In addition, the use of all company equipment, including the telephone and the copier, should not be allowed. Moonlighting employees should also inform their outside clients that the firm has no connection with the project.

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Computers: Big annual show of what's new

Some suppliers were so swamped they seemed to be giving their products away

A/E/C Systems '86, the seventh annual "international computer and management show for the design and construction industry," was held in Chicago on June 23-27. Over 19,000 people turned up to view and test the latest of the suppliers' products on display in some 275 booths in the main hall at McCormick Place—not bad for a show that had its debut in a hotel basement a short while ago.

This year for the first time the show's name reflected the participation of contractors (the C in A/E/C). The focus of many of the suppliers' product presentations was sharpened toward particular functions—recognizing that there are not one but many markets among people involved with buildings. "Instead of a broadside at the architectural-engineering market," as McGraw-Hill's vice president for planning/electronic products Harry Mileaf put it, "products are now being tailored to specific segments of the market."

This meant that, while some computer suppliers were expanding into ever more glamorous three-dimensional color modeling for the big firms with a technological bent, others were trying to better answer the needs and problems of ordinary offices with their limited budgets and, perhaps, limited interest in technology. Among the displays were programs that performed such mundane functions as better specification production, systematic billing procedures, and, if CAD were to be used by the small office at all, faster and more accurate working-drawing output.

Offerings also demonstrated changes going on within the industry. With so many manufacturers of hardware having to make substantial ongoing investments in fast-paced development just to keep abreast of a very competitive pack, at least one major purveyor of total systems announced that it would abandon hardware altogether and concentrate on enhancing the quality of its software programs. As had been pointed out at the AIA convention (RECORD, August 1986, page 33), "Whatever a manufacturer develops today will be part of all computers tomorrow." Given this thrust to keep up and a constant pressure to lower prices, it is easy to see why equipment manufacturers may be feeling somewhat of a pinch.

And booths showing software seemed to attract a lion's share of the interest—some so crowded that it looked like suppliers were giving their products away. And, indeed, one manufacturer was offering for sale, along with its more sophisticated programs, a program that would sketch (or, more

accurately, move a limited menu of shapes around the screen) for well under \$100.

The AIA launched its own CAD system. And there was much talk about making the software programs offered by different suppliers network with one another. One technology-development company promised to link many of the major suppliers' software programs—and to provide micro CAD capabilities on PCs as well—for under \$1,000. The quest to create the elusive relational database (or one that can be queried without having to write a program to do so) seemed to come a step closer—as did interactive databases by which drawings, specs, and other graphic and verbal material can be directly linked (changes on a plan creating simultaneous changes in the materials count and cost estimate, for instance).



Joe Ortland, Inc.

Suppliers often managed to make computer use seem deceptively easy—going through operations carefully preprogrammed ahead of time to mask the intricacies of what the user would have to do were he starting from scratch. Fortunately, however, many of the booths had facilities for potential purchasers to test the equipment and programs being sold and personnel to assist with instruction. And, in addition, there was a large area at the back of the hall where many of the major suppliers had additional equipment and programs that could be tested as long as the users' patience held up.

Tutorials and seminars showed what computers can do—and what they are likely to do in the near future

Subjects discussed included effective standards, graphics for engineers, computers' impact on personnel, and how to pay for the systems. One of the best-attended seminars was entitled *CAD: The next five years*. Representatives of seven major software, hardware, and systems suppliers predicted

developments that may shape computer use in the near future. Naturally, their views were somewhat colored by what they sold.

According to panel chairman Charles Foundyler, president of Datatech, Inc., the major development will be lower cost. DFI/Systems president James Boyce said that, within two years, there will be 100 times the current efficiency on PCs. "All companies in computers," he said, "will have to invest a higher percentage of their revenues in research and design just to stay competitive"—a tough order, considering the already beleaguered state of the industry. Among the benefits for the user, he envisioned, will be a passage from the "fear to productivity stages,"—fear of not keeping up with peers to measurable strides in productivity. Still, he pointed out, there is a peak

stay in business. "Much of the future business for computer companies will be repeat business," he said, "not 'drop the system and get out'."

We are going to have less development of systems that do not answer real, immediate problems or make economic sense, said Peter Martin, president of ARCAD. One development that he did feel will make an impact on the market in the next few years will be the computer's ability to understand not only the literal information asked of it but the context of the users' questions as well. He described the current stage of systems development by telling of the architect who, looking for methods to save his practice, fed in the basic information on its financial performance only to receive back a printout that said, "There's not enough money in architecture to make it worth your trouble."

According to George Meister, senior vice president of MISCO, a McDonnell Douglas subsidiary, "We are only beginning to scratch the surface on systems' intelligence." Even so, said Sigma Design president Walter Von Seggern, "The industry can already sell more capacity than most architects can now use."

Auto-trol Technology's sales director David Weisberg cited many companies' trend toward the selling of unbundled systems (or component parts that can be made into full packages) as an honest recognition of the companies' limitations. "To say other companies can make all the elements of a system better than IBM is ludicrous," he said. He also chided architects' attitudes on systems: "Too often they ask how much manpower they can save, when their real question should be how much money they can save for an owner by better building design."

Among the more innovative seminars was one on automated specification production by Mark Kalin of architects Jung/Brannen Associates. Effective specifications, said Kalin, should save large amounts of time on drawing by including often-repeated elements, such as fire-stair details, in a standardized graphic form. To produce such hybrid documents that, in essence, cross over the traditional boundaries between drawings and specs, Kalin uses PCs and, because his specs do not follow the traditional sections, he works from check lists. He does not number the sections because this allows him to move material about at will. One drawback: printers that are compatible with PCs do not have the speed he would like. C. K. H.

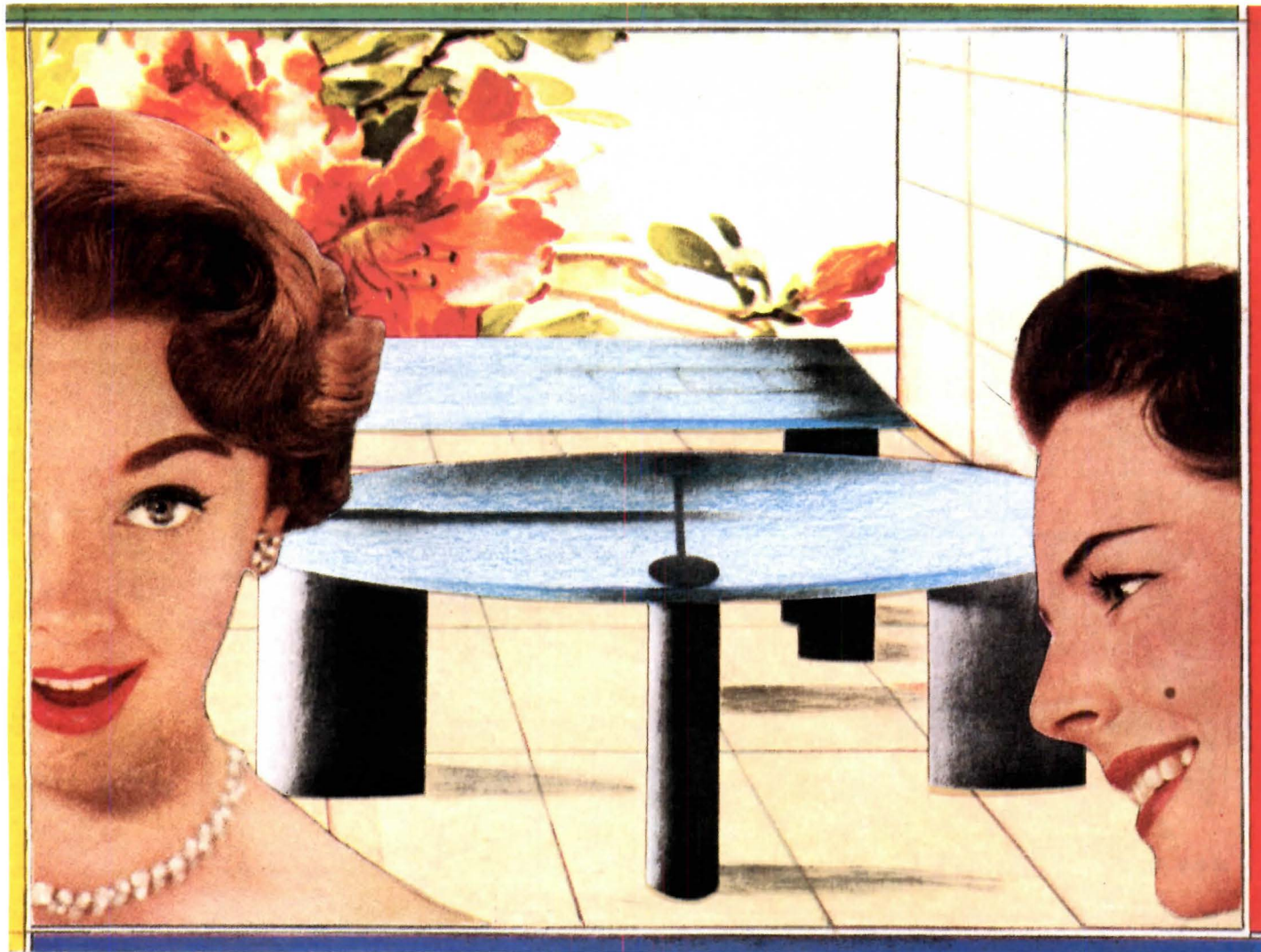


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Management: Improving the quality of your interruptions

A hypothetical manager stumbles through the pitfalls of lost time only to discover a system for rising above them

By Jeffrey P. Davidson

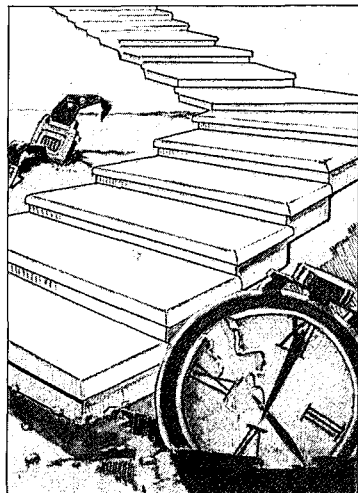


Illustration by Howard Perlin

Victor Morris was a project manager with seven people on his staff in a small architectural firm. Like other good project managers, he helped guide his firm's policy, found new clients, and kept the old ones happy. He assured that his team did its background research, applied it well, and produced imaginative, functional buildings on time and on budget. And Morris was an effective delegator; he had, with considerable time and effort, produced a workable project-performance plan that told his team what each member's responsibilities were on any given assignment.

On a daily basis, however, Morris's time was being chewed up. Each of his staff members averaged between three and five trips to his office each day for a variety of questions and discussions about what they were doing. Though Morris took the time to schedule well-run, informative meetings and met with staff members individually about their progress, he couldn't seem to stem the tide of interruptions that virtually wore him out by the end of each day.

What options does a supervisor have for reducing the number of interruptions by his staff?

Or, phrased differently, what options does he have for improving the quality of those interruptions that must be made? Let's look at a few principles that will help maintain a manager's overall effectiveness while allowing him to get on with basic management:

- The first step is to establish priorities for interruptions. Don't allow a trivial issue to become as important as truly serious ones just because the staff tries to make it so.
- Encourage employees to judge the importance of questions and issues and to determine whether talking to their supervisor or some other source of information is the best course of action.
- Promote more staff interaction. Get employees to resolve issues among themselves when possible.

Let's return to Morris and see how these principles might be put into effect:

Morris gets the ten-thousandth interruption

The number of his interruptions each day was not decreasing with his traditional methods of information dissemination. It was increasing instead. In the

evenings, at home, he repeatedly went over new ideas for remedying the problem.

He thought of closing his door for several hours each day or on particular days. But he was afraid that someone among his staff or his clients might be let down by his unavailability at a crucial moment.

He considered elaborate scheduling, message, and memo systems, and other exotic methods of communication, but quickly determined that they would involve a great deal of effort with, perhaps, no real improvement in operations.

Morris, now at wits' end, decided to keep a log of what his interruptions were about over a three-day period. And then he had the answer. It came to him when he realized that 25 percent of the questions for which he was being interrupted—like who should check shop drawings or which building code should be used—could have been answered by simply looking at his original project-performance plan. His staff was simply not evaluating the most appropriate sources of information but taking the easiest course—him.

So, finally, Morris was ready to start a new way of doing things:

The questions and issues that his staff brought up in day-to-day operations would be separated into four categories. First came all those questions that could have been answered simply by referring to the project-performance plan—or other available materials, such as project-orientation kits. From now on the staff would use them.

The second category of questions were those that could be effectively answered by another staff member or outside source—such as which specification format the office prefers or how long it takes to get blueprints back from the printer—thereby further reducing the number of interruptions that Morris must endure. It might be readily observed that asking fellow staff members for answers to questions doesn't reduce the number of overall interruptions in an office; it merely shifts some interruptions from supervisors to others. However, any distribution of interruptions to the staff would be more equitable than having the supervisor bear the brunt.

The third category of questions were those that must, in fact, be presented to Morris because, by their nature, it would have been inappropriate to ask anyone else. Examples would be the leeway in a project's budget for overtime or how much of a change to basic design a client would tolerate without a review. Here, only Morris would have the necessary knowledge.

The third-category question, however, could be answered by a yes, no, or in one or two sentences. Thus, the need for a staff member to walk over to Morris's office for face-to-face communication was unnecessary. These questions could be easily handled by the office intercom.

Of course, a question delivered by such quick means as an intercom is still a question—and an interruption. But, by avoiding the temptation for unrelated conversations, it is far less disruptive to both the employee's and the supervisor's time.

The fourth and final category of questions was those that resulted from the options of the first three categories being exhausted—problems with consultants or a client's asking for more services than provided for in the contract. By virtue of their complexity or delicacy, such issues could only be resolved by a meeting with Morris. He explained to his staff that he had no problem whatsoever being interrupted for these kinds of questions and, in fact, would encourage it.

But, as Morris's log had revealed, only 20 percent of all questions fell into this final category. Thus, Morris was, in effect, able to reduce the number of interruptions per day from between 20 and 35 to between three and eight.

Let's step back now and examine the benefits of such a system for assigning priorities to issues and questions. First, it provides a staff with a framework for taking action and continuing to make progress even in management's absence. It also helps to promote greater staff interaction and more sharply defines management's role in policy-making instead of in the lowest levels of operations. When managers are no longer viewed as den mothers who handle every little question and concern, there will be a much greater appreciation of the importance of their time—and a far more effective operation.

The greatest benefit to managers is that their time is effectively increased while not markedly diminishing anyone else's. With fewer small interruptions, they have time for creative thinking and planning.

Mr. Davidson is a certified management consultant in Falls Church, Va. He is the author of Checklist Management: The Eight-Hour Manager, published by the National Press in Bethesda, Md., and Marketing Your Consulting and Professional Services, published by Norton Wiley and Sons in Somerset, N. J.

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Marketing: Brochures are serious business

The author explains why brochures are difficult and time-consuming to produce but why they are needed all the same

By Lois Boemer

One of the most general misunderstandings about architects' brochures is that they will bring in lots of work. True, a good one can catch the eye of a potential client. But it only opens doors—not necessarily gets you inside.

According to Lord Communications head Barbara Lord, "Having a brochure won't get you a job, but not having a brochure, or having a bad one, can lose you a job." The real purpose of a brochure, then, is to help establish your position in your market—not cement it. In this highly competitive business environment, that is quite an accomplishment in itself.

Good brochures cost money. They also take an inordinate amount of time. There is no such thing as a successful instant brochure. A brochure designed by a committee is much like designing a building by committee. It just doesn't work. So someone with adequate expertise has to take the time and trouble to make it work.

"It is impossible to make all of a design firm's staff happy," says vice president and development director Jean Plank of architects Drummey Rosane Anderson, Inc. Still, in acting as go-between to her firm's outside consultants for two brochures, she listened to everyone on her staff and tried to find a common thread among all the various wants. This might have contributed to the long 10-month period it took to produce the two brochures.

Before you even start on a brochure, a survey of what former and potential clients are looking for

in it is an "absolute necessity," according to Margaret Spaulding, head of the marketing firm MS Associates in San Francisco. Although a thorough survey is obviously going to produce the most comprehensive results, Spaulding doesn't care if the survey is informal and/or quick and easy. "The important thing," she says, "is to do one."

Some of the results of Boemer's own surveys:

- "Brochures are too architecturally oriented." By that, as it turned out, her respondent meant that they showed too many pictures of other clients' buildings and projects when what was wanted was substantive information on how the architects could solve their brochure readers' particular problems and programmatic needs.

- "Brochures should be capable of fitting into a file drawer"—a comment on the trend toward large sizes and unusual shapes to catch the recipient's eye. Especially large corporations will, of course, file brochures as a reference for the time when they do indeed have a commission to give out.

Above all things, a survey helps you tailor a brochure's contents to the market being sought. In other words, it helps you gear the contents toward the interests of that client your firm most wants to get (and/or is most likely to get) because it helps you know what those interests are.

You should not make the mistake of showing housing in a brochure when the target group of clients is interested in office buildings. If you have done office buildings, your

decision will be relatively simple: Show those office projects that cast your firm in the best light. But, if your most visible projects to date have been, in fact, housing, a brochure to attract office-building clients is going to have to show experience that is at least related to what they want—say, your experience with corporate interiors.

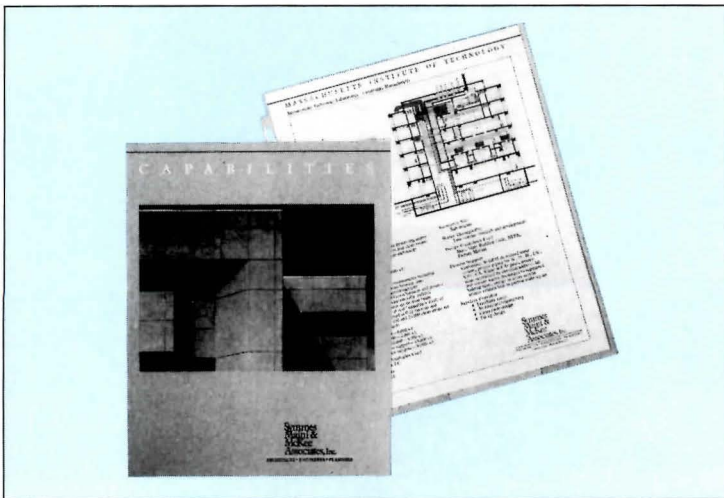
Whether or not you use an outside consultant, you still have to determine what the brochure will say. To really capture the interest of that target client, you will have to address his problems and programmatic needs in terms he can understand—in his own terminology and not in architectural jargon. Walk him through typical programmatic situations that he might encounter (such as buildings with difficult site access or special security requirements) and show how your firm has or might solve them. Here, a flexible format that allows you to insert only those projects that pertain to the interests of a particular client will help.

Of course, you will have to get cost estimates and color, print, and paper-stock samples. Ask the printer for a sample ink roll-out on the stock you select, and you might want to be present for the first press run. It is more cost-effective to stop the presses than to have to run the whole lot over.

Finally, brochures have a limited shelf-life. Some say only 24 months. This means that—if you don't want to have to start thinking about a whole new brochure when you have finished the last one—here again a flexible format will help. It allows you to insert new material and remove that which is no longer relevant. You don't have to keep starting from scratch and can avoid the substantial costs of new binders and, often, save the printed pages containing the standard preamble and section introductions as well.

If you have done all this, you will wind up with a valuable tool for furthering your client base. And you may find many client doors—if not wide open—at least ajar.

Ms. Boemer is head of Boemer Associates in Boston, a marketing and public-relations firm for the building-design professions. She counts among her clients The Boston Society of Architects.



The author uses the brochure of architects, engineers, and planners Symmes Maini & McKee Associates' to illustrate the importance of a flexible format. The brochure, designed to attract corporate and institutional

clients, allows for the insertion of new projects, projects that will interest a particular client by virtue of solving problems similar to his, and technical fact sheets on those projects of special interest.

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The profitable professional: Dos and don'ts of managing an architectural practice

By Barry LePatner

Attorney Barry LePatner has long taken a tough stand on securing a better business footing for architects—in the management of their own affairs and in their dealings with clients. Many of the actions that he recommends to architects seem revolutionary and, occasionally, difficult—if not downright impossible—when we consider the bind that ever-increasing competition and technical complexity within the profession creates. Others are plain common sense, often overlooked in a business environment that can prove to be, for many, disorienting.

To aid architects in knowing whether they are on course as he sees it, he has compiled the following rather randomly arranged checklist of actions. And he would urge that none are, in fact, impossible—or too obvious to bear repeating.

LePatner does champion what he believes to be an innate business sense in architects that he considers to be well established. He credits the rise of competition and technical complexity for this manifestation. "These changes," he says, "have sensitized architects to the need for upgrading their talents in everything from negotiating contracts to computer technology, from concepts of accounting to labor relations." He sees the rising emphasis on business issues at AIA conventions as a healthy sign.

Of his list of recommended actions, he says, "Do try them on for size. Do apply as many of them as you can to your practice. Do adapt some to your own way of doing business. But don't ignore the importance of staying abreast of business methods. Inaction could, in years ahead, leave you out in the cold." C.K.H.

Do—

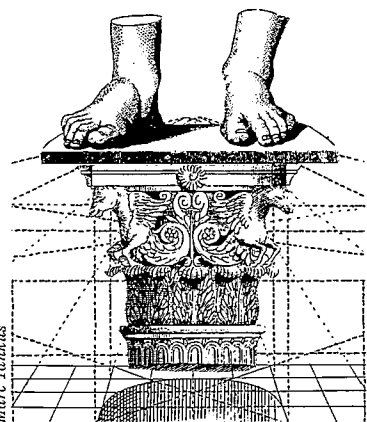
- Assess your firm's strengths and weaknesses at least annually.
- Devote the time required to determine your actual cost of doing typical projects.
- Know who the most effective production people on your staff are and reward them appropriately.
- Avoid projects for which the fee will not produce a profit, no matter what the excuse.
- Purchase a business computer to perform at least project management, billing, and accounting.
- Bill all clients monthly.
- Promptly submit reimbursable costs to clients or, better, have them advance substantial amounts for, e.g., renderings and models.
- Train managers to fully document all field changes, change order requests, and program changes and

confirm each to the client and contractor.

- Advise clients on alternative designs that, though they may increase initial costs, will save money over the life of the building.
 - Place yourself in the position of business advisor to your client on issues that affect design.
 - Start talking about future projects for a client while you are still working on a proposal for the current one.
 - Look for new business most actively when your office is busy rather than waiting for a slowdown.
 - Seek to get every project of note published in appropriate media.
 - Identify your firm's design strengths and market them aggressively.
 - Send reprints of favorable articles or published projects to all clients, past and present, and all business prospects.
 - Require your consultants to sign contracts that track the basic requirements called for in the owner-architect agreement.
 - Require your consultants to carry professional liability insurance.
 - Develop a good relationship with your consultants so that they will recommend you as the architect on projects for which they have first knowledge.
 - Recognize that a consultant's problems on a project are also the architect's problems and such problems must be addressed as a team without pointing fingers.
 - Remember that your consultants can make or break your project, so select them carefully for each project and not out of blind loyalty.
 - Remember that the architect-owner relationship is one of trust and confidence. You are under an obligation to treat the owner and contractor fairly and, in turn, insist on similar treatment from them.
 - Understand and act firmly on your entitlement to compensation under your agreement and all the terms and conditions of it.
 - Remember that an architect does not issue guarantees or warranties of professional services.
 - Remember that an architect does not control project costs and, as such, cannot be responsible for market conditions or bids that exceed reasonable estimates.
- ## Don't—
- Negotiate your fees without factoring in the anticipated costs of the owners' changes not covered by additional reimbursement and of normal contractor problems.
 - Perform construction supervision services beyond the scheduled completion date without negotiating your fees for extended contract administration.
 - Be afraid to say "no" to an owner who insists that work covered by

the additional-services part of the contract is basic.

- Sign off on projects by, e.g., obtaining certificates of occupancy or giving final payments to contractors without having first received your own final payment.
- Perform services on any project without a comprehensive written contract.
- Provide additional services without getting approval or confirming such instructions in writing.
- Work for clients when you don't feel certain that they can pay.
- Take on a substantial commission without researching your client's background as carefully as he or she checked yours.
- Continue to perform services for any client who has not paid your fees for over 90 days.
- Start a partnership or professional corporation without a carefully drawn partnership or shareholder's agreement drafted specifically for your business needs.
- Manage your current partnership or professional corporation without such an agreement.
- Retain lawyers or insurance brokers who don't know what you do for a living.
- Consult your professional advisors only after a problem arises (as most problems can be avoided).
- Forget that the people in your organization are the most important asset of your business.
- Forget to market your firm's "personality" as much as your past projects.
- Fail to have your second line of command get to know your client's correlatives.
- Hesitate to bring your client to your office to show him work in progress—his and others.
- Forget to send your clients copies of sketches and drawings at various stages of the project.
- Give orders for extras or changes in the work, plans, or specifications without written authority from the owner.
- Assume that, as architect, you have authority to act on behalf of the owner on his business decisions.
- Forget that, while architecture is an art, the modern practice of architecture is a business as well.
- Forget that your drawings and specifications are automatically protected by federal copyright law and cannot become the property of the owner unless you (foolishly) convey such right to the owner in writing.
- Forget that you must combine quality design services with quality fees and secure such fees as your rightful entitlement.



Marc Yankeus

Mr. LePatner is a partner in the firm of LePatner, Gainen & Block, which specializes in the representation of architectural and engineering firms. A frequent lecturer, he is active in the AIA, both on the national and local levels.

Portions of this article appeared in the "LePatner Report," a newsletter published by Mr. LePatner.

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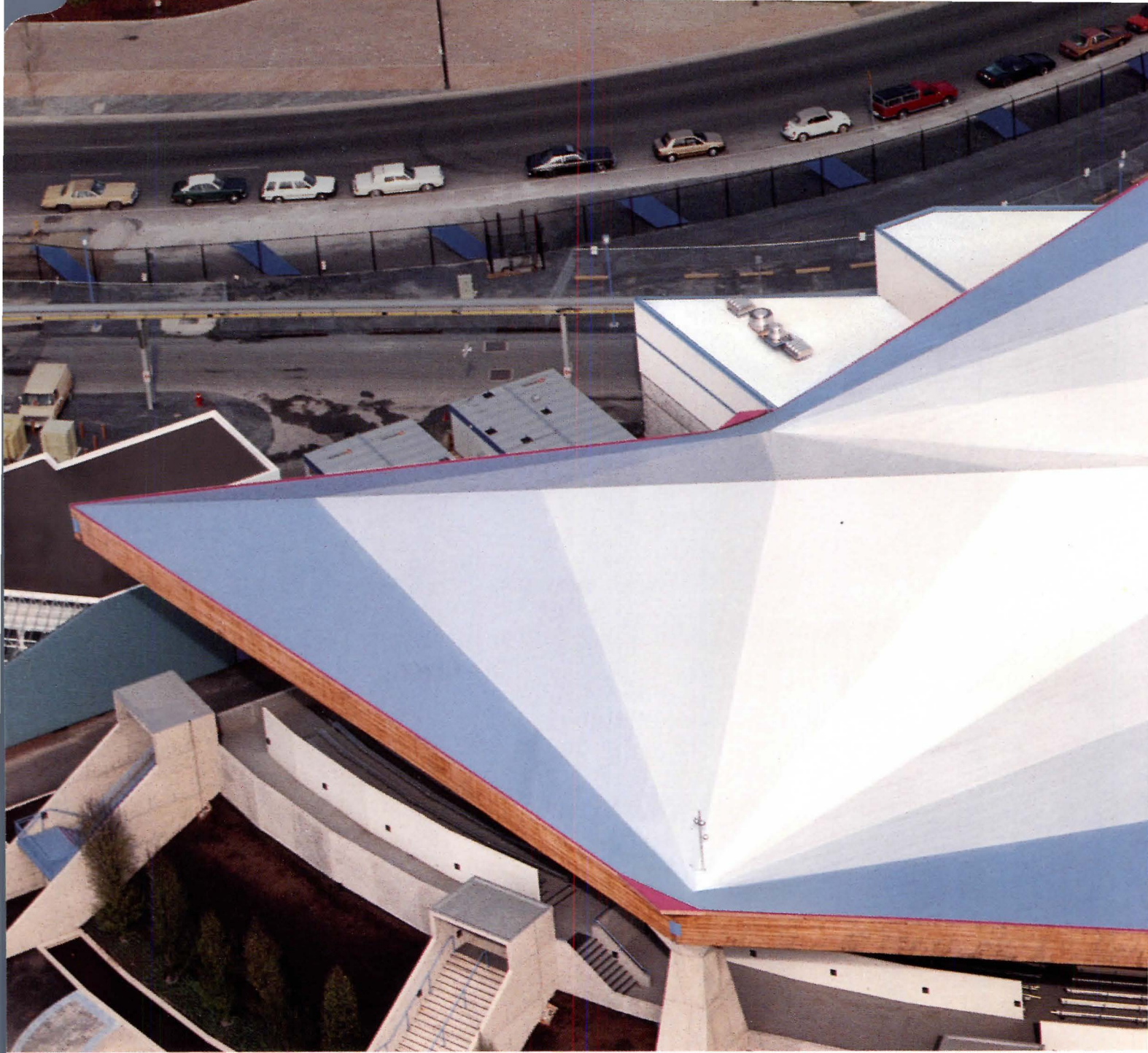
Bill —
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Current Projects

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A tailored fit.

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tion, if you can conceive of it, a membrane based on HYPALON can be tailored to cover it.

Looks good, acts tough.

Membranes based on HYPALON can be made in a variety of brilliant colors. Unlike most single-ply materials, membranes based on HYPALON are unique in that different colors can be achieved without loss of physical properties or weatherability. The most popular choice, however, is still reflective white—noted for its remarkable energy-saving capabilities.

But you get more than just a pretty roof with HYPALON. Because no

other single-ply membrane can match the combination of properties and proven performance of HYPALON. For example, a roof made with HYPALON actually becomes stronger with time as it cures. Unlike other synthetic rubber or thermoplastic-based membranes, HYPALON cures in place to create a more durable membrane that your client can count on for years. In fact, roofing systems based on HYPALON are among the most economical on the market today.

HYPALON takes the heat.

And the cold. And the rain. And snow. Indeed, membranes based on



ing Contractor: More-Ply Roofing Roofing Manufacturer: Dunlop Construction Products, Inc., Mississauga, Ontario, Canada; Dunseal Hypalon® H301 System

Activity with HYPALON.®

HYPALON synthetic rubber remain functional through some of the harshest conditions Mother Nature has to offer.

Roof membranes made with HYPALON are available in formulas that remain flexible at temperatures as low as -40°F (-40°C). They offer an exceptional combination of properties—resistance to flame propagation, corrosive chemicals, oils, pollutants, acid rain and traffic—setting quality standards throughout the industry and measuring up to even the strictest building codes.

Membrane based on HYPALON can be seamed with heat, solvents

or adhesives depending upon the system's supplier recommendation. In addition, because they're among the easiest to install, roofing systems based on HYPALON are much less likely to cause problems in the long run. And any necessary repairs can be done quickly and easily.

The sky's the limit.

Let your imagination run wild, not your costs. Most roofing systems based on HYPALON are as cost-effective as they are versatile. So when you're specifying a single-ply roofing system, make sure it's based on a product that's as attractive to

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For more information about Du Pont HYPALON and the companies who manufacture roofing systems based on HYPALON, call **1-800-441-7111**.

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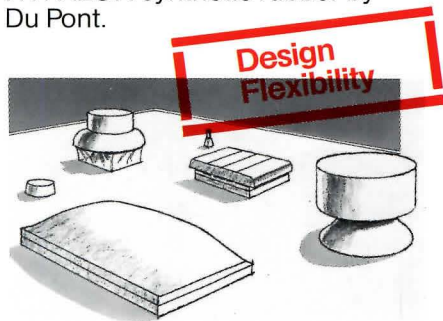
HYPALON®



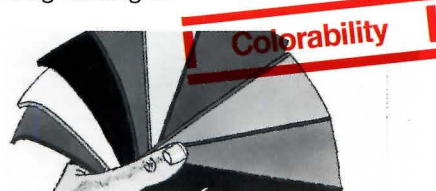
Polymer Intelligence

Your single-ply roofing system is only as effective as the material that goes into it. HYPALON® is Du Pont's registered trademark for its chlorosulfonated polyethylene, a synthetic rubber supplied as a raw polymer to the rubber industry. Rubber manufacturers then compound and process the polymer to produce a variety of end products including single-ply membranes.

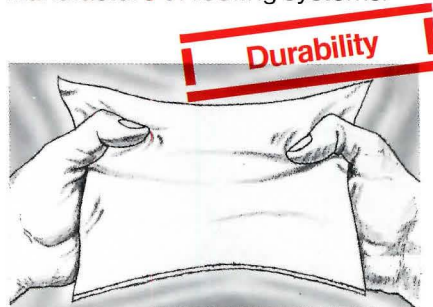
It pays to know the polymer that your single-ply roofing system is based on. And it pays to choose HYPALON synthetic rubber by Du Pont.



HYPALON's unique chemical and physical properties allow for design versatility rarely found in other polymer products. Membranes based on Hypalon can be easily shaped and fitted over various configurations, substrates and hard-to-fit areas of any roof, including sloped or curved designs. Whatever the building, a system based on HYPALON can be tailored to cover it with a snug, long-lasting fit.

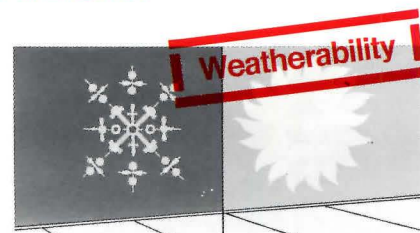


In comparison to other polymers used in roofing, systems based on Hypalon can be created in a broad range of colors without loss in performance. Since a variety of ultra-violet stable pigments are compatible with a properly compounded membrane of HYPALON, systems will retain their color and performance characteristics despite continual exposure to sunlight. This is significant in that masstones, pastels and even fluorescent color can be used in the manufacture of roofing systems.



A thermoplastic grade of HYPALON is used to make roofing membranes. This provides easy installation and allows the membrane to be seamed using heat, solvents or adhesives, according to the system supplier's recommendations. After installation, cross-linking sites on the HYPALON polymer allow it to cure in place. No other synthetic rubber or thermoplastic offers this feature.

Since it vulcanizes over time, a roofing system based on HYPALON actually becomes stronger with age. And because repair and maintenance is minimal, roofing systems made of HYPALON are among the most economical on the market.



The combined action of ozone, oxygen and sunlight often causes the degradation of many polymer products. HYPALON, however, is both ozone and ultra-violet resistant. In fact, when properly compounded for the roofing application, its resistance to all these elements is actually enhanced.

The toughness of the polymer itself enables HYPALON to remain functional under some of the harshest environmental conditions. Membranes based on HYPALON offer serviceability in temperatures as formidable as -40°C (-40°F) and 93°C (200°F).



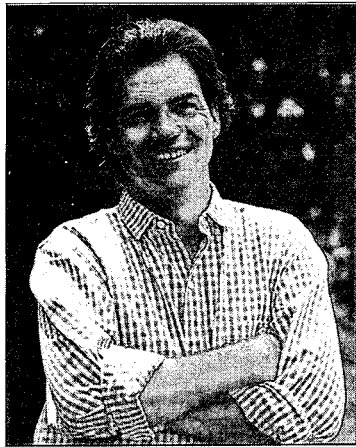
Due to the chlorine in its molecular makeup, compounds of HYPALON are resistant to oil and to flame propagation. Additionally, a membrane based on HYPALON is highly resistant to corrosive chemicals, ozone, pollutants, and acid rain—setting quality standards throughout the industry.

For more information about Du Pont HYPALON and the companies that manufacture roofing systems based on HYPALON, call 1-800-441-7111.



Architectural education: Memory and the Delphic Fix

By Don Hanlon



A common perception of an architectural student seems to be that he is an architect in the pupal stage: while neither quite "alive" nor wholly "dead," he is quietly metamorphosing within an institutional cocoon, eventually to emerge as a brilliantly marketable being. Students, therefore, are not entirely real in respect to the image to which they aspire. Their design work is seldom seen as more than limited laboratory experiments. Too often viewed as passive vessels for facts and vocational skills, undergraduate students of architectural design are not generally expected to contribute to a broader understanding of issues facing the profession at large. But when these students can place their work within the context of a philosophical dialogue, remarkable things can happen. They then acquire a system in design to explore the act of thinking and are freed of stylistic fashion and dogma.

While so much of architectural discourse seems increasingly cynical—dwelling as it does on crises, discredited doctrines of the past and current trendy hyperbole—I find that the work of students, by contrast, is becoming fresher and more vigorous. In many instances, the advanced design work of architectural students is the creative vanguard. It is optimistic and realistic; it avoids affectation. There is clearly evidence of a genuine search for a durable logic, a fusion of magic and reason.

My work in teaching design is primarily with undergraduate thesis projects. At this stage, many students develop a sense of control over what the Swiss psychologist, Jean Piaget, calls "formal operations." This is the stage at which the human mind becomes capable of constructing systems of thought for itself by putting forward theories and testing them. Through the medium of abstraction, the mind learns how to reason about the future.

Perhaps the most exciting aspect of an architectural thesis for an undergraduate student is the dramatic transformation one finds in the way the mind works. For many, this is their first opportunity for full expression of a newly found potential. A successful architectural thesis must demonstrate control of the mind at the level of "formal operations." The first fruit of this powerful new consciousness can be extraordinarily pure and direct, ardently poetic and rational. The work of students at the moment they fully grasp and command abstraction is special.

To help students construct a system of thought for a thesis, my

Professor Don Hanlon has developed an interesting, different approach to teaching design-studio thesis and theory for his courses at the big architectural school at Texas Tech—where a strong engineering bent is being supplemented by more "art and design"

technique is to encourage them to explore one or the other extreme of a conceptual polarity I have proposed. Which direction a student may take depends upon his personal goals and design objectives. The polarity is represented on the one hand by an *oracular* vision; I borrow a term for this, the Delphic Fix, from an essay by Cynthia Ozick (*Harper's* magazine, May, 1986). In opposition to the Delphic Fix is a sensibility for collective cultural memory, an essentially *metaphorical* approach. These two poles, oracle and metaphor, are opposites from the standpoint of origin as well as of purpose. Though fundamentally different, they can be equally compelling ways of discovering and conveying ideas. Between the two extremes of the polarity is an infinite number of variations. In my experience, though, each student has a tendency toward one or the other of these two ways of thinking. By encouraging them to seek the most forceful expression of that tendency, to move toward the extremes of the polarity, I find that their work attains greater clarity and subtlety. Self-criticism gets easier and as they see how their ideas relate to those of others, a sense of collective effort grows.

Language and anti-language

Some students are avid seekers of inspiration. Choosing this path, though, they soon find that inspiration is hard work and requires a very systematic and disciplined mind. The purest form of inspiration is an oracle, a revelation of the spirit within. It is a type of madness in that it strives to annihilate ordinary experience and to expunge memory. The oracles of Delphi and Tibet, for example, were totally dependent upon such a state of mind. Through amnesia, a loss of self, place, and time, the oracle can act with total spontaneity and autonomy. The Delphic Fix is a riddle, utterly self-contained. This is why inspiration seems to come from someplace else; it is a glimpse of another realm of experience. Each revelation is specific to a moment, cut off from history; it does not establish standards or principles because such things must be derived from an accumulation of events, an historical pattern. But since each oracular event is singular, no connections can be made to form a pattern or direction.

The intensely individualistic form of the oracular vision is not for everyone. Powerful ideas can have another source, that of collective memory. Metaphor is an interpretation of memory, a distillation of experience directed at enhancing historical continuity. Metaphor is used principally as a

means of inserting oneself into the experience of others by transforming that which is strange into something familiar. Whereas the oracle requires no prior knowledge and no shared memory, metaphor is entirely immersed in memory.

Functionally, the oracle-metaphor polarity pivots around language. Metaphor, depending as it does on shared experience, a shared knowledge, is totally bound by language. A metaphor tells a story; it interprets and expands a conventional understanding. The oracle, however, is an anti-language. It often assumes the form of gibberish, either requiring interpretation by initiates of its mysteries or demanding acceptance on its own terms, less for what it is than for how it came into being. An understanding of this last quality of the oracle is imperative for acceptance of an architecture conceived in the Delphic Fix. In such a case, the state of mind is everything; the final architectural image is not so much an object as it is a record of mental events. Conventional semantics and grammar do not work.

Inventing games and telling a story

To illustrate how the polarity between oracle and metaphor works for students, excerpts from four recent undergraduate thesis projects are shown on the next page. Two projects, a museum for contemporary art and a world's fair pavilion, represent efforts to invoke the Delphic Fix. Two others, a guest ranch in Texas and a women's shelter in New Mexico, represent a metaphorical approach wholly dependent upon a collective social memory.

In both the museum for contemporary art and the world's fair pavilion, the designers did not permit themselves to hold an image of a building as a discrete object. Instead, design was conceived on the basis of gaming procedures. A set of rules to a game was devised by which forms might emerge and be kinetically combined. The game rules provide the discipline necessary to tap an oracular train of thought as an artistic device. The art museum (Figure 1) is an improvisational duet, utilizing a set of active, dense objects embedded in a passive, plastic matrix. Positions of objects result from externally induced movements: falling, sliding, or floating; the matrix responds by folding, crinkling, and stretching. Normal identities and qualities of parts are reversed or left unstated: what should be roof becomes entry; what should be nearly invisible becomes monumental; what should

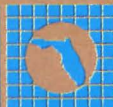
Continued

Don Hanlon, AIA, is Assistant Professor of Design & Theory at the College of Architecture, Texas Tech University, Lubbock, Texas. He has a B. Arch. from Cornell University, and a M. Arch. and M.B.A., Urban Development from the University of Washington. He is a registered architect in Texas.

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1. Museum for Contemporary Art for Dallas, Texas

Jon Lavy designer

2. World's Fair Pavilion for Vancouver, British Columbia

Greg Havens, designer

3. Guest Ranch for Real County, Texas

Michael Imber, designer

4. Women's Shelter for Albuquerque, New Mexico

Kelly Carlson, designer

be heavy appears light. All these arise not from a formal preconception but from the gaming process alone. The architecture, like all riddles, relies on discontinuities of meanings, disjunction, and missing pieces rather than articulation. It is a denial of conventional, shared knowledge and therefore a denial of language.

The world's fair pavilion (Figure 2) goes a step farther in a semantic and syntactic break-down. It, too, relies on a central conceptual duality, in this case a system of parallel walls extending from the city down into water and a loose collection of building forms originating by implication from the water. The resulting form is a snapshot of the two systems colliding, slicing, and grinding one another down. The snapshot is instantaneous and totally detached from cultural experience. It reveals only the rules to the game. There are no clues to either the source of such form or its eventual fate. Normal perceptions of historical time are lost. Like an oracle, a window is thrown open to a non-verbal world and just as abruptly slammed shut.

In sharp contrast, the highly metaphorical work represented by a guest ranch in Texas and a women's shelter in New Mexico is absolutely bound by collective experience and language. The guest ranch (Figure 3) draws from the memory of a wide variety of cultural influences in central Texas: German, English, Spanish, Native American, even Czechoslovakian. Tradition here is dramatized. The resulting building forms are not recreations of specific architectural styles but are rather like dreams; that is, wholly convincing distortions of normal experience. As in dreams, time slows and meanings of ordinary things (in this case, ordinary buildings) become highly charged and volatile. The static, cubic mass of the Patron's house, for example, is slightly splayed and warped, suddenly expanding its metaphorical potential: a swimming pool for guests is a hugely enlarged stock watering tank. At night, western movies projected from a diminutive lookout tower flicker on a limestone fortress bastion. These ideas are not autonomous but depend on a deeply shared architectural language or regional experience.

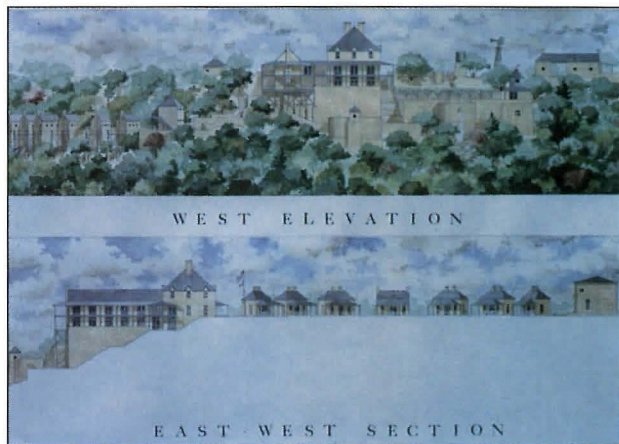
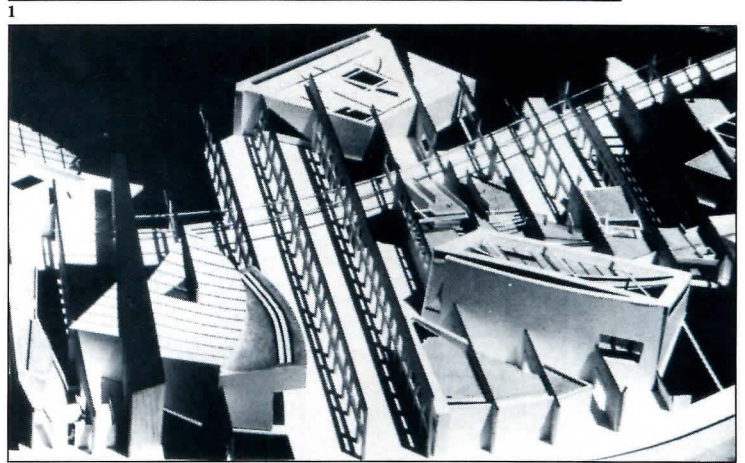
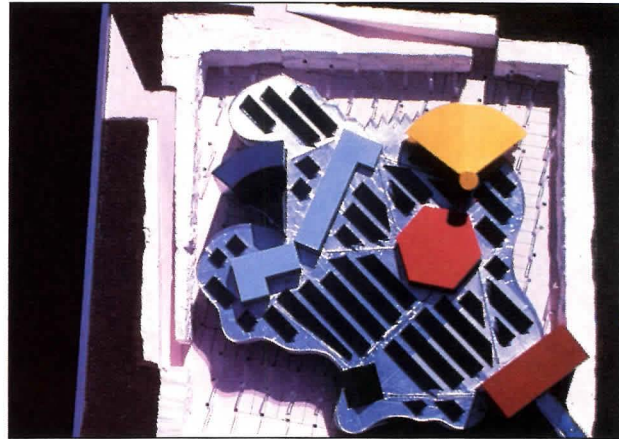
The women's shelter in New Mexico (Figure 4) takes the metaphorical theme of regional experience even farther. Not content with archetypes, this project concentrates on the psychological qualities of conventional materials and crafts. There is no programmatic building type for a women's shelter,

especially one of this complexity. Its author turns to the character of adobe construction as an exemplar of the qualities of mind, the ideal psychological state, that the architecture must project. The mission of the facility is reconstruction—to rebuild a sense of self-worth, an image both of individual liberty and of social belonging among women who have experienced a traumatic and often prolonged deprivation of human dignity and freedom. Here "building" is always a verb. This architecture transcends glib stylistic tendencies of pseudo-vernacular. Instead, it strikes deeply into the moral qualities of material and craftsmanship as a metaphorical model. It is a building tradition immediately familiar—feminine and powerful—pulling into recollection the voluptuous yet durable forms of eroded mesas and traditional sanctuaries like the church of Taos Pueblo. It is an architectural language that transcends conversational banalities. Metaphorically direct, yet complex and open-ended, it is a hypnotic, healing concentration of shared experience.

Autonomy and union

Design thesis at the undergraduate level is an opportunity for each student to explore specific issues of personal interest. I have found that beyond the commitment to individual objectives that may be demanded of a student, formation of a theoretical framework to which widely varying objectives may relate is very useful. The approach does not dictate any single theory, much less any stylistic preconception. It is important that each student work on his thesis autonomously. In addition to pursuing individual objectives, it is equally important that he finds a role in the contest of ideas. Each thesis becomes a part of a larger experiment. Students can see how their ideas relate to others within the context of a general theoretical premise. To participate, though, students find that they must distill ideas to their essence. Having made a decision, they must push toward a compelling conclusion. The dichotomy of *Memory* and the *Delphic Fix* is simplistic and exaggerated but highly effective. It is a conceptual structure that places primary importance upon architectural design as a means to define and express how we think and feel.

Childress photography



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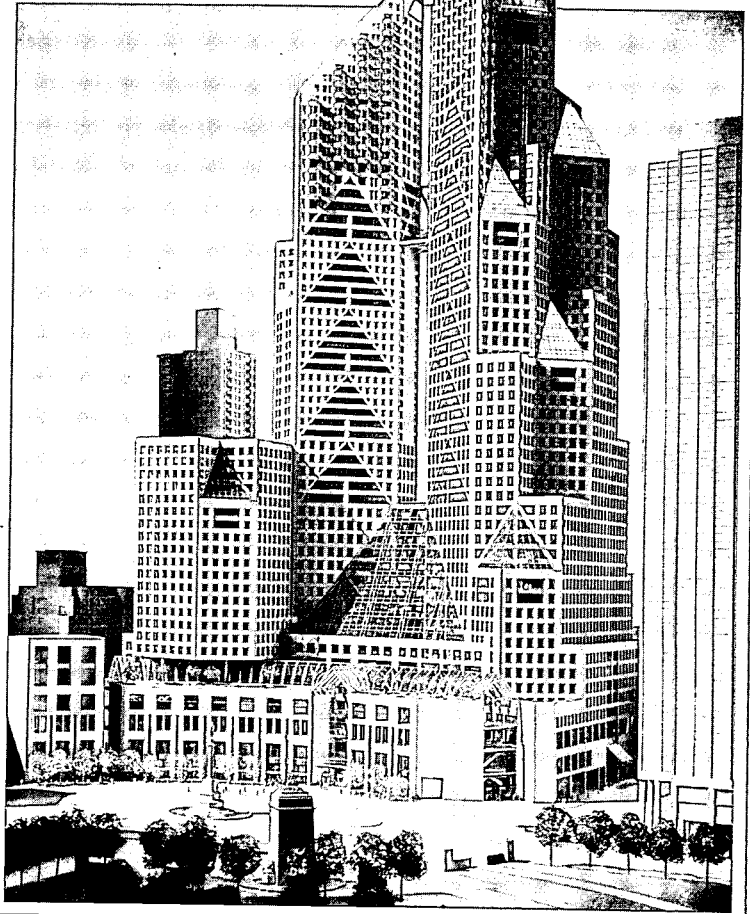
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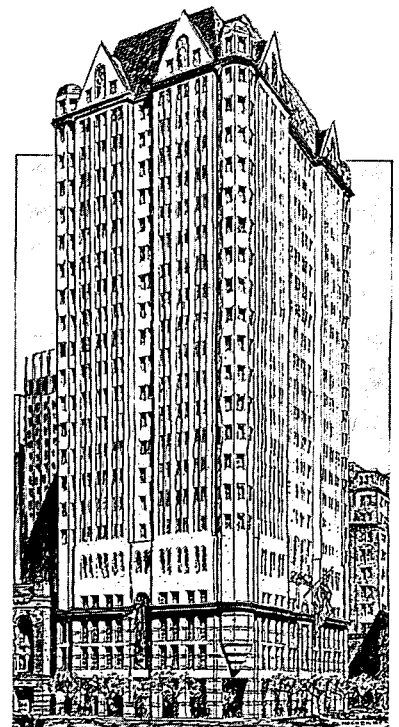
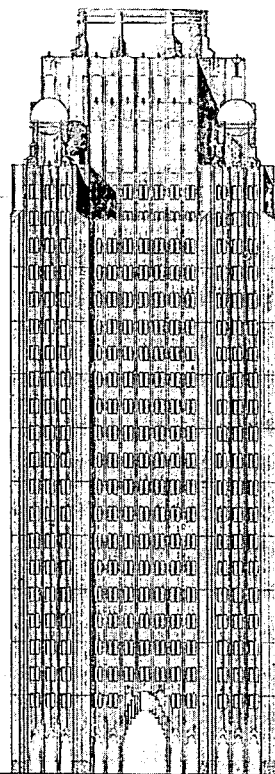
At a time when many urban planners in New York are advocating a reduction in the scale of new midtown building projects, the city has commenced review proceedings for an enormous mixed-use complex that has already aroused a spirited public debate. Designed by Moshe Safdie and Associates, the proposal calls for a gently curving glass-roofed galleria, topped by a pair of prism-like towers housing two million square feet of office space, a 300-room hotel, and 300 apartments—all planned for the four-acre site on Columbus Circle currently occupied by the New York Coliseum, a building that has been rendered obsolete with the recent completion of the new Jacob K. Javits Convention Center (page 106, this issue). Although the architecturally banal Coliseum complex has never had many admirers, its modest scale is at least in relative harmony with the surrounding residential and commercial area. Not so the current proposal: at 58 and 69 stories, Safdie's pink granite-sheathed towers will dwarf even the 679-foot-tall Gulf & Western Building across Broadway (right in model photo), and, more seriously, the project's unusual combination of height and bulk threatens to put the southwest corner of Central Park into afternoon shadows.

© Steve Rosenthal



From the annals of architectural history:
Two current projects in Los Angeles

A pair of ongoing projects in Los Angeles should dispel the myth that high-rise historicism is mainly an East Coast phenomenon. For a site opposite the Los Angeles County Museum of Art, plans have been unveiled for a mixed-use proposal (near right) comprising an office tower, retail facilities, below-ground parking, and a courtyard that will be used to display museum-owned sculpture. Designed by John Burgee and Philip Johnson, the project exhibits patent references to the Zigzag Moderne towers erected along Wilshire Boulevard during the 1920s and '30s. Back downtown, Albert C. Martin and Associates has designed a 26-story tower for Home Savings of America (far right) as an attenuated version of New York's Plaza Hotel, complete with such Northern Renaissance-inspired details as a copper mansard roof, peaked dormers, and corner turrets.





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News briefs

West German update:
Designs unveiled for a trio of cultural institutions

Raymond Loewy, the industrial designer whose name became synonymous with the streamlining movement during the 1930s and '40s, has died in Monte Carlo at the age of 92.

The French Government has said that it will press ahead with plans to construct a giant opera and music center, designed by the Canadian architect Carlos Ott, on the Place de la Bastille in Paris. Work on the complex began in 1985 but was halted this year when the project's Socialist sponsors were ousted from power in March elections.

The City of Miami Beach has taken a major step toward the preservation of its famed collection of Art Deco and Mediterranean Revival buildings by designating two historic districts that encompass the heaviest concentration of such buildings in the Florida resort. The city ordinance mandates a six-month waiting period for a permit to demolish buildings inside the districts, allowing opponents of demolition time to find ways to preserve threatened structures.

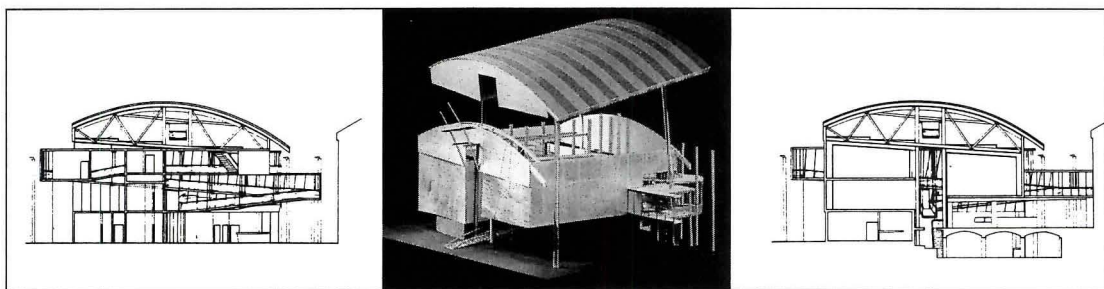
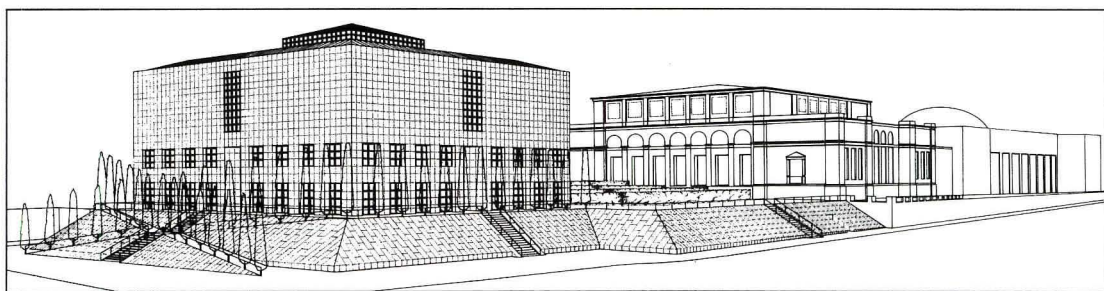
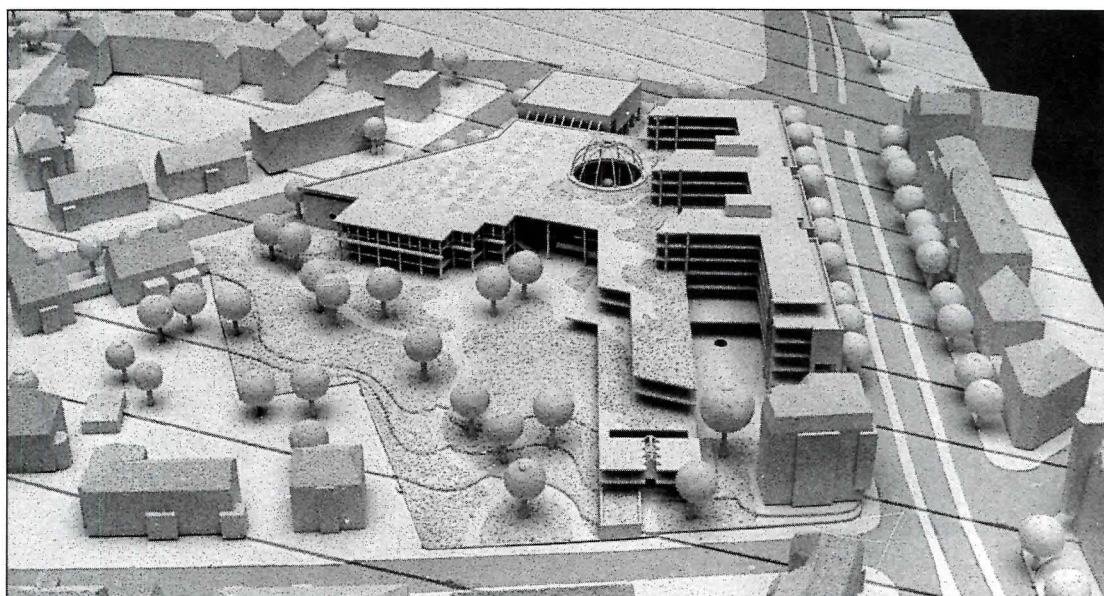
Speaking of Miami . . . The AIA will hold a major design conference in the Florida metropolis entitled "No Earth Tones: The Fantasy Architecture of Miami," scheduled for November 2-4. Featured speakers will include Robert A. M. Stern, Charles Moore, Denise Scott Brown, and Bernardo Fort-Brescia.

Norman Foster has been named the recipient of the 30th R. S. Reynolds Memorial Award for distinguished architecture using aluminum. Foster won the annual prize for his design of the Hongkongbank headquarters building in central Hong Kong.

Edward Larrabee Barnes has been selected the architect for the \$16-million Mary Fendrich Hulman Pavilion at the Indianapolis Museum of Art. The 66,000-square-foot addition will double the museum's present exhibition area.

A joint venture of architects James R. Grieves Associates and Whitman, Requardt & Associates has been selected to design a three-story addition to the National Aquarium in Baltimore. The main features of the addition will be an 800,000-gallon pool for dolphins and whales, and a 1,300-seat auditorium.

The Pacific Design Center in West Hollywood recently broke ground on a major expansion, designed by Cesar Pelli, that will add 825,000 square feet of showroom space to the existing mart.



Plans for a new national library in Frankfurt, an expanded museum complex in Hamburg, and an innovative museum of stained glass in Langen underscore the continued dominance of West Germany among European nations seeking to upgrade their cultural facilities. Four years after it was first proposed, construction of the new Deutsche Bibliothek (German Library) in Frankfurt is slated to begin in 1988. Designed by architects Arat, Kaiser and Kaiser, the new 225,000-square-foot structure (model photo top) will have a capacity of 12 million books and will replace an inadequate existing facility that opened in 1947. (When Germany divided after the war, the old Deutsche Bibliothek in Leipzig, East Germany, could no longer claim its traditional function as the national library for all Germans.) Although the new

library's design exhibits some Postmodern qualities—namely, a steel-framed glass cupola over the main entrance that functions as a central orientation point—the architects stress that their primary intention was to achieve “a subdued and natural elegance with a straightforward approach to detail, a clear and crisp design that strives to avoid Postmodern expressivity.”

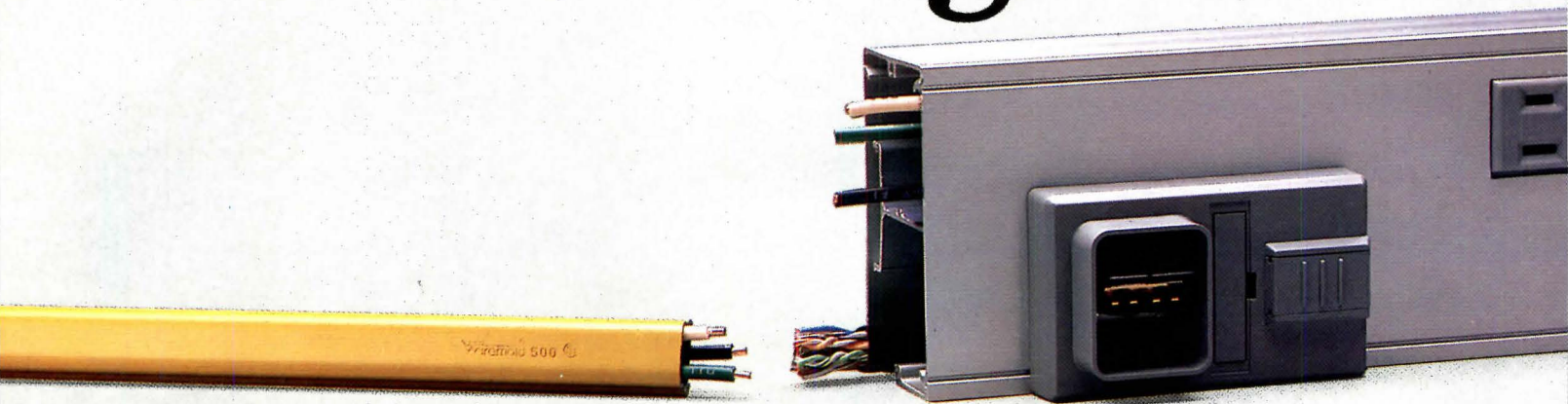
Meanwhile, city fathers in Hamburg have selected a consciously contextual design by Oswald Mathias Ungers for a plan to restructure “Museum Island,” an art museum, art society and art academy complex located near the city's main railroad station. Perched atop an embankment and surrounded on four sides by major roads, the current building ensemble comprises a 19th-century Neoclassical museum, which will remain, and a series of post-World

War II structures that will be demolished and replaced by Ungers's four-story sandstone cube at the site's western end (left in middle drawing). A labyrinthine sculpture garden will separate the old and new buildings, and the sides of the site will be clad in stone, simulating a quay and underscoring the idea of an island—in this case, surrounded by a sea of traffic.

Finally, British architects Peter Cook and Christine Hawley have designed what they characterize as “an art shrine” for a new museum in Langen devoted to works of modern stained glass (model and section drawings above). The structure is essentially a three-story hall wrapped in sheet-aluminum and topped by a barrel roof. The design calls for a café with glass walls meant to symbolize the nature of the art works on exhibition.

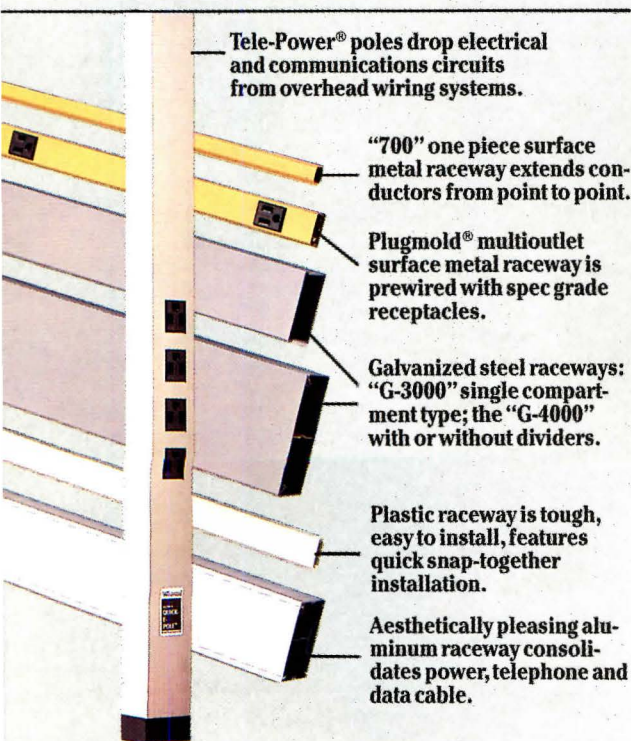
Robert Ingersoll, World News

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Twilight of the idols: Fin-de-siècle Vienna at the Museum of Modern Art

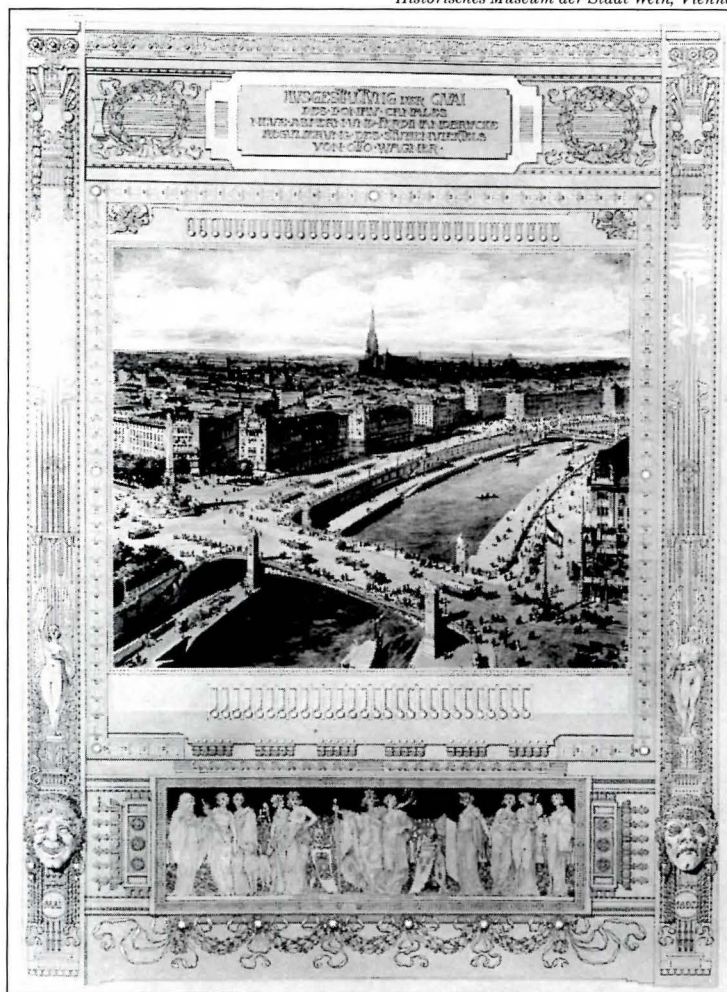
By Roger Kimball

The spectacle of fin-de-siècle Viennese culture—extravagant yet enervated, at once worldly and world-weary—seems to be inexhaustibly fascinating these days. After years of eclipse, the paintings of Gustav Klimt, Egon Schiele, and Oskar Kokoschka have become so familiar as to be virtually visual clichés; the architecture and design of Otto Wagner, Josef Hoffmann, Joseph Maria Olbrich, and Koloman Moser have inspired passionate interest among Postmodernists; and indeed the entire *ethos* of late Viennese culture—tortured and richly contradictory as it is—currently exercises an irresistible appeal on the popular imagination. Thus it is no surprise that the great draw at the Museum of Modern Art this summer has been the ambitious exhibition *Vienna 1900: Art, Architecture & Design*. MOMA's galleries have been packed since the show opened, and special tickets are required to see the exhibition, which continues through October 21.

Organized by Kirk Varnedoe, adjunct curator at MOMA and professor at New York University's Institute of Fine Arts, *Vienna 1900* is a somewhat more narrowly focused version of the mammoth exhibition of Viennese art and culture from 1873 through 1930 that was mounted last year in Vienna [RECORD, September 1985, pages 102-111]. Not that the current exhibition is particularly modest. Consisting of some 700 items, it explores the painting, drawing, graphic design, furniture, decorative art, and architecture of what one might call Vienna's golden period. It treats the years between 1898, when the Vienna Secession group, started by Klimt and 19 other artists the previous year, held its first exhibition, through 1918, when, by one of those acts of gratuitous historical poetry, Wagner, Hoffmann, Schiele, and Klimt all died.

The exhibition is set forth with a sumptuousness rare in the chaste galleries of the Museum of Modern Art. Some of the gallery walls are decorated with period-inspired filigree and—with what has become the signature piece of the exhibition—there is a striking full-scale aluminum-and-glass model of the facade of Otto Wagner's *Die Zeit* dispatch office (1902) that announces the entrance to the show. For those more enamoured of *Sachertorte* than Secession art, there is even a "Viennese Cafe" installed in the Museum's sculpture garden dispensing pastry, coffee, and spirits, as well as something of the aura of that bygone moment.

Roger Kimball is a freelance writer who contributes frequently to RECORD.



Historisches Museum der Stadt Wien, Vienna

That a single city could, within a single decade, be home not only to so many artists but also to figures as disparate as Freud and Wittgenstein, Gustav Mahler and Robert Musil—to say nothing of the Zionist Theodor Herzl and Adolf Hitler—makes it tempting to connect connections and continuities between phenomena that, in reality, are quite separate. Indeed, the Viennese dream of creating a *Gesamtkunstwerk*, a "total work of art" that could blend architecture, music, painting, and poetry to provide a fragmented culture with an image of lost unity, would seem to have seduced many interpreters of the period into projecting their own dream of unity onto the complicated tapestry of Vienna's cultural life. As Varnedoe observes in his catalogue for the show, the literature about fin-de-siècle Viennese culture has typically championed the idea that "modern avant-garde art [is] not homeless, but integrated into a real community. Klimt and Wagner and Loos thus become tablemates of Freud and Mahler and Wittgenstein at an imaginary coffeehouse for a shining moment in the city that was the 'cradle of modernity.' The

deeper collaboration here thus may be between our unfulfilled longings and those of the Viennese artists we study." Happily, though he is clearly aware of the broader cultural currents that conspired to make Vienna the intellectual and artistic center that it was, Varnedoe has chosen to concentrate on the art, design, and architecture of the period, leaving the dream of an all-embracing cultural unity to slumber peacefully.

The exhibition includes stunning examples of the furniture and graphic and decorative arts of the period, ranging from the elegant simplicity of Adolf Loos's "Cafe Museum" sidechair (1899) to the ornate creations of the Wiener Werkstätte. But the main focus of the show is clearly on Viennese painting. And while the painting of Arnold Schonberg, Richard Gerstl, and others is well represented, it is the work of Klimt, Kokoschka, and Schiele that—rightly—receives the most attention.

Taking us from the dreamy, fantastically ornamented eroticism of Klimt's portraits to Kokoschka's raw, introspective essays in expressionism, *Vienna 1900* admirably catalogues the evolution

The Aspern and Ferdinand bridges over the Danube Canal. Pencil, ink, and watercolor rendering by Otto Wagner, 1897.

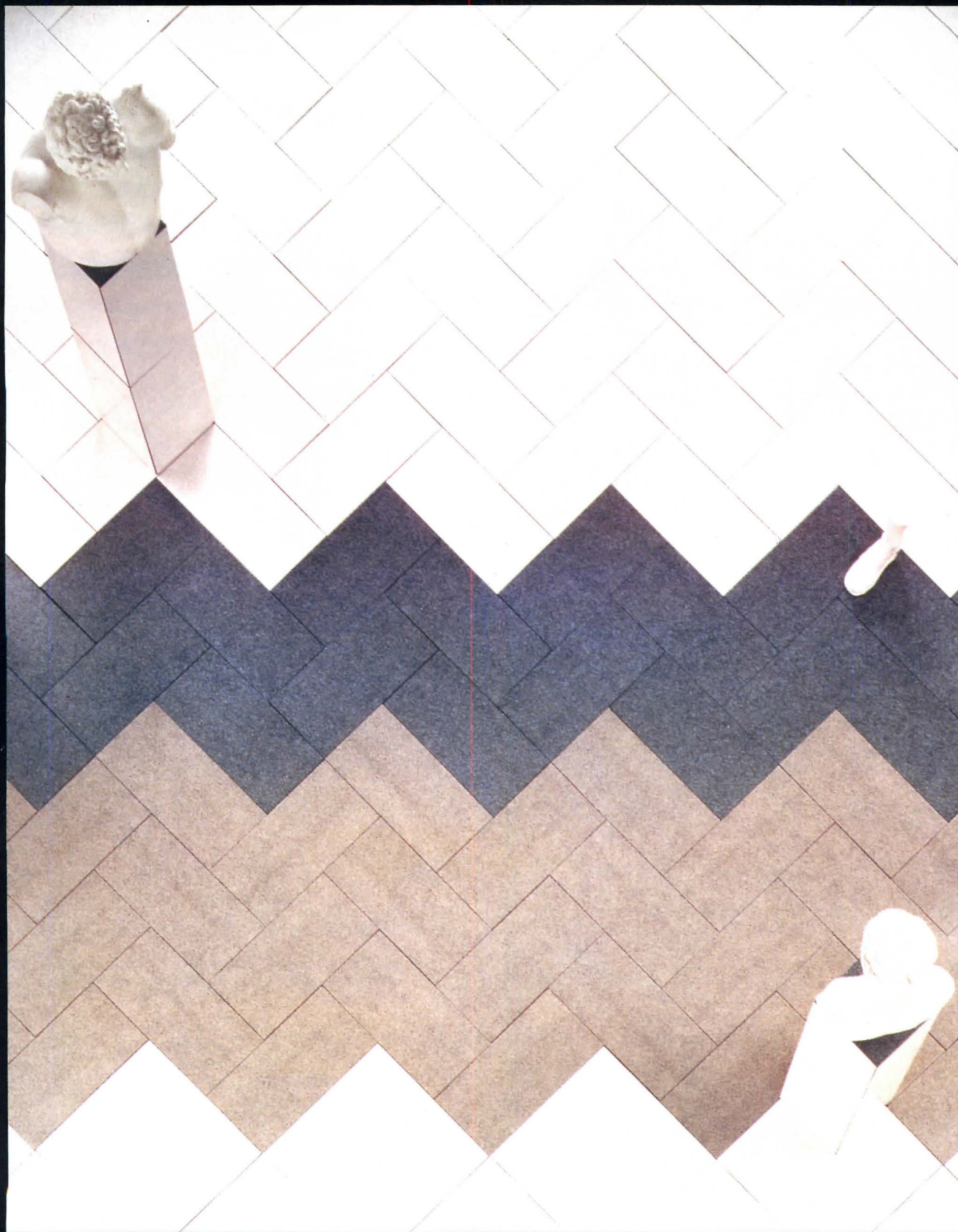
of Secessionist and post-Secessionist painting and drawing. It includes many famous and untraveled pieces. Klimt's celebrated *The Kiss* (1907-08) and *The Portrait of Adele Bloch-Bauer I* (1907), for example, were allowed out of Austria for the first time for this show. One hesitates to say how well the collection of paintings and drawings bears up under sustained scrutiny: certain of Kokoschka's portraits continue to seem strong—one thinks especially of the portrait of Peter Altenberg (1909) and the wonderful painting of Hans Tietze and Erica Tietze-Conrat (1909)—as do a smaller number of Schiele's portraits. But I'm afraid that Klimt's dreamy fantasies, though perhaps the best known, begin to wear distinctly thin. Alas, Varnedoe is surely correct when he observes that while there were revolutionary cultural innovators in turn-of-the-century Vienna, "none of the visual artists were among them."

Although Varnedoe devotes the first section of his catalogue to architecture, the subject is by no means granted first place in the exhibition. The bulk of the architectural drawings, models, and replicas are consigned to two small galleries separated from the main part of the show. Certainly, there are classic works represented—a remarkable model of Wagner's Steinhof Church (1904-6), for example, as well as photographs, models, or drawings of other works, including Wagner's Post Office Savings Bank (1904-6), Loos's Haus am Michaelerplatz (1909-11), and Olbrich's Secession Building (1897-1898), among others.

Finally, though, what we are given is not so much a coherent picture as a smorgasbord of the complex architectural life of the time. What is especially missing is any real sense of the critical program launched by Loos and others against the heavily ornamented concoctions of Hoffmann and his fellow Secessionist architects. Fortunately, this issue—which is absolutely central to understanding the contribution of fin-de-siècle Viennese thinking about architecture—is treated at some length and with admirable clarity and balance in Varnedoe's catalogue essay. I'm not sure that one would want to accede to all of Varnedoe's judgments—did Loos's suspicion of self-conscious creativity, for example, really make him "a precursor less of the Bauhaus than of Dada?" But by and large his catalogue displays a level of critical insight and an appreciation of the conflicting artistic and intellectual impulses of the time that, sadly, is far less evident in the exhibition itself.

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Competition calendar

• The American Wood Council and *Remodeling* magazine seek entries to the 1986 Wood Remodeling Design Award Program, honoring outstanding remodeled, renovated, and reconstructed buildings completed since 1984. Winning submissions will be featured in local and national publications. Entry deadline is Oct. 31. For information, contact the American Wood Council, 1250 Connecticut Ave. N. W., Washington, D. C. 20036 (202/833-1595).

• The American Academy in Rome is accepting applications for 1987-88 Rome Prize Fellowships in architecture. The fellowships provide a stipend, travel allowance, housing, most meals, and studio/study space at the Academy's 10-acre facility in Rome. Application deadline is Nov. 15. For information, contact Fellowships Coordinator, American Academy in Rome, 41 East 65th St., New York, N. Y. 10021 (212/517-4200).

• A single cash prize of £10,000 will be awarded for the best interior completed between Jan. 1, 1985, and Jan. 1, 1987, in the second International Interior Design Award program, sponsored by AGB Exhibitions in London. The competition is open to architects and designers worldwide. Entry deadline is Nov. 14. For details, write the IIDA Secretariat, AGB Exhibitions, Audit House, Eastcote, Middlesex HA4 9XE, England, or phone (01-868-4499).

• The Rudy Bruner Award for Excellence in the Urban Environment is a new biennial competition that "will stress the processes and values which created existing excellent urban places as well as esthetic design." Entry deadline is Feb. 1. For details, write Program Coordinator, Rudy Bruner Award, Bruner Foundation, 132 W. 43rd St., New York, N. Y. 10036.

• The Delta Faucet Company is sponsoring a national competition entitled "The Workforce Challenge" that seeks "new concepts in the delivery of water." Cash prizes totaling \$23,000 will be awarded in professional and student categories. Entry deadline is Feb. 28, 1987. For entry forms, contact Marketing Services, Delta Faucet Company, 55 East 111th St., Indianapolis, Ind. 46280 (317/848-1812).

Milan Triennale examines the architectural history of the workplace

A new logistics center for Texas air-force base



If Postmodernism has a future, perhaps it is on American military bases, where sturdy masonry construction and revival styles of the past have always seemed more appropriate architectural symbols of the nation's defenses than the transparent glass walls and slender steel columns of the Modern movement. For the new Weapon Systems Support Center at Kelly Air Force Base outside San Antonio,

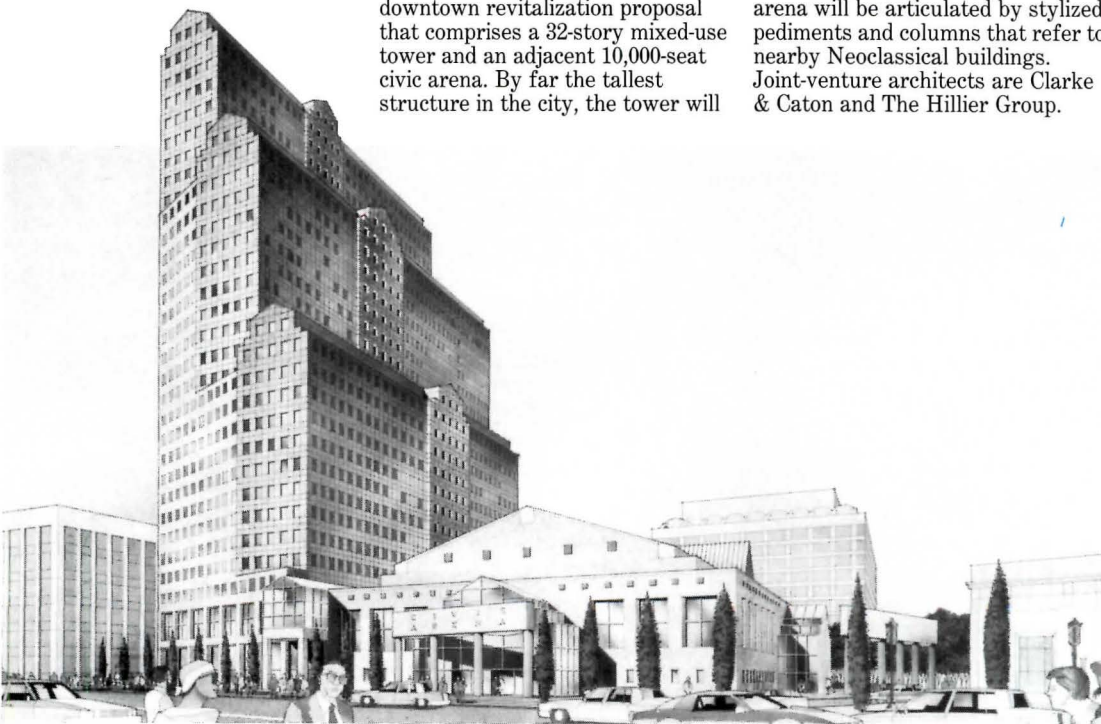
3D/International has designed a four-story facility whose plan, massing, and detailing are meant to evoke the Spanish Mission-style architecture of south-central Texas and, more specifically, respond to existing historic structures on the military base. Sheathed in white and off-white textured precast concrete with red brick and tile trim, the arced complex will comprise two interconnected squares—each

organized around a central atrium—that will house 536,000 square feet of administrative office and computer space for 4,000 personnel of the base's Air Logistics Command. The facility is scheduled to be completed by the end of 1988.

Capital improvements

Although the economically beleaguered city of Trenton has had little to brag about in recent years, it appears that the New Jersey capital may be on the brink of a modest comeback. Witness plans for Trenton Center, an ambitious downtown revitalization proposal that comprises a 32-story mixed-use tower and an adjacent 10,000-seat civic arena. By far the tallest structure in the city, the tower will

encompass 650,000 square feet of state and private offices, a 210-room hotel, a winter garden, and space for shops, restaurants, conference facilities, and a 10-screen theater complex. Both tower and arena will be clad in pink granite, and the arena will be articulated by stylized pediments and columns that refer to nearby Neoclassical buildings. Joint-venture architects are Clarke & Caton and The Hillier Group.



"The Place of Work," a theme frequently neglected by architects, is the subject of the latest edition of Milan's triennial exhibitions on architecture and urbanism. Organized by architectural historian Eugenio Battisti and architect Aldo Castellano, the show combines the direct experience of work with architects' propositions about it. Giovanni Muzio's 1933 Palazzo della Triennale has been

fitted out with full-size sections of coal mines, working models of late medieval house-factories, and contemporary offices bristling with electronic devices. The evolution of the factory and office building and steps in the reorganization of the city are two of the exhibit's major themes. Important 20th-century contributions—the 1929 Van Nelle factory in Rotterdam by Brinkman and van der Flugt, Herman

Hertzberger's Central Beheer office building, and Roche-Dinkeloo's Ford Foundation headquarters—are represented with splendid models. The Triennale, which remains on view through September 28, concludes with new projects for the reuse of industrial districts by, among others, Giancarlo de Carlo, Vittorio Gregotti, Aldo Rossi, Richard Meier, and Frank Gehry. *Richard Hatch*

Case Study:

No. 1 in a Series of Case Histories from Nichols-Homesield

The Problem: Two enterprising Pennsylvania companies, both veteran window manufacturers, wanted to realize increased sales ambitions. Babo & Pepper in Pittsburgh and Trimline, Inc. in Levittown were looking at the "replacement window" market potential of the older homes in their respective regions. The intention was to provide metal clad, wood windows which offer all the comfort and warmth of wood, coupled with the maintenance free exterior of aluminum. Manufacturing them to fit existing window openings in a reasonable length of time and for a reasonable price was the objective. The problem lay in developing an efficient system of pre-finished metal lineals that could be cut to the precise length needed to clad the exterior wood parts.

The Solution: In 1980, the two companies contacted Joe Princ of NICHOLS-HOMESHIELD. Joe and others made repeated trips to the Pittsburgh plant and spent hours in detailed discussion of tolerances and accuracy of fit. Key to the solution was achieving a metal cladding that would be as precise, strong and beautiful as the clear, select pine and mortise & tenon joints beneath. The solution was found in the exact science of N-H's aluminum roll form engineering. Nichols-Homesield also offered a wide variety of colors and finishes that increased the Pennsylvanians' ability to customize.

The Result: Today, the two companies have captured a large portion of the replacement window market by supplying precision, tailor-made, metal clad windows manufactured with NICHOLS-HOMESHIELD roll formed lineals. Produced timely and at a price that's highly competitive with ready-made windows from the larger mass manufacturers.

Recently, the two companies expanded their business to include a range of double-hung windows. Once again they looked to the roll form engineers at Nichols-Homesield to solve their cladding needs. 90 days was targeted for a solution. Within a remarkable 60 days, all the problems had been resolved, the tooling and dies manufactured and the new roll forms had started arriving.

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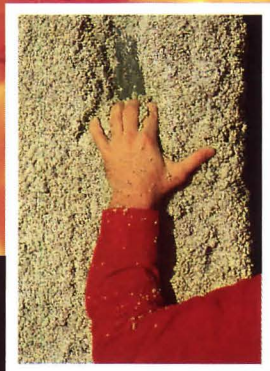


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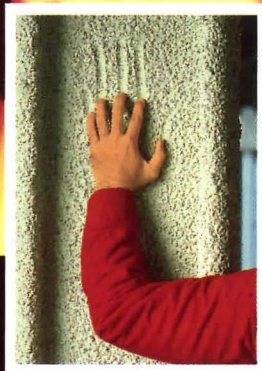
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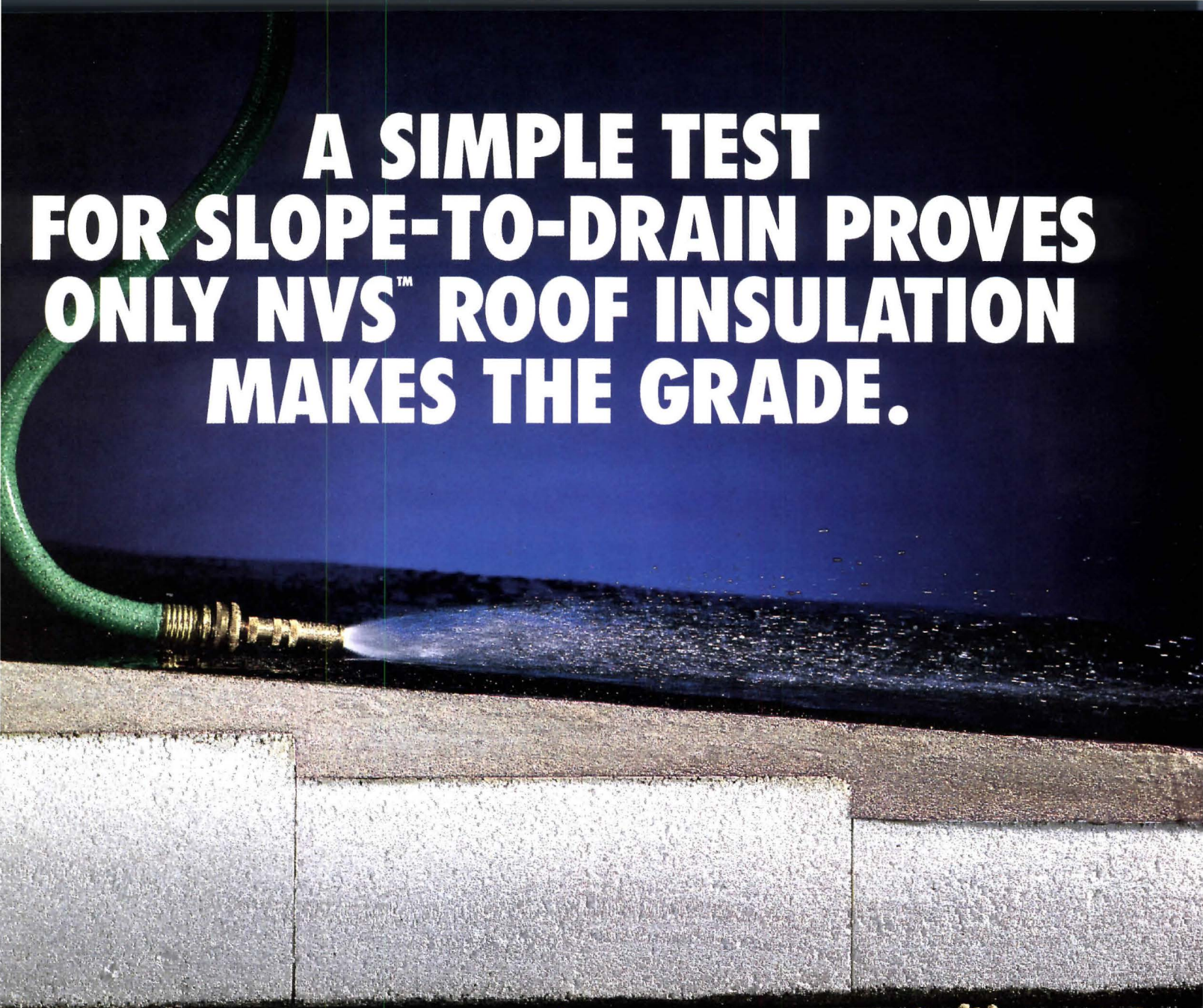
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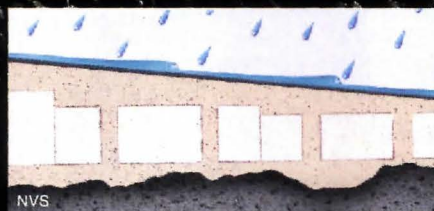


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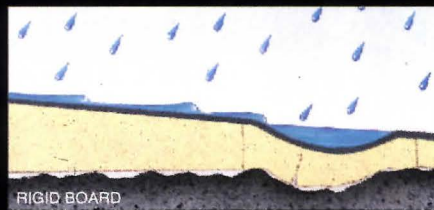
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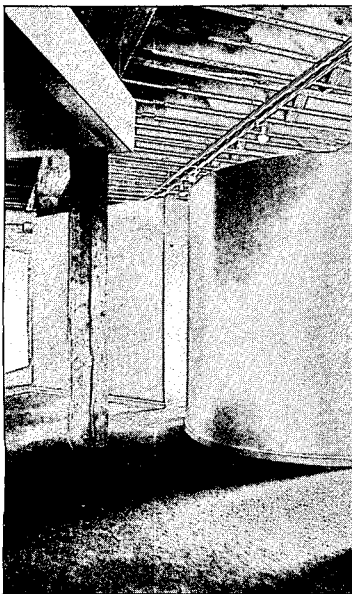
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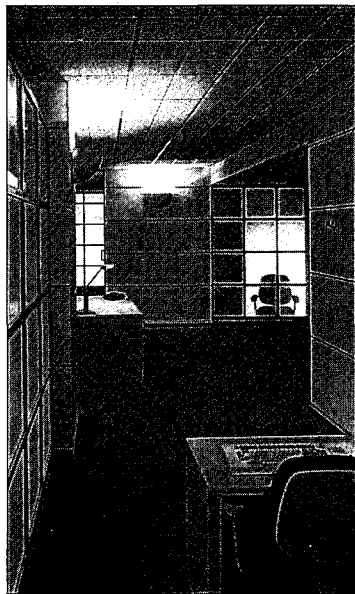
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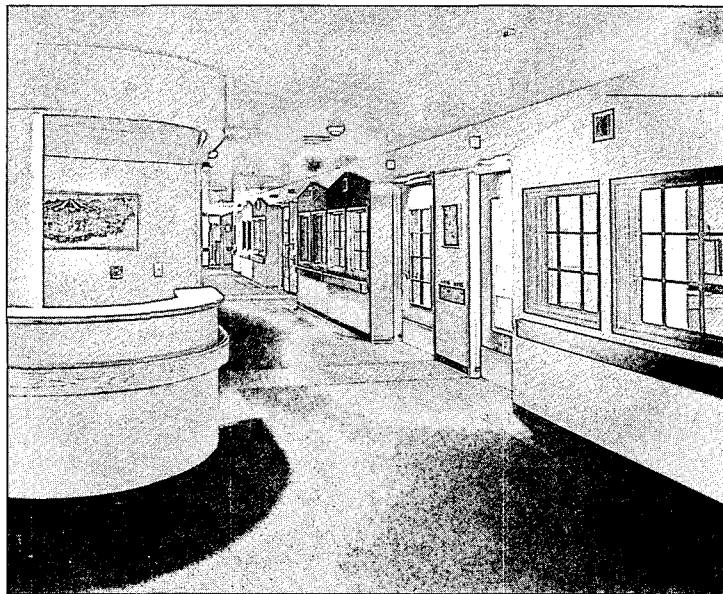
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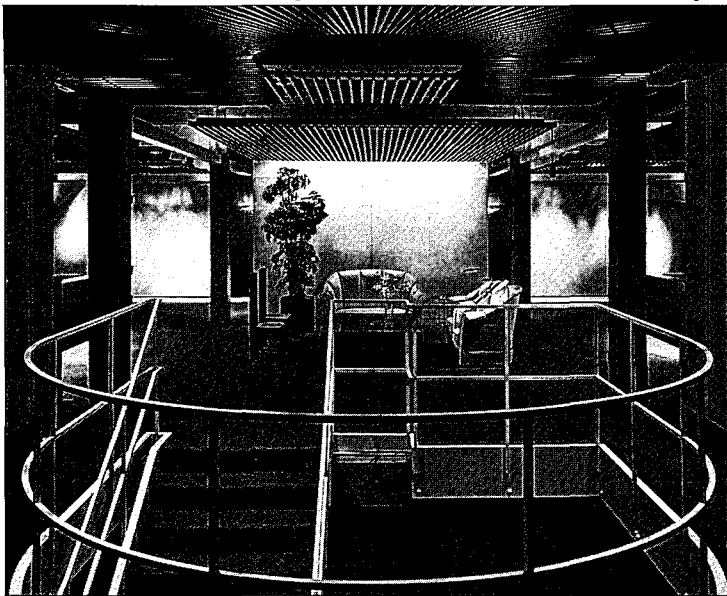
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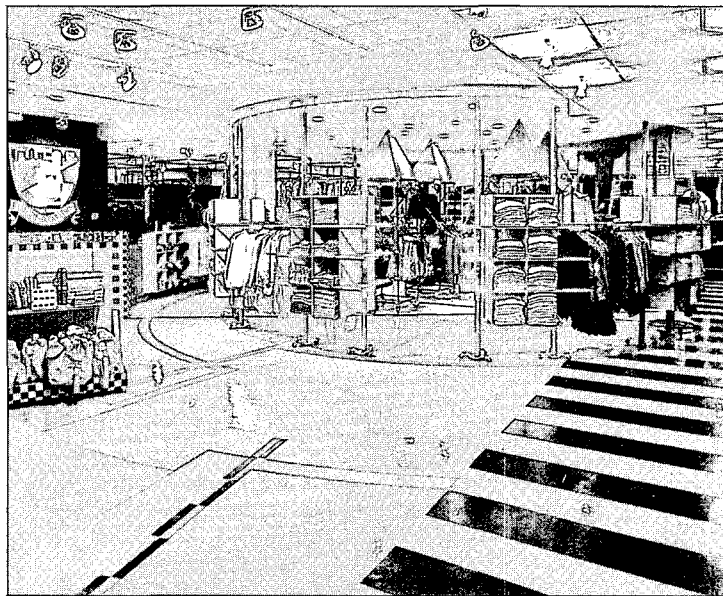
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10



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11

7. **Offices for Horwitz Matthews, Chicago, Illinois;** Pappageorge Haymes, Architects (Certificate of Merit). The architects utilized the metaphor of a small town in their conversion of 3,500 square feet of loft space into offices for a developer. They viewed workstations as individual "homes" clustered around an interior streetscape of brick and timber. The jury praised the project's successful combination of a "simple vocabulary and bright, abstract colors."

8. **Offices for the University of Illinois Alumni Association and Foundation, Chicago, Illinois;** Lester B. Knight & Associates, Architects (Certificate of Merit). The program called for three separate university departments to share 9,000 square feet of off-

campus office space. Although each department required functional separation, a unified public image was desired. Toward that end, the architects organized the departments around a central public court and specified a gridwork of translucent glass panels that screen individual offices while allowing a continuous flow of light. "A nicely consistent, stylized interior," commented the jury.

9. **CPM Corporate Offices, Chicago, Illinois;** Hague-Richards Associates, Architects (Certificate of Merit). For the conversion of an unfinished loft into corporate offices, the architects deliberately rejected historical iconography and instead combined "the character of

raw space with a clear respect for logic, purity, and detail." The building's existing column-and-beam structural system was left exposed and emphasized by patterned gray carpeting and direct uplighting. Ceiling heights are modulated by a system of suspended wood slats that do not obscure the structure.

10. **Pediatric Unit, Mercy Hospital, St. Joseph, Michigan;** Hansen Lind Meyer, Architects (Certificate of Merit). In order to provide a humane, welcoming environment for a new 35-bed pediatric ward (RECORD, June 1986, pages 126-127), the architects utilized a familiar residential vocabulary that transformed patient rooms into small "houses"—complete with colorful peak-roofed facades, multipaned windows, and mailboxes—lining a streetlike

corridor. The jury observed that "the ambiance is delightful, strong in conveying a message and sympathetic to the children's needs."

11. **Ringolevio Store, Chicago, Illinois;** Himmel/Bonner Architects (Certificate of Merit). This purveyor of designer sportswear is housed in 3,000 square feet of ground-floor space in Chicago's Old Town neighborhood. By varying the pattern of a vinyl tile floor, the architects created a series of merchandising zones arranged around a central circular space. The jury characterized the design as "artsy and original, like a jigsaw puzzle exploding."

Boston Society of Architects 1986 Boston Export Awards

Four completed projects designed by Boston-based firms but located outside the city's metropolitan area have been cited in the 1986 Boston Export Awards Program, sponsored annually by the Boston Society of Architects. The winning buildings were selected from 50 competition submissions by jurors William Porter, FAIA; Kenneth MacLean, AIA; Sherrie Cutler, AIA; Donald Stull, FAIA; and Peter Rowe.

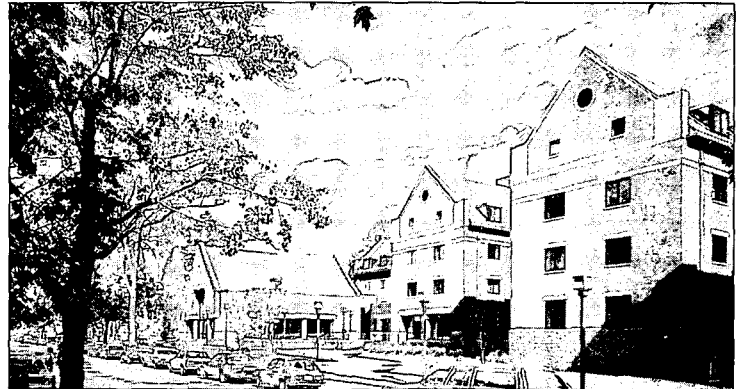


1. Pacwest Center, Portland, Oregon; The Stubbins Associates, Architects. A 735,000-square-foot mixed-use development in downtown Portland comprises a 30-story office tower, two floors of shops and restaurants along a through-block lobby arcade, and three levels of below-grade parking. Clad in alternating bands of anodized aluminum and silver reflective glass, the tower consists of two interlocking rectangles stepped back to permit a roof garden on the 25th floor. At ground level widened sidewalks, covered pedestrian walkways, brick paving, granite curbs, and a variety of street furnishings reinforce the character of Portland's existing transit mall.

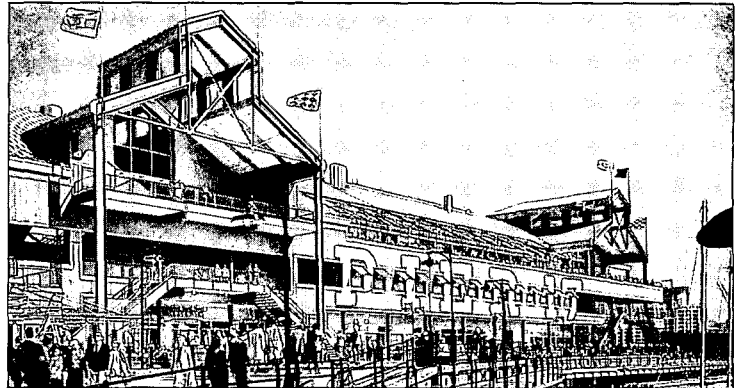
Ed Hershberger



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2. Naismith Memorial Basketball Hall of Fame, Springfield, Massachusetts; Cambridge Seven Associates, Architects. Located on the Connecticut River in the city where Dr. James Naismith invented basketball in 1891, this three-story facility was developed as a major public attraction, with exhibits varying in format and spatial character to appeal to a broad audience. The building's most distinctive feature is its north facade, which is bounded by heavily traveled Interstate 91. Here, the architects have designed 17 vertical-fin aluminum mural panels—scaled to be seen from a moving vehicle—that portray basketball players in action. The remaining elevations are clad in porcelain enamel panels or precast concrete.

3. Founders Hall Dormitory, Worcester Polytechnic Institute, Worcester, Massachusetts; Earl R. Flansburgh + Associates, Architects. Designed to accommodate 230 students in four- and six-person suites, a four-story, 95,000-square-foot dormitory is broken visually into a series of smaller building units that reflect the low-rise scale of the WPI campus and its adjacent neighborhood. The architects gave primary attention to the durability of materials throughout the complex: exterior walls are clad in split-face concrete block, brick, and precast, while corridors serving the suites are of brick and glass block. "A skillful Georgian derivative that looks quite residential," observed the jury.

4. Pier 17 Pavilion, South Street Seaport, New York City; Benjamin Thompson & Associates, Architects. This three-level waterside pavilion, the last phase in the redevelopment of an 11-block area centering on New York's South Street Seaport historic district, brings the pedestrian spine established earlier in the renewal project down to the water's edge. Lying between the city's wholesale fish market and two piers where tall ships are on exhibit, the building houses 150,000 square feet of space devoted to shops, food retailing, and nine major restaurants. The jury admired the structure's nautical character, noting that "the language of boat, ferryboat, and pier is very good."

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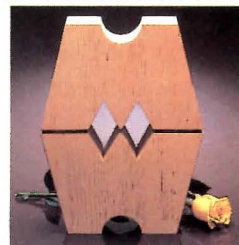
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Outposts of the War for Empire, by Charles Stotz. Pittsburgh: The Historical Society of Western Pennsylvania, 1985, \$30.

Reviewed by Barbara D. Hoffstot

This absorbing book, written by the late Pittsburgh architect Charles Stotz, is an architectural history of the major 18th-century forts of western Pennsylvania. Fort Ligonier was Stotz's special love, and he devoted 12 years to its reconstruction, from 1946 to 1958, while conducting an active architectural practice.

Stotz spent the last 20 years of his life working on *Outposts of the War for Empire*, which opens with a history of the struggle for colonial supremacy in America between the French and English. From 1749 to 1764 the two countries fought for control of what is now the Pennsylvania-Ohio border. While sporadic fighting went on until 1764, the British takeover of Fort Duquesne in 1758 gave victory to England and its colonists.

In the first half of his book, Stotz paints a grim picture of life on the frontier, describing in meticulous detail a world of hostile Indians, unsanitary conditions, near-starvation, difficulties of transportation, and a climate of sweltering heat and bitter cold. Fear of the unknown, loneliness, and strenuous physical work added to the extreme hardship felt by those literally hacking their way through the wilderness.

Stotz's work is not, however, just a local chronicle of Pennsylvania's past: it is a substantial chunk of early American history. France, notes the author, had more troops and supplies in North America than the British, whose government had little interest in the frontier. The English monarchy considered this area to be a concern solely of the the colonials, and the French, by holding a series of forts along strategic rivers, had control of land bases from Canada to Louisiana.

Although Stotz's history of the 18th-century struggles between the French and British is certainly thorough and well-considered, it is the second half of the book that will be most interesting to architects. Here, the author explains how forts were built, and he tells us something about life in these wilderness outposts. Not simply thrown up in a haphazard manner, the forts were based upon a science and art that originated in the Middle Ages. The essential purpose of the fort was to provide safety for military supplies; the troops, by

contrast, generally camped outside. Stotz explains: "The frontier forts hold for us today a romantic appeal that certainly was shared by very few of the soldiers who used them. The soldier was poorly fed, badly clothed, and irregularly paid. He was usually without adequate protection from the elements. Men and animals crowded into the forts, churned the ground into mud, or raised clouds of dust. A typical fort exuded foul odors, harbored vermin, and bred confusion."

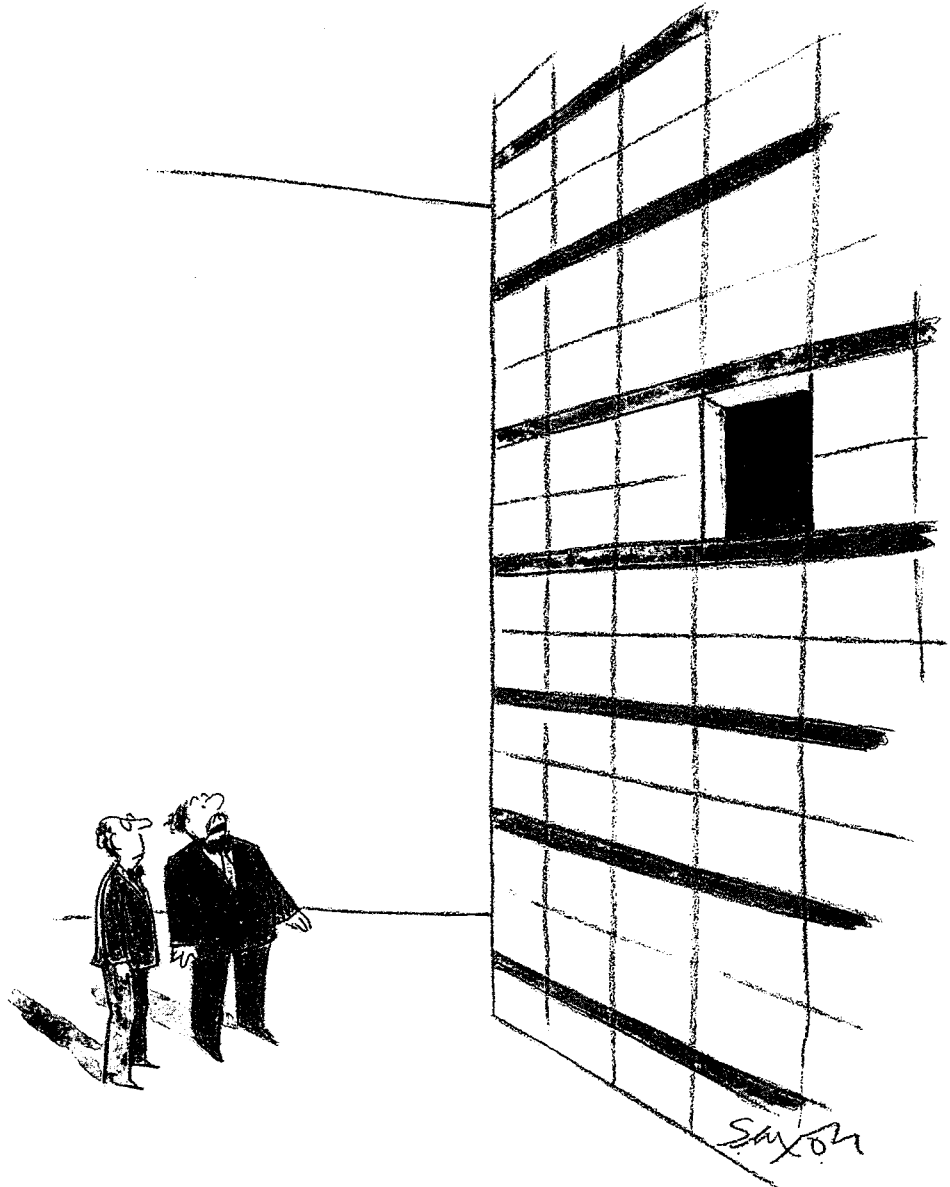
One also learns how the French and English actually laid out their forts. The dimensions and proportions of earth ramparts, for example, followed set rules. Ramparts were faced with three-inch-wide sod blocks bonded like bricks with alternate headers and starters and secured into place with long wood stakes that might be described as oversized toothpicks.

After a general architectural and constructional overview, Stotz singles out 24 principal forts—British and French examples, the so-called "provincial" Pennsylvania forts, and a selection of forts in Virginia and Maryland—for special consideration. The author gives a brief historical and military account of each, and he reveals unusual features that characterize certain forts. Ligonier, for example, was a simple fort, while Pitt was the most elaborate and costly fortification erected by the British.

Accompanying each chapter are handsome soft-pencil perspectives by the author's own hand that are especially enlightening in their depiction of the forts and their outlying buildings, gardens, and farms. People are shown conducting varied daily pursuits: white men carry canoes, Indians trade outside fort gates, soldiers drill in distant

fields, and sutlers transport supplies. All roads are properly delineated and identified as they once existed. As examples of architectural draftsmanship, these drawings are exceptional.

Outposts of the War for Empire concludes with an account of the reconstruction of Fort Ligonier. The author's drawings, photographs, and step-by-step explanations are painstakingly detailed, and one learns such fundamentals as the way logs were cut, moved, and put into place, and such specifics as the fact that a strap hinge on a gate weighed 60 pounds. Fort Ligonier attained national prominence when President Eisenhower delivered the bicentennial address on its grounds in 1955. It will long remain a monument both to the perseverance of its original builders and to the dedication of Stotz, who oversaw its rebuilding. So, too, will this book.



"Oh, my God! How baroque can you get?"

Barbara D. Hoffstot is a preservationist and co-founder of the Pittsburgh History and Landmarks Foundation.

The real thing

The Crescent
Dallas, Texas
John Burgee Architects with Philip Johnson

By Michael Sorkin

This week's favorite postmodern artifact is a McDonald's commercial. It's for their breakfast product and features the usual contingent of cheerily scarfing model citizens, hygienic and helpful just-post-pubescent personnel, and zany animated foodstuffs, in this case serried eggs marching toward McMuffin heaven. What distinguishes the ad, though, is the soundtrack, done after the manner of the Andrews Sisters. McDonald's soundtracks are always cagily market-segmented ("soul" music plays as a black dad buys his kids a burger at the all-black McDonald's), and this one is designed to appeal broadly, going after the ethic rather than ethnics. And the ethic is this year's favorite—Americans pulling together in the country's good (war) times. The "historic" music is an instantly recognized allusion, shrouding the same-old-thing in the mantle of some absent genuine.

"You cannot not know history" is one of Philip Johnson's more endearing quips. History, however, can be known in many ways. Johnson knows it, like the McDonald's commercial, not as a means of inquiry but as a medium of concealment. This is history with tunnel vision, seeing only forms, blind to context, the actual circumstances of production. In the historically vexed climate of today's architecture, such a version has found easy acceptance. No need to undergird formal enthusiasms with theory or relevance, to struggle for elaboration: the historic grab-bag yields images for any occasion, an endless series of snapshots, history without memory. Remembering nothing, this history can explain anything. History becomes the extension of show-biz by other means.

Philip Johnson has been a seminal influence on the disengagement of architecture from its real sources of meaning. He is the architectural analogue to Ronald Reagan, another seamless producer of a seemingly endless series of contradictory statements. Both men resolve the manifest conflict by forcing attention away from their acts and onto themselves. And, for both Johnson and Reagan, old age occludes the extreme currency of this position. The two are true epigones of the age of television, apostles of a consciousness that transcends traditional structures of logic, ethics, and—for that matter—time and space. Television invents via juxtaposition and re-

juxtaposition. On TV, no sequence is precluded, anything can follow—or go with—anything else. Indeed we're perfectly habituated to the quick cut from commercials to carnage, the segue from starving babies in Ethiopia to Morris the Finicky Cat, from Mr. T. to Mother Theresa. Judgment is always circumvented by rearrangement. This is the world which Ronald Reagan inhabits (our side freedom fighters, their side terrorists) and which Philip Johnson designs. Mies today, Mizner tomorrow—what's the difference, it's only images.

Hollywood practitioners of the recombinant arts are always looking for what's called "high concept." To go forward, a project must prove itself reduceable to mnemonic pith, advertisable in a phrase. The best such "concepts" are those that enfold previous certifiable hits—"Romeo and Juliet on Drugs" or "Rocky 25" being model distillations. No film is produced that doesn't discernibly ape a bankable predecessor. Johnson's working method is comparable. Weekending at New Canaan, he rummages through his library until an image presents itself. The page is duly marked. Monday morning at the office, a designer is given the designated images and a doodle or two (Johnson is no Walt Disney—he never could draw) and told to proceed. Thus equipped with the "concept" (Bramante on the bottom, Raymond Hood on the top), the office synthesizes the project. It's a typical art director's approach.

What makes the project Johnsonian, then, is nothing about it, strictly speaking. An attribution-minded architectural historian from Mars, spared the literature of this production, would find it impossible to assemble the oeuvre on the basis of internal evidence. Its "meaning" lies in the whimsicality of its aggregation, not its consistency; distinction isn't in consequence but in origins. The ersatz C-note may be indistinguishable from the genuine article, but only one producer goes to jail. Sorting out such acts of appropriation has become one of the central conundrums of our culture.

Andy Warhol is, of course, the seminal genius of strategic borrowing. By signing Campbell's Soup cans, he located precisely the single consequential act in a system without real boundaries. When content goes out of control, we're all obliged to look at labels. Johnson's art—like Gloria Vanderbilt's or Betty Crocker's—is in forming his signature. He recognizes that the first rule in this kind of practice is to broaden the product line to the maximum, to place the valorizing imprimatur on



Michael Sorkin is a practicing architect in New York City and the architecture critic for *The Village Voice*. He is a visiting professor at *The Cooper Union* and has taught at *Columbia*, *Yale*, and *Harvard*.



The Crescent
 Dallas, Texas
 John Burgee Architects with Philip Johnson

is immaterial. It is a particularly Augustan mode, an enterprise where all fixes upon "taste."

Writing this, I feel caught up in several of the central contradictions of this system. You will have noticed that accompanying this text is a series of handsome, advertising-quality color photographs of three of Johnson's recent projects, all of which I visited this past summer. As you may have further discerned, I'm not exactly sympathetic to the progenitor of this work. This dissonance, though, is precisely what is enabled by the recombinant cultural system that produces the lurid juxtaposition of television. The point is not merely that this system is more than a little crazy. The point is that this craziness is enabled by the fact that something vital is missing here.

There is an artist called Cindy Sherman who has produced a series of photographs which she calls "Film Stills." The conceit behind this work is of isolated frames from a movie. Each shot is an evocative, costumed self-portrait in which Sherman dresses as some resonant female image in order to show the primacy of that image in inventing—not merely representing—women. Sherman appropriates a familiar cinematic context by placing herself in its midst. Importantly, in most of these "stills" her eyes are fixed on someone or something out of frame, imposing the idea of a missing narrative.

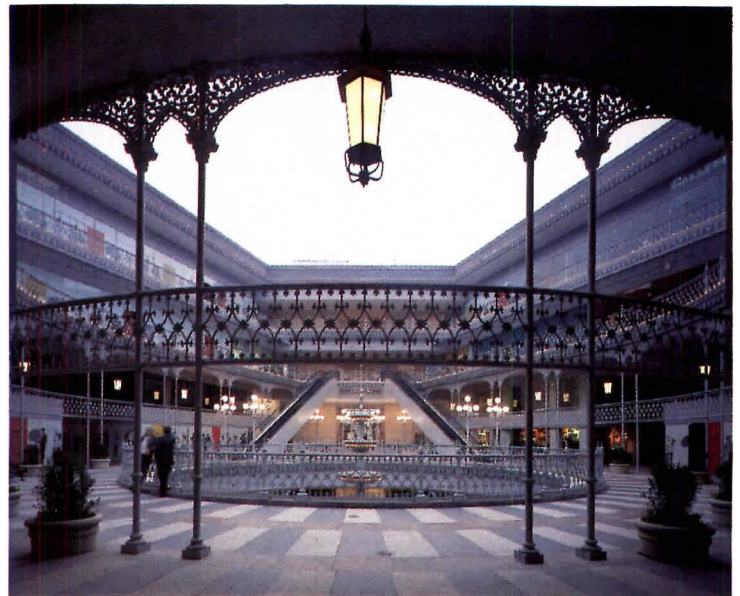
To complete a reading of one of Johnson's costumed buildings, one is also directed to an absence. Here, though, what's missing is the architecture. Johnson's major contribution has been in aiding the entry of "real" architecture into the realm of what Jean Beaudrillard has called "hyper-reality," a terrain in which "signs of the real are everywhere substituted for the real itself," in which all ideas of authenticity or originality are eviscerated. What Johnson has done is to help move architecture out of the arena of artistic production and into the system of consumer objects. His special genius (after all, there are plenty of hacks) has been the simultaneous preservation of the cultural rhetoric of traditional practice. Johnson is the first great "architect" of the age of Ray Kroc: his mansards and those on the local McDonald's are indistinguishable, save for the magazines in which they are likely to appear.

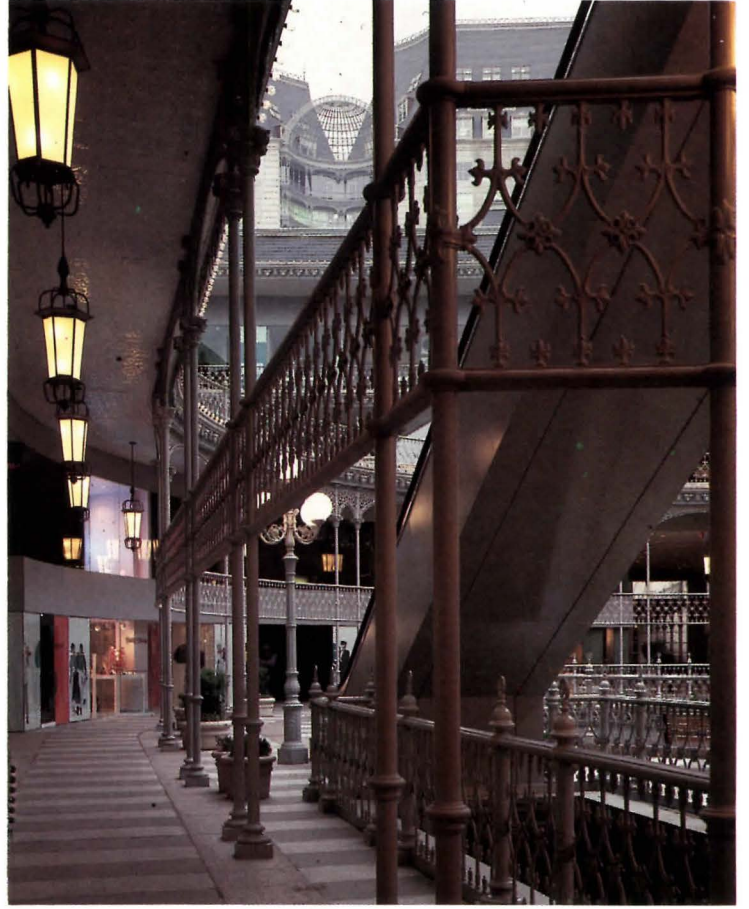
If it's moved into this zone, it seems a sputtering cavil to complain that this really isn't architecture. I myself watch television; I eat fast food. And indeed, my recent tour of Johnson's latest projects found me weirdly sans spleen, indifferent. Take The Crescent, Johnson's new

mixed-use project in Dallas, succinctly called the "croissant" by the locals. The project consists of hotel, office towers, shopping center, and garage—no more than the standard ingredients of upscale mall mix. Arriving, I was immediately reminded of another TV commercial I often take note of. It's an ad for chocolate, and the actor who announces it delivers the tag line, "The chocolate Europeans love most." The appeal from the putative sophistication of the continental palate is clear. But there is a strange twist. The actor pronounces the word "Europeen," an unmistakable reading that's surely the result of calculation. (Nobody makes an error in commercials.) He addresses this source of authority not as the sophisticate we initially take him to be, but as the slightly underassimilated consumer to whom he's presumably trying to sell the cheap candies.

The Crescent is about making a similar kind of pitch. It's an armature filled with totems of vulgar gentility, from the high-class shops, to the vaguely tacky metal grille work, to the totally tacky ersatz gold toilet-paper holders, to the athletic valet parkers in their Izod shirts presiding over a forecourt swimming with enough Mercedes to stock a dealership. It's the sort of place that makes a statement of adequate consistency to warn off people who don't belong there. The brigade of lurching ladies are designer-clad, strictly from Neiman's, discerning money. This isn't a joint to drive to in a Caddy or to enter in boots, Levi's, or a cowboy hat. It's a little essay in the iconography of the no-longer-nouveau-ric, a decorator milieu, as consistent as the one at home.

Not surprisingly, the neighborhood in which The Crescent sits is filled with decorating establishments and antique shops. Thus, there is a contextual isomorphism that's unmistakable. Johnson's project merely extends the local mansardic sea, the atmosphere of surrounding shops crammed with their high-status bibelots. God is in the details and, god knows, you can buy them here. The Crescent is perfect to a culture which dines at restaurants called L'Ambiance (down the block) and which inhabits—in the contiguous suburban carpet—an environment where every coffee table holds *Texas Homes* and *Architectural Digest*. Philip Johnson has always dreamt of being *l'architecte du roi* and in a setting where every person's home looks like a castle (be it Norman, Tudor, Loirish, or just plain Tara), he truly is. He's Mario Buatta with a Ham and cheese





Johnson has a hoary history in Houston. In many ways, he is the leading architectural personality of the town, progenitor of a large number of its monuments, the man who put Houston on the architectural map. Thus, he was—at some level—a logical choice for the commission to design the new building for the architecture school at the University of Houston. And Johnson delivers what he always does: a serviceable, if schematic, parti, clad in an image. Like his corporate projects, the school is a three-dimensional logo, a building that takes as its single investigation the question of “identity.”

In this instance, as always, the identity is lifted, here from Ledoux’s House of Education intended for Chaux. This is architecture as a high-class ad agency might conceive of it—Lite Architecture—in which the goal appears to be delivering the message with the minimum signifier. On the dreary campus, the architecture school distinguishes itself. And, in the pages of architectural journals, its two strokes—the learned appropriation and the central court—reproduce nicely, even indelibly. There’s no question that the strategy shows a certain élan on Johnson’s part. Where a Rudolph or a John Andrews might struggle to actually make architecture, Johnson seems content merely to signal it. And, when all is recorded in the (four-color) pages of history, there is no doubt that the tactic will have gained a kind of equivalence.

Again, to focus on any specific seems inappropriate. Johnson has moved his architecture out of the realm of detail and invention and into the arena of *l’ambiance*. As the evidence of surrounding pages attests, these are projects most fully incarnate in the Ektachrome realm, souvenirs of architecture. The work reminds me of the 19th-century practice—in the days before sound could be mechanically reproduced—of publishing piano “reductions” of the scores of symphonic and operatic works to be played in parlors across America. Johnson, too, reduces, stripping away any element—formal or ideological—that will interfere with a clear reading of the signature. To reproduce Ledoux once is to make it possible to reproduce him endlessly. Like any other product-packaging, architecture devolves entirely on styling.

The new office building at Third Avenue and East 53rd Street in Manhattan (pages 84-85) responds to similar imperatives. In a forest of towers, each clamoring for recognition, what strategies remain for assuring distinction? The typological parameters are heavily

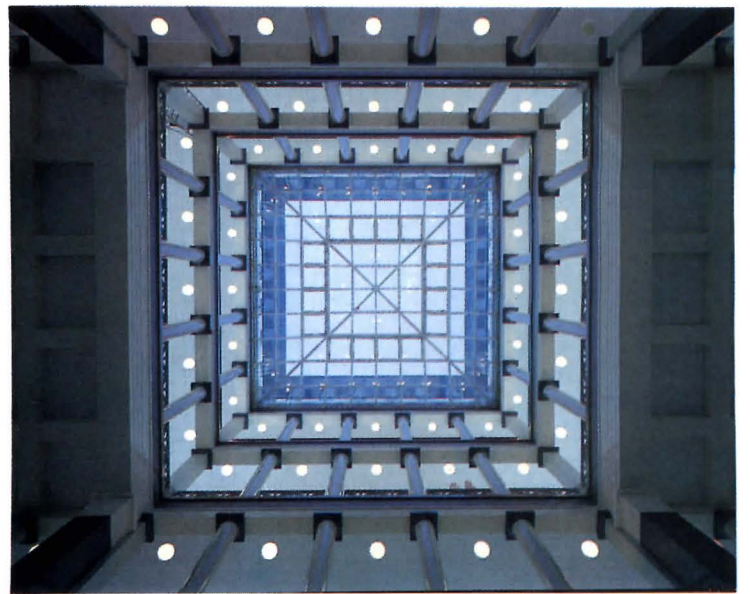
constrained. Ironically, an architect is obliged to provide acres of undifferentiated space in an envelope that differentiates itself from the decorated extrusions that surround it. Available resources come, in the main, from three areas: skin, shape, and, for want of a better word, urbanity. Johnson manipulates all three of these possibilities with varying degrees of success.

The Third Avenue site lies on a New York street that—with the addition of palm trees—could easily pass for the Sunbelt. This is a part of town dominated by recent construction, a place in which the idea of a continuous urban convention—never mind an indigenous one—has almost completely disappeared. As in Houston or Dallas, the plot is privileged over the aggregate, the suburban model, a perfect parable of capitalist initiative. Johnson apparently does not choose to question this pattern of isolation but to reinforce it, to go it one better—a logical choice in Houston and, alas, a logical one in this quarter of Manhattan.

When I first saw the published design, I had reasonably high hopes for this building. I was braced by the oval: curvilinearity at last in a town whose relentless rectilinearity seems needless. And, at the level of shape, the building is just fine, a good shape and distinct. But the project loses it in the details. The streamline of the strip windows is suffocated by a surfeit of materials and poor proportions. Moreover, the building doesn’t know how to land, resting on awkwardly capped, woefully striped, and badly spaced columns. As with so many Johnson projects, the idea—a banded oval building—is insufficient to solve the problem of making the architecture, the slick slather of stone too inarticulate to substitute for real detail.

There is a last project I’d like to glide by that seems particularly revealing. It’s called PortAmerica (sic) and is to be built on 223 acres edged by the Capital Beltway and the Potomac River in the Maryland suburbs of Washington, D. C. In many ways it is the prototypical site for urban development in NewAmerica—by the highway, out of town, its connections global and electronic rather than local and physical. It’s the kind of urbanism that Johnson’s discontinuous architecture implies, a place where the genius loci is pretty much irrelevant. It’s also Johnson’s first project of this magnitude, the traditional arena for the architect’s musings on the Big Picture, on how it all comes together to support a vision of a social, as well as architectural, order.

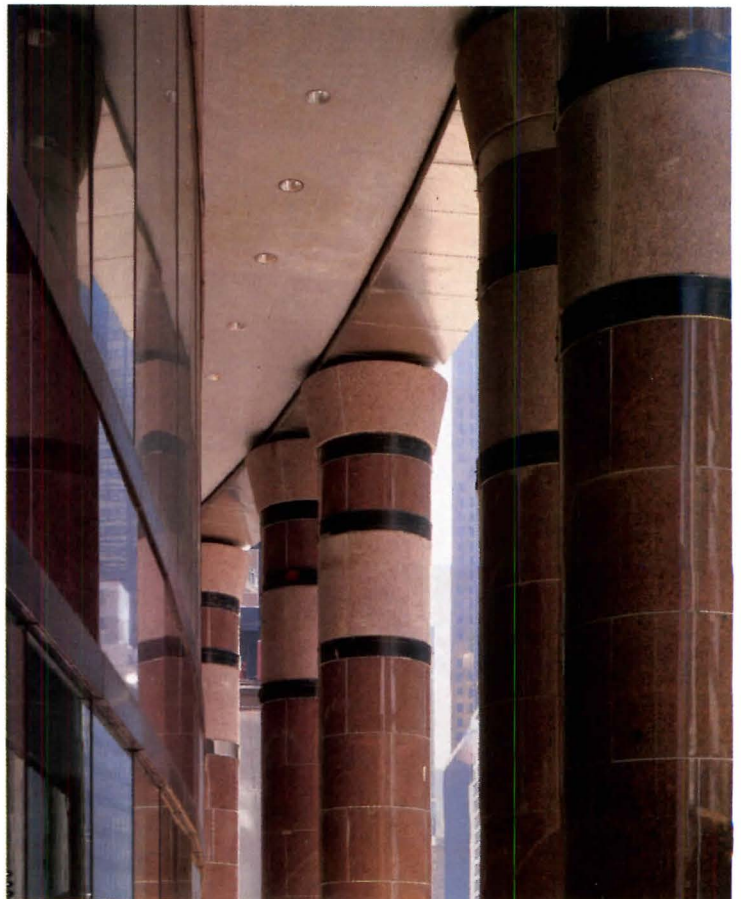




What Johnson has produced (“designed” always seems the wrong word) is some version of Busch Gardens. In its current ad campaign, the popular theme park bills itself as just like Europe, “only closer.” The image is an attractive one, especially at a time when terrorized Americans are staying away from the genuine article in droves. How comforting to be able to walk from Old Heidelberg to Pall Mall without worrying about a surprise appearance from Abu Nidal. Johnsonville-on-the-Potomac shares this tele-vision of free juxtaposition, deploying bow-fronted row houses, mansard hotel, neo-class waterside promenade—the whole apparatus of *European-ness* to create his Erehwon of creative geography, as they call it in the cinema.

One image does stand out from this thicket of dim appropriation. Sitting waterside in front of the gold-domed hotel is a pavilion, its low pyramidal roof supported at the corners by four little towers. Wait a minute, though, haven’t we seen this somewhere before? Of course we have. It’s one of Leon Krier’s images, meant to organize social space in his “reconstruction” of the European city. Never mind the joke on Krier’s “I’m an architect, therefore I don’t build” position; this does look like the line over which appropriation becomes rip-off. I think what’s being taken here is not just a form—something Johnson has shamelessly done from his earliest days—but an idea. Absent a vision of urban life, Johnson simply appends one.

In 1783 an inventor called Jacques de Vaucanson exhibited in Paris a mechanical duck that could waddle, quack, beat its finely detailed wings, eat grain, and, eventually, excrete the digested residue. This is a classic Enlightenment exercise, this essay in scientific simulation. Indeed, the proto-robot does contain a startling degree of duck-ness. Yet it is not a duck. Philip Johnson’s work has much in common with this mechanical bird. It scrupulously appropriates images from certified architectural sources—Ledoux’s quack, Nash’s waddle, Krier’s excreta—and assembles them to produce a figure that is like architecture in many ways. And yet it is not. I do not wish to place too great a metaphysical burden on ducks—never mind their recent architectural history—but de Vaucanson’s fowl and Johnson’s projects, like the simulations at Busch Gardens and Walt Disney World, simply have no souls. Let’s not be too pious about this—I enjoy Disney World and clockwork mallards—but there is danger in them. And that is that they’ll finally crowd out the real thing.





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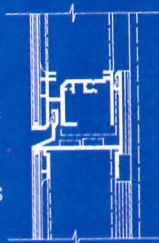


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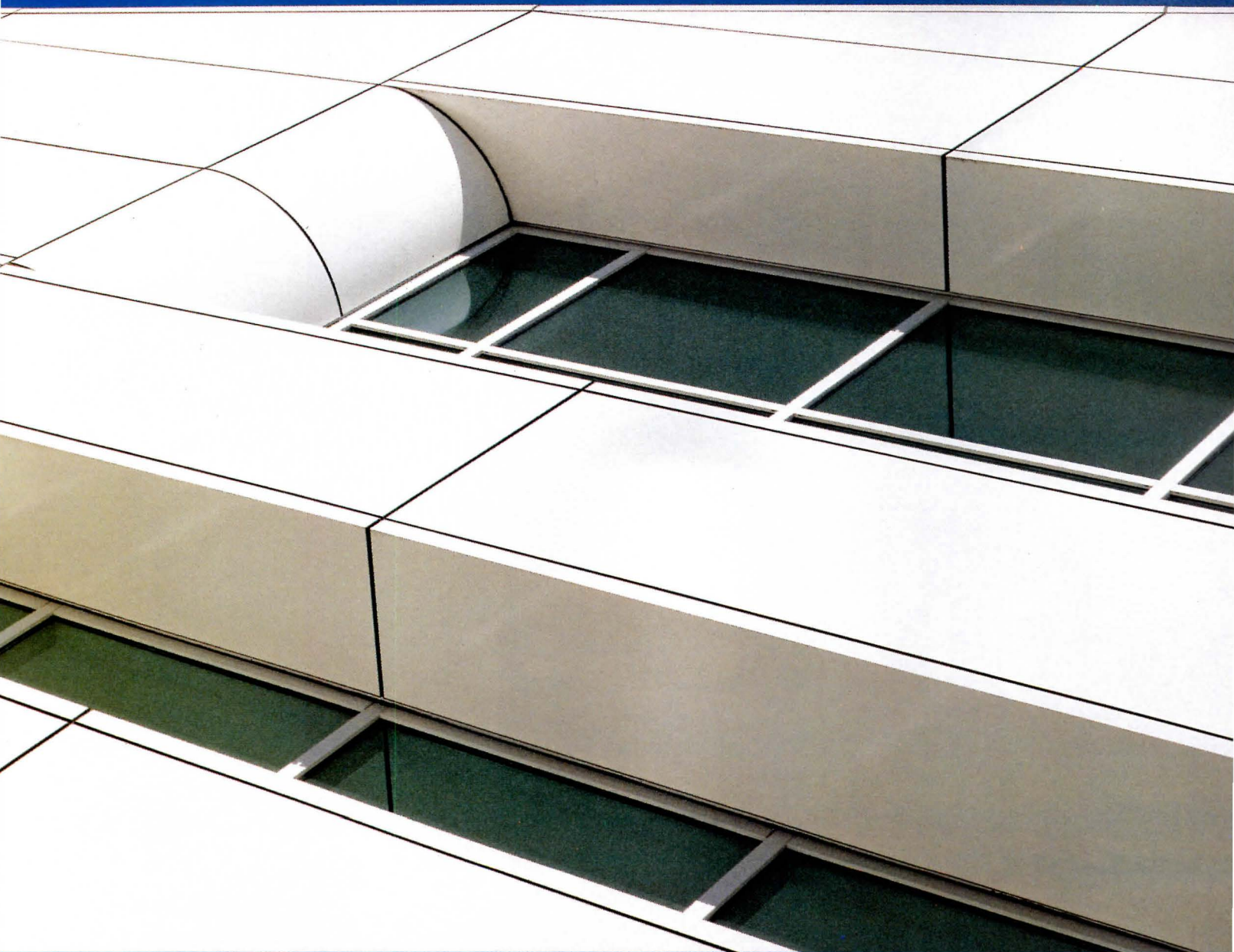
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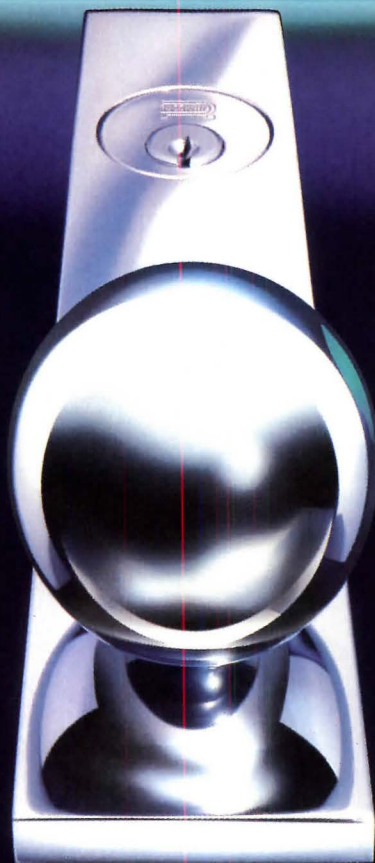
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Facilities for talkfests

The high-tech conference center has lately become—let's confess it—a fashionable corporate acquisition. But these facilities cannot be simply dismissed as conspicuous corporate consumption. Even if such a shallow motive did lie behind their development, the wide-spread eagerness of managers to make use of these facilities increases rapidly from the moment they become available, according to their directors—in-house bookings approach 90 percent of capacity in some cases. Uses may range as broadly as the imaginations of executives, technicians, and other employees. They may encompass serious conferences of high-level executives to mold policy, or to inform middle-level managers about such policy, or to figure out how to execute such policy. They may encompass training sessions to teach new employees the use of standard electronic equipment, or to teach experienced employees how to use new equipment, or to help managers master the personal computer. And they will often encompass courses on the pedagogical facts of life for experienced managers with no experience as teachers: well-constructed conferences must all follow proven methods of presentation, timing, and group interaction.

Conference facilities have, as one might expect, special design requirements, some expectable, some perhaps surprising. Meeting rooms themselves need early definition of purpose and early attention to shaping for acoustics, for lighting, for sightlines, and for camera angles. Experienced designers of these facilities insist that such issues be resolved long before equipment is even thought of, let alone selected.

All the plans of the conference centers shown herein, even the most modest, show breakout areas ancillary to conference rooms. These areas are not merely amenities for coffee and Danish but basic working space. In all cases, no matter how technical or how abstruse the subject, conferees can apply their utmost concentration for only a couple of hours, but a 15-minute break sends them back to the main activity refreshed; it also offers them a chance to review their thoughts with their peers in different circumstances.

In addition to the corporate center for meetings, the conference center as independent commercial enterprise has also made its appearance as a new building type. Since it caters to executives rather high on the corporate ladder as well as to their spouses, and since it seeks weekend holiday visitors to round out the commercial calendar, it tends to emulate grand countryside resort hotels. But its real luxury is super-sophisticated conferencing. *Grace M. Anderson*

Hamburger University



© Nick Merrick, Hedrich/Blessing photos



The sobriquet Hamburger University, widely used by its owner, suits the McDonald's Corporation suburban campus. Designed chiefly for the practical training of restaurant managers, it accommodates the educational, housing, and recreational needs of a student body that numbers as many as 3,000 a year. Since the managers completing the week long course will work more or less on their own after graduation, McDonald's viewed its learning center as a chance to cement bonds between managers and company and among colleagues. So important did the company consider its educational program that it deferred construction of its corporate headquarters, also included in Lohan Associates' master plan for the 81-acre site, in favor of the training center and a lodge.

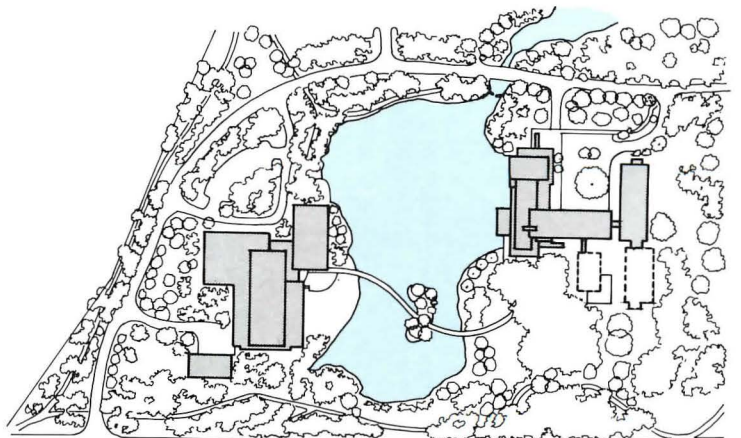
One quality that Hamburger U. shares with traditional colleges is the beauty of its landscape, which combines preservation and fabrication. Architect Joseph Antunovich, of Lohan Associates, reports that some 2,000 trees in the surrounding woods were tagged before construction, and no building in the master plan will overtop the stately oak trees. The lake that dominates the center of the campus, however, is man-made for flood control. The architects put this utilitarian water to picturesque use by bordering it with the training center on one side (both photographs at left) the lodge on the other (above right), and



sculptural stone retaining walls roundabout. A sinuous concrete bridge connects the buildings, offering vistas up and down the lake and through the trees, with a sylvan island in the middle.

In keeping with its Midwestern context—Oak Brook is a burgeoning office suburb of Chicago—the McDonald's campus reflects two schools of Modern architecture: the Wrightian and the Miesian. In order to integrate the building with its natural surroundings, the design relies on Wright's organic precepts and horizontal composition, and, though the buildings emulate the International Style's flat roofs, the deep overhangs suggest the Prairie Style. From Mies (Lohan Associates are the successors to his practice) comes the impeccable detailing, though the materials are outdoorsy wood and stone rather than citified steel and glass.

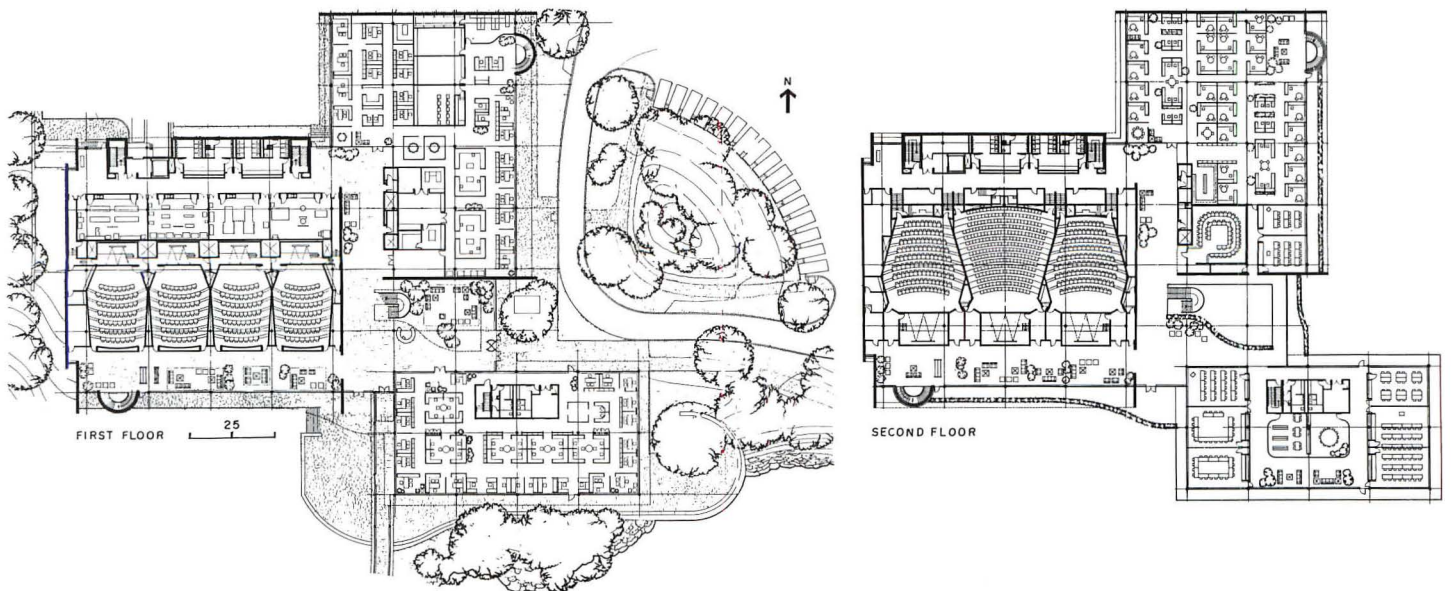
McDonald's takes the view that the student body, most (but by no means all) between the ages of 18 and 25, abounds with extroverts who work hard and play hard. Sophisticated audiovisual techniques, including instant translation into a number of languages, aid hard work in the classroom, as videotapes aid homework in the bedrooms. After homework, the students give vent to youthful high spirits in the lodge's bar and conversation pits overlooking the lake, though the conversation tends to shop talk. *G.M.A.*



Outside first-floor classrooms, breakout areas extend along a wide corridor (directly below), allowing students to stretch their muscles, stretch their eyes across the lake, and continue discussions in a relaxed environment. To bring the pastoral surroundings indoors, Lohan Associates carried inward the oak soffits, the brick walls, and the Wisconsin lannin stone pavement. Behind classrooms on the lower floor

(see plan), labs accommodate students learning how to disassemble, clean, and maintain kitchen machinery—up to and including rooftop ventilators and air conditioners. The training center includes a number of offices (opposite left) for teachers and for technical personnel. Architect Antunovich says that each classroom took as much design time as a house, since shaping for

acoustics and lighting is critical to functional performance. The oak office furniture (opposite left) and galleried classroom tables (opposite) were designed by the architects.



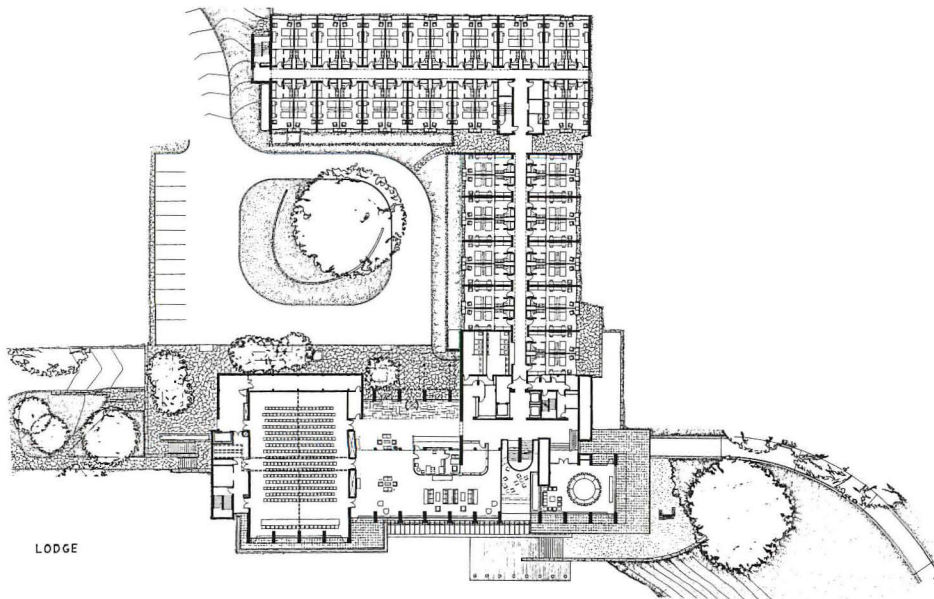
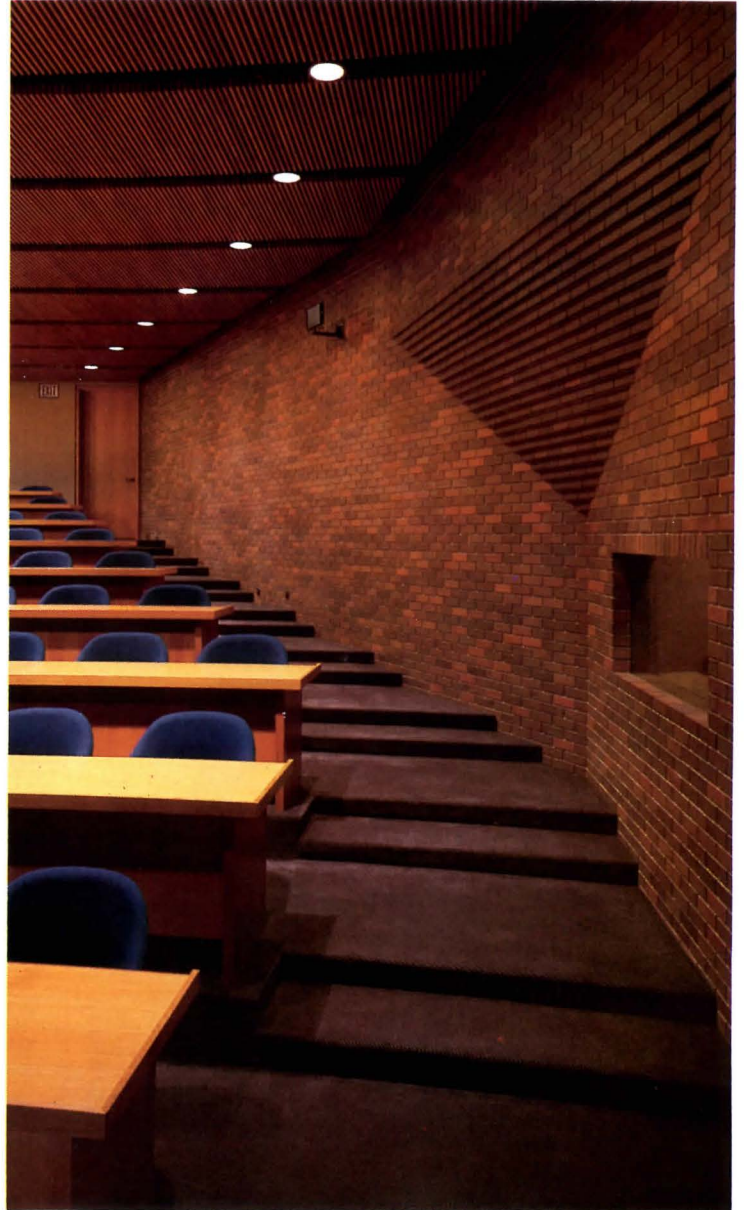
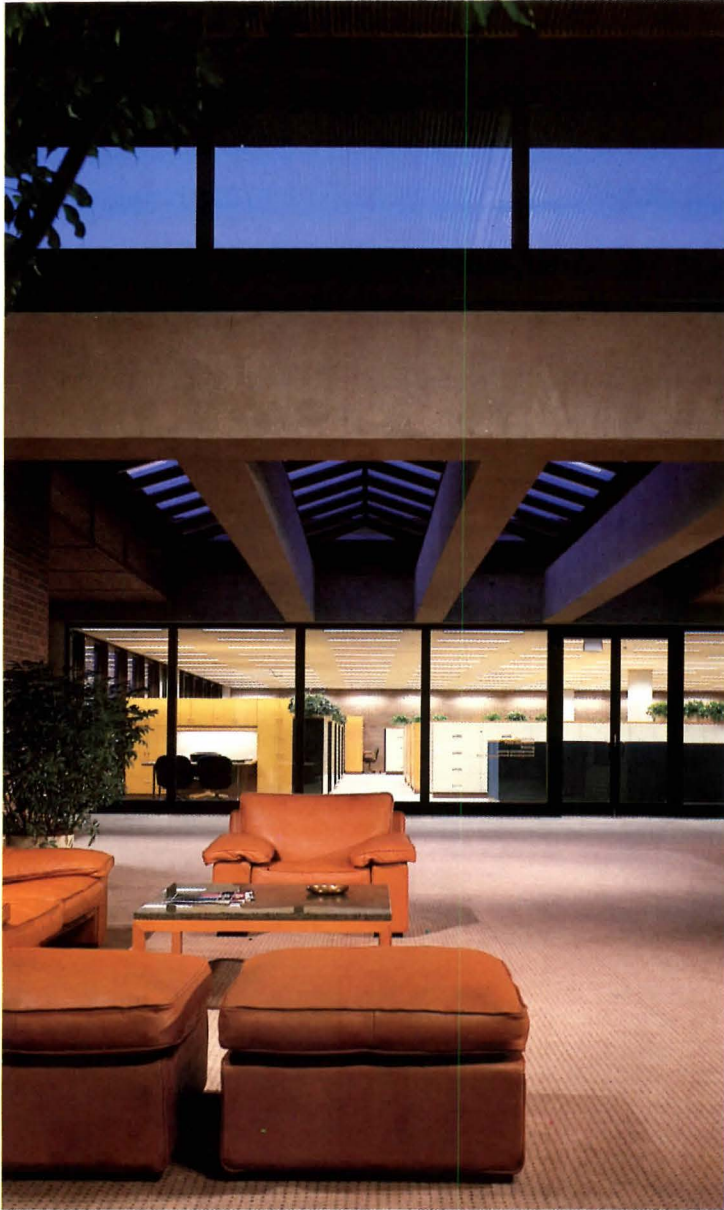
*McDonald's Corporation
Lodge and Training Center
Oak Brook, Illinois*

Owner:
McDonald's Corporation

Architects:
*Lohan Associates—Dirk Lohan,
partner-in-charge; Joseph
Antunovich, project architect;
Gilbert Gorski, Michael Vasilco,
senior architects*

Engineers:
*GCE of Illinois, Inc. (structural);
S.R. Lewis Associates (lodge),
Environmental Systems Design
(training center)—(mechanical/
electrical); Claude R. Engle
Associates (lighting);
Sasaki Associates (civil)*
Consultants:
*Sako Associates (security);
Hubert Wilke/McDonald's
Corporation (audiovisual)*

Landscape architects:
*Brickman Co./Sasaki
Associates, Inc.*
General contractor:
Gerhardt F. Meyne Co.



The Mellon Bank Center
Pittsburgh, Pennsylvania
Burt Hill Kosar Rittleman
Associates, Architects

Meetings in the mansard



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Pittsburgh, Pennsylvania*
Owner:
*Pittsburgh DeBartolo Historic
Associates*
Architects:
*Burt Hill Kosar Rittelmann
Associates—Peter H. Moriarty,
principal-in-charge; William P.
Brennan, project manager; David L.
Henderson, project designer*
Interior designer:
M. Fran Colby
Engineers:
*H. F. Lenz (mechanical/electrical/
plumbing)*

Consultants:
*Lighting Design Collaborative
(lighting); PRO-COM Systems
(audiovisual systems); Ehrenkrantz
Associates (terra cotta restoration);
Landmark Design Associates
(historical preservation
certification); W. A. DiGiacomo
(elevators)*
Construction managers:
*Massaro Corporation—Gilbane
Company, a joint venture*

Behind a lush confection of Flemish Gothic tracery and a brisk sugaring of little dormer windows, the two attic floors of this registered National Landmark building have been converted into a state-of-the-art training and conference center for Mellon National Corporation.

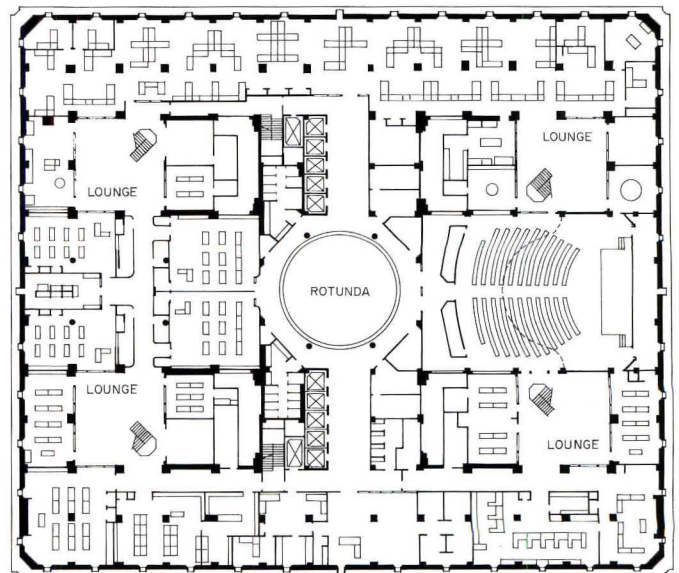
Located in downtown Pittsburgh between two tall Mellon buildings (and now connected to them by tunnels), the exuberant structure was designed in 1917 as the Union Arcade by an architect named Austerly, and featured a 10-story, stained-glass-topped rotunda and a fanciful penthouse tower. All has been carefully researched and restored, and the nine floors of offices plus the top two for the training center have all been brought up to contemporary standards. As yet, the small penthouse tower remains unoccupied.

Planned mainly for the training and development of Mellon people (from computer operators to bank tellers to top executives), the conference center is occasionally made available to outside groups. Utilization is reported currently at about 90 percent. The Mellon training and meeting sessions range from a few hours to a few weeks, and for small groups to big assemblies.

The plans center on the upper reaches of the rotunda, and on an existing two-story auditorium—also carefully restored, and fitted with some 350 fixed seats with retractable tablet arms, a stage for lectures and panel discussions, and the latest in multimedia equipment. In each of the four corners of the center, two-story, atrium-like lounges have been inserted—with skylights to bring light into the interior of the big 45,000-square-foot floor areas, and freestanding stairs to link the two levels. These large, bright spaces form hubs for coffee breaks and for relief from possibly darkened meeting rooms.

Around the focal areas are ranged a wide variety of training spaces. The largest, opposite the auditorium balcony on the eleventh floor, seats about 100 (top photo, far right), and the smallest is a series of individual carrels with computer-assisted teaching machines. All the training spaces are equipped with sophisticated audio-visual equipment and capabilities.

Most of the rooms are multipurpose, but some are quite specialized: teller training, with tellers' booths; clerical instruction; computer training, with banks of workstations for different kinds of equipment and systems. Interspersed through these areas are offices and support spaces for the training instructors. Facilities for administration of the center, and for the production of audio-visual aids, range one side of the tenth floor (at top of plan below). Here, a permanent staff organizes the programs, and probes new ones for the future. *H.L.S.*



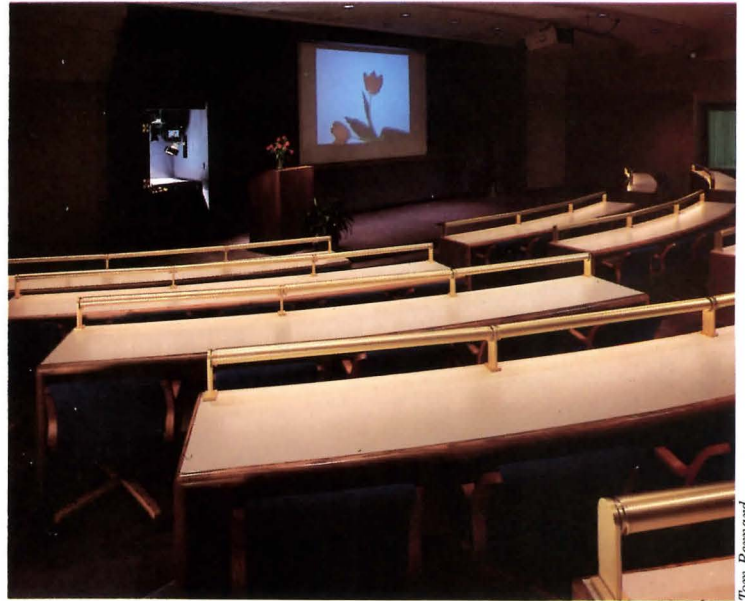
TENTH FLOOR

The interiors of this training and conference center reflect special attention to creating a truly comfortable ambience. They avoid the spartan, bland functionalism that the new technology used might have induced. And yet, while the building restoration is a careful, sensitive one, efficiency is not sacrificed to historicism. In the new atrium-lounges (below left), new stonework recalls lower levels of the

building's exterior (opposite) and also incorporates the air handling system. The restored auditorium (bottom right) tidily includes new projection, television and sound systems. And a totally new conference room (top right) combines extreme efficiency with pleasantness and quality. On outside rooms, the many dormers (some at floor level) are fitted with paneled shutters.



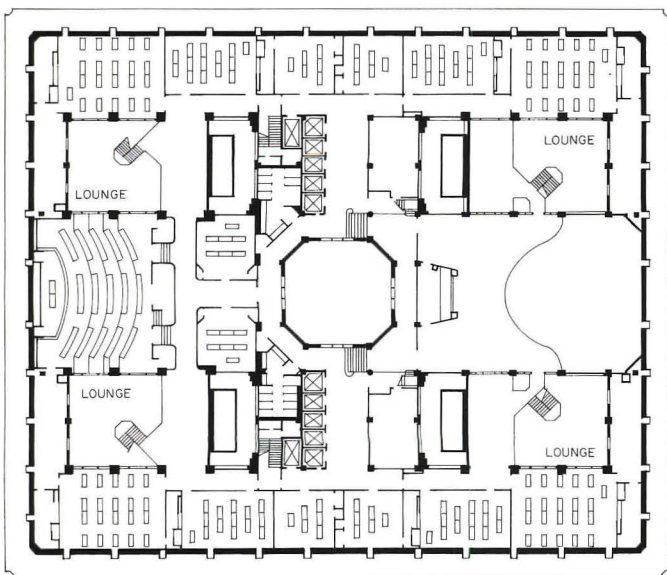
Harry Edelman, courtesy of Mellon Bank



Tom Bernard



Tom Bernard

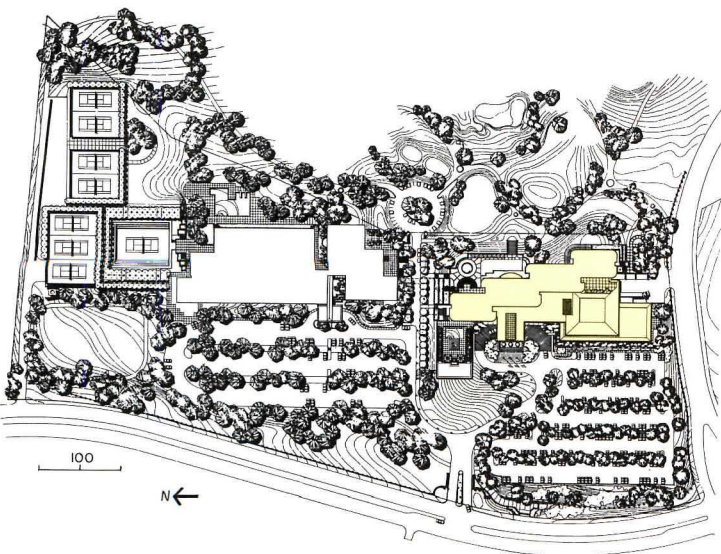


ELEVENTH FLOOR

Conferring in Texas style



© Greg Hursley photos



Las Colinas Inn and Conference Center represents a different kind of new wrinkle in meeting facilities—not an in-house training center, but a commercial *grande luxe* hotel that considers state-of-the-art conference rooms its foremost luxury. In addition to 26 conference rooms with up-to-date electronic and audiovisual equipment and hotel rooms with closed-circuit TV broadcasts of meetings, the hotel has in the works an amphitheater for satellite conferencing. The most essential luxury for such a hotel, however, is a large staff capable of planning myriad sorts of conferences, a procedure sometimes taking six months or more.

All conference-center directors share a recognition of the sound body as well as the sound mind in the proper balance of an executive. The general manager of the Las Colinas hotel, Gerard Inzerillo, declares flatly that “conference centers center on golf,” though his selection of that sport may reflect the hotel’s possession of one of the country’s few Tournament Players Courses. Conferees also have use of the posh spa and tennis courts next door to the inn.

Because Las Colinas expects as guests high-level executives at high-level conferences, the hotel consciously takes as model the European grand hotel, with good food and good service, interesting games and tempting promenades. Grandness does not equal ostentation, though: businessmen and businesswomen customarily wear *le sportiva* in this

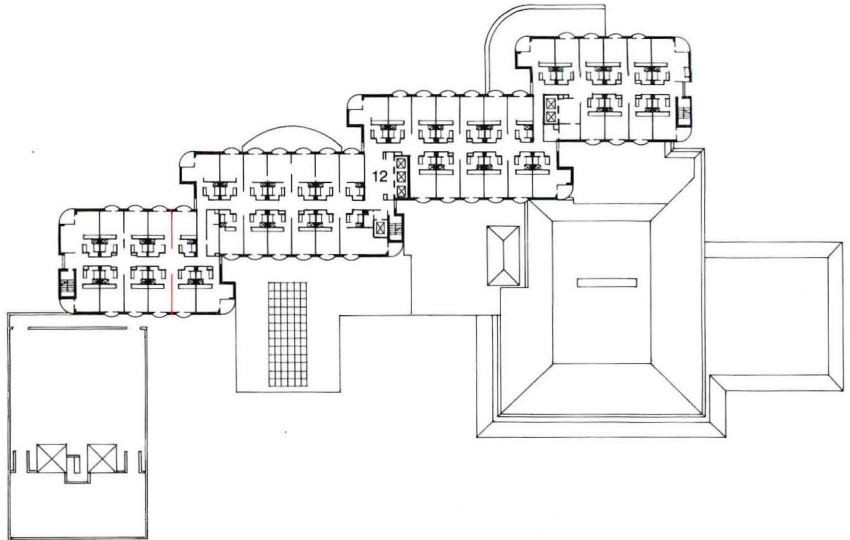


relaxed suburban milieu.

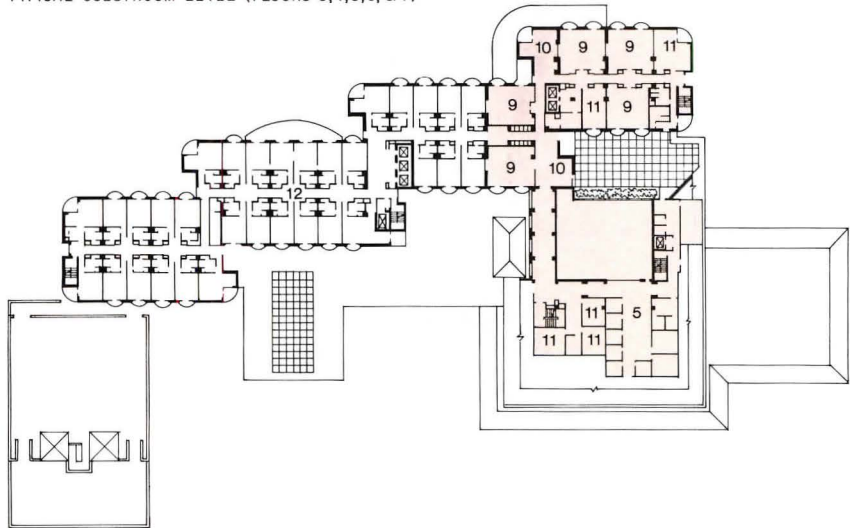
The inn and its integrated conference center, operated by Four Seasons hotels, has 430,000 square feet with 315 guest rooms. Because of the nearness of the Dallas/Fort Worth airport, however, the Federal Aviation Administration placed stringent height restrictions on the site, necessitating very large floors. Moreover, the inn occupies a rather shallow site, squeezed between MacArthur Boulevard on the west and the golf course on the east. The long double-loaded corridors that would seem to result naturally under such conditions would obviate the combination of intimacy and luxury sought by the management. To counter such an outcome, the architects broke the length of the hotel into four segments, each terminating in a sort of streamlined curve. At the same time, each length of segmented corridor ends at a window wall offering both view and identification (above).

Brick may seem a modest material for a grand hotel, but the kingsize units, designed by the architects, have more presence than ordinary red brick. The texture, a distinctive surface of smoothed bumps, is "today's effort to suggest yesterday's hand-molded brick," architect Clifford Horsak says of the roller-molded sand-finished brick. The architects also designed such masonry details as inset dark courses, classically profiled cornice units, and rounded, pulvinated concrete decks. *G.M.A.*

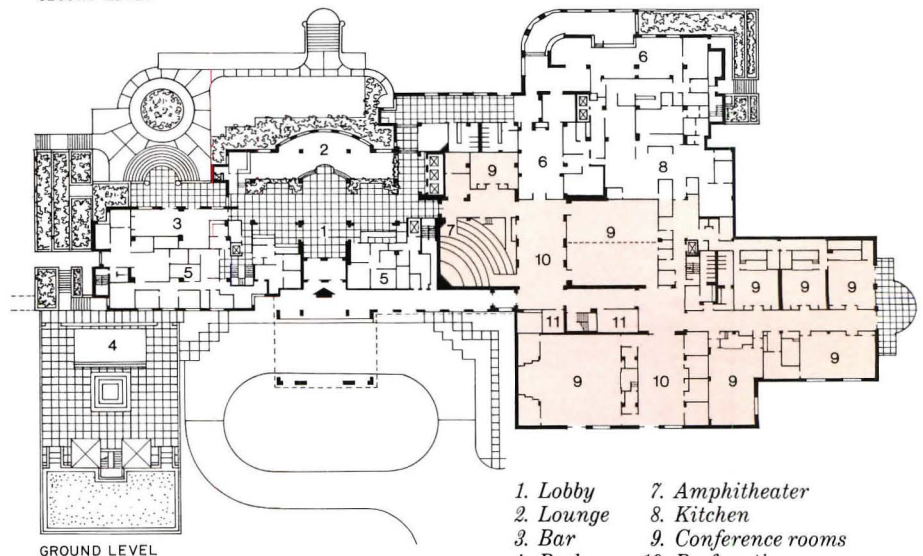
Hotel and conference center, though contiguous within the building, present different characters, each section having similar décor but different colors and different degrees of ornateness, though even the conference center (shaded on plan) is scarcely plain vanilla. The vestibule at the main entrance (top left) leads to a large lobby and thence to a bow-windowed lounge, where tall arched windows overlook the golf course and



TYPICAL GUESTROOM LEVEL (FLOORS 3,4,5,6, & 7)



SECOND LEVEL



GROUND LEVEL

- | | |
|------------|-----------------------|
| 1. Lobby | 7. Amphitheater |
| 2. Lounge | 8. Kitchen |
| 3. Bar | 9. Conference rooms |
| 4. Pool | 10. Prefunction areas |
| 5. Offices | 11. Breakout rooms |
| 6. Dining | 12. Guest rooms |

the distant silhouettes of office towers in Las Colinas Urban Center. The main dining room (lower left), its skylight screened by a Roman shade, has a relaxed Southwestern décor that reflects the informality of high-powered conferees dressed in sports shirts and cottons. The curved ceiling ledges in the amphitheater (below), which act as acoustic reflectors, are a reverse image of the conference tables.



*Las Colinas Inn and
Conference Center
Irving, Texas*

Owner:

Las Colinas—USAA Partnership

Architects:

*Harwood K. Smith & Partners,
Inc.—Paul M. Terrill, Jr., partner-in-
charge; Clifford H. Horsak, project
designer; Tom R. Holt, project
manager*

Engineers:

*Datum Structures Engineering, Inc.
(structural); Blum Consulting*

*Engineers (mechanical/electrical);
Pierce-Lunsford Associates, Inc.
(civil)*

Consultants:

*Trisha Wilson & Associates, Inc.
(interiors); The S. W. A. Group
(landscape); Hubert Wilke, Inc.
(audiovisual); David A. Mintz, Inc.
(lighting); Paul Andrew Davis
Design (graphics)*

General contractor:

Austin Commercial, Inc.

Following the footprint



©Howard N. Kaplan HNK Architectural Photography photos, except as noted

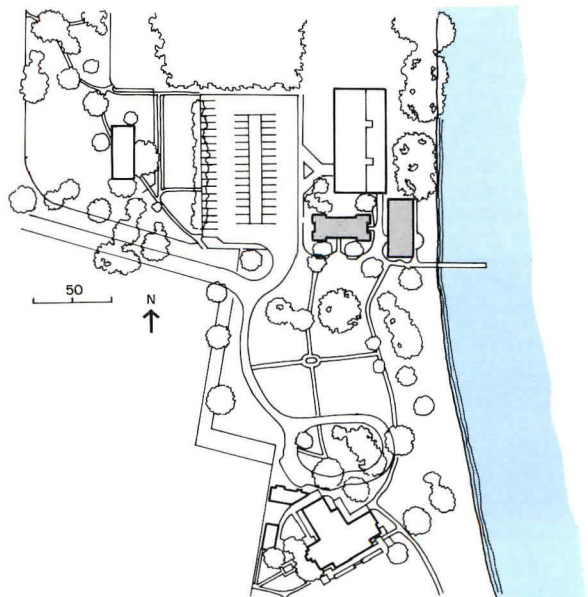
The sympathetic, domestic-scaled “carriage house” and “boathouse” shown here represent the final phase in a careful restoration and reconstruction of the historic Marigold Estate, acquired about ten years ago by Herman Miller, Inc. for use as its corporate educational and program center. The two buildings are new, but carefully preserve the “footprint”, as architect James Nagle calls it, of the original structures, which were razed: similar scale, volume, and details were adapted to add housing, lounge, and meeting space to the center.

Located on seven acres of beautifully landscaped grounds edging Lake Macatawa, Marigold Lodge and its surrounding outbuildings were designed by architects Tallmadge and Watson in 1913 as a summer retreat for a Chicago industrialist, Egbert Gold. On acquiring the property, Herman Miller agreed to preserve and maintain both the character of the site and of the original architecture—an intriguing blend of Prairie School and local rural regionalism.

Early on, Herman Miller had the main house restored as a 28-room residential lodge, and added a fair-sized, but inconspicuous learning center (five meeting rooms and reception area, half buried in berms) behind the increasingly derelict carriage house and boathouse. In this final phase of restoration and adaptive reuse, the quandary of whether to try and save those two buildings was soon settled. For all their appeal, “they were in a terrible condition,” comments project architect Howard Decker, “and only held up by a structural clematis vine!”

The replacement for the carriage house (which had big garage doors and a second story hay loft) is, at a glance, very similar in appearance—but makes much more sophisticated use of the same materials and basic details. It is wood frame, with lapped siding on the lower level and stucco above. The asphalt shingle roof has the same curved “eyebrow” shapes as the original, repeated in the new little entrance porch. The interiors are surfaced in painted drywall and beaded car siding, and accommodate eight guest rooms and a guest suite, plus a central lounge on each level for informal get-togethers. Most of the furnishings are what James Nagle calls Herman Miller “antiques,” by George Nelson and Charles Eames.

The boathouse now contains a big, divisible meeting room, flanked by a projection room, and a lounge with a kitchenette. This area is conceived as a sort of ship’s prow, and—with its adjoining umbrella-tabled terrace—serves as a quarterdeck for socializing and recreation. Wide, Prairie School roof overhangs shelter the expanse of gridded glass walls. Unlike some intensely high-powered conference centers, the informal charm here has caused some to say, “a week here is a reward.” *H.L.S.*



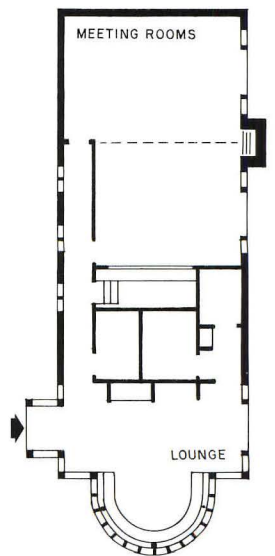
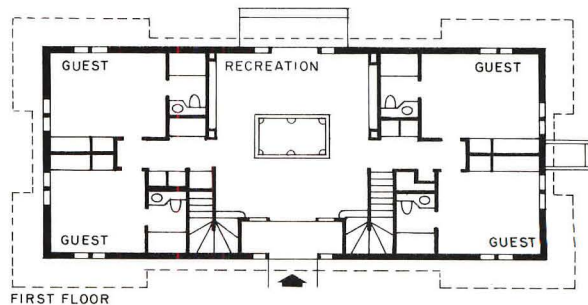
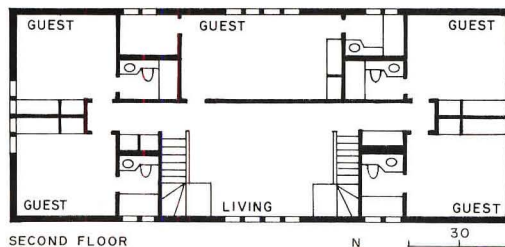
Boathouse and Carriage House,
Herman Miller, Inc. Corporate Center
Holland, Michigan
Nagle, Hartray & Associates, Ltd.,
Architects



Restoration of the Marigold Estate as a conference center has been done in phases. First, the main house (bottom in plot plan opposite) was restored for housing, and a learning center (top right in plan) was added. The final phase added a maintenance center in the trees across the parking lot, upgraded the landscaping, and rebuilt the carriage house and boathouse (shaded on plan).

The interiors of the bedrooms and lounges of the Marigold Estate are kept domestic and lodge like, with a simple informality that has little kinship to a standardized, commercial motel. In the carriage house (plans below left), each bedroom and the upstairs suite has its own bath, a desk for study, and lounge chairs. Each level centers on a living area; the one on the lower level (below) has ceilings of the same

beaded car siding used as paneling throughout the building. The lounge in the boathouse (plan below right) is entirely glass enclosed, using stock windows with special muntins (opposite top right). Wide overhangs give sun protection to the room and the adjoining lakeside terrace. The divisible meeting room (opposite bottom right) has vaulted ceilings.



*Boathouse and Carriage House,
Marigold Estate
Holland, Michigan*

Owner:
Herman Miller, Inc.

Architects:
*Nagle, Hartray & Associates, Ltd.—
James Nagle, partner-in-charge;
Howard Decker, project architect;
William Sitton, Michael Koss, Tom
Pociask, project team*

Engineers:
*Beer, Gorski & Graff, Ltd.
(structural); Wallace/Migdal
Associates, Ltd. (mechanical)*

Landscape architects:
Jacobs, Ryan & Associates

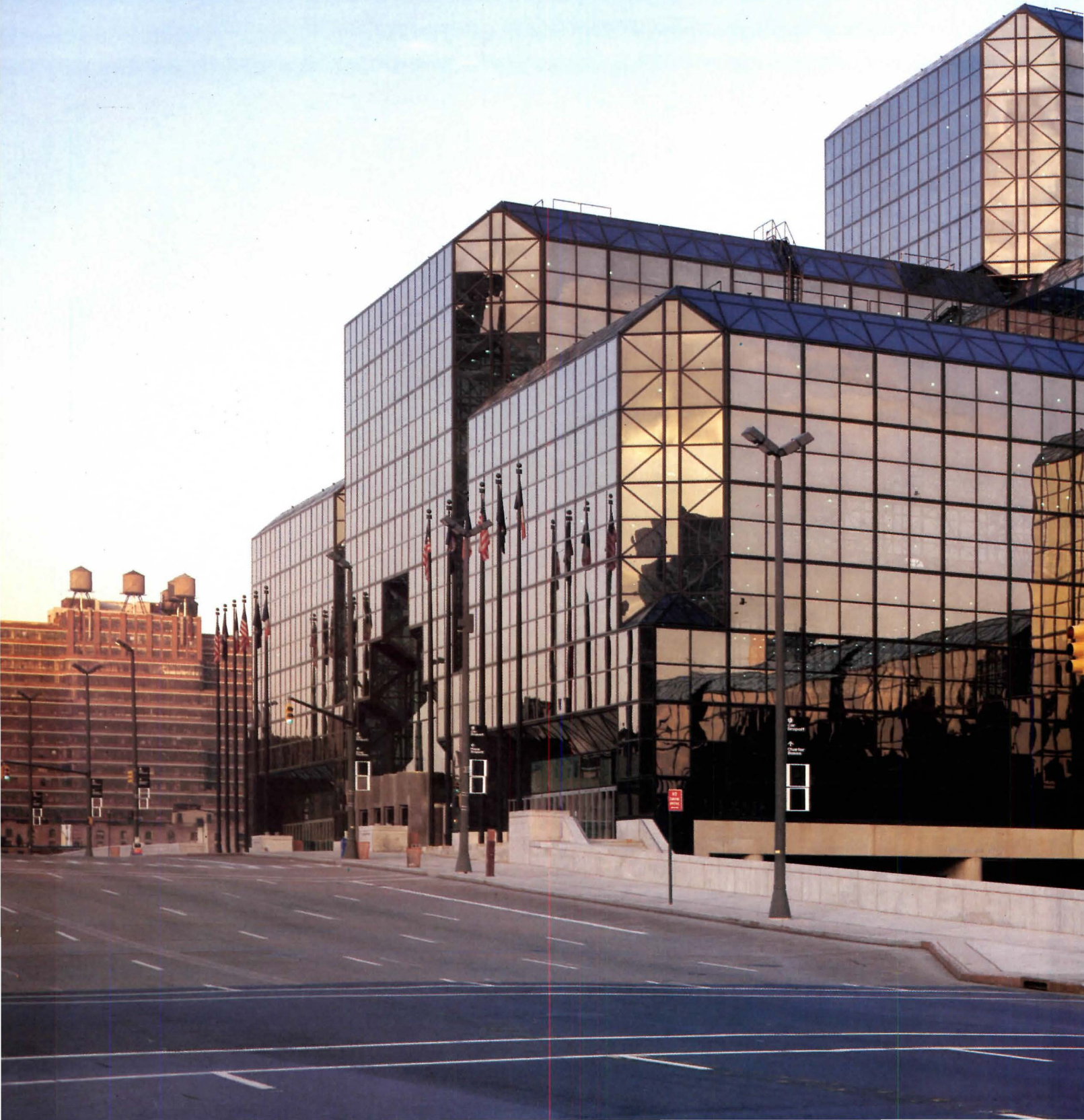
Interiors:
Herman Miller, Inc.

General contractor:
Van Der Muellen Construction



William Lindhout photo, courtesy Herman Miller, Inc.

Space frame odyssey



Jacob K. Javits Convention Center
New York City
I.M. Pei & Partners, Architects



Two years behind schedule and \$125 million over budget, the Jacob K. Javits Convention Center finally opened last April with a speech-laden ceremony worthy of the Academy Awards. But months after the first trade show had been disassembled, the air conditioning still didn't work, and neither did many of the elevators, telephones, and lights. Visitors expecting a spacious parking garage, a gourmet restaurant, and a 24-hour cafeteria wound up taking the bus, and eating at a fast-food diner across the street. Add to these malfunctions and disappointments the political squabbles, labor disputes, and bid-rigging scandals that plagued the public-development project during its seven years of design and construction, and it's a wonder that New York City's convention center ever opened at all.

But over the past five months of its operation, business has fared better than expected, according to Thomas F. Galvin, the outgoing chief of the Convention Center Development Corporation, who is pleased to report that his facility is 85 percent booked through 1992. For, despite the temporary mechanical failures and unfinished aspects of the 1.8-million-square-foot structure, the Javits Convention Center stands as a vast improvement over the ugly, congested New York Coliseum, not only in its size—the third largest in the country after Chicago and Las Vegas—but in its celebration of public-spirited monumentality, a quality not associated with the building type. Credit for this achievement goes to the only constant player in the center's shifting tides of politics and construction, I.M. Pei and Partners, the architects responsible for its crystalline structure under the direction of partner-in-charge of design, James Ingo Freed, and partner-in-charge of management, Werner Wandelmaier.

Impressed by Pei's record of large-scale, urban buildings, New York State's Urban Development Corporation commissioned the architects in 1979. After a long search for a site large enough for the behemoth, the corporation selected a five-block stretch from 34th to 38th streets between 11th and 12th avenues along the Hudson River that totaled 18 1/2 acres. "The very first thing we thought about," reminisces Freed in explaining his design, "was the nature of the building type, which is all about circulation." In developing a clearly organized parti for the required programmatic mix of exhibition halls, meeting rooms, lobbies, reception areas, administrative offices, show managers' suites, cafeterias, and "back of the house" support areas, he spent a month touring convention centers in a dozen cities, and quickly came to the realization that a typical facility "tends to be a dark box closed off from the public, surrounded by cars, and not a good neighbor." To imbue the vast scale of the center with accessible, public amenities and a sense of connection to its surroundings, Freed looked to the sprawling industrial sheds of the 19th century for inspiration, including making a pilgrimage to the Palm House in London's Kew Gardens. "I wanted to find a tool that capitalized on the exposition side of a convention center, and that promoted light and transparency," he explains.

The tool, however, that he finally selected—a lightweight, 20th-century steel space frame in place of heavy, 19th-century cast-iron members—was not without its drawbacks. Though constructed of prefabricated, standard sections, the variety of sizes and configurations comprising the lacy space frame's precise, tetrahedron patterns made it difficult to track the thousands of steel rods, tubes, and spherical nodes demanded of the Tinkertoy-like structure (RECORD, mid-August 1980, pages 47-57 for engineering details). More disastrous was the discovery in 1982 that 60 percent of the nodes had developed cracks during the fabrication process and that the rods were too brittle to be safely erected. The resulting delays in substituting Japanese-forged components for the original, American-cast versions added \$60 million to the building's original \$375-million price tag, and stalled construction for months, prompting one official to nickname the lagging project "the beached whale on the Hudson."

But when all the hoopla over misspent dollars and mismanaged

schedules finally dies down, and the air conditioning, lighting, and elevators are running smoothly, a steady stream of visitors will be left to enjoy a series of ambitious public spaces inspired by late 19th-century civic grandeur. The most spectacular of these is the heart of the center, a 150-foot-high lobby located at the south end of the building called the "crystal palace." Framed by the intricate tracery of the space frame, and a rosy, patterned terrazzo floor, its soaring, skylit interior is impressive enough to convince anyone that the nodes were worth the wait (and the price). Bisecting this great hall is the 360-foot-long galleria, a public promenade that leads westward to the Hudson River, and a 75-foot-high concourse that runs north and south along the front of the building as a mammoth vestibule to the exhibition floors. In addition to their monumentality, the strength of these grand rooms stems from their multipurpose functions: they serve as circulation spines, as halls for special events and receptions, and as spacious retreats from the frenetic, crowded exhibition areas. More importantly, their glass-enclosed, cubic volumes allow daylight to flood the building, and offer views of the Manhattan skyline—a welcome departure from the gloomy, windowless interiors of most convention centers.

But the Javits Convention Center is not without its faults. Apart from the chamfered, jewel-like boxes stacked over the crystal palace (preceding pages) and a few notches carved into the 4-block-long exterior, the massive building's slightly reflective, dark gray curtain wall remains oppressively lifeless for most of the day, appearing more like a sprawling, suburban, speculative office building than an important civic structure. The monumentality of the interior is only revealed at night, when the entire bulk of the building is lit from within by a luminous pattern of suspended, twinkling lights that transforms the crystal palace into a giant, glowing lantern (facing page).

Disappointing, too, is the cost-cutting move to forego the original skylights over the galleria in favor of a solid roof. And while the design of this space is being revamped as a "lively, night street with neon graphics, exhibits, shops, and restaurants," according to Freed, a developer for the commercial enterprise has yet to be found. If and when the galleria is completed, it may not achieve its purpose as a grand processional link from the front of the building to the back, since the promenade abruptly terminates at 12th Avenue with no substantive connection made to the Hudson River. The architects blame their decision to turn the convention center away from the riverfront on a desire to mask Westway, the ill-fated, elevated superhighway that was slated to be constructed behind the building when design schematics were begun.

Of more immediate, practical concern is the lack of onsite parking and transportation to and from the center, underscoring its isolation amid a West Side wasteland of warehouses. Although the building accommodates 85,000 people, its parking lot on the northern end of the site holds a mere 2,000 cars. For those willing to ride public transportation, the center can be reached directly only by one crosstown bus or by walking several desolate blocks from a subway station. To remedy this situation, the city is investigating the possibilities of building a larger parking garage on a nearby site, augmenting existing transportation lines, and rezoning adjacent blocks to encourage private development of hotels, office towers, stores, and housing.

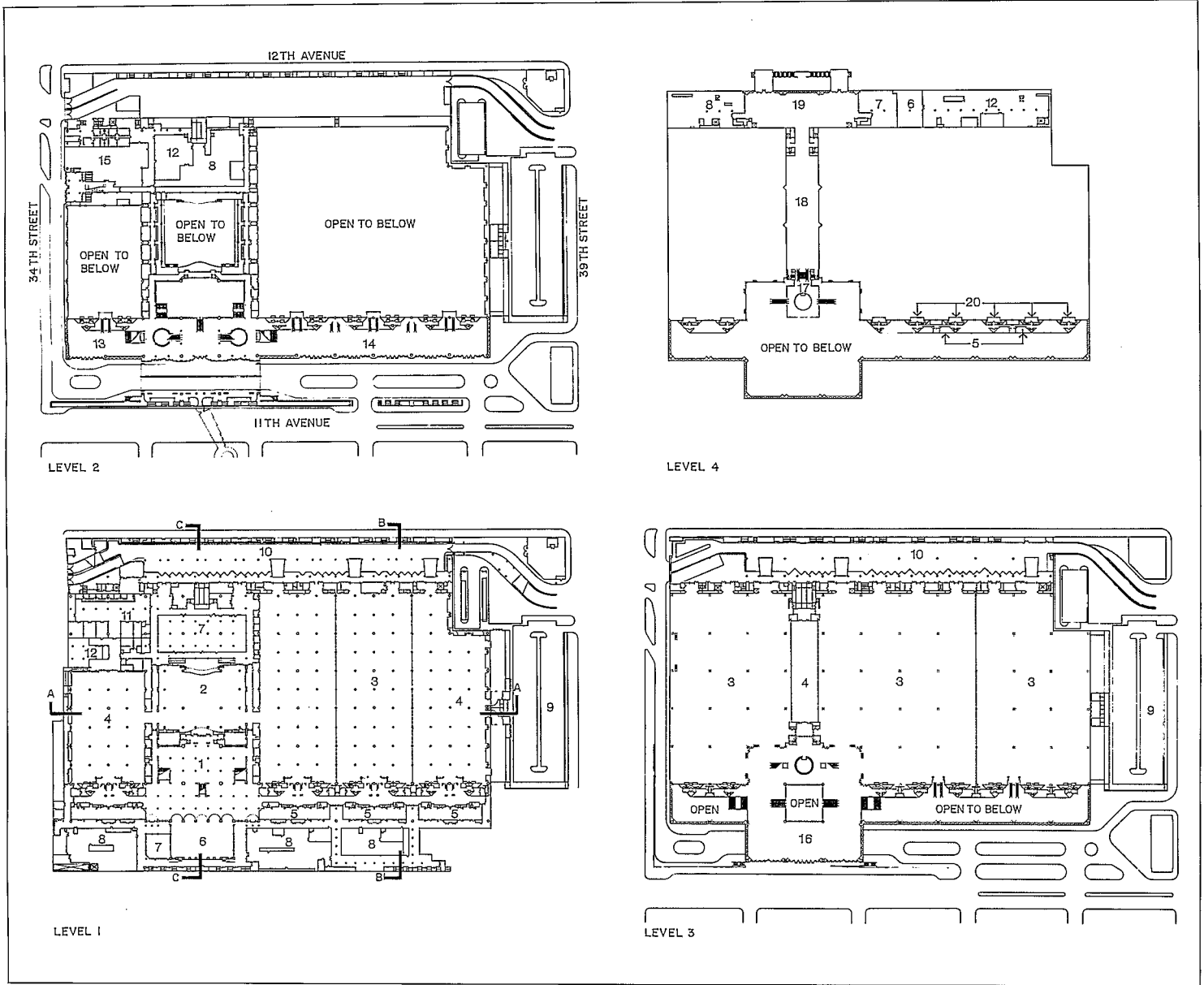
Meanwhile, across town in his Madison Avenue office, James Freed has begun preliminary work on a proposed addition to Los Angeles's convention center, undaunted by the highly publicized setbacks and design compromises of his recently completed effort. After all, he reckons, New York City is renowned for its long history of mired public works: Central Park was completed 19 years behind schedule, and the Brooklyn Bridge wound up costing \$16 million, twice its anticipated budget. As part of this proud tradition, the Javits fits right in.

Deborah K. Dietsch

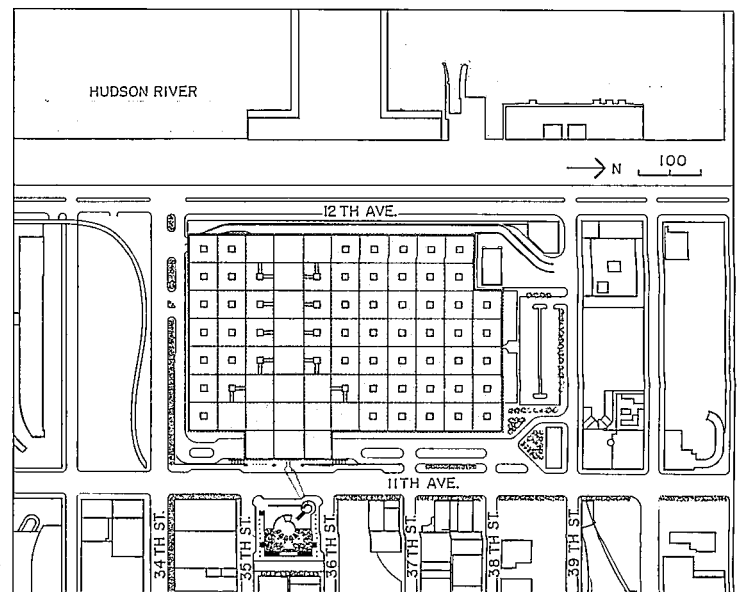


"There was something serendipitous about the site," notes Freed of the existing railroad yard viaduct that rises 14 feet from 38th to 35th streets, prompting the architects to house the convention center's main functions on two levels. The architect likens his parti to an airport, organized around separate circulation systems for the ticket-buying public and "back of the house" trades. Visitors enter the

convention center from 11th Avenue, either at 35th Street through the crystal palace (bottom right plan) or through the lower level concourse (top left plan), while the trades service the building from truck docks at the back along 12th Avenue (top of plans). To the east of the crystal palace, a plaza, incorporating trees, fountain, and bus drop-off loop, will be linked to the concourse by means

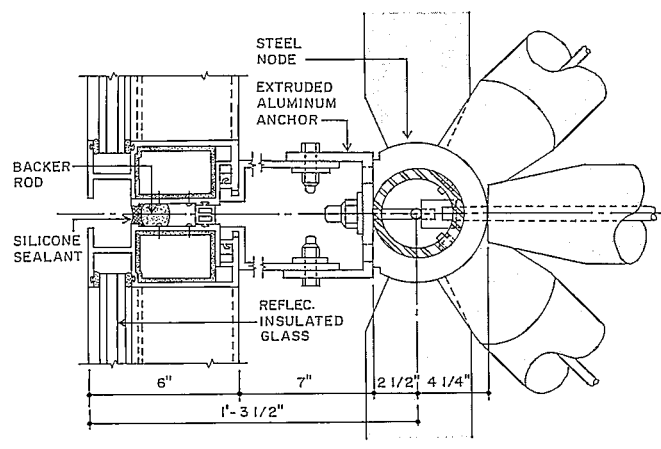
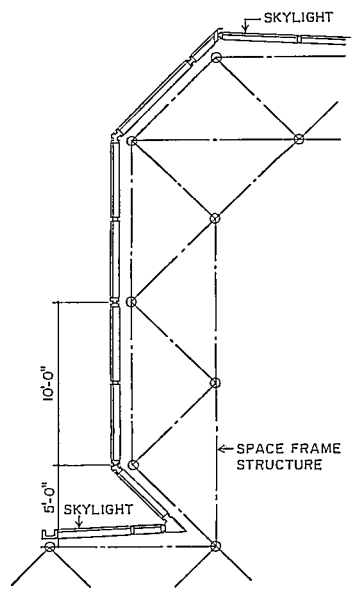


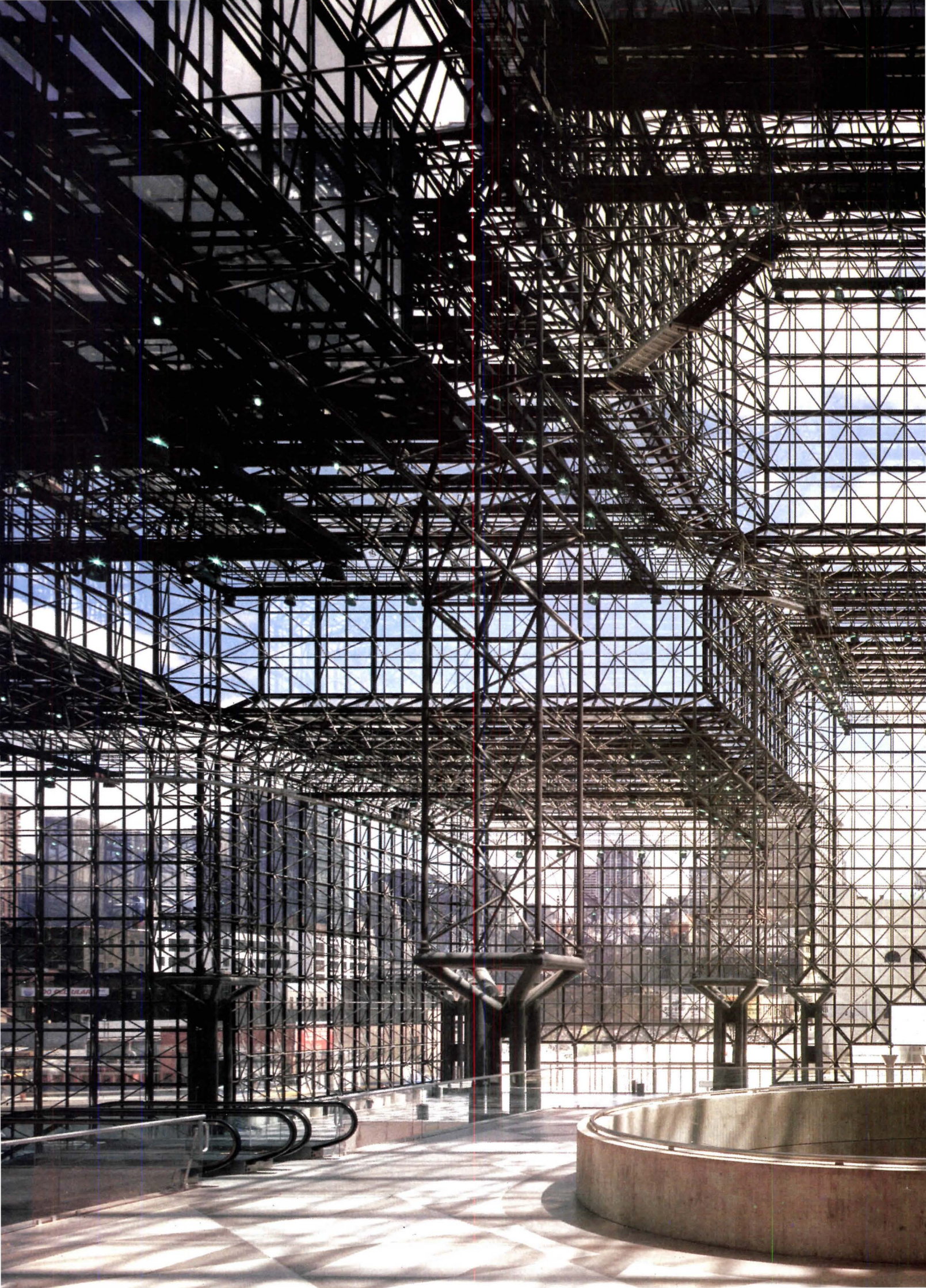
- | | |
|---------------------------------|----------------------------|
| 1. Lobby | 11. Maintenance |
| 2. Special events hall | 12. Storage |
| 3. Exhibition hall | 13. South concourse |
| 4. Meeting room/exhibition hall | 14. North concourse |
| 5. Meeting room | 15. Administrative offices |
| 6. Cafeteria | 16. Crystal palace |
| 7. Kitchen | 17. Mezzanine |
| 8. Mechanical | 18. Galleria |
| 9. Parking | 19. River pavilion |
| 10. Truck docks | 20. Show managers' suites |



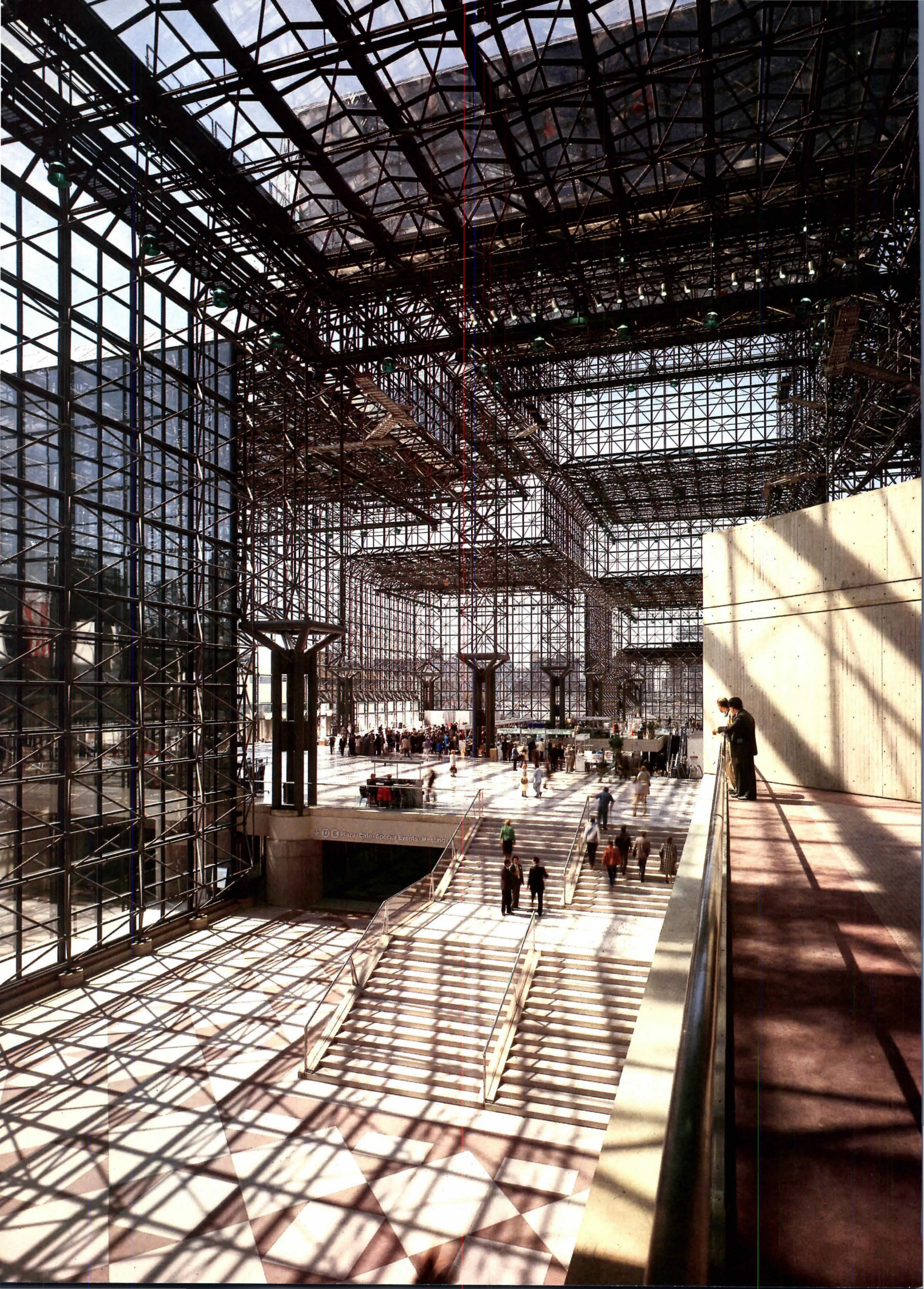
of an underground passageway, now under construction (bottom of site plan). The architect approached the circulation of the Javits Center as fretwork, "an open system of passageways treated as a microcosm of city streets," he says, particularly apparent in section (below). The 90-foot bay system was designed to be compatible with the dimensions of 30-foot trade-show booths, and the 10-foot modules of the space frame. "In

designing with a space frame," maintains Pei associate partner for technology Michael Flynn, "you have to decide which geometry will dominate—the space frame or the curtain wall." At the Javits, the exterior grid of insulated glass panels defers to the primary structure. It is hung a foot outside the space frame (bottom left section), and attached to the nodes by means of steel anchors (bottom right detail).





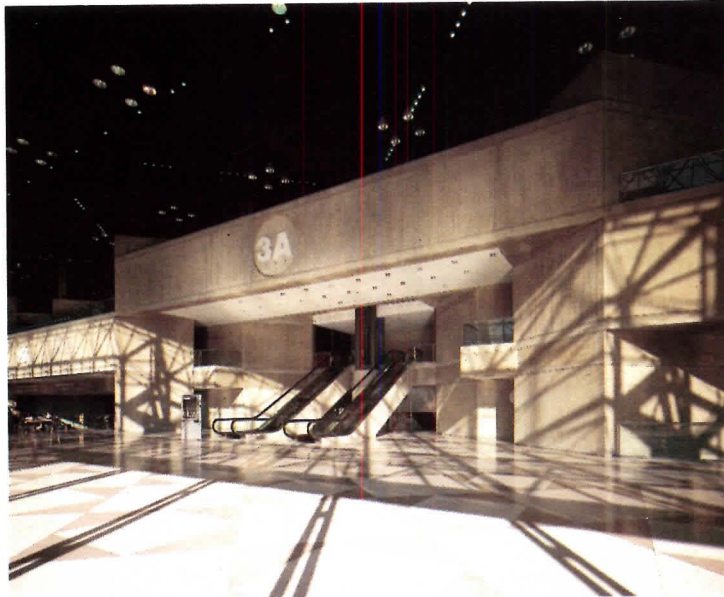






Views of the crystal palace across the concourse (facing page), from the mezzanine level (preceding spread), and from the lower level (top and bottom left) reveal how the convention center's grand lobby got its name. Inspired by Joseph Paxton's 1850s precedent, the 410,000-square-foot, monumental interior (spacious enough to house the Statue of Liberty) and adjacent public promenades are defined by the skylit steelwork of the space frame that creates shifting patterns of light and shadow. Within these spaces, dramatic views of midtown Manhattan skyscrapers are visible through the gridded curtain wall and stepped clear glass over the main entrance (preceding pages). Designed and built from a system patented by PG Structures, Inc., the 10-foot modules of the space frame rest on tubular steel columns shaped, in the words of one contractor, "like chunky champagne glasses" (facing page). According to partner-in-charge of design James Freed, the choice of such technology was not based on the science of Buckminster Fuller nor the art of British high-tech. "I didn't want to make a fetish out of the self-determination of the space frame, but instead chose to treat it as a flexible system that provides texture and transparency," he maintains. The use of this Tinkertoy-like construction is restricted to the building's primary structure, while the interior is divided by signature Pei concrete elements, such as the angled show managers' suites (facing page), mezzanine (bottom left), and columns on the lower level (left). The insistent geometry of the space frame is extended onto the marble-and-granite-chip terrazzo floors by a triangular pattern purportedly inspired by the Venetian church of San Marco.

"I didn't want to segregate the lower-level activities in a dark cellar," explains Freed of his approach to designing the exhibition halls, meeting rooms, and other functions on the floors below the crystal palace. Daylight is transmitted from the main lobby's lantern through a balcony-studded oculus located outside the special-events hall, a 2,500-seat auditorium used for meetings or banquets (facing page). Throughout the lower level, the columns supporting the slab of the upper exhibition halls, and the shafts of the "champagne glass" columns are poured in concrete to meet code requirements for fireproofing to 20 feet. A special life-safety and building code was developed for the convention center by a city-appointed panel to cope with its vast size, including the specification of 100 staircases to meet egress requirements. From the concourse, visitors enter the two levels of exhibition halls via escalators through portals located below the trade-show managers' suites (top right). The raw space of the exhibition halls is redecorated by each changing trade show, and supervised by managers in glass-enclosed offices above the floor (bottom right). Constructed as a "building within the building," according to the architect, the freestanding, trapezoidal concrete structure that contains the show managers' offices and meeting rooms permits sunlight from the glass-faced concourse to filter over its roof to the exhibition hall. Natural light is augmented in the exhibition and public circulation areas by clusters of adjustable metal halide luminaires featuring custom-designed reflectors (right). Glimpses of the skylit space frame throughout the building orient visitors back to the entrances (bottom right).



*Jacob K. Javits Convention Center
New York City*

Owner:
Convention Center Development Corporation

Architects:
I.M. Pei & Partners—James Ingo Freed, partner-in-charge of design; Werner Wandelmaier, partner-in-charge of management; Charles Young, associate partner-in-charge of design; Michael Flynn, associate partner-in-charge of technology; Robert Milburn, senior associate project architect, production; Thomas Baker, senior associate project architect, design; John Coburn, senior associate, resident field architect; Beatrice Lehman, Perry Chin, William Rowe, Andrej Morawski, Peter X. Kseizopolski, Walter Patton, Raymond Searby, Kevin Montgomery, Kirk Conover, Philip Toussaint, Julie Salestrom, Robert Jefferson, Jeffrey Rosenberg,

project team; Vincent Polsinelli, Robert Hartwig, Richard Gorman, Michael Moore, Jennifer Sage, Steve Yablon, plaza team

Associate architects:
Lewis, Turner Partnership—Roger Lewis, partner-in-charge

Engineers:
Weidlinger Associates—Matthys Levy, partner-in-charge; Salmon Associates (structural); Syska & Hennessy; Pierre A. Dillard (mechanical/electrical); Woodward-Clyde Consultants (soils)

Consultants:
Rolf Jensen & Associates (life safety); Jules Fisher & Paul Marantz (lighting); Travers Associates (traffic); Cerami & Associates (acoustics); Robert Schwartz & Associates (specifications)



Special Events Hall

Wright at home again

Restoration of
The Frank Lloyd Wright
Home and Studio
Oak Park, Illinois

In middle age, having watched several Taliesins grow, and one nearly perish, Frank Lloyd Wright looked back on his first home and studio, in Oak Park, Illinois, as embarrassing juvenilia. Referring to a willow tree allowed to grow through the Oak Park roof, he remarked, "If I could have covered the buildings all over with greenery, I would have done so." Wright's misplaced chagrin at what he saw as the callowness of youth makes the fledgling work only more precious to everyone who would understand the full achievement of an American master. By any standard, the Oak Park buildings are national treasures, and all who love architecture must applaud their recently completed restoration under the joint stewardship of The Frank Lloyd Wright Home and Studio Foundation and The National Trust for Historic Preservation.

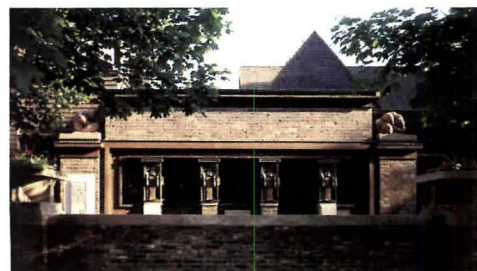
The residence, constructed in 1889 when Wright was 22, is his earliest realized domestic design, a variation on the then-fashionable Shingle Style that testifies nonetheless forcibly to the architect's precocious maturity and singular vision (at right in photo below left, plans overleaf). In person, the Oak Park dwelling seems almost diminutive, reflecting the modest means of a newly married draftsman who borrowed \$5,000 from Louis Sullivan to acquire a lot and pay the builders. The frame house is in essence a simple gabled cottage, yet one recognizes an uncommonly skillful hand in the emphatic geometry that transfigures the familiar archetype into a vigorous play of angles and curves, planes and volumes, reminiscent of the Froebel "gifts" of Wright's boyhood. And there are intimations of things to come in casements grouped as horizontal "light screens," in the flow of indoor spaces around a central hearth, and in the orchestration of texture, color, and shape that weaves the minutest practical details into coherent patterns of sensual delight. Here is the first interior (the dining room) in which Wright designed every piece of furniture as well as the architectural surround; here are also some of his earliest experiments with built-in seating, indirect lighting, and integrated heating elements. It was in the studio (below center and right, and opposite), added on as a professional workplace in 1898, that Wright evolved these and related ideas and forms into the Prairie Style that won him international renown. The richly sculptural composition of entrance loggia, octagonal library, and two-story polygonal drafting room is itself one of the major landmarks of that style.

While the studio and house are obviously milestones along the path of an artistic career, their immediate effect on the visitor reaches far outside the bounds of any neat historical timeline. Most poignantly, perhaps, one feels the mysterious force of time itself. The inherent beauty of the architecture requires no chronological rationale, yet every surface bespeaks the fingers that shaped it or handled it in the past, while echoes in the inglenook and shadows in the drafting room evoke the voices and gestures of vanished figures. That the structures inhabited by the architect, his family, and colleagues can now be experienced in anything like their original form is almost miraculous, given the impermanence of the original fabric, and the many, sometimes radical, alterations made to it by Wright and subsequent owners. Over two decades, as the young family grew and fresh architectural ideas emerged, improvements amplified and refined the compound of home and office: a dining-room wing was grafted on here, a playroom there, a waiting room refurbished. More drastic remodeling

began in 1911, when the house was converted into an independent rental unit and the studio became the residence of Wright's wife and children, whom he had left two years earlier for another woman. New porches, garages, and entries, and internal rearrangements changed the aspect of the former home, while the studio was barely recognizable after the open core of the drafting room had been divided into separate stories and its octagonal drum squared off to create bedrooms. All of these renovations were designed by Wright himself, which was not the case with most of the piecemeal tinkering that occurred between 1925, when he sold the property, and 1956, when the last private residents engaged him to restore fragments of a sadly deteriorated structure.

The present appearance of intact survival belies the formidable complexity and scope of the 12-year, \$2.1-million restoration conducted by a committee of staff and volunteers at the Frank Lloyd Wright Home and Studio Foundation. (The National Trust, besides furnishing technical assistance, provided substantial funding, as did the Steelcase Corporation, the project's major corporate sponsor.) All research and design was carried out by the Foundation committee, which also helped prepare working drawings and manage construction. It was the committee's decision to return key elements of the site to their configuration in 1909, the last year when Wright lived and worked here—a controversial judgment, since it involved the removal of "authentic" later fabric, but one that gained the approval of historians, preservationists, and the architect's own family. The opportunity to interview Wright's living children was one of the restoration team's primary resources, along with vintage photographs, house drawings from 1889, various partial drawings and sketches for the studio, and as-built records for the whole complex in 1925. New survey drawings and photographs charted existing conditions.

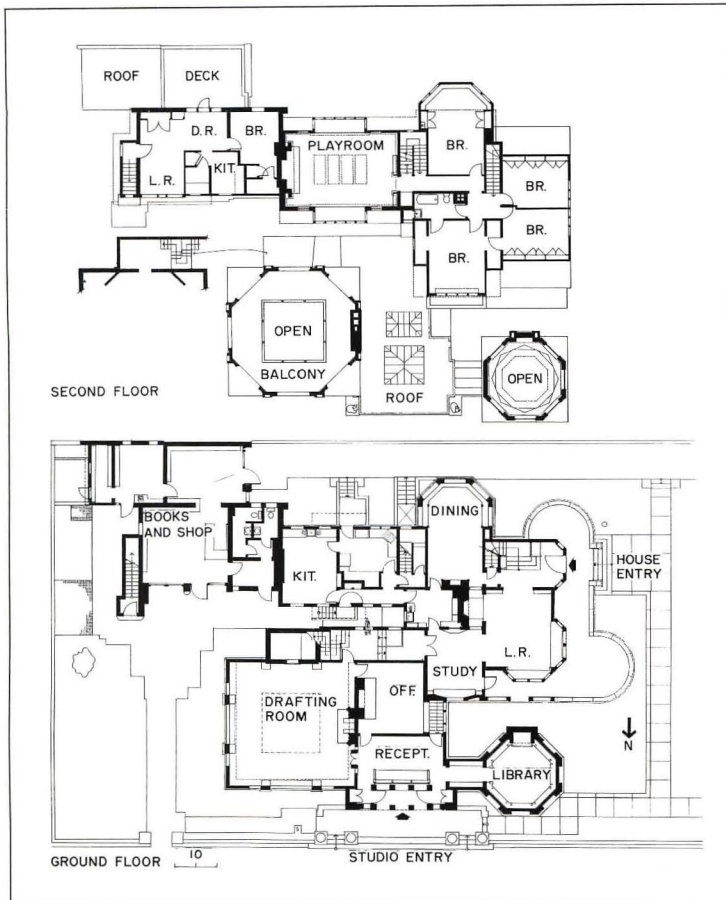
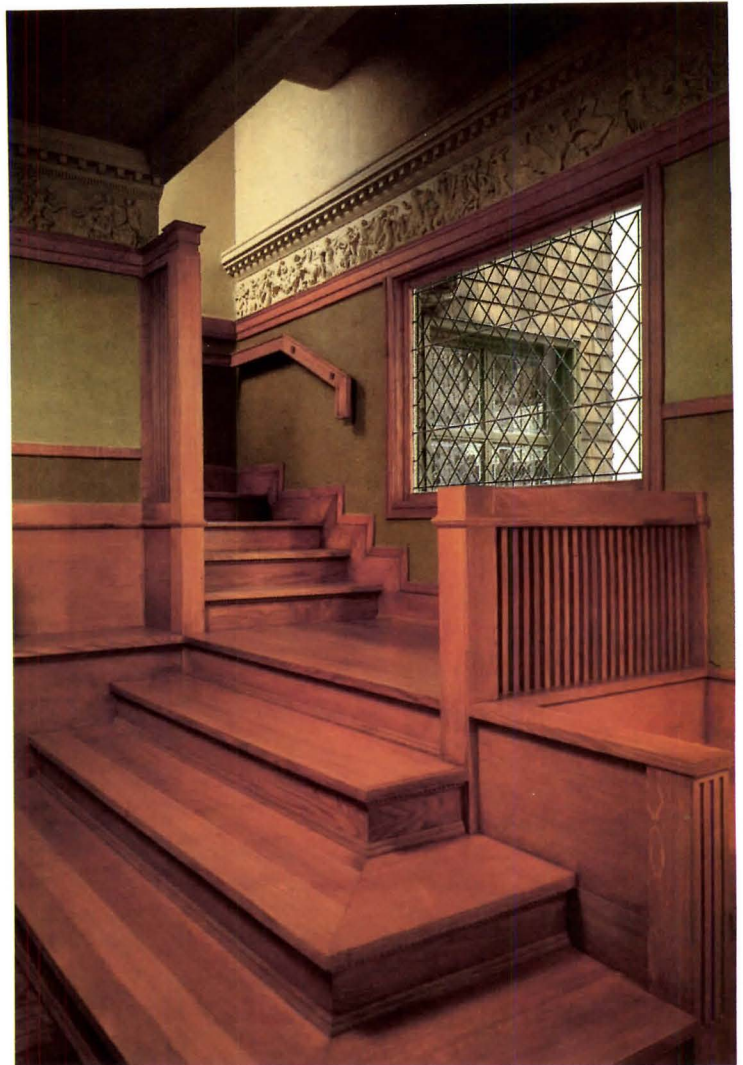
Painstaking archaeological probes uncovered evidence to fill the many gaps left by incomplete or ambiguous historical documents: revelations could be as minute as a critical nail hole or lath mark or as substantial as a complete bay window encased in brick or murals buried under crusted layers of paint. No find was more dramatic than the discovery of a hand-forged "chain harness" still functioning as a tension ring above dropped ceilings in the drafting room (page 124). Unfortunately, since building standards in turn-of-the-century Oak Park were never meant to match the virtuosity of Wright's design, or ensure durability through the ages, it was imperative that modern preservationists repair, reinforce, or replace a great deal of damaged material throughout the site. One measure of the restoration's methodical care, and ingenuity, is the extraordinary degree to which these tasks were accomplished without sacrificing genuine substance from the original buildings, even where it could not be seen; another is the unobtrusiveness of whatever new construction or substituted ornament the project required. Structural steel, for example, was inserted—invisibly—above dentil-molded beams on the living-room ceiling, behind bas-relief piers in the office waiting room, and under the drafting-room balcony. Missing or badly weathered sculpture was either modeled anew from photographs or recast from extant prototypes. Wright would no doubt smile at one of the few conspicuous addenda, a locust tree trained through the roof where the long-lost willow used to wave its boughs. *Douglas Brenner*



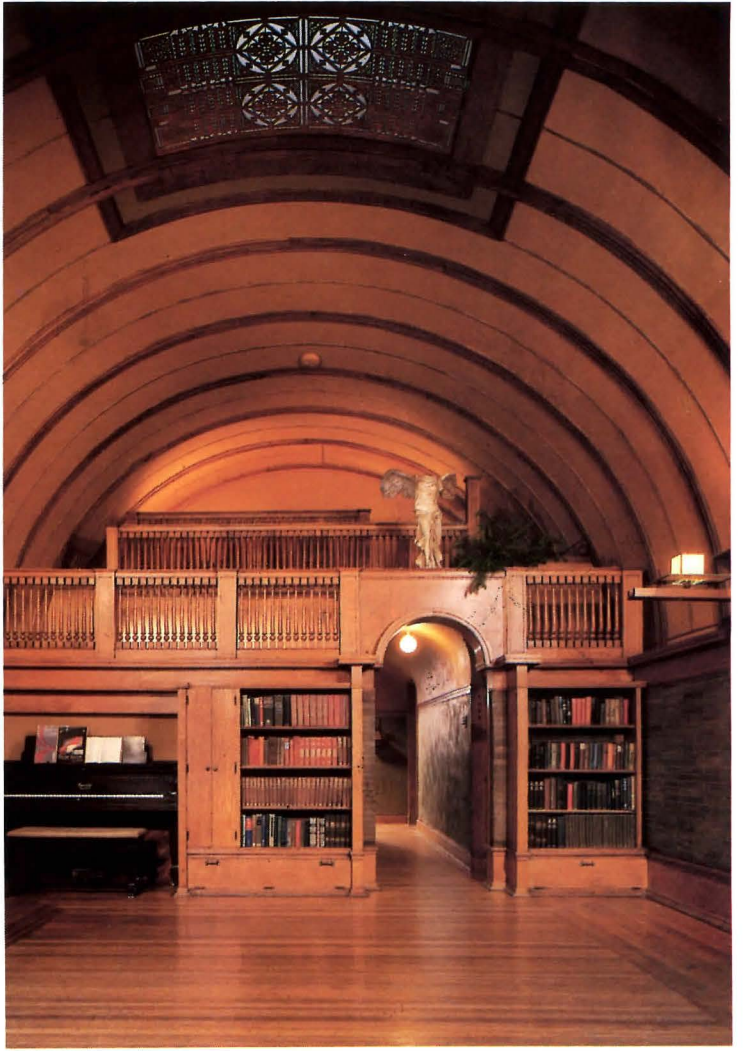
©Jon Miller, Hedrich-Blessing photos



All of the lower stair landing and benches (this page, above) were torn out in 1911, when Wright inserted a new carriage entrance. The Foundation's architects had new steps crafted of quarter-sawn white oak, basing their reconstruction on sketchy 1889 plans and period photos. Most woodwork had been varnished or painted over by later occupants, but untouched surfaces discovered inside a cabinet provided a control sample for refinishing. The restorers contacted more than 100 hardware suppliers in search of historically correct fittings. Lighting fixtures include Louis Sullivan-derived ceiling reliefs found in situ or recast, such as one near the living-room inglenook (opposite top left), and recreations of missing indirect lighting panels, such as the pierced plywood screen over the table and chairs which Wright designed for his dining room (opposite top right).



The passageway linking home and studio (this page below), now seen as it looked circa 1909, was blocked off and completely transformed in 1911. Rebuilt stairs beyond the tree trunks (at right) lead to the drafting room balcony. Probes in the north bedroom (opposite bottom left) revealed the existence of stencils and pictorial lunettes. Two conservators spent four months scaling paint off the murals—an unusually delicate task, since it was necessary to gut the rest of the room for repairs. Fortunately, a mural by Orlando Giannini in the playroom had not been painted over, and the vaulted chamber was never partitioned (overleaf and opposite bottom right). Wright added the playroom to his gabled cottage in 1895, along with the present dining room and kitchen. The Foundation's bookstore and apartment inconspicuously reuse a 1911 garage wing.

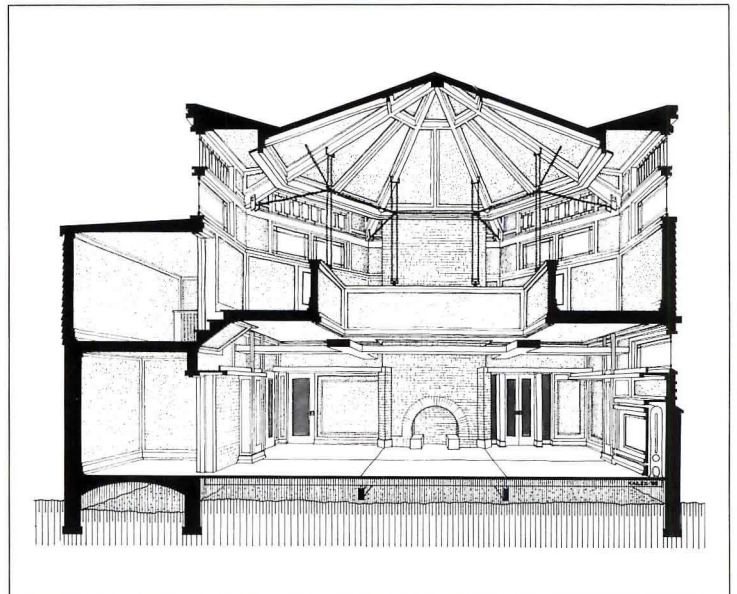








Between 1898 and 1909, Wright and his associates designed Unity Temple, the Larkin Building, the Robie House, and more than 130 other executed projects inside the studio drafting room (this page). The horizontal chain harness that acts as a tension ring within the upper octagonal drum survived in perfect condition. Vertical links to the balcony are replicas of chains discarded when a full second floor was built in 1911. However, because roof beams had deflected as much as three inches, it would have been hazardous for restorers to rely on chain suspension. As a necessary compromise, the design team elected to support the balcony on concealed steel beams. Visible results of extensive interior reconstruction include an arched fireplace uncovered beneath a later mantel and floors laid with magnesite, a once-popular sawdust-and-cement composition, color-matched to remnants on the balcony. Walls in Wright's octagonal library (opposite) regained a cladding of gold paint. Zinc window came were replated with copper and brass.



Restoration of
The Frank Lloyd Wright
Home and Studio
Oak Park, Illinois
Owners:
The National Trust for Historic
Preservation;
Restored and administered by
The Frank Lloyd Wright Home and
Studio Foundation

Architects:
The Restoration Committee of the
Foundation: John G. Thorpe,
AIA, William B. Dring, AIA, Donald
G. Kalec, chairmen; Carl J. Hunter,
Karen A. Sweeney, vice chairmen;
Donald G. Kalec, director of research
and restoration; Ann Abernathy,
project architect; Morgan Sweeney,
William J. Mahalko, Cynthia
Bolsega-Mueller, Herbert Hoppe,
intern staff architects

Associated architects:
The Office of John Vinci; Robert A.
Bell Architects Ltd.; Fred C.
Burghardt, AIA

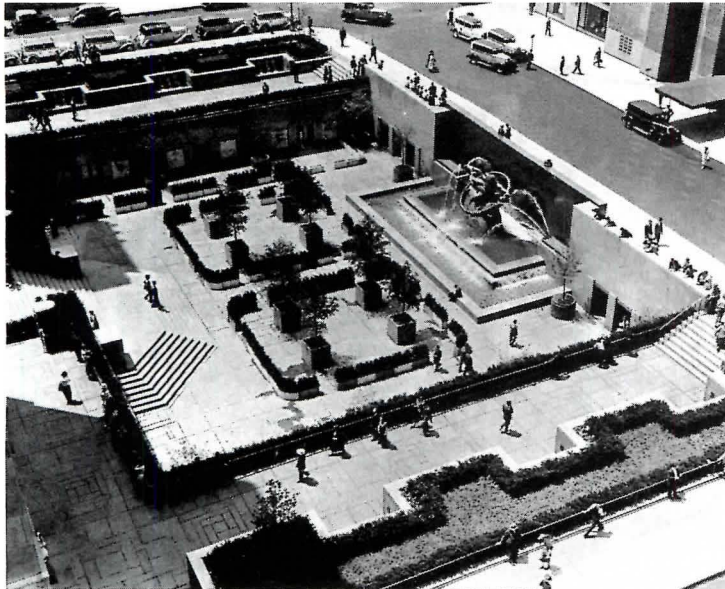
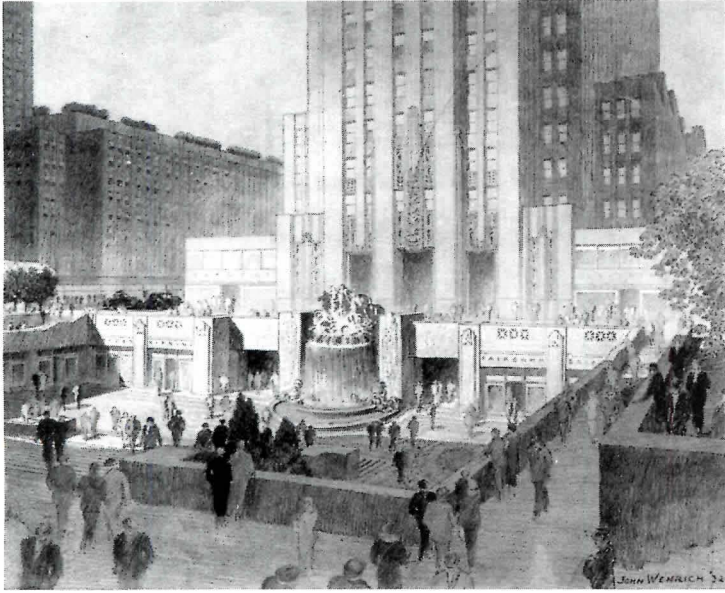
Engineers:
P & W Engineers (structural); Bruno
Blachowicz, P.E. (mechanical);
Gavlin and Reckers (structural)

Consultants:
Robert A. Furhoff (paint analysis);
Martha Scatterday (landscape
design)

General contractors:
G. A. Johnson and Son; Summer
Sollitt Construction Co.; Frank
Stowell and Sons



Prometheus rebounded

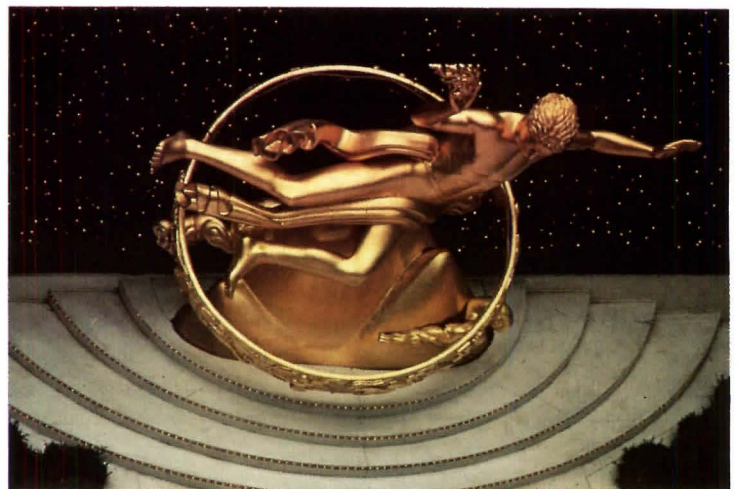


The underground pedestrian and shopping concourse interlinking all of the buildings in Rockefeller Center always lacked a focus, becoming truly drab at the very heart of the place—the restaurants surrounding the rink/plaza and the passages that encircle them. Having decided to do something about this, David Rockefeller chose John Portman & Associates, the firm that reinvented the high-rise atrium, rediscovered the shaftless elevator, and became famous for its ability to design commercially successful urban plazas and malls, to remake the center of the Center.

Today, one glimpses Prometheus and watches skaters in the winter or outdoor diners in the summer through an undulating bronze and glass wall that separates the new restaurants from the pedestrian concourse. Almost every restaurant table offers a splendid view of life in the plaza, through newly enlarged windows. The surrounding foyer has been sheathed, floor and walls, in white marble washed with warm fluorescent light, its brightness in cheerful contrast to the black marble veneers of the adjoining Art Deco concourse.

Although the architects took some cues from the magnificent Art Deco interiors elsewhere in Rockefeller Center, the effect is neither Deco restored nor Deco transformed. The décor of the earlier restaurants was not worth renewing or preserving. Reinventing Deco with the necessary originality, audacity, and verve would have been well worth a try, however, given the current rebirth of the style as a rich source of contemporary design inspiration. The Portman team and the designers of the restaurant interiors (The Office of Phil George) had a reason for giving such an ambitious goal a pass, wishing the new restaurants to be perceived as really new, not a warm-up of decorative ingredients now more than a half-century old.

The new restaurant complex does, however, successfully respond to more subtle Rockefeller Center themes, namely those of lasting luxury, wealth, and elegance. The Portman architects have used marble and bronze unsparingly, forging a stronger link with the older interiors and Rockefeller Center as a whole than their minor borrowings of Deco motifs ever could. Vincent Scully in *American Architecture and Urbanism* (1969) noted well the underlying opulent spirit which the new design continues: "... Rockefeller Center is one of the few surviving public spaces in America that looks as if it were designed and used by people who knew what stable wealth was and were not ashamed to enjoy it. Flags snap, high heels tap: a little sex and aggression, the city's delights." Today the restaurants at the heart of the complex partake of the Center's wonderful sumptuousness, but the style is Portman, not Deco. And it works. *Mildred F. Schmertz*

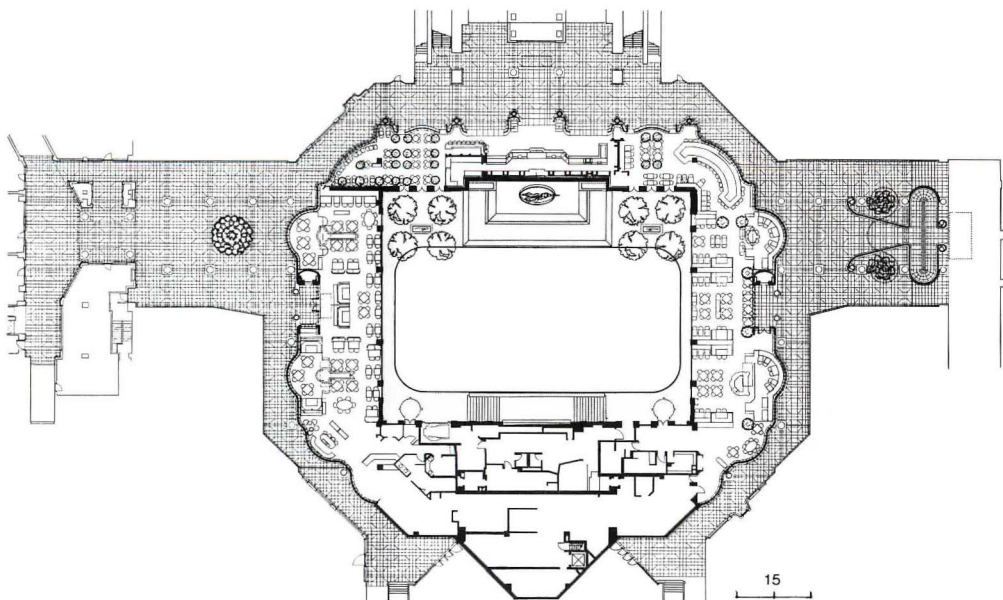


Gregory Hesler

The skating rink/plaza, banded by restaurants, is closer to Fifth Avenue than it is to the boundaries of Rockefeller Center west of Sixth. As function, form, and symbol, however, it is the center of the Center. It now has a somewhat altered perimeter (below), the restaurant windows having been made as high and wide as the structural grid allows. On the streets to the north and south of the rink are two

unobtrusive kiosks, each containing an elevator transporting passengers to and from restaurant foyers on the underground pedestrian concourse (plan). The perspective drawing (opposite) was made in 1932 before a rink or indeed Prometheus had been thought of, and the photo below it shows the space actually constructed. Skating was first introduced in 1936.

Bo Parker



The elegant bronze and glass elevator kiosk (below) is one of two carefully understated structures that have quietly taken their places among the flagpoles on the terraced edges of the rink. In sculptor Paul Manship's conception as originally installed, Prometheus was flanked by a man and woman (bottom) representing mankind, the recipients of his gifts. In the late '30s these were moved to a roof terrace of the International



Bart Barlow



Bart Barlow

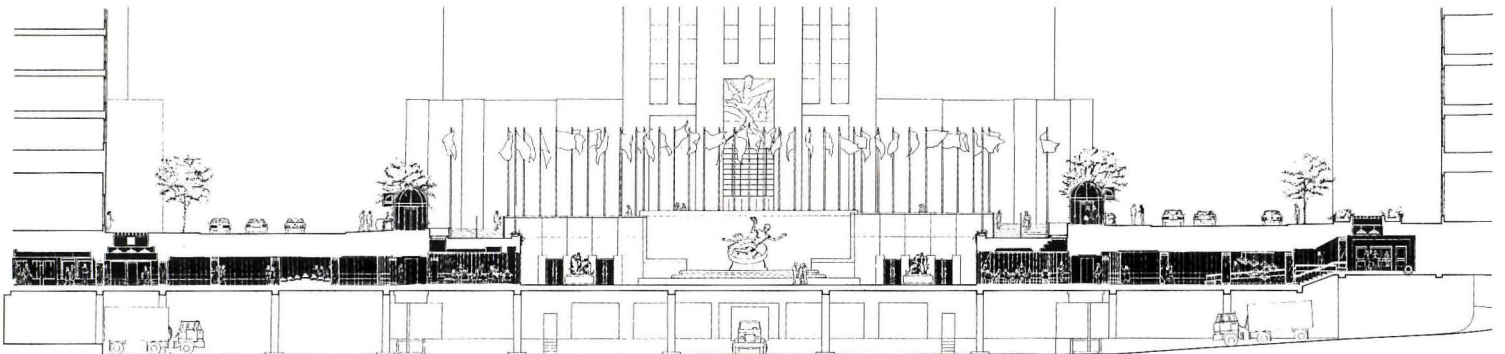


Bart Barlow

Building at Rockefeller Center. Now refurbished, they are back at the rink. Since window surfaces have been significantly increased and new skylights inserted, restaurant spaces are bright and lively, especially in winter when the light reflects off the ice. As the section indicates, the new glass block skylights occur in the sidewalks and planters on 49th and 50th streets.



L. Beason

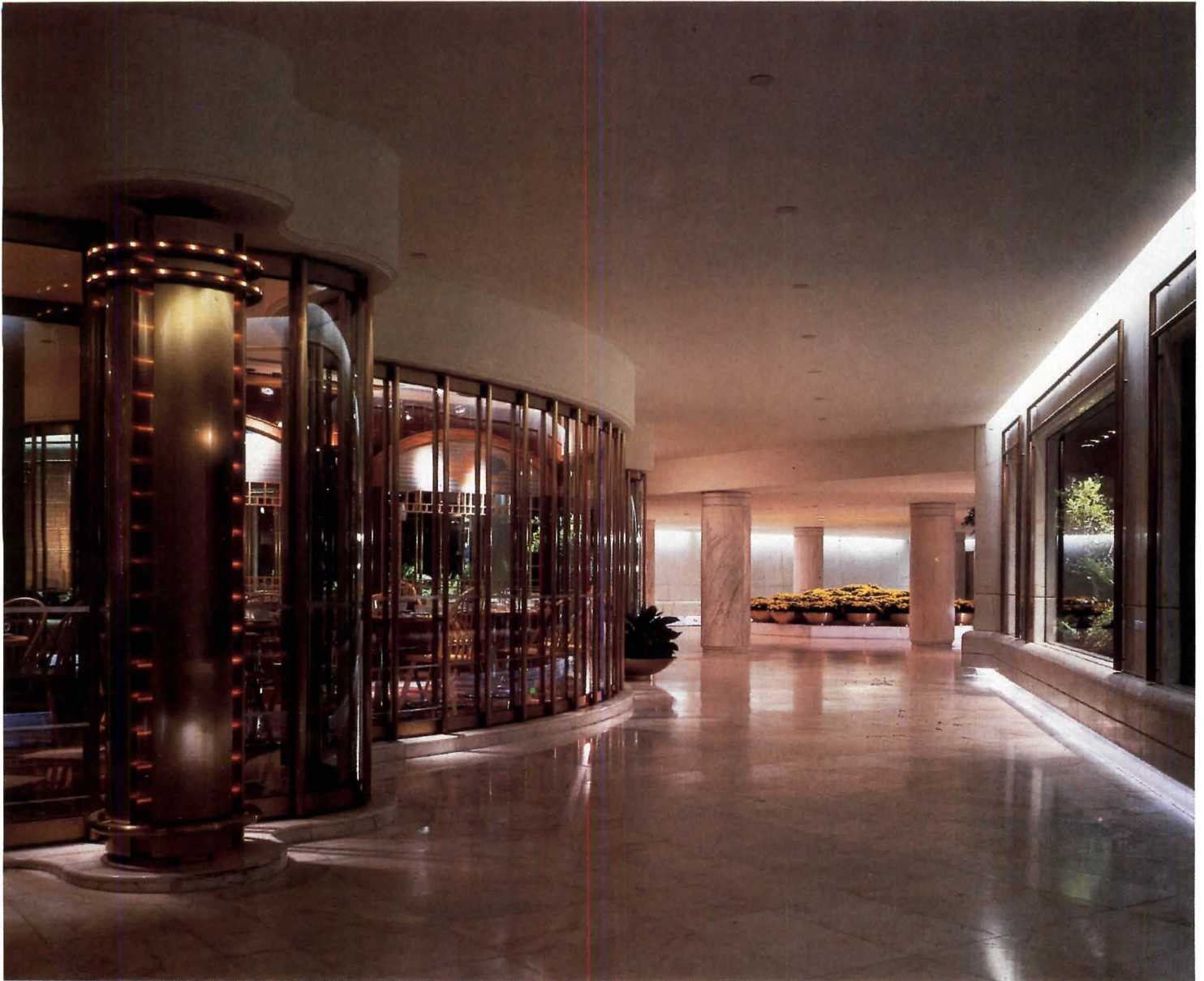


The undulating glass and bronze screen (below) between the restaurants and the underground pedestrian concourse offers passersby almost continuous views of the rink, and an occasional glimpse of Prometheus. Modest helpings by the Portman team from Rockefeller Center's sumptuous Art Deco feast include bronze display window frames and related signs that are similar to those to be seen in

Channel Gardens (the promenade leading from Fifth Avenue directly to the rink and the RCA Building). Various vertical and horizontal stripings in bronze tubing, neon, or tiny incandescent lights do not add up to Art Deco, neither reconstituted nor transformed, nor do they seem to have been expected to carry much historic or nostalgic signification. The effect suggests contemporary notions of opulence with little

historic recall. Bronze-sheathed columns, bronze lighting fixtures, planters, and railings have been combined with a beautiful white marble from Portugal (Estremoz) to luxurious effect.

Jaime Ardiles-Arce photos except as noted



Bo Parker

Promenade Restaurants
Rockefeller Center
New York City

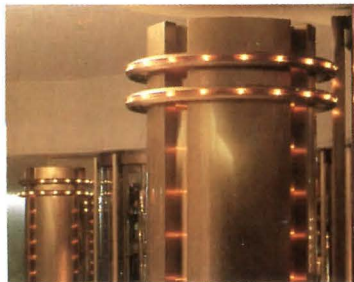
Owner:
Rockefeller Center
Architects:
John Portman & Associates—
John C. Portman, Jr., design
principal; Raphael Samach,
architectural project manager;
Allison M. Fleetwood, project
architect;

F. Vernon H. Smith, Jr.,
Sam H. McPhaul, architects
Consultants:
Rockefeller Center Design/
Planning/Engineering—
James R. Smith, director (design
coordination); The Office of Phil
George (interior design); Edwards &
Zuck (mechanical/electrical); Theo
Kondos Associates, William Lam
Associates (lighting); Chermayeff &
Geismar Associates (graphics)

Construction manager:
Rockefeller Center Construction
Company (phase one)
Herbert Construction Co.
(phase two)




Bo Parker



Bo Parker

Bo Parker



THOMAS
ANDERSON
ROE
ART
BUILDING



Art lessons

Thomas A. Roe Art Building
Furman University
Greenville, South Carolina
Perry Dean Rogers & Partners,
Architects

Of the cheerful ironies and oppositions attesting its designers' resolve that Furman University's new visual arts building "provoke questions" among sharp-eyed students, the most immediate is the clash—well-cushioned but clear—of the building's self-assured '80s sensibility with its period-piece setting. Planned in the late '50s when Furman relocated to a new outlying site, the campus reflected the conservative biases of the college governors, acceded to by their then scarcely less conservative architects (the firm now constituted as Perry Dean Rogers & Partners), in a neat all-of-a-piece composition of brick-clad, slate-roofed "Georgian Colonial" buildings, each sporting in earnest of Palladian intent some variation on the theme of portico and pediment.

The Roe Art Building approaches this pretty if not quite persuasive anachronism with almost assertive deference. The lines of its facade and cornice carefully continue those of the next-door auditorium building to maintain and extend the existing arrival sequence. Its facing replicates the oversized variegated brick used throughout the campus. It even boasts the Furman signature portico. Such gestures of respect, however, are finally coopted by the witty didacticism that makes the building a working syllabus for the pursuits it houses.

The lessons begin at the front door, which interrupts a long ambiguously scaled brick slab, otherwise broken only by low punched windows, with ponderous parapet-high brick pillars that rise close-paired to a precariously balanced pediment, forming a monumental porch abruptly domesticated by the luminous greenhouse vestibule tucked beneath and a transparent side-lighted grid tucked behind.

The contrast of the hermetic facade with so prodigal a celebration of entry is a fitting introduction for the more subtle contradictions of an interior where the utilitarian, let-it-all-hang-out spaces of a teaching atelier are formally disposed in a classical plan symmetrically organized around intersecting axes (page 135). One axis slices from the out-size south porch to an identical rear construction that gives back-door entry equal ceremony; the second, the building's primary circulation artery, stretches its full length. But principal designer Charles Rogers, to whom a corridor is rarely just a corridor, has elaborated these necessary links to a lively sequence of spatial and visual events climaxing in a mock-classical rotunda at their crossing.

The south-to-north route through the building is an orchestrated progress from the small outer vestibule to a full-height lobby that narrows to a low passage whose uncomfortably jagged sawtoothed walls hasten the debouch to the tall top-lit cylinder of the rotunda, from which the lofty east-west gallery at the building core is revealed (pages 136-137). Twelve feet across, the gallery soars some 25 feet to a ridge where a continuous skylight plays steady north light against shafts of sunlight from intermittent south-facing openings, heightening the liquescent shimmer of glass-masonry panels that frame the doors to classrooms and faculty suites and line the studios' inner walls.

Least the descent of the muse be discouraged by cramped quarters or fancy finishes, the studios are big bright lofts, with mezzanines to exploit their height and broad expanses of factory windows to exploit the north light. Structure and mechanical innards are exposed, materials sturdy and modest. Translated to the double-duty circulation areas, however, the workaday vocabulary—concrete block, dry wall, glass masonry—is expanded by textural contrasts and vivid splashes of paintbox color. To point a lesson in scale relationships, the entries from the main corridor to the exhibit gallery and lecture hall flanking the south passage are dignified by building-high inward-angled foyers of glass-block set in iridescent blue surrounds, which diminish to single-story height when announcing less public spaces. Pattern is introduced on the walls between, where geometric mosaics of tinted concrete block frame huge canvases for displaying student work. But the playful study of light and color peaks at the top of the gallery with the parallel march of blue industrial lamps mounted on red plates: presto, purple—which just happens to be, with white, the school color. *Margaret Gaskie*

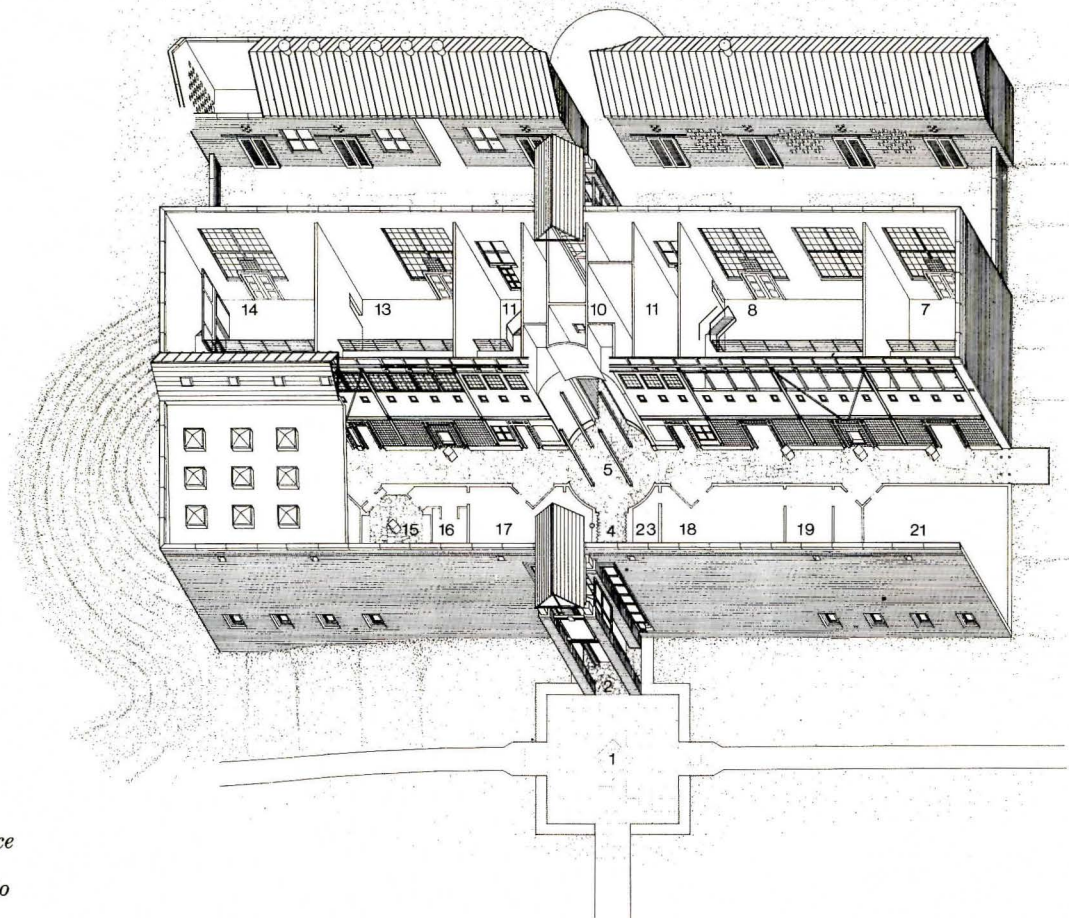
Peter Vanderwerker photos except as noted



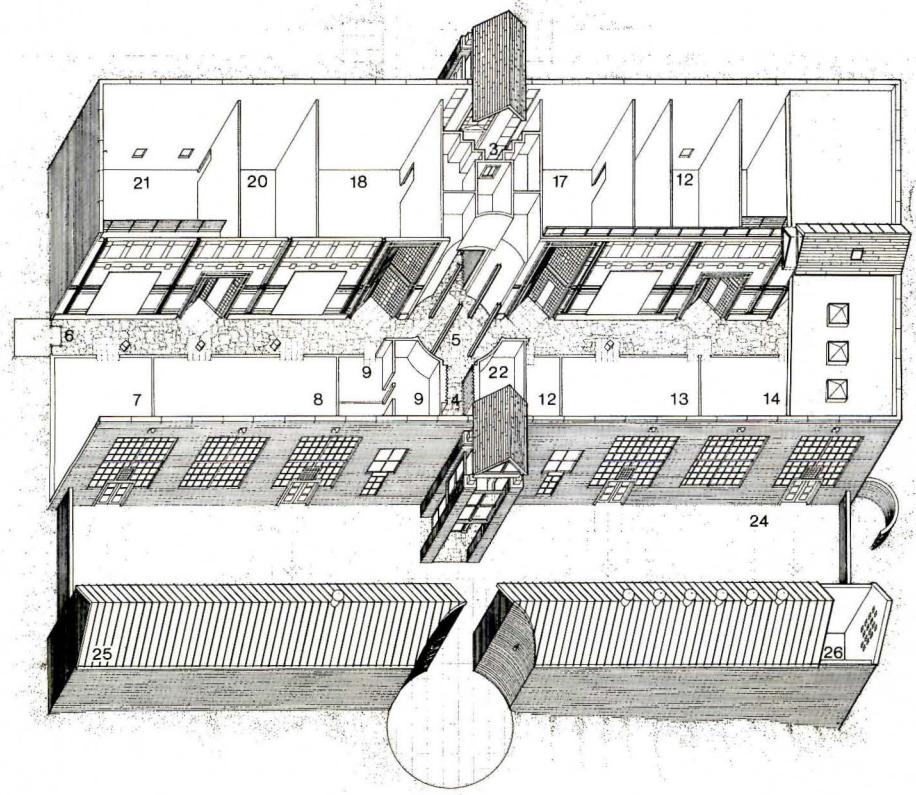
Anticipating the eventful interior, the blankly stolid face the Roe building turns to the campus bursts to life at the entry portico, where hefty brick pillars crowned by an extended gable pull the structure outward. The resulting void is layered with a transparent central grid framed by tall slits, "windows" floating in nonexistent side walls, and a tidy intermediate porch of metal-framed glass and glass block.

To free the Roe building's studios of bulky equipment and messy noise- and heat-producing processes, the kiln and foundry were relegated, along with mechanical rooms and storage space, to a pair of low, gabled outbuildings that delineate a paved and grassed rear courtyard where students can work outdoors in clement weather (and, occasionally, break for a quick badminton game). The passage between the two, marked by a broad introductory curve, focuses the approach to the imposing back porch and the north-south cross axis that emerges at a twin porch on the face opposite. Inside the courtyard, the utility sheds' domestic square windows, latticed cypress doors, and open brickwork offset the factory-like facade of the building proper, whose big close-gridded expanses of glass bring north light to the studios within. At the end walls, slim transparent portals disclose the east-west corridor traversing the building length. In addition to its role as a Main-Street bazaar where student work is displayed, this colorful light-filled corridor is the principal organizing element in the building plan. Large studios for ceramics, sculpture, painting, and design are ranged along it to the north, with such necessities as faculty studios, administrative office, seminar room, and faculty lounge clustered at the cross axis. To the south, protected from the strong sun but naturally lighted as needed by overhead skylights and the small square windows that puncture the front facade, are workrooms for printmaking and photography, a climate-controlled gallery to host traveling exhibits, the main lecture hall with adjoining projection room, an octagonal student lounge opening to a seminar room, and three faculty office-studio suites.





1. Sculpture court
2. Porch
3. Lobby
4. Hall
5. Rotunda
6. Student gallery
7. Design studio
8. Painting studio
9. Administrative office
10. Faculty lounge
11. Faculty office/studio
12. Seminar room
13. Sculpture studio
14. Ceramics studio
15. Student lounge
16. Slides/projection
17. Classroom
18. Exhibition gallery
19. Workroom
20. Photography studio
21. Printmaking studio
22. Restrooms
23. Storage
24. Courtyard
25. Mechanical/storage
26. Mechanical/kilns/foundry





The north-south circulation axis crossing the Roe building from small glazed porches beneath the front and rear entry porticos is composed as a series of expanding and contracting spaces to heighten the sense of movement toward the central rotunda (photo left) at the focal point of the symmetrical plan. The high front lobby (opposite), with its stepped walls pressing forward to a low narrow passageway, also previews the use of pattern, color, and contrast to enrich homely materials: polished marble display cases and smooth flagstone floor against a backdrop of rough concrete block in grays modulating from near-white to slate-blue; red concrete pavers as base course and insets in walls and floors; the underlying module of 8-inch-square concrete and glass masonry units elaborated to the repeated play of square on square. In the rotunda the square becomes a vertical structure upholding curved panels and rising to a skylight at the juncture of the axial trusses, with light penetration from east and west limited to sustain the hierarchical importance of the north-south axis against the impact of the long intersecting spine (photo lower left). The almost continuous band of glass block that admits borrowed light from the skylit student gallery to the studios opening off it to the north is echoed on the south wall in narrow glass-block panels framing diagonal vestibules, which stretch ceiling-high at the entrances to the principal lecture room and the exhibit gallery (photo lower right).



David Crosby





Opening from the Roe Art Building's lively student gallery, and sharing the light and sparkle of its glass-masonry panels set in deep-hued frames, are the studios that form the facility's raison d'être. Already generous in size, the flexible workmanlike ateliers equipped for ceramics (above), sculpture, painting, and design are made still more expansive by extension to the rear courtyard and outbuildings and by room-wide mezzanine lofts that serve as studios for advanced students, reached via ships ladders with concealed storage beneath. The 25-foot-high ceiling also permits the insertion of a band of clerestories atop the wall fronting the skylit passage to supplement light from the big square openings on the north wall. In addition to the student workrooms, the building includes smaller private studios with lofts, en suite with faculty offices.

*Thomas A. Roe Art Building
Furman University
Greenville, South Carolina*

Architects:

*Perry Dean Rogers & Partners—
Charles F. Rogers, principal-in-
charge, in collaboration with Steven
M. Foote, Robert C. Dean, Gabriel
Yaari, David Storeygard, and Lloyd
Dyson*

Engineers:

The Piedmont Group

Landscape architects:

*Umberto Innocenti-Richard K.
Webel*

General contractor:

Argo Construction Company, Inc.



Light and art: Three exhibitions at the National Gallery of Art

Lighting design is an art supported by a continually improving technology. Demonstrating both the art and technique, the masterfully lit gallery installations shown herein were a part of three temporary exhibitions recently mounted in the East Wing of the National Gallery of Art. Collectively, the galleries illustrate a wide range of lighting dynamics that convey mood while giving sharp visual access to artworks. The range of effects owes something to recently developed electrical lighting equipment which in terms of reduced size, ability to focus, and color-rendering capabilities surpasses anything formerly available. Accounting for the art in the lighting is more difficult. One factor contributing to the esthetic achievement of these three exhibitions and indeed all of the presentations at the National Gallery is the dedicated collaboration between director, curators, and the designers for each show. Working together, they form a common understanding and attitude toward individual artworks and groupings which manifests itself in astute, evocative presentations. As a result, art at the National Gallery is made more accessible than it is at many other institutions.

A key member of the team is the lighting designer, Gordon Anson, whose concerns for the visual experience, and keen eye, are contributions that run like a constant thread through all the exhibitions. Anson bases his design on four criteria: objects should be lit to the fullest; exhibition spaces should be lit to convey the feeling or idea of the exhibition; lighting should be done with the visitor in mind; finally, lighting should be done with the art object's condition in mind—a conservation consideration.

In lighting museum objects to their fullest, Anson matches the light of the lamp to the color spectrum represented in the artwork. He then balances the color characteristics of the room's walls, ceilings, and ambient light to the color in the artwork. If the artwork is a painting or drawing in a heavy frame, care is taken to minimize the strength of shadows cast on the picture from the frame by increasing the number of lamps, decreasing the strength of each, and diversifying their position. Sculptural objects are lit to render texture and shape. Steeply raked light accentuates rough texture. Light that approaches at an angle perpendicular to the lit surface flattens it, enhancing smoothness. With three-dimensional objects, Anson controls the depth and position of shadows within the piece, and the shadows that the piece casts on pedestals, walls, and floors (photos, pages 146 and 147).

In lighting an exhibition space, i.e. the ambient light in a gallery, Anson distinguishes between permanent installations and temporary. In a permanent gallery, ambient light levels are kept high to convey a

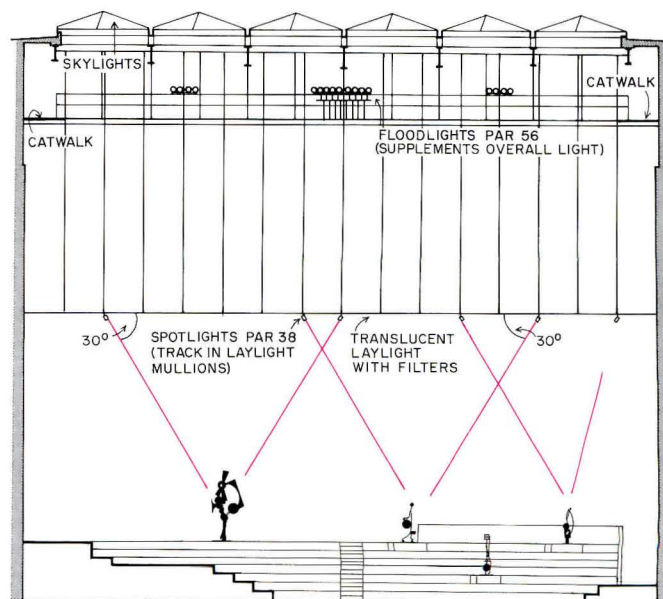
sense of stability. And, higher light levels encourage museum visitors to wander, discovering art on their own. In a temporary installation, the opposite is often intended: visitors are subtly directed from one object to another with a pathway of light, or by highlighting some works over others to effect visual stepping stones.

Anson also uses ambient lighting to reinforce the expressive intentions behind the artworks; or to account for psychological factors within the viewer. For example, in lighting an exhibition of old masters' paintings, Anson will use a low light level in the red/orange range by using standard voltage Par 38 lamps. Keeping the room in low, warm light reinforces people's notions of the past—visitors would feel less comfortable with the art if the setting for old masters was analogous to the bright, highly lit spaces used for contemporary art. At the National Gallery there are opportunities to incorporate natural light into the ambient lighting scheme, leading to wonderful effects (pages 142 and 143). The problem, of course, is what happens at night. We have illustrated two distinct possibilities: the David Smith Gallery (section below, photo at right) is rigged with artificial light above the laylights to simulate skylight during the night. For Rodin's marbles (page 147), a quiet, moonlit environment was simulated after sunset in the East Wing's central atrium.

While using light to create an enjoyable ambience in each room, Anson is also concerned with the pacing of light from room to room. The variety and change achieved by stepping ambient light levels up and down in a dynamic pattern reduces visitor boredom and fatigue. (Incidentally, pacing is a useful device for seamlessly integrating rooms designed with high light levels with those whose light levels must be kept very low to conserve light-sensitive artwork.) To ensure that lighting transitions are smooth and properly registered, Anson walks backward through each exhibition before it opens, and, at the same time, double-checks that there are no problems with glare, reflections on glass or acrylic, lack of full illumination on objects, or overly strong shadows that might stand between the visitor and the art.

The overall esthetic effects of the National Gallery's lighting design, along with conservation and visibility requirements, are realized with a modest vocabulary of equipment: one type of track; a single source for fixtures; and two basic light sources: parabolic aluminized reflectors (PAR lamps); and dichroic reflector, quartz-halogen lamps (specifically, MR-16's). Filtering is done mechanically with screens, clear plastics, or fabric. Thus, with a minimum of means comes a maximum effect—an accomplishment implicit when inspired technology supports an art.

Darl Rastorfer





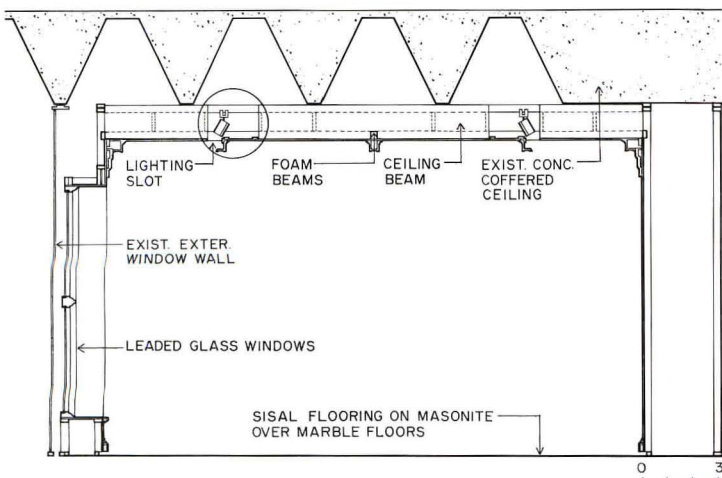
William Schaeffer/National Gallery of Art

In the 1960's, the American artist, David Smith, created the sculptures displayed in the gallery pictured above. Made during an arts festival in Italy, the pieces were originally exhibited in a Roman amphitheater. Wishing to recreate the sense of the sculptures' first public appearance, the exhibition designers fashioned a naturally lit, stepped and tiered gallery in the newly opened East Wing of the National Gallery of Art. The new wing's architect, I. M. Pei, had designed the natural lighting system so that the laylight, i.e., the inner membrane of glass, could be raised and lowered on threaded bolts (section at left). For this installation, the laylights were set high in the room. In addition to the daylight, each piece of sculpture is illuminated with at least three lamps, typically two PAR 36 quartz, 250 watt spots from the front, and one from the back. The "wagon" in

the middle of the gallery is lit with eight such spotlights. These lamps have a high kelvin temperature (in the range of 360 deg), which gives a wide spectrum of light capable of rendering the delicate coloration of the metal sculptures. The fixtures were plugged into tracks integral to the laylight frames—another feature designed by the Pei office. The spots were placed at an angle to the artwork to best articulate their subtly composed texture. Care was taken so that no shadows were cast on the walls. At night, PAR 56 medium floods light the space between laylight and skylight, simulating the ambient light of day.

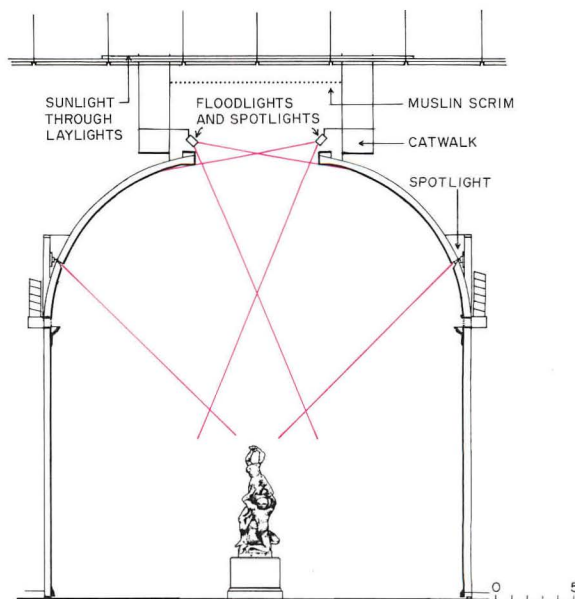
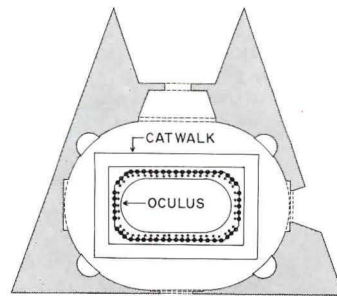
The Jacobean long gallery (below), and the galleries shown on the facing page, were among the rooms in the *Treasure Houses of Britain* exhibition held earlier this year. Orchestrated as a sequence of evocative period rooms, the Jacobean gallery was built within a long space that offered natural light from a side wall. However, lamplight, originating at the ceiling beams, provided the primary source

(section below), used to both wash the walls and spotlight the paintings. Ambient light was intentionally pulled away from the central axis of the room to accentuate the sense of length. For the same reason, light levels were reduced at the end of the room, where a painting by Van Dyck and two bronze busts were spotlit proportionally higher than other works in the gallery.



The Lord Burlington Palladian room (below) connects to a gallery named the Souvenirs of Italy, and beyond to the Sculpture Rotunda. Here, natural light, filtered from above, is combined with artificial light to create an appropriate ambience. In the Palladian room, a scrim was stretched above the cornice to mask the geometry of the laylights. The lighting tracks lie just beneath the scrim. In the tall

Sculpture Rotunda, a scrim was stretched above the oculus of the oval dome (section below). At night, lights above the laylight simulate daylight. Fixtures around the lip of the oculus wash the dome and walls with light. Others light artworks. The centerpiece of the room, Samson and the Philistines, is lit through small holes circling above the cornice. Light from this angle cuts down on shadows within the sculpture.

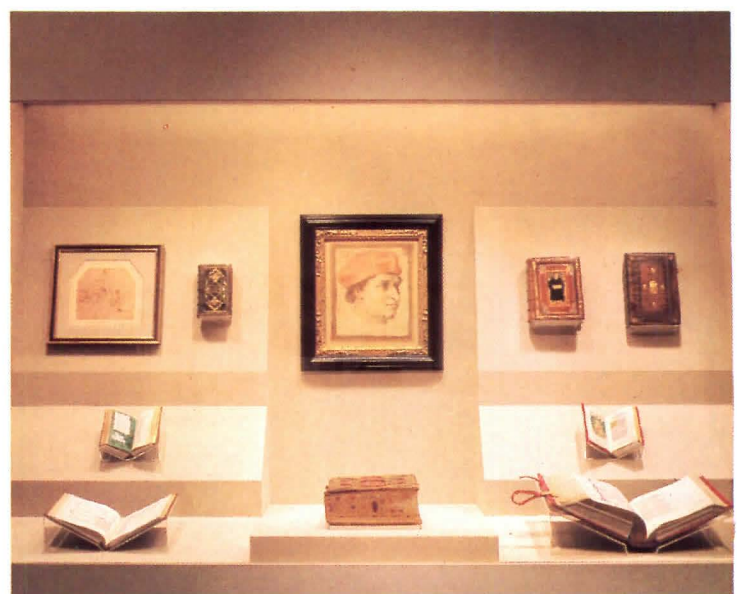
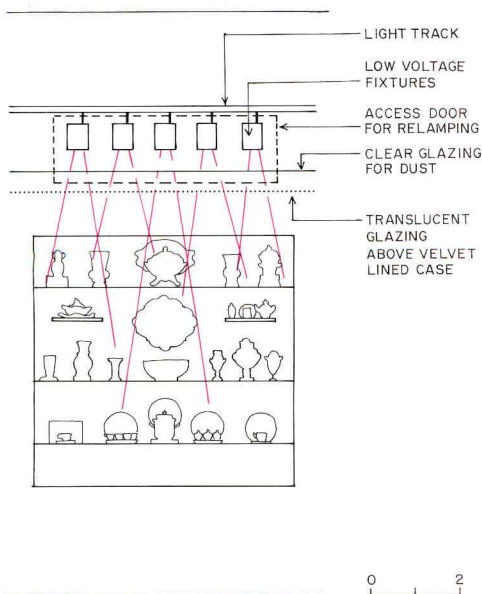


The case for porcelains, the corner chimney mantle, and the bookcase (below), as well as the trophy case (facing page), all from the Treasure House exhibition, use MR-16 lamps as their primary light source. These lamps are very small and therefore easily hidden; most of the heat they generate is discharged from the back of the lamp, reducing the heat levels within the cases (a great benefit from a conservation standpoint); their

color is well-balanced; and, relamping is easy because they are removed and inserted without screwing. Because the porcelain objects are displayed on glass shelves (below left photo and drawing), the objects had to be stacked so as not to cast shadows on each other. Lights are located in the ceiling plane of the case and focused toward the center of the display. Glare on the glass barrier is avoided by controlling the

angle of the light to the plane of the glass. Avoiding glare required a more complex technique for the corner mantelpiece (below, right). Here, a sheet of clear acrylic extends from wall to wall and floor to ceiling. The primary light source is a small slot in the ceiling at the front of the case. A shield was put on each of the approximately 50 lights in the gallery space that would otherwise have reflected off the acrylic surface.

The shielding rendered the acrylic sheet so invisible that, unfortunately, a number of visitors walked into it. The organic material—paper and leather—in the bookcase (bottom left) demanded low light levels for conservation purposes. Lit from the top of the case, an acrylic filter beneath the lights was used to reduce intensity. Also, screens were placed on each fixture for the same reason.

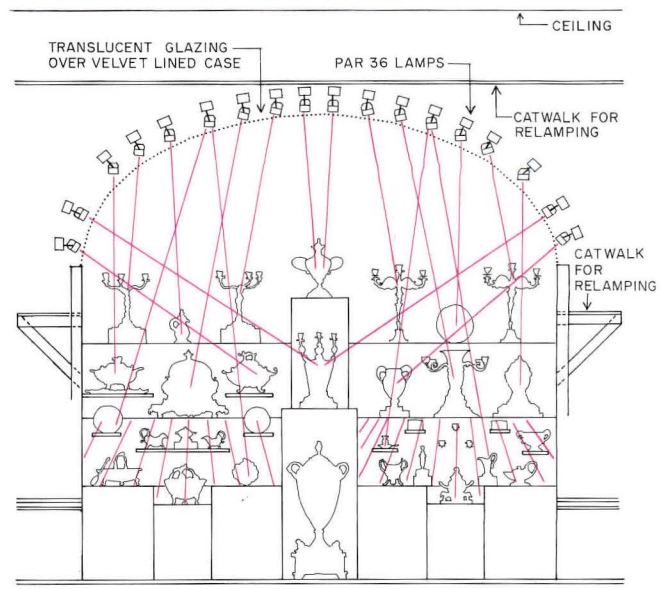


Actually, three spotlight levels are represented in the case (the open books receive the least), but the balance is so good that all objects appear to be lit evenly. The equestrian figure (below left) was the centerpiece in the first gallery of the Treasure House exhibition. Made during the Renaissance, the polychrome finish is highly sensitive to decomposition under strong light. It was, however, to be the visual focal

point of the gallery. To make it stand out, despite the dim spotlighting, the ambient light around it was held very low. The equestrian was lit with low-voltage PAR 36 lamps from a variety of angles so that all surfaces were visible. The "Sporting Life Case" (photo below right and drawing), replicates a display case for trophies typical in English country houses. The metalware is placed on pedestals covered with

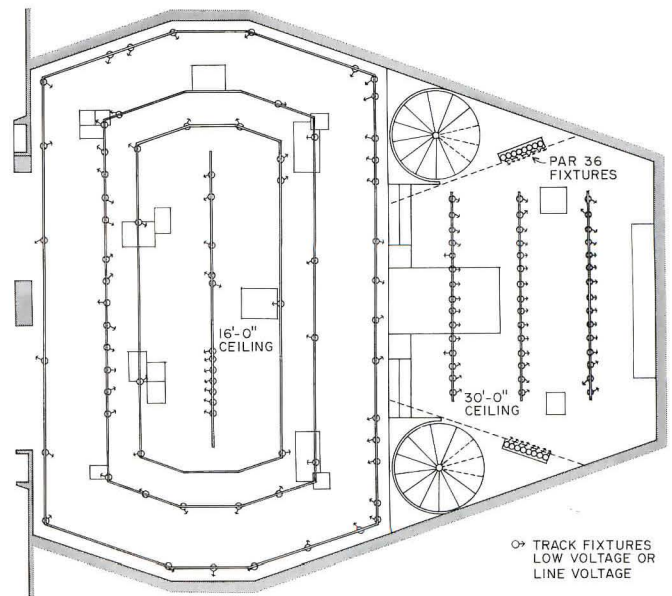
dark velvet. In the display, the ceiling of the case was painted to match the fabric. Each object is individually lit from the top with an MR-16. Several PAR 36 lamps outside the case give additional light to the objects farthest forward in the display. The finale for the Treasure Houses exhibition was a circa 1740 dolls' house (bottom left) with all its original pieces. Again, for conservation purposes, the light on

the house was kept low. Each object in the house was lit as an art object, with tiny automotive dome lights placed within the house giving off approximately one footcandle each. These lights could be dimmed. The two house facades were lit from the top of the case, and several PAR 36 lamps were placed outside the case to reinforce the light on foreground objects.



One of the largest shows ever mounted by the museum, the *Rodin Rediscovered* exhibition (below and facing page), charted the career of the sculptor, beginning with a salon setting and ending with his last works, the "Gates of Hell and Its Offspring" (photo and plan below). For dramatic effect, the ambient light in the room was kept low; the light on the bronze sculpture was high. Low-voltage PAR 36 lamps (the

exhibition was installed before MR-16's were available) and some 250 quartz spotlights were used because these lamps have the same color range as PAR 36's. Establishing well-balanced light was paramount to accurately rendering the rich greens and warm brassy colors of the bronzes' patina. Bronzes soak up light, and it took no less than 75 fixtures, placed above and at the sides, to fully light the gates.



Rodin's marbles were exhibited in the East Wing's central atrium, which presented a garden setting for the works. During the day, the figures were bathed in sunshine from the skylights above. At night (illustrated in the photo below), there was a greater play of light and shadow on the surfaces. Artificial lighting posed difficulties because the sources were mounted in the skylights 65 ft above the floor. The

pieces were double-lit so that if one lamp burnt out, relamping was unnecessary (the light level of each lamp was reduced from what it would have been had there been a single source). The trees were lit for night, as well as the sculptures, which made them appear to be in moonlight (precisely the effect Pei envisioned). Indeed, the pieces are all the more magnificent when set among soft, dappled light.



Three exhibitions at the National Gallery of Art Washington, D.C.

Director:

J. Carter Brown

Exhibition design:

Gaillard Ravenel, chief designer; Mark Leithauser, project designer; Elroy Quenroe, assistant designer for Rodin Rediscovered and David Smith exhibitions; John Zelenik assistant designer for the Treasure Houses of Britain exhibition

Lighting design:

Gordon Anson; John Olson,

assistant designer for the Treasure Houses of Britain exhibition

Master carpenter:

Floyd Everly

Master electrician:

James Spicknall

Curators:

E. A. Carmean (David Smith exhibition, June 1978-July 1985); Gervase Jackson-Stops (the Treasure Houses of Britain exhibition, November 1985-April 1986); Albert Elsen, Kirk Varnedoe, Ruth Butler (the Rodin Rediscovered exhibition, June 1981-May 1982)

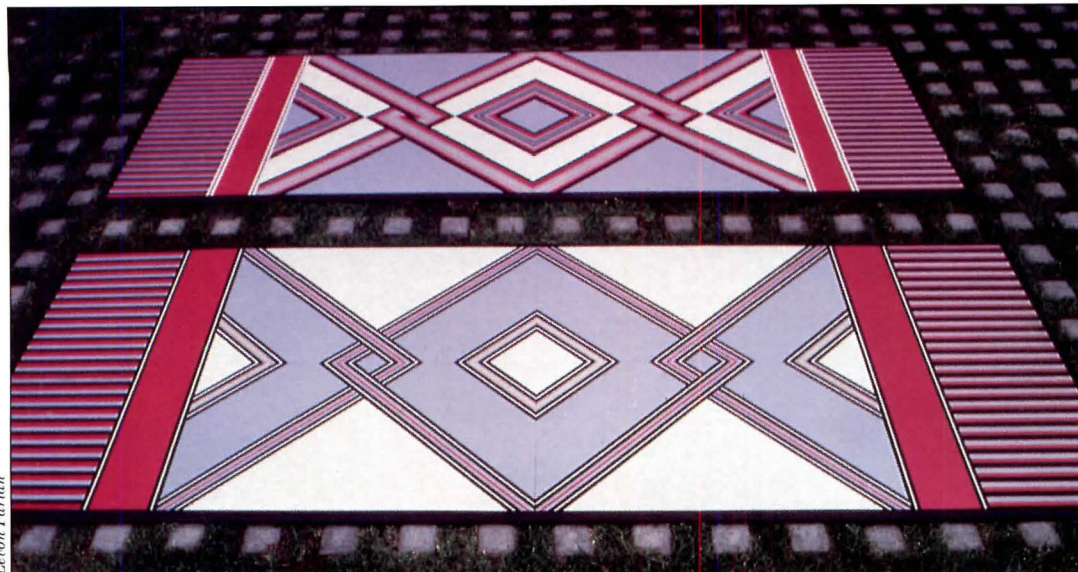


Ron Forth

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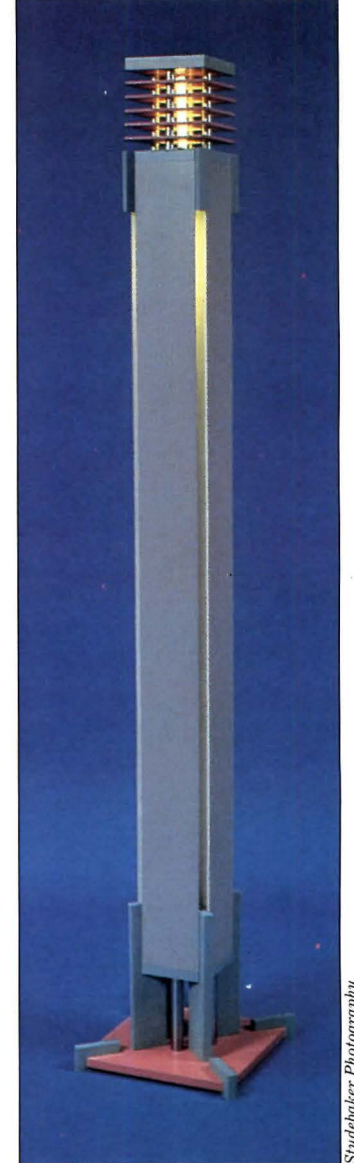


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Leron Purian

3



4

Studebaker Photography

Going beneath the surface

When Susan Grant Lewin of Formica Corporation invited a rather eclectic group of design professionals to take part in the *Surface and Ornament* design competition three years ago, she wasn't completely sure what direction the exhibit would ultimately take. The purpose of the competition ostensibly was to promote the design potential of the *Colorcore* line of high-pressure laminate surfacing material. It was of particular importance to Formica that the objects created accentuate several product characteristics, including the line's expanded palette of colors and the fact that the *Colorcore* line of products, unlike traditional high-pressure laminates, is said to maintain its color throughout and not just on the surface. The latter point, in turn, affords designers the luxury of

working without the seams and black edges that are characteristic of certain other surfacing materials. To this end, the *Surface and Ornament* designers (architects, graphic, furniture, and industrial designers) created an array of objects encompassing a variety of styles and architectural philosophies. The sampling of designs, shown above, represents several of the most recent creations. The *Sun Chairs*, designed by Charles Jencks (1), measure 39- by 24- by 19-in. each and feature *Colorcore* surface material and *Color-Tiers* edge stripes in the multicolored layering and routing of the fluted backs. Shiro Kuramata's *Table* (2) was designed using glass leg supports along with *Colorcore*. The *Eye Dazzler #1 and #2* "hard rugs," (3) designed by A2Z, were constructed using *Colorcore*, *Color-Tiers*, and traditional

Formica laminate and measure 36- by 96-in. each. Finally, the vertical column of light in the *Floor Lamp* (4), designed by Robert McKerrow and Larry Mathies, draws attention to the inner core of *Colorcore* surfacing material. For three years the competition traveled to Paris, Milan, London, and Tokyo, and spawned several related competitions including, "Material Evidence: New Color Techniques in Handmade Furniture" and "Meeting of the Minds." In the end, *Surface and Ornament* seems to have touched on more than simple product characteristics. The competition gave architects and designers the opportunity to explore for themselves the increased design potential of once-familiar high-pressure laminates. Formica Corp., New York City.
Eileen Gabriele
Circle 300 on reader service card

1. Charles Jencks, *Sun Chairs*, 1985.
2. Shiro Kuramata, *Table*, 1985.
3. A2Z (Ries Niemi, Sheila Klein, Norman Millar), *Eye Dazzler #1 and #2*, 1986.
4. Robert McKerrow and Larry Mathies, *Floor Lamp*, 1986.

Cool

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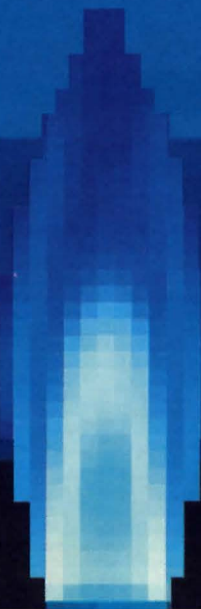
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one.

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This Chicago crossroads address means prestige. But it also means dirt, noise and energy expense.

Window replacement by Pella brings it all under control.

Marking the corner where the Chicago Loop meets the Magnificent Mile is an important triad of contemporaries: the Beaux Arts Chicago Tribune and Wrigley buildings and this art deco landmark. This tower, Holabird and Root's prototype for their Chicago Board of Trade building, has been a prestigious address since the roaring twenties. But by the eighties, the roaring and the grime inside came from traffic on Michigan Avenue. And energy costs had climbed through the roof.

The problem was 1287 ill-fitting original steel windows. To replace them, the building owners sought a supplier with a reputation for quality custom windows, energy efficient design and the ability to handle all aspects of the project. So they contracted with Pella.

A feat of planning

Replacing over 1200 windows in a single summer without disrupting the fully-occupied building was a major feat of planning and supervision. Pella custom-built the windows to fit over existing frames and installed them from indoors on all 33 floors, precisely as scheduled. The owners chose Pella Traditional Double-Hung (TD) and impressively scaled Large Double-Hung (LD) Windows as much for easy maintenance as for structural performance and historical accuracy. Windows pivot for easy washing from inside, eliminating the necessity for exterior windows hooks which were considered a safety hazard.

Improves interior environment

In addition to significantly reducing heating and air conditioning costs, the Pella TD and LD windows seal tightly (maximum air infiltration 0.15 cfm at 25 mph) to keep the interior

environment cleaner.

What's more, the owners were pleased at the considerable reduction of traffic din. One contributing factor is nearly an inch of insulating air space between the fixed glass pane and the removable double glazing panel. And, tucked safely in that air space, optional Pella Slimshade® blinds replace window treatments that forever needed repair and cleaning. One of seven glazing and shading options, Type E Slimshades offer impressive U and R values (U .23, R 4.35).

Custom clad colors, custom windows

Pella's low-maintenance, aluminum clad exterior can be finished in any color needed for historical accuracy or renovation. The baked enamel finish resists fading, chalking, chipping, peeling and other signs of age.

Pella provides custom or standard windows which meet requirements for historical accuracy and code demands. Your Pella distributor can tell you more. Look for Pella in the Yellow Pages under "Windows". Call Sweet's BUYLINE or see Sweet's General Building File. Or send the coupon below.

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Firm _____

Address _____

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Telephone _____

This coupon answered in 24 hours.

Mail to: Pella Windows and Doors, Commercial Division, Dept. T3116, 100 Main Street, Pella, IA 50219. Also available throughout Canada.

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Pella. The significant difference in windows and doors.

333 North Michigan Avenue, Chicago, IL
Owner: The Wirtz Realty Corporation

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In the stormy seas of today's insurance market, it's good to have a beacon of stability.

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Victor O.

Schinnerer

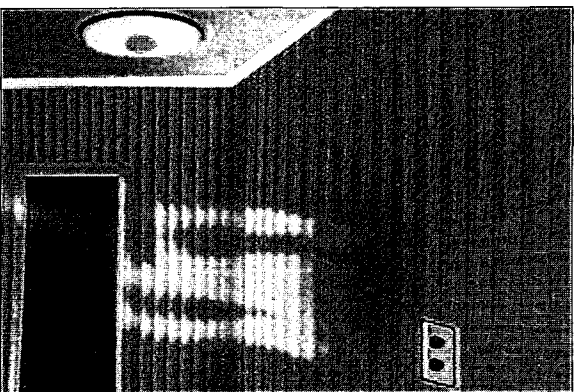
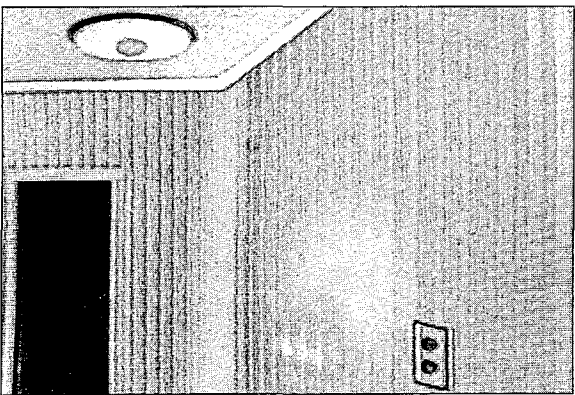
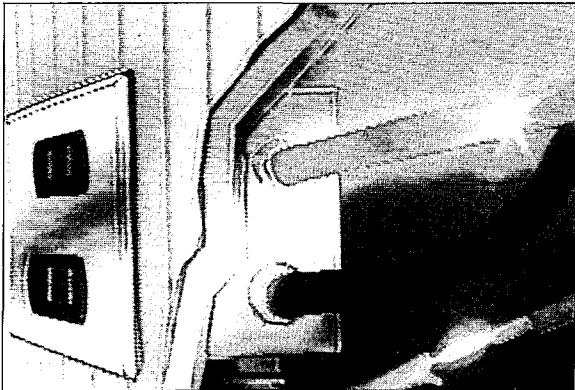
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Smoke-less signal
Property losses due to fire damage exceed \$6 billion annually and the United States ranks first among industrialized nations in fire-related deaths, according to the National Fire Protection Association. Prompted by the severity of the problem, BFGoodrich has developed the *Koroseal* line of wallcoverings, which features *Early Warning Effect*. According to the manufacturer, the wallcovering can detect a fire and alert concerned parties before either smoke or open flames appear, when it is installed in conjunction with ionization-type smoke detectors. (It's estimated that 85 percent of the smoke detectors used commercially and 70 percent of those used residentially are ionization-type.) The *Early Warning Effect* is made with a pigmented polyvinyl chloride, which is laminated to the fabric.

When the surface temperature of the wallcovering reaches approximately 300 deg Fahrenheit, it emits an odorless, colorless, and harmless vapor. This vapor will, in turn, interrupt the electrical current present in the detector and set off the alarm (animation above left). The *Early Warning Effect* system is able to spot a problem before smoke or flames are detectable because the 300-deg-trigger point is significantly below the ignition temperature of most common room materials. For example, newspaper will ignite at 445 deg, white pine shavings at 500 deg, and nylon fiber at 990 deg. On the other hand, the wallcovering will not be activated by what is referred to as "nuisance heat," unfocused or unmagnified light such as sunlight. According to Captain Daniel Gardiner, a member of the board of directors of the International Society of Fire Service

Instructors, "If your walls are 300 degrees, you've got a problem." Typical situations that will trigger the *Early Warning Effect* include electrical outlet overloads that heat wall surfaces, electrical fires in walls, fires in adjoining rooms and corridors, and flash fires that spread through the core of the building. Designed primarily for commercial applications such as corporate settings (above right), hotels, hospitals, and other health-care facilities, *Early Warning Effect* is available in more than 2,000 of the manufacturer's colors and patterns, with the exception of the *Tiffany Suede* collection. The wallcovering may be specified in 54- or 27-in. widths for residential applications. According to the manufacturer, the wallcovering may be cleaned, Tedlar-coated, or ink-wiped without any loss in effectiveness. The manufacturer

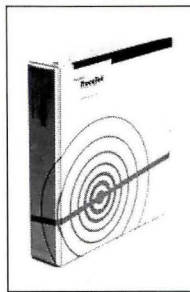
claims *Early Warning Effect* can give occupants additional time to escape and firefighters more time to respond to the fire, thereby reducing potential harm and damage. According to Gardiner, "This is a positive example of private industry dealing with the fire and safety problem." BFGoodrich Co., Akron, Ohio.
Eileen Gabriele
Circle 301 on reader service card



Insulation system

A 12-page brochure features the manufacturer's *Thermafiber* line of fire-safety insulation products designed for fire and sound control in commercial and residential high-rise construction. Specification and product information is included, along with photographs of various installations. USG Acoustical Products Co., Chicago.

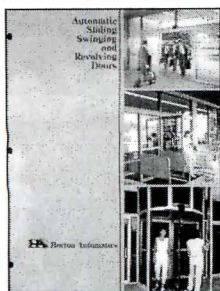
Circle 400 on reader service card



Leak-detection systems

The manufacturer's line of *TraceTek* leak-detection products is featured in a manual that includes technical and design information on leak sensing and locating systems. Also included is information on components, accessories, installation procedures, and specifications. Raychem Corp., Menlo Park, Calif.

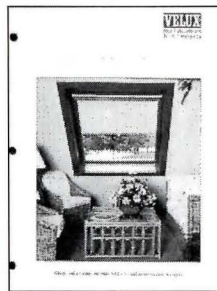
Circle 406 on reader service card



Automatic doors

Automatic sliding, swinging, and revolving doors are described in a 16-page color brochure. Detailed specifications, dimensional diagrams, and construction information are included in the brochure, in addition to product descriptions and photographs of the doors in use. Horton Automatics, Corpus Christi, Tex.

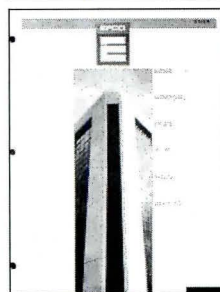
Circle 401 on reader service card



Sunscreening accessories

A 4-page color brochure describes the manufacturer's line of sunscreening devices, including awnings, roller, venetian, and siest blinds, designed for roof windows and skylights. The brochure includes product descriptions, photographs, and ordering information. Velux-America, Inc., Greenwood, S. C.

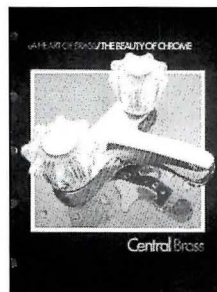
Circle 407 on reader service card



Windows

A 16-page color booklet reviews several of the manufacturer's series of windows. Each series is described in terms of air infiltration, water resistance, and available options. A selection chart with window type, thermal break, frame depth, and maximum window and vent size is also featured. EFCO Corp., Monett, Mo.

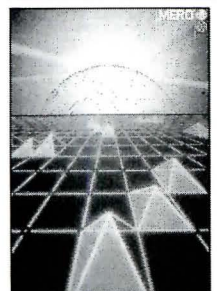
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Faucets

An 8-page color brochure features 27 of the manufacturer's kitchen, lavatory, utility, and bath and shower faucets. Product photographs are included, along with a description of the manufacturer's production philosophy. Central Brass Manufacturing Co., Cleveland.

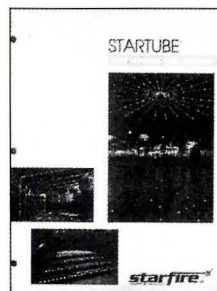
Circle 408 on reader service card



Space frames

A 10-page color brochure features the manufacturer's space frame systems. The literature includes photographs of more than 24 installations, along with detailed diagrams and descriptions of the various systems available. MERO Corp. USA, Hawthorne, N. Y.

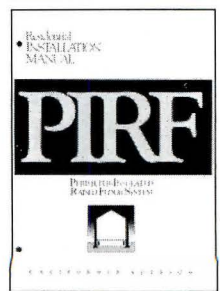
Circle 403 on reader service card



Tube lighting

The manufacturer's *Startube* low-voltage tube lighting is featured in an 8-page color brochure. Product descriptions of mounting hardware, single- and four-circuit connectors, transformers, dimmers, and controllers are included in the brochure, along with detailed ordering information. Starfire Lighting, Inc., Jersey City, N. J.

Circle 409 on reader service card



Floor system

An 8-page manual features the manufacturer's *Perimeter-Insulated Raised Floor System*. The manual includes descriptions of the system and reviews installation requirements, site conditions, vapor retarders, ventilation, several types of insulation, and grading and drainage. Western Wood Products Association, Portland, Ore.

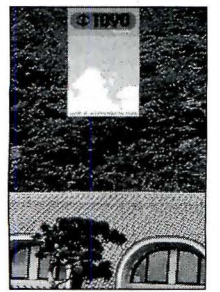
Circle 404 on reader service card



Single-ply roofing

A 6-page brochure features the manufacturer's urethane single-ply sheet roofing system. The brochure includes a cross-sectional rendering of the system with an accompanying description of each component. Also included are charts describing physical properties and design advantages. Futura Coatings, Inc., Hazelwood, Mo.

Circle 410 on reader service card



Roofing tiles

Japanese ceramic roofing tiles, available in a variety of styles and a range of colors and patterns, are featured in an 8-page color brochure. The literature includes product characteristics, dimensional data, and photographs of various applications. Toyo Roofing Tile Industry Co., Ltd., Mountainside, N. J.

Circle 405 on reader service card



Tile

A 28-page color catalog features the manufacturer's complete line of tile including three new series that were recently introduced. *Seascapes*, a fumé tile with deco inserts, and *Bravo*, a 3/8-in. quarry tile are among the styles included in the brochure, along with detailed specifications. Mid-State Tile Co., Lexington, N. C.

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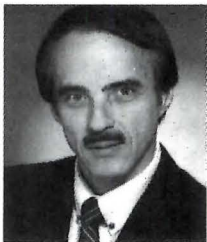
The assignment: Remodel a family den to create an Eighties-right multimedia entertainment center for an active family of four.

The media: WILSONART Brand Decorative Metals and Color Quest™ Decorative Laminates.

The designer: Gerald Tomlin, ASID, I.E.S., Dallas, Texas.

Tomlin comments: "WILSONART Polished Natural Aluminum served this space well, minimizing the bulk of storage units and adding grace instead of heaviness.

"I wanted to create a sleek, but comfortable feeling throughout this space. The family — a businessman, his athletic wife, a college-age son and a high school boy — needed a room that could go easily from family workout center to business client conference area to social center for the



Gerald Tomlin

Gerald Tomlin, ASID, I.E.S.
Dallas, Texas

boys, without changes. WILSONART gave me the solution."

Throughout the room, WILSONART Polished Natural Aluminum adds light play, from the recessed bases of couch and cocktail table to half columns on shelves. The metal provides a shimmering aura for wall-hung bar and TV-computer desk units.

To continue the neutral color scheme and easy maintenance of Tomlin's plan, he chose to line the cabinet interiors in WILSONART Dove Grey decorative laminate.

The results: Very pleased clients, with a room which now supports a purely Eighties family lifestyle.

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If you have a project you think belongs in this space, please call on us.

For product samples, literature and technical information, call toll-free (within the continental USA):

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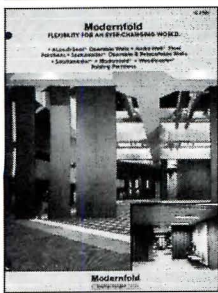
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BRAND DECORATIVE LAMINATE

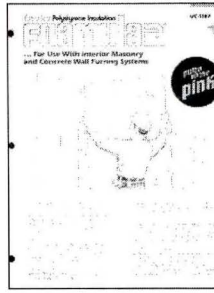
Bringing new solutions to the surface™

©1986, Ralph Wilson Plastics Co., Temple, TX





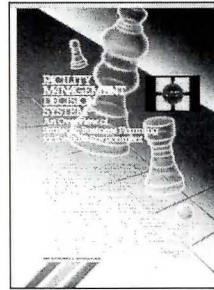
Operable walls
The manufacturer's full line of operable walls and folding partitions is featured in a 24-page color brochure. The literature includes general architectural specifications for each series of walls, along with detailed diagrams and general product descriptions. Modernfold Doors, Inc., Englewood, N. J.
Circle 412 on reader service card



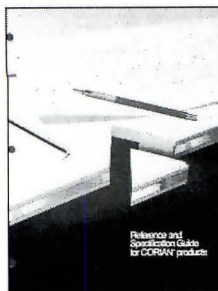
Insulation
A 4-page booklet features *Foamular* extruded polystyrene insulation products, specifically with regard to masonry and concrete wall furring. The brochure includes architectural specifications, a chart of physical properties, and a cutaway diagram of a typical application. UC Industries, Inc., Parsippany, N. J.
Circle 418 on reader service card



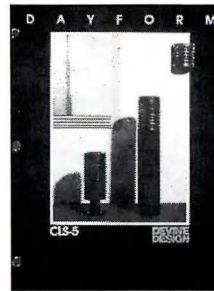
Flowmeters
An 8-page color booklet reviews the manufacturer's line of flowmeters, divided into six categories based on positive displacement, momentum, fluid properties, true mass and inferential. Examples of recent applications, in a problem/solution format, are also included. EMCO Engineering Measurements Co., Longmont, Colo.
Circle 413 on reader service card



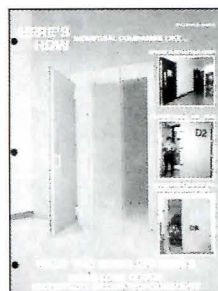
Software
The manufacturer's computer-aided facility management (CAFM) and facility management decision system (FMDS) software systems are highlighted in a 4-page brochure. The literature describes individual components, support modules, and several optional systems. McDonnell Douglas, St. Louis, Mo.
Circle 419 on reader service card



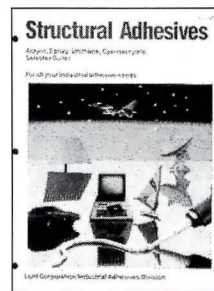
Surface material
The manufacturer's residential and commercial surface material is reviewed in a 24-page color brochure. The literature features standard sheet and shaped products including vanity tops and bowls. Technical data, drawings, and specification information are also featured. Corian Building Products Du Pont Co., Wilmington, Del.
Circle 414 on reader service card



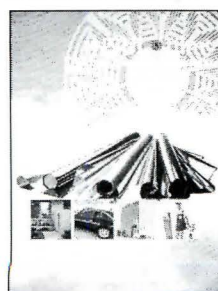
Landscape lighting
The manufacturer's *Companion Landscape Systems* of landscape lighting are featured in a 16-page color catalog. The catalog includes dimensional information, descriptions of available options, photographs of the systems in place, specifications, and ordering information. Devine, Kansas City, Mo.
Circle 420 on reader service card



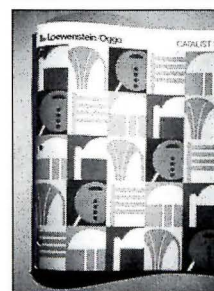
Acoustical doors
A 4-page bulletin features the manufacturer's *Noise-Lock* acoustical doors and technically describes three industrial applications. The bulletin highlights single- and double-leaf models that may be custom-tailored to meet specific design requirements. Industrial Acoustics Co., Bronx, N. Y.
Circle 415 on reader service card



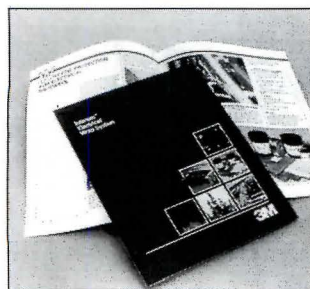
Industrial adhesives
Structural adhesives for products such as aluminum, steel, plastics, rubber, wood, and rigid and flexible foams are described in an information kit that contains selector guides and technical bulletins. The kit highlights product features and production data and includes photographs of application ideas. Lord Corp., Erie, Pa.
Circle 421 on reader service card



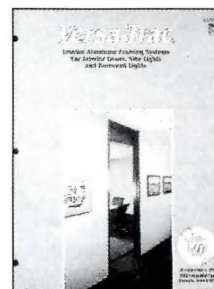
Window insulation
A 6-page color brochure highlights the *INSUL film* line of thermal window insulation products. The literature describes five different series designed to meet a variety of requirements. A product solution chart is also included, along with definitions of product variables. Gila River Products, Inc., Chandler, Ariz.
Circle 416 on reader service card



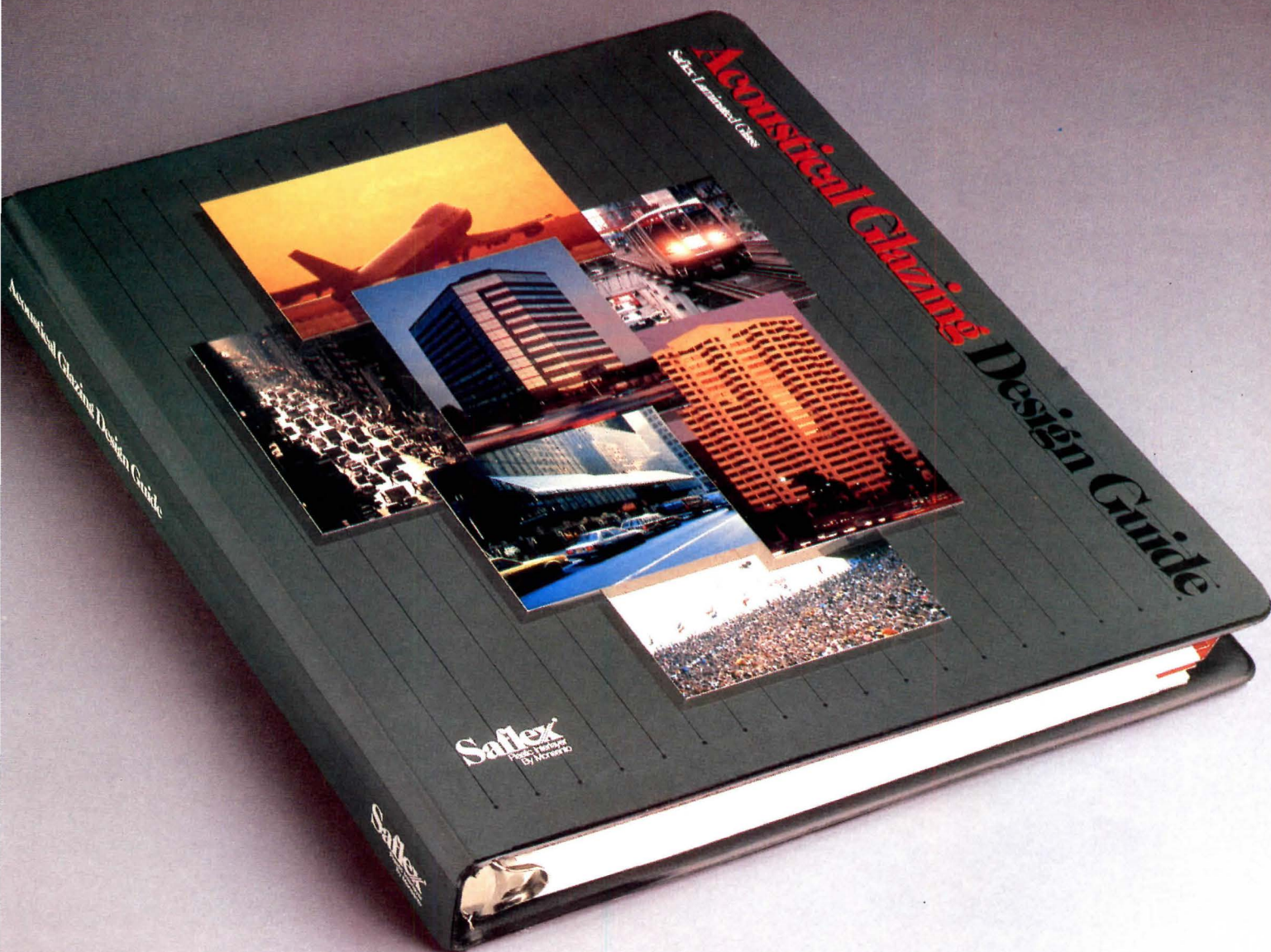
Contract furniture
A 60-page catalog entitled *Catalis 15* features the manufacturer's full line of contract seating and tables. The catalog is divided into 12 categories such as contemporary and traditional wood, bentwoods, wood and metal stools, metal dining, office, soft seating, tables, and outdoor. Loewenstein/Oggo, Pompano Beach, Fla.
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Electrical wrap system
The *Interam* electrical wrap system is featured in a 4-page color brochure. The literature includes a description of how the system works and is applied, economical implications, and a listing of product benefits. A cutaway diagram of the system and a chart containing fire test results are also included. 3M, St. Paul, Minn.
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Framing systems
The manufacturer's *Versa-Trac* interior aluminum framing system for interior doors, side lights, and borrowed lights are reviewed in a 4-page brochure. The literature includes descriptions of three systems, installation options, components, recommended uses, and available finishes. VT Industries, Inc., Houston, Tex.
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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 92-95
McDonald's Corp. Training Center
Lohan Associates
Pages 92-93—Railings: custom by architects, fabricated by Johnson Mier. Walkway roofing: Carlisle EPDM roofing membrane. Fascia and windows: Custom by architects, fabricated by Illinois Bronze Works. Double glazing: PPG (Solex). Masonry: Belden Brick Co. Cut limestone: Indiana Limestone. Lannon stone: Halquist Stone Co. Georgia marble sculpture: Robert Winslow.
Page 94—Tan leather upholstered seating: Brunati. Rug: Edward Fields. Stone flooring: Halquist Stone Co. Perimeter heaters: Custom Enclosures. Ceilings (throughout): Ventwood Wood Ceilings, custom by architect, installed by Fisher Albright Masters. Recessed lighting: Edison Price. Wall covering: Boris Kröll.
Page 95—(left) Skylight framing: custom by architect, fabricated by Super Sky Products. Glazing: PPG (Solex laminated). Carpeting: Edward Fields. Files and desks: custom by architects, fabricated by Woodwork Corp. of America. (right) Carpeting: Harbinger. Interior brick: Belden Brick. Seating: custom by architects, fabricated by Interior Crafts. Recessed lighting: Edison Price. Interior wood doors: Bedard Morencey. Hardware: Yale Locks.

Pages 96-97
Two Mellon Bank Center
Burt Hill Kosar Rittlemann Associates
Page 97—(lower right) Seating and upholstery: American Seating. Aluminum exterior windows: Traco. Decorative stencils: Patrinis Painting & Construction Co. (left) Skylights: SuperSky Products. Interior wood doors: Eggers. Marble flooring: Cost Corp. (upper right) Tub chair: Patterson Furniture Co. Upholstery: Brickel Associates Inc. Chairs, upholstery and fabric wallcovering: Steelcase Inc. Ceiling tile: Armstrong (Sanserra). Projection equipment: Chujko Brothers Inc. Vinyl wallcovering: Genon.

Pages 98-101
Las Colinas Inn and Conference Center
Harwood K. Smith & Partners, Inc.
Pages 98-99—Brick: Henderson Clay Products. Curtain walls, tinted and other glazing: PPG, fabricated by Universal Glass. Masonry units: TXI. White oak doors: Sefina Industries, Ltd.
Pages 100-101—Entrance glass and bronze-finish doors: custom by architects, fabricated by Universal Glass. Marble: Skinner Marble and Tile. Custom desks, tables and architectural woodwork (throughout): custom by architects, fabricated by Sefina Industries, Ltd. Sprinkler heads: Grinnell. Special wall lights and chandelier: custom by Wilson & Assoc., fabricated by Bollinger. Recessed lighting: Omega. Wall covering: Decoustics. Paints: Benjamin Moore.

Pages 102-105
Herman Miller Conference Center
Nagle, Hartray & Associates, Ltd.
Pages 104-105—Wood and glass doors: custom by Herman Miller Design. Casement wood windows: Pella. Banquette: Herman Miller (Chadwick modular seating). Upholstery: Herman Miller (Polyknit). Paints: Glidden; Pratt & Lambert. Carpeting: Suncraft Mills.

Pages 106-117
Jacob K. Javits Convention Center
I. M. Pei & Partners
Pages 106-107—Curtain walls: Cupples. Skylights: Nab/Fisher. Reflective and heat strengthened glazing: PPG. Precast architectural concrete: Kenvil Newcrete. Elastomeric roofing; flashings: American HydroTech. Entrance: Flour City.
Pages 112-117—Resilient flooring: Endura. Elevators: Dover. Escalators: Otis Elevator Co. Carpeting: Milliken. Terrazzo: Magnan/

Port Morris. Concrete flooring treatment: AntiHydro Co. (S/Q Black). Interior lighting: Omega; McPhilben; Lightolier. Ceiling tile: Armstrong. Paints and stains: Con-Lux Coatings; TNEMEC; U. S. Paint. Special coatings: Surface Protection Industries (Zolatone).

Pages 132-138
Roe Art Center
Perry Dean Rogers & Partners, Architects
Pages 132-134—Windows: Hope's Architectural Products. Brick: Old Carolina Brick Co. (#700 Williamsburg). Glass block: PPG Mfg. (Decora and Clear). Entrance Door: Pressed Metal. Panic hardware: Von Duprin, Inc. Pulls: Hewi. Hinges: Stanley (CB Series). Canopy roof/pediment: Indiana Limestone, installed by John O'Rourke. Cypress rolling doors (interior and exterior): Perryman Wood Products. Sliding hardware: Richards Wilcox. Lead coated copper gutters and

leaders: Pickens Roofing Co. Roofing: Carlisle Sure-Seal rubber membrane. **Pages 136-137**—Paints: Glidden. Corrugated roofing: Peterson Aluminum Standing Seam. Industrial light fixtures: Keystone Lighting Corp. Carpeting: Bigelow. Display cases: Binswanger Glass Co. **Page 138**—Work tables: by owner. Skylights: Auburn Plastics.

Pages 140-147
Three Exhibitions
National Gallery of Art
Lighting fixtures: Halo. Track: Edison Price. Lamps: General Electric; North American Philips; Sylvania.

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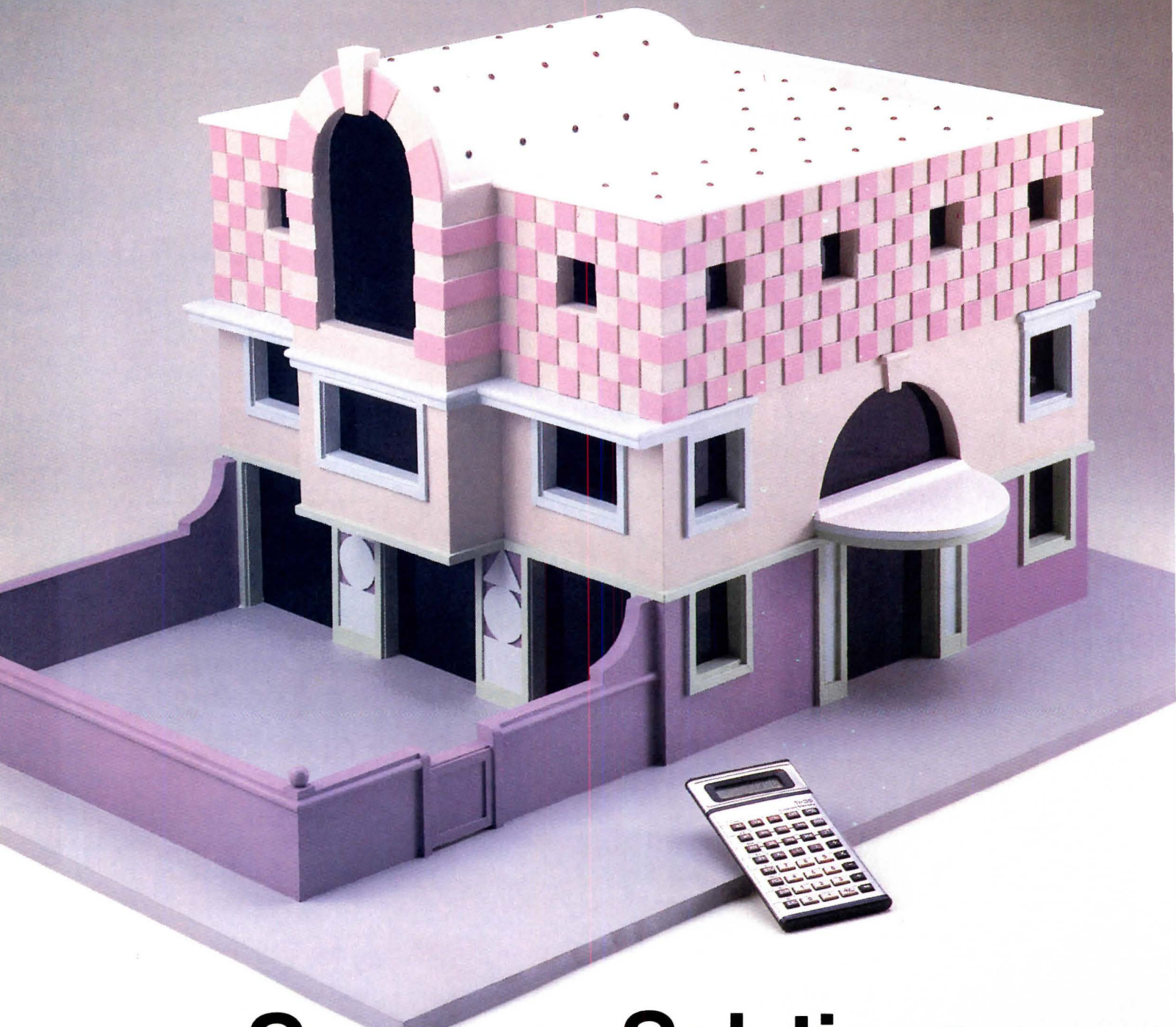
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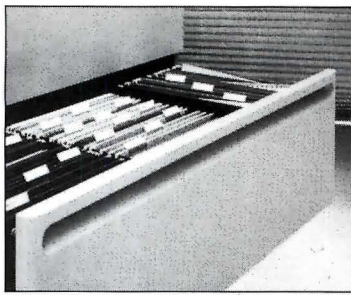
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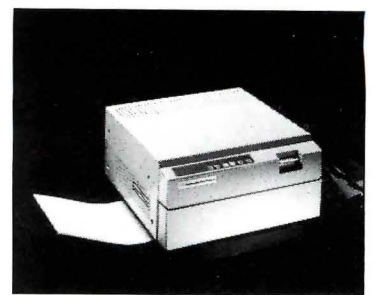
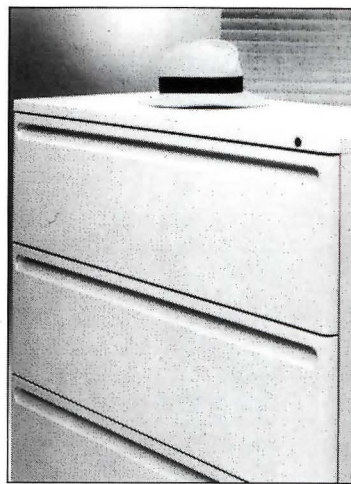
Workstation

The manufacturer's workstation, available in two models, is designed to accommodate personal computers with or without detachable keyboards. Both models feature a self-storing tambour locking door, a rear panel to provide proper ventilation and cable access, and an adjustable storage area. Wright Line, Inc., Worcester, Mass. Circle 302 on reader service card



Files

The manufacturer's freestanding lateral files feature injection-molded, painted styrene drawer fronts with rounded edges and seven color options. The files are available in 2-, 3-, and 4-drawer models and can accommodate side-to-side and front-to-back filing. Herman Miller, Inc., Zeeland, Mich. Circle 305 on reader service card



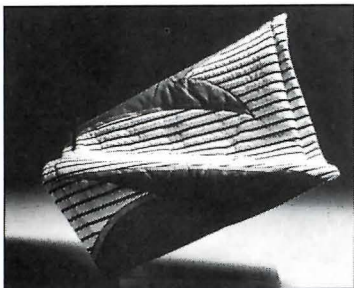
Printer

The PagePrinter 8 laser printer, designed for office applications, is based on an electrophotographic engine and features 300-by-300 dots per inch resolution. The unit can handle cut sheets, transparencies, and labels and incorporates a straight paper path said to reduce paper jamming. Centronics Data Computer Corp., Hudson, N. H. Circle 306 on reader service card Continued on page 163



Roof drain

The Sure-Seal roof drain comes in 4-, 6-, and 8-in. models and is constructed of PVC and ABS plastics. The raised-dome design is said to provide protection from clogging. Carlisle SynTec Systems, Carlisle, Pa. Circle 303 on reader service card



Chair

The Flying Carpet chair, designed by Simon Desanta with cover designed by Dorothy Hafner, is based on a rectangular design and is shaped to match the contour of the body. The chair is cantilevered from a cast-iron and aluminum base and has a tubular-steel-frame seat equipped with springs and a thinly padded cover. Casaform, New York City. Circle 304 on reader service card



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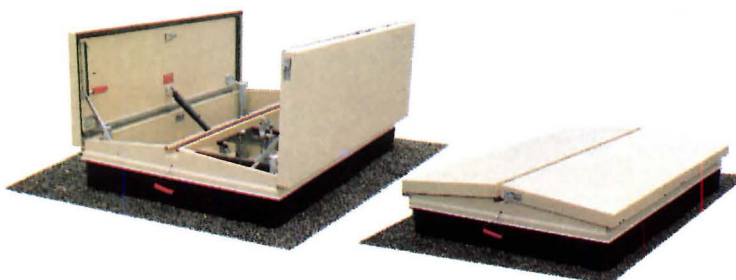
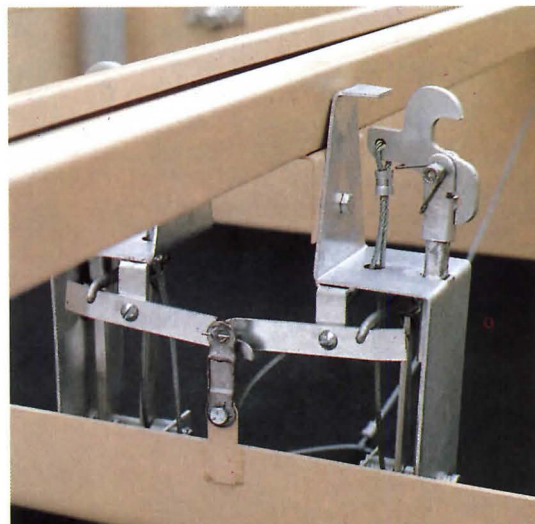
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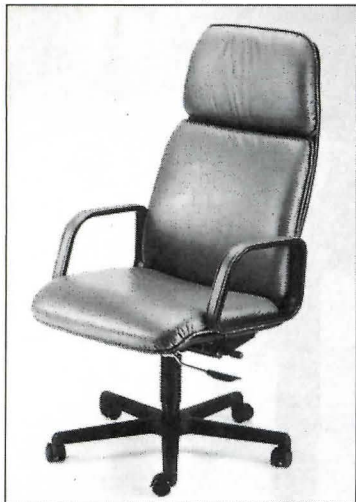
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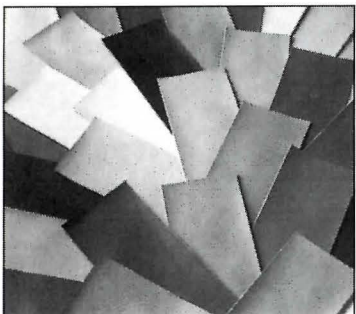
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Chair

The *Presidential Comfort Chair* features the manufacturer's Swivel Tilt Relaxer and Automatic Reflex Seat Front. When the underseat button is pressed, the seat and backrest can be tilted. The Automatic Reflex then adjusts the front portion of the chair to eliminate thigh tension and provide lumbar support. Charvoz-Carsen Corp., Fairfield, N. J.

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Fabrics

The manufacturer's *Spirit II Naugahyde* collection of vinyl-coated fabrics feature *BeautyGard* top coat which is said to offer improved surface abrasion resistance. The fabrics are available in 68 colors including, pastel neutrals, medium shades, jewel tones, and accent brights. Uniroyal, Inc., Mishawaka, Ind.

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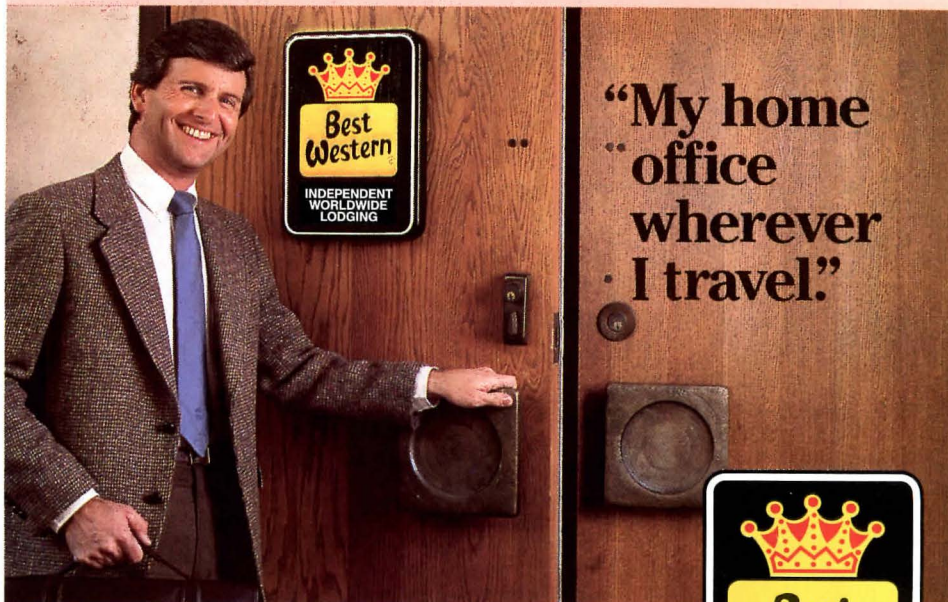


Fireplace surround facings

The manufacturer's pre-cut marble and slate fireplace surround facings are available in white marble with gray veining, dark gray marble with white veining, and black slate with natural cleft texture. The pre-cut sizes are said to eliminate special sizing and cutting. Majestic Co., Huntington, Ind.

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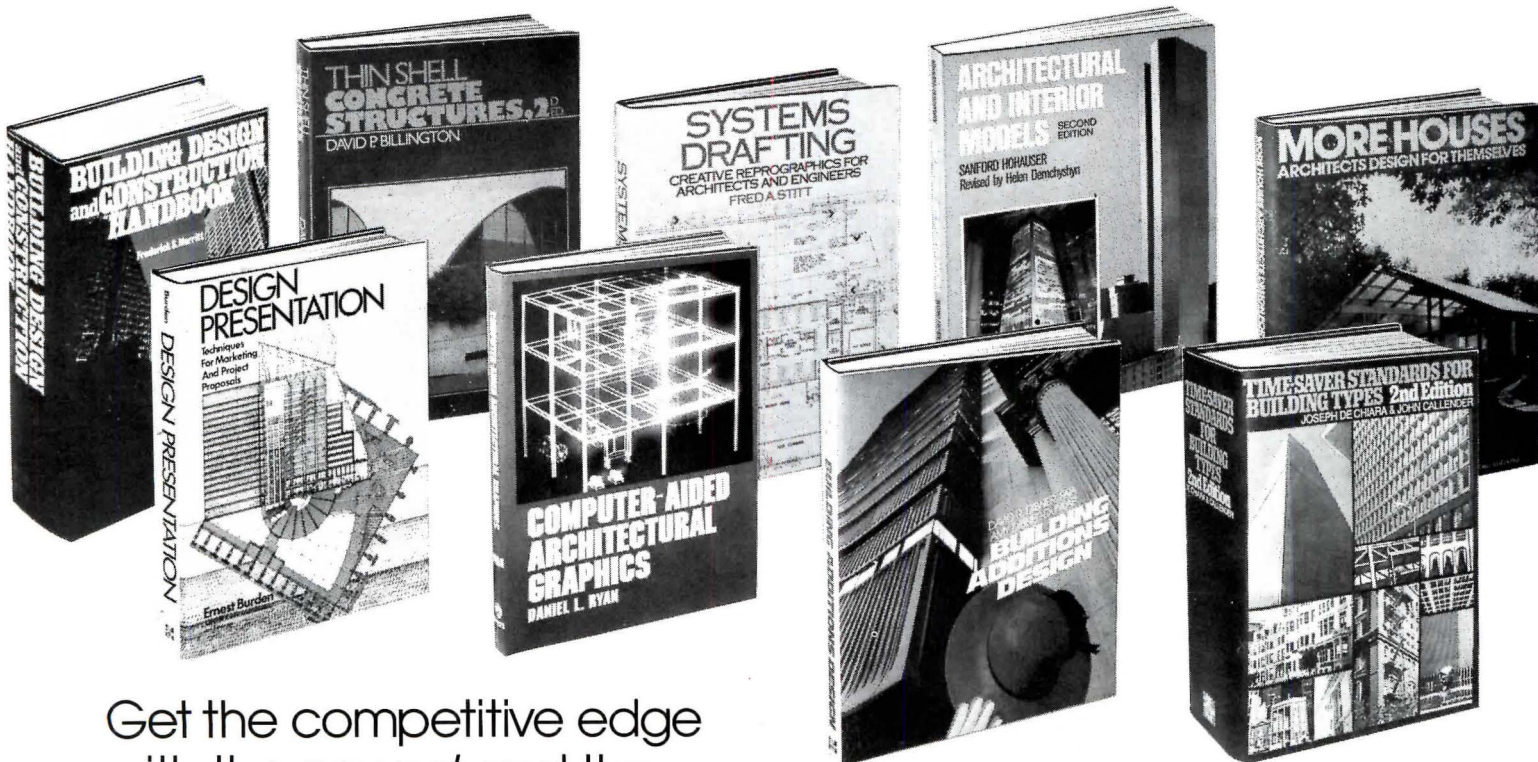
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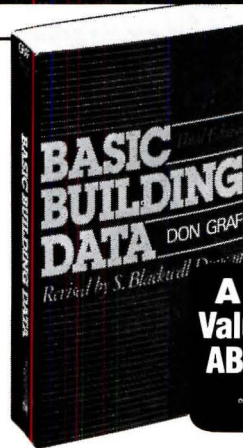
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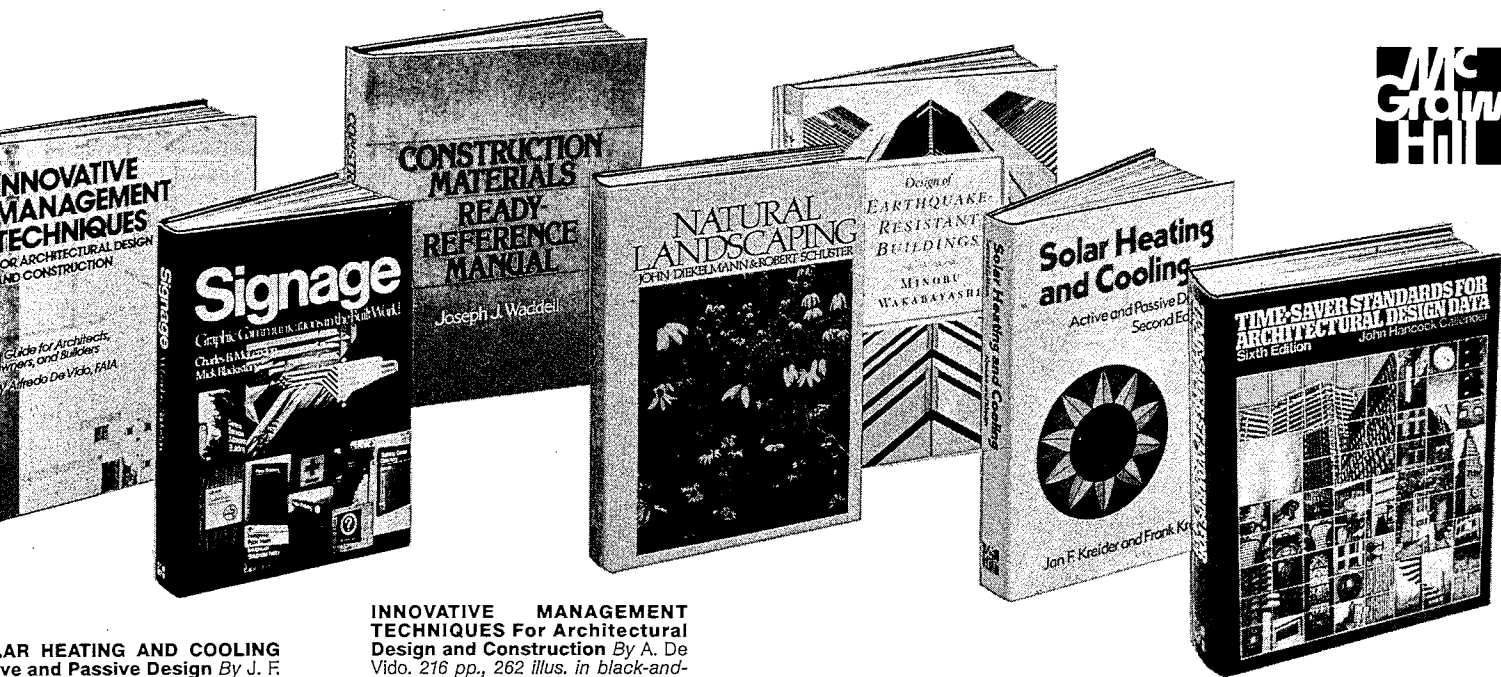
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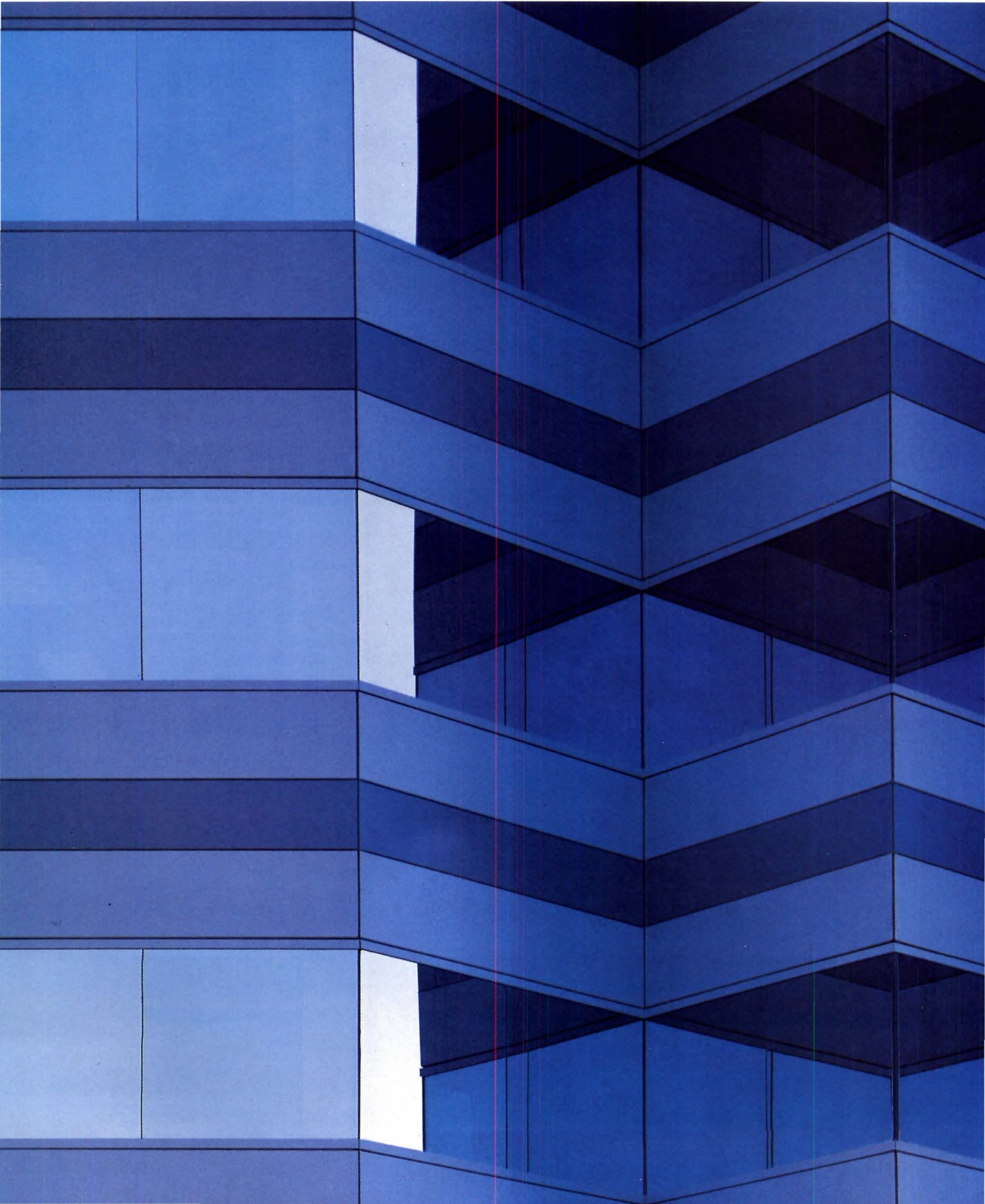
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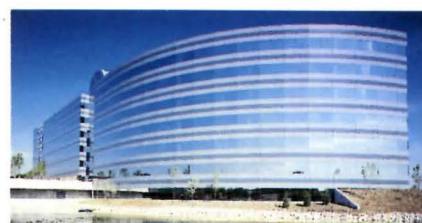
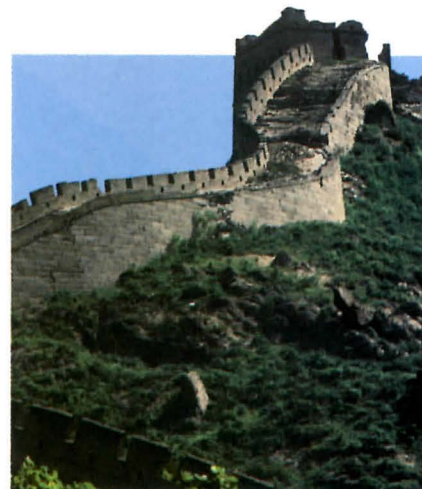
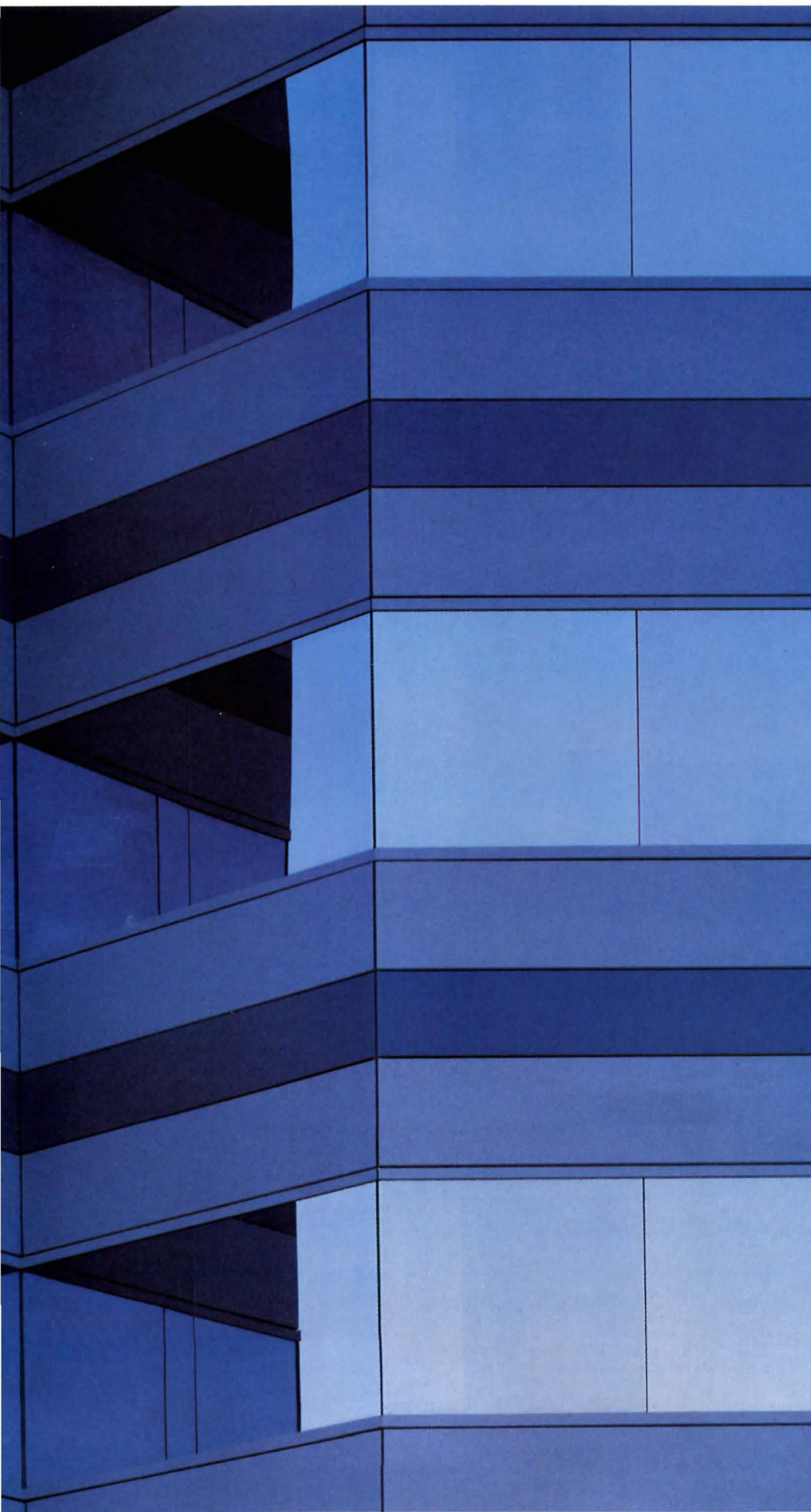
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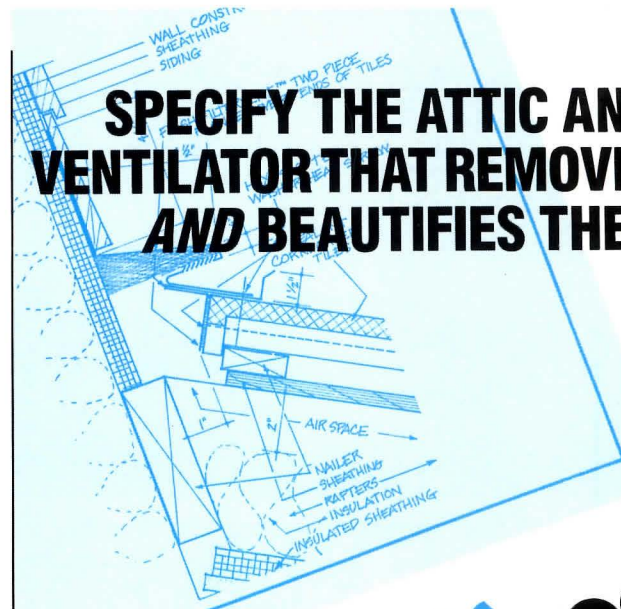
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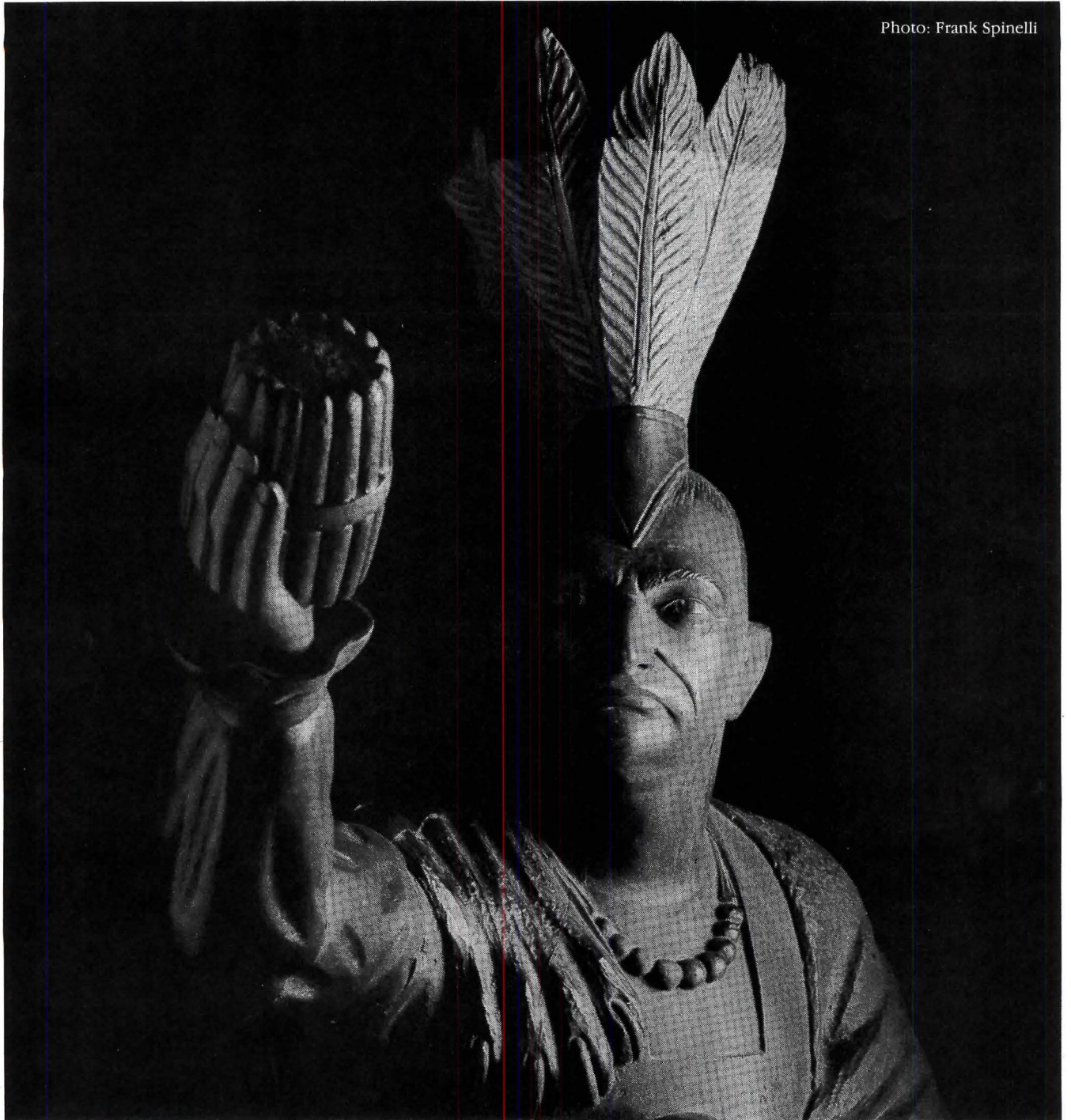
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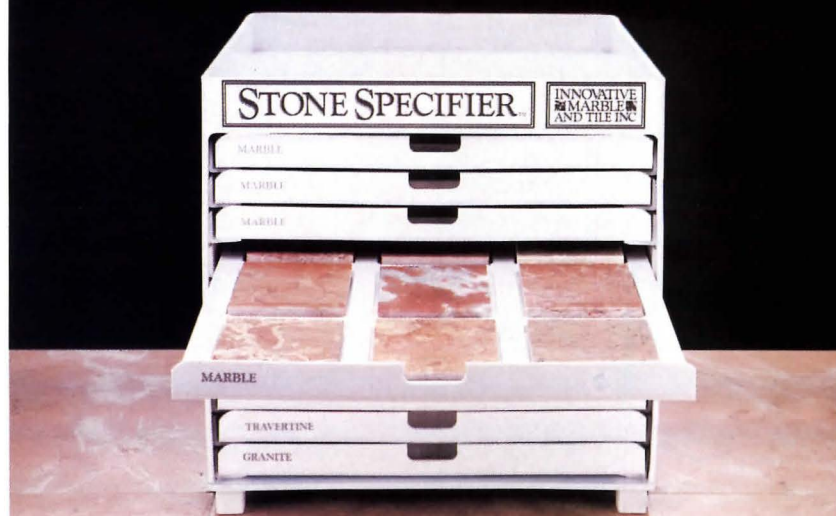
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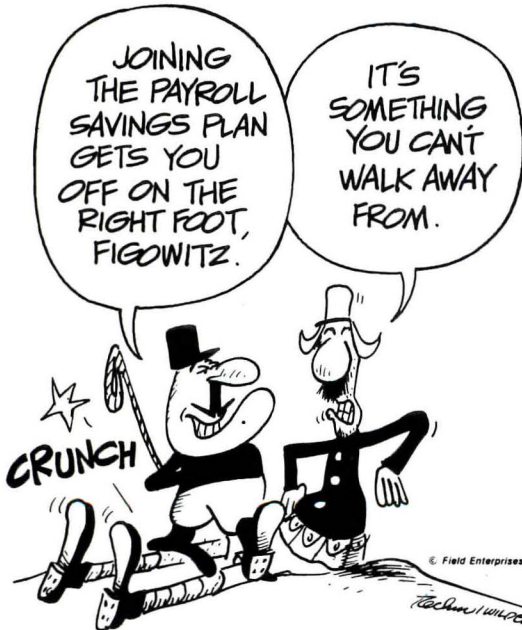
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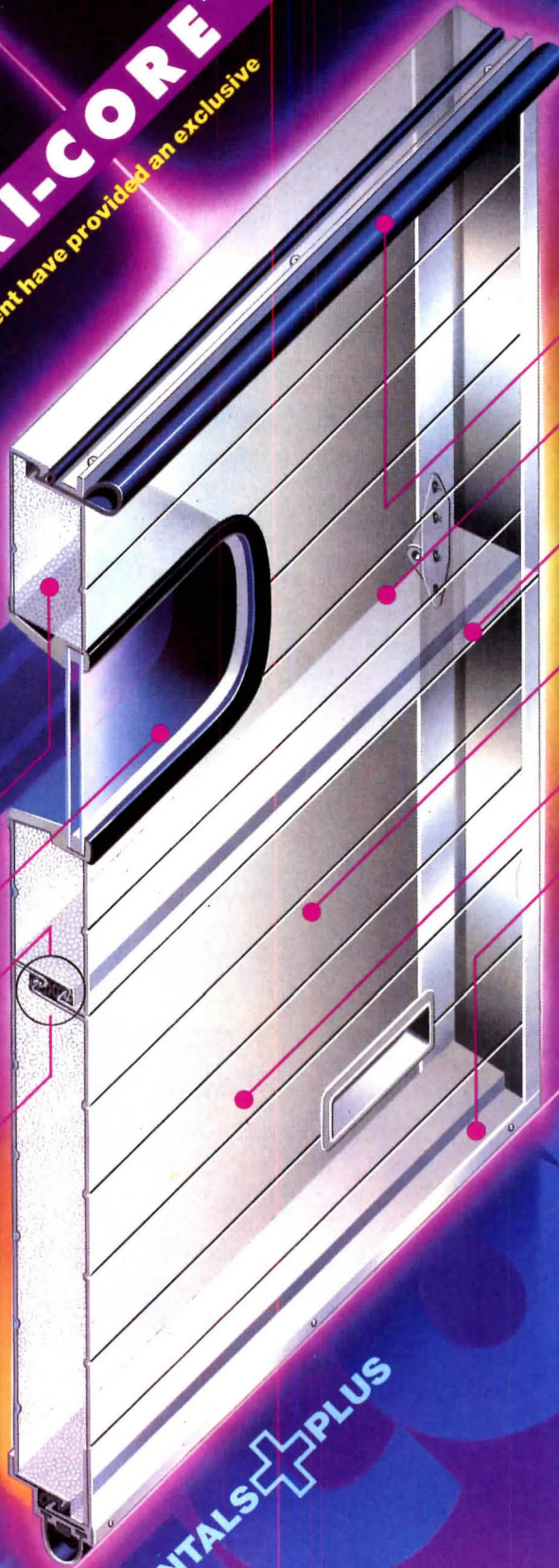
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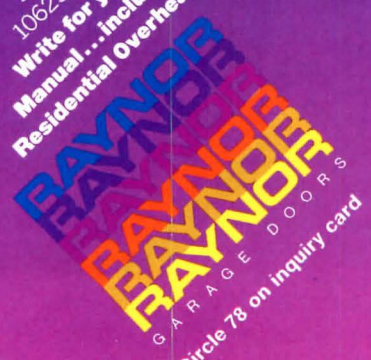
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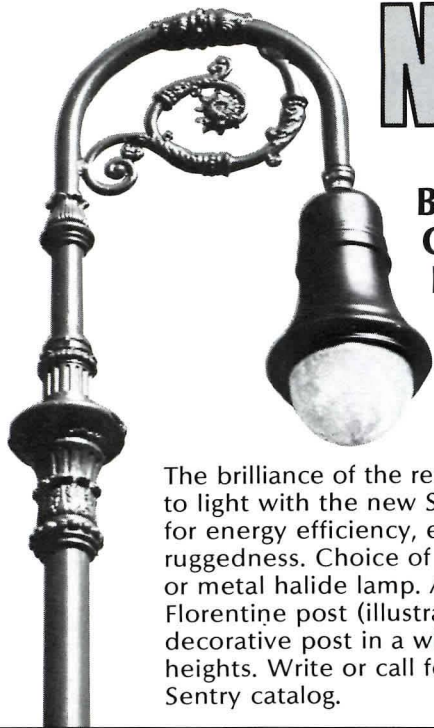
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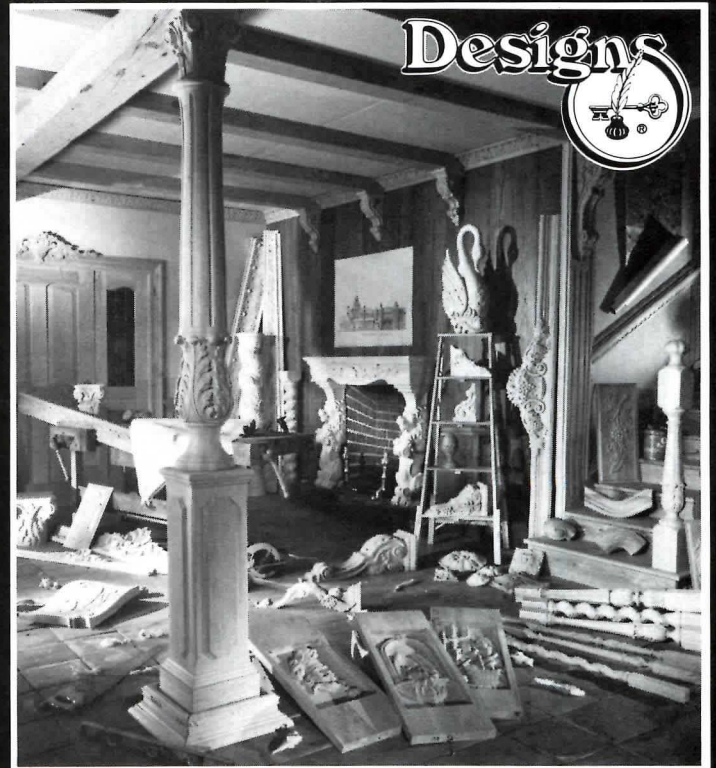
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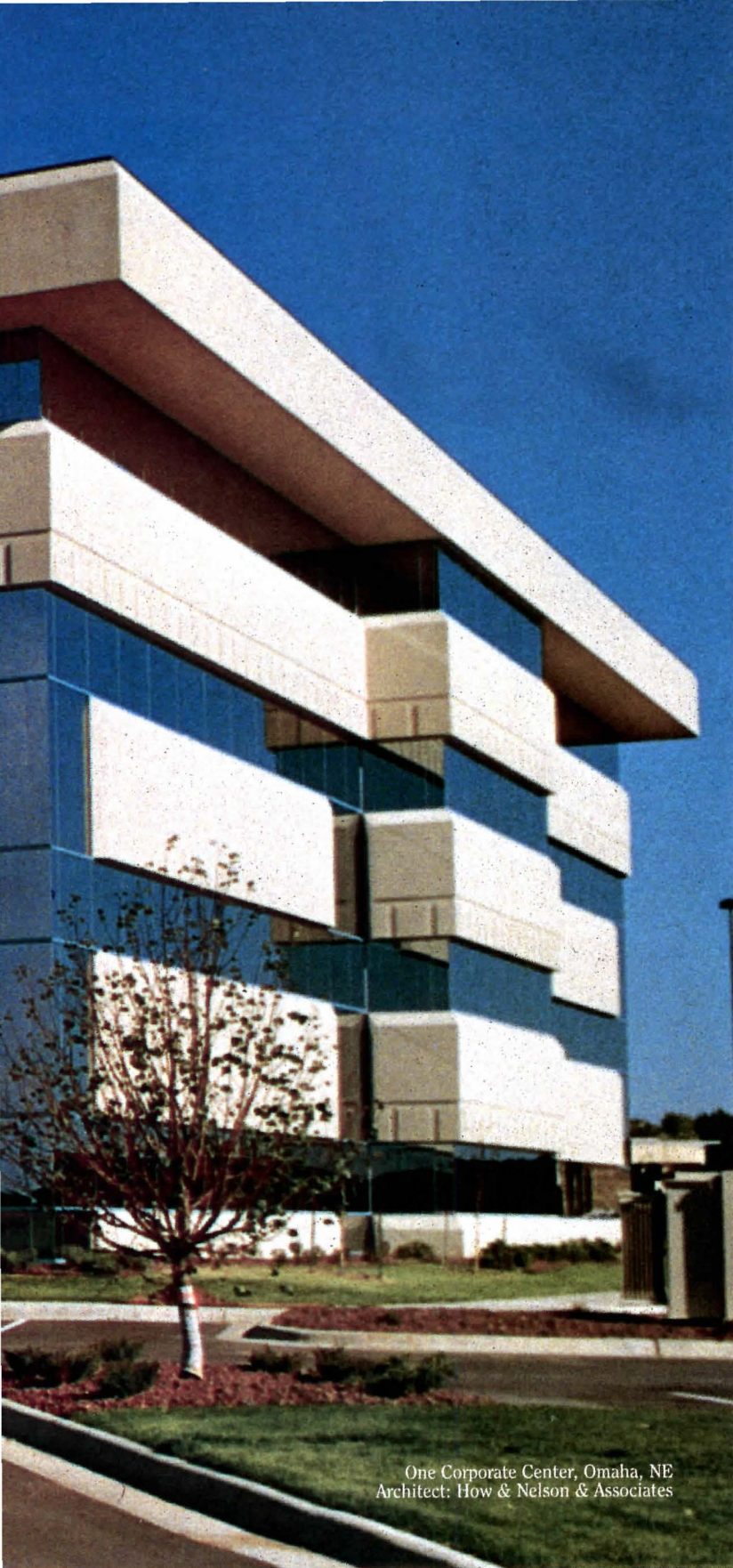
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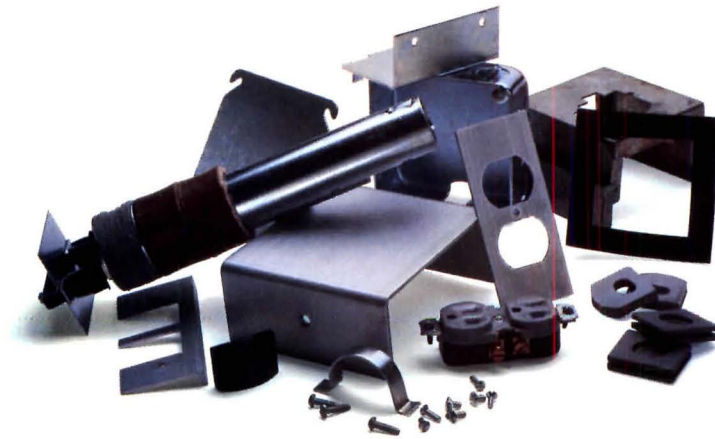
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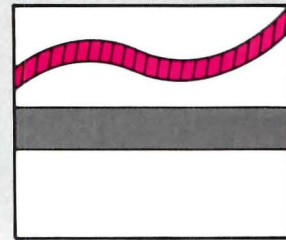
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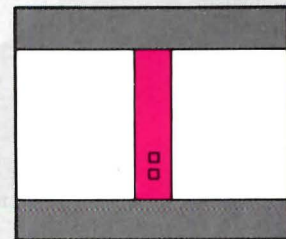
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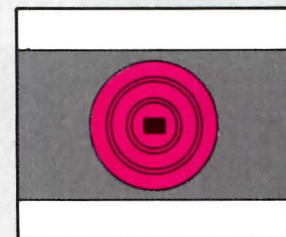
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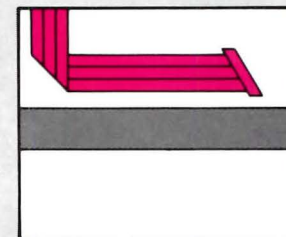
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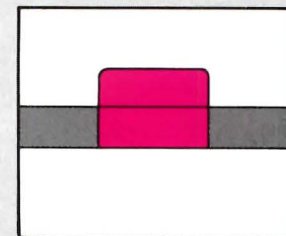
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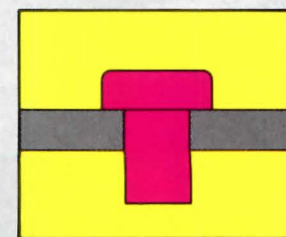
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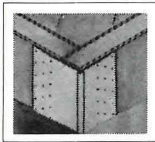


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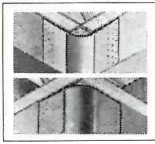
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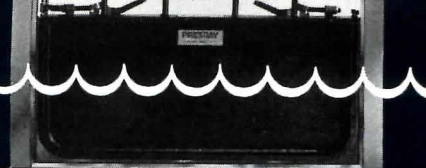
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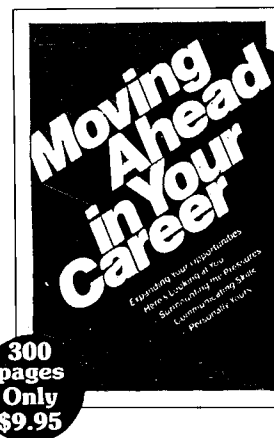
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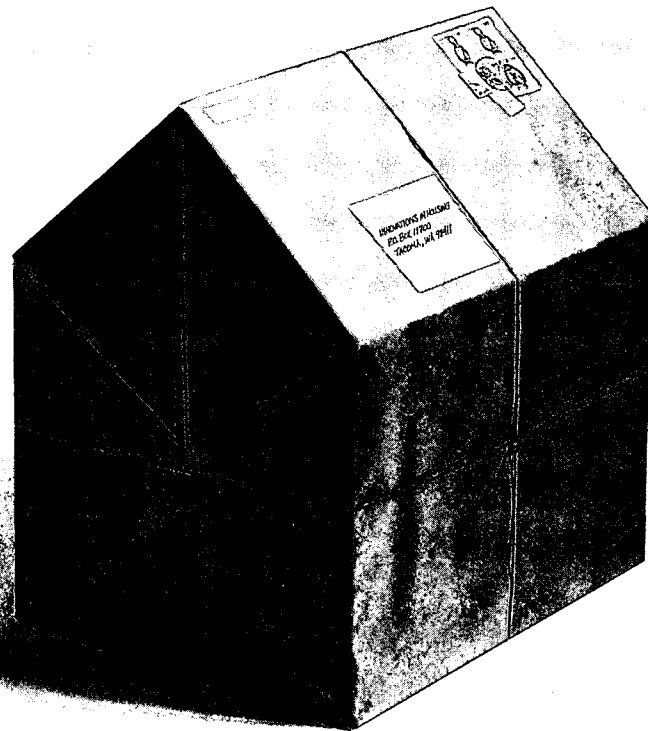
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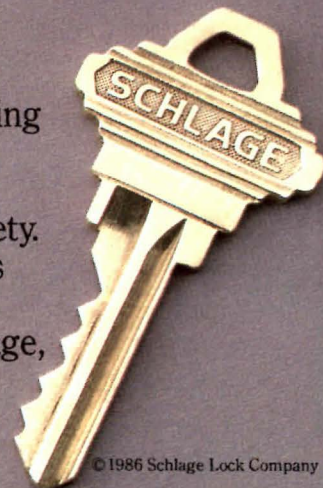
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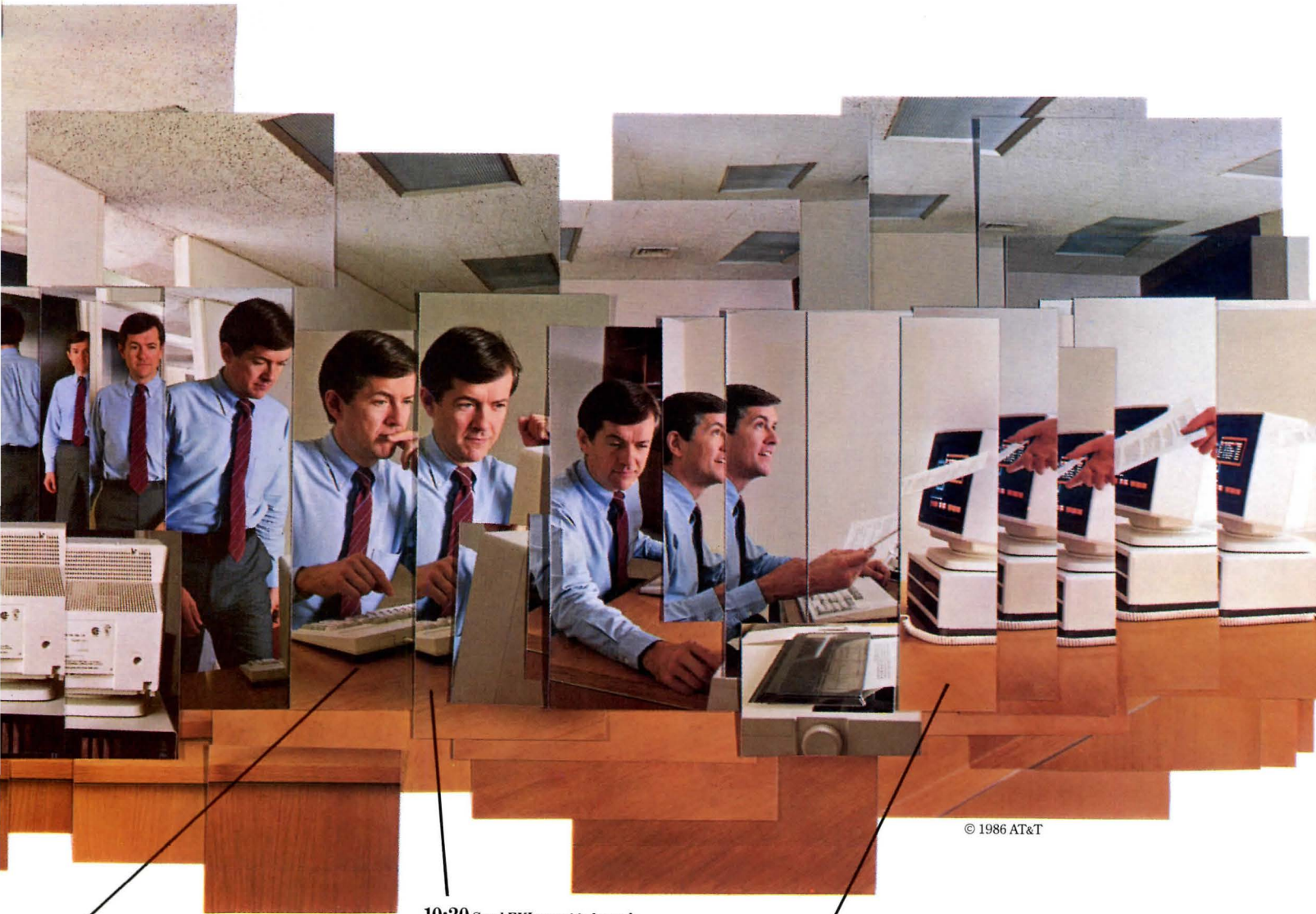
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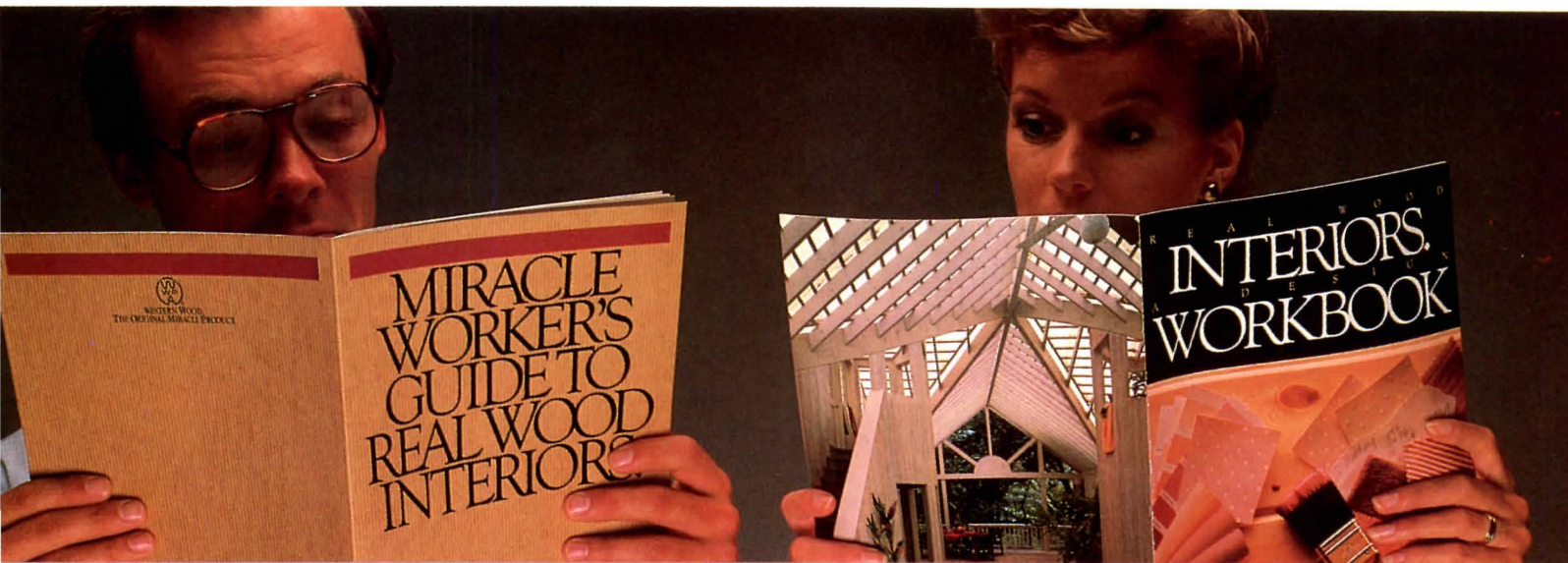
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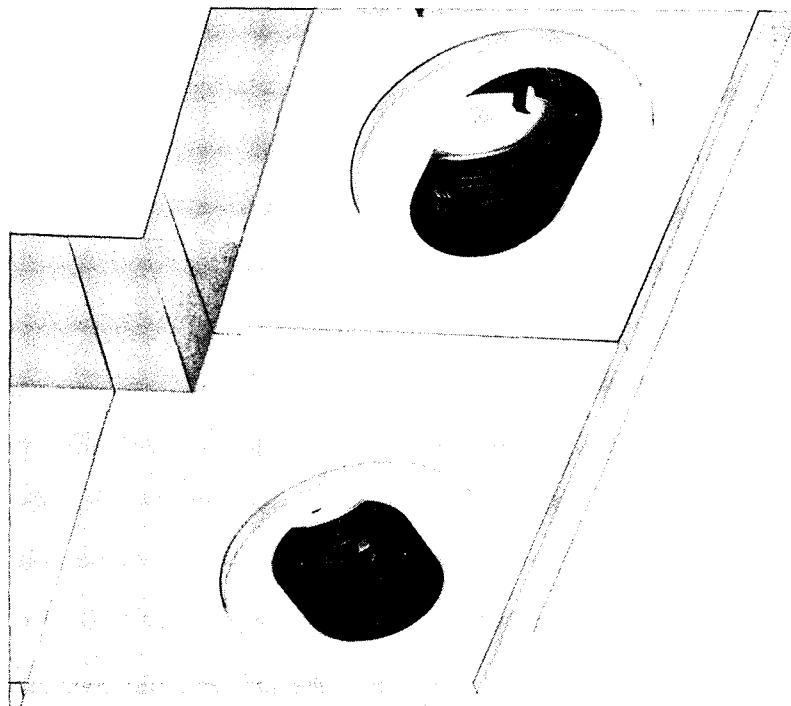
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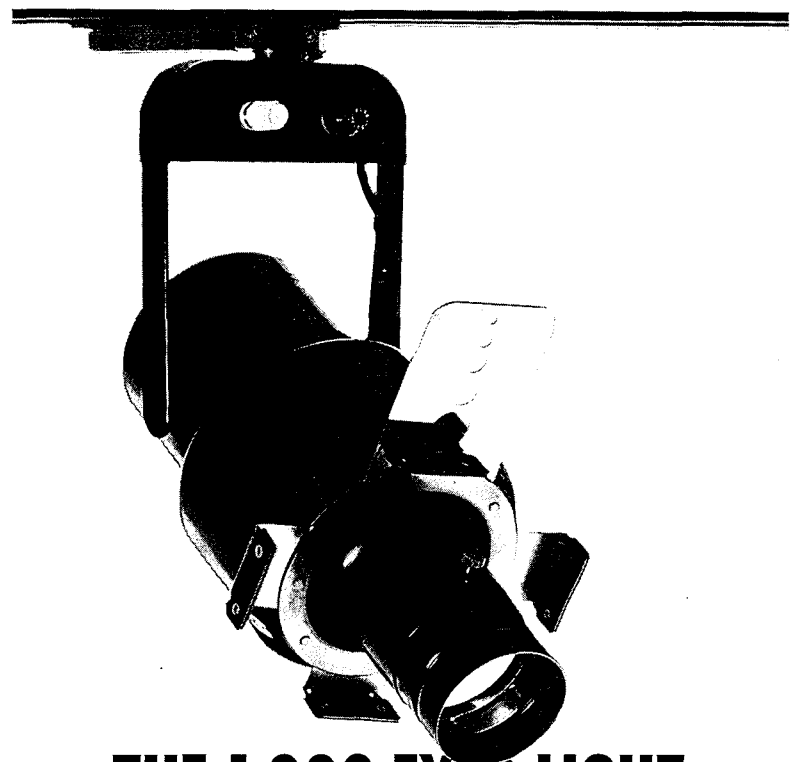


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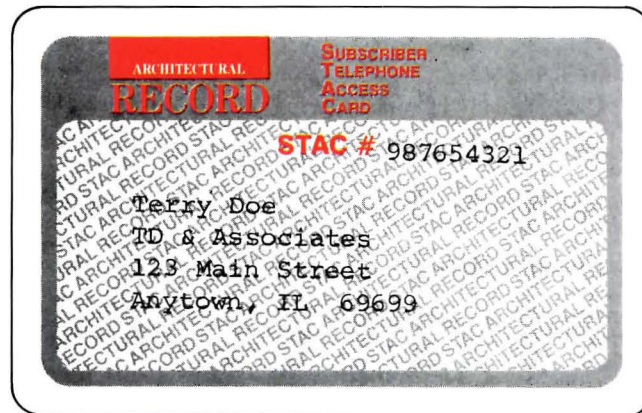
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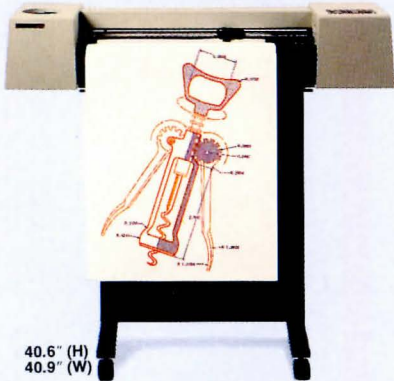
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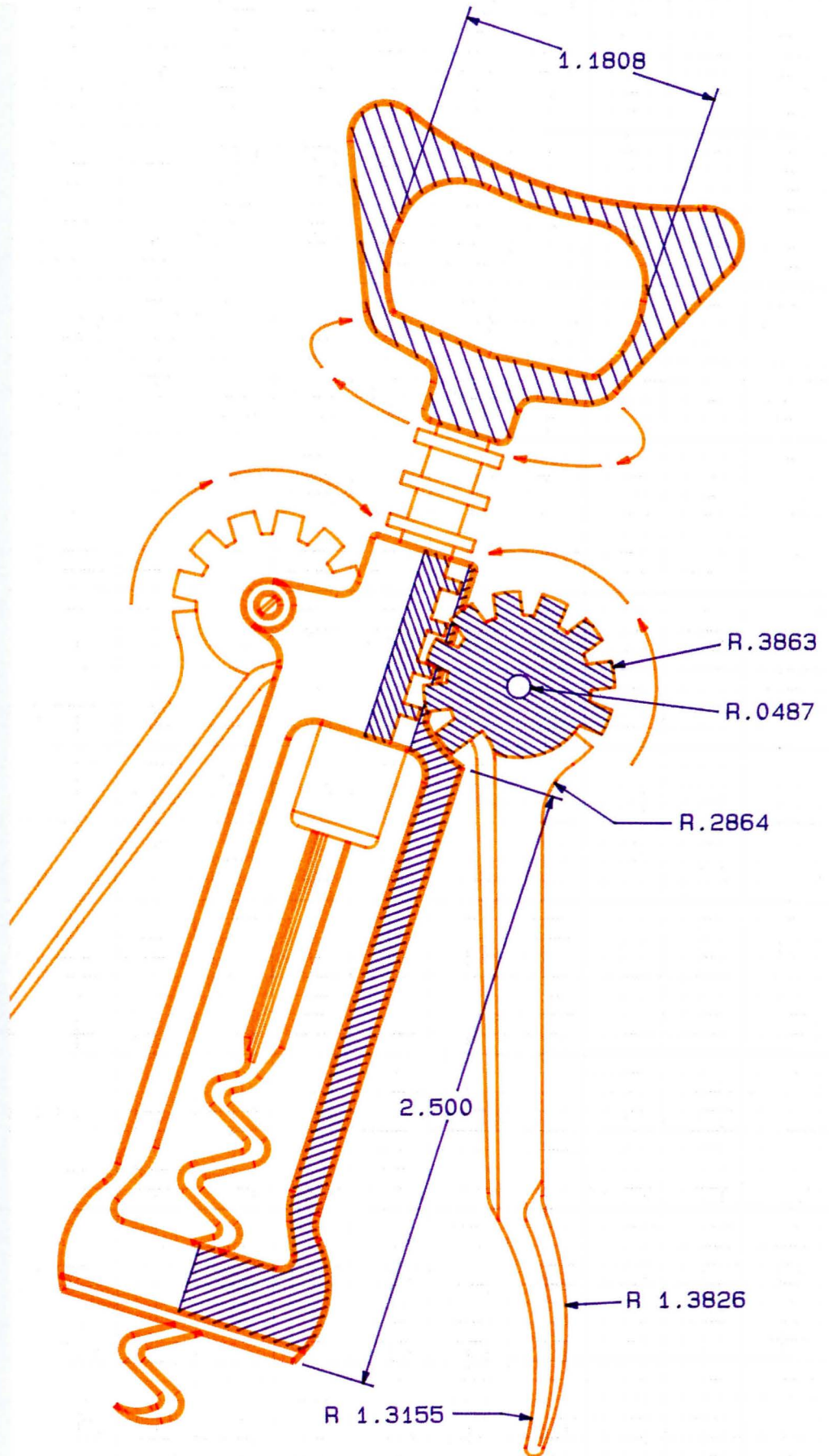
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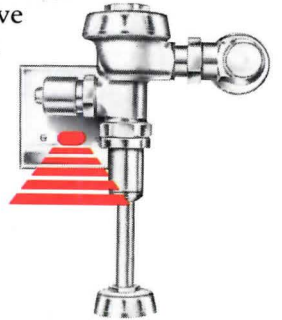
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