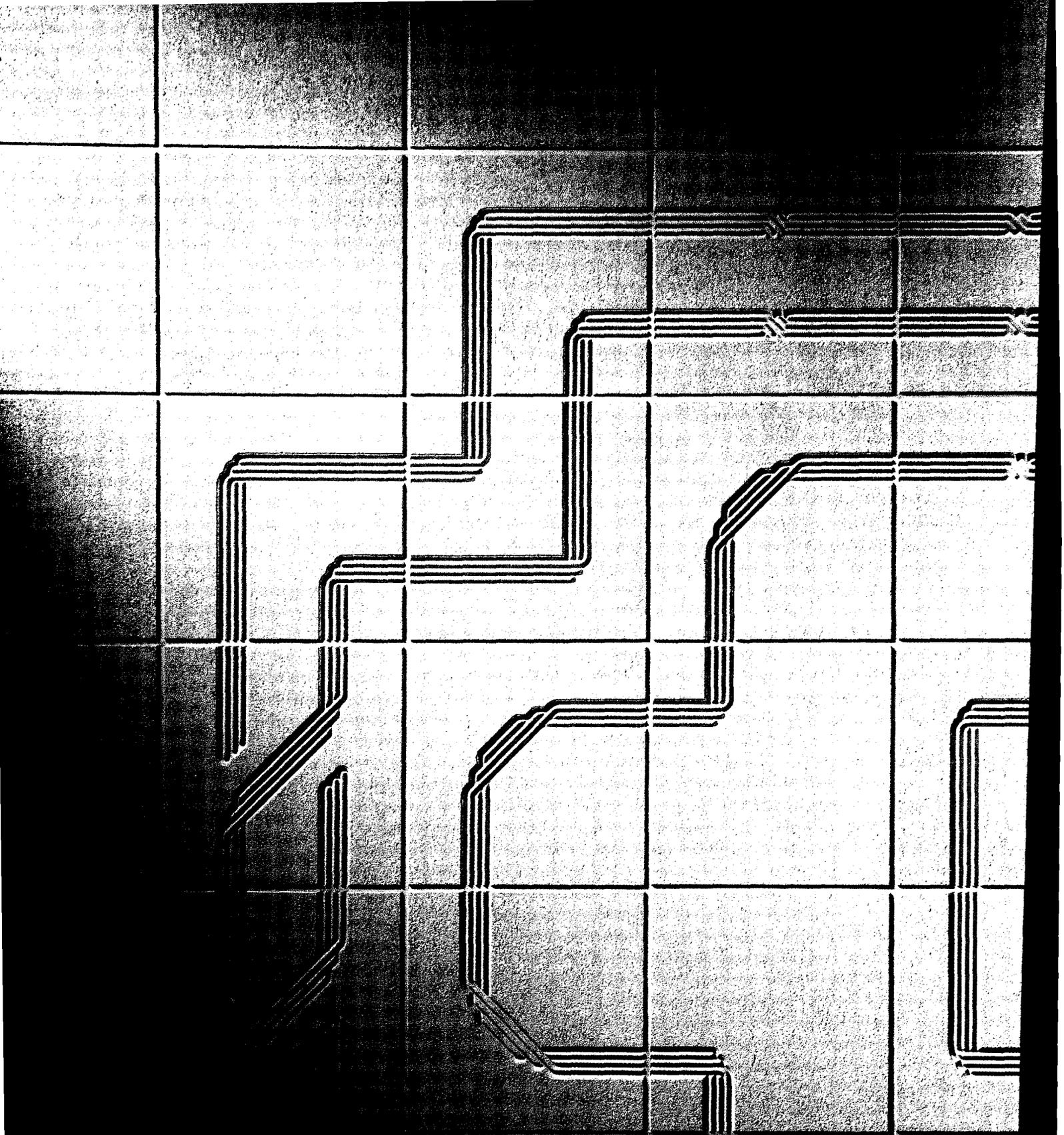


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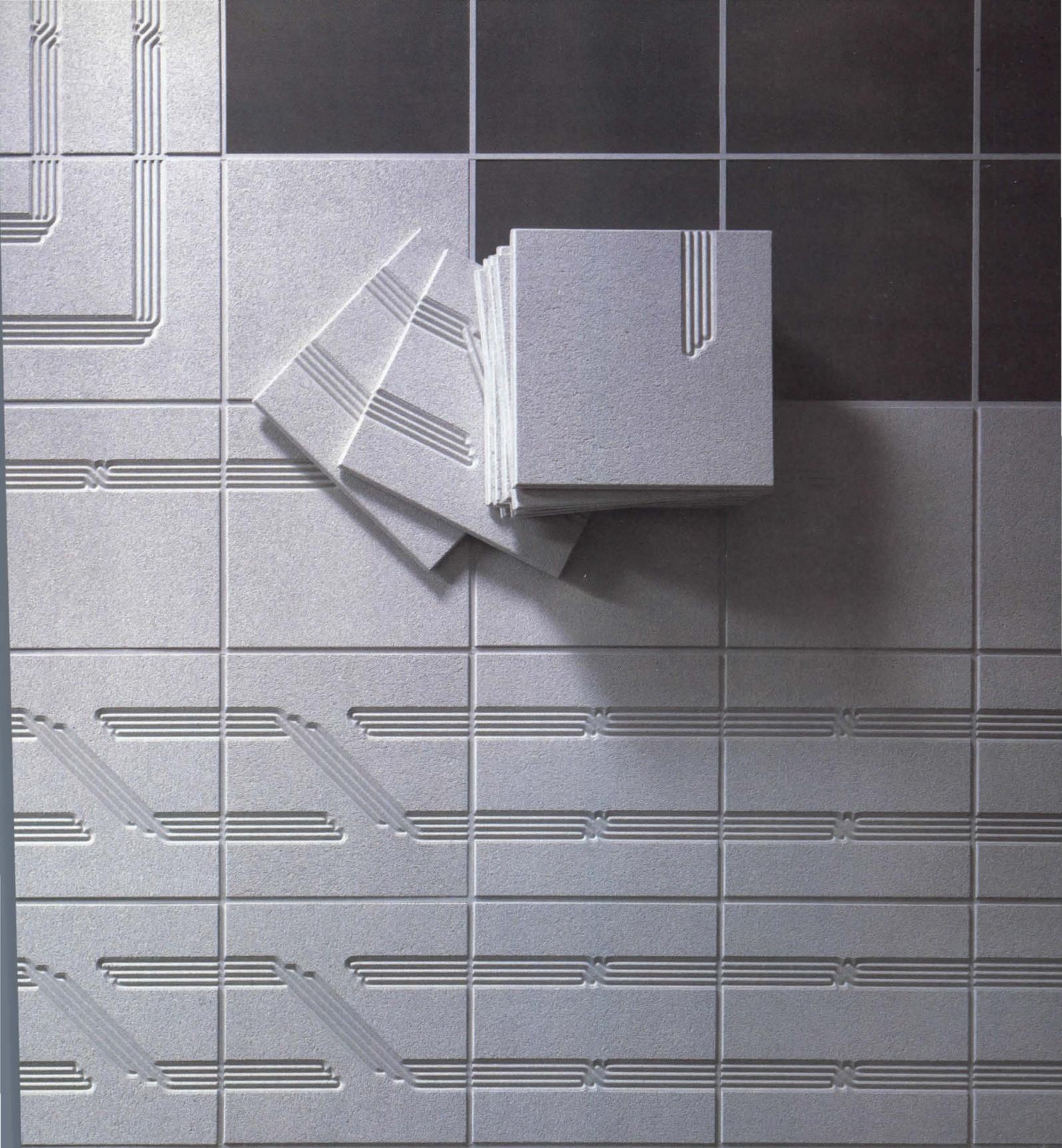
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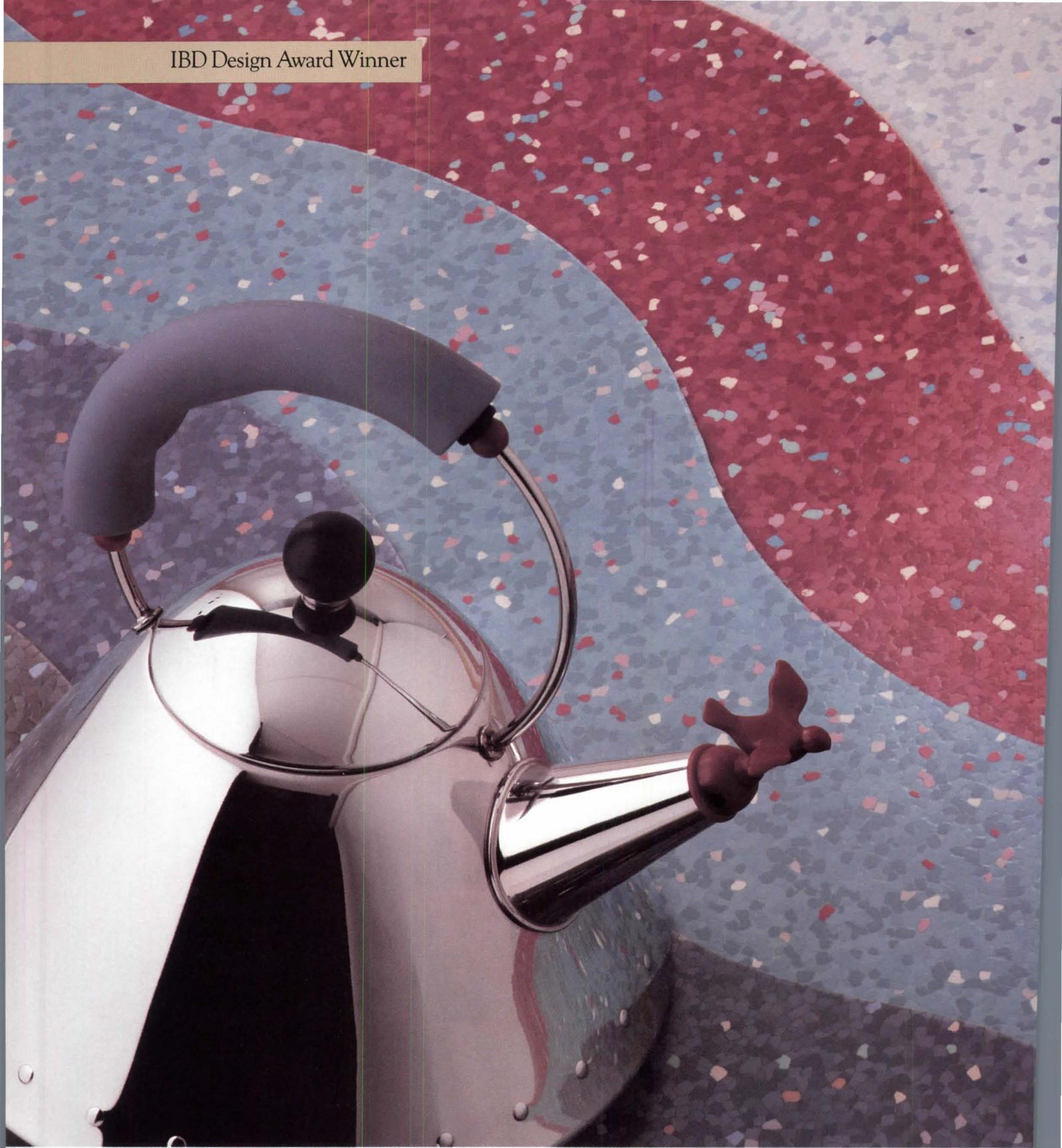
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I am writing in response to the article about Jack Kemp and his new role as Secretary of Housing and Urban Development [ARCHITECTURAL RECORD, February 1989, page 23]. I found that the article was extremely biased in favor of Kemp. I am a Republican and generally support the initiatives of George Bush; however, Jack Kemp has little expertise in the fields to which his new home caters.

Yes, I realize the article stated that he is best known for "championing supply-side economics and urban enterprise zones," but in reality Kemp is known because he is one of the good old buddies within the Republican Party's inner-circle. The author implied that Kemp was at odds with Bush because of the competition back in the presidential primaries, and that Kemp won out in the HUD nomination because of his overwhelming attributes. Let's take a look at reality: Kemp was nominated because he is a rising star within the party and his nomination is a resumé-stuffing mechanism to benefit the party as a whole in the future.

The author quoted sources such as "a cautious AIA staffer" and several people who represent the construction industry in some fashion. It is not my contention that the building industry should not prosper (quite the contrary), but those quoted are not in positions to be objective about housing and community development. Why weren't people from such organizations as the Urban Land Institute or the American Planning Association interviewed—people who are experts in the area yet don't depend on the industry for their livelihoods?

As for enterprise zones, this idea clearly falls within the local home-rule precedent, which is firmly established in the United States. When considering the

urban homesteading program, we find that it did offer a better housing alternative for some economic groups, but the anticipated result of encouraging the neighbors of the homesteaders to upgrade their houses and neighborhoods never really materialized. I would hope that RECORD could flag the myth that better housing for all means a continuous cycle of new construction—which gets back to my point about those who were quoted in the article being biased toward the construction industry.

Let's not face America's housing and development problems with the "Build! Build! Build!" attitude attempted several times in the past with questionable success.

*Kevin Wall
Cincinnati*

Corrections

In the story on Central Park Zoo [RECORD, February 1989, pages 84-89], Jerry M. Johnson Productions, Inc., should have received credit as a consultant for the exhibit design.

The report on the Royalton Hotel [RECORD, March 1989, pages 94-99] should have included credit to Haigh Space, Architects, for the design of the facade and sidewalk, and to Tracy Turner Design, Inc., for graphics, signage, and guest-room amenities.

The John Wayne Airport in Orange County, California, which appeared in Ken Sanders's article on CAD systems [RECORD, March 1989, page 133], should have been credited to Gensler and Associates/ Architects as design architects and Leason Pomeroy Associates as architect of record.

Through May 20

"New Projects by Architects," showing the work of Ricardo Bofill, Peter Eisenman, Zaha M. Hadid, Arata Isozaki, Rem Koolhaas, and Bernard Tschumi; at the Max Protetch Gallery, New York City.

Through May 21

"Morphosis: A Decade of Architectural Confrontation," an exhibition of models and drawings; at the Cheney Cowles Museum, Spokane.

Through May 27

"Alternative Visions: Chicago," an exhibition of theoretical works to alter the look of the city, by architects under 35; organized by the Young Architects Committee, Chicago Chapter, AIA, and the Architecture & Law Committee, Young Lawyers Association, Chicago Bar Association; at Cultural Center, Chicago.

May 18-June 2

Exhibit of the results of Competition Diomede, an architectural competition to unite the Diomede Islands between the U. S. and the U. S. S. R., sponsored by the Institute for Contemporary Art in New York and the U. S. S. R. Union of Architects, Moscow; at the Clocktower Gallery, 108 Leonard St., New York City.

June 6-8

CAFM '89, sponsored by the International Facility Management Association; at the Anaheim Marriott Hotel, Anaheim, Calif. For information: Nancy G. Minni, Director of Education and Research, IFMA, 11 Greenway Plaza, Suite 1410, Houston, Tex. 77046 (713/623-4362).

June 13-18

The 39th annual International Design Conference in Aspen, "The Italian Manifesto: The Culture of Nine Hundred and Ninety-Nine Cities," with Bill Lacy and Paolo Vitti as co-chairman. For information: IDCA, P. O. Box 664, Aspen, Colo. 81612 (303/925-2257)

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Making history in St. Louis

For the first time ever, the AIA National Convention will “go public.” This month in St. Louis, on the next to the last day of its annual gathering, the AIA will have held what it calls a “Public Day” so that local citizens interested in architecture can get a first-hand glimpse of the architect’s complex and challenging world. I haven’t been able to find out who first had the splendid idea to invite the general public for a day at the convention, or how the fine program got put together. There can be few better ways to help ordinary citizens understand that there is more to architecture than fashion and style.

If all goes as planned, the public, lured by the local media, will have heard internationally famous architects discussing global trends, design issues, and their works. The public will have attended student design-studio reviews held by the American Institute of Architecture Students (AIAS) in which the students themselves, faculty, and alumni do the critiques.

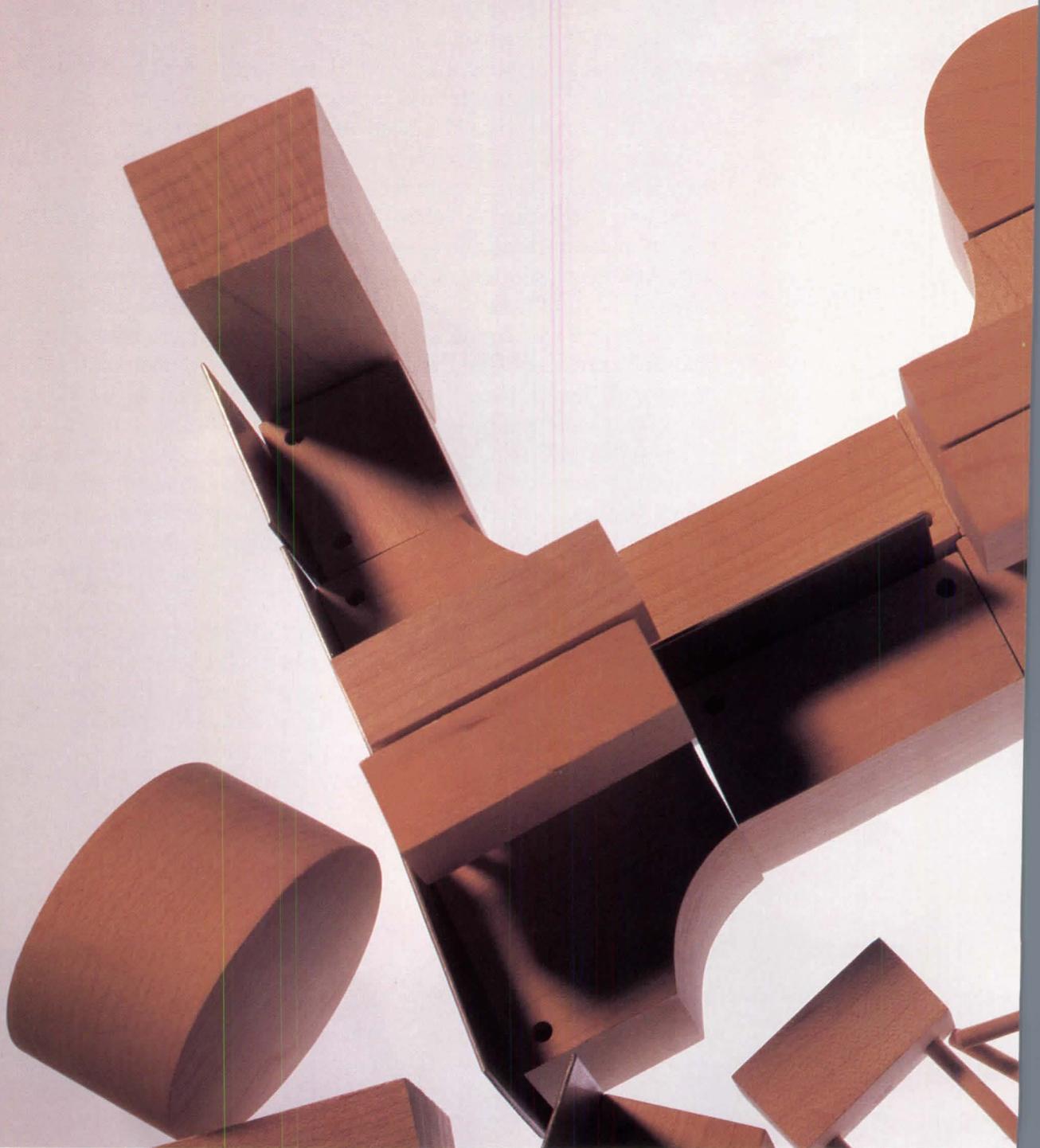
Although it is hard to believe that there may be members of the public who need help in understanding the catastrophic consequences of nuclear and conventional war, Architects, Designers, and Planners for Social Responsibility (ADPSR), a national, nonprofit organization of design professionals and students formed to give such help, are sponsoring a symposium on the subject with guest speakers: HOK chairman/president Gyo Obata of St. Louis; environmentalist Dr. Peter H. Raven, director of the Missouri Botanical Gardens; and Crombie Taylor, associate dean of architecture at the University of Southern California.

The public will also have attended a workshop under the auspices of the Missouri Council of Architects conducted by its “built-environment education coordinator,” Ginny Graves, to teach the teachers to teach environmental concern. The St. Louis Chapter of the Women in Architecture Committee has invited the public to participate in a session on “The changing American family’s impact on the architectural office.”

After a long day of shared dedication to architecture-related social and environmental issues, architects and public will gather at the foot of a transcendent achievement in the domain of pure design—the St. Louis Gateway Arch—to dedicate a plaque honoring its creator, the 1962 AIA Gold Medalist Eero Saarinen.

“Public Day” seems certain to be a great success. May it continue to be a part of every AIA National Convention program from now on. *Mildred F. Schmertz*

“A traditional panel-based system is a two-dimensional planning concept. This system invites you to think in the third dimension.”



Survey finds interest in continued growth of architecture firms but uncertainty on how to go about it

A survey by practice consultants Birnberg & Associates, publishers of *The Profit Center* newsletter, found 96.1 percent of responding architecture firms want to grow, but are generally uncertain how to do that (and, indeed, did not know how they had grown to their current size). Less than half had any set plans for growth (or even survival), lacking essentials like annual budgets, marketing programs, and long-range goals. "Many managers outside of design," notes Howard Birnberg, "would find this inconceivable."

How would the firms like to grow? Some 85 percent wanted

greater profits; 77 percent, more productivity; 68 percent, larger staff; 59 percent, diversified services; and 40 percent, a wider geographic market. Clearly, growth is not confined to size.

Are firms growing in size? Some 78 percent had added more staff in the past five years, but little within the past year—"a sign," says Birnberg, "of a mature economic expansion." Still, a few saw the lack of qualified job applicants as a barrier to growth. Other barriers include low energy levels. Contact Birnberg & Associates, 1227 West Wrightwood Ave., Chicago, Ill. 60614 (312/664-2300). *C. K. H.*

Let Dodge do the digging

Things have progressed a piece since Mr. F. W. Dodge pedaled around Boston in the 1890s to provide the latest status on current local construction projects. Dodge, which tracks the status of virtually every major U. S. construction project and most smaller ones, has introduced DataLine, a computerized service transmitting construction-project information by modem on a daily basis to clients' offices. While many of the projects it is tracking are beyond the architect-selection stage (and will be of primary interest to contractors and material suppliers), Dodge director of DataLine services Donald Kitzerow says that thousands at any given time are not. For these, DataLine's "preplanning-phase" reports supply information on clients, contacts, how to reach them, and their current status of readiness—e.g., in fund-raising, looking for

a developer, or looking at feasibility—information architects could find useful.

Then, too, reports on buildings for which the architect has been chosen can be useful since such architects can be sources of information to others, says Kitzerow. Queries to the system can be made by building type and features, and a particularly competitive user can query the system to find out type and current number of projects by firm. The status of proposals on a project can be checked via Dataline, adds Kitzerow.

Subscriptions to the service to cover the entire U. S. could cost as much as \$100,000 per year. The price to access regional areas begins at \$3,200, according to Kitzerow. For more information, contact F. W. Dodge Marketing Services, McGraw-Hill Information Services Co., 1221 Ave. of the Americas, N. Y., N. Y. 10020 (212/512-6184). *C. K. H.*

NCARB moves on qualification procedures and against licensing for interior designers and unlicensed architecture



NCARB president George B. Terrien believes in the architect as leader of the team.

specification writers, construction administrators, production specialists." He strongly supports the concept of the architect as supreme generalist, orchestrating all related disciplines—including interior design.

It is this same fervor that leads him to attack the inroads others have made on the practice of architecture. Chief among his targets: engineers. "It is an issue of their extending services beyond engineering into areas that clearly can harm the public. Virtually none have been qualified to coordinate [all] the disciplines of putting together buildings, much less qualified to uphold social values in the built environment. Altogether, I think you will see why the issues are not territorial contest; they are concerns of the public."

Last October, the NCARB implemented the pilot phase of its program to administer the registration examination by computer, using volunteer applicants. "The examination is efficient," says Terrien. "It takes less time and [pinpoints] the minimally qualified candidate far more accurately than the old one." It is to be phased in over the next three years as standard and, says Terrien, will look quite different from the current multiple-choice and graphic formats. But will it discriminate against those without computer training? "It will not be limited to those who are hackers," he assures. Other advantages: "The computer will give candidates their exam results immediately or, if unsure of their qualifications, administer additional questions." There will no longer be the traditional seven parts. "Disciplines will be integrated," he explains—much as they are in actual practice. *Charles K. Hoyt*

Under the leadership of its new president, George B. Terrien, the National Council of Architectural Registration Boards is entering the computer age in the administration of its national qualification examinations; taking a strong stance against licenses for interior designers; and attacking architectural practice by those without a license.

Most controversial is its position against interior-designer licensing—especially considering the substantial accord reached by the AIA in support [RECORD, February 1989, page 25]. The NCARB's rationale? The AIA accord accepts the principle of title registration for the designers. "In reality," says Terrien, "title registration has proven itself nearly as restrictive as practice registration." And, he adds, the criteria justifying registration are not met by interior designers in usual roles.

Asked to elaborate, Terrien said, "Interior designers who perform architectural services that directly affect the public health, safety, and welfare should be registered as architects." (In a position paper published by the NCARB, it was noted that the majority of persons engaged in interior design are employed to give consumers access to products not otherwise available and to help develop a sense of taste, style, and esthetics—not to determine structural, mechanical, or life-safety issues.) "To take any other position," added Terrien, "would lead to the conclusion that we should register architects separately as

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Florida program anticipates profession's changing complexion

A three-week summer course at the University of Florida in Gainesville was instituted by associate professor William Tilson six years ago to introduce high-school students to architecture. What Tilson has found is that it is also dispelling any misunderstandings that the profession will continue to be the almost exclusive province of white males. Fully half of the students are women, and minorities are a growing proportion. This is in line with similar observations by AIA president Benjamin Brewer [RECORD, April 1989, page 23].

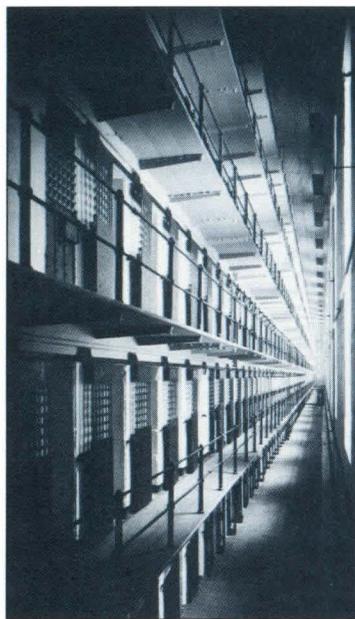
Why did Tilson start the program in the first place? "The public doesn't understand what architects do for a living," he says. "And these students don't understand the time and steps involved in designing a structure. By the third week, they develop a healthy appreciation." Tilson readily admits that the program also is a good recruiting tool. Some 20 percent of the graduates return to attend the university's



Architect Jeffery Gross shows high-school students Emely Sanchez and Michael Alpert the professional ropes.

architecture school. While no specific background is required, students must have achieved minimum grade standards to be eligible. "We don't see ourselves as a summer camp or vo-tech course," he adds. Contact the University of Florida College of Architecture, Gainesville, Fla. 32611 (904/392-0186). C. K. H.

Want to lock up a new market?



Sing Sing Prison. The Bettmann Archive, Inc.

Changing attitudes towards incarceration may be revealing the true potential of work in a very strong architectural market—designing prisons—according to research by the GenCorp company. Sentencing laws have been changing to reflect the growing law-and-order mood of the country—particularly as the drug problem accelerates—and imprisonment is increasingly seen as the appropriate response to criminal activity. The result? Overcrowding of existing facilities is unprecedented and growing rapidly. Almost three out of four states are under court order to improve conditions. As they wrestle with the problem, they are coming up with new ways to finance construction, some of which mean that the client may not be government but private entrepreneurs. Besides special bond issues to finance their own construction, states are turning to lease-buy arrangements with developers and even farming out business to private prison operators. The market may also hold potential in the renovation of large unused buildings such as hospitals and schools, and in modular construction. C. K. H.

Lead in paint: the asbestos issue of the '90s?

The nation's architects are facing what has been described as a powder-keg issue: lead in paint. In mid-March, the National Institute of Building Sciences produced its 237-page *Guidelines for the Testing, Abatement, Clean-Up and Disposal of Lead-Based Paint in Housing*. Its client: the Department of Housing and Urban Development at the orders of Congress.

Concern over possible health problems associated with lead in paint has been simmering since the early '70s (when its use in most building paints was prohibited). Some people familiar with the problem believe the issue is as serious—and potentially as contentious—as asbestos in buildings.

The NIBS report is the first national one to present consolidated technical guidelines on how to deal with lead in paint. Technically, the guidelines address only Public and Indian Housing. But buildings of all types may quickly become the subject of concern.

Unlike asbestos, which causes cancer, lead is not a carcinogen. But it affects the brain and the central nervous system. Other bodily functions at risk are the systems forming blood, the vitamin-D regulating system in the kidneys, and calcium metabolism. Children under seven are most vulnerable. In pregnant women, lead represents danger to the fetus. For middle-aged men, recent studies have tied lead exposure and high blood pressure.

A report by the Agency for Toxic Substances and Disease Registry indicates there are about 42-million houses in the U. S. built before 1980 containing lead-based paint. That report also estimates that 52 percent of all U. S. housing units have paint with significant lead levels.

Applied lead paint turns into chalks and powders due to moisture and ultra-violet light or



NIBS president David A. Harris: "The guidelines give techniques that are most effective to avoid getting the stuff in the human body."

simply aging. This increases the probability that lead contained in increasing dust levels will enter the body through normal hand-to-mouth activity.

The NIBS guidelines contain detailed specifics on how to minimize dust during abatement—whether to dry- or wet-sand, burn paint off, or to encase paint in another covering.

NIBS recommends that HUD disseminate its document. But, sources speculate HUD has been reluctant to release it because of high-cost implications (RECORD obtained its copy from a source other than NIBS or HUD). One guess is \$10,000-15,000 per federally controlled housing unit.

Says NIBS president, architect David A. Harris: "Members of the health-sciences community are concerned that, if such a program turns out to be expensive, nothing would or could be done and it would be business as usual, with no improvement at all." There is also a concern that, once a costly national cleanup program appears, unscrupulous operators will remove lead paint in unsafe fashions, "dumping it under bridges," as Harris put it. "We have both a medical and an engineering problem, with no agency that deals with both. There are no reliable cost-effectiveness figures. And it's a powder-keg issue because of liability problems." Peter Hoffmann, Washington, D. C.

CONTROL PLENUM SYSTEMS FOR AIR DISTRIBUTION:

Plagued by the 'Sick Building Syndrome' or annoyed by drafts? The cure may be right at your feet.

Distributing air through an access floor can result in a healthier, more productive, comfortable and cost-effective office environment.

When it comes to heating and cooling, tradition abounds: use ductwork in the ceiling plenum to introduce and remove air from the office space below. For a number of financial and health-related reasons, however, ceiling air distribution may be a tradition that needs re-thinking.

In recent years, poor quality of air in offices—deemed the “sick building syndrome”—has received considerable attention. The American Journal of Medicine reports that billions of dollars are spent every year in medical costs, due to respiratory infections often caused by poor quality air. This widespread problem has some experts predicting that indoor air quality monitoring will be mandatory by the end of the next decade.

With over 500 air pollutants residing indoors (according to Environmental Protection Agency reports), energy conservation efforts to seal buildings and reduce air infiltration/exfiltration are one reason why buildings get “sick.” A building needs to be constantly purged of pollutants, and replaced with fresh air to assure good overall air quality.

The other problem employers and building owners face is lost productivity through non-uniform distribution of air. According to BOSTI research, one of the most frequent and disruptive complaints concerns hot-cold temperature fluctuations. Workers close to the diffuser may be in a cold draft, while a person a few feet away may be too warm. This is because the low-temperature, high velocity ceiling diffuser concept is not effective in open-plan office layouts featuring movable workstations.

The ideal air distribution system would benefit its inhabitants by maintaining a more consistent temperature and purging air contaminants more thoroughly. Here is a list that addresses these needs in detail:

User-friendly: Has controls for increased worker comfort.

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Air Control: Gives mechanical engineers the ability to provide workstations with proper airflow and temperature.

Draft-free: Able to deliver air at lower velocities and less extreme supply temperature.

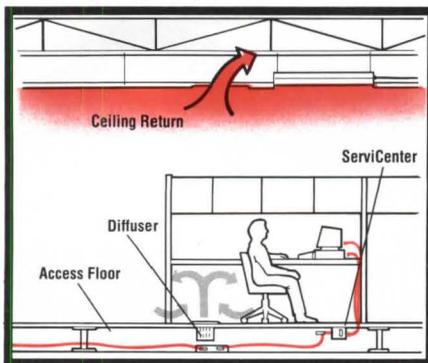
Flexible configuration: Diffuser outlets may be easily moved to conform to changing office layout.

Initial cost: Less ductwork may reduce slab-to-slab height to lower building cost.

Operating expenses: Makes energy consumption cost-effective through life of building.

Compatibility: May be integrated with other user services, such as wire and cable distribution for power, data and telecommunications.

The air distribution system that satisfies all these criteria is the DONN® Control Plenum System from USG Interiors. Designed to work with DONN Access Floors, the air concept functions “upside-down” to provide a more comfortable, cleaner, and healthier environment, as well as a more cost-effective way to distribute air.



Relocatable diffusers in access floor introduce supply air at temperatures to cool work zones easily, while stale air is exhausted through ceiling returns.

Pioneered by Krantz of West Germany and used in office and computer room applications for years, the control plenum system accomplishes all these objectives by eliminating the diffusers and ductwork in the ceiling and bringing air up through the floor. The air travels through a pressurized access floor plenum and is delivered into the workspace through high induction diffusers. Within each outlet are “twisting” air jets which mix room and cool supply air. The process is so efficient that little sensation of draft or temperature change can be felt even when only inches from the diffuser.

Feeding the supply air from below generates an upward current—the same direction as the “thermal lift” produced by warm machines, lamps and people. The warm, stale air and air pollutants are directed to the ceiling return and exhausted, leaving no stagnant air in the workspace.

The lack of major ductwork in the ceiling or floor can lower building costs by reducing slab to slab height. And with an investment in the flexible DONN Access Floor System, long range costs for office reconfiguration are also brought under control. Using no hardware, maintenance personnel may easily and quickly move the floor panel and diffuser assembly as a unit. Wiring is also simplified when the access floor system includes the user-friendly DONN ServiCenter™ outlets. These outlets and panels allow all electrical, data and communications services to be easily brought from the underfloor plenum to accommodate work stations in any configuration.

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Practice: The pitfalls in protecting your designs from the clutches of others

By Steven A. Glazer

Within the realm of law, plans and specifications for the design of structures are considered "intellectual property." Like any property owners, architects want to protect their work from misappropriation by others. The legal means to do that include the contract, copyright, design patent, and unfair-competition laws. No security system to protect property, however, is 100-percent effective, and these means, too, do not stop entirely the unauthorized use of plans and specifications by other designers. Let us look at some of the limitations:

The AIA architect-owner agreement only covers those who have signed it

Article 6 of the standard agreement (Form B141-1987) provides that "The Drawings, Specifications and other documents prepared by the Architect for this Project are instruments of the Architect's service for use solely with respect to this Project and, unless otherwise provided, the Architect shall be deemed the author of these documents and shall retain all common-law, statutory, and other reserved rights, including the copyright." It goes on to restrict document reuse "except by agreement in writing and with appropriate compensation to the Architect."

This clause constitutes a licensing agreement between the architect and the owner. It contains no restraint, however, on others who are not "in privity of contract." Such parties *might* be sued under a "third-party-beneficiary" theory or an "interference-with-contract" theory, but the right set of facts must be present to make such a case. Generally, the AIA

contract does not stop an unrelated person who, without consent of the architect or the owner, copies plans and uses them to duplicate a design.

Copyright laws cover a broader range of players

Under the Copyright Act of 1976, the author of a work has the exclusive right to reproduce, distribute, and publicly display that work, as well as the exclusive right to prepare derivative works. The latter right is very important to the architect because of its control over the right to make changes or additions to drawings and specifications, or to use a set of drawings as the basis for a derivative design. Generally, one who creates a work that incorporates the copyrighted work of another is liable for infringement unless the consent of the original's author is obtained. Thus, an architect who duplicates and modifies copyrighted drawings and specifications without consent can be sued for infringement, even though the modification changed the design.

Architects acquire the full protection of the copyright laws for their designs by:

- Affixing a "notice of copyright"—a © together with the year of first publication of the design and the architect's name or firm name to every published copy of the design (e.g., ©1988 John Smith, AIA).
- Filing a Form VA Application for Registration of Copyright together with one complete copy of the plans and specifications and the required application fee (currently \$10) with the Copyright Office of the Library of Congress in Washington, D. C. The application should be filed as soon as possible after creation of the design, but no later than three months after first publication. "Publication" means the distribution of copies to clients or to persons for the

Knowing the available legal means that can prevent purloining of your design work means knowing their limitations.

purpose of distribution or display. Failure to affix the notice of copyright to every copy, or to register with the Copyright Office within the three-month period, results in a variety of consequences that dilute the statute's protective powers depending upon the step overlooked. (For a full recitation of such horrors, see 17 U. S. C., Sections 405, 411, and 412.)

But copyright laws do not protect the idea or the utilitarian aspects of a design

One of the oldest and most important limitations on copyright protection is the legal principle that the right extends only to a work's particular expression of an idea, not the idea itself (Baker vs. Selden, 1879). This principle stems from our nation's traditional belief in the free flow of ideas—meaning that exclusive rights to an idea are the exception, not the rule. As the Supreme Court held in the 1966 case of *Graham vs. the John Deere Company*: "The grant of an exclusive right to an invention was the creation of society—at odds with the inherent free nature of disclosed ideas—and was not freely given."

Another limitation of the copyright law is that it does not extend to the making, distribution, or display of any "useful article" that is portrayed in a copyrighted design. A useful article is defined as one "having an intrinsic utilitarian function." As a building itself is a useful article, its unauthorized construction may not constitute copying and therefore may not be an infringement of copyrighted plans, even though the copying of the *plans themselves* would be. Moreover, the design of a useful article is deemed copyrightable by the statute "only if, and only to the extent that, such design incorporates pictorial, graphic, or sculptural features that can be

identified separately from, and are capable of existing independently of, the utilitarian aspects of the article." Thus, a design of all or a portion of a building may be so inseparable from the building's function as to be incapable of being copyrighted. This limitation appears to be especially true with the more minimalist designs in which "form follows function." In short, it has been noted that the copyright statute does not confer on an architect the exclusive right to build the structure described in his plans, but only the right to prohibit unauthorized copying of the plans themselves.

Another limit on enforcement of a copyright in court is the subjective nature of proving infringement. To prove infringement, a plaintiff must show two elements: his ownership of a valid copyright and copying by the defendant. Direct proof of copying, however, is often difficult to obtain. Therefore, the law allows circumstantial evidence of copying, in the form of proof that the defendant had access to the plans and that a "substantial similarity" exists between the original and the copy. Deciding whether two designs are similar is highly subjective. An architectural design presents special considerations because of the myriad of details that can differentiate two designs that are otherwise similar. Coupled with the other limitations, this problem makes prosecution of a copyright infringement action very difficult.

It is possible to achieve more protections through less-used laws

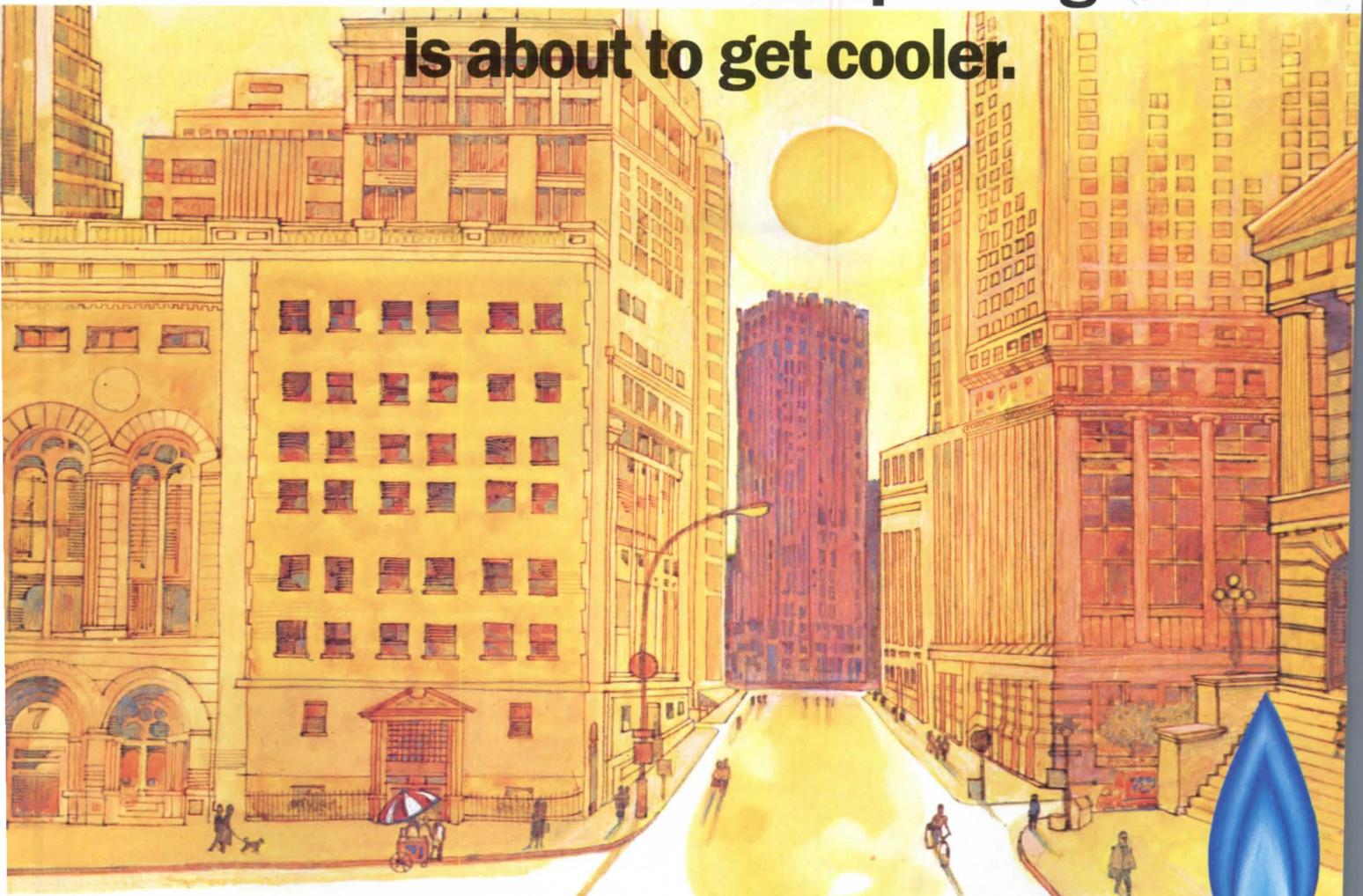
Other routes that have been used to protect designs include "trade-dress" infringement. This federal statute, an offshoot of the Trademark Act, protects the "packaging" of a product to the extent that it identifies the

Mr. Glazer is an attorney with the firm of Wyman, Bautzer, Kuchel & Silbert in Washington, D. C. He specializes in real-estate and general corporate matters.



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Legal protection for design concepts is limited in scope. Ideas are in the public domain so it will always be difficult to prevent duplication.

product's source. To be eligible for such protection, the packaging must be again "nonfunctional," meaning that the particular feature in question must not be "essential to the use or purpose of the article" or "affect the cost or quality of the article." The packaging also must have acquired "secondary meaning," by which its design is readily identified with its producer or source.

The trade-dress statute was invoked in one reported case involving a house and was not successful (photo). In that case, the architect argued that his houses were "unique" and that each house that he designed was "one-of-a-kind." This argument, however, did not persuade the court that secondary meaning was established, because it tended more toward the opposite inference—namely, that there was no "unique ornamental design or unique fixture" common to all of the architect's houses that was a "signature." As to nonfunctionality, the judge in that case had difficulty with the notion that "[a] home, with its roof, siding, doors, windows, etc." is anything but "an inherently functional structure."

There may, of course, be notable candidates for secondary meaning, like the distinctive features of a Frank Lloyd Wright house or the Chippendale roof of the Johnson & Burgee design for the AT&T building in New York City. Such features, however, do not always identify their originating architects by appearing on every one of their designs. And such features are not as common in the work of lesser-known designers.

Several states recognize a common-law or statutory-law remedy for unfair competition that affords redress for various forms of unfair or deceptive trade practices. The scope of the law of unfair competition defies precise definition. But one

doctrine in this area touches upon the concern of architects in protecting their designs.

Generally speaking, the law of misappropriation prohibits the use of intangible property that possesses commercial value without the owner's consent. Occasionally courts also award damages for misappropriation. It was devised to prohibit the misappropriator from trying "to reap where he has not sown" and "appropriating to himself the harvest of those who have"



A house very closely resembling this one designed by architects Nadler, Philopena & Associates was built last year only a few doors away from the original

(International News Service vs. Associated Press, 1918). This law has been used to prevent the use of intangible property to compete against its owner without his consent. It is limited, however, to instances in which the defendant, by misappropriating, was directly and substantially saved from the need to perform work himself. If the defendant takes only the idea of the product and spends his own time and efforts to develop an image of the idea for himself, then he is not guilty. This, of course, lands the plaintiff in the same area of uncertainty as exists with the theories discussed earlier in this article.

A problem generally with unfair-competition claims based on state law, especially in architectural-design cases, is the degree to which the state-law remedy is pre-empted by federal copyright law. Under the U. S. Constitution, federal law is the "supreme Law of the Land." Therefore, to the extent that a common-law unfair-competition claim adds no extra element to a claim within the scope of the federal copyright statute, the state-law claim is precluded.

in Scarsdale N. Y., and provoked national publicity when the "copycat's" builders were taken to court [RECORD, June 1988, page 33].

If a suit is successful, what does the plaintiff stand to get?

The copyright statute specifies that a plaintiff may elect to receive either "the actual damages he suffered from infringement plus any profits of the infringer that are attributable to the infringement" or statutory damages of up to \$10,000 (up to \$50,000, if the infringement is willful). Also, a court is granted discretionary power to award attorney's fees to the prevailing party. The right to be awarded attorneys' fees as well as the right to elect to receive statutory damages instead of actual damages, however, is lost if the copyright holder fails to register with the

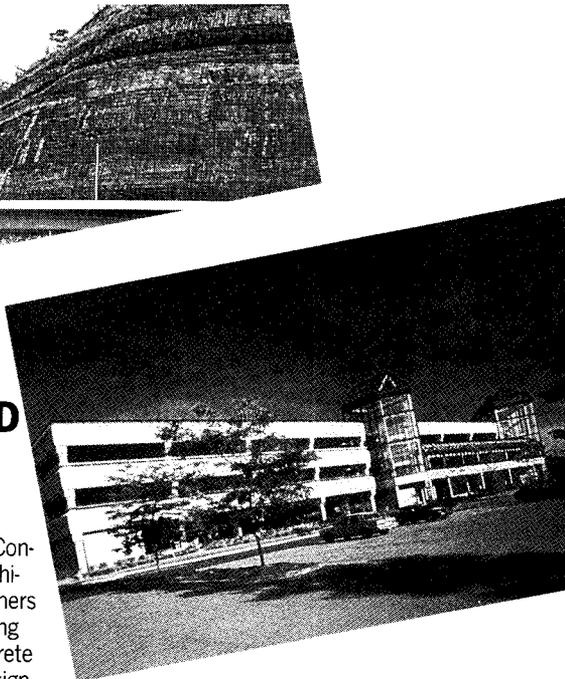
Copyright Office within three months after the first publication of the work. The issue of measuring damages has been addressed in two reported cases and the outcomes have been somewhat different:

In one case, architects Aitken, Hazen, Hoffman, Miller sued the Empire Construction Company in 1982 for actual damages plus Empire's profits and was awarded the fair-market value of the architectural plans (less the cost to the defendant of revising the plans); the entire net profits of the developer and construction company in building and selling the project; and the costs of the suit (but not attorneys' fees). In another case, Robert R. Jones Associates recovered only actual damages equal to 15 percent of the gross profit on the average sale of an infringing model house from Nino Homes. Interest on awards is not allowed for the period prior to judgment in a copyright case. This is important in assessing the value of time lost while awaiting recovery in litigation—especially in federal courts that have overcrowded dockets.

Working under the AIA form contract and properly copyrighting drawings are the most practical steps to take in protecting a design from piracy, but legal protection for design concepts is limited in scope. Ideas are in the public domain, and therefore it will always be difficult, absent new legislation, for architects to prevent other design professionals from duplicating their concepts or using them to build another structure. If the problem is blatant copying of plans, however, the copyright statute affords an adequate remedy. Architects should be aware of the importance of a © on plans, both from the standpoint of what to protect and what not to duplicate.

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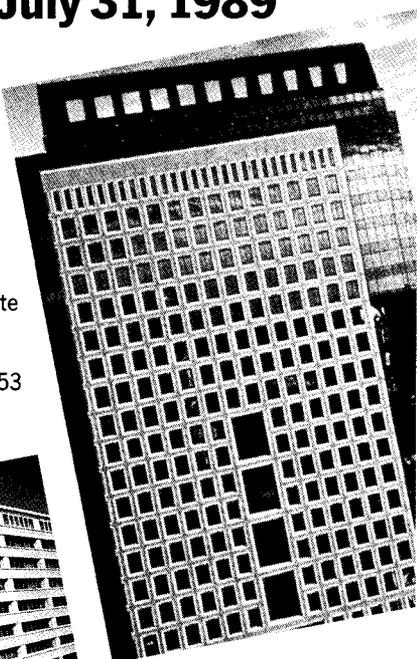
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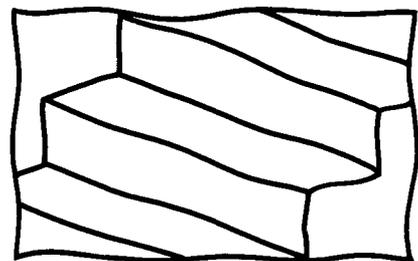
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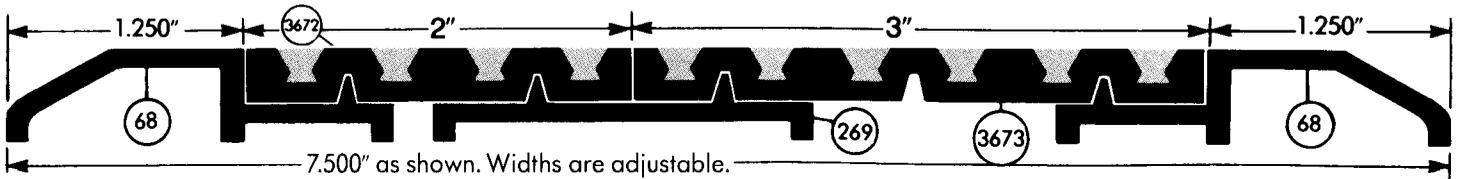
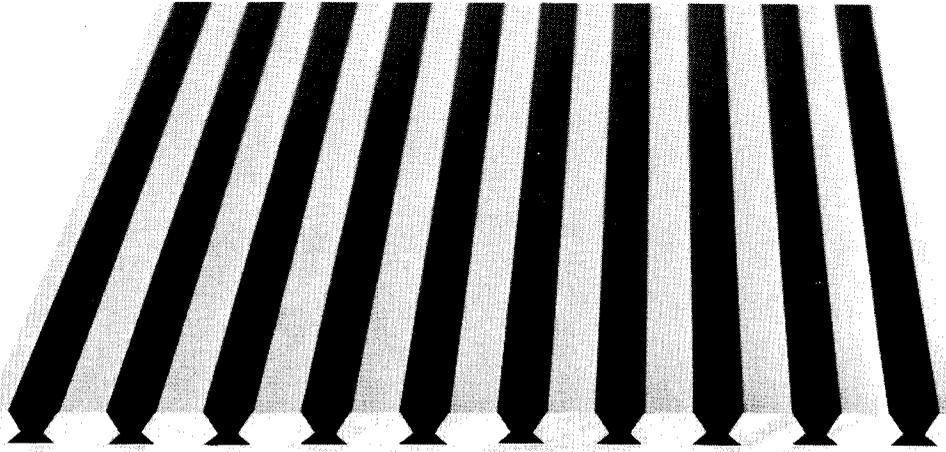
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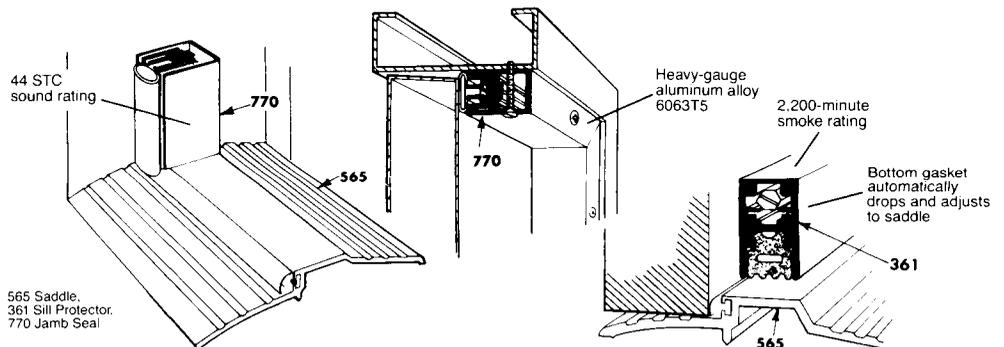
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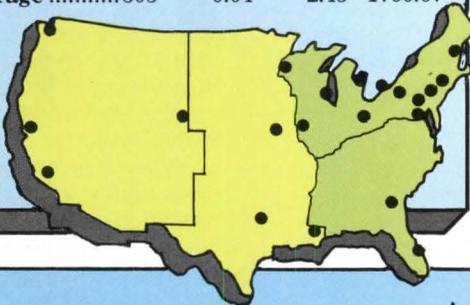
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IS GOOD ENOUGH
FOR LONG ENOUGH.

Construction costs: No inflation here

Summary of Building Construction Costs

| | Number of metro areas | 10/88 to 1/89 | 1/88 to 1/89 | 1977* to 1/89 |
|------------------------------------|-----------------------------|---------------------|--------------------|---------------------|
| Eastern U. S. | | | | |
| Metro NY-NJ | 18 | 0.45 | 3.90 | 1937.03 |
| New England States | 33 | -0.07 | 2.13 | 1829.67 |
| Northeastern and | | | | |
| North Central States | 120 | -0.17 | 2.23 | 1730.87 |
| Southeastern States | 106 | 0.21 | 3.76 | 1796.50 |
| Average Eastern U. S. | 277 | 0.02 | 2.91 | 1781.15 |
| Western U. S. | | | | |
| Mississippi River and | | | | |
| West Central States | 122 | -0.50 | 0.50 | 1697.78 |
| Pacific Coast and Rocky | | | | |
| Mountain States | 106 | -0.31 | 3.49 | 1808.11 |
| Average Western U. S. | 228 | -0.12 | 1.89 | 1749.07 |
| United States Average | 505 | -0.04 | 2.45 | 1766.67 |

*Using only cities
with base year of 1977



Since the beginning of 1988, construction costs have risen at rates higher than any seen since 1984. The greatest increase was in the first quarter—0.89 percent on national average. But it did not seem all that worrisome, indeed an aberration fed by an unexpected 10-percent spurt in February construction volume (supply and demand in play) and the consequent high expectations of many labor unions just then negotiating new contracts. What a surprise, then, to find costs in the second quarter rising at almost as strong a pace as in the first. The volume of construction was finally turning down and the major labor contracts were done.

It seemed, as Marshall + Swift analyst Frank Benz so ominously put it, the effects of dreaded inflation were upon us. And worries were not eased in the third quarter when costs continued to climb vigorously. Indeed, the theory of inflation's grip taking hold was additionally borne out by a reversal of the usual roles that regions play in either pulling up or moderating national averages. Metropolitan New York-New Jersey and New

England, which had been the leaders in cost rises for some time (presumably because of a residue of continued strong construction rates when compared to the rest of the nation), fell behind the Southeast and the Pacific Coast by a substantial amount. This seemed to eliminate the last vestige of argument that the rises were due to regional imbalances of supply and demand.

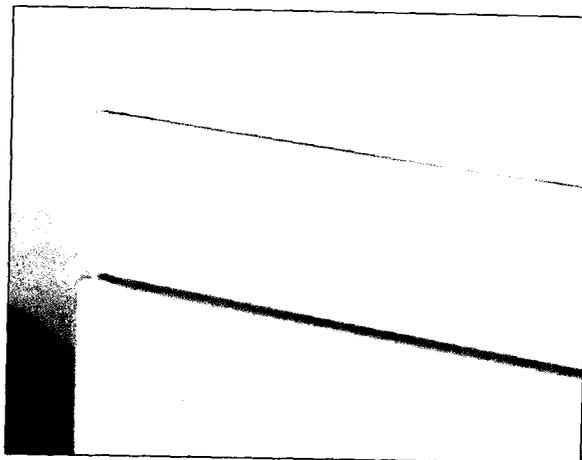
What a relief, then, to find in this fourth-quarter report, costs not only in check but falling—by 0.04 percent on national average. This was despite some healthy material-cost increases. Specific percentage rates were concrete, 0.4; plywood, 2.2; gypsum board, 3.5; and all materials, an average of 0.4. Some materials did manage to decline. Their rates: lumber, 0.7; asphalt 0.9; structural steel, 0.2; and copper pipe, 0.6. There is a lot more volatility in these prices than there has been in recent years and the results ahead bear watching. *Charles K. Hoyt*

Data supplied by Dodge Cost Systems, Marshall + Swift

Historical Building Costs Indexes

| Metropolitan area | Average of all Nonresidential Building Types, 21 Cities | | | | | | | | | | | 1977 average for each city = 1000.0 | | |
|-------------------|---|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|-------------------------------------|-----|-----|
| | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1st | 2nd |
| Atlanta | 1171.5 | 1712.6 | 1925.6 | 2098.6 | 2078.0 | 2360.6 | 2456.7 | 2448.7 | 2518.3 | 2561.9 | 2580.9 | 2697.3 | | |
| Baltimore | 1018.4 | 1107.7 | 1304.5 | 1446.5 | 1544.9 | 1639.5 | 1689.7 | 1703.7 | 1743.8 | 1765.2 | 1780.2 | 1849.1 | | |
| Birmingham | 1029.7 | 1142.4 | 1329.9 | 1407.2 | 1469.9 | 1468.1 | 1535.7 | 1594.7 | 1565.7 | 1587.4 | 1542.6 | 1612.5 | | |
| Boston | 1023.4 | 0998.6 | 1236.0 | 1283.7 | 1432.5 | 1502.0 | 1569.9 | 1646.0 | 1721.0 | 1773.6 | 1883.0 | 1921.6 | | |
| Chicago | 1007.7 | 1032.8 | 1199.7 | 1323.6 | 1344.7 | 1425.8 | 1439.5 | 1476.7 | 1528.0 | 1599.9 | 1591.4 | 1636.5 | | |
| Cincinnati | 0848.9 | 0991.0 | 1323.9 | 1385.2 | 1350.4 | 1362.6 | 1430.8 | 1484.5 | 1486.6 | 1499.4 | 1510.9 | 1526.8 | | |
| Cleveland | 1034.4 | 1040.8 | 1287.5 | 1388.2 | 1459.5 | 1511.4 | 1475.9 | 1464.0 | 1474.1 | 1525.7 | 1541.8 | 1550.7 | | |
| Dallas | 1042.4 | 1130.6 | 1431.9 | 1481.9 | 1750.6 | 1834.3 | 1925.9 | 1958.0 | 1963.3 | 1973.9 | 1947.2 | 1927.2 | | |
| Denver | 1038.8 | 1100.4 | 1495.6 | 1487.4 | 1632.2 | 1679.1 | 1800.1 | 1824.3 | 1821.8 | 1795.8 | 1732.7 | 1725.3 | | |
| Detroit | 1018.1 | 1087.3 | 1275.3 | 1447.4 | 1580.3 | 1638.0 | 1672.1 | 1697.9 | 1692.6 | 1696.6 | 1689.3 | 1734.4 | | |
| Kansas City | 1023.5 | 0951.5 | 1125.8 | 1233.2 | 1323.4 | 1381.8 | 1407.5 | 1447.1 | 1472.5 | 1484.7 | 1493.7 | 1505.6 | | |
| Los Angeles | 1022.5 | 1111.0 | 1255.3 | 1387.5 | 1474.3 | 1503.3 | 1523.9 | 1555.1 | 1571.0 | 1609.7 | 1675.1 | 1789.5 | | |
| Miami | 1004.5 | 1080.9 | 1330.1 | 1380.6 | 1369.1 | 1392.1 | 1467.6 | 1522.2 | 1540.6 | 1566.2 | 1589.2 | 1625.2 | | |
| Minneapolis | 1060.2 | 1196.8 | 1286.9 | 1327.7 | 1442.6 | 1576.8 | 1624.6 | 1640.4 | 1661.0 | 1674.0 | 1677.0 | 1690.6 | | |
| New Orleans | 1001.3 | 1138.8 | 1291.9 | 1505.7 | 1572.7 | 1616.9 | 1650.5 | 1691.4 | 1762.5 | 1760.2 | 1699.8 | 1707.3 | | |
| New York | 1005.4 | 1043.0 | 1247.1 | 1319.4 | 1419.2 | 1491.8 | 1672.5 | 1747.2 | 1806.7 | 1899.9 | 1980.9 | 2065.3 | | |
| Philadelphia | 1013.8 | 1074.2 | 1487.5 | 1539.5 | 1660.7 | 1769.4 | 1819.5 | 1922.1 | 1967.9 | 1992.7 | 2023.5 | 2171.4 | | |
| Pittsburgh | 1016.1 | 1015.0 | 1227.0 | 1341.7 | 1493.2 | 1479.5 | 1497.2 | 1576.1 | 1611.0 | 1665.8 | 1647.3 | 1700.3 | | |
| St. Louis | 1039.1 | 1198.8 | 1275.9 | 1320.0 | 1397.3 | 1451.2 | 1524.9 | 1625.5 | 1641.8 | 1647.4 | 1653.5 | 1705.7 | | |
| San Francisco | 1083.2 | 1326.8 | 1473.4 | 1644.8 | 1776.4 | 1810.1 | 1856.8 | 1935.3 | 1961.8 | 1995.5 | 1992.0 | 2090.9 | | |
| Seattle | 1142.5 | 1137.9 | 1373.4 | 1616.8 | 1814.9 | 1962.7 | 1979.0 | 1948.9 | 1937.9 | 1925.3 | 1874.7 | 1968.0 | | |

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Management: Estimating your estimates

By Charles C. Munroe III



Whether an architect uses his own staff or a consultant, he will want to know how many manhours to allot to providing a client with the probable cost of construction for a project. The question becomes critical if, for whatever reason, the preparation of the estimate has been delayed until just before a deadline. Then, the scheduling process is complicated by the problem of deciding whether to assign more personnel to the task, authorizing overtime, or both.

It is an axiom of estimating that the quality of an estimate is directly proportional to time spent on its preparation. One prepared in haste simply will not have the integrity of one prepared without the pressures of an imminent deadline. The problem of how many manhours to assign to the preparation of an estimate could be greatly simplified by a formula or rule of thumb. Unfortunately, until now, there were none.

A recent survey by the American Society of Professional Estimators queried the membership on how each firm calculated the manhours necessary to prepare estimates

Mr. Munroe is currently president of the Los Angeles chapter of the American Society of Professional Estimators; a certified professional estimator; a member of the American Association of Cost Engineers; and principal project estimator for EuroDisneyLand, Walt Disney Imagineering.

in the various disciplines of construction. A statistical average was generated from the responses. The result? There are at least eight different methods. One rather primitive technique involves hefting the roll of drawings and prognosticating the manhours from the weight. Fortunately, this method does not enjoy a wide following. The two most frequently employed methods are the sheet-count and percentage-of-total-cost methods.

In the sheet-count method, the manhours are proportional to the number of drawings

Its utilization starts with the removal of those sheets that will not be used in the preparation of the estimate (such as the title sheet, index sheets, symbol sheets, etc.) The balance is

work entail extraordinary detail, or the mechanical and electrical work be exceptionally complicated, then the manhour rates should be increased accordingly. In addition to manhours, extra monies must be added on for such activities as client conferences, site visits, plan pickups and deliveries, change-order work, bid tabulations, etc.

The percentage-of-total-cost method requires the estimator to have a rough idea of the cost of a project beforehand

This method may seem a little like putting the cart before the horse. In actual practice, the estimator develops a rough order-of-magnitude estimate by totaling the gross floor area in a project and multiplying that by

larger percentage of the total project cost and vice versa .

A major weakness of this method could be its failure to take into consideration buildings having a high repetition of elements, such as a hotel in which all guest-room floors are identical. Obviously, it would be a waste of time to estimate the cost of each of these identical floors when only one need be estimated and multiplied by the number of identical floors. Again, in the case of a housing development in which there may be many houses, but only a few models, it is unnecessary to estimate every house. Discretion must be employed when using this method and, when a project does have repetitions, either another method selected or a factor for the repetitions taken into consideration. Obviously, as in the sheet-count method, allowances must be made for services entailed by providing the estimate in the first place.

The hourly rates charged by estimating consultants vary widely

They can range from a low of \$25 per manhour to as high as \$75 per manhour. Higher rates tend to be charged by large consulting firms with high overheads rather than free-lance estimators on their own, so that the value of employing an established firm must be weighed against the necessity of having to evaluate the free-lancer's expertise. Rates also vary by region of the country—averaging \$29 per manhour in the Southeast, \$31.50 in the Northeast, \$33 in the Central States, \$41.50 in the Southwest, and \$38.50 nationally. Armed with the basics of time and costs, you should have an easier time budgeting your next construction-cost estimate.

Percentage of Total-Cost Method

| Total project cost (\$ 1000) | Estimating cost (percent) | | |
|------------------------------|---------------------------|---------|-------|
| | Low | Average | High |
| Under 100 | 0.560 | 1.000 | 1.500 |
| 100 - 199 | 0.330 | 0.770 | 1.250 |
| 200 - 399 | 0.270 | 0.750 | 1.200 |
| 400 - 599 | 0.220 | 0.600 | 1.125 |
| 600 - 999 | 0.170 | 0.550 | 1.000 |
| 1,000 - 2,499 | 0.150 | 0.450 | 0.750 |
| 2,500 - 4,999 | 0.100 | 0.350 | 0.500 |
| 5,000 - 9,999 | 0.087 | 0.250 | 0.380 |
| 10,000 - 19,999 | 0.077 | 0.210 | 0.340 |
| 20,000 - 39,999 | 0.066 | 0.180 | 0.300 |
| 40,000 - 100,000 | 0.050 | 0.100 | 0.200 |

segregated according to discipline, counted, and rates applied: 2.65 manhours per sheet for civil and site work, 3.00 for architectural and structural work, 3.25 for mechanical, and 3.50 for electrical.

These rates apply only to definitive estimates and assume normal construction. If the civil work should require extensive cut-and-fill calculations, the architectural and structural

an average cost per-square-foot (such as that provided by Marshall + Swift, R. S. Means, or the estimator's own historical cost figures derived from experience). The result is then multiplied by a percentage factor (see table) to arrive at the cost of preparing an estimate. The percentage factor applied varies with the size, complexity, and gross value of the project. Smaller projects command a



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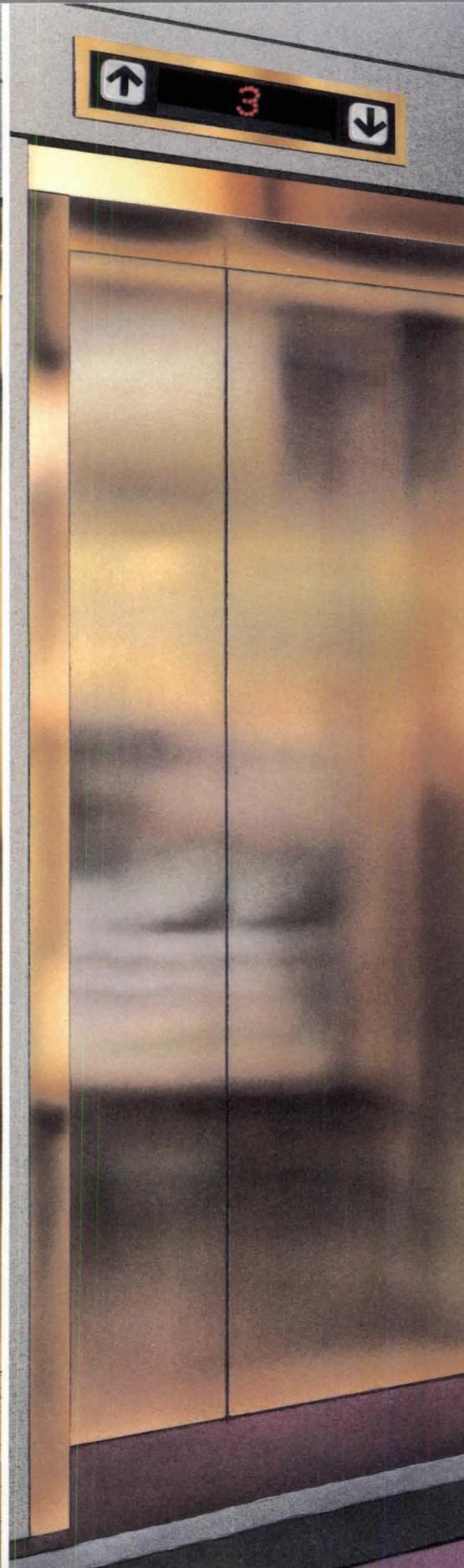


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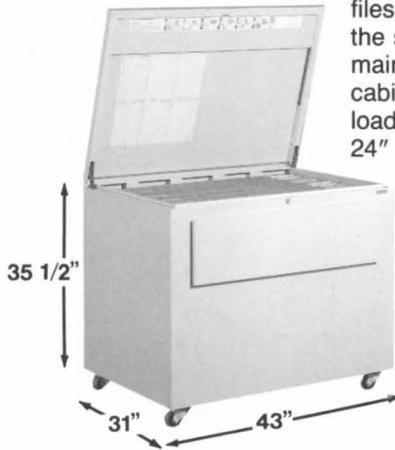
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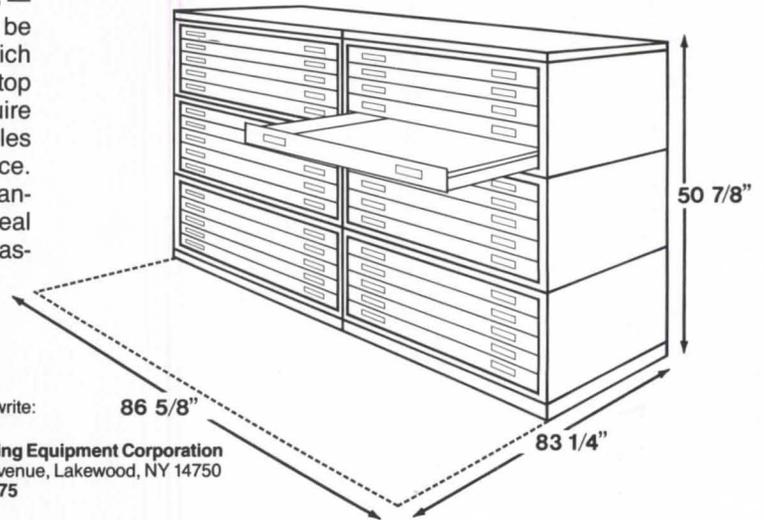


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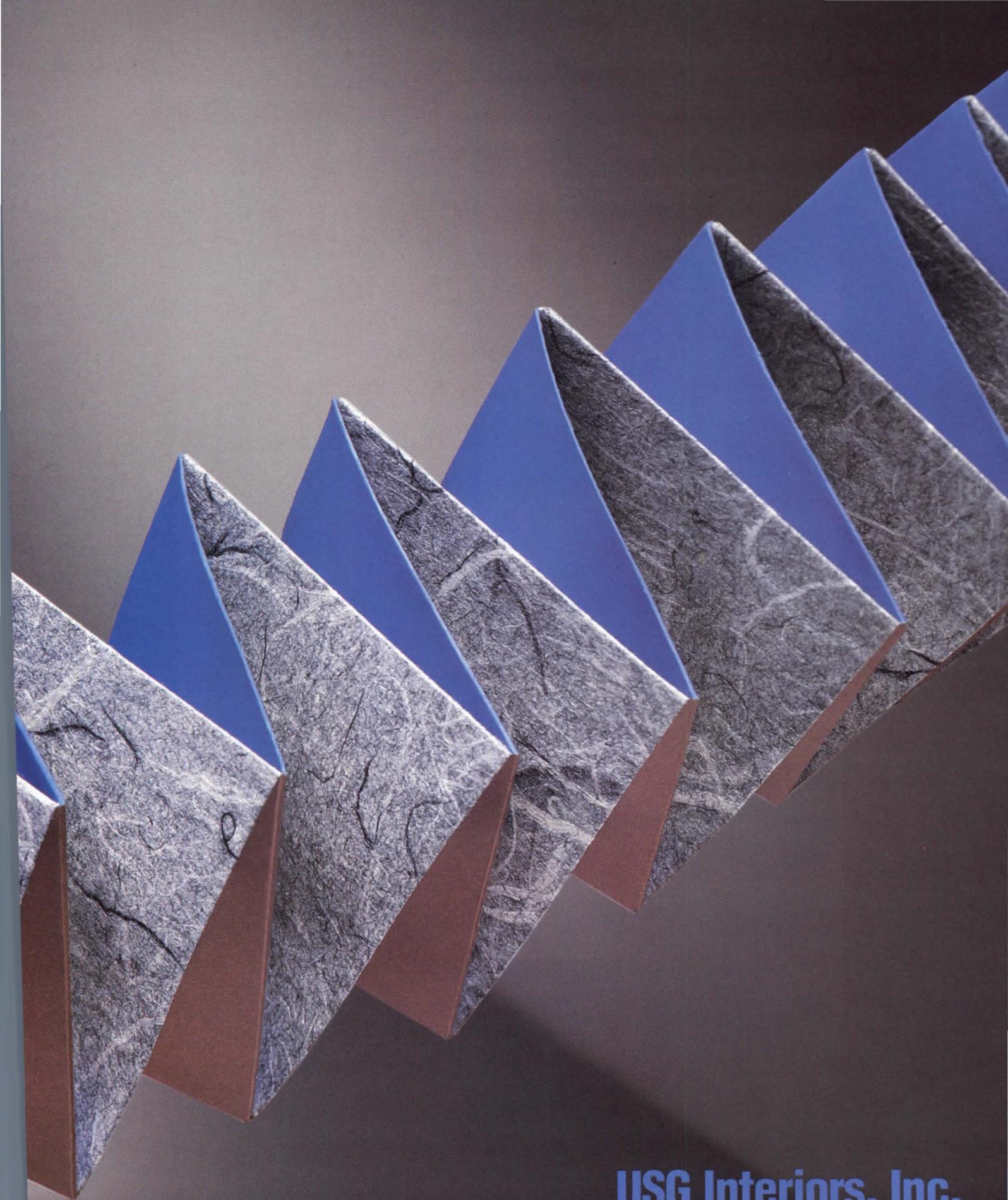
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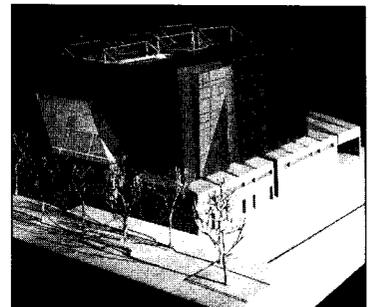
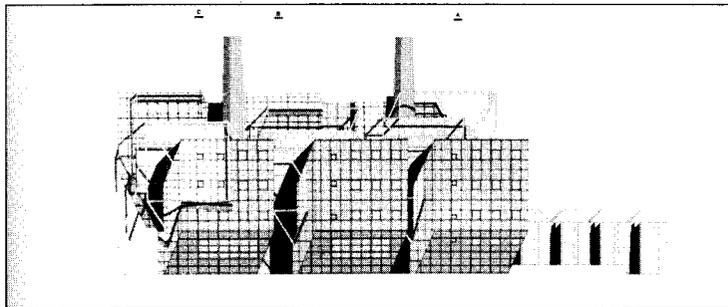
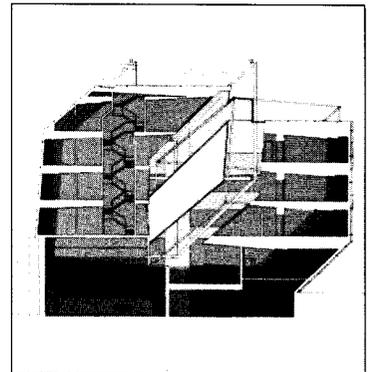
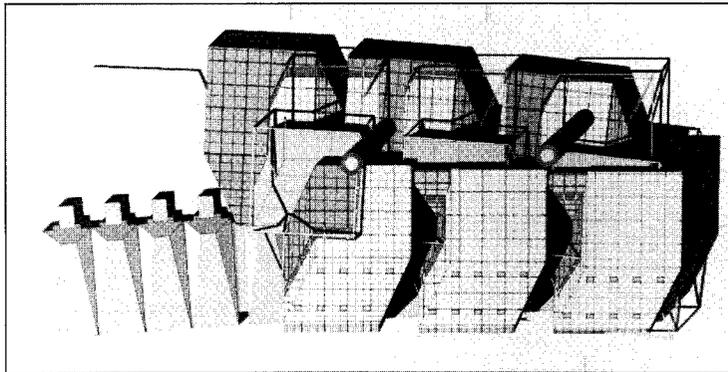
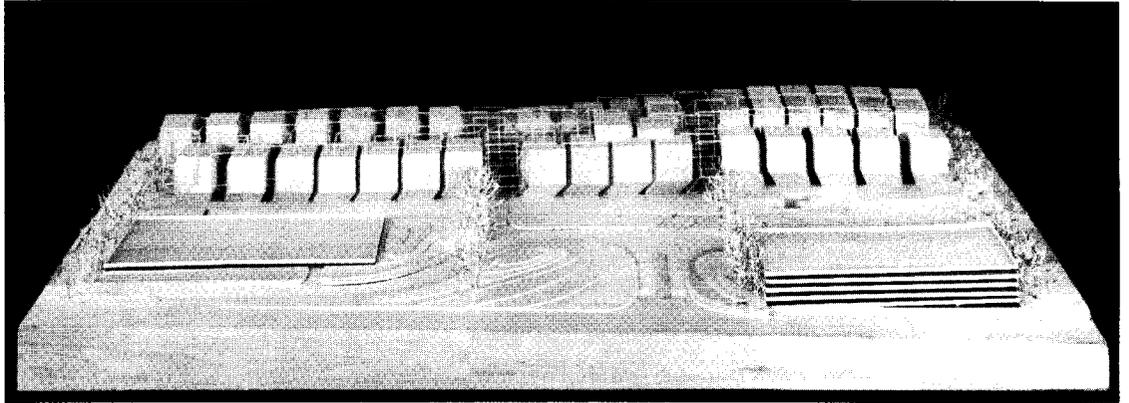
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The Boolean cube made tangible



The exceedingly unusual architectural geometry for this pair of buildings was devised by Peter Eisenman in direct response to a gauntlet thrown down by his client. The proposed buildings—the Carnegie Mellon Research Institute at the right end of the model (top) and the privately developed Pittsburgh Technology Center office building at the left—will house advanced computer research in such areas as artificial intelligence. Richard Cyert, president of Carnegie Mellon University, challenged Eisenman to design a building that would leave behind old-fashioned

architecture and symbolize the current knowledge revolution and the theories behind it.

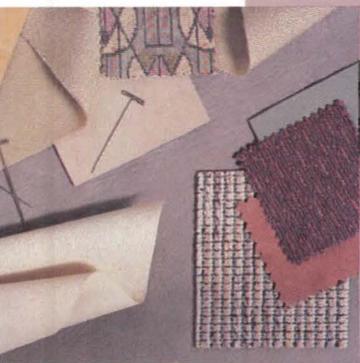
The so-called Boolean cube, or n -cube, was the basis of Eisenman's design. Among other qualities, Boolean geometry (named for 19th-century mathematician George Boole) provides many possible connections from corner nodes (connections are important in Boolean geometry and in artificial-intelligence modeling). As described by Eisenman, "Each building is made up of three pairs of $4-n$ Boolean cubes. Each pair contains two solid cubes with 40-foot and 45-foot

members and two frame cubes with 40-foot and 45-foot members. Each pair can be seen as containing the inverse of the other as solid and void."

The Carnegie Mellon Research Institute appears in the center row of drawings above and shows solid $4-n$ cubes and frame $5-n$ cubes. The central trapezoid in the section is an ornamental representation of an internal geometric connection in the atrium. The bottom row shows the CMRI in elevation at the left. A model of the office building (right) shows a simpler geometry of "solid" cubes connected by "hollow" frame cubes.

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News briefs

The AIA's 25 Year Award will go this year to the Vanna Venturi house, designed in 1964 by Robert Venturi for his mother. In selecting the house, the AIA Honor Award Jury observed, "By giving architects a new way of seeing, this modest structure both liberated and energized the profession and added new life to the American environment."

The Hôtel des Invalides in Paris will undergo renovations and repairs as part of the 1989 Bicentenary Celebration of the French Revolution. The hôtel, for which Mansart was one of the architects, is Napoleon's burial place. The French government will pay for exterior regilding of the famous dome, and the World Monuments Fund will help organize repairs of interior décor and its 17th-century paintings.

James Marston Fitch has been awarded the \$20,000 Distinguished Designer Fellowship by the National Endowment for the Arts. Fitch, who is director of historic preservation for the New York City architectural firm Beyer Blinder Belle, will use the award to finish his book, *The Architecture of the American People: 1565-1969*.

Educational materials for architects teaching general students, from preschoolers to adults, about their profession are provided in *The Sourcebook 2*, published by the American Institute of Architects.

Architectural commissions: Michael Graves has been appointed master planner and architect for the renovation and expansion of the museum of the Detroit Institute of the Arts; Gwathmey Siegel & Associates will design renovations for the School of Architecture at Pratt Institute in Brooklyn, New York; Cesar Pelli & Associates will design a \$26.5-million School of Law and the Babcock Graduate School of Management in Winston-Salem, North Carolina.

By the book



The calm elegant presence of the Pierpont Morgan Library in Manhattan's Murray Hill district has special appeal for New Yorkers, partly because of McKim, Mead & White's superlative design for the building, partly because of the institution's energetic programs of collection and exhibition. Both operations, however, led to serious overcrowding in McKim's building (upper right corner of model) and its 1920s addition. Last year, the library bought an imposing brownstone mansion on one corner of the Madison Avenue site (left edge of model) and asked architects Voorsanger & Mills Associates to join the mansion and the library.

The architects considered that their chief challenge was to maintain "the intimacy of the institution and the integrity of the architecture." The major changes will thus be inside, the mansion becoming an education center and meeting center with exhibition and office space. The existing building will gain a permanent-collections gallery.

The only new construction will offer a covered garden under a clerestoried glass vault. The court, to be designed by landscape architect Dan Kiley, will connect the buildings with a tranquil sitting area.

NEOCON 21: Furnishings show-and-tell

NEOCON 21, this year's version of the annual furnishings exposition, will take place June 13-16 at Chicago's Merchandise Mart. Its opening session, "World Culture: Agenda for the 1990s," will field an international panel, with Emile Biasini, of the French Ministry of Culture,

Viacheslav Leonidovich Glazychev, journalist and vice president of the Union of Architects, USSR, and Adele Chatfield-Taylor, president of the American Academy in Rome.

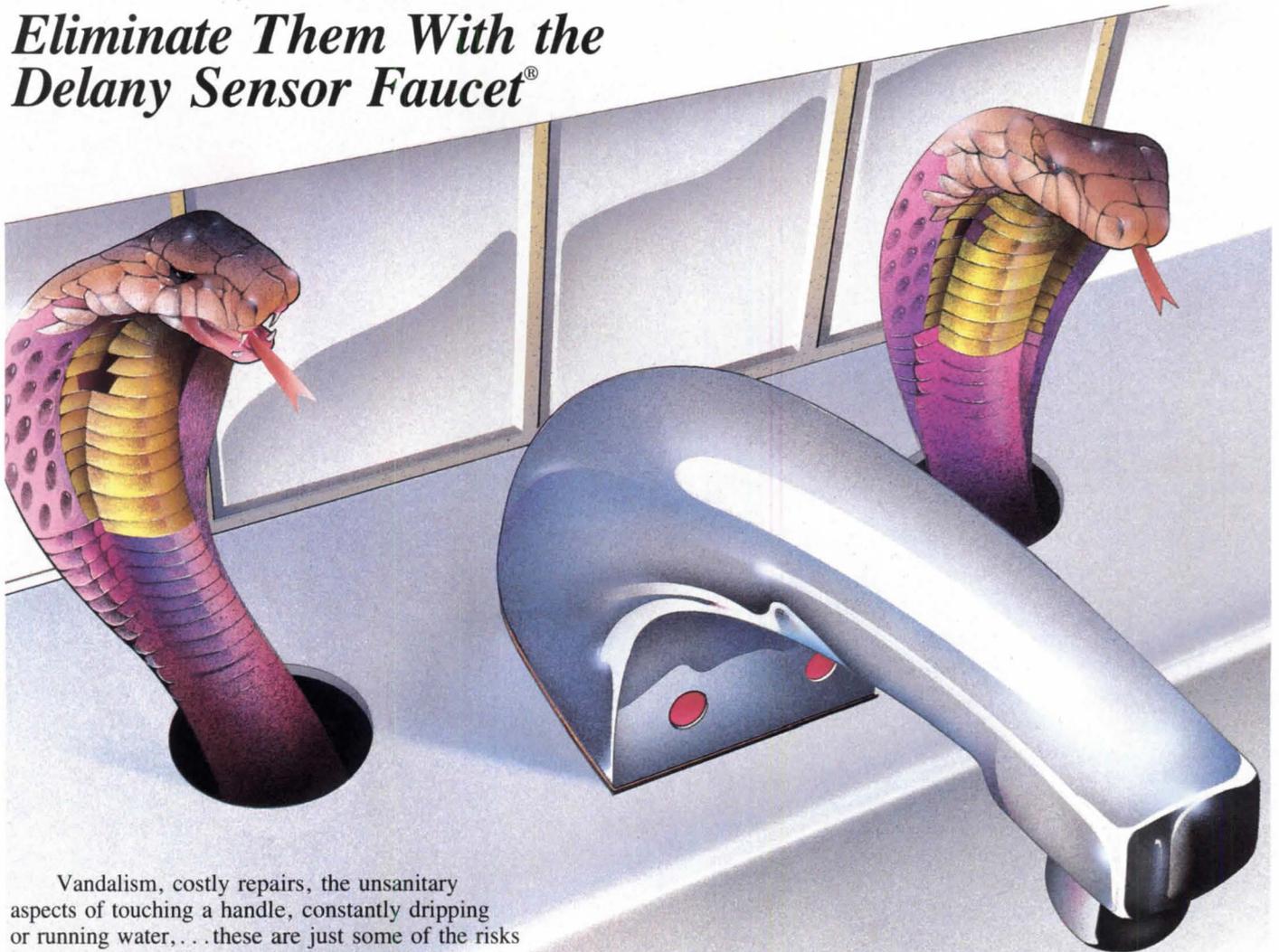
As usual, much of the exposition will focus on office furnishings, and the Institute of Business Designers will hold its fifth annual conference during the first two days of Neocon. Seminars will also address such topics as showrooms and healthcare facilities. This year, moreover, a related exposition will expand available interiors information beyond furnishings: "The Environmental Products &

Services Exposition," scheduled for June 12-14 at Expocenter/Chicago, will show such building products and office equipment as business machines and computers, security and fire-protection systems, electrical and lighting systems, and other products.

This year's Chicago Architecture Awards, cosponsored by ARCHITECTURAL RECORD and the Illinois Council, American Institute of Architects, will be presented to Philadelphia urban planner Edmund N. Bacon, Chicago landscape architect Alfred Caldwell, and French architect Jean Nouvel.

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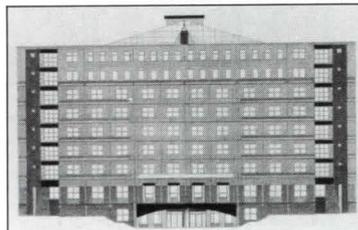
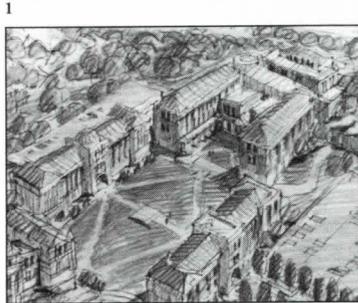
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News briefs

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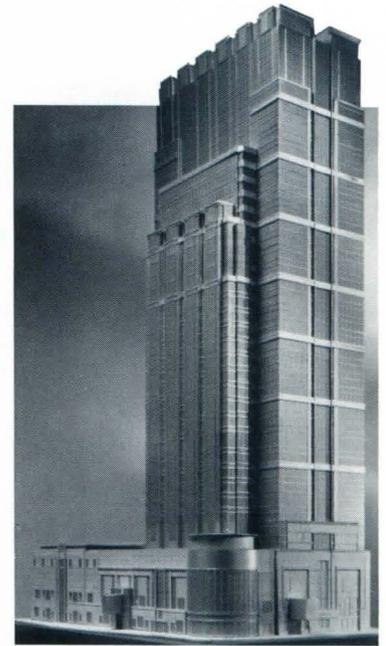
Cervantes Convention Center in St. Louis will double its overall space with new exhibition area, meeting rooms, lobby and registration area, and kitchen and mechanical space. Designed by Hellmuth, Obata & Kassabaum, the additions will include two new brick and granite entrances marked by three-story arched windows (1); the new wings will be topped with lighted towers. Construction is scheduled to begin in July.

The Catholic University of America will build a law school on its campus in Washington, D. C. (2). Architects Keyes Condon Florance won the commission in a two-day charette/competition conducted by the university's school of architecture. The firm attributes the victory to its concentration on siting, in which it used the new building and courtyards to resolve disparate grids and axes generated by existing buildings and streets.

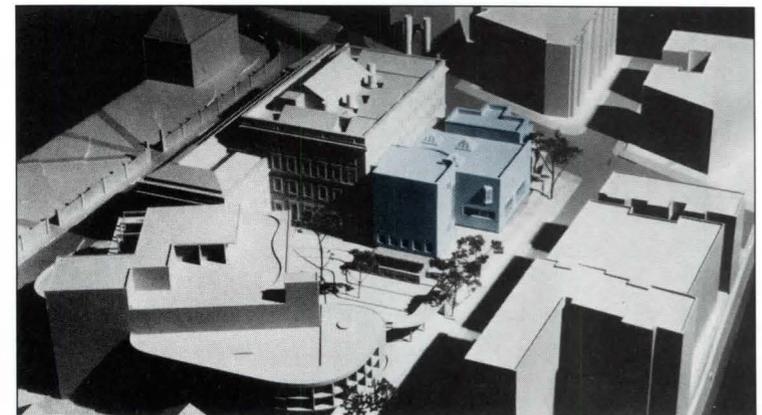
The Residence Life Complex at the New Jersey Institute of Technology in Newark (3) was designed by the Hillier Group. The building will house 434 students, as well as providing commons and lounges, rooms for staff, and a campus bookstore. The patterned brickwork is meant to fit with existing buildings on campus. Construction of the 110,000-square-foot building began earlier this year.

A new Federal Building is planned by the General Services Administration in Chicago's south Loop (4); construction of the offices will start this fall. Fujikawa, Johnson & Associates designed the 27-story black thermal-finished granite exterior to agree with other federal buildings in the city's central business district. The building will be developed by Stein & Company Federal Center, Inc.

Planned by Lohan Associates as part of Minneapolis's renovation and beautification of its downtown Nicollet Mall, the mixed-use Dain Bosworth/Neiman-Marcus Plaza will be built by BCE Development Properties. The four-story retail base will have a glass tower at one corner to serve as a visual and physical link with the city's pedestrian skyway system. Although the top of the 33-story asymmetrical office tower is Modernistically flat, its sides and corners are more complexly articulated than one expects of the style, and thus the building will assert itself on the skyline.



Museum as moderator

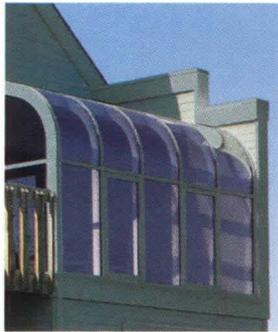


The new Werner Otto Hall at Harvard University, designed by Gwathmey Siegel & Associates, has a complex program that calls for a reading room, curatorial offices, art storage, and second-floor galleries for the Busch-Reisinger Museum's collection of 20th-century Central and Northern European art—all to be built above underground space for the Fine Arts Library.

An even more difficult architectural necessity, though,

was to mediate somehow the neo-Georgian presence of the Fogg Art Museum along one side and the Modern presence of Le Corbusier's Carpenter Hall on the diagonal. The resolution interposes the new building between the street and the Fogg, capturing Corbu's rectilinear pavilion in a partially enclosed courtyard. Otto Hall will be faced with gray porcelain enamel tiles and trimmed with green slate and pink granite.

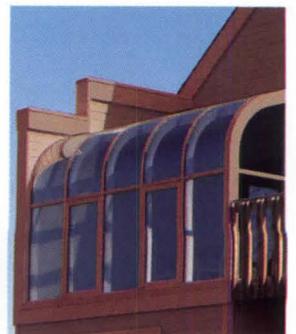
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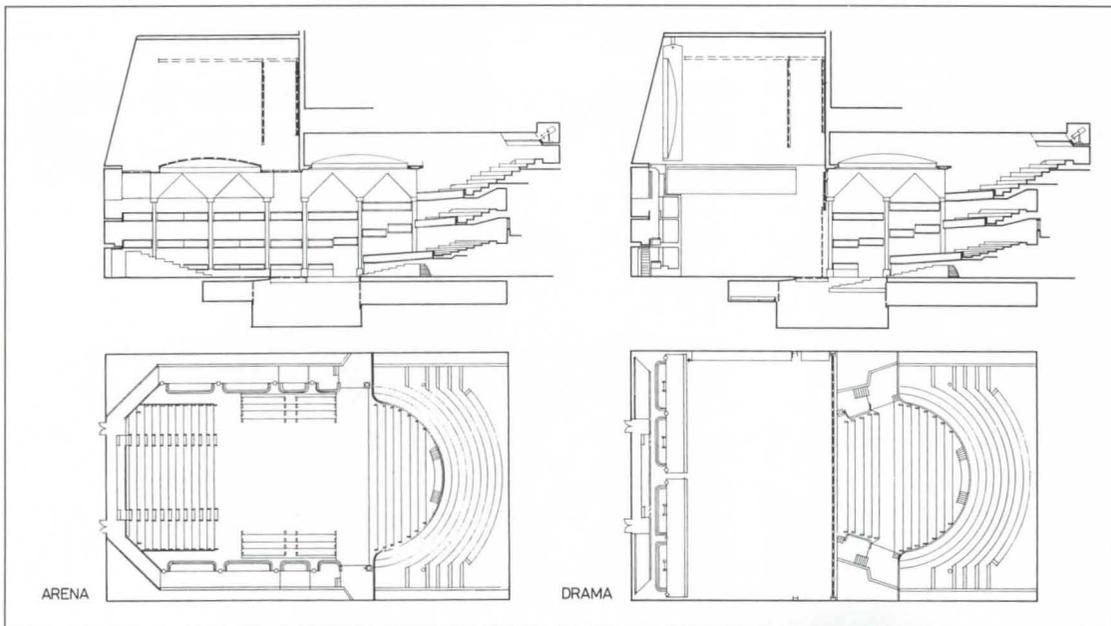
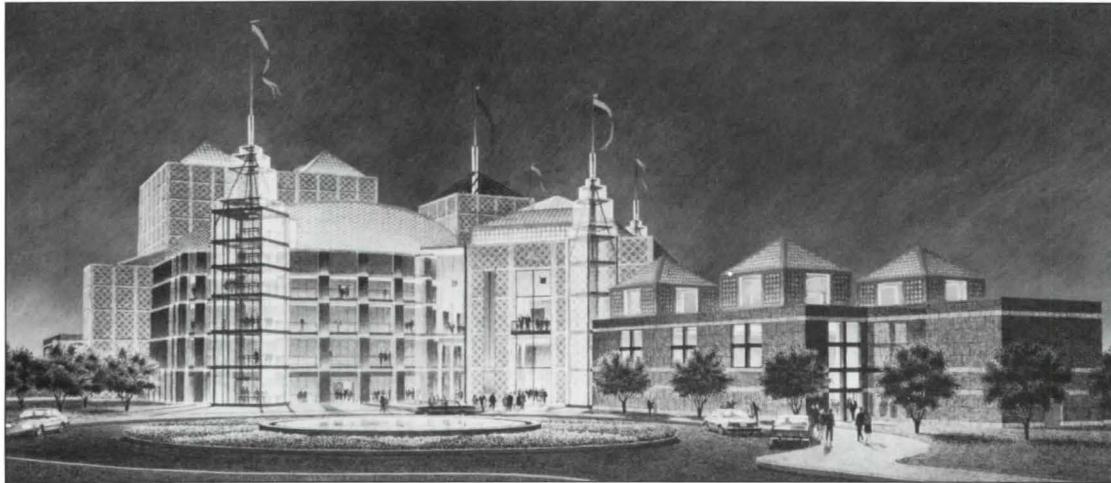
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Part of Cerritos's larger picture

Praise and commissions



Cerritos, a town of 50,000 in Southern California, has big plans for itself: the first building in its new community center is not the conventional mall or generalized meeting hall, but a good-sized multipurpose theater for concerts and plays.

Festival Hall, designed by Barton Myers Associates as part of the firm's master plan for Cerritos Town Center, will be completed next year. The working core of the \$30-million complex is, of course, the theater itself, which can assume five configurations when hydraulic lifts rearrange seats and boxes. Configurations range from the

1,684-seat arena theater format (plan left) to the 1,011-seat drama format (plan right). Other possibilities include a 1,670-seat concert hall, a 1,450-seat lyric format for musicals and ballet, and a flat-floor format for art festivals, dinner dances, and the like. In addition, the theater complex includes a large lobby with such adjacent open public spaces as the Poets Garden and the Actors Garden. The building will also include a large and a small meeting/dining hall and offices.

Rather than impose a megastructure on the small city, Myers carefully separated the

contents to suggest a cluster of small buildings. Thin spires with pennants will ornament the entry portals and look down on the stage house, which has itself been reduced in apparent scale with four pyramidal caps instead of a bleak flat top (at the back of the rendering at top). The large meeting hall has four lower caps. Each part of the complex can operate independently of the others.

The project's next phase will be a hotel opposite the entry shown above, and following phases call for three office buildings.

Thomas S. Monaghan, architecture buff and chairman of Domino's Pizza, has established the Domino's 30 Architects Award. On May 2 in New York City, he presented each of the 30 with a 5-inch bronze sculpture by architect/sculptor Charles Perry. Moreover, not content with lip service, Monaghan has commissioned designs for sizable buildings from five of the honorees. Charles Moore will design a lodge and other buildings for a resort, a petting zoo at Domino's world headquarters, and a 160-unit condominium near the company's headquarters. Arthur Erickson has been commissioned for a convention center addition to the Ann Arbor, Michigan, Marriott Hotel, while Hugh Hardy will design a convocation center for the University of Steubenville (Ohio). E. Fay Jones has already designed Monaghan's house, to be built in Ann Arbor, and Gunnar Birkerts will carry forward the next phase of his design for Domino's head office, also in Ann Arbor.

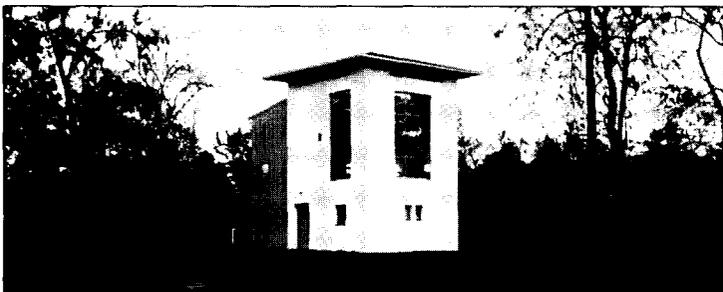
The other honored architects include Tadao Ando, Gae Aulenti, Edward Larrabee Barnes, Aurelio Galfetti, Frank Gehry, Michael Graves, Charles Gwathmey, Hans Hollein, Arata Isozaki, Philip Johnson, Henning Larsen, Fumihiko Maki, Richard Meier, Jean Nouvel, I. M. Pei, Reima Pietila, Cesar Pelli, Renzo Piano, Kevin Roche, Richard Rogers, Paul Rudolph, James Stirling, Benjamin Thompson, Aldo Van Eyck, and Robert Venturi. The architects were chosen by an international panel that included Toshio Nakamura, editor of the Japanese magazine *Architecture and Urbanism*, Arno Ruunsovuori, director of the Museum of Finnish Architecture, Ted Pappas, then president of the American Institute of Architects, and Mildred F. Schmertz, editor of *ARCHITECTURAL RECORD*.

Design awards/competitions: American Institute of Architects 1989 Honor Awards

The 12 buildings cited in the American Institute of Architects 1989 Honor Awards program exhibit a kind of architectural pluralism not visible even half a dozen years ago. Not only do the selected buildings range widely in style, geography, and building type—they include, of all things, a suspension bridge—but a quarter of them are older buildings restored or expanded. What the buildings have in common is their size: most are quite small. Writing the jury report, chairman David Childs of Skidmore, Owings & Merrill, New York City, observed



Jon Miller, Hedrich-Blessing



Mick Hales Photography

1. Martin May House Museum, Grand Rapids, Michigan; Tilton + Lewis Associates, Inc., Architects. The owners, Steelcase, Inc., wanted to restore this "extraordinary" 1909 Frank Lloyd Wright Prairie Style house as a museum with Wright's furniture and to undo many unsympathetic alterations. Commending the "adroit restoration," the jury said "this house radiates with the energy and enthusiasm of Wright himself and feels more like a private house than a museum. The architects have done more than restore a building—they've brought back a once lost friend."

2. Reid House, Johns Island, South Carolina; Clark & Menefee Architects [RECORD, mid-April 1988, pages 70-75]. Among the most modest of this year's honor awards, "this noble little farmhouse" has two structural components: a concrete-block section and a wooden shed, with an asphalt-shingle roof and pine flooring. After commenting on the design's classical architectural elements, the jury said, "Its humble materials and placement in the landscape give this home a poignant quality, as though it were a proud remnant from a past civilization."



Chad Floyd



David Verrico

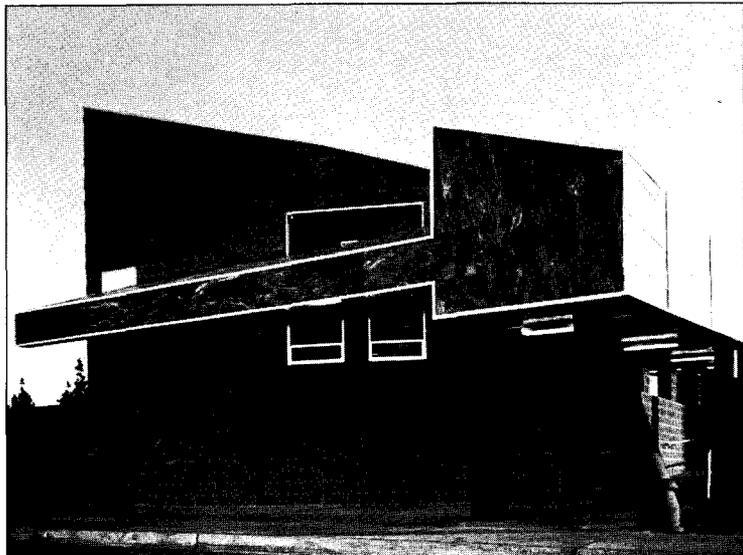
3. Seneca Lake Pier and Pavilion, Watkins Glen, New York; Chad Floyd, of Centerbrook, Architect. Though this is a newly built fishing pier and pavilion intended to revitalize a moribund little tourist town on one of New York State's Finger Lakes, it resembles the Adirondack boathouses and Victorian architecture that used to characterize the district. "The success of this lakeside project lies in its simplicity," the jury said, and it called the project "a charming architectural gateway linking the past to the present."

4. Miller Park Plaza, Chattanooga; Derthick, Henley & Wilkerson/Koetter, Kim & Associates, Architects. The first component to be built for a five-block plaza that will embody the city's determination to draw its citizens back downtown, this glass pavilion is meant to be a public room for meetings, receptions, recitals, craft fairs, what-you-will. "The handsome, welcoming structure and park provide a public meeting place that brings new vitality to this once lifeless block."

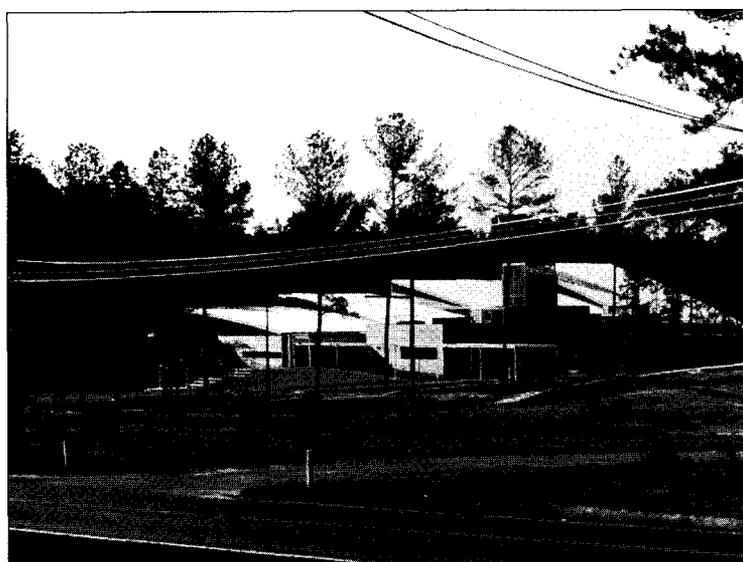
that the smallness raised "a significant and debatable question"; to wit, "must a complex, large-scale project achieve the same uniform degree of perfection and consistency that a more modest undertaking . . . can perhaps more easily achieve?" The jury also urged that in future "more urban design and planning projects be offered."

The jurors included, in addition to Childs, architects Peter Bohlin of Bohlin Powell Larkin Cywinski, Wilkes-Barre, Pennsylvania; Steven Ellinger of Abilene, Texas; Kathleen S.

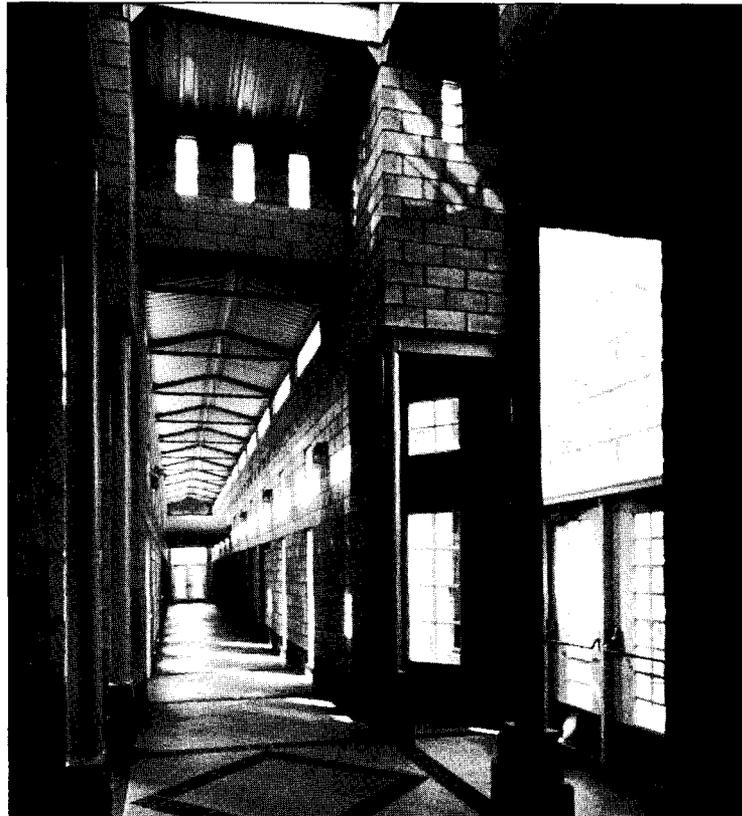
Hoelt of Long Hoelt Architects, Denver; Jaquelin T. Robertson of Cooper Robertson & Partners, New York City; Michael Rotondi of Los Angeles; and John Whiteman of the Skidmore, Owings & Merrill Foundation, Chicago, as well as architectural critic Brendan Gill of The New Yorker, New York City, and, as a nonvoting juror, architectural student Joyce S. Lee of the Massachusetts Institute of Technology.



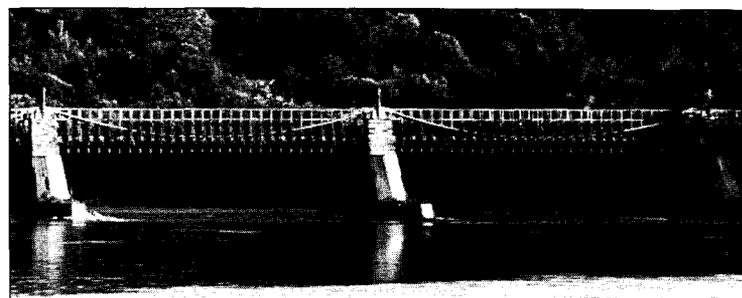
Tom Bonner



©Timothy Hursley/The Arkansas Office



Robert Reck



Alan Schindler

5. Central Housing Office Building, University of California, Irvine; Eric Owen Moss, Architect. The 10,000-square-foot building, which accommodates a staff of 25 and a large number of visitors, includes five open-office components, as well as closed offices. "The architect challenges our perceptions of form and materials through the sharp angles of the roof, the juxtaposition of common with more elegant materials, and the use of unusual windows, creating a building of powerful intensity," said the jury.

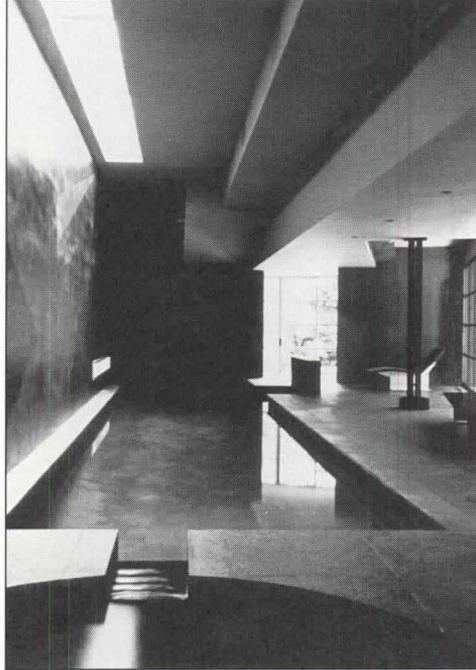
6. Headquarters Library of the Clayton County Library System, Jonesboro, Georgia; Scogin Elam and Bray Architects. Built at one end of the Atlanta airport and near a highway "strip," the library is described by the architects as "a filling station for information relevant to living life." The facility is enclosed by speckled black and white corrugated metal walls. "This startling building defies the notion that libraries are stuffy places," the jury commented, calling the library "a playful, delightful building with a serious purpose."

7. Desert View Elementary School, Sunland Park, New Mexico; Perkins & Will, Architect [RECORD, September 1988, pages 106-109]. For a prototype school in an area inhabited by recent immigrants from Mexico, the design sought to provide urban significance. "Comfortable and durable, this building incorporates many elements of local architecture, including sloping metal roofs and earth-toned concrete-block walls . . . With its expansive corridors, child-size scale, and brightly lit interiors, this school supports the idea that learning is a joy," the jury wrote.

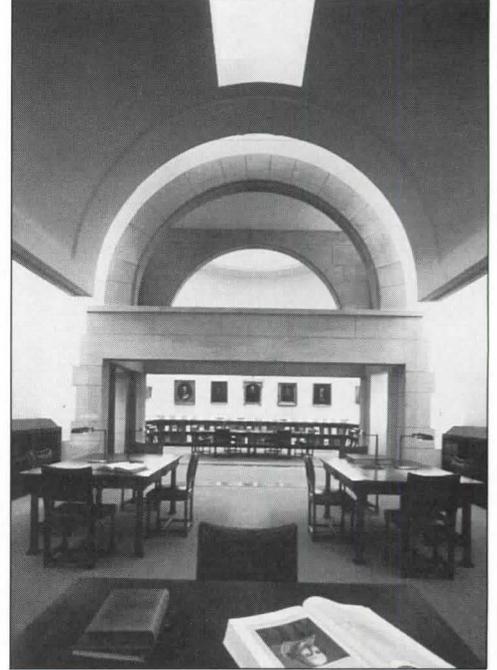
8. Delaware Aqueduct, Minisink, New York/Lackawaxen, Pennsylvania; Beyer Blinder Belle, Architect. Built in 1847 as a canal aqueduct, this suspension bridge is the earliest surviving example of John A. Roebling's work. The architects and the owner, the National Park Service, wanted to re-open the bridge to vehicles and to retain the integrity of the cable and timber truss structure. "Through meticulous research and uncompromising craftsmanship, this skillful conversion stands as a monument to the genius of . . . John Roebling." *Continued on page 62*



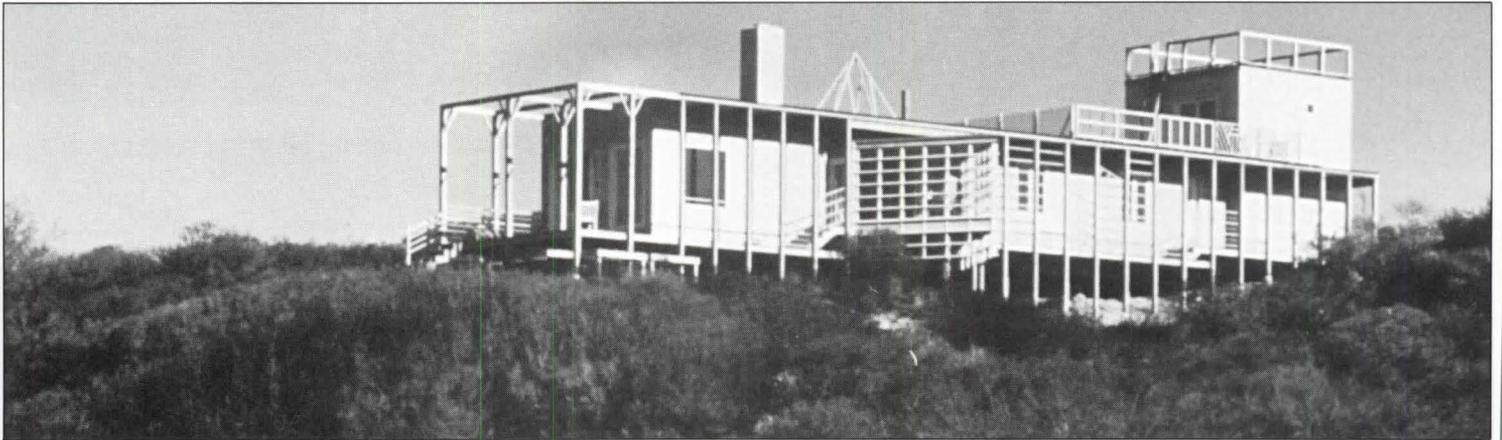
9 ©Timothy Hursley/The Arkansas Office



10 Michael Moran



11 ©Cervin Robinson



12

9. Hansen House, Wilmette, Illinois; Hammond Beeby Babka, Inc., Architect [RECORD, mid-April 1987, pages 104-107.]. Building in an old suburb on a tree-lined street with large houses, the owners were willing to sacrifice space for quality construction. Upon seeing the resultant 1,600-square-foot house, the jury admired the "white, wispy columns and the thin railings of the porch that form a dainty skirt around the gray-stuccoed building . . . Understated, yet elegant, formal, and inviting, this handsome house is imaginative without upstaging its older neighbors."

10. Kings Point Pool Addition, Long Island, New York; Tod Williams Billie Tsien & Associates, Architect [RECORD, mid-September 1988, pages 108-111]. Meant for the personal use of the owners, Emily and Jerry Spiegel, this indoor pool house frames Sol LeWitt's wall painting, *Triple Pyramid*. The designers considered the sound of the water an architectural material. "With its splendid wall frescoes, elegant details, and subtle siting, the architects have created a building that is sculptural as well as functional. . . It is a place to exercise the soul as well as the body."

11. Folger Shakespeare Library, Washington, D. C.; Hartman-Cox Architects. The new Reading Room, which is built parallel with the Folger's existing Reading Room, is top lit with skylights inserted in suspended vaults. Rusticated brown plaster walls recall rusticated limestone walls at the entry. "The classically inspired forms reinforce the historic significance of the library's collections, while the room's freshness and vitality reflect the enduring importance of scholarly explorations in the modern world," the jury wrote.

12. Martha's Vineyard Residence, Massachusetts; Steven Holl Architects. Likening this house, owned by Steven Berkowitz and Janet Ogdis, to an Indian dwelling built of whale skin and skeleton, the architect calls it "an inside-out balloon frame." The structure meets sand on point foundations, and for roofing a rubber membrane is unrolled like a skin. "On a bright day, rows of exposed wood framing on the exterior cast strong shadows that form graceful patterns of crisscrossing lines . . . this taut, trim, jaunty structure is very much at home [at the seaside]."

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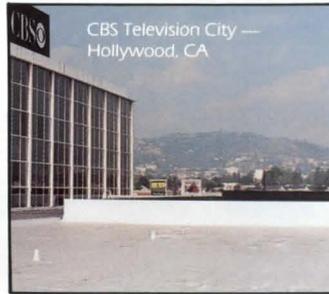
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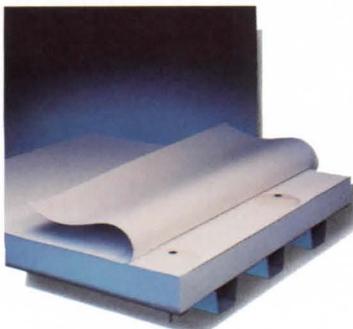
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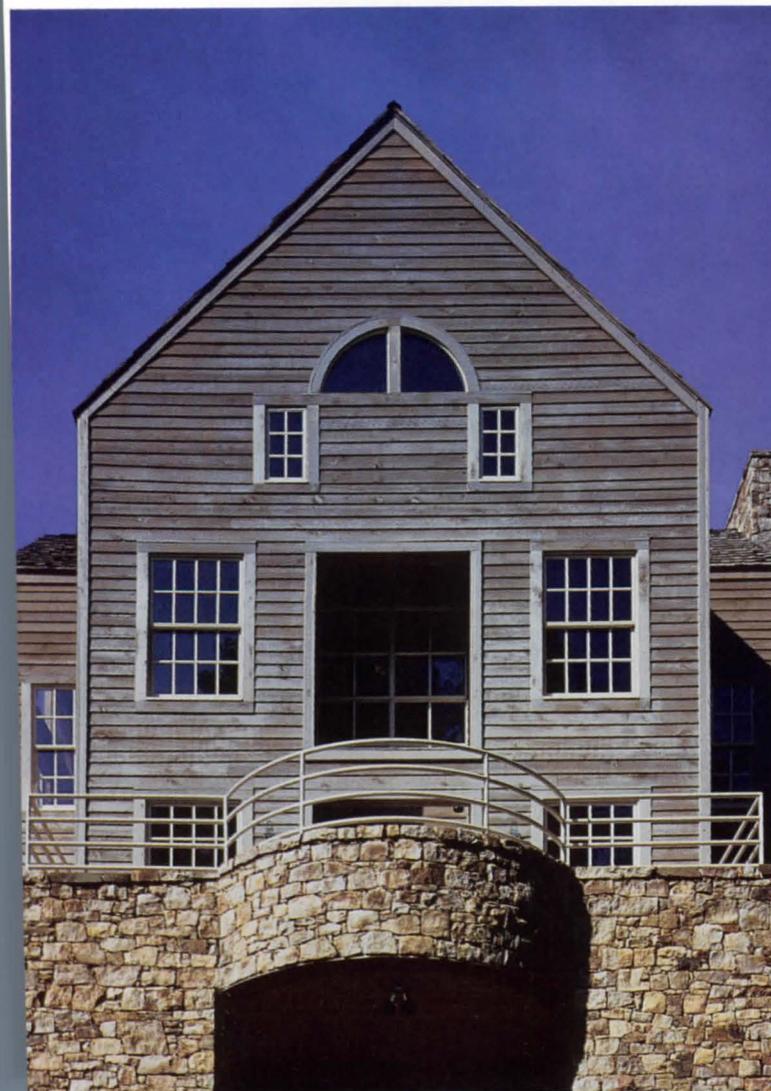
Hazzard Mill House:

Designed by Mark A. Kohler, AIA and Nicholas Diffenbaugh, AIA of Karl E. Kohler Associates Architects, Vienna, VA (703) 281-7570.

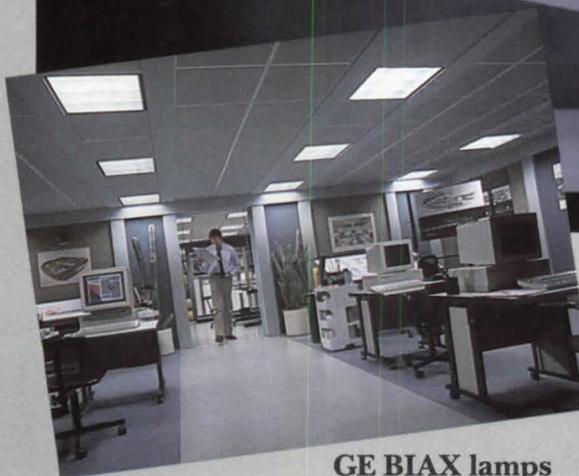
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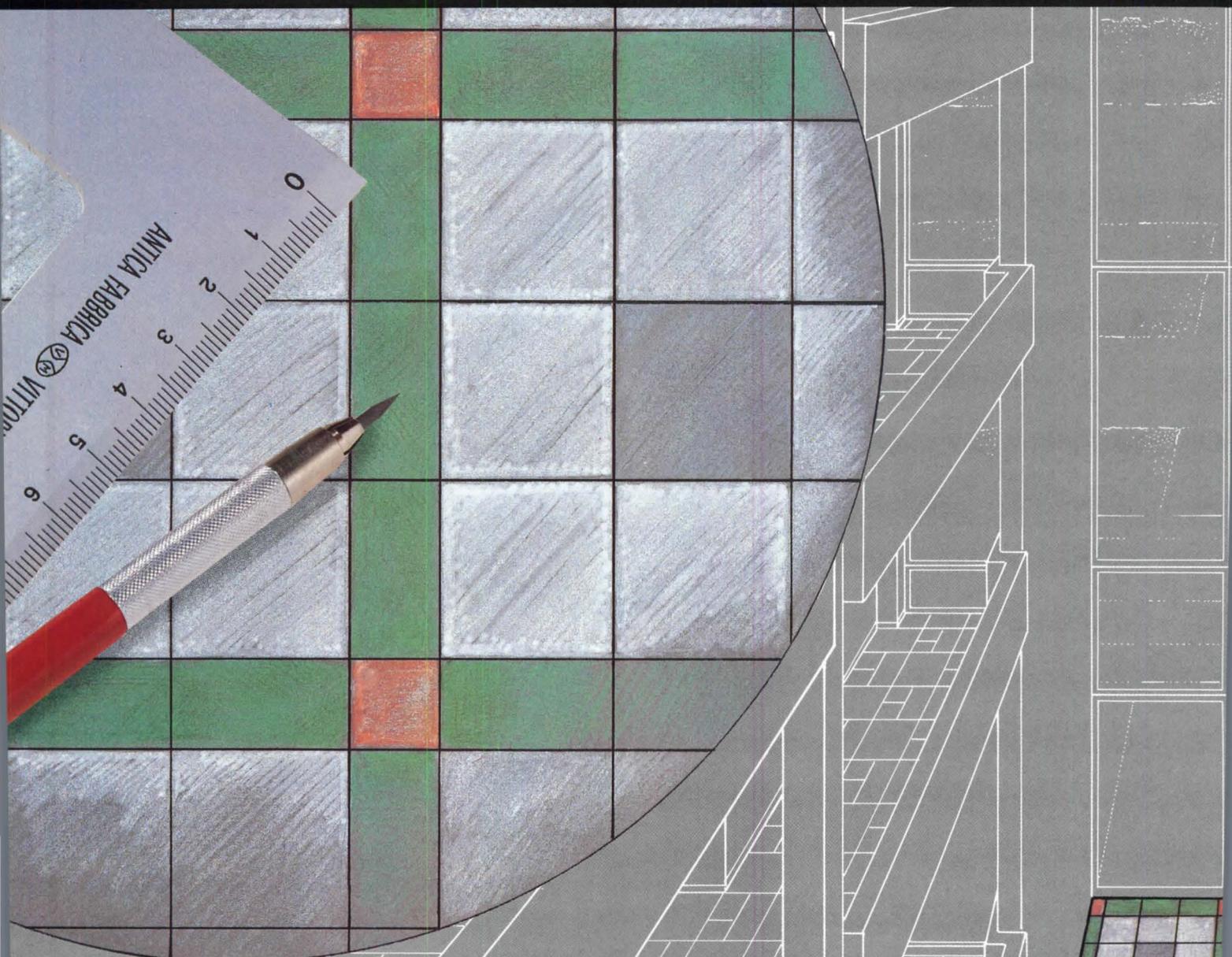
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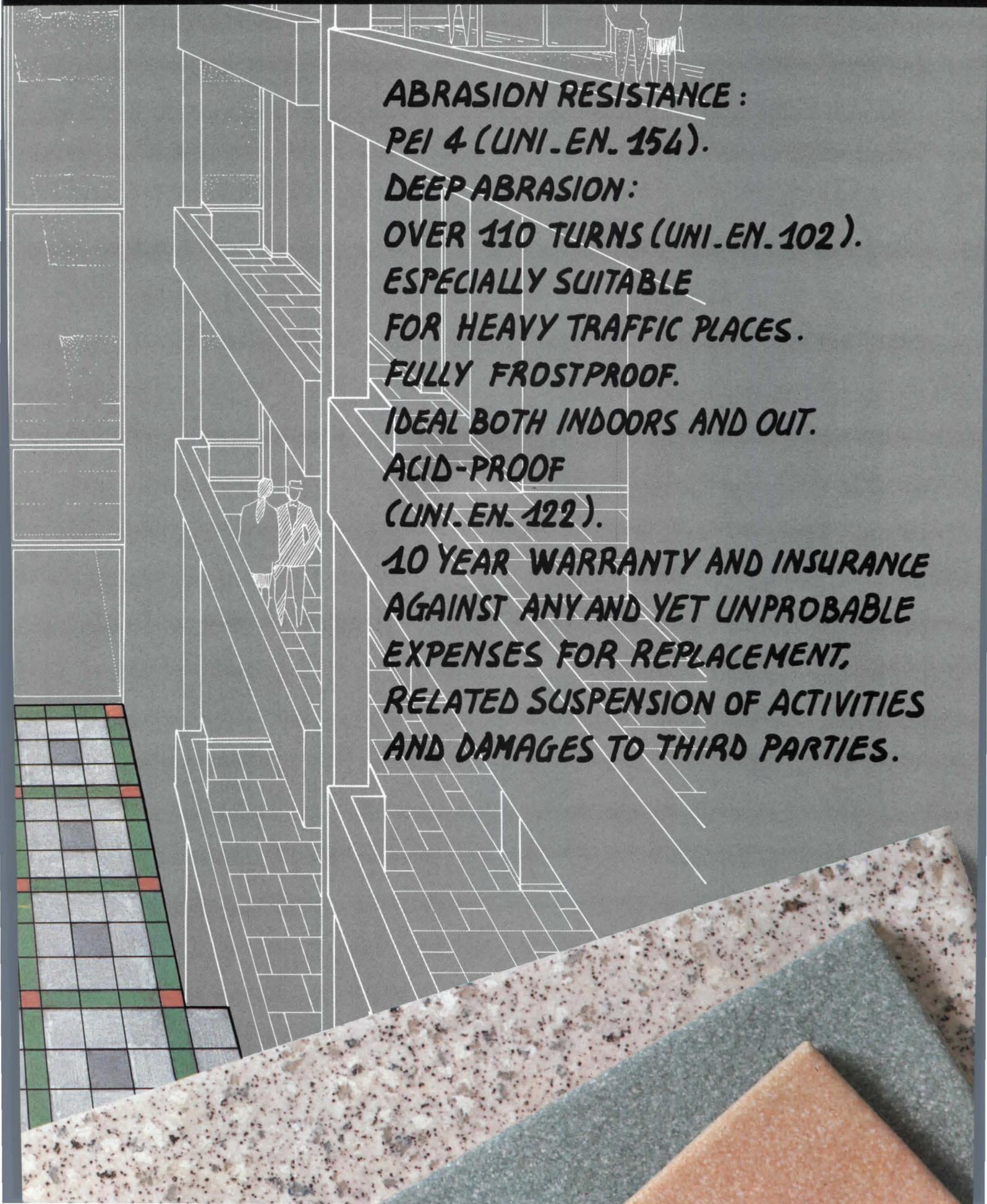
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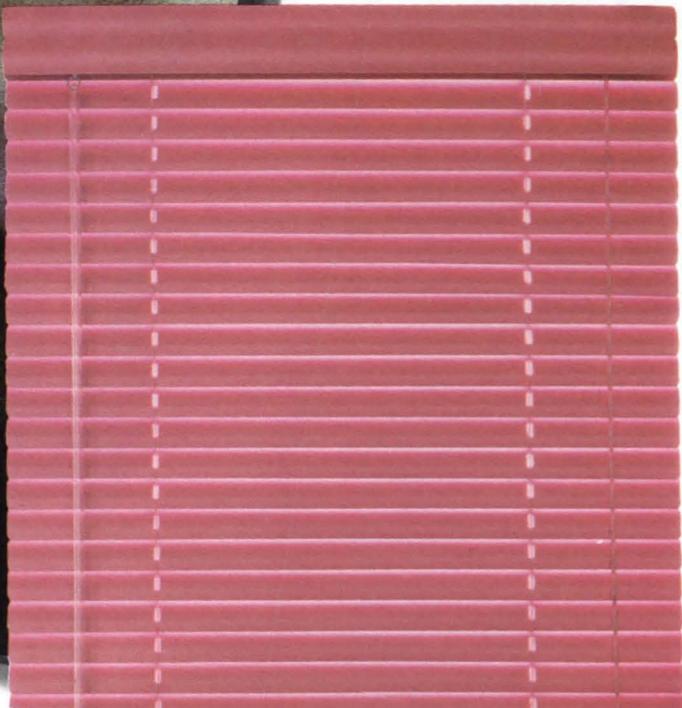
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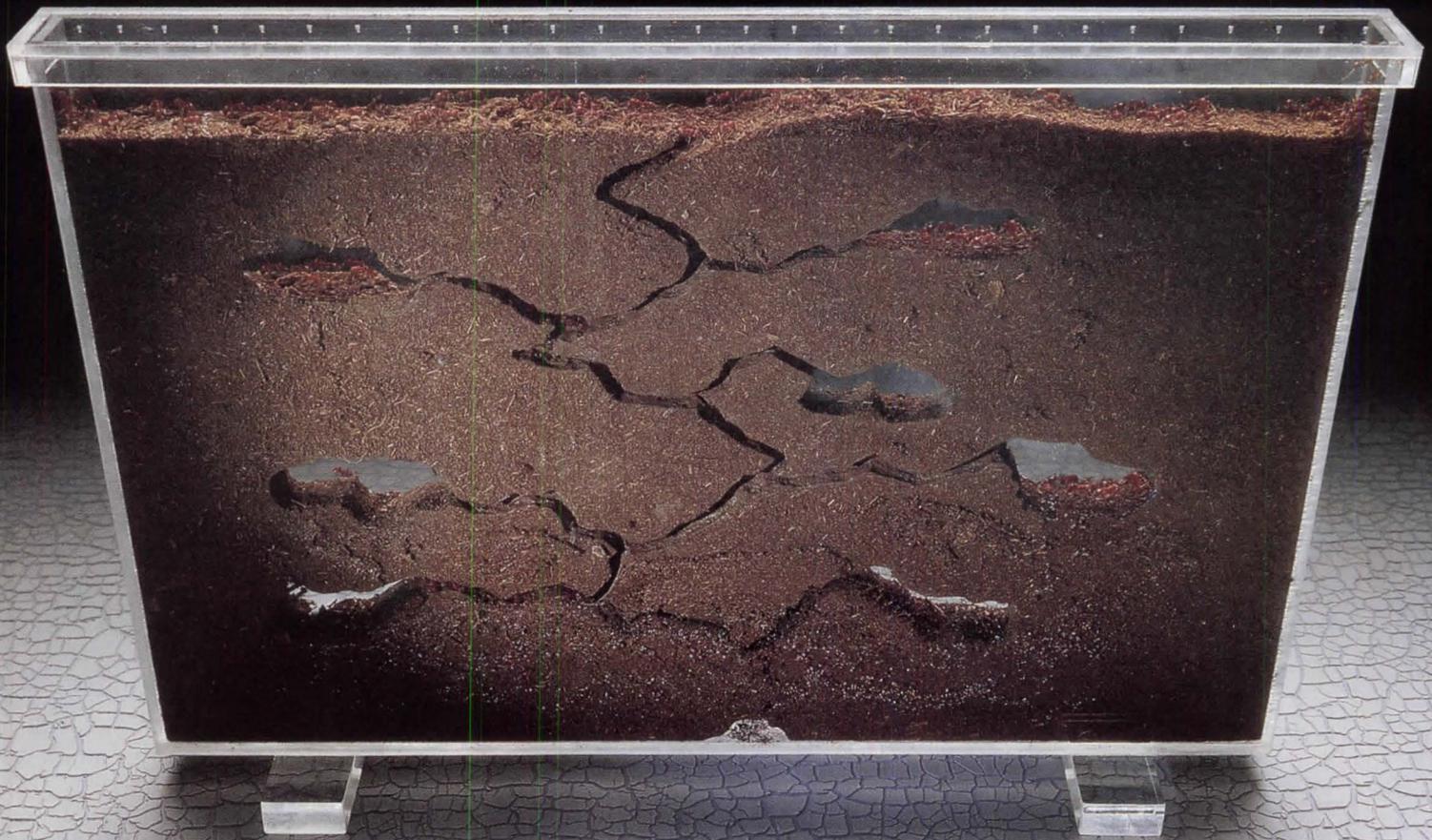


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Books

Two by Gordon Bunshaft. Top: Emhart Corporation headquarters, Bloomfield, Conn., 1963. Bottom: National Commercial Bank, Jeddah, Saudi Arabia, 1983.

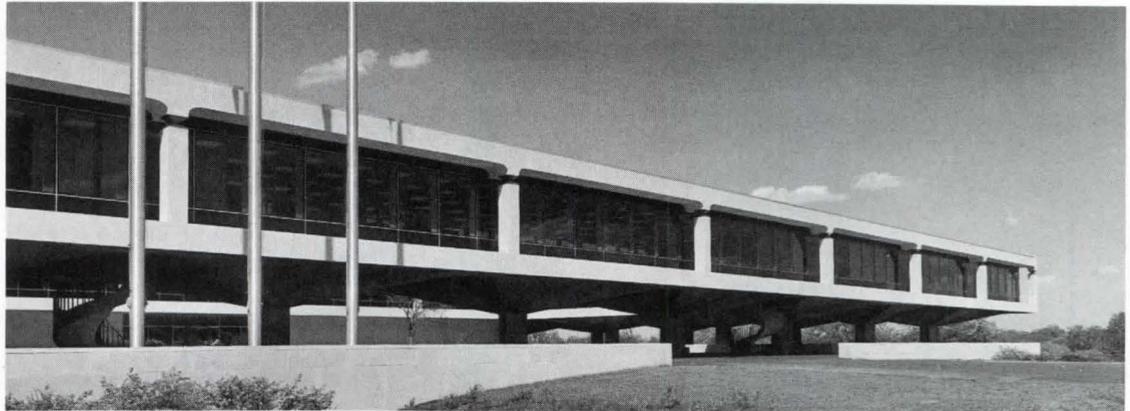
Gordon Bunshaft of Skidmore, Owings & Merrill, by Carol Herselle Krinsky. Cambridge: The Architectural History Foundation with The MIT Press, 1988, \$50.

Reviewed by Philip Johnson

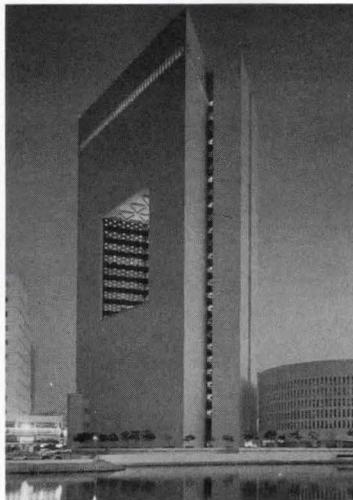
With the recent florescence of architectural form, young and "with it" historians have not focused their attention on the strict Modernism of Gordon Bunshaft's work, with the result that his reputation has long suffered. Let us consider the period from 1950 to 1980. For an entire generation steeped in the work of Mies and inspired by the example of Le Corbusier, the International Style was the dominant force in the design world. The Seagram Building, of 1957, was the effective end of this era; the epigones have been picking at the bones of Modernism's Heroic Period, as the British call it, ever since. Perhaps it is now time to reconsider the 1950s work in its own context, and without the Monday-morning oversimplification that we pluralists of the late '80s employ in our hourly reports on the latest ism.

For the sake of simplicity, I would like to discuss as typical of the 1950-1980 generation only the primary building type of our American midcentury, the headquarters office building—the highrise version in the city, the low silhouette in the country. In our time, after all, this building type plays the same role as the temple in Greek and Roman times, the church in the Middle Ages, the palace in the Renaissance and Baroque periods, and the house in the Edwardian era. There were, to be sure, many outstanding architects who designed exemplary Modern commercial

Philip Johnson practices architecture in New York City.



© Ezra Stoller/ESTO



© Wolfgang Hoyt/ESTO

buildings after Bunshaft's Lever House of 1951. Shiny blue-green boxes proliferated, but SOM became by far the largest and busiest team in the country, and Gordon Bunshaft was, in my opinion, their best designer. In looking back, we must not forget that it was a very restrictive palette that the Moderns were working with, somewhat akin to a painter limited to Mondrian's lines and colors. With the elements of International Style Modernism, however, Bunshaft created surfaces that were sheer, unbroken, and undecorated; perfectly proportioned flat tops; and hovering planes that were somehow right.

Two designs seem to me to transcend the rest of Bunshaft's enormous output, indeed to soar: the Emhart headquarters in Bloomfield, Conn., of 1963, a low

building; and the National Commercial Bank, in Jeddah, Saudi Arabia, of 1983, a tower. (I am sure the architect will be annoyed with me for discussing only two projects, but he is always getting annoyed with me.) While Lever House was certainly Bunshaft's break to the Modern (to which he is, 38 years later, still faithful), it was just the beginning. By 1963 he had hit his stride in the Emhart Building, a masterpiece of the country office genre. First, the treatment of functions in the building is super clear: the entrance is monumental, the offices arranged in a large, flexible space, the automobile banished. But functionality hardly bears mentioning, since these aspects are always well worked out in Bunshaft's buildings. Second, the relationship between Bunshaft and his clients was close, which is hard to overemphasize. Critics and the lay public have no idea how important client-architect give-and-take is to great design. Even the best architects from time to time have unsympathetic clients, but good patrons make good architecture (another example: Mies's Seagram Building).

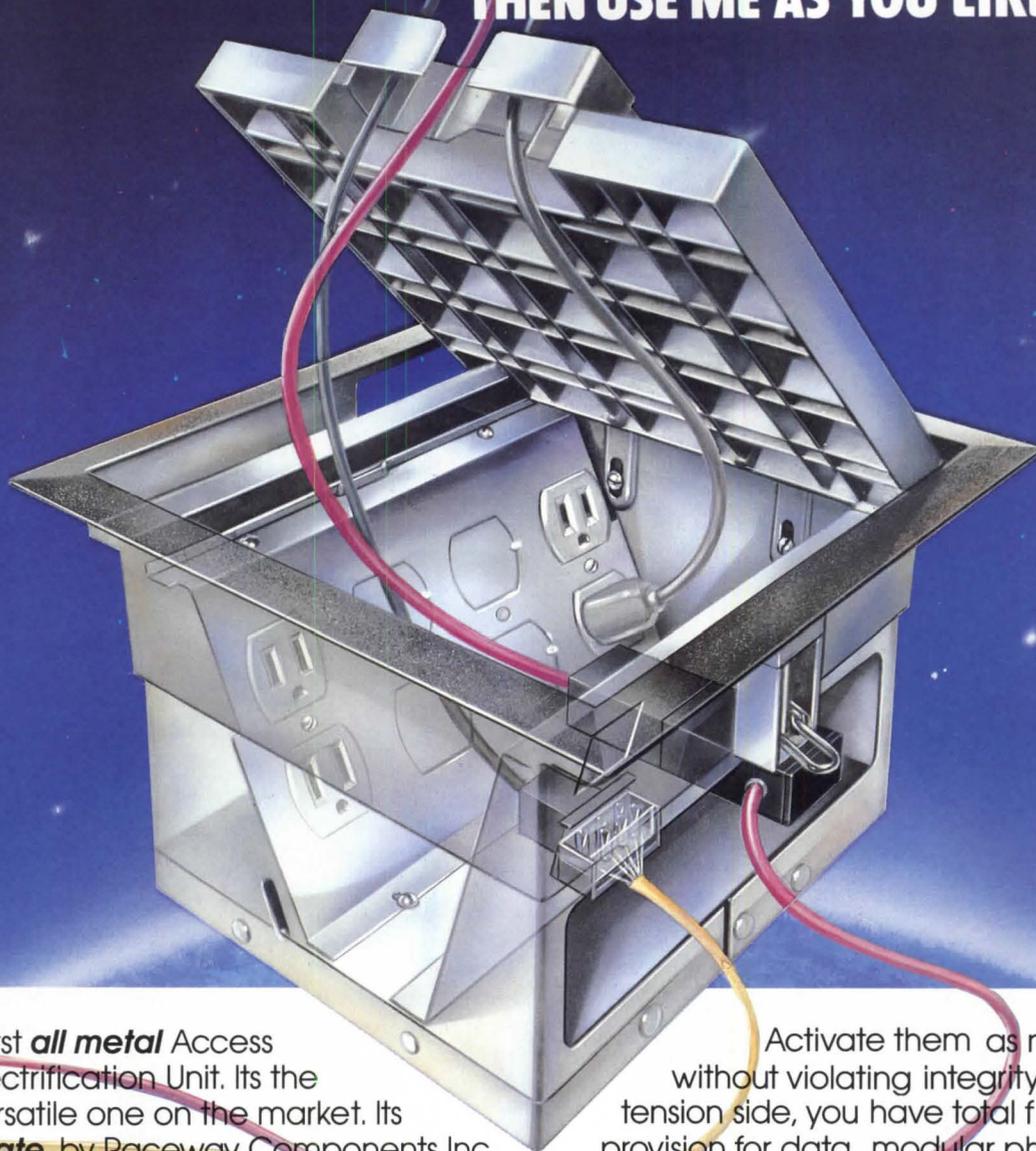
Third, Bunshaft knew his structural engineering: the cantilevers, the floor and roof slabs, the pin-connectors are rigorously correct. Bunshaft and his team totally comprehended construction methods, and their

practical yet artistic detailing remains evident in the appearance of the finished building. Fourth, Bunshaft knew his history: he understood the pilotis and *prisme pur* of Le Corbusier, the spread-fingered columns of Nervi, the implacable module of Mies.

All of these ingredients, however, do not fully encompass the artistic value of the finished object. This thin plane of a building soars horizontally from the brow of its ridge-top site. It hovers like a dancing space ship. The inexorable, endlessly repetitive march of the identically spaced columns could have been boring, but the proportions of pier to floor slab, and of column to roof slab, although complex, are completely satisfying. The glass walls are set far back from the precast skeleton so that it can be read as a separate system, not as a box. In one brilliant detail, Bunshaft breaks this system by strategically placing a pin connection just below where the column meets the roof plane, the point at which a capital would occur in Classical architecture. Bunshaft's "capital" is expressed, not by an echinus, but by a quarter-circle swelling of the precast entablature above the revealed pin connector, enormously accentuating it and adding a subtle "embrace" to what is otherwise a simple trabeated-bay system. It is understated, yet more successful

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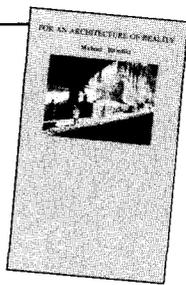
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Books



than later mid-column "jointed" facades, such as his IBM headquarters, in Armonk, N. Y.

Bunshaft's strongest tall building is his latest, Jeddah. Here he has taken advantage of everything he has learned in his 40 years of office-building experience. He has made the National Commercial Bank a work of art so persuasive that it transcends its type. He has done this by turning the functions inward and creating a solid skin. He has freed himself, and designed a building that suits the client and its program in a totally new way. But in so doing, he does not lose sight of artistic attitudes he has long held: the cylindrical parking garage, the triangular office block, and its ancillary rectangular elevator-lobby shaft are proper Modern. The great voids in the facades, the frieze of tiny windows decorating the top, and the all-important, but much tinier still, rhythm of balustrades are the result of an architect's *will*—very rare in the '70s. The design is an enrichment of Modernism's spirit rather than a departure from it, and it is a stirring conclusion to Bunshaft's entire oeuvre.

Bunshaft's career succinctly brackets the late-Modern International Style of architecture. Before him were the giants of the Heroic Period. After him, and inching into the time of his late work, pluralism took over. He would surely call what is happening now decadent, but, whatever comes next, nothing can detract from his stellar accomplishments.

The book by Carol Krinsky fits the subject. It is late, but who is to say it is too late? Bunshaft has been badly underappreciated, and it is good to have his work properly recorded here by the architect himself working with an accomplished and deservedly renowned chronicler of contemporary architecture.

For an Architecture of Reality, by Michael Benedikt. New York: Lumen Books, 1988, \$9.95.

Reviewed by Roger Kimball

Every literate architect should take an afternoon off to read and ponder this brief, thoughtful, and thoroughly engaging book by the Texas architect and university professor Michael Benedikt. Fewer than half of its 74 pages are filled with text (the rest sport illustrative photographs or are provocatively blank). Yet in this short compass Benedikt says more about some central esthetic and philosophical issues confronting contemporary architecture than many celebrated pundits manage to squeeze into a shelfful of books.

Benedikt's theme is what he calls "direct esthetic experiences of the real." We should not be misled by the somewhat elusive nature of this phrase into thinking that he is championing some new species of esthetic mystification. Language regularly falters before our most powerful experiences of reality, be they occasioned by love, art, or nature. The notion of a "direct esthetic experience of the real" is no more mystifying than any of a dozen other phrases we might propose to describe that sense of revelation, tinged with mystery, with which we are all familiar but find difficult to put into words.

Benedikt suggests that architecture as traditionally understood helped to preserve this dimension of experience. Both in its esthetic form and its persistence through generations, architecture did much to articulate a culture's identity and

Roger Kimball, a frequent contributor to RECORD, also writes for The New Criterion, The London Times Literary Supplement, Commentary, and other publications.

ethos, helping to orient and nourish the spirit as well as shelter the body. But under the pressures of modern life, architecture too threatens to become anonymous, ersatz, less the guardian of cultural stability than a barometer of its hollowness and superficiality.

Of course, this is not to say that simply intoning the words "an architecture of reality" changes anything. As Benedikt acknowledges, our very modernity makes it difficult for us to use words like "reality" *straight*, without quotation marks. Honesty compels skepticism about such lofty abstractions, while the "postmodern" self-consciousness that is our lot tends to inspire irony about any ideal beyond self-interest. In this relativistic age, the term "real" often appears to be an arbitrary term of commendation, not a description of what is most meaningful and ineluctable in our experience; in this sense, "reality" is only one more word interposing itself between us and that "direct" experience that Benedikt hankers after.

But it is one of the strengths of this brief essay that Benedikt is able to give his readers a vivid sense of architecture "in which the quality of *realness* is paramount." Drawing on a wide range of architectural models—from Louis Kahn's great Kimball Art Museum, in Fort Worth, to humble vernacular building in the American Southwest and Mexico—he elaborates a four-part scheme to explain why some buildings achieve the authenticity and esthetic immediacy he seeks while others fail. I suspect that many readers will find the terms in which he analyzes the experience of "realness" somewhat idiosyncratic, even dispensable. "Presence," "materiality," "significance," two kinds of "emptiness": in the context of such a brief,

unsystematic essay, these abstract terms emerge as little more than talismans, pregnantly elusive fragments from a personal vocabulary; yet what counts is not Benedikt's semantic precision but the acuity and occasionally almost poetic evocativeness of his discussion.

Benedikt devotes a good deal of critical attention to recent attempts to recoup the architectural past by plundering the *look* of traditional ornamentation. "The rise of Postmodernism," he notes, "had little to do with its proclaimed ideals, namely, the creation of a richer, more complex, more symbolic and, therefore, more humane architecture than was possible on the canons of the Modern Movement. When architects create plywood arches, chromed Ionic columns, or concrete garlands, the arch is not a real arch to anyone, nor the column a real column, the garland a garland." Ultimately this orgy of phoniness undermines its own proclaimed end, and "one is left with ribbons." Indeed Benedikt is at his best in exposing the folly of Postmodern pomposity. "For example, while no one would contest that a medieval bell tower was a fine and meaningful architectural element, 'putting one in,' say, a shopping center inevitably subverts its symbolic power. If the bell tower arrived by flatbed and crane, then . . . its significance will always include the lack of correspondence between its true history and its 'historicity,' a lack that nags at and hollows the swell of nostalgia it begins." What it betokens, he observes later, is a "cynicism about the very possibility of authenticity."

In the course of his meditation, Benedikt also offers some astute observations on several "extra-architectural" matters. "We depend," he writes, "upon the world's broad indifference to our designs, its

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Books

capacity for surprise, and its resistance to our touch for our very sanity. We can find the world inescapably meaningful and real precisely *because of*, and not in spite of, its 'obstinacy.' His point—and it is a point well worth making—is that in this age of high technology and engineering prowess, an age in which we are sometimes tempted to believe that every problem we confront is susceptible to technological intervention and management, we need to remind ourselves that much of what matters most deeply to us eludes our rational control and analysis.

While it is clear that Benedikt has read widely in the philosophy of art—there is an abundance of references to philosophical and literary sources—what strikes the reader is not his erudition but the *intimacy* with which he has pondered his subject. Whatever he has read he has made his own. And one senses that he has bothered to read so much in the first place not to provide himself with a substitute or alibi for experience, but to illuminate and explain a number of things that he has experienced so deeply that they resist easy explanation. Thus, unlike so many of our contemporary academic "theorists," Benedikt does not serve up yet another second- or third-hand rendition of Nietzsche or Heidegger or Derrida, yet another confection of half-understood philosophical and literary terms ripped out of context and jumbled together. Instead, he offers a straightforward account of his own struggle to understand the pleasures and responsibilities of architecture in an age when esthetic pleasure is all but indiscernible from entertainment and responsibility is often a cover for thoughtless conformity.

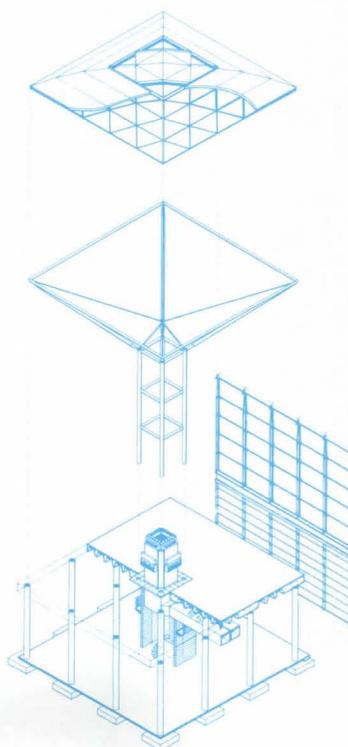
High Tech Architecture, by Colin Davies. New York: Rizzoli, 1988, \$45.

*Reviewed by
Hugh Aldersey-Williams*

Contrary to the view of Colin Davies, High Tech architecture continues to hit new heights. Hardly had we got used to Richard Rogers's Lloyd's of London building, of 1986, as an apotheosis of the style when Norman Foster's HongkongBank came along, hard on its heels. Today a cluster of buildings and projects have broken new ground in London, Paris, Hong Kong, Tokyo, and Houston. It is foolhardy, then, for Colin Davies to date the death of High Tech to the day a failed neoprene gasket caused the Challenger space shuttle to blow up. True, it's cute to ape Charles Jencks's proclaiming the death of Modernism as the 1972 demolition of Minoru Yamasaki's Pruitt-Igoe housing project in St. Louis. But Jencks's mischievous obituary in *The Language of Post-Modern Architecture* at least proposed an alternative.

Davies's problem is that he loves the work of the British High Tech architects. He does not want to reject it, but he cannot quite turn a blind eye to its obvious faults. The result is a book that is part paean and part exposé. He is at pains to separate today's style of architecture from the American High Tech interior-decorating esthetic, the subject of a well-known earlier book. This done, he gives a definition of his High Tech that is no less a *style*, since he makes no case for its being an ideology or science. He claims that High Tech architects wish their buildings to be judged

Hugh Aldersey-Williams, based in London, writes on architecture and design. His New American Design was recently published by Rizzoli.



Isometric of a typical bay, Airport Terminal at Stansted, England. Foster Associates, Architects, 1986.

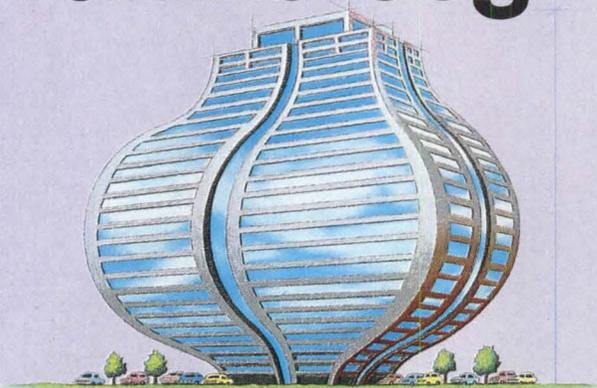
on performance criteria rather than appearance (a decidedly unfashionable basis for criticism these days and one that many High Tech buildings would not bear particularly well).

Norman Foster and Richard Rogers are the predictable priests, Michael Hopkins and Nicholas Grimshaw their curates. All of this group's buildings (with a few judicious exceptions) are High Tech; everything by everybody else, by implication, is not. De facto, High Tech is a British style. Whether it really is—and if so, why it is—is not explored. The condemnatory introduction, which is the best part of the book, catalogs some of the endearing deceits of the "honest" High Tech style, from the impracticality of exposed tension-steel components to the amazing assertion that none of

the supposedly identical mass-produced pods on the HongkongBank is actually the same as any other.

This critique jars with the color portfolios celebrating 40-odd projects, accompanied by what appears to be the architects' own dully written descriptions and by plans and sections that do little to enlighten. Davies's choice of architects and buildings is expedient and jingoistic. In a misguided attempt to make out that High Tech is somehow peculiarly British, he omits any work by, for example, I. M. Pei, Hugh Stubbins, Emilio Ambasz, Frei Otto, Fumihiko Maki, and Jean Nouvel. His selection thus biased, no rational case is then put forward for this alleged Britishness. High Tech, says Davies, does not offer political criticism. But he can only claim this by refusing to consider Foster's Willis Faber building, HongkongBank, and BBC headquarters project, all of which in their plans, lighting, and finishes attempt to break down the barrier between boss and worker, and between resident and passer-by. He argues that High Tech architects are no urbanists, and bolsters this point of view by leaving out Grimshaw's Sainsbury Superstore, Foster's urban plans for King's Cross, in London, and Nancy, in France, and Rogers's visionary scheme for the riverside areas of London. He captions Foster's BBC project a "curiously subdued building, hypersensitive to its urban context." What he means is that it doesn't meet *his* definition of High Tech. The architects Davies admires are now finding that a genuine technological *interest* does not demand a High Tech *look*. His book has missed a *valuable opportunity* to help the rest of us realize this too.

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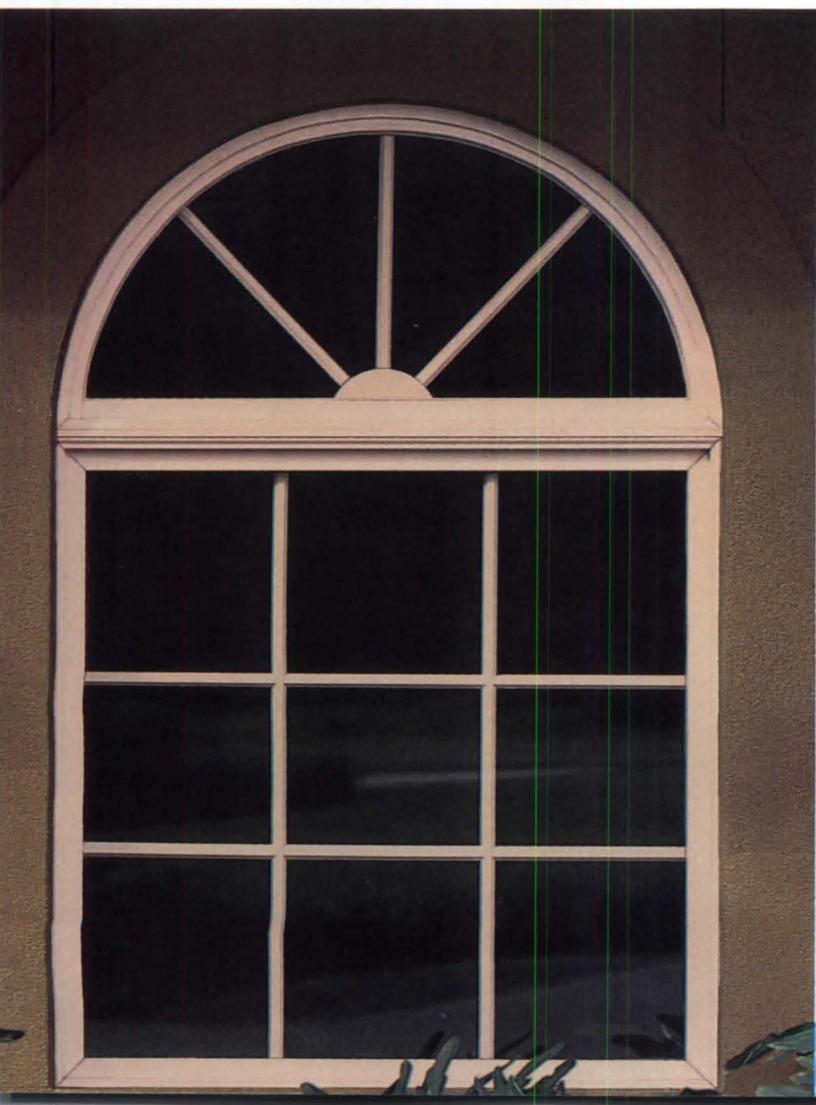
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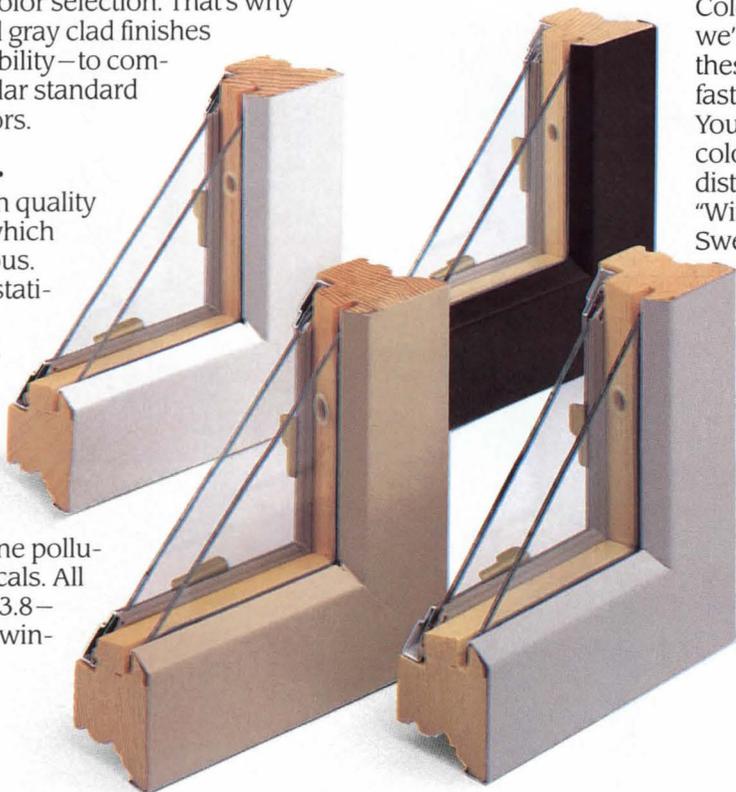
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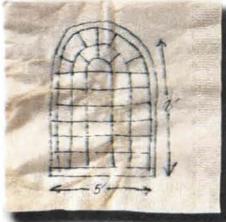
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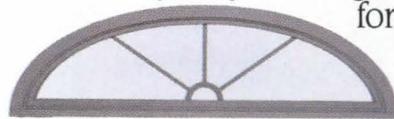
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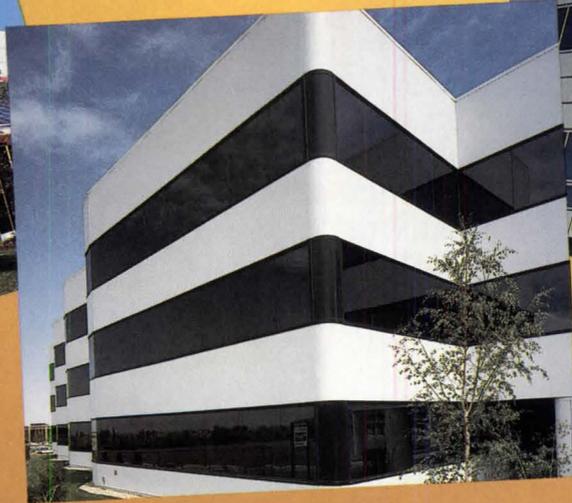
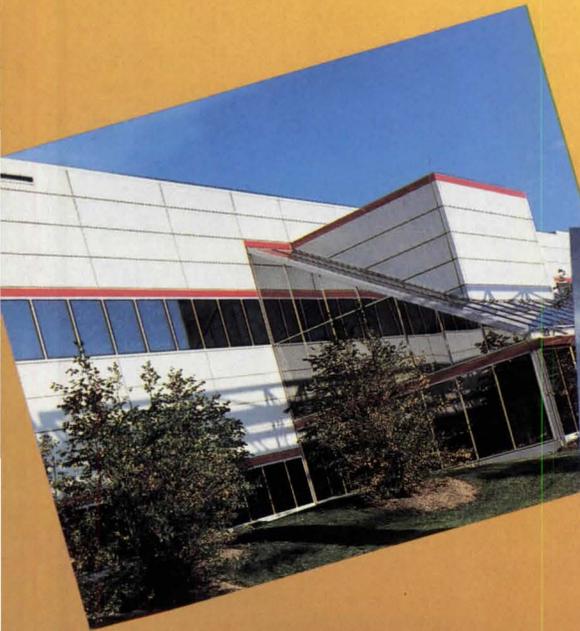
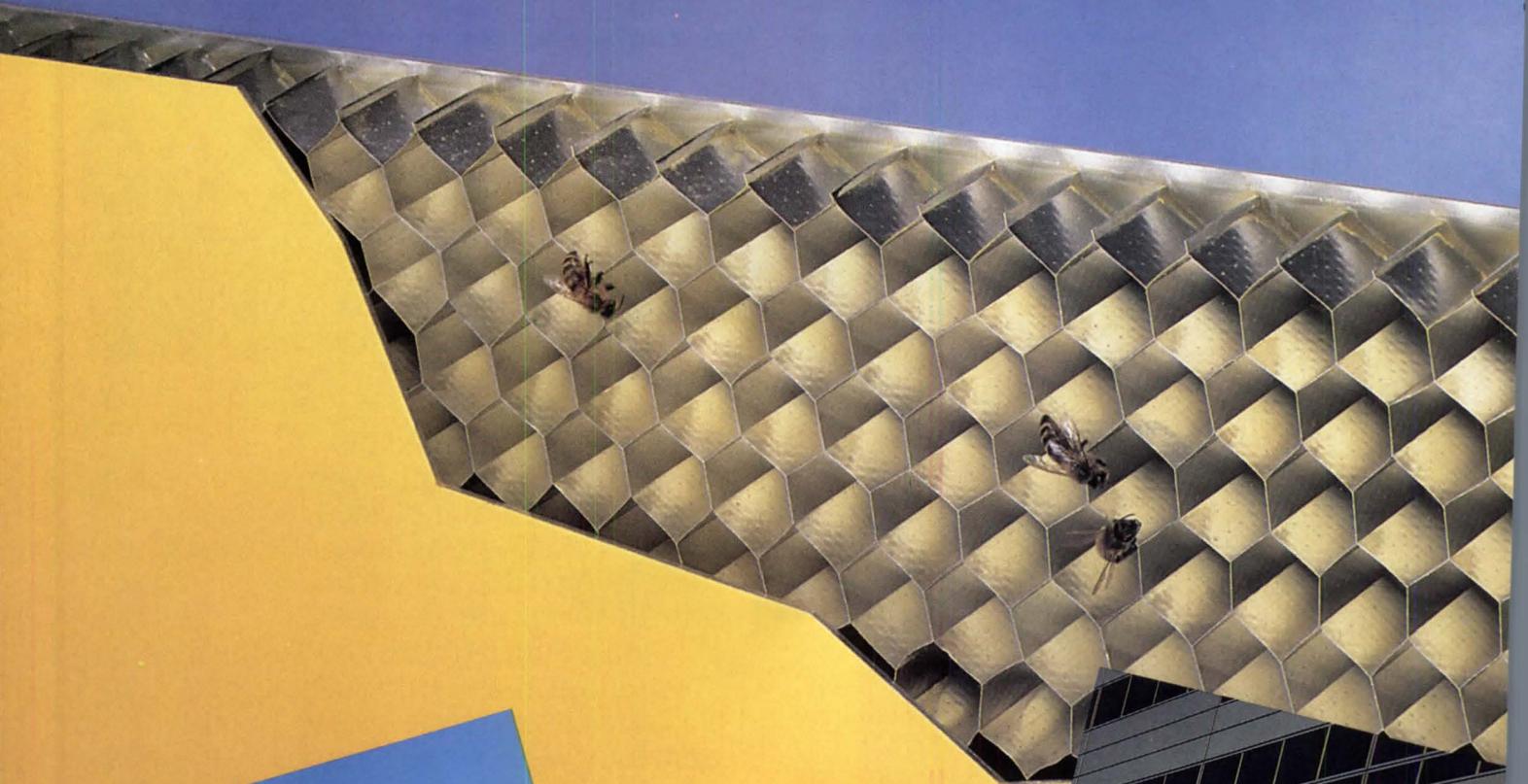
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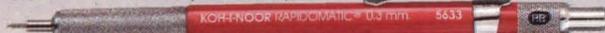
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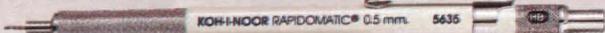
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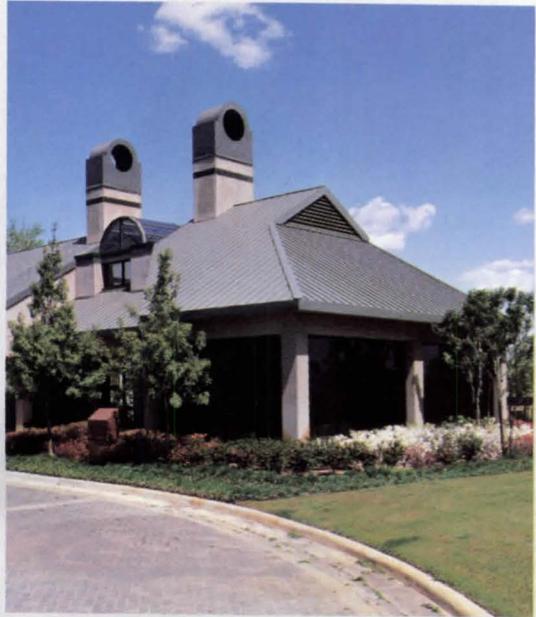
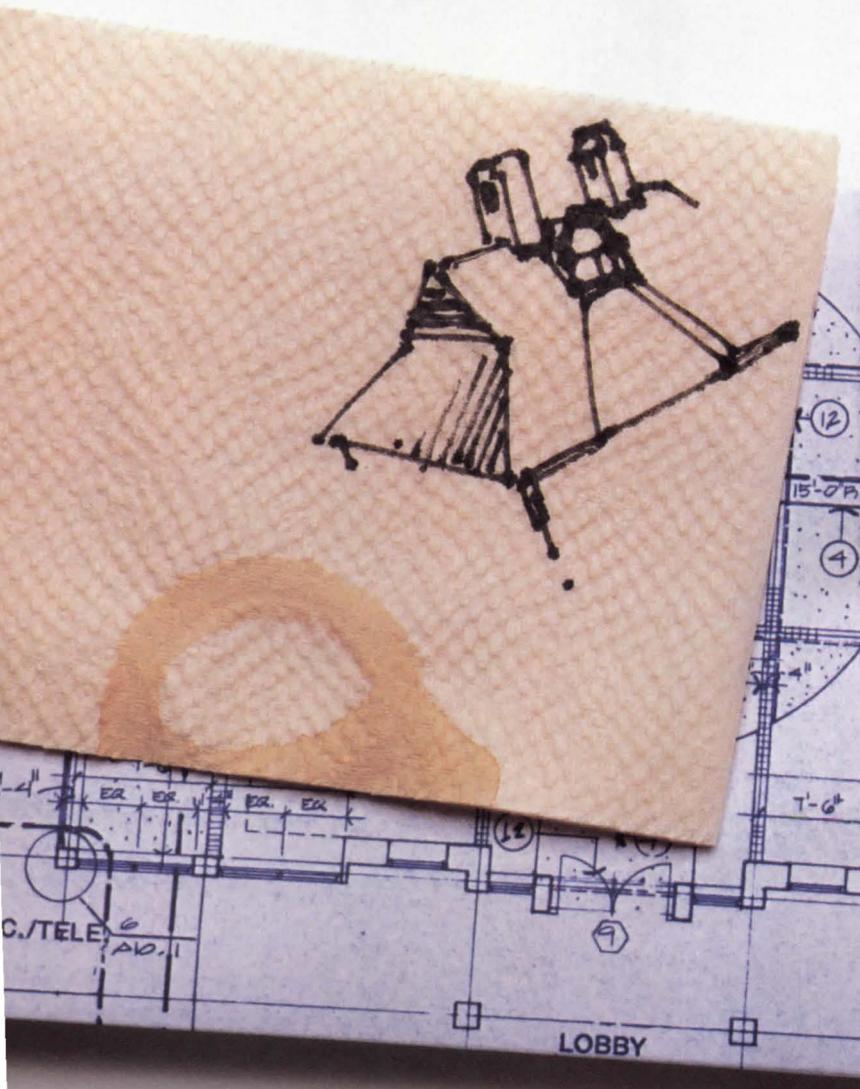
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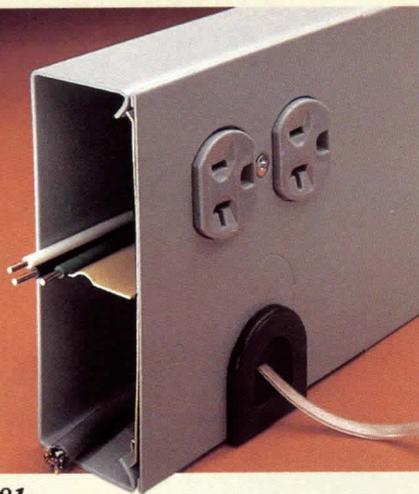
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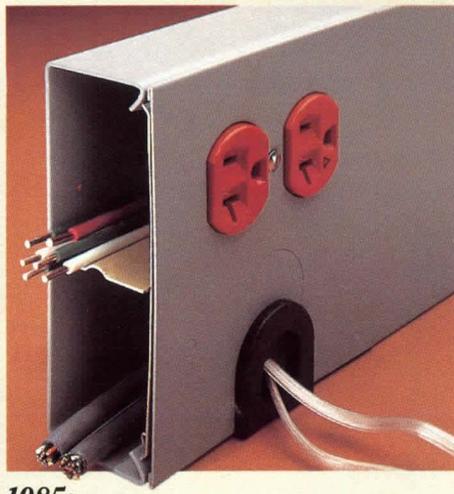


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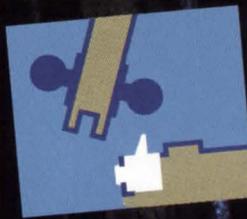
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In this issue

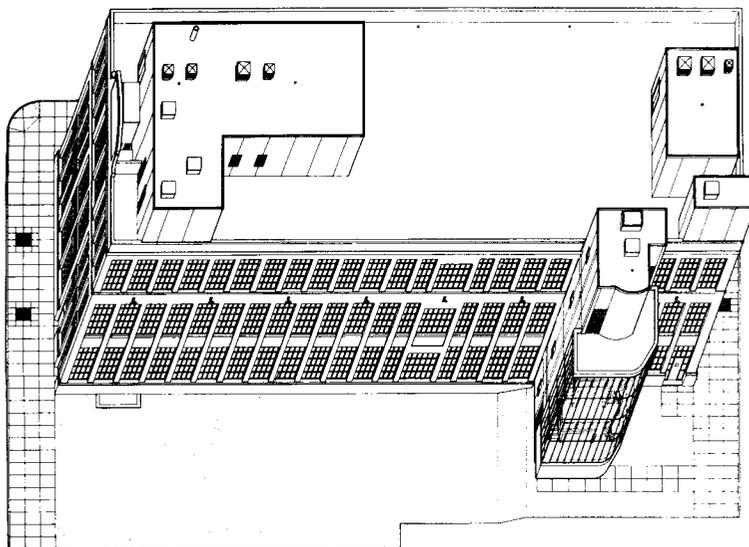
If there is an underlying theme to the projects featured in this month's RECORD, it is the scenographic role that architecture can play in a variety of urban situations. In our cover story, for example, Avery Associates and Gwathmey Siegel & Associates took the notion of architecture as stage set quite literally for a pair of museums, both carved out of existing buildings in London and New York, that are devoted to interpreting the history of film and television (pages 110-121).

Less dramatically, perhaps, but no less effectively, The Architects Collaborative and Whistler-Patri have produced two buildings that reaffirm the validity of architectural understatement along two important commercial boulevards in Boston and San Francisco (pages 122-127). Heritage on the Garden and San Francisco Centre are humanely scaled alternatives to behemoths that were initially proposed for their respective sites on Boylston Street and Market Street, and their success reminds us that big buildings are not necessarily the best measure of urban greatness.

By contrast, Lord & Sargent recognized that the wide-open spaces surrounding Delta's new reservations and training center (pages 128-131), located near Salt Lake City International Airport at the base of Utah's Wasatch Range, demanded a more arresting solution. The Atlanta firm responded by enlivening what ordinarily would have been an undifferentiated suburban-style box with earth-colored brick striations and bold geometric volumes—elements that Delta passengers can discern clearly as they descend onto the runway.

For the Dai-Ichi Tokyo Bay Hotel (pages 132-137), Roger Ferri, former design principal at the New York office of Welton Becket Associates, devised an iconographically rich palette of ornament that helps give civic presence to a new metropolitan district of the Japanese capital.

Finally, our Building Types Study (pages 138-149) features a quartet of modestly proportioned commercial interiors. The relatively young architects and designers who created this four-act presentation might make up the cast of a play entitled "How to Succeed in Business Without Trying to Upstage Your Clients." Their leitmotif? Modernism's enduring validity in the office arena, whether as boldly conceived showstopper or as quiet backdrop for a client's own set of ideas.



*American Museum of the Moving Image, New York City
Gwathmey Siegel & Associates,
Architects*

Double feature

Two museums of the moving image

How does an architect design a repository devoted to documenting the art, history, and technique of movies and television? For Avery Associates, the architects of the Museum of the Moving Image (MOMI) in London, and Gwathmey Siegel & Associates, the firm responsible for the American Museum of the Moving Image (AMMI) in New York, determining a solution for such a new type of institution wasn't easy. Instead of being presented with the opportunity to create a building containing state-of-the-art technology, the architects were commissioned to adapt historic structures in remote urban locations for fledgling institutions. While Avery Associates faced the seemingly impossible task of inserting a structure under the South Bank ramp of Waterloo Bridge, Gwathmey Siegel & Associates confronted the rehabilitation of a derelict warehouse within the legendary Astoria Studios complex in Queens. Both firms designed their museums with spaces that aren't *too* designed—flexible lofts for exhibiting photographs, costumes, cameras, stage sets, and memorabilia, as well as film and video presentations, and art installations. Opened last September, MOMI and AMMI reflect the architects' resourcefulness in supporting each museum's divergent philosophy. Avery Associates' steel and glass facade (opposite and below left) advertises MOMI's romantic approach to the history of film and television, and Gwathmey Siegel's industrial warehouse (below right) underscores AMMI's more didactic and technological viewpoint. Faced with similar challenges, the architects couldn't have devised more different solutions. *Deborah K. Dietsch*



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- Hayward Gallery
- Queen Elizabeth Hall
- Royal Festival Hall
- Jubilee Gardens

- Festival Pier
- Museum of The Moving Image
- Hayward Gallery
- Queen Elizabeth Hall
- Royal Festival Hall
- Jubilee Gardens

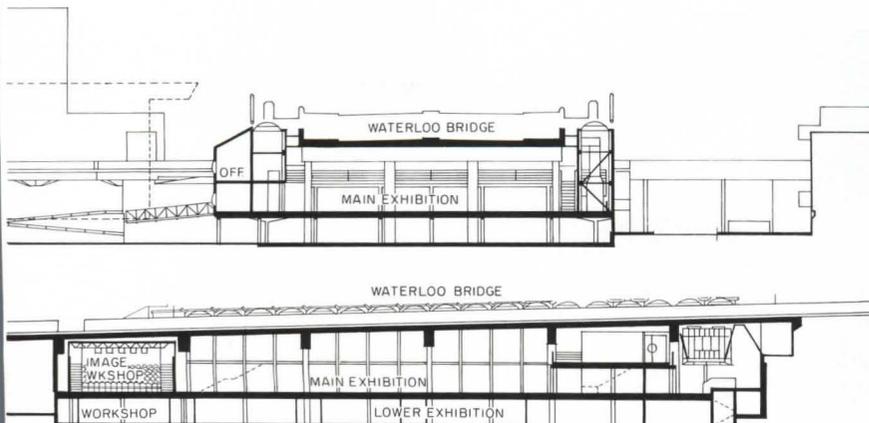
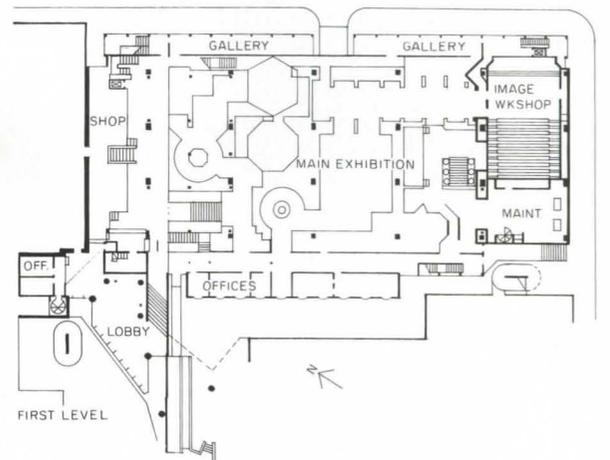
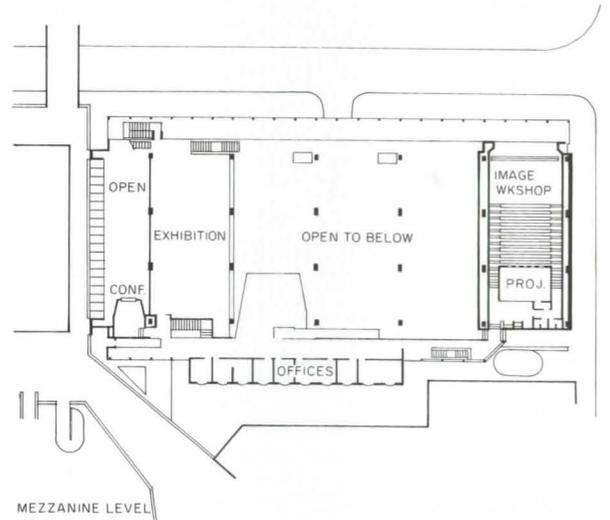
NO ENTRY

Structural showmanship

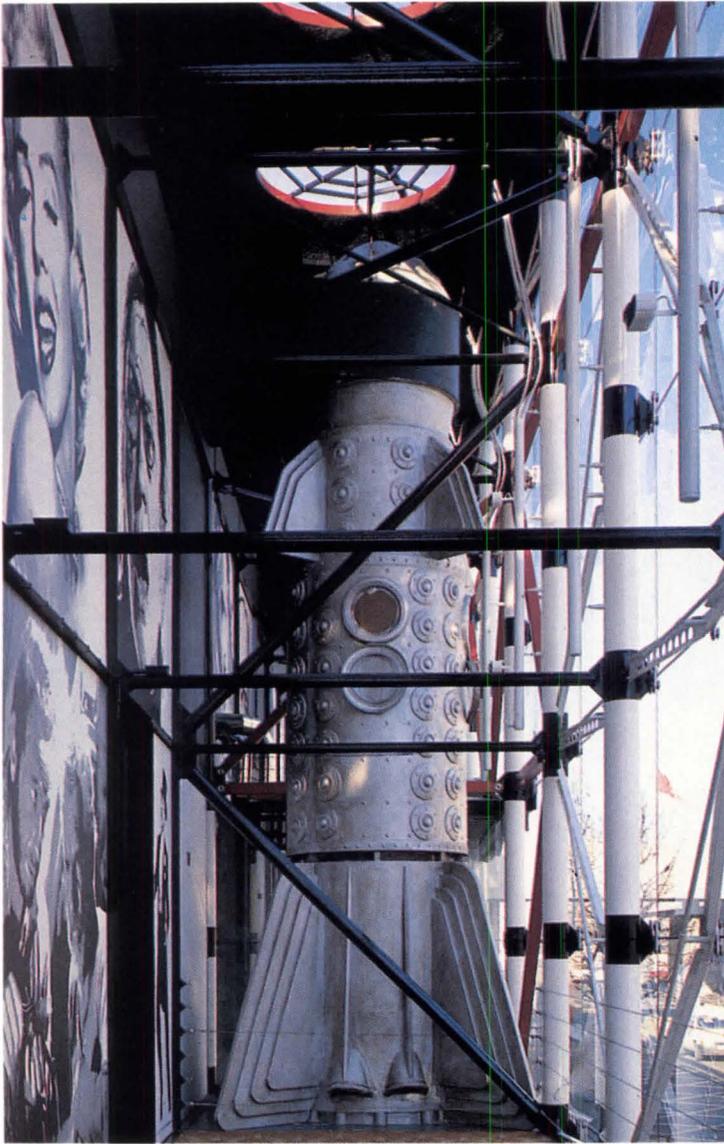
Museum of the Moving Image
London
Avery Associates, Architects

"A simply serviced shell," is how architect Bryan Avery describes his design for the Museum of the Moving Image on London's South Bank. His modesty, however, belies the structural and formal ingenuity of the 55,000-square-foot building, which is tucked beneath Waterloo Bridge over a parking garage. In collaboration with engineer Anthony Hunt, Avery developed a structure independent of the bridge based on the column grid of the garage bays. In determining where to place the deep piles of his foundation, he had to grapple not only with the existing piers of Waterloo Bridge, but also with footings of previous bridge constructions, public sewers, gas and electricity lines, communications cables, and a high-pressure water main, which had to be rerouted. Once this engineering feat was accomplished, Avery superimposed a steel frame over a concrete deck to form 9-foot-wide colonnades on either side of the bridge, which distinguish the infill structure with identifiable elevations. Capped by domed skylights and fiberglass roof panels colored in the bright red of London's buses (opposite and top section), these freestanding galleries—authorities would not permit any connections to the bridge—contain circulation, mechanical equipment, and ancillary exhibition space. On the side facing the National Film Theater (bottom right), the architect designed an elegantly detailed glass "image wall" braced by bowed struts that acts as a star-studded billboard (page 111) to draw attention to the museum within the South Bank's Brutalist concrete context.

Since MOMI serves as a sister institution to the National Film Theater next door, Avery was not required to furnish the museum with a large-capacity auditorium for film screenings. He did, however, design a "moving image workshop," a 135-seat experimental theater at the south end of the building that is equipped with an adjustable proscenium to accommodate various types of media. At the center, the architect designed the galleries as a double-height "black box," with a mezzanine for temporary exhibitions (bottom section), surrounded at the perimeter by functions requiring daylight: staff offices, a café, and book shop (plans). Ironically, the parking garage that Avery so diligently preserved has been subsequently converted by the museum into additional exhibition space and a mechanical room for a new air-conditioning unit. *D. K. D.*



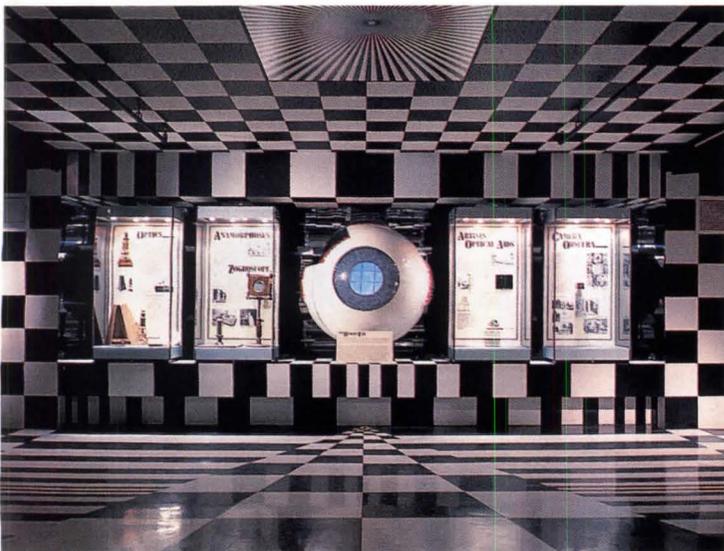
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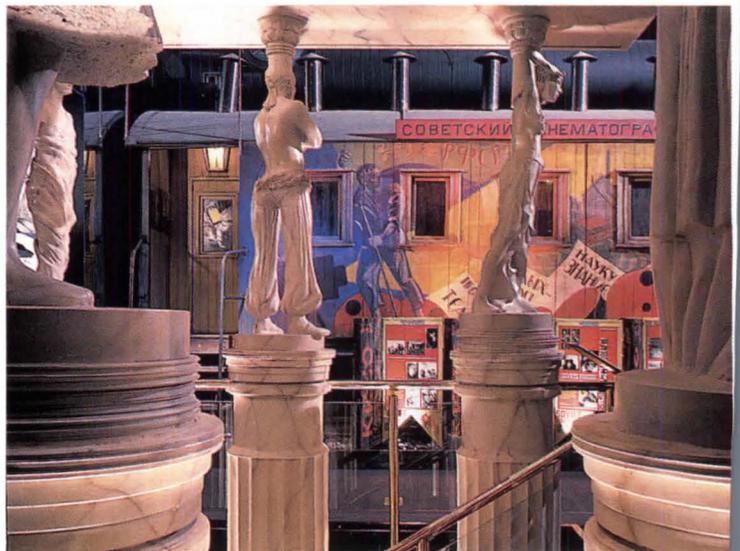
1 MOMI's exhibits are international in scope and arranged in chronological order from pre-cinematic images to the latest fiber optics. Designed by Neal Potter, the displays comprise interpretative environments that emphasize fantasy and showmanship over a didactic and technological approach. 1. The east-facing colonnade is decorated with movie stars and a rocket ship inspired by the 1902 movie, Trip to the Moon. 2. Kinetic displays are programmed from a console within the gallery.



2 3., 4. The British film industry is represented by a reproduction of a 1930s Odeon cinema, complete with marquee, foyer, and tea room. 5. The entrance gallery is designed as an optical illusion, intended to challenge visitors' visual perceptions. 6. The silent-screen era is celebrated by the Temple of the Gods, supported by caryatids of movie stars. Visitors can enter a replica of a 1919 Russian "Agit train," in which revolutionary propaganda films were shown (background). 7. Temporary exhibitions, such



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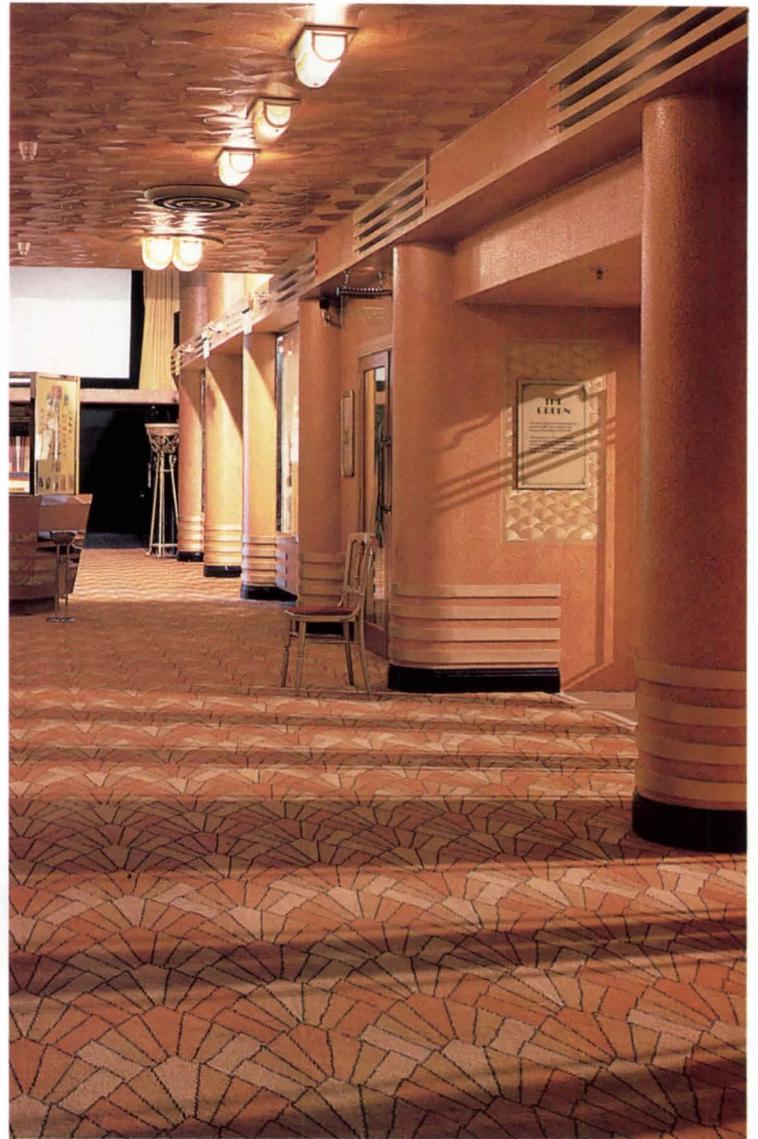


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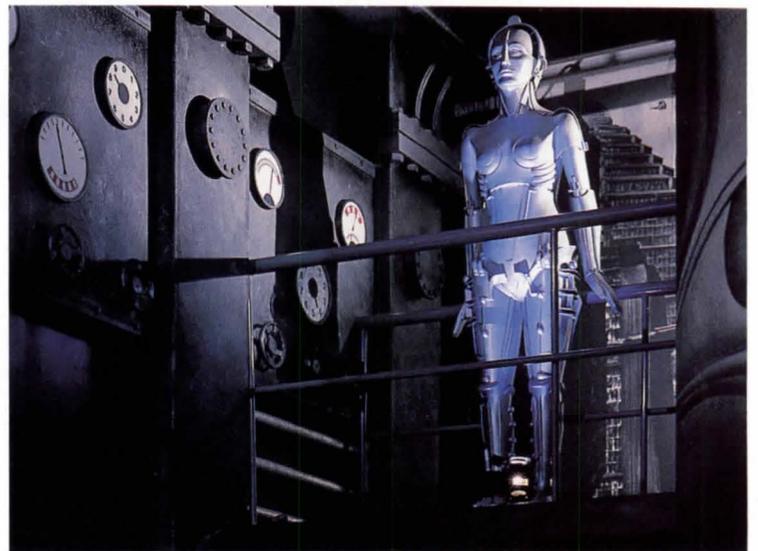
3
as the "World of Jim Henson,"
are staged on the mezzanine.
8. A display devoted to German
expressionist films includes the
robot from Fritz Lang's
Metropolis.

*Museum of the Moving Image
London*
Architect:
Avery Associates—Bryan
Avery, principal-in-charge;
John Dawson, project architect;
Simon Grout, Tim Thompson,
Dean Buchanan, Arthur
Collin, Richard Crawford, Paul



4
*Kerr Hislop, Giuseppi Intini,
John Randle, Thierry
Reinhardt, Paul Summerlin,
Wes Spees, Michael Walter,
project team*
Engineers:
Anthony Hunt Associates
(structural); Voce Case &
Partners; R. W. Gregory &

Partners (mechanical)
Consultants:
Neal Potter (exhibit design);
Northcroft Neighbour and
Nicholson & Hanscomb
Partnership (cost); Bickerdike
Allen Partners (acoustics)
General contractor:
Bovis Construction

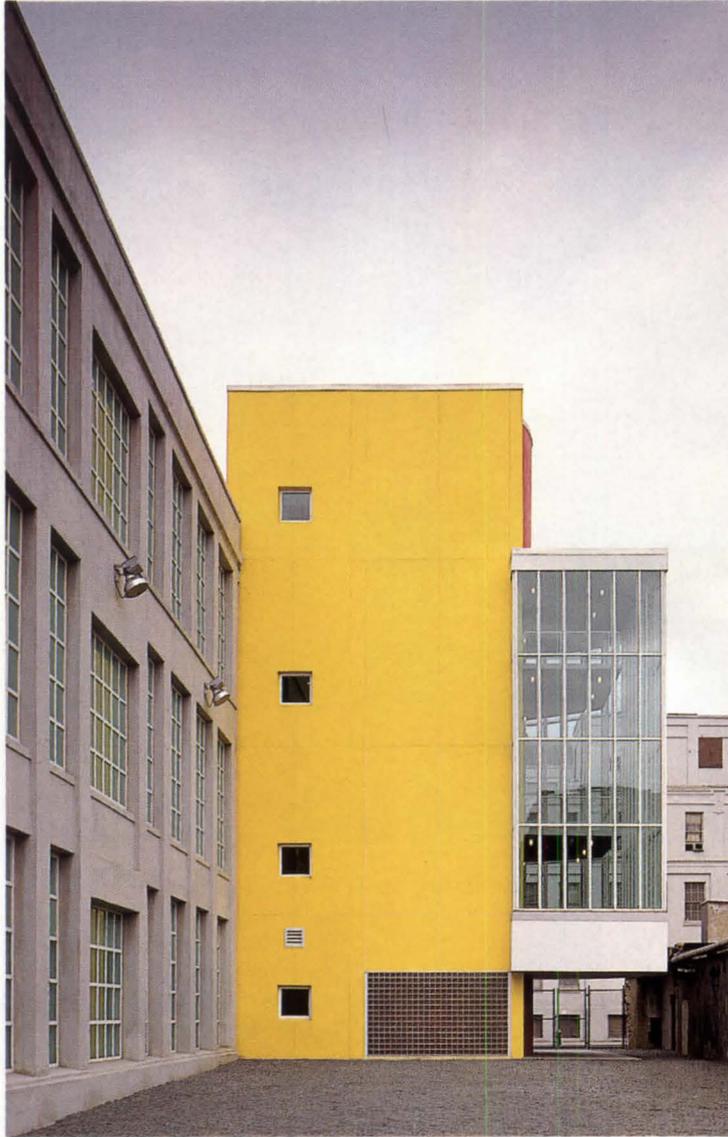


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American Museum of the
Moving Image
New York City
Gwathmey Siegel & Associates,
Architects

Art and industry

©Jeff Goldberg/ESTO photos



"We examine film, television, and video in a very unromantic way," says Rochelle Slovin, director of New York City's newest cultural institution, the American Museum of the Moving Image in Astoria, Queens. Slovin's behind-the-scenes approach is reinforced by Gwathmey Siegel & Associates' museum design, a tough-minded renovation of a three-story industrial warehouse that opened last fall. During the seven years it took to complete the museum, the architects confronted many of the roadblocks associated with city-funded projects: a tight budget, phased construction schedule, and the Wicks Law, which requires separate contractors for each job. And, since the building is located within the 1920s Astoria Studios complex (site plan), a landmark listed on the National Register of Historic Places, all proposed changes to the structure were subject to scrutinous government review.

Despite these challenges, Gwathmey Siegel capitalized on the industrial character of the warehouse to create a rigorous framework for AMMI's growing collection, film programs, and future expansion—for only \$130 per square foot. "Our building has an unfinished quality, with details that are built to last. It doesn't have the preciousness associated with a fine-arts museum," explains Charles Gwathmey. He likens his part to the Centre Pompidou, in which public circulation is pulled outside the perimeter to maximize the "black box" functions—galleries and theaters—at the center of the museum. At AMMI, the escalators at Pompidou are reinterpreted as a glazed, joist-braced stairway and elevator core that extend from the rear of the building. Rendered in primary colors, their sculpted volumes animate the repetitive building envelope within the neighborhood's gray uniformity (left and opposite). Gwathmey's other major intervention into the warehouse is a 190-seat theater inserted into the ramp of a former loading bay that he surrounded by a museum shop, café, community meeting room, and temporary exhibition space. On the second floor, the architect arranged staff offices around a 7,200-square-foot loft, which currently houses AMMI's core exhibit, "Behind the Screen: Producing, Promoting, and Exhibiting Motion Pictures and Television." Another gallery on the third floor is scheduled to open this summer with a display of video games, and a fourth-floor penthouse is now under design development. *D. K. D.*



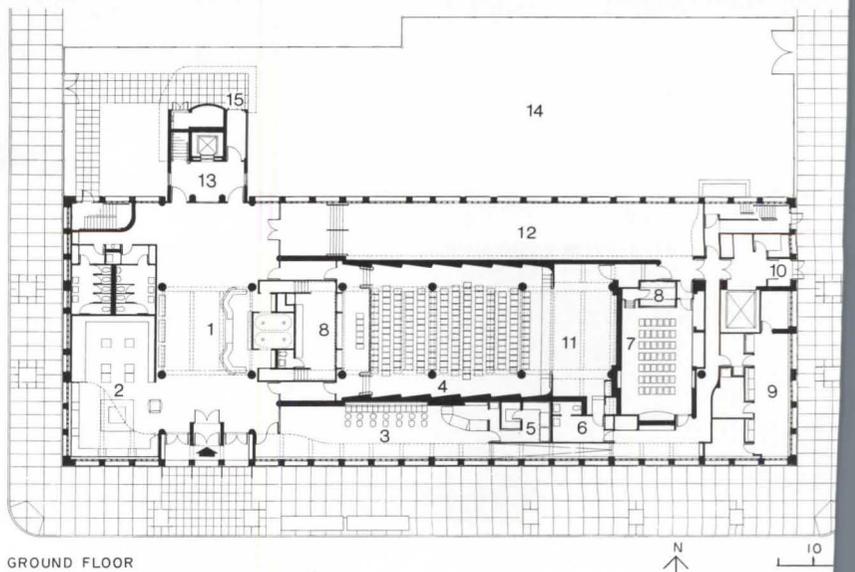


"AMMI is a study in inexpensive materials used in an appropriate way," explains Charles Gwathmey, who underscored the industrial character of a former warehouse to enhance the museum's behind-the-screen philosophy. On the first floor,

he exposed the concrete structure in the lobby (below top left) and modulated the ceiling with a curved soffit that extends from a gift shop (below right) at the southwestern corner to a café along the perimeter (plan below). Within a former truck dock, the



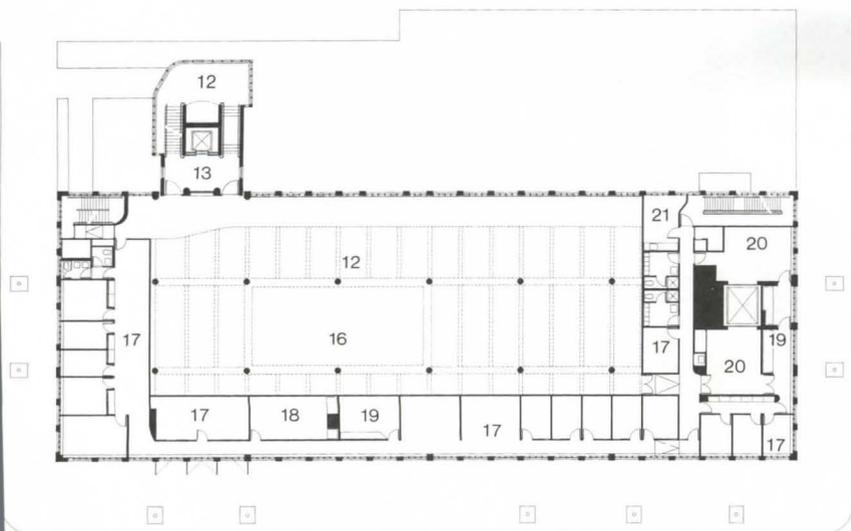
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|----------------------------|----------------------------|
| 1. Lobby | 12. Exhibition |
| 2. Museum store | 13. Public stair/elevator |
| 3. Café | 14. Courtyard |
| 4. Theater | 15. Handicap entrance |
| 5. Serving/prep | 16. Soundstage |
| 6. Green room | 17. Administration offices |
| 7. Screening room | 18. Conference room |
| 8. Projection booth | 19. Workroom |
| 9. Community board offices | 20. Holding area |
| 10. Staff/service entrance | 21. Lounge |
| 11. Stage platform | |



GROUND FLOOR

architect inserted a 190-seat theater (opposite bottom left), equipped for screening various sizes of films, videos, and rare nitrate prints. Gwathmey Siegel's most visible addition is a circulation hub at the rear that provides access to three levels of galleries. Cantilevered

from an elevator core, the concrete stairway is wrapped in tinted laminated-glass panels braced by off-the-shelf joists (below left and top right). On each curved stair landing is a niche for displaying artwork, such as "Point Oh View" by Paul Davis (bottom right).



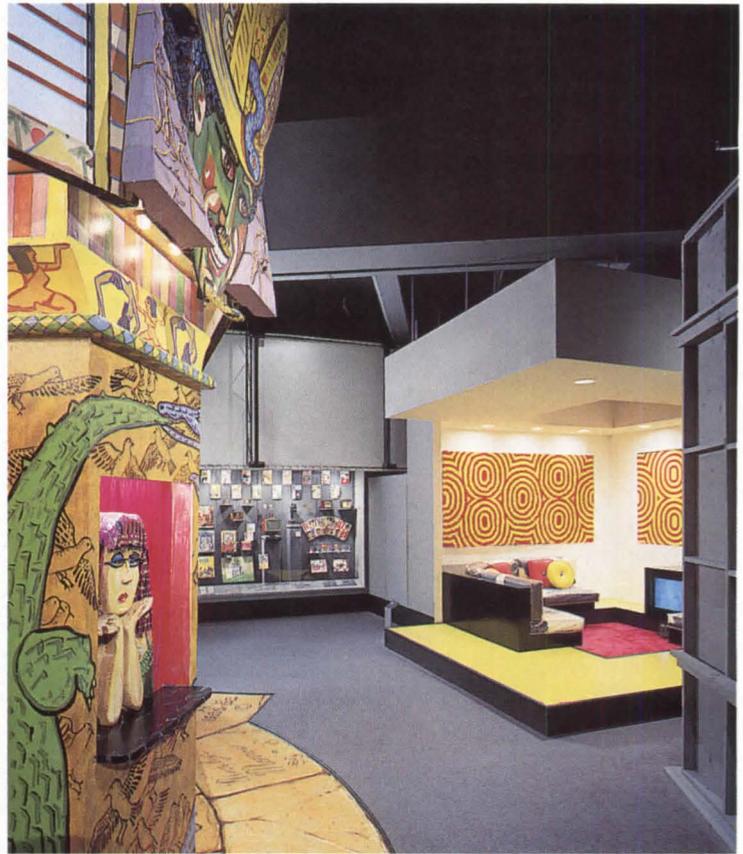
SECOND FLOOR



1

"I wanted the artifacts to be seen within their architectural setting without a lot of graphics," explains director Rochelle Slovin of AMMI's core collection on the second floor, which is devoted to the exhibition, production, and promotion of film and TV.

Adhering to Slovin's philosophy, exhibit designer Murry Gelberg clearly differentiated his flexible displays from the museum's exposed structural and mechanical systems. Tentlike screens, for example, frame an area for viewing videos on



2

directors and scriptwriters (7), and a display of costumes and related promotional material (8). Movable sound booths offer commentary by producers on TV shows and movies shown on monitors overhead (6). AMMI's collection also includes commissioned artworks,

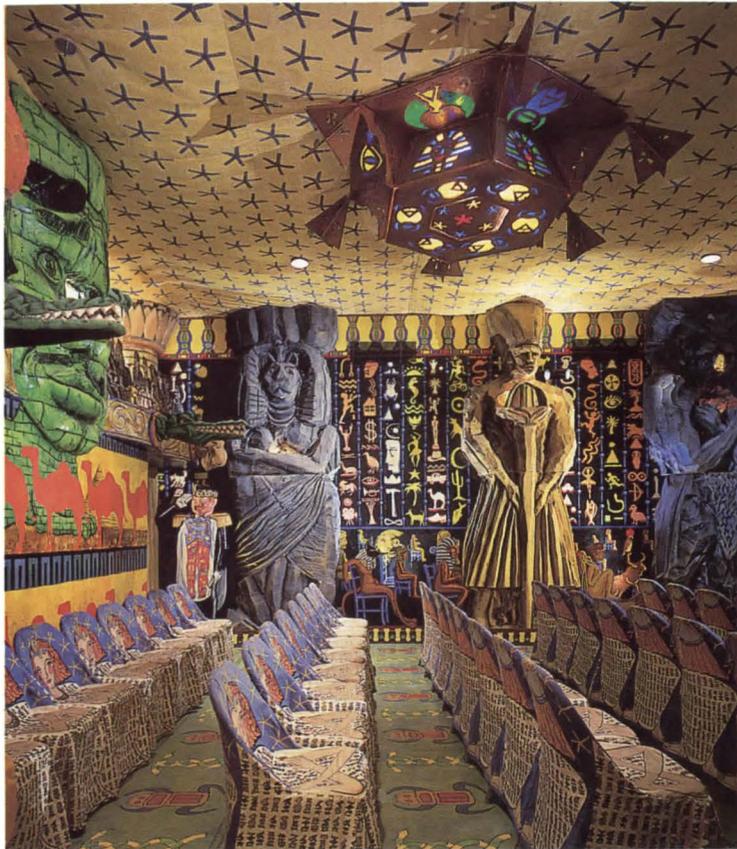
including "Tut's Fever," an exuberantly decorated, 40-seat theater designed by Red Grooms and Lysiane Luong (1, 3, 4); Jim Isermann's "TV Lounge," a 1960s-inspired family room (2); and Naim June Paik's "Getaway Car," an 80-monitor installation (5).



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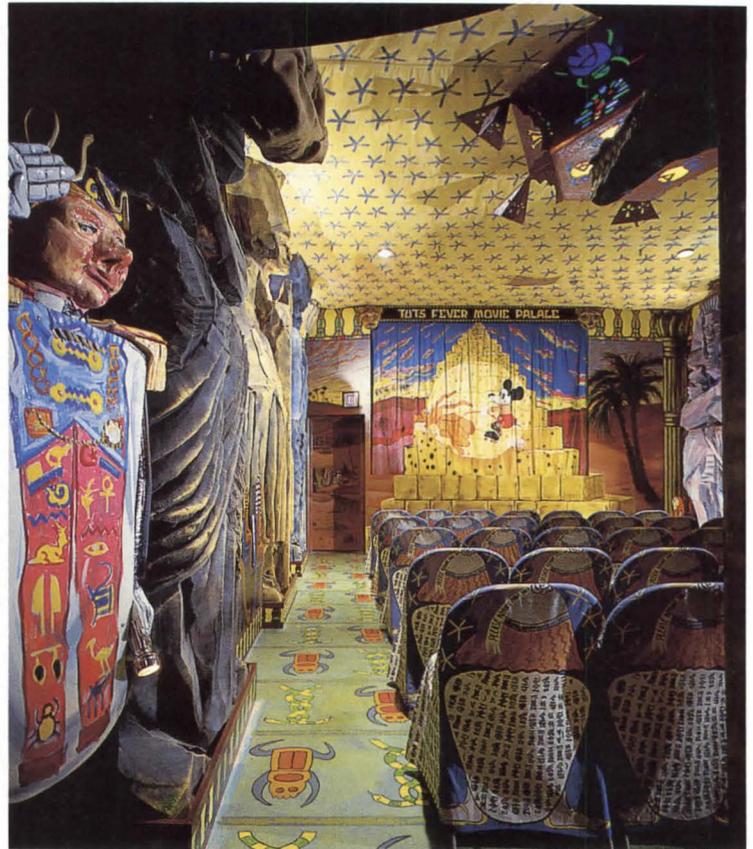
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3

American Museum of the Moving Image
 New York City
Architect:
Gwathmey Siegel & Associates, Architects—Jacob Alspector, senior associate; Paul Aferiat, associate; Alissa Bucher, Pierre Cantacuzene, Stephen Connors,

Steven Forman, Tim Greer, Lee Hagen, Dirk Kramer, Jude LeBlanc, Ming Leung, Jay Measley, Carlene Ramus, Shalini Taneja, project team
Engineers:
Severud Szegezdy (structural); John L. Altieri (mechanical)



4

Consultants:
Imero Fiorentino Associates (theater/video); Jaffee Acoustics (acoustics); H.I. Sigman (codes/zoning); Carl Hillmann Associates (lighting); Della, Femina, Traviso & Partners (graphics); Murry Gelberg & Co. (exhibit design); Terry/

Chassman Associates (exhibit lighting); Paul Davis Studio (exhibit graphics)
Contractors:
Milnor Construction Corp. (general); Delphi Mechanical (hvac); Abra Construction Corp. (plumbing); Five Star Electric Corp. (electric)



8

Two on the town

Among major American cities, Boston and San Francisco are kindred spirits that bear some striking similarities. Nearly identical in physical dimension (46 square miles), both cities are the hubs of sprawling urban agglomerations that rank among the country's 10 most populous metropolitan areas (San Francisco is fourth, Boston seventh). Despite their ample size, both Boston and San Francisco lie in the economic shadow of even larger metropolises: Boston's East Coast preeminence diminished during the last century with the rise of New York City as the nation's premier port, while the transfer of West Coast financial power from San Francisco to Los Angeles remains an ongoing process. Even as their relative influence has waned, however, the Massachusetts state capital and the City by the Bay have continued to flourish in the minds of most Americans. Thanks to a happy blend of history and geography, the two cities boast well-established cultural institutions (especially Boston) and recreational amenities (San Francisco has the edge here), and their residents enjoy two of the best public-transportation systems in the country (though Boston's beloved "T" is older and more comprehensive than San Francisco's BART/MUNI network). They are cities whose distinction owes less to major monuments (the gold dome of Bulfinch's Massachusetts State House and the red towers of the Golden Gate Bridge notwithstanding) than to a tightly knit urban fabric almost European in its density.

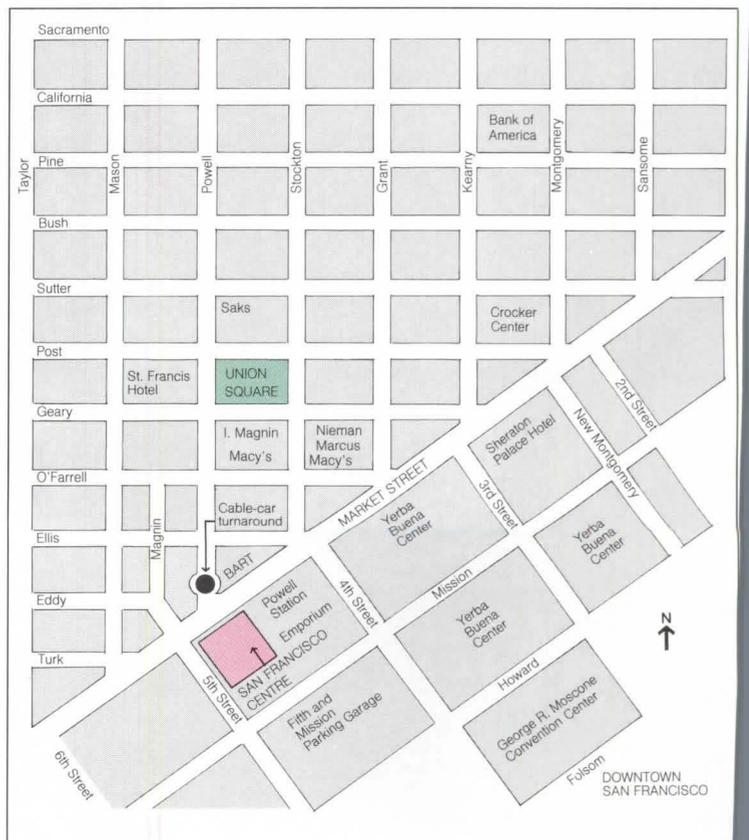
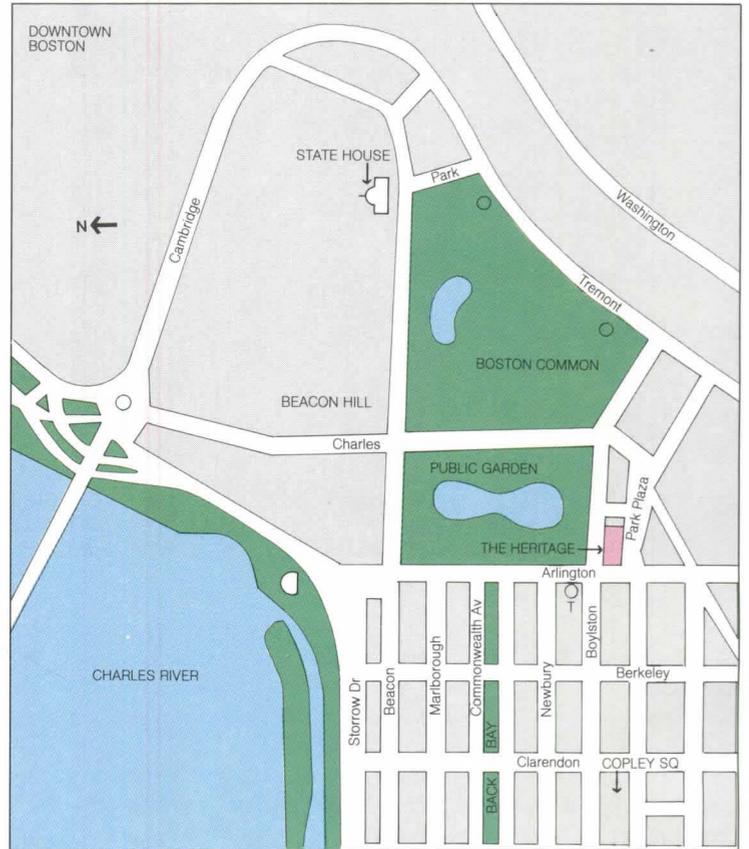
Then, too, San Francisco and Boston are progressive cities where actions traditionally have spoken louder than words. Boston, for example, is about to implement a plan, thought visionary just 10 years ago, to replace the intrusive Central

Artery with a subterranean highway, and San Francisco continues to debate a like-minded proposal to demolish the Embarcadero Freeway. It seems no accident that when RECORD awarded its first In the Public Interest honors for excellence in specialized housing (November 1988), four of the 11 premiated submissions, as well as a disproportionate number of runners-up, were located in the two cities or their suburbs.

For all their positive attributes, however, neither Boston nor San Francisco is quite the urban paradise its boosters might have one believe. Ironically given the traditional liberalism of its well-educated population, Boston remains one of the most racially divided cities in the country, while many San Franciscans live in a state of continuous mourning, the result of the city's highest-in-the-nation rate of AIDS-related deaths. What is more, although neither city suffered the wholesale population exodus after World War II that afflicted, say, Detroit or St. Louis, both allowed their once-cohesive business districts to expand (some might say explode) during the last 30 years into an undistinguished, overscaled forest of high-rise office and residential towers—generic icons of postwar Modernism that mingle uneasily with the stately red-brick and brownstone row houses of the Back Bay or the wood-frame painted Victorians of Russian Hill. San Francisco's so-called "Manhattanization" has been more highly publicized, but a similar Boston syndrome has perhaps had even more serious consequences in a city whose downtown core comprises small blocks and twisting streets that date back to Colonial days.

During the early 1980s public officials and increasingly vocal community leaders in San Francisco and Boston started to reexamine the financial benefits

Heritage on the Garden, in Boston, and San Francisco Centre exemplify the smaller-is-better mentality that has transformed architecture and urbanism in America's two best-loved cities.



1. *Heritage on the Garden, Boston. The Architects Collaborative, Architects.*
2. *San Francisco Centre, San Francisco. Whistler-Patri, Architects.*



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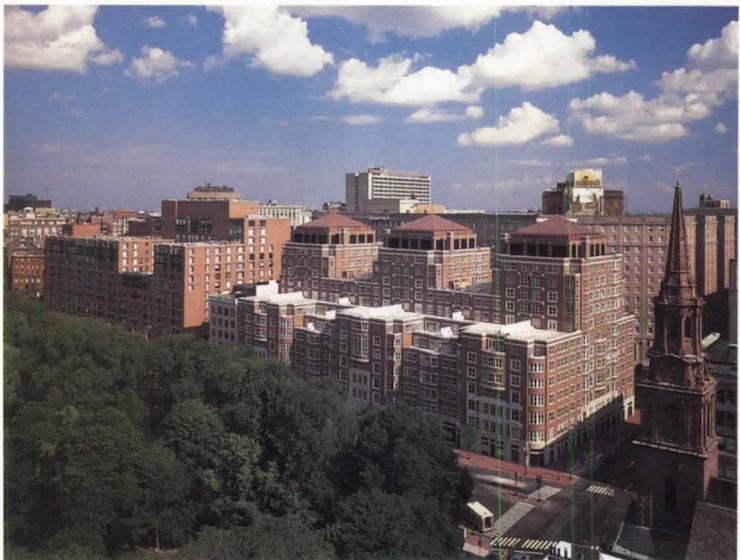


David Wakely

- Heritage on the Garden:*
3. View from Public Garden
 4. View from the Ritz-Carlton Hotel
 5. View from Park Plaza



3 ©Steve Rosenthal



4 ©Steve Rosenthal



5 ©Steve Rosenthal

of unbridled development vis à vis concerns that have since become known as quality-of-life issues. After much debate San Francisco passed its celebrated Downtown Plan, a sweeping revision of the city's zoning ordinance that limits construction in the overbuilt commercial core to just 450,000 square feet per annum, encourages new construction in a less-developed area of the city south of Market Street, and provides an architectural review process—dubbed “The Beauty Contest” by local architects—to judge the merits of all new-building proposals. Boston, with what might be considered typical New England reserve, adopted less drastic measures. In addition to modestly downzoning certain commercial areas of downtown and the Back Bay, the city, under the aegis of the Boston Redevelopment Authority (BRA), turned to the dual mechanisms of architect-developer competitions and site-specific design guidelines governing setbacks, materials, and usage for new construction on selected urban-renewal parcels. (The best-known architect-developer project to date erected under BRA-initiated mandates is Rowes Wharf [RECORD, March 1988, pages 86-93], the highly acclaimed mixed-use complex on Boston Harbor designed by the Chicago office of Skidmore, Owings & Merrill.)

Although Boston and San Francisco have adopted different urban-planning strategies, both cities clearly are struggling with the same urban-planning issue: how to preserve human scale and *public* character in private-development projects, concerns that city-builders of the more distant past seemed to understand as a matter of course. Two recently completed projects—Heritage on the Garden, by The Architects Collaborative, and San Francisco Centre, by Whistler-Patri—

convincingly address these matters in surprisingly similar ways. To be sure, on paper the two projects do not seem all that alike. Heritage on the Garden is a 490,000-square-foot mixed-use complex comprising 50,000 square feet of ground-floor retail and restaurant space, three floors of offices, seven floors housing 87 condominiums, and a 175-car below-grade garage. San Francisco Centre, by contrast, is a single-use, 670,000-square-foot retail mall comprising four levels of shops topped by five levels given over to the city's first branch of Nordstrom, the Seattle-based department store. There is no garage, though valet parking is available.

Yet like the cities themselves, these two highly visible projects were developed along remarkably parallel lines. Both buildings are situated at the junction of two urban neighborhoods, on once-seedy sections of important commercial thoroughfares (see maps, page 122). Both lie on the south side of major public open spaces, a factor that helped dictate low-rise, setback structures that would not cast long shadows, even on the shortest winter days. Both projects were years in the making and were shaped in part by controversial proposals for much larger buildings on their sites. They were carried out by enlightened developers who understand that financial viability does not necessarily preclude civic quality, and by architects who comprehend that thoughtful contextualism and imaginative design are by no means mutually exclusive. Unabashedly “up-scale,” they reflect, for better or for worse, Boston's and San Francisco's increasingly gentrified character. Finally, despite (or perhaps because of) their obvious debt to architectural modes of the past, Heritage on the Garden and San Francisco Centre are very much buildings of the present, and

San Francisco Centre:
 6. View down Hyde Street
 7. View along Market Street
 8. Market Street entrance

they actually presage what other American cities will demand of developers and architects well into the 21st century.

Reaffirming a Boston heritage

When Howard Elkus, principal at The Architects Collaborative until the recent founding of his own firm, speaks of Heritage on the Garden, the project that has occupied much of his time since 1982, he understandably lapses into a bit of hyperbole. Of Heritage's prominent setting at the southwest corner of the Public Garden, he says, "Anything less than a landmark building on this site would have been a tragedy. [Developer] Ronald Druker knew this, and so did we." Strolling past the elaborately articulated 12-story building that now presides over the intersection of Boylston and Arlington streets (1), he exclaims, "This is one of the richest walks in the United States." Elkus's enthusiasm is echoed by a more objective local observer: writing in *The Boston Globe*, Robert Campbell calls Heritage "a watershed building in the history of recent Boston architecture . . . a model of what an urban building ought to be."

Strong words, perhaps, but justifiable given what was originally proposed for the corner, which, despite its attractive parkside location overlooking Swan Pond, had deteriorated after World War II into a gap-toothed assemblage of marginally used commercial buildings. In the early 1970s, local developer Mortimer Zuckerman proposed a mega-project called Park Plaza that would have placed an office tower as tall as 50 stories on the Heritage site. Citizens from the surrounding neighborhoods arose in opposition and formed the Park Plaza Civic Advisory Committee (PPCAC). Working in joint venture with the BRA, the PPCAC in 1982 drew up a series of guidelines for the site, calling

for a mixed-use, but mainly residential, structure that would rise 80 feet along Boylston Street before stepping back a generous 50 feet and continuing to a maximum height of 135 feet. Ground-floor shops and restaurants were mandated to strengthen Boylston's existing retail character, and materials were to respect the area's brick and stone masonry tradition.

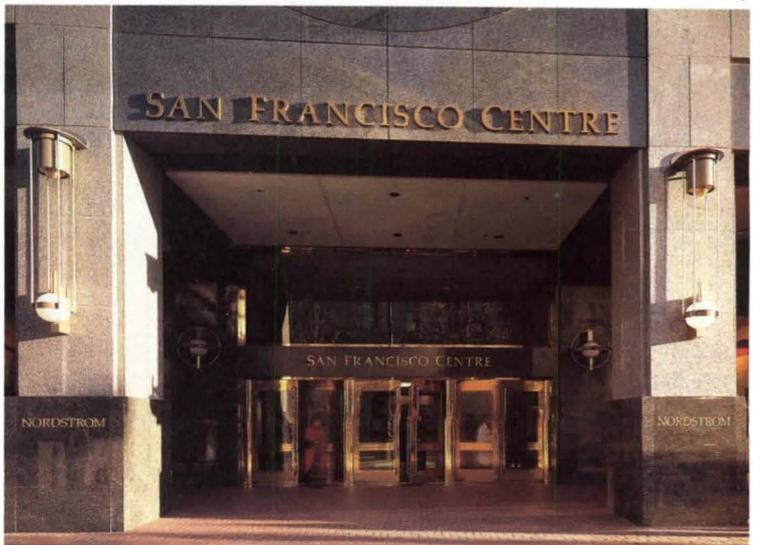
In winning the BRA's subsequent architect-developer competition in 1983, TAC and The Druker Company came up with a remarkably well-mannered transitional design that neatly bridges the gulf between the business scale of Boston's midtown theater district to the east and the bow-fronted domesticity of Bay Village and the Back Bay to the south and west. The architects picked up what Elkus calls the "Boylston Street beat" by breaking the building's 311-foot-long mass into a series of five bays and cladding the structure in a combination of Harvard blend brick, precast concrete, and rusticated local limestone. The building's 80-foot-high park facade lines up precisely with the cornice line of the adjacent Bradley Building (far left in photo 1), and its distinctive trio of towers—or "belvederes," to use the architects' word—are topped by pyramidal copper crowns that subtly allude to the hipped roof of the original John Hancock Building nearby (3, 4). Heritage's south-facing facade is similarly variegated, but here the architects allowed the building to rise agreeably its full 12 stories, roughly mimicking the scale of the Park Plaza Hotel across the street (5). One only has to compare the building with the much less successful Four Seasons Hotel next door (far left in photo 4), which was created under similar community-initiated guidelines, to appreciate the sensitivity and sophistication of TAC's design.



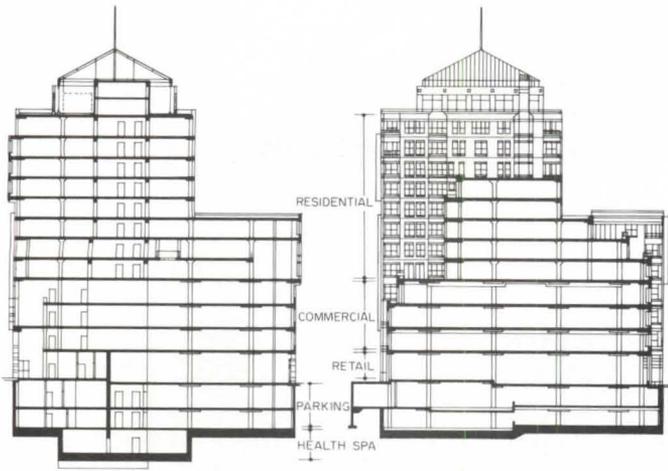
6 ©Bill Hedrich, Hedrich-Blessing



7 David Wakely



8 ©Bill Hedrich, Hedrich-Blessing

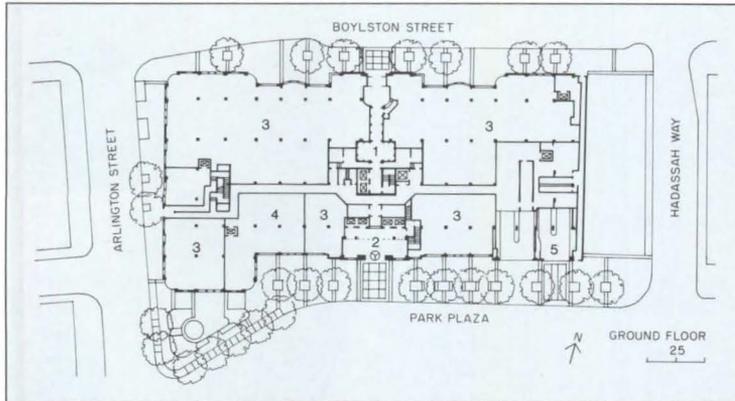


Plan legend:

1. Residential lobby
2. Office lobby
3. Retail
4. Restaurant
5. Service

Heritage on the Garden:

9. Transverse sections
10. Ground-floor plan
11. Residential lobby
12. Office lobby



Inside, moreover, Heritage on the Garden exhibits an air of quality not often associated with late 20th-century construction. The apartments, which average 1,900 square feet, are commodious by any current standard, and the residential lobby off Boylston Street (11) is opulently turned out with Honduran mahogany paneling, green and white Italian marble floors, etched-bronze elevator doors, silk wallcovering, and TAC-designed custom rugs. The two-story office lobby off Park Plaza (12) is less elaborately articulated with painted drywall and a combination of polished and honed, black and gray granite floors.

towers placed atop a retail podium. Although San Francisco had not yet passed its growth-restrictive downtown plan, change was clearly in the wind, and then-mayor Dianne Feinstein rejected any project that would cast Halladie Plaza into shadow. Two years ago, moreover, as the city's hot office market began to cool down, the notion of a building on the site devoted exclusively to retail use became more and more attractive, particularly when Seattle-based Nordstrom agreed to open its largest branch store on the building's top five levels. Nordstrom, it was felt, would effectively draw people up past some 120 shops that will eventually occupy the building's four lower levels.



©Steve Rosenthal

Glitter by the bay

Most visitors to San Francisco know Halladie Plaza as the place where the city's cherished cable cars begin their up-and-down journey to Fisherman's Wharf. For commuters from Daly City and the East Bay, the sunken esplanade denotes the entrance to one of downtown's most heavily used transit stations. For local residents, however, the busy crossroads of Powell and Market streets marks the spot where the smart Union Square shopping district fades unceremoniously into Skid Row and the honky-tonk remains of San Francisco's original retail core. It was here, on a 275-foot-square parcel located on the south side of Market Street, that The Gordon Company, a Los Angeles-based developer, decided to take a gamble and erect San Francisco Centre, a nine-level vertical shopping mall that decisively terminates the vista down Powell Street (6).

The architects at Whistler-Patri utilized some flamboyant design devices in configuring San Francisco Centre's interior. They organized the center around a spectacular 160-foot-high elliptical atrium (15, 16), and specified the first American application of six Japanese-manufactured spiral escalators to link the building's four mall levels. "The Guggenheim with glitz" is how at least one Bay Area critic characterizes this bronze- and marble-trimmed space. While project architect Curtis Owyang acknowledges that he and his colleagues turned for inspiration to Frank Lloyd Wright's masterpiece, along with the spiraling lanterns of Francesco Borromini's Italian Baroque churches in Rome, he admits that the cerebral impulses of art and religion that motivated his forebears were secondary in San Francisco to the more pragmatic concern of attracting money-spending shoppers into the center. (The strategy seems to be working: the crush of patrons on opening day last October was so great that the spiral escalators temporarily broke down, and business remains brisk, even



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San Francisco Centre:

13. Longitudinal section

14. Ground-floor plan

15. Atrium from Nordstrom's

16. Atrium from ground floor

though only a third of the shops are open.)

Beyond its commercial success, however, San Francisco Centre is a new model for responsible urbanism in a city clearly fed up with planning mistakes of the past. Most significantly, perhaps, the center is linked directly to the Powell Street BART station via a below-grade concourse, while short escalators and stairways connect each mall level to the Emporium (far left in photo 2 and section above), the last great department store left over from Market Street's retail heyday. Carefully aligned with Market's existing building wall, the center ascends 85 feet, the exact height of the former Hale Brothers Department Store across Fifth Street (far right in photo 7), before rising in a series of 32-foot-deep setbacks to an ultimate height of 160 feet. The architects sheathed the center's facades in a combination of gray-green precast concrete, North African granite, and bronze-painted aluminum grilles set in front of back-painted spandrel glass—the latter details meant to ape windows in a building that has no need for them. The center's arched entrance was influenced by a similar motif on the Emporium, and its precast piers reflect the vertical rhythm of upper-story colonnades on both the Emporium and Hale Brothers buildings. Viewed alone, these elements do not add up to a major work of architecture; by respecting its neighbors along Market Street, however, San Francisco Centre has made a great city even greater. *Paul M. Sachner*

Heritage on the Garden
Boston

Owner:
The Druker Company—
Ronald M. Druker, president
Architect:
The Architects Collaborative,
Inc.—Howard F. Elkus,

Section legend:

1. Nordstrom
2. Mall
3. Concourse/BART level
4. Loading/service
5. Emporium

principal-in-charge; J. B. Jones,
senior project architect;
competition team: Mark Robitz,
Scot MacPherson, Brenda
Stanfield, Jamie Devol,
Jonathan Seely, Sam Norod;
project team: William Hall,
project manager; Mark Robitz,
project architect; Elizabeth
Stern, interior design; George
Bregianos, Sherry Caplan,
Joseph Carroll, Ben Cheung,
C. S. Chou, Natalie Gray, Brad
Guarino, Robert Koup, Laurie
Lieberman, Vicki Madara,
Peter Merrell, Brenda
Stanfield, Eve Tenzler, Edward
Wood; landscape team: Vince
Nauseda, Peter Spellmeyer,
Joanne Hiromura, Gary
Hilderbrand

Engineers:
Weidlinger Associates
(structural); Cosentini
Associates (mechanical);
Cullinan Engineering Co.
(civil)
Consultants:
Cavanaugh Tocci Associates
(acoustics); Wheel-Gersztoff
Associates (lighting); Lerch,
Bates & Associates (vertical
transportation)
General contractor:
Turner Construction Company

San Francisco Centre
San Francisco

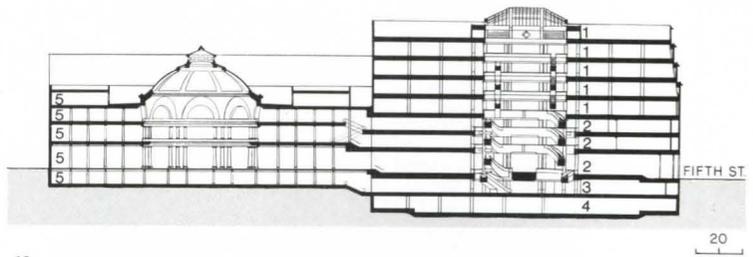
Owner:
The Gordon Company—
Sheldon Gordon, president

Architect:
Whistler-Patri—Piero Patri,
principal-in-charge; Curtis
Owyang, Steve Guest, project
designers; Jeff Pribyl, project
manager; Marie Zeller,
planning approvals

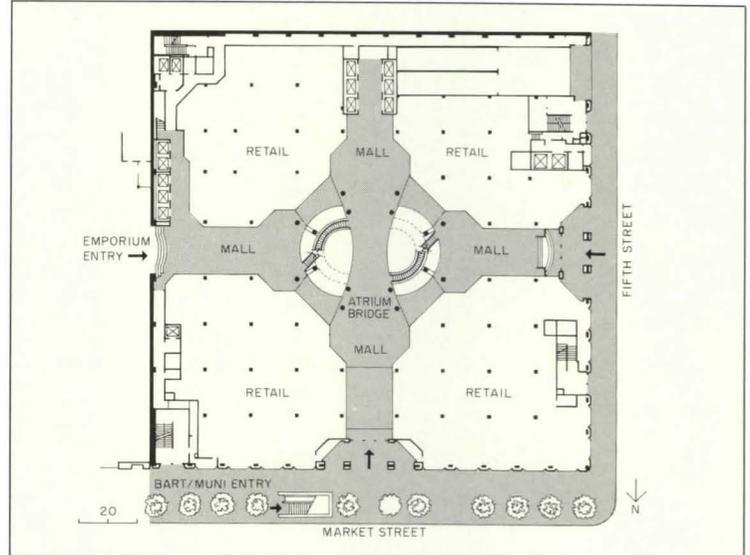
Engineers:
CYGNA Consulting Engineers
(structural); YOSHPE
(mechanical)

Consultants:
Bovis International
(construction manager);
Robinson, Mills & Williams
(tenant architect)

General contractor:
Swinerton & Walberg



13



14



15

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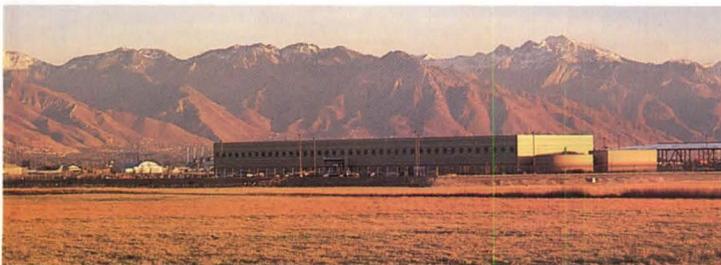
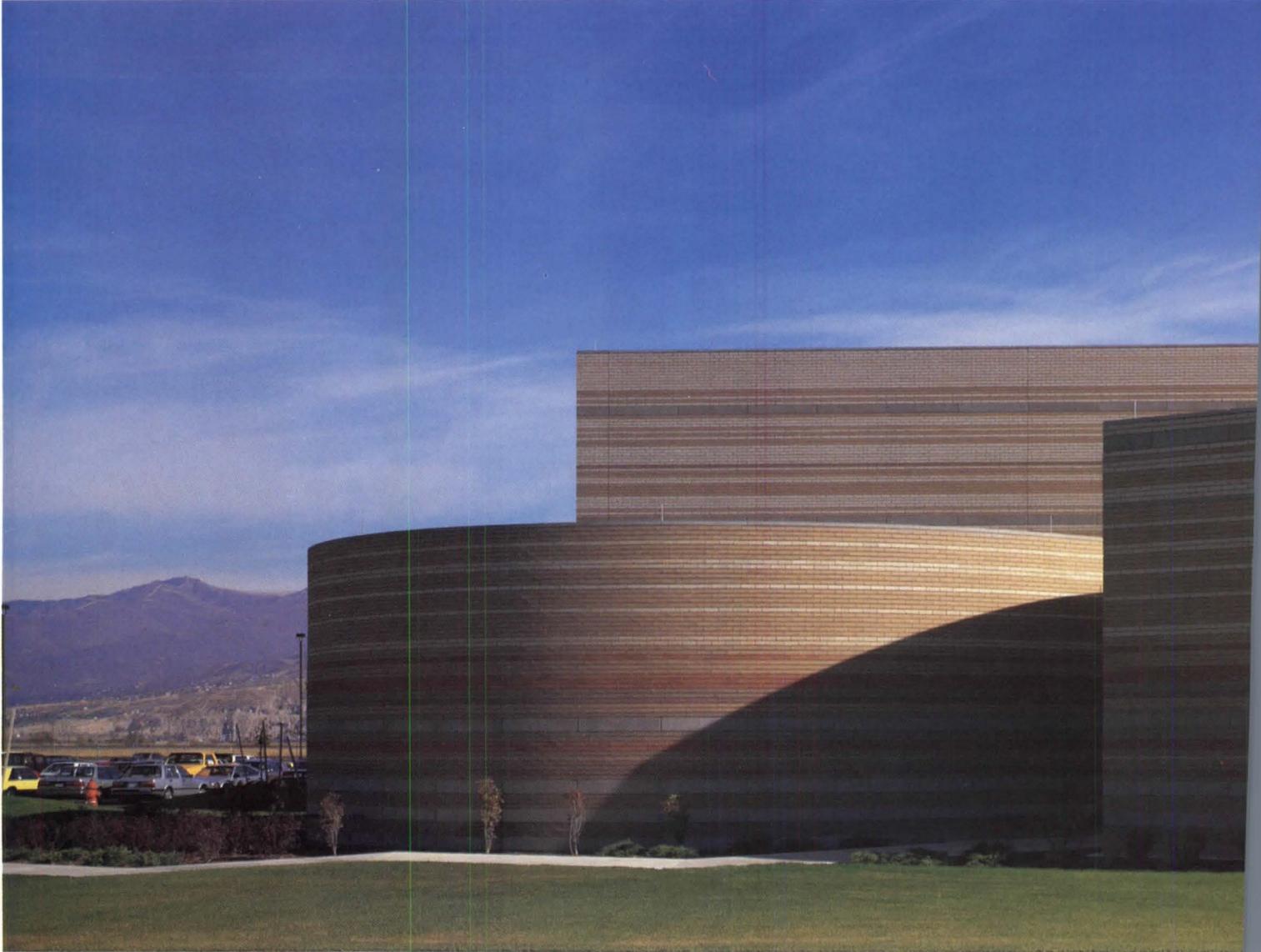


16

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Delta Air Lines Reservations
and Training Center
Salt Lake City
Lord & Sargent, Inc., and
MHT Architects, Inc.

Making a little look like a lot



For this extremely simple utilitarian box, architects Lord & Sargent used extremely simple utilitarian means to give it geometric complexity and visual richness.

The striated earth-colored brick and precast concrete wall that constitutes the Delta reservations center's most arresting component was designed for the most compelling reasons of time and function. The \$6-million fast-track building, completed in six months from start of design to occupancy, was originally designed with red, white, blue, and silver metal sheathing, but two months into the tight schedule the client opted for greater subtlety. According to architect Terry Sargent's narrative, the designers thereupon hastened to the nearest brickyard, which had available nine standard and very suitable colors of brick veneer made from Utah earth. And the design team thereupon did some fast-tracking of its own to produce the artfully artless surface pattern of striped hand-laid brick and precast concrete.

The slightly mysterious solid geometric forms at one end of the building (top), featureless except for the earth-colored stripes, in fact represent the most practical of purposes: the cylinder is the

For the sort of commonplace building usually left to the devices of industrial-park developers, architects Lord & Sargent used simple means to give its client what the Georgia AIA, giving the design its top award, called "an extraordinary gift wrapping for an ordinary box."

©Jonathan Hillyer Photography



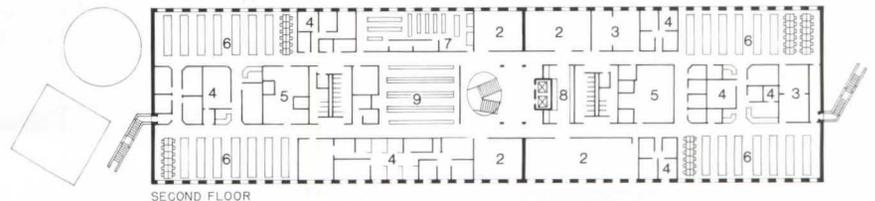
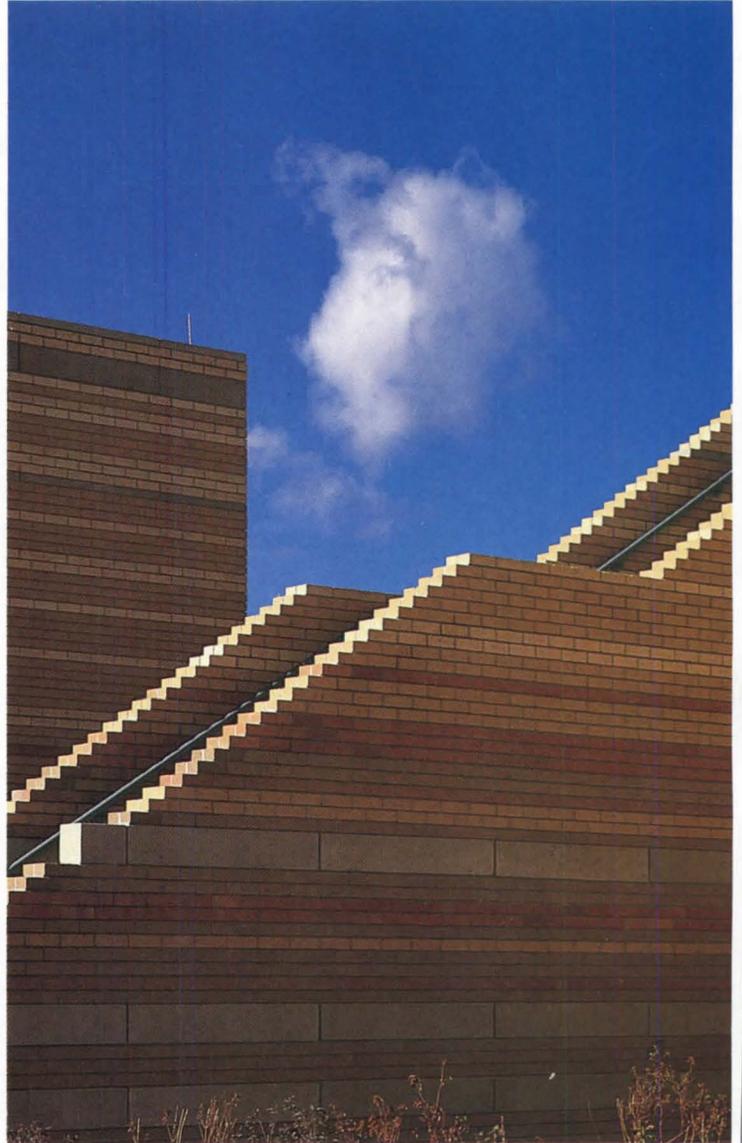
cooling tower and the cube houses the mechanical plant. Moreover, the most functional of reasons prompted the extraction of these components from inside to outside. The first floor of the 88,000-square-foot building accommodates classrooms and training facilities for pilots and other in-flight personnel, including a flight simulator and a fire-extinguisher practice room; the second floor houses 450 telephone bays and computer equipment for reservations clerks, as well as lockers and lounges. Because this building is near the Salt Lake City airport (one of Delta's hubs), and because future plans call for an adjacent engine-testing facility, and because the telephone clerks will need the greatest possible freedom from extraneous noise, considerable effort was expended on sound control. Mechanical equipment was therefore placed out of doors and out of earshot, and the curtainwall and fenestration were carefully detailed for sound isolation of the interior space (see section on page 131). (Not incidentally, the external mechanical blocks clear the roof of unsightly impedimenta so that it will offer a clean face to Delta's passengers landing at the airport.) *Grace Anderson*



To relieve the building's boxiness, some features were taken outside and set askew: revolving doors with metal awnings (below left) and fire stairs at each end of the building (below right). To protect the interior against noise from an adjacent runway

and from a projected engine-testing facility, the composite structure was detailed with isolation mats and joints and with many air spaces (section opposite). An outer window with two lights and an inner window with a single light are separated by perforated

aluminum jambs, sill, and soffit. The interior, a simple environment of wallboard and computer stations, gains a measure of grandeur from a double stairway (opposite right), its colorful brick support bringing a touch of the desert indoors.



1. Training simulator 7. Computer room
 2. Lounge 8. Vending
 3. Classrooms 9. Lockers
 4. Offices 10. Central mechanical plant
 5. Mechanical 11. Cooling tower
 6. Reservations bays

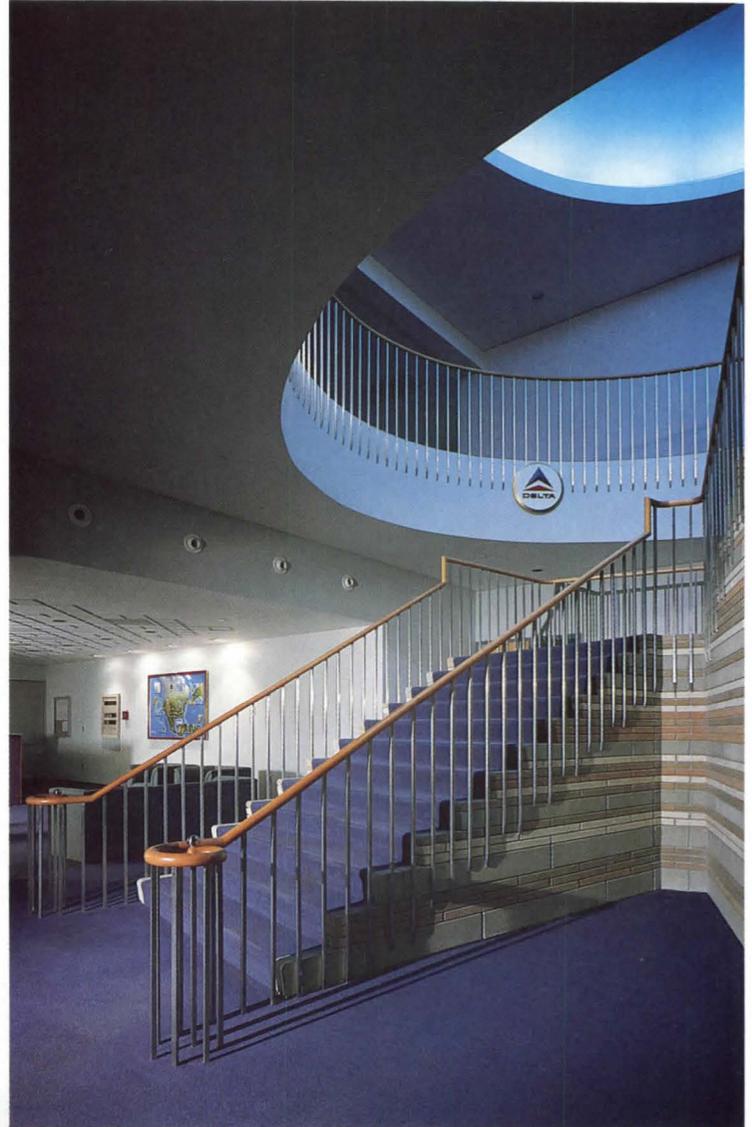
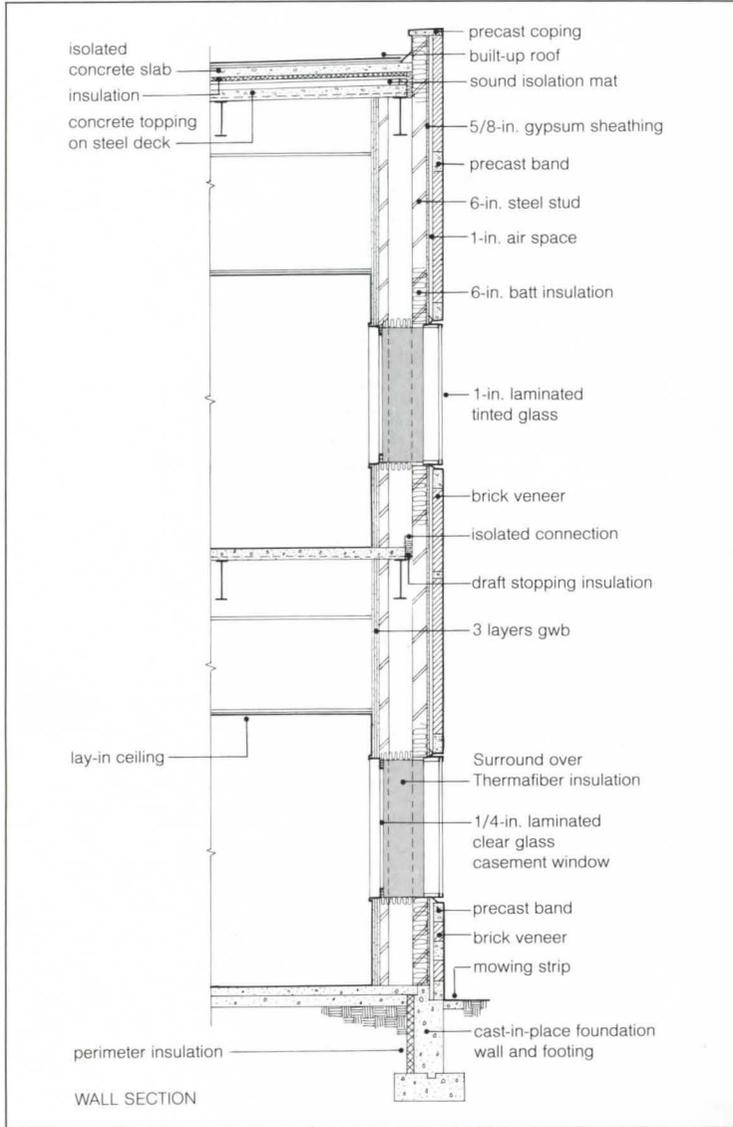
Delta Air Lines Reservations and Training Center
Salt Lake City

Owner:
Delta Air Lines, Inc., Atlanta—Maurice Cain, Director of Facilities; Marcey McCann, Assistant Vice President, Reservations Sales

Architects:
Lord & Sargent, Inc., and MHT Architects, Inc.—Larry Lord, Terry Sargent, David R. Hayes, principals-in-charge; Jack Hughes, Dennis Cecchini, co-project architects; Allen Duncan, Jimmy Hawkins, William Hoster, Harriet

Cherry Leavens, Klaudia Keilholz, Jane Seville, John Stephenson, Howard Wertheimer, staff architects
Engineers:
Reaveley Engineers and Associates (structural); R. L. Daniell & Associates (mechanical/electrical); Olsen

& Peterson (mechanical); Becherer Nielson Associates (electrical); Acoustics Engineer, Inc. (acoustical)
Consultants:
Dell R. Cook & Associates (landscape architects)
General contractor:
Oakland Construction





The recovery of ornament

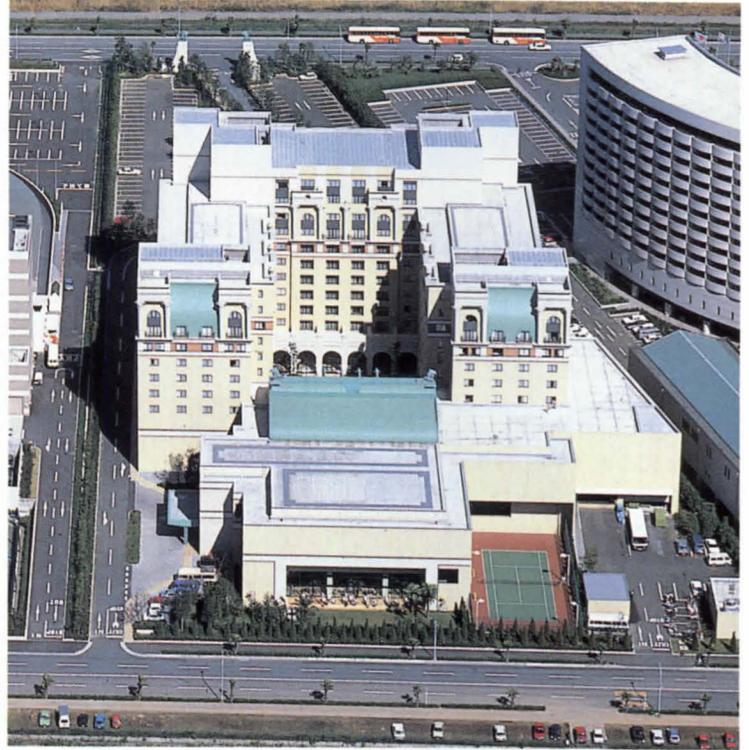
Roger Ferri first came to public notice in 1978 when, six years out of the Pratt Institute and not yet 30 years old, his designs for a pedestrian city were exhibited at New York's Museum of Modern Art. The word "visionary" was tossed around then to describe his beautifully rendered paintings and drawings for a two-mile-diameter circular city in the American Southwest. Eleven years later, the word still seems appropriate. Initiated partly in response to the cumulative ecological crises of the 1970s—crises that are very much with us today—Ferri's idealized community for the "post-petroleum age" was cleverly planned to dispense with the internal-combustion engine within the city proper. Though driven by the dream of what Ferri describes as "a reintegration of the man-made environment and nature," the pedestrian city represents not a retreat from modern technology but an attempt to perfect technology by using it with greater circumspection and care. For example, cars and buses would not be banned from the pedestrian city, but would be left at its outskirts. The city itself is small enough to negotiate comfortably on foot; underground tunnels would provide service access, while ample public transportation would be provided above ground by electric tram.

As the idea of the pedestrian city suggests, Ferri can be described as an architectural ecologist. His interests go far beyond designing particular buildings to embrace urbanism at the highest—what almost seems a metaphysical—level. While there has been no dearth of architects raising the banner of ecology in recent years, it is rare indeed that one finds a practitioner who combines so thoughtful an approach to the large questions of urbanism—questions that ask not only what should we build but also how should we live—with architectural designs that are strikingly and exquisitely drawn. Indeed, Ferri's alternative to what he describes as the baneful "academicizing tendency in the arts" begins with a return to drawing and "visual thinking" in architecture. But it is worth stressing that he is not simply an esthete extolling good drawing and visual sensitivity for their own sakes, however important that pursuit might also be. His entire oeuvre to date has, one way or another, aimed at the goal of reintegration. This means that Ferri strives to put visual acuity and artistic technique at the service of an architectural vision that emphasizes community and the union of man with nature.

It also means that one of Ferri's chief ambitions is the recovery of ornament, a goal apparent in his design of the Dai-Ichi Tokyo Bay Hotel. In this sense, his work represents a more or less complete reversal of Adolf Loos's famously stern dictum that "freedom from ornament is a sign of spiritual strength." For Ferri, ornament, when properly understood and applied, is a key to reanimating architecture and restoring its civic appeal. To be sure, the difficulties are formidable. In order to be more than mere decoration, more than Postmodernist appliqué, ornament must be capable of expressing shared, communal meanings. And it must also be organic, representing, as Ferri puts it, the "unity of outward appearance and inner structure." These are tall orders in a world that is increasingly heterogeneous and where the whole idea of "inner structure" is often dismissed as a romantic fiction. It is too early to say for certain whether Roger Ferri's architecture will really succeed in helping us to reclaim the spiritual function of ornament. But, as his ambitious design of the Dai-Ichi Tokyo Bay Hotel shows, his efforts will at the least give us buildings that are civilized, urbane, and sumptuously embellished. That in itself is no small feat. *Roger Kimball*

Roger Ferri designed the Dai-Ichi Tokyo Bay Hotel while he was a principal with Welton Becket Associates (now Ellerbe Becket). One of Ferri's chief esthetic concerns was to provide the hotel with a unified, emotionally rich system of architectural ornamentation.

Akio Kawasumi



Akio Kawasumi

Dai-Ichi Tokyo Bay Hotel
Tokyo, Japan
Ellerbe Becket, Inc., and
Kajima Corporation, Architects

The art and process of architectural iconography

1. Cast-concrete porpoises
2. View into courtyard

Set on what Roger Ferri generously describes as an "undistinguished" site of landfill and surrounded on three sides by a chaos of urban sprawl (previous page), the Dai-Ichi Tokyo Bay Hotel makes the most of the one great natural asset of its site, Tokyo Bay. The hotel, which opened in July of last year, consists of a U-shaped set of interlocking pavilions that extend toward the bay.

Though the hotel will cater largely to an Asian clientele, the program called for Western-style architecture. Accordingly, Ferri organized the various wings that comprise the hotel around a central courtyard, thus adopting one of the most venerable motifs in Western architectural vocabulary. "I sought," notes the architect, "an urban character and a rich formal and iconographic agenda rooted in perennial traditions of Western architecture." The courtyard functions as both the physical and emotional center of the complex. Viewed from the guest rooms rising on three sides above it, the courtyard appears as a serene mandala (2). In fact, the large central tondo depicts an abstract version of the orbital street pattern of Ferri's pedestrian city, complete with a stylized agricultural parterre composed of interlocking marble squares. His original design also called for a 12-foot-wide mosaic band (unexecuted) by the artist Ned Smyth to encircle the tondo and depict man in harmony with nature.

The grand ballroom pavilion (2, 3) faces the south side of the courtyard. Its copper-green enameled aluminum roof curves like a gently rolling wave, across which dance a row of 7-foot-tall cast-concrete sculptures of leaping porpoises (1). These figures are meant, Ferri has written, to be "emblematic of benign intelligence on the planet." The sculptures were painstakingly modeled at



Roger Ferri



Katsuaki Furuda

- 3. Ballroom entrance
- 4. Clay model of porpoise
- 5. Plaster model of porpoise
- 6. Full-size mock-up of porpoise

Katsuaki Furudate



Roger Ferri

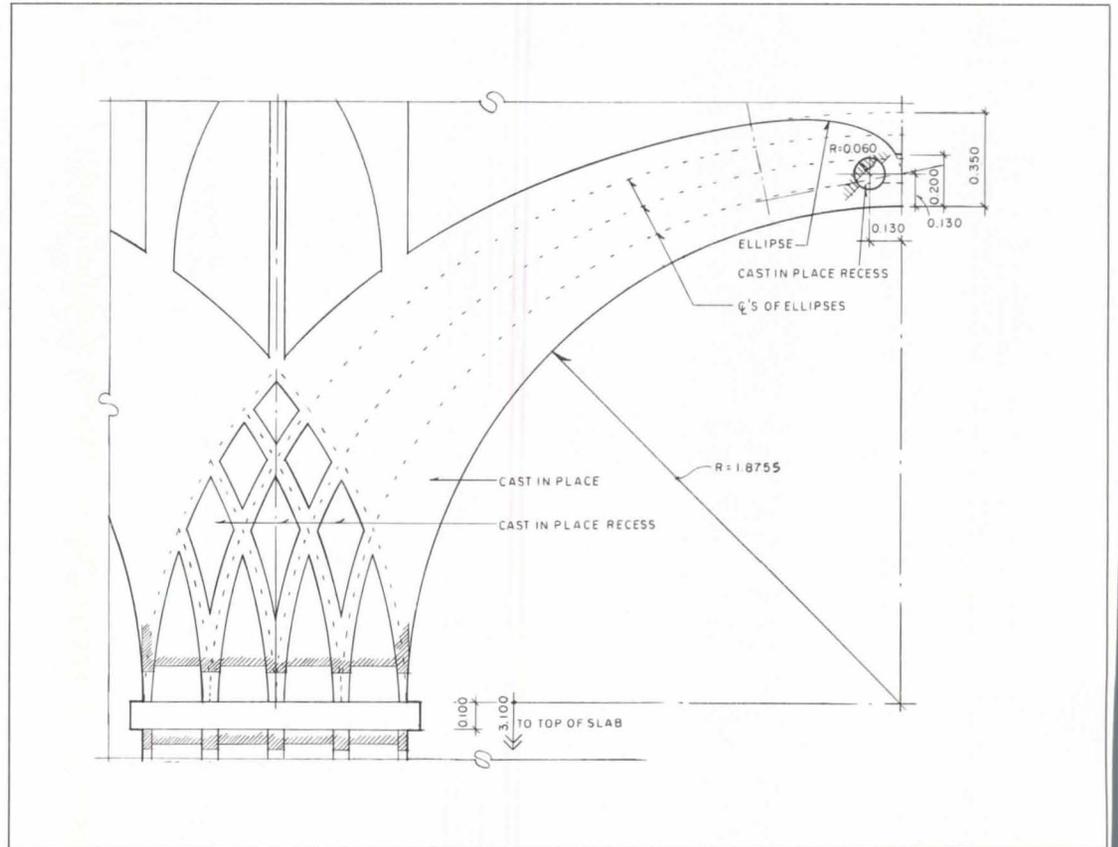


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quarter-scale in clay (4) and plaster (5), and were cast in full-size mockups under Ferri's supervision by New Orleans sculptor Joe Barth (6) before being fabricated in Japan from molds. The ocher-colored tile walls of the hotel are broken by bands of terra cotta and terminate in sets of oversized floral columns (3) that complete the suggestion of burgeoning vegetation begun below in the courtyard walls. The columns stand within multistory recesses carved from the wall and illustrate how Ferri was able to modulate the building's mass and volume.

The arcade defining the central courtyard is articulated by cast-in-place concrete columns that rise in the form of stylized budding plant stalks (8). The curves of the columns' leaf sheaths open outward to trace the arcade's arches, while the surmounting "blossoms" anticipate the floral capitals of the oversized columns above. Ferri worked closely with Japanese craftsmen to achieve the correct proportions and delicately sloping curves in the scroll and finial capitals used throughout the building (10-13). As with most projects, the finished version of the Dai-Ichi Tokyo Bay Hotel (which is Ferri's largest commission to date) departs in certain respects from the architect's original schematic design. Some of the alterations, like the substitution of painted aluminum for copper in the ballroom roof, do not compromise Ferri's artistic intentions; other changes like the elimination of entasis the architect had specified for the huge columns that help define the hotel's skyline are more disappointing. Nevertheless, more than enough of Ferri's original vision survives to reveal his successful attempt to animate architecture with an iconographically complex palette of ornament. *R. K.*



Katsuaki Furuda

- 11. Column elevation
- 12. Full-scale capital mockup
- 13. Full-scale capital mockup

*Dai-Ichi Tokyo Bay Hotel
Tokyo, Japan*

Owner:
*Tokyo Bay Dai-Ichi Resort
Company Ltd.*

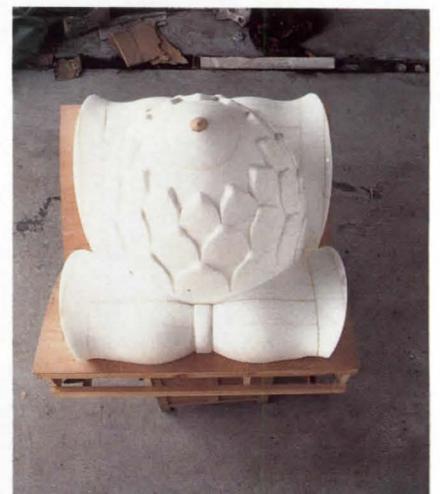
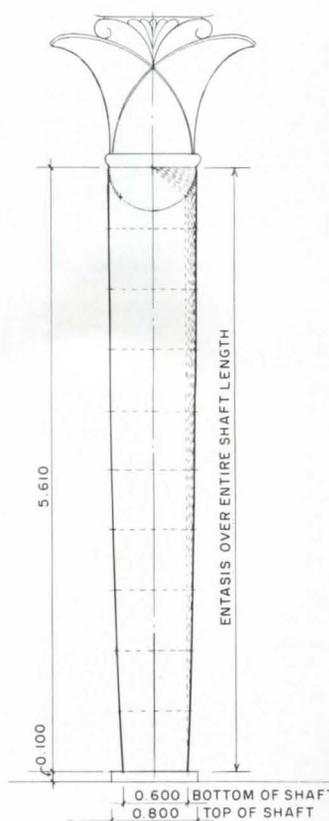
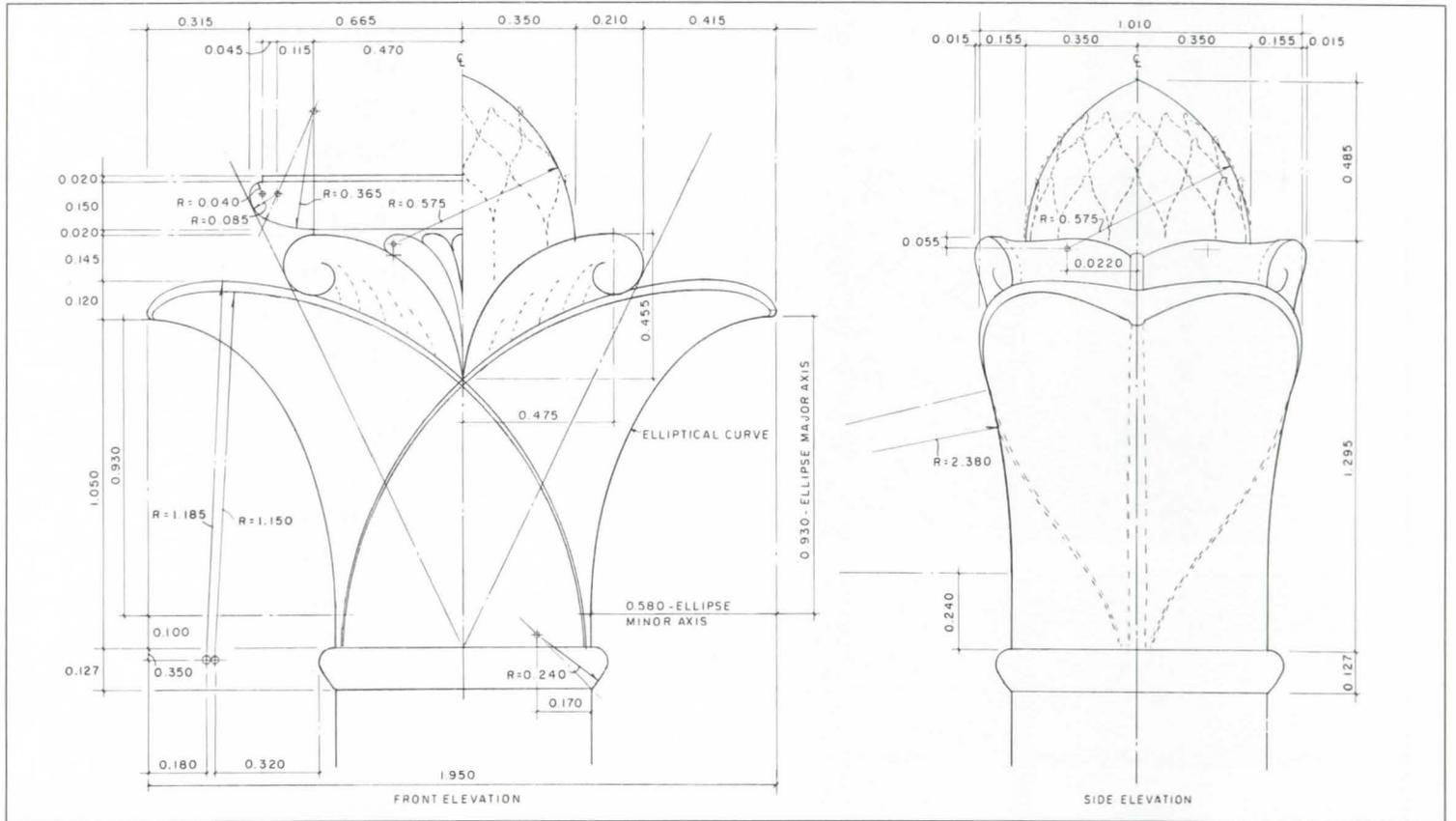
Architects:
*Kajima Corporation (architect
of record) and Ellerbe Becket,*

*Inc. (schematic design and
design development)—
MacDonald Becket, chairman,
The Becket Group; William P.
Scott III, director, New York;
Robert E. Zumwalt, senior
project principal; Roger Ferri,
design principal; Julio Ruiz-
Gomez, project architect; Tom*

*Eisele, Robert Barringhaus,
design staff*

Engineers:
Kajima Corporation

Consultants:
*Media Five Architects (interior
design); Tino Kwan Lighting
Consultant (lighting); Kajima
Corporation (landscape)*



Show offices



©Elliott Kaufman

Private office, New York City



©Jon Miller/Hedrich-Blessing

Woodwork Corporation of America, Chicago



©Elliott Kaufman

National Shopping Centers Management Corporation, Harrison, New York

Corporate office interiors by necessity must fit a variety of requirements. The successful outcome of any commercial project depends on how effectively the architect or interior designer is able to integrate a client's particular agenda with the more generalized, but no less important, goals of functional efficiency and esthetic innovation. Though the offices featured on these pages have varying programs, their designers all addressed the workaday exigencies of corporate life without losing sight of their patrons' idiosyncracies. For example, Corinne Calesso and Peter Samarin's renovation of a suite on the 40th floor of the Empire State Building creates an established look for an up-and-coming entrepreneur (top left and pages 142-143), while Powell/Kleinschmidt's design of executive and sales offices for the Woodwork Corporation of America, in Chicago, shows off the company's own custom millwork (middle left and pages 144-147). Karen Bausman and Leslie Gill's design of offices for the National Shopping Centers Management Corporation, in Harrison, New York, were inspired by owner David Bermant's vast collection of electrically powered artwork, and the architects neatly integrated Bermant's personal avocation with his professional vocation (bottom left and pages 148-149). In their scheme for the New York outpost of Finlandia Vodka, Anderson/Schwartz looked to the company's Nordic cultural roots for inspiration. The result: partner-in-charge Frederic Schwartz's homage to Finnish architect Alvar Aalto is intended to make company employees feel right at home on the 43rd floor of the RCA Building (opposite and pages 140-141). Even in a milieu as decidedly corporate as Rockefeller Center, the home-away-from-home imagery is appropriate, given that for many busy executives, the office has become just that. *Karen D. Stein*



Finlandia Vodka, New York City

Finnish spirits

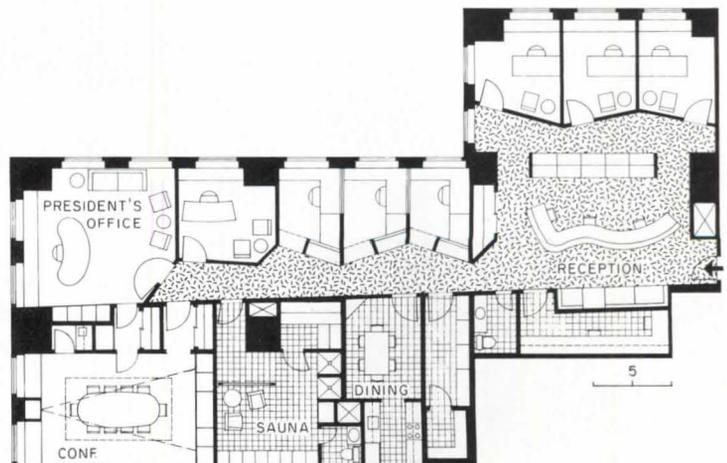


©Elliott Kaufman photos



When Finlandia Vodka asked Anderson/Schwartz to design its New York sales offices in Rockefeller Center, partner-in-charge Frederic Schwartz decided to re-create select elements of the Finnish national distillery's native surroundings on the 43rd floor of the landmark RCA Building. "Distributors come to the office not only to purchase Finlandia vodka, which bears the country's Latin name, but also to participate in the cultural heritage that the brand name represents," explains Tom Wilen, former president of the company's Western Hemisphere division. The architect accordingly drew much of his inspiration from Finland's most celebrated practitioner of 20th-century Modernism, Alvar Aalto.

In order to set the stage for his homage to the Finnish master, Schwartz divided the 4,000-square-foot space down the middle, creating two distinct areas with a corridor in between (plan below). A "light" north-facing row of private offices is delineated by angled surfaces with smoked-glass panels (middle left), while "dark" windowless communal areas, including a kitchen/dining room and storage space, are enclosed by conventional walls. Schwartz employed the orthogonal surfaces to heighten the contrast between the private offices and the more public reception area, where a curved ash partition masks secretarial workstations (top left). Recalling the bentwood frames of Aalto's own furniture designs, the desk is also meant, according to the architect, "to be symbolic of flowing liquid." In another more overt reference to the Finlandia product line, Schwartz incorporated the company logo of two reindeer locking antlers beneath a bright-red sun into wall-to-wall carpeting. For the president's suite, Schwartz designed a kidney-shaped work surface that rests on top of two Aalto file pedestals (page 139 and top opposite). Custom-made cabinetry in both the president's office and the adjoining conference room (bottom opposite), was finely handcrafted in the spirit of Aalto. In a departure from the typical corporate office brief, Finlandia's program included a sauna, which Schwartz incorporated into a locker room partially shielded by a wood screen (bottom left). All employees are encouraged to indulge in the Finnish ritual, which company officials maintain helps cement Finlandia's cultural ties to its homeland. Says Wilen of the sauna's role in business negotiations: "It's a great icebreaker." *K. D. S.*



Finlandia Vodka
New York City

Architect:
Anderson/Schwartz—Frederic
Schwartz, partner-in-charge;
Samuel Tonos, project
architect; Ross Anderson, Terry
Nelson, David Smiley, Jaime
Vasquez, Noah Carter, Corey

Delaney, and Sharon Portnoy,
project team

Engineer:
Hartmann & Concessi, P. C.
(mechanical/electrical)

Consultant:
Johnson/Schwinghammer, Inc.
(lighting)

General contractor:
McHugh DiVincent Alessi, Inc.;
Leinoff Woodworking (custom
cabinetry)



Private offices
New York City
American Design Company,
Designers

Keeping up appearances



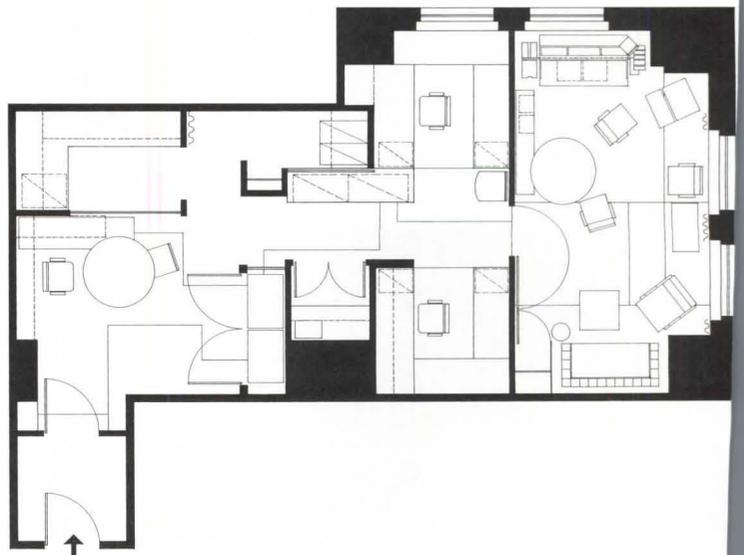
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Private offices
New York City
Designer:
American Design Company—
Corinne Calessio and Peter
Samarin, principals-in-charge

A starter office often looks like just that: an unfinished shell equipped with the bare minimum of necessities. But not the new headquarters of a privately owned company that trades plastic film with manufacturers in Europe and Asia. After successfully conducting business for several years out of his Manhattan apartment, the company's owner (who requested anonymity) decided to move to more respectable corporate quarters, envisioning a milieu (and an address) that would impress his growing roster of foreign clients. To achieve the desired effect, he selected an office suite on the 40th floor of the Empire State Building, and asked Corinne Calessio and Peter Samarin of American Design Company to draw up new plans for the 745-square-foot-space. His charge to them reflected ambitions typical of any young entrepreneur dealing with large sums of other people's money. "He wanted to appear stable and trustworthy," recalls Calessio. And, not surprisingly, he wanted the job done for a modest price.

Toward that end, Calessio and Samarin carved out a security vestibule/waiting room where visitors are screened by telephone before they are granted entry to the inner sanctum (top photo page 138 and plan below). To enhance the windowless reception area, the designers devised a custom-made translucent screen of back-lit laminated-fiberglass panels that give the appearance of Japanese shoji. The partition also provides a neutral backdrop for an assortment of furniture, including a wood cabinet designed by Calessio and Samarin, a Joe D'Urso granite-topped table, a 1940s chair by Jean Prouvé, and more up-to-date ergonomic seating (top left). The panels are repeated as sliding doors along a narrow hallway (bottom left) to the owner's private office, where Calessio and Samarin removed a dropped ceiling to open up dramatic south-facing views of the New York City skyline (opposite). The compendium of furniture styles in this room includes a shelf and glass side table by American Design Company, a desk by Bruce Burdick, and a Josef Hoffmann black-leather sofa (not shown). The intentionally eclectic mix of antiques and contract furniture throughout the offices appears to have been assembled over time, subliminally reminding all who conduct business here that this upstart firm is no fly-by-night operation.
K. D. S.



Designers Corinne Calesso and Peter Samarin, of American Design Company, removed an existing dropped ceiling to raise the height of a private office by three feet. South- and east-facing windows light the room by day, and track lighting was installed for

nighttime use. The duo echoed the asymmetry of the office footprint in the one-of-a-kind rug assembled from a patchwork of standard carpet pieces.



Tools of the trade



©Jon Miller/Hedrich-Blessing photos

To mark its 75th anniversary, the Woodwork Corporation of America (WCA) decided to renovate its suite of offices, located within a converted Chicago warehouse. The company, the largest manufacturer of custom millwork in the Midwest, asked Powell/Kleinschmidt, faithful disciples of the city's Modernist tradition, to give visual unity to a varied program. WCA's owners stipulated that the architects not only accommodate the functional requirements of company executives and a 10-person sales staff, but also devise innovative paneling and cabinetry applications that in effect would make the offices a living catalog of the firm's woodworking capabilities.

While WCA employees set up temporary quarters in their adjacent factory, the architects reconfigured the 5,400-square-foot, second-floor space, retaining only an original wood-paneled conference room as a historical artifact (not shown). In a new reception area (page 138 middle, and above), the architects established a pattern of blond French white-ash paneling with 3 1/4-inch-wide American cherry banding at approximately three-foot intervals. These darker wood stripes were continued along a

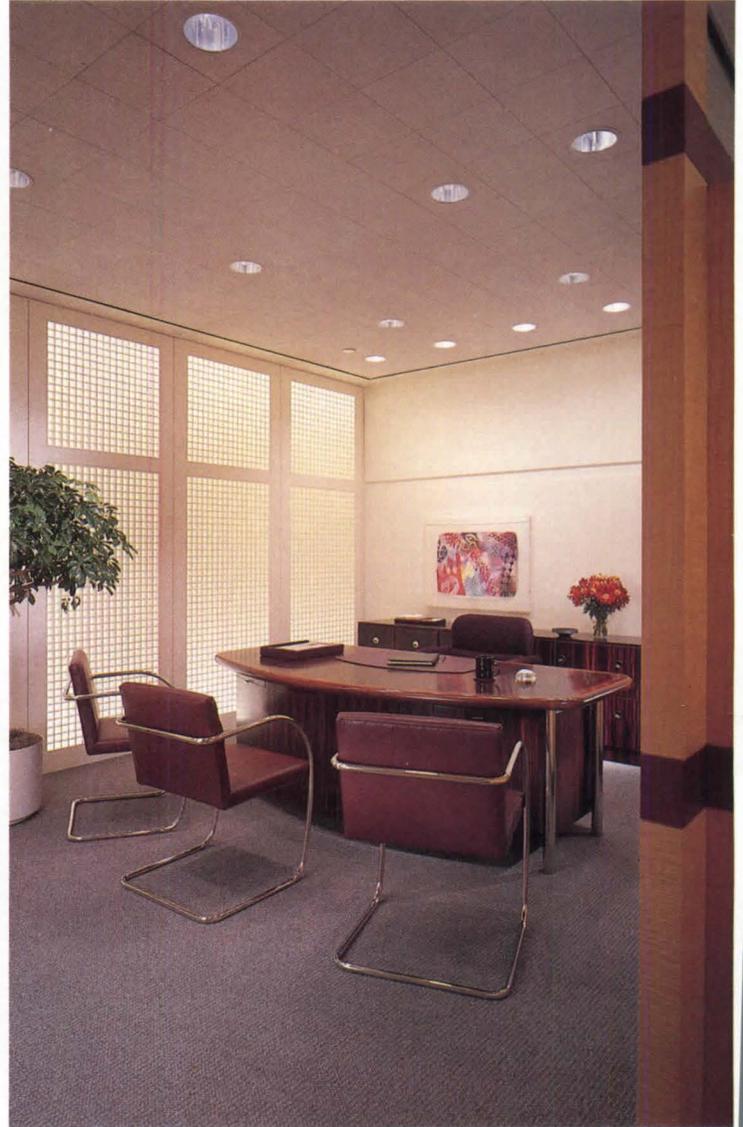
Woodwork Corporation
of America
Chicago
Powell/Kleinschmidt,
Architects



central corridor to define discrete areas within the facility's open-plan layout. Although two veneers dominate the material palette, other woods were employed in specially designed furnishings, and the architects integrated a variety of WCA's finishes into their scheme (in the reception area, for example, a plywood column and particleboard desk are coated in automotive paint, which is buffed to a high-gloss sheen). To mask a dilapidated glass-block exterior wall, Powell/Kleinschmidt covered the south side of the inner shell with wood screens. Forming a nine-inch reveal, the series of egg-crate louvered doors are lined with sheets of mylar to diffuse light from incandescent fixtures recessed in the ceiling and floor. Partner-in-charge Robert Kleinschmidt selected several multimedia art pieces to "expand on the sense of craft" exhibited throughout the offices, but perhaps the most intriguing installation was wrought at the hands of WCA's president, Robert Kay. The architects supplied his office with a fabric-wrapped panel, a standard WCA product, on which he artfully arranged his collection of antique tools—another strikingly appropriate symbol of the company's history. *K. D. S.*

Powell/Kleinschmidt repeated the pattern of blond ash with cherry-wood stripes that they established in the Woodwork Corporation of America's reception area along the central corridor and inside individual rooms, including a new conference room (below).

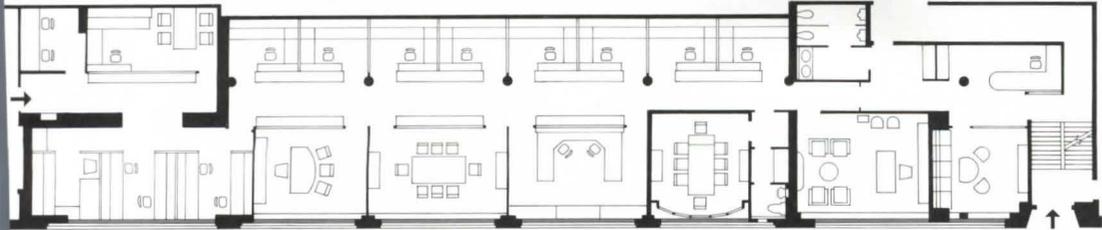
Although the reception area's built-in seating is a variation on Sunar-Hauseman's existing Kleinschmidt Collection (page 144), the architects designed several furnishings specifically for WCA, including the ebony desk and credenza in the vice president's office (below).



*Woodwork Corporation of America
Chicago*
Architect:
Powell/Kleinschmidt, Inc. — Robert D. Kleinschmidt, partner-in-charge; Thomas Boeman, project architect; Donald Los, technical director; William Arnold, project designer

Engineer:
Mid-Continent Engineering, Inc.
Consultant:
Emily Berlinghof (colors and materials)
General contractor:
Woodwork Corporation of America

(right opposite). The architects used center-pivot louvered doors as screens along the south side of the office suite to hide an old glass-block wall. In the president's office, the screens also serve as a neutral foil to a panel of antique woodworking tools (below).



Offices for National
Shopping Centers Management
Corporation
Harrison, New York
Bausman•Gill Associates,
Architects

Opposites attract



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National Shopping Centers
Management Corporation, Inc.
Harrison, New York

Owner:

David Bermant, President

Architect:

Bausman•Gill Associates—
Karen Bausman and Leslie
Gill, partners-in-charge; Adi
Shamir, associate

Engineer:

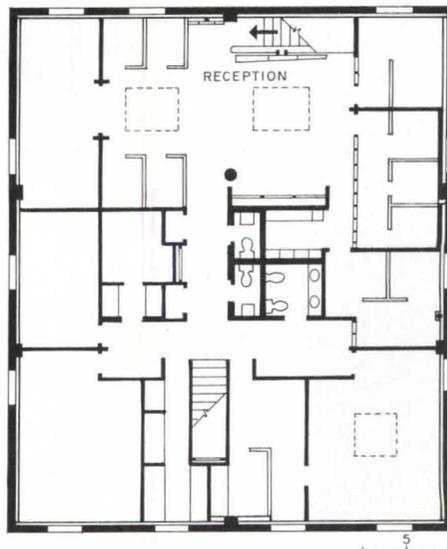
Gilbert Dias (structural)

General contractor:

CSR Construction Corporation

As Karen Bausman and Leslie Gill tell it, they spent five years together in a class of some 25 other architecture students without exchanging more than a perfunctory "hello." Almost immediately following their graduation from The Cooper Union in 1982, however, the two banded together to form Bausman•Gill Associates. Although both architects cite neighboring seats at the New York State licensing exam as the prologue to their partnership, they credit the firm's creative development to the discovery that their seemingly opposing personal styles are actually based on similar architectural concerns. Together, Bausman, an accomplished painter, and Gill, a designer whose style is more rigorously geometric, create work that is at once sensuous and ordered. Their collage of approaches is perhaps best exemplified by an ongoing series of three-dimensional studies in point, plane, and volume that are confined within the boundaries of discarded cigar boxes—miniature design laboratories that represent a continuing evolution of their esthetic ideas.

Bausman and Gill's approach proved to be ideally suited to the two-part program supplied by David Bermant, who commissioned the firm to design a 3,400-square-foot suite of offices in the New York City suburb of Harrison. The offices serve as headquarters of Bermant's vocation (with his brother, Joseph, he is a developer of shopping centers) and avocation (he heads a nonprofit foundation called Color, Light, Motion that has amassed what is reportedly the world's largest collection of kinetic sculpture). Perhaps inspired by the client's mechanically powered objects, the architects devised a system of movable panels that serve both as office partitions and display backdrops. When a substantially revised budget precluded the use of pulleys and gears, they reconfigured the space with less elaborate wall sections. To emphasize planarity, Bausman and Gill repeated the lines separating differently colored plaster sections in parallel steel bands that frame glass walls and wood doors, giving a regulated appearance to all vertical surfaces (bottom page 138 and top left). The architects placed opposing sections of wall into what they call "face-offs"—a deliberate contrast of recessed and projecting areas (opposite). Although a material palette of pigmented plaster, ash, acid-etched copper, steel, and slate seems discordant, the finished offices somehow coalesce, much like the architects' own practice, into a unified whole. *K. D. S.*



Karen Bausman and Leslie Gill's design for offices in Harrison, New York, is based on a system of regulating lines that appear between panels of integral-colored plaster (below) and are repeated in the steel framing of glass office partitions. Acid-etched copper

panels, attached to recessed wood-framed surfaces, serve as backdrops for the owner's collection of electrically powered artwork.



Living on borrowed light

The firm of Jules Fisher & Paul Marantz, Inc., is finding that daylight is increasingly useful in lighting design, even in situations requiring very careful control, as four projects with architects Venturi Rauch and Scott Brown demonstrate.

Everybody talks about daylighting but not too many designers do much about it for the same reasons no one can do much about the weather. Outdoor light has proven difficult to use without distracting brightness and solar-heat gain. Like most lighting design firms, Jules Fisher & Paul Marantz, Inc., came to architectural lighting design from work in the artificial realm of the theater. Over the years, however, the firm has assisted architects in the increased use of daylight as part of a total lighting scheme, particularly in museums, and has worked with such firms as Moshe Safdie & Associates, on the National Gallery of Canada in Ottawa (mockup below right; see also RECORD, October 1988, pages 120-129). Fisher & Marantz is currently the consultant to Venturi Rauch and Scott Brown (VRSB) on four projects, which harness daylight to an unprecedented degree.

Lighting the Sainsbury Wing

The National Gallery in London is advised by a group of scientists who have pioneered research on art-conservation techniques, including the role of light. The former head of the group, Garry Thomson, wrote *The Museum Environment* which, according to Paul Marantz, is still considered the bible of museum lighting. Given such expertise it should not be surprising that the museum hopes to break new ground in the design of its extension. Both architect and client called for toplit spaces that offered a visible continuity with the existing Neoclassical structure. VRSB chose as its model Sir John Soane's Dulwich Art Gallery of 1814, and designed rooms with similar clerestories and windows.

Unfiltered sunlight can be as bright as 100,000 lux (the metric measure of illumination, each unit roughly equal to 10 footcandles). The curatorial staff required a dramatic reduction in the amount of light actually reaching the works of art to no more than an average of 200 lux, a level that the eye is flexible enough to perceive as adequate. The lighting designers and VRSB worked together to configure chambers above and between the rooms to catch, reflect, and filter light into galleries, whose shapes themselves were manipulated to enhance diffusion (section, page 153). The long north-south sides of the chambers will be roofed with a gabled skylight to pick up morning and evening sun; the other sides have single-sloped skylights to capture south light. Louvers under the skylights are to be controlled by a computer which, as Marantz puts it, "acts like a guard looking out the window and adjusting the blinds according to the weather." Every two hours, for a period of several minutes, it will "interview" the light falling on the skylights (to avoid adjusting the system for a passing cloud or brief period of sunlight), and change the louvers, if needed, gradually ("to keep visitors from being aware of shading 'bells and whistles'"). Electric illumination is to be provided at 75 lux; other sensors will cause this lighting to be

supplemented at any time that natural light falls below preset minimums. The concept has been tested for more than a year on gallery mockups (below, three left photos). Graphs on a given day show dramatic spikes and drops in measured light, reflecting the desired variations for season and time of day, while the computer program will adjust the system to keep the overall amount of light falling on artworks to within curator-specified limits.

Whither daylighting?

"You can't truly fake the color rendering of sun, nor the variation in seasons and time of day that comes with natural light," says Marantz. Yet, for a time after World War II, sunlight was banished: "The idea became to totally control everything. Old skylights were tarred over to reduce air-conditioning loads and to make room for mechanical systems." Textiles, and works on paper and wood, are still regarded as too fragile to be exposed to *any* natural light, which is why some curators prefer the total control inherent in spaces entirely lit by electric light. For curatorial flexibility, VRSB will make very limited use of the Texas sun at the Laguna Gloria Art Museum, in Austin (opposite). At the La Jolla Museum of Contemporary Art, monitors are intended to light only specific and limited areas (pages 152-153).

Finding the tools

The dramatic main reading room of the Furness Building at the University of Pennsylvania, designed by Frank Furness and finished in 1891 (pages 152-153), might be thought a daylit dream: outdoor light pours in through high clerestories and from above through an elegant leaded-glass laylight, avoiding glare on readers three stories below, but it has always had lighting problems. As part of a phased restoration by VRSB with the Clio Group, task lighting at study tables will be combined with new concealed ambient lighting because the design team did not want to dilute the restoration with in-the-style-of-Furness fixtures. In other areas of the library, glazing over study alcoves that were often much too hot and too bright has been replaced with tinted, patterned glass. The book stacks incorporated a skylight roof, which has long been tarred over. Though the roof will be repaired, the skylight will not be restored to avoid damage to the book collection. Instead, the intricate tracery of steel supports will be lit from below.

Lighting design is not all counting footcandles and choosing lamps. At Fisher & Marantz, some refinements come from do-it-yourself R & D: photochromic glass has been tested on the roof of Marantz's home; a film intended for use in solar collectors was adapted as a reflective lining for a deep light monitor at the Canadian National Gallery. As Marantz explains, "we have to figure out the reality of the project and *find* the tools." *James S. Russell*



National Gallery, 1:5 mockup



Interior of light-refracting chamber



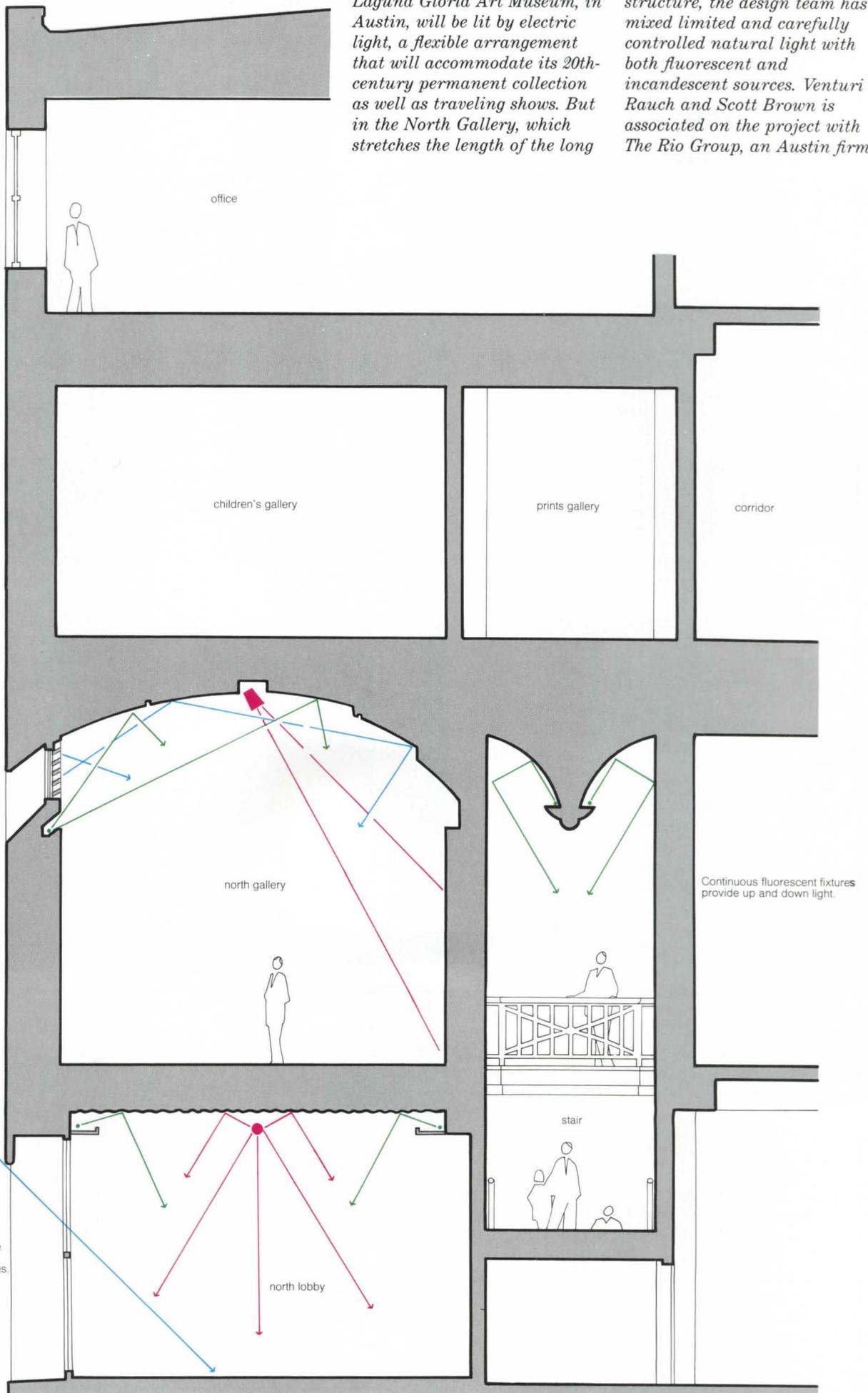
Exterior of full-scale mockup



Ottawa Gallery mockup

Most of the galleries at the Laguna Gloria Art Museum, in Austin, will be lit by electric light, a flexible arrangement that will accommodate its 20th-century permanent collection as well as traveling shows. But in the North Gallery, which stretches the length of the long

and relatively narrow structure, the design team has mixed limited and carefully controlled natural light with both fluorescent and incandescent sources. Venturi Rauch and Scott Brown is associated on the project with The Rio Group, an Austin firm.



Daylight (blue) filters through north-facing louvers, lights vault and, indirectly, gallery. Fluorescent fixtures (green), in cove, supplement daylight. Artworks are lit by incandescent track-mounted fixtures (red).

Exposed incandescent lamps serve as "chandeliers." Coffers are lit by miniature PL-type fluorescent fixtures.

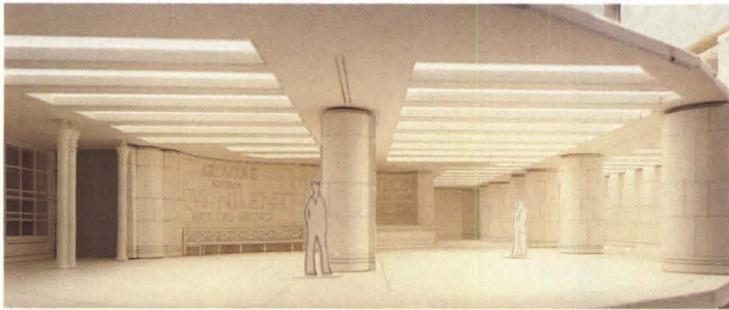
Continuous fluorescent fixtures provide up and down light.

The Sainsbury Wing

From within the rooms of the extension of England's National Gallery, outdoor light appears to stream directly from the outside (right), but it is actually controlled through a complex system of glazing. An exterior insulating skylight unit of clear and untinted laminated patterned glass filters light that then passes through adjustable louvers into a light-reflecting chamber. The sun's rays are in turn bounced through clerestories of laminated glass (section). The clerestory lights

have been sandblasted on the gallery side to reduce interior reflections. Fluorescent fixtures above the clerestories will provide ambient light after dark. Supplemental incandescent fixtures, set in ceiling recesses at an acute angle to the wall, will eliminate reflections from the surface of the artworks.

In the main lobby, coffers will be painted with a plaid pattern, reminiscent of a medieval decorated ceiling, and lit by recessed fluorescent fixtures (below). VRSB is associated on the project with Shepard Robson.



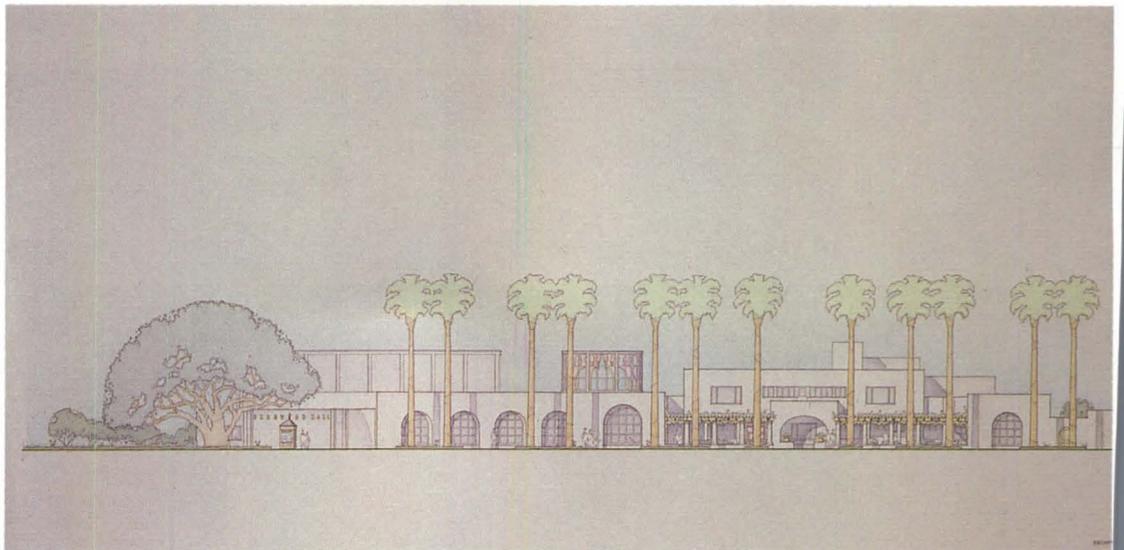
Matt Wargo



Matt Wargo

La Jolla Museum of Contemporary Art

The project is an addition that will flank the former Ellen Browning Scripps house, designed by Irving Gill in 1915. North-facing light monitors, while of consistent widths, are of varying lengths in order to create areas of special significance within galleries that are otherwise lit by incandescent track fixtures. The soft marine light of this southern California village will not require specially diffusing glass or mechanical controls; the curve of the monitors has been conformed to disperse direct sun.

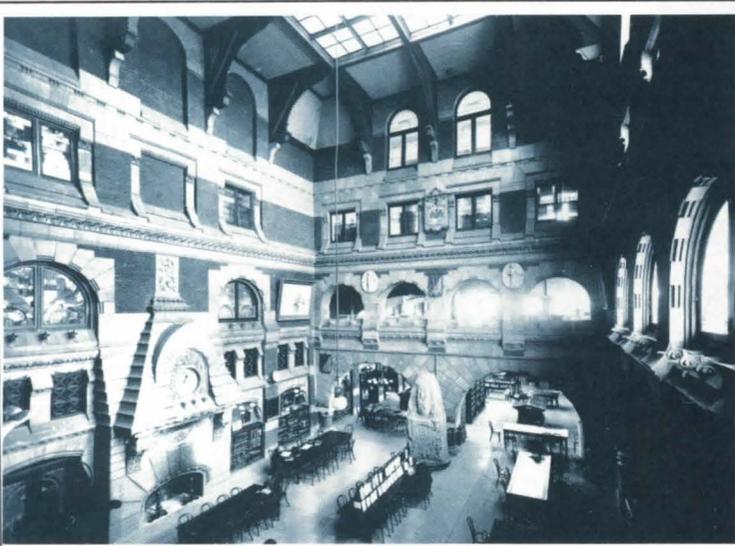
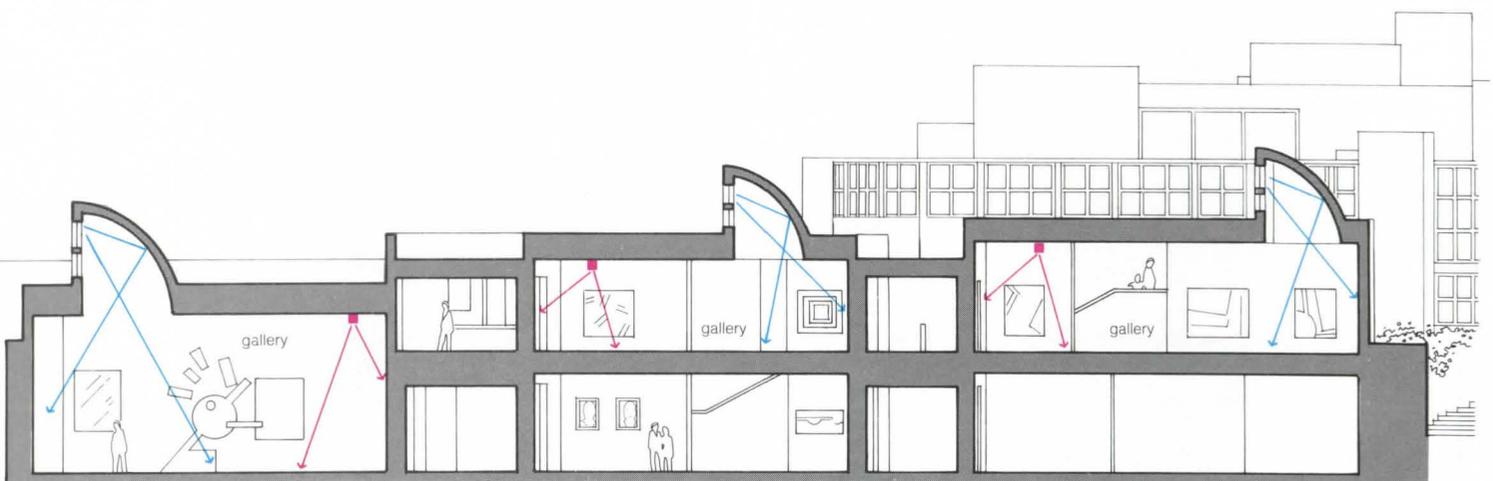
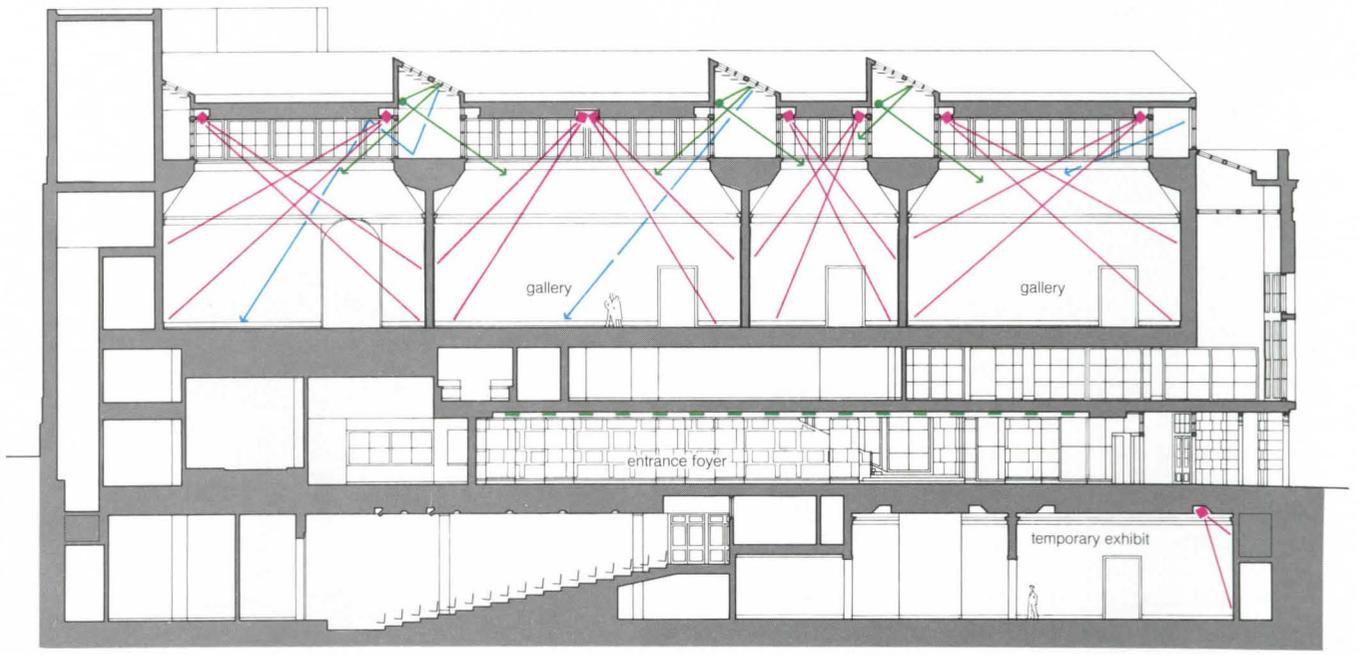


The Furness Building

"Idiosyncratic" seems too weak a word to capture the work of Frank Furness. Restoring the terra-cotta-clad library, which houses the fine arts and architecture collection at the University of Pennsylvania, presented unique challenges to VRSB and, as preservation consultants, the Clio Group. Skylights over low study alcoves (visible at left in original exterior photo right) were refitted with light-filtering glass, but reconstructing the skylight over the stacks (right in photo) was considered too harmful to books.

A layer of laminated glass has been installed above the leaded-glass laylight in the main reading room (original photo, opposite) as a safety precaution, and the designers added fluorescent strips here as well for ambient lighting. The fixtures and glass will be serviced from a new trolley that will be installed in the attic above the glass. Lacking full documentation, some historic fixtures had to be recreated from photos. The design team hung a mockup in the monumental porch for testing (opposite, right).





Mat Wargo

New products: NEOCON 21

Chicago, June 13-16: the Cubs (under lights now), the White Sox, and NEOCON 21. Along with an unusual cast of Modernists, futurists, urbanists, and Classicists, there will be some dynamite new contract furnishings. A reconnaissance, below. J. F. B.

1. Routed out

Each side panel of Calvin Morgan's Silhouette Chair—an arm rest and front and back legs—is made of a single piece of 1-in.-thick maple-veneer, cut in a distinctive pattern of solids and voids on a computerized router. Six cut-out designs are offered, in both standard and custom finishes. Hickory Business Furniture, Hickory, N. C.

Circle 200 on reader service card

2. Desks of steel

The design details of Haworth's wood-based Places office system are incorporated in a new line of steel furniture. Single-, double-, and clear-pedestal desks have a polyurethane radius edge in colors that can match or contrast with the work surface. Haworth, Inc., Holland, Mich.

Circle 201 on reader service card

3. Team effort

Steelcase will display a new office system at NEOCON. Called Context, it is the result of a multidisciplinary long-range look at the office requirements of the next decade and into the 21st century. The furniture is an ambitious attempt to incorporate the state of the art in electronic support, ergonomics, the churn rate of the modern corporation, VDT-sensitive design, and the concepts of collegial management—coves and caves—into a desk-based office system. The basic element, a curving worksurface with minimal underdesk obstructions, comes in a simplified range of sizes and shapes. This core supports acoustic panels and overhead storage units with task

lighting. Freestanding towers hold coats, personal items, and files, while seeming to enclose work areas. The standard desk drawer is replaced with accessories such as a 7 1/2-in.-wide vertical Dayfiler, and user-adjustable paper-management accessories carried by a rail in back of the desk.

New surface materials—composite wood veneers, no-glare soft-touch laminates, 64 colors of textured fabric, and 20 paint colors—were developed to enhance the three-dimensional aspects of the system, with details increasing in complexity as the user gets closer. Steelcase, Inc., Grand Rapids, Mich.

Circle 202 on reader service card

4. Textured loop carpeting

A new multitufting process can create a true pattern on multilevel loop carpet, a heavy-duty construction whose design range has been limited to solid colors, heathers, and tweeds, according to the manufacturer. This pattern availability may encourage the use of textured-loop carpeting in more design-sensitive interiors. Armstrong World Industries, Lancaster, Pa.

Circle 203 on reader service card

5. Mix and match

Conference tables designed by Alan Jay Paull come in square, racetrack, rectangular, and round shapes, up to 20-ft long. Base options include T-panel (shown), cross, drum, and cube. Taylor Desk Co., Lynwood, Calif.

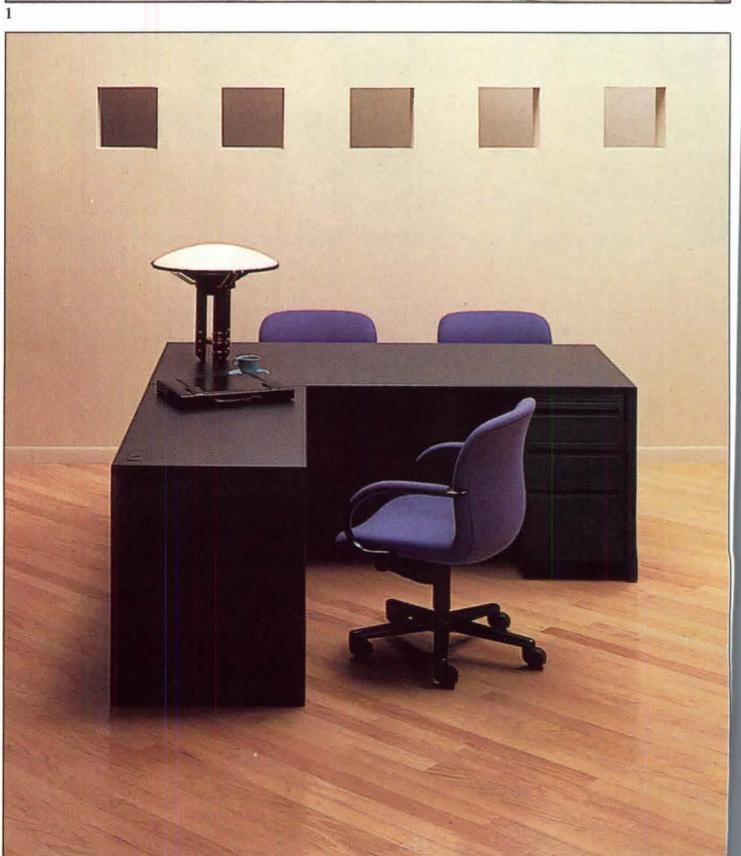
Circle 204 on reader service card

6. Back to the box

The Interior Options Program now offers glazed ClearStory transom panels and workstation passage doors, to create a to-the-ceiling enclosed office that shares ambient light while establishing acoustical privacy. JG Furniture Systems, Inc., Quakertown, Pa.

Circle 205 on reader service card

Continued on page 156



For more information,
circle item numbers on
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New products: NEOCON 21 *continued*

7. All-American

The Next Chair, designed by Richard Penney, is Interna's first American design/build commission, and will be shown at Deborah Ehlert Associates. A squared-off shape, Next stands just over 35 in. high; the seat can be maple or upholstered. The contoured cut-out plywood back flexes slightly for support. Back, arm, and frame finishes can match or contrast. Interna, Long Island City, N. Y.

Circle 206 on reader service card

8. Random effect

A new textile collection by Andrée Putman includes Varenne, a metallic-look blend of rayon and polyester that contrasts satiny boxes with random parallel lines. There are six colors, all combined with black. Stendig International, New York City.

Circle 207 on reader service card

9. Enclosure

Relocatable steel-framed Styline partitions come as complete floor-to-ceiling units, in panels from 6 to 60 in. wide by up to 12 ft high. Glazed panels and passage doors are options within the line. Adanlock Office

Environments, Jamestown, N. Y.
Circle 208 on reader service card

10, 11. Wall and floor

Artemide will show a white-glass and gray-metal bracket by Jeannot Cerutti for VeArt (10), as well as Ron Rezek's new Axis torchère (11). The upright comes in two finishes: black anodized and a brushed surface with brass details. Artemide, Inc., Long Island City, N. Y.

Circle 209 on reader service card

12. Occasional table

A compact maple table finished in dark red and black lacquer complements Davis Allen's Portico chair. Inset top has a beveled edge. Jack Lenor Larsen, New York City.

Circle 210 on reader service card

13. Factory fresh

Art Moderne chair designs by French architect René Herbst are being produced for the first time in the industrial materials specified 60 years ago: steel tubing and elastic cords.

Palazzetti, New York City.

Circle 211 on reader service card

14. Bauhaus textiles

Woven in bright colors of lilac, green, gold, blue, and orange tempered by black and gray, Dessau Woven Texture and Ontos Tapestry are reinterpretations of 50-year-old designs by Gunta Stolz.

Brunschwig & Fils, North White Plains, N. Y.

Circle 212 on reader service card

15. Up against the wall

Godley-Schwan's limited-production furniture, fresh from Brooklyn by way of Milan, will be shown at NEOCON. Pictured: a flat-footed steel display unit with lacquered ash shelves, which leans up against the wall for support. Similar pieces carry pier mirrors, towel racks, or coats. Godley-Schwan, Brooklyn, N. Y.

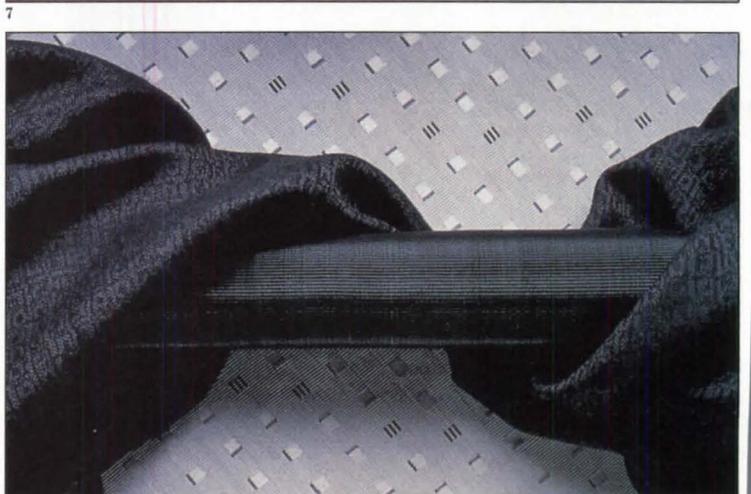
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16. Cost-effective

The base is the same, but the backs of Toshiyuki Kita's new chair for ICF change: from Past to Present, then Future. Made of cast aluminum with padded seats, the chairs can be stacked, and are suggested for office and hospitality use. International Contract Furnishings, Inc., New York City.

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More products on page 175



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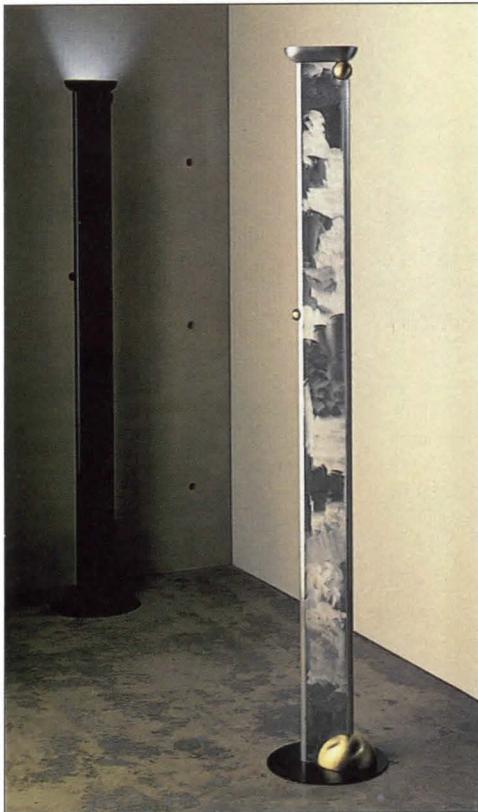
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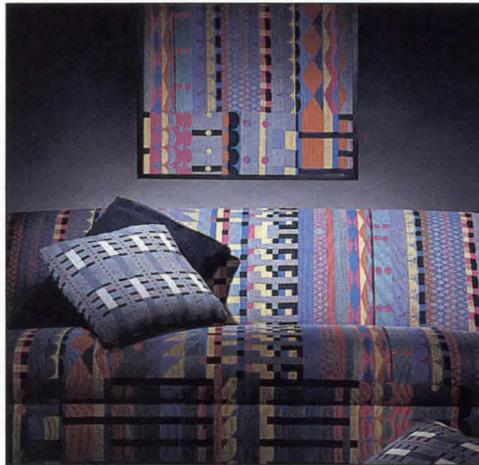
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15



11



14



12



16

A/E/C Systems: Pre-meeting products preview

By Steven S. Ross

An early-bird survey of exhibits planned for this year's A/E/C Systems show in Anaheim, Calif., June 5-8 turned up plenty of new products to take advantage of new software and hardware platforms announced since last year.

On the software side, there are dozens of new add-ons for Autodesk's latest edition of AutoCAD, version 10. These enhancements do everything from laying out subdivisions to laying out ductwork.

Many software suppliers are also taking advantage of computers based on the powerful Intel 80386 chip. The effect is to make 80386-based computers as fast and full-featured in many respects as dedicated engineering workstations. Advances are particularly noticeable in surveying applications such as COGO (coordinate geometry) software, which make great demands on hardware.

Software for the Macintosh continues to evolve. The biggest news is that AutoCAD is about to release its Macintosh version, and will be showing it for the Mac II. Easy-to-use 2-D and fast 3-D packages are being introduced by a host of suppliers, but so much new add-on equipment is bringing complexity to Macintosh hardware and software integration. As with PC-DOS and MS-DOS equipment and software, Mac users now must often wade through setup menus to make sure everything works together.

Interest on the hardware side continues to focus on price. Plotters are cheaper than ever. One desktop 8-pen plotter is priced at less than \$1,300. Graphics cards are getting more standardized, cheaper (thanks to

memory prices, which are dropping), and ever-faster.

At presstime, the following manufacturers were able to supply us with material on new or improved products they will be showing in Anaheim. If you are not attending the show, you can request more information about the products described by using our convenient response card (page 221).

MS-DOS and Intergraph CAD software

VersaCAD, Huntington Beach, Calif., is introducing 386 software, which breaks the 640K memory barrier. Special graphics processing allows dynamic calculations on 3-D geometry. A QuickRender 3-D model viewer that provides fast shading and hidden-line removal is included with the package.

Circle 215 on reader service card

CADAM, Burbank, Calif., announces an improved AEC Design System capable of producing 3-D color shaded images. A particular strength is in the handling of piping and steel shapes from available catalogs.

Circle 216 on reader service card

A new 3-D version of FastCAD from Evolution Computing, Tempe, Ariz., will be demonstrated. The software's 3-D interface is unique, helping designers move easily in a third dimension while drawing.

Circle 217 on reader service card

TAP, Arlington, Tex., will be showing a full range of specialized information systems and TAPCAD, a facility-management software package that incorporates a CAD function.

Circle 218 on reader service card

Schroff Development Corp., Roeland Park, Kan., is demonstrating its SilverScreen 3-D modeling software with fast camera walk-through for MS-DOS and PC-DOS systems. A version for Sun UNIX workstations is expected soon.

Circle 219 on reader service card

SKOK's Drawbase 5000 is now compatible with the Nth Engine graphics card, the Cambridge, Mass., company says, for 2-second zooms and pans.

Circle 220 on reader service card

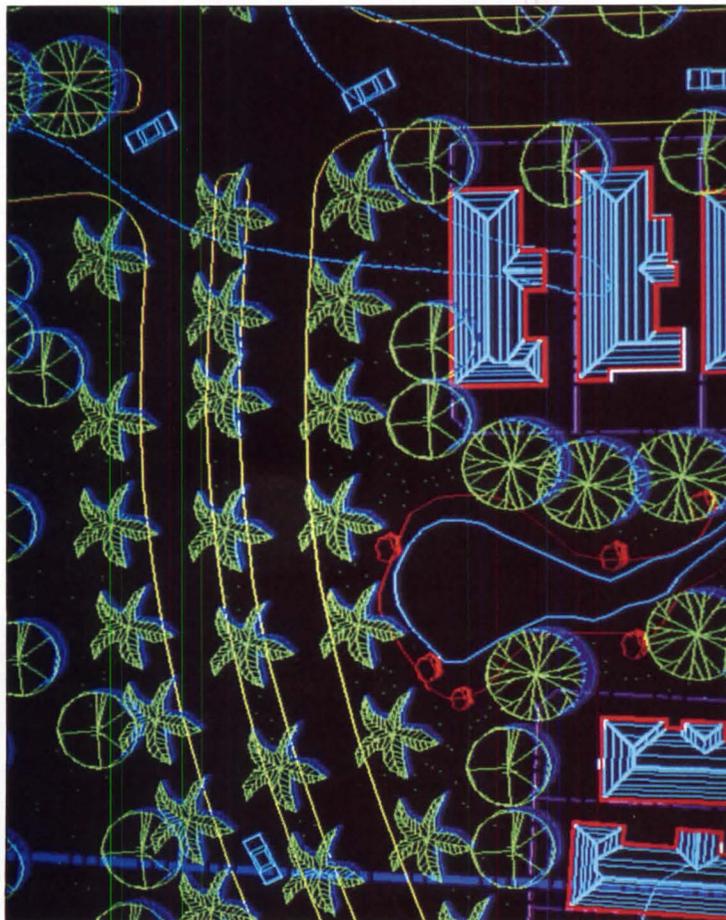
Omni-Pipe and Omni-ISO, the first piping application packages for the Intergraph MicroStation PC, will be shown by Applications Development, Inc., Metairie, La.

Circle 221 on reader service card

Macintosh CAD software

AutoCAD's Mac version for the II, IIx, and IIcx includes 3-D wireframe modeling, surface modeling, and the ability to display many views at once. The files are portable, so any information developed with the AutoCAD Mac version can be shared with any other platform running the software—including MS-DOS, Apollo, and Sun—without file conversion.

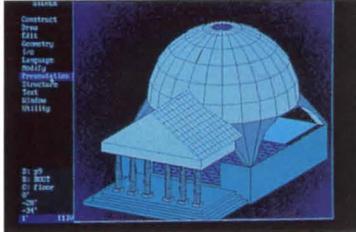
Circle 222 on reader service card



Courtesy Estrada Land Planning

1. LANDCADD's landscape design of West Las Vegas subdivision.
2. SilverScreen by Schroff Development.
3. MapInfo's desktop mapping system.
4. Engineered Data Products' Designer CAD stand.

Among the products on view: AutoCAD's new version for the Mac II; VersaCAD's new 386 with over 640K of memory; Electronic Sweet's SweetSearch and SweetSpec databases.



2
ArchitronII, from French software firm Gimeor (U. S. headquarters in Washington, D. C.), features new additions to this 3-D modeling package for the MAC SE or Mac II, including spherical, conical, or exploded views, selected hidden or visible-blocks rendering by layer, and color-surface or color-line perspective for axono and iso views.

Circle 223 on reader service card



3
FlexiCAD version 1.2, the newest release of this 2-D CAD software for the Macintosh from Amiable Technologies, will be announced at the show. The Philadelphia firm's software now includes the ability to draw multiple parallel lines, support digitizing tablets, and send data to files for bill-of-materials processing and other reports.

Circle 224 on reader service card

Graphisoft, South San Francisco, Calif., is displaying its comprehensive ArchiCAD 2-D

and 3-D software with takeoffs for bill-of-materials processing and other software for the Macintosh. Full-color renderings—solid, color-shaded, or wire-frame—and good plotter support are part of the package. Uses its own 3-D construction language, GDL, to allow user to create and store 3-D objects as macros.

Circle 225 on reader service card

Graphsoft, Ellicott City, Md., has new 2-D and 3-D CAD packages for the Macintosh. MiniCAD+ is a high-end package with 2-D, 3-D, a spreadsheet, and a command language. Blueprint is a 2-D package with built-in DXF translator.

Circle 226 on reader service card

IDD, Concord, Calif., is demonstrating its Dreams 2-D CAD package for the Macintosh, along with a new symbol library of more than 1,000 images for residential construction.

Circle 227 on reader service card

PowerDraw 3.0, the latest version of this 2-D CAD program for the Macintosh computer, will be introduced by Engineered Software, Greensboro, N. C.

Circle 228 on reader service card

Visual Information Development, LaPuente, Calif., is showing its new The Dimensions Presenter package, which adds 3-D capabilities to MacDraw from Claris (see page 167 for a review of Claris CAD).

Circle 229 on reader service card

MacNail, an integrated construction-management system from Turtle Creek Software, Spencer, N. Y., has added Hyper-Estimator, which sets project dimensions and material specifications using Apple's new Hypercard program.

Circle 230 on reader service card

AutoCAD add-ins

Applications Development, Inc., Metairie, La., will exhibit its Pro-

Pipe, Pro-Steel and Elec-Plan plant-oriented design packages to work with AutoCAD.

Circle 231 on reader service card

ARCHIBUS 4.0, to be announced at the show, can now handle mainframe and micro databases for space management, design, or furniture and equipment management. The software, from Jung/Brannen Research & Development Corp., Boston, moves data between AutoCAD, Lotus, and dBase IV files.

Circle 232 on reader service card

ARCHT2, an AEC substitute from KETIV Technologies, Portland, Ore., has four digitizing tablet overlays—for hvac, plumbing, power, and facilities.

Circle 233 on reader service card

AutoCAD developer Autodesk is marketing Pixar's Renderman photo-realistic imaging software on a nonexclusive basis, the Sausalito, Calif., company says.

Circle 234 on reader service card

CivilSoft's new CIVILCADD, a complete design and drafting program for civil engineers and surveyors running inside AutoCAD, is being demonstrated. The Orange, Calif., firm also markets its Site Design Program.

Circle 235 on reader service card

Slick! version 3.1 from CAD Systems Unlimited, Santa Clara, Calif., allows users to view AutoCAD drawings without AutoCAD.

Circle 236 on reader service card

Continued on next page



4

DuctLINK, the United Technologies Carrier link between AutoCAD and a microcomputer duct program, permits easy design of hvac systems. The software from this Syracuse, N. Y., company allows data to flow in either direction—to and from AutoCAD.

Circle 237 on reader service card

TopDUCT is an AutoCAD add-on that allows easy drafting of ductwork and fittings after the job has been sized and centerlines for ducts drawn. There's also direct conversion of drawings to pattern blanks for fabricating the actual ducts. From FastDuct Software, Charlotte, N. C.

Circle 238 on reader service card

Ever wish you could modify an old non-CAD "raster" image only where needed, instead of converting the entire image into something the CAD software can read? Now it is possible with CAD Overlay ESP from Image Systems Technology, Troy, N. Y. The hybrid images, combining the old scanned raster overlaid by CAD vector drawings where needed, can be zoomed and panned inside AutoCAD as if they were one.

Circle 239 on reader service card

Constructive Computing, Kansas City, will release its newest computer-assisted estimating system, QuickEST version 3. The package is modular, with modules for picking information off DXF drawing files such as produced by AutoCAD, and for doing quote analyses. Several cost databases are available, including the Berger Building Cost File, to work with QuickEST.

Circle 240 on reader service card

Landcadd, Inc., Franktown, Colo., will show enhancements to its LANDCADD line of design tools for AutoCAD. The newest releases include a Macintosh version and metrics.

Circle 241 on reader service card

Version 10.0 of the ASTEEL steel-drafting program (formerly called AutoSTEEL) from Holmes Manson A/E Services, Arvada, Colo., is being released at the show. This AutoCAD add-in



5

makes good use of AutoCAD's expanded programming capabilities; it uses 400 kilobytes of AutoLISP code. Different versions handle BS-4, ASTM A6-81b, and DIN 1045 shapes.

Circle 242 on reader service card

MAPMATE from Lietz, Overland Park, Kan., links AutoCAD drawings with SDRMAP and SDRLINK surveying software.

Circle 243 on reader service card

VS/Plot and VS/Render, two packages that transfer AutoCAD drawings to Neuendorf Systems' Videoshow, will be displayed at AutoCAD Expo by the Aurora, Ind., company.

Circle 244 on reader service card

Omniversal, Santa Monica, Calif., will demonstrate a link between AutoCAD and its Facility and Property Management System. The software runs on IBM PC computers and compatibles, and the new IBM AS/400 minicomputer.

Circle 245 on reader service card

VoiceCAD from Circle Computer Consultants, Orinda, Calif., is now available for AutoCAD 10. It handles about 200 voice commands directly, and another 250 using a command hierarchy.

Circle 246 on reader service card

The new BLOCK Librarian from SoftSource, Bellingham, Wash., allows users of AutoCAD 9 and 10 to store, view, and retrieve AutoCAD block files graphically. The new release includes REPORTER, a link to Lotus 1-2-3 and other software that can handle comma delimited ASCII files.

Circle 247 on reader service card

Other design software

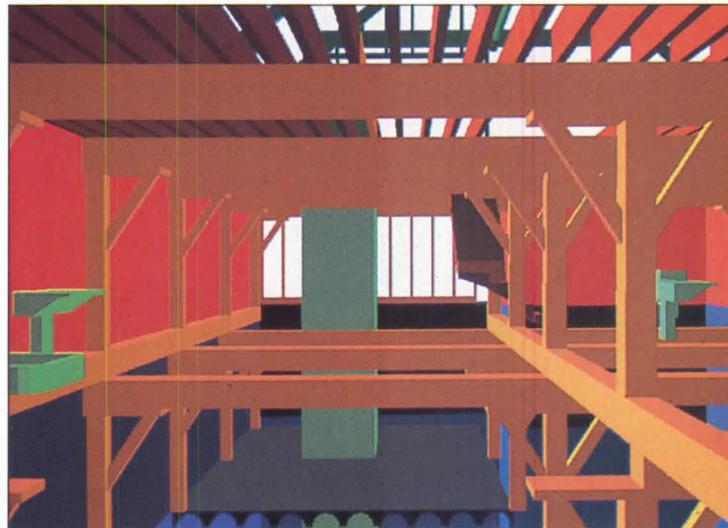
The new 10CAD engineering data-management system by ACS Telecom, Lomita, Calif., allows numerous workstations to share drawing files, printers, and plotters. The software is compatible with Ethernet, Netbios, and Novell on IBM PCs and compatibles, as well as Sun, Apollo, and VAX computers. Version 10CAD Plus 2.2, being released at the show, is twice the speed of 2.0. The software is being displayed at the Autodesk Expo section, where it will be used to link several exhibits.

Circle 248 on reader service card

Byers Plot Station from Byers Engineering, Atlanta, links Intergraph and MicroStation users, UNIX or VAX machines to PC networks so that the cheaper PC can output to plotters without tying up the more expensive computers. The new version now supports 3-D plots.

Circle 249 on reader service card

- 5. TAPCAD facility-management package by TAP.
- 6. ArchiCAD by Graphisoft.
- 7. PowerDraw by Engineered Software.



6



7

Four packages for use with the Intergraph/Bentley Systems MicroStation will be demonstrated by Bennett & Norgrove, Ltd., Rexdale, Ont. They include Autosub (a subdivision mapping package), MicroSDI (a stereoplotted interface), a digitizer overlay for better data collection called DICE, and uSIF, a full-featured file translator between MicroStation and ISIF data.

Circle 250 on reader service card

Research Engineers, Marlton, N. J., will demonstrate its STAAD-III/ISDS structural analysis and design system. It produces bending moment/shear force diagrams and stress contours.

Circle 251 on reader service card

COSMOS/M is a finite element analysis package that can calculate stresses, strains, displacements, and temperature distributions of designs from DXF or IGES files. It comes from Structural Research and Analysis Corp., Santa Monica, Calif.

Circle 252 on reader service card

Elite Software, Bryan, Tex., is offering its SHADOW program, which calculates shaded glass areas and solar loads and possible window and shading device configuration.

Circle 253 on reader service card

PacSoft, Inc., of Kirkland, Wash., will introduce a new version of its civil-engineering and surveying software to run on PC-DOS and MS-DOS computers using the fast Intel 80386 chip.

Circle 254 on reader service card

MapInfo 3.0 from MapInfo Corp., Troy, N. Y., now displays street-name labeling parallel to the actual streets, and can display overlay maps of different scales on the same screen so that users can more easily visualize data. The company markets its system to land-use planners and facilities managers.

Circle 255 on reader service card

SITE, a volume configuration program that works inside terraCADD, is being introduced by Plus III Software of Atlanta.



10

It shares files with other terraCADD modules, including Contour, DTM Cross Sections, and Drafting.

Circle 256 on reader service card

LANDesign (formerly COGO MAC) was the first tool for professional surveys written specifically for the Macintosh; enhancements are being demonstrated at the show. It comes from COMPUnearring, Thornhill, Ont.

Circle 257 on reader service card

Other administrative software

Version 2 of the G2 Estimator from G2, Boise, Ida., is now shipping. The package has links to Primavera, Computer Guidance, and ROCTEK. The National Construction Estimator database is included; optional databases are National Electrical Contractors' Association, Mechanical Contractors' Association of America, Electrical Resources, and the Corps of Engineers' Unit Price Book.

Circle 258 on reader service card

Infomax, Tualatin, Ore., is introducing a link between its popular A/E Marketing Manager software and ACCI Systems' Project Management and Accounting System for architects and engineers.

Circle 259 on reader service card

AEMAS Plus+ from Data-Basics, Cleveland, has introduced menu-driven accounting modules for job-costing, invoicing, accounts receivable, personnel scheduling, and more.

Circle 260 on reader service card

Construction-contract administration is made easier with Statslog Architect Basic from Project Communications, Toronto. Version 3.0 is being released at the show.

Circle 261 on reader service card

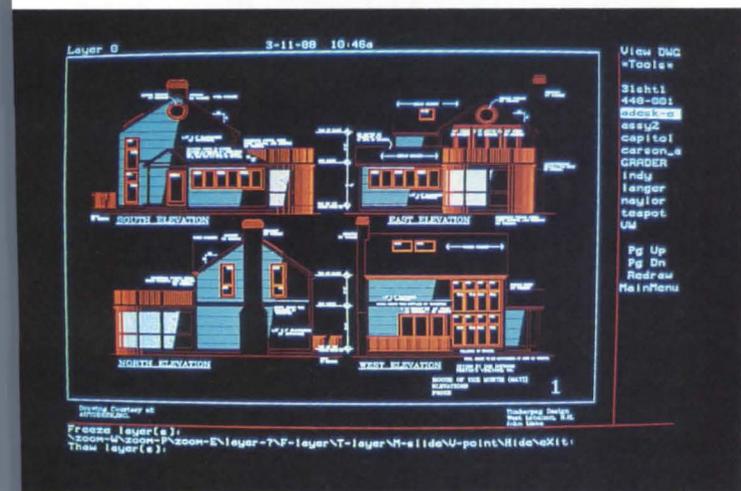
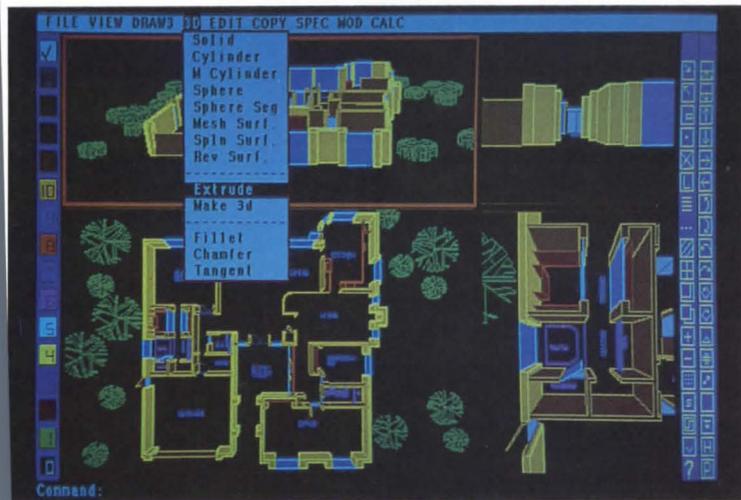
The PIRS (Product Information Retrieval System), a combined microfiche and software package for verifying code compliance of building materials, is being demonstrated by the International Conference of Building Materials Evaluation Service, Whittier, Calif.

Circle 262 on reader service card

Spec-Writer, the popular word-processing program for IBM PCs and compatibles from CRS (formerly Pinkerton/Galewsky), Beaumont, Tex., now has a spell-checker, based on the popular Turbo-Lightning software from Borland, customized with 16 special technical dictionaries.

Circle 263 on reader service card

The R. S. Means Company, Kingston, Mass., one of the nation's largest compilers of construction and building-cost



8. *FastCAD by Evolution Computing.*

9. *SLICK! by CAD Systems Unlimited.*

10. *Trianon by CenterCore.*

data, is offering its new PULSAR microcomputer estimating and scheduling program; it is the first for directly accessing the Means database.

Circle 264 on reader service card

The Customer Profile System from Softouch Software, Portland, Ore., is a user-friendly front end to corporate Oracle databases. It uses the Macintosh HyperCard software. The firm's Cost Management System is an estimating and job-costing package. It offers links to many general ledger packages.

Circle 265 on reader service card

Specification writing

Electronic Sweet's will be using the A/E/C show as a platform to acquaint construction professionals with its recently introduced SweetSearch and SweetSpec [RECORD, March 1989, page 137]. SweetSearch is an electronic index to the Sweet's catalog allowing architects to search for products that meet design requirements. SweetSpec, an automated, interactive system based on Masterspec, produces specification documents from questions asked and answered in interchanges between user and system.

Circle 266 on reader service card

Furniture and facilities

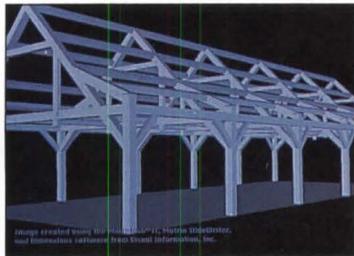
CenterCore's new Trianon circular office furniture system can be customized to handle even high-level employees' workspaces in open-plan offices. The Plainfield, N. J., firm says the new system is a logical extension of its earlier Spacemaker line.

Circle 267 on reader service card

Engineered Data Products, Broomfield, Colo., is showing three new systems for architects. Designer CAD stand is cantilevered over the drafting table, so that CAD and manual drafting can be at the same location. CAD/2 offers room for computer and digitizing tablet. ADD-A-CAD accommodates monitors as large as 20 in.

Circle 268 on reader service card

Waldman Lighting, Wheeling, Ill., is introducing its new ZLL



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drafting-board light at the show. Two models fit boards 37 to 72 inches wide. The fixture attaches to the back of the board, not the side.

Circle 269 on reader service card

A keytouch electronic building directory system, the Touchcomm Electronic Directory, will be demonstrated by Digital Technologies, Inc., Burlington, Mass. New products include the touchscreen Wayfinder directory, specifically for hospitals, and a new security system.

Circle 270 on reader service card

Marvin Windows, Minneapolis, has released its Computer-Aided Design Program in a new version compatible with AutoCAD 10. The company says it will soon be available for all CAD software. The software not only provides a detail and specification manual on disk, but also a way to design and specify custom windows and doors.

Circle 271 on reader service card

Penn Ventilator's free FANCAD library of drawings and details for most CAD systems has been revised and expanded. The Philadelphia company includes FANSPEC, complete text specifications for its products.

Circle 272 on reader service card

Graphics cards and monitors Methus, Beaverton, Ore., will be demonstrating its new Ultra Graphics Accelerator family of graphics cards with AutoCAD 10.

Circle 273 on reader service card

Data Translation, Marlboro, Mass., will be showing its new Arithmetic Frame Grabber, an IBM AT-compatible board that can capture and store images from standard devices and display them fast. The firm also is showing its new QuickCapture image capture and display

system with 256 levels of gray for IBM PS/2 computers and compatibles.

Circle 274 on reader service card

Nth Graphics' new Nth 3-D Engine board now comes with HYDRA, fast 3-D viewing software that converts VersaCAD or AutoCAD wireframe drawings to 3-D solid models in seconds. The Austin, Tex., company's boards are usable in AT-class personal computers.

Circle 275 on reader service card

The new Artist GT software driver, optimized for AutoCAD 10, will be demonstrated with Artist graphics boards from Control Systems, St. Paul, for IBM AT and PS/2 microchannel compatibles.

Circle 276 on reader service card

Plotters and printers

Bruning, Martinez, Calif., is featuring large 24- and 36-in.

plotters for as little as \$5,950. Plotting is truly continuous, not frame-to-frame—ideal for architects who need to output long drawings.

Circle 277 on reader service card

A D-size plotter for only \$2,395 and manufactured in America is being introduced by Gerard Research, Fremont, Calif. The plotter uses the DM/PL plotting command language.

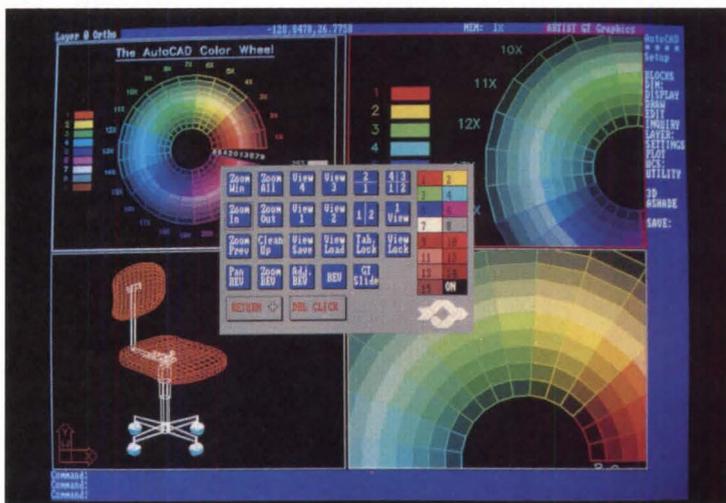
Circle 278 on reader service card

Fast pencil plots are possible with the new F910A pen/pencil plotter from Mutoh America, Elk Grove Village, Ill.

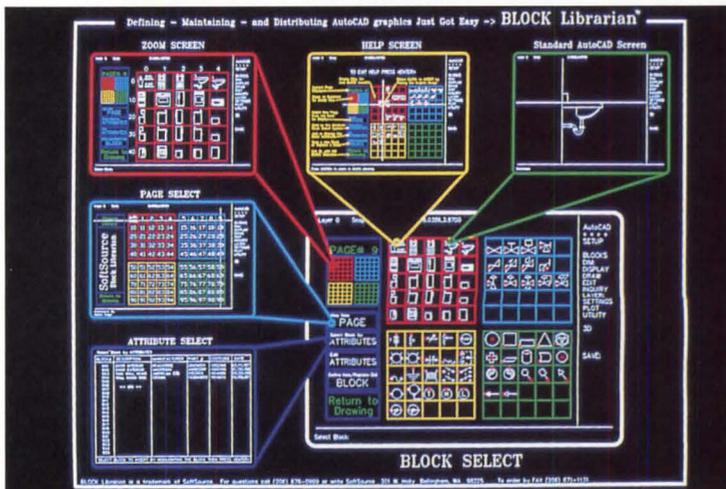
Circle 279 on reader service card

A thermal plotter, the RY-T001, will produce plots of up to 46 by 33 in., with crisp lines and images that do not bleed, according to manufacturer RDK, Inc., Austin, Tex.

Circle 280 on reader service card



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13

Roland, Los Angeles, will display a number of inexpensive plotters, including an 8-pen desktop model for \$1,295. It emulates the HP-GL plotting language.

Circle 281 on reader service card

The TPG-4300 thermal transfer video printer from Toyo Spectrum, Santa Clara, Calif., can print full-color A- or B-size images from any CRT monitor up to 1,280 by 1,024 pixels.

Circle 282 on reader service card

Buffer Plus from Applied Creative Technology, Dallas, is a modem-sized box with up to 1 megabyte of random-access memory. Placed between your computer and plotter, it can store the image to be plotted, freeing the computer for other tasks. It can handle serial or parallel communications. It can emulate the HP-GL plotting language, making it particularly useful for Hewlett Packard plotters.

Circle 283 on reader service card

Supplies

Graphic Controls, Buffalo, is releasing a new catalog of CalComp pen-plotter supplies.

Circle 284 on reader service card

A new vellum for electrostatic copiers is being demonstrated by Teledyne Post, Des Plaines, Ill. The image can be selectively erased, yet is very stable in normal use.

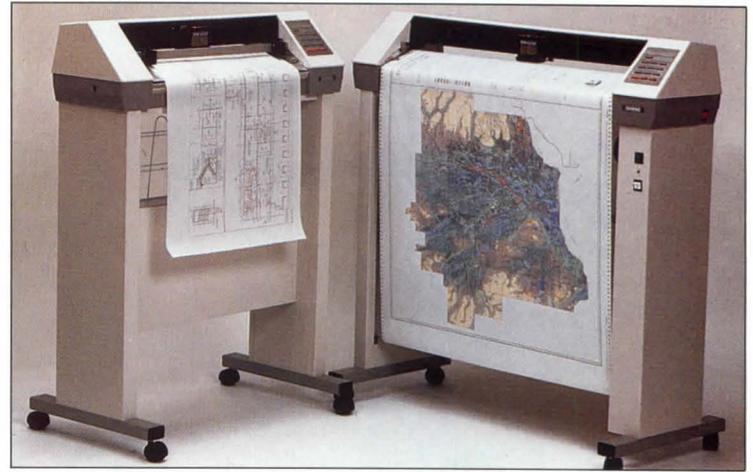
Circle 285 on reader service card

Digitizers and scanners

Kurta, Phoenix, Ariz., introduces the IS/THREE LTD line of large digitizing tablets. The tablets support Timberline's Estimating Plus construction-estimating software.

Circle 286 on reader service card

The new 1280 RSKB digitizer from Los Angeles Scientific Instrument Company can be used with almost any CAD program, because it emulates most popular tablet digitizers;



16

the CAD software thinks a tablet is communicating with it. The RSKB also emulates keyboard entry codes, so it can be used with non-CAD software, such as Lotus 1-2-3.

Circle 287 on reader service card

Calcomp of Anaheim will be demonstrating three recent large-format additions (D, E, and J size) to its DrawingBoard family. Resolution is up to 10,160 lines per inch. This new 9500 series replaces the 9100 models.

Circle 288 on reader service card

Altek's new digitizer for construction-estimating applications fits any DodgeScan machine and works with most estimating software. The Silver Spring, Md., company packages the digitizer with a keypad that handles length, area, and volume calculations without a computer attached.

Circle 289 on reader service card

Vemco, San Dimas, Calif., offers its Multi-Scan multiple format scanner for transferring images as large as E-size into IBM PCs and compatibles.

Circle 290 on reader service card

Workstations

Silicon Graphics, Mountain View, Calif., is displaying its inexpensive Personal Iris 3-D workstation. The company has announced a pilot program to sell the workstation through Cadkey and Arris dealers.

Circle 291 on reader service card

The CEALStation engineering workstation combines COGO and other land use software from CLM/Systems, Inc., Tampa, Fla., with Intergraph's MicroStation software.

Circle 292 on reader service card

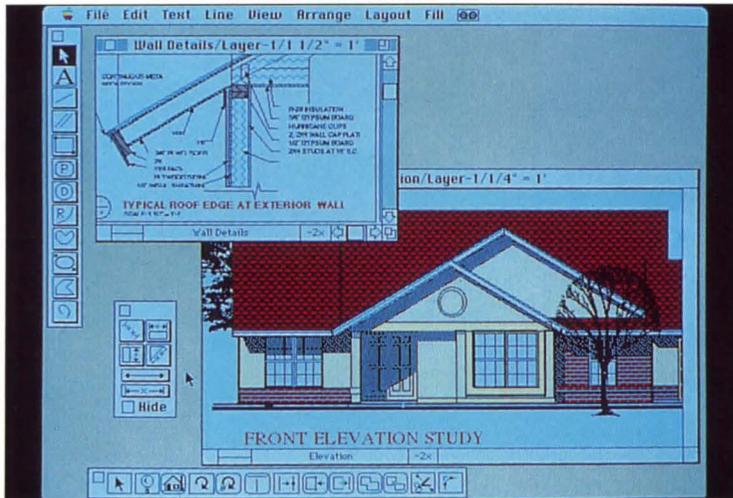
Services

K + CZL, specialists in helping firms configure IBM equipment, will be demonstrating its services. The San Jose, Calif., firm also offers training classes nationwide.

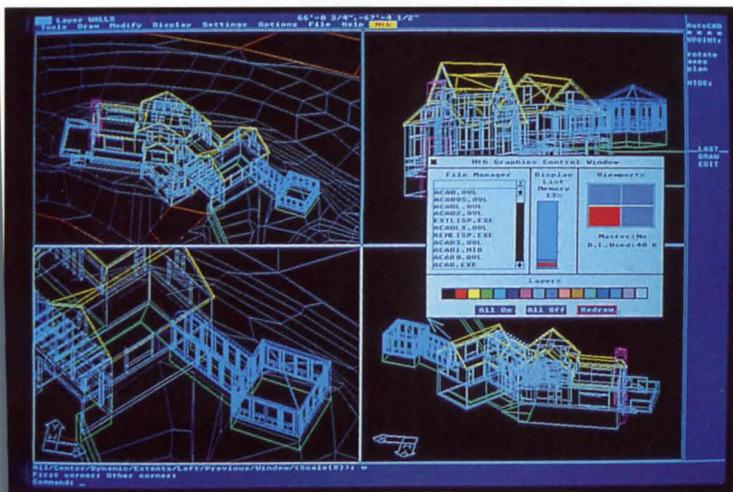
Circle 293 on reader service card

OCB Reprographics offers the C4 TelePlot system to convert PC-based drawings to plot files. The firm serves Orange, San Bernadino, and Los Angeles counties from its Irvine, Calif., offices.

Circle 294 on reader service card

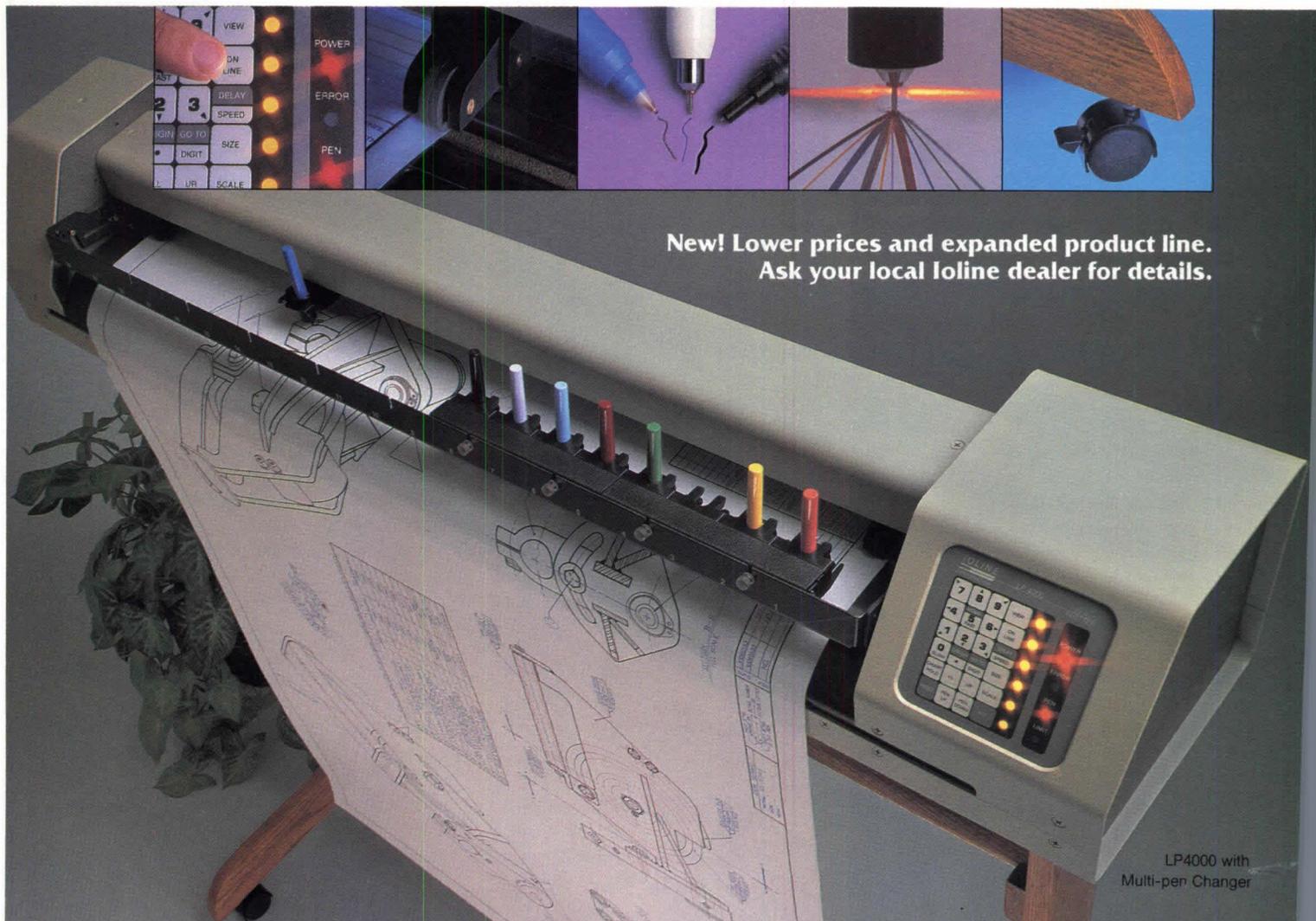


14



5

11. Dimensions Presenter by Visual Information Development.
12. Artist GT software driver by Control Systems.
13. BLOCK Librarian by SoftSource.
14. Dreams by IDI.
15. HYDRA by Nth Graphics.
16. Bruning's Zeta 24-in. and 36-in. plotters.



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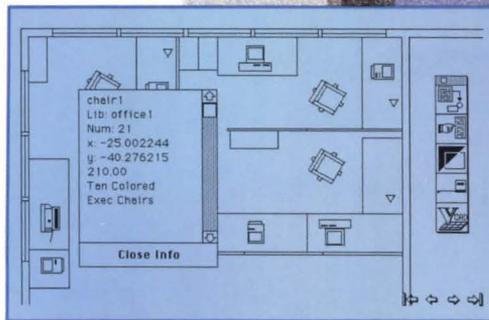
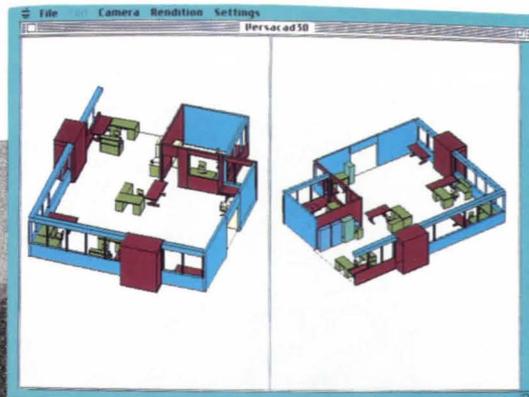
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 - Bill of materials
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|--------------|-------|-----------|-------|----------|------------|-------------|------------|
| Construction | 1.25 | 2.50 | 17.50 | 43.75 | 310.00 | 18.00 | 36.00 |
| Construction | 1.25 | 2.50 | 17.50 | 43.75 | 330.00 | 20.00 | 40.00 |
| Construction | 1.50 | 58.50 | 17.50 | 1023.75 | 5265.00 | 30.00 | 1170.00 |
| Construction | 0.50 | 6.00 | 17.50 | 105.00 | 900.00 | 20.00 | 240.00 |
| Construction | 1.00 | 9.00 | 17.50 | 157.50 | 1080.00 | 10.00 | 90.00 |
| Construction | 0.25 | 2.25 | 17.50 | 39.38 | 1395.00 | 10.00 | 90.00 |
| Moving | 0.25 | 4.00 | 19.85 | 79.40 | 2800.00 | 10.00 | 160.00 |
| Moving | 0.25 | 2.00 | 19.85 | 39.70 | 680.00 | 20.00 | 160.00 |
| Moving | 0.25 | 3.75 | 19.85 | 74.44 | 1875.00 | 24.00 | 360.00 |
| Utilities | 0.75 | 10.50 | 20.20 | 212.10 | 3360.00 | 10.00 | 14.00 |
| Technical | 2.00 | 4.00 | 28.50 | 114.00 | 7050.00 | 30.00 | 60.00 |
| Technical | 1.00 | 6.00 | 28.50 | 171.00 | 14970.00 | 15.00 | 90.00 |
| Technical | 2.25 | 15.75 | 28.50 | 448.88 | 45465.00 | 35.00 | 245.00 |
| Technical | 1.00 | 6.00 | 28.50 | 171.00 | 8970.00 | 15.00 | 90.00 |
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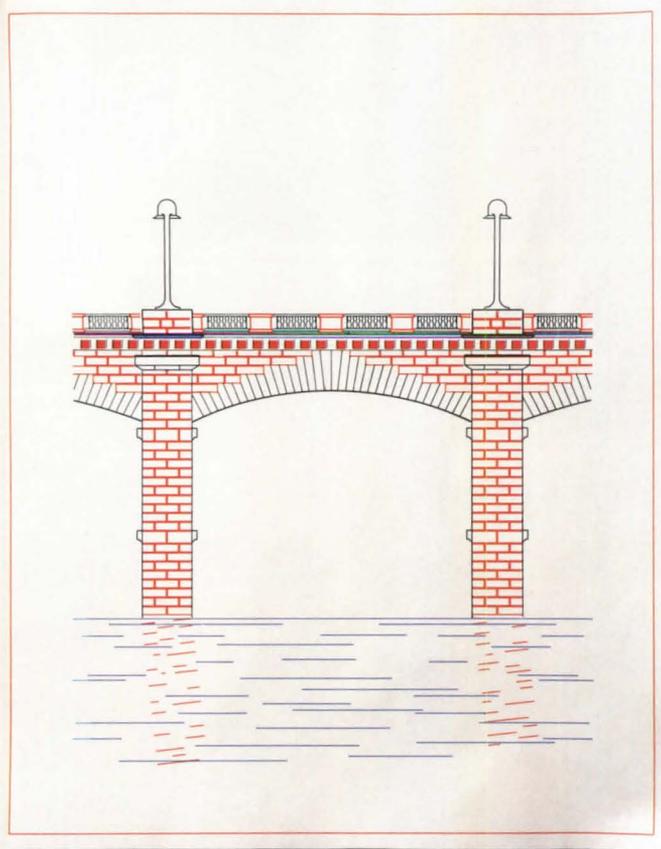
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Please send to Demo Disk, Versacad Corporation, 2124 Main Street,
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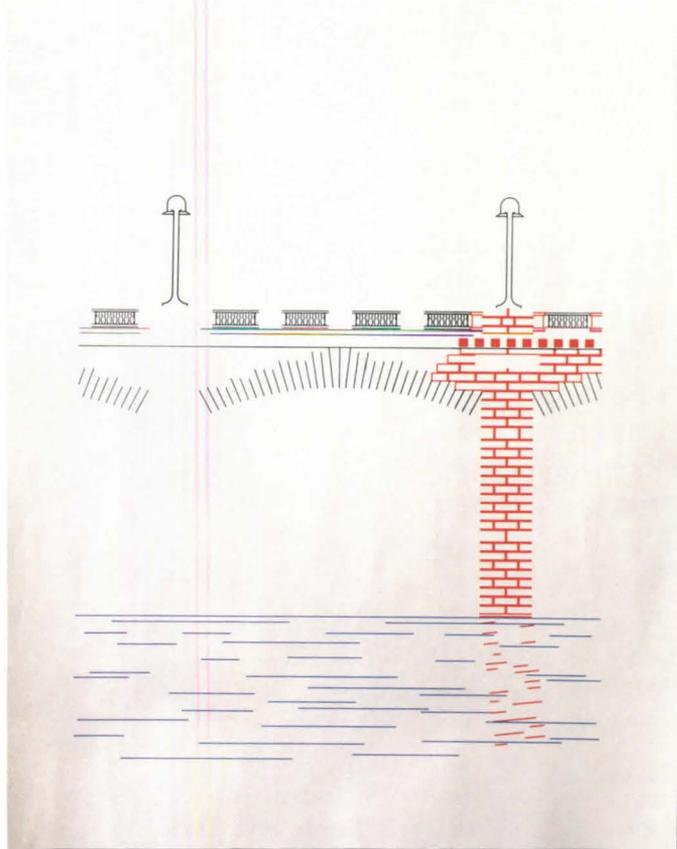
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These plots were created using AutoCAD™ Rel. 9.0. An HP DraftMaster driver and HP-GL were used with the HP DraftMaster plotter. A CC 104X driver and PCI were used with the CalComp 1023 plotter. AutoCAD™ is a U.S. trademark of Autodesk, Inc. HP-GL is a trademark of Hewlett-Packard Company. *June 9, 1987.

Software reviews for architects

By Steven S. Ross

Claris CAD

A fast, versatile 2-D drafting package for the Macintosh. Users of MacDraft or MacDraw II who have been looking for extra features—such as better control of tolerances and better accuracy—may find them here. Claris CAD is also distinguished by its tutorials—including a tutorial on standard VHS videotape that comes in the package. In exchange for ease of use and good speed, users give up 3-D and the database capabilities of more advanced packages. Claris is an Apple Computer Corp. spinoff that now operates independently.

Equipment required: Macintosh Plus, SE, II, or IIfx and 1 megabyte of random-access memory (at least 2 megabytes recommended), hard-disk drive, System 6.0 and Finder 6.1 (or later). Works with Hewlett Packard, Houston Instruments, and PC plotters, Postscript laser printers such as the LaserWriter, and the ImageWriter dot-matrix printer. Can be networked through AppleShare.

Vendor: Claris Corp., 440 Clyde Ave., Mountain View, Calif. 4043. \$799. Upgrade for registered MacDraw II users, \$399. IGES and DXF translation package, \$299.

Summary

Manuals: Excellent. Separate manuals include the tutorial and

Steven S. Ross is past president of CCM, an educational software company in New York City, and now teaches journalism at Columbia University, where he also runs a large computing laboratory for students. He is often consulted on quality-control matters; his book, Construction Disasters: Design Failures, Causes and Prevention, was published by Graw-Hill.

a user's guide. There's also a 10-page quick reference, a startup guide, and videotape tutorial.

Ease-of-use: Good. Uses the Macintosh standard click-drag-click mouse interface. But menus do not go more than two levels deep, making the mouse an adequate command tool. Double lines for walls are automatic. There's a wide choice of fonts, line styles, and fill patterns. Tool palettes cannot be positioned for easy use in the drawing window itself; they stay off to the side.

Error-trapping: Good. Users get only one chance to change their minds about saving files as they exit. We were unable to crash the system on a Mac II. There's no automatic-save feature; drawings should be manually saved to disk periodically, to avoid losing a great deal of work in case of a power failure. The "undo" command changes only the last action.

Review

There's something to be said for CAD software that, well, is easy to draw with. That is precisely what Claris CAD is. It doesn't do 3-D. It cannot directly feed a database for producing a bill of materials, or for project scheduling. But it is easy, even intuitive, to use. And it comes with a good tutorial, particularly suited to the CAD novice, that covers all of the fundamental drawing techniques. The tutorial includes on-screen practice files and a videotape.

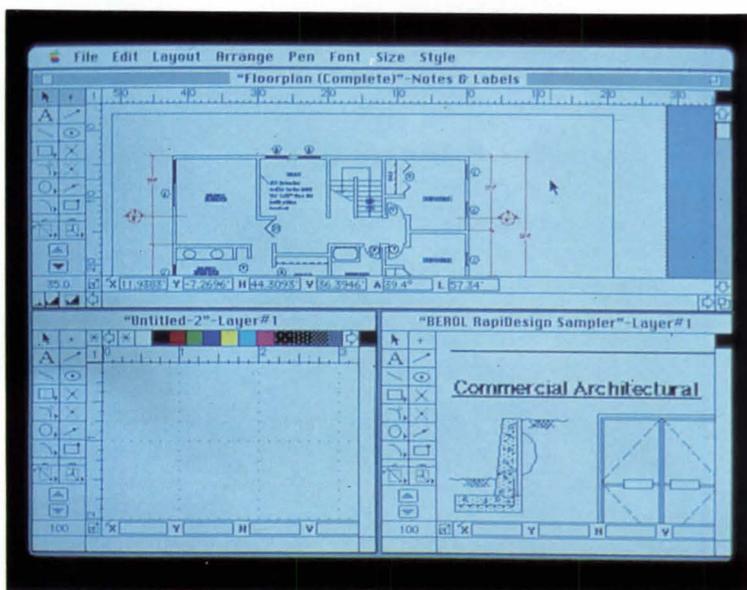
Users of MacDraw will have little trouble recognizing the controls for Claris CAD. But the new features should attract many MacDraw users to switch. For instance, you can draw a circle by indicating its diameter, or by specifying three points through which the circumference should pass, rather than clicking at the center and dragging the mouse outward. You can specify three points as three corners of a

Continued on page 169



The Mac II screen that Claris CAD runs on handles curves well, even at fairly high magnifications. But

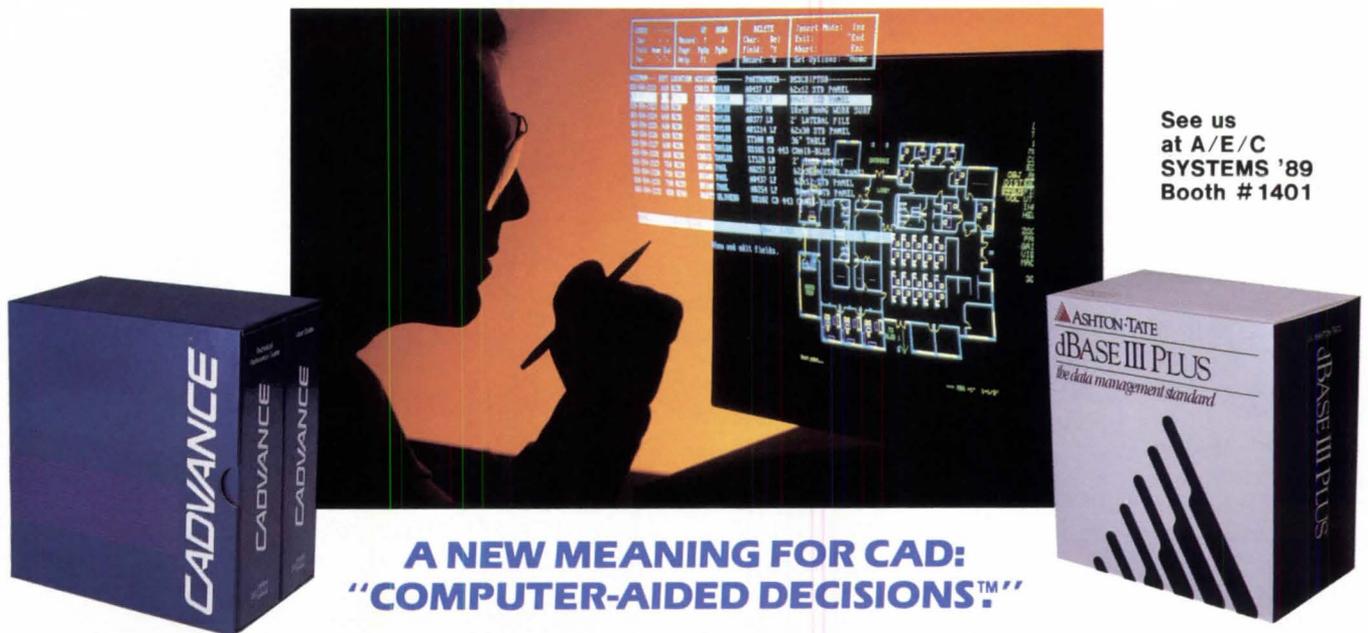
on-screen fonts can appear sloppy as a view is zoomed inward to near-maximum magnification.



Multiple views can be displayed on-screen with Claris CAD. In this view, they are tiled; the same views also can be stacked.

Notice that each view has its own set of drawing tools. A click of the mouse brings any view to the forefront.

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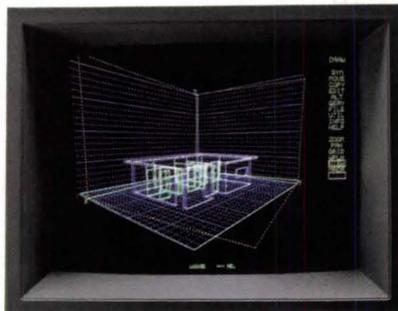
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| 3D VGS user interface | Yes | No | No |
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rectangle, and so forth. At least four points define a spline curve.

You can duplicate objects in groups and arrange the duplicates in rows, columns, or along arcs. And there is precise, on-screen display of dimensions and control of zooms.

Drawings can be plotted as large as 100 by 100 inches. Up to seven documents can be on-screen at once. The easiest way to work on them is to overlap the windows (each window contains one document). Clicking on a window pulls it to the top of a pile of overlapping windows, almost immediately. Windows can also be placed next to one another (it's called "tiling" in the CAD world).

The number of layers in a drawing is essentially limited by the amount of memory you have. In a 2-megabyte monochrome system without Multifinder, we replicated a fairly complex drawing through 20 layers without the system slowing appreciably. In a 5-megabyte system with Multifinder and color monitor, we went 40 layers deep without hitting bottom. Layers can be numbered, or can carry a logical name such as "plumbing" or "chairs."

Double lines, for walls, are a breeze. The palette can be set to draw the lines so that the mouse click points are at the center of the line pair, or on the upper or lower of the two lines. The starting point of the double lines is capped with a line between them. You set the Preferences dialog box to leave the ending joint of the lines open or closed. Rather than change the dialog box constantly, users found it easier to draw everything open-ended, then close all the ends of the double lines manually, and lean up extra lines at T intersections.

A location bar at the bottom of each window shows the X and Y location of your pointer on the drawing grid, horizontal and vertical distance from the last point specified, angle of rotation

from the last point, and linear distance from the last point.

As is common with Mac software, you will find it easiest to set most system defaults by creating empty documents with the defaults you want. You open the empty document—called a "stationery document" in Claris CAD—and begin drawing on it, then save it under a new file name. One default concerns whether or not you want on-screen color. If you have a color monitor, one of the first things you will do in Claris CAD is to change the name of the stationery document that contains color defaults, so the software will read it automatically at future startups.

Claris CAD can exchange files with other Mac software using the PICT format. An add-on package, not tested by us, will translate files to the DXF format (for exchange with AutoCAD and other packages), or to the IGES standard. Almost every serious CAD program in the DOS, UNIX, and Mac world will read either PICT, DFX or IGES, although the transferred files usually need a little touching up.

DXF, for instance, does not support complex curves. It converts them all to polylines—combinations of short-segment lines.

The Claris translator, called Transformer, is unusual in that it lets users view the drawing they are working with, and to selectively translate only certain objects or certain layers. To view them, Transformer first turns any file into a Claris CAD format. It can be saved to any format but the original one or MacDraw. Because Transformer can operate under the Macintosh MultiFinder, you can continue to draw with Claris CAD while translation takes place. Or, you can set a translation time and let Transformer work in off-hours.

Directory of Micro Engineering Software/Services

Vendor: Decision Graphics, Inc., 555 Sparkman Dr., Suite 652, Huntsville, Ala. 35816. 205-837-7710. Hard copy in 8 1/2 by 11 inch binder; \$189 for one year (includes one update and a "software locator" database on disk).

Review

No large architectural office can be without a guide to CAD software. Large CAD vendors like AutoDesk and VersaCAD will, of course, make available directories of software that runs with their own products. But this directory from DGI is the most comprehensive guide to the overall market. It lists more than 800 CAD packages and more than 235 companies that sell software, hardware, programming services, digitizing services (to convert hard copy to CAD), networks, and so forth.

Each product or service gets a small writeup, typically 100 to 200 words, discussing system capabilities, hardware requirements, number of systems installed, prices, addresses, and phone numbers. Placement of the writeups is a bit idiosyncratic, in part because the industry is the same way.

Sigma Design's ARRIS CAD, for instance, is in the chapter on "Architecture/Engineering/Construction" along with the AutoCAD AEC add-on. AutoCAD itself is listed in the chapter on "Computer-Aided Design & Drafting," along with other more generally used packages. But so is Drawbase from SKOK Systems—another CAD package that is used for product design but that clearly is optimized for A/E/C.

To make up for that, there is

an automated index on disk, and separate indexes in the directory itself that list entries alphabetically by product name and vendor name. The automated index allows users to enter the equipment they have and the function or functions they need. The computer screen then displays the software name, vendor, and directory reference for the items that meet the user's criteria. The disk can be used on an IBM PC or compatible.

Most of the material looks current, although we did notice two listings—for TK!Solver packs—that are about two years out of date.

(TK!Solver, an equation-solving program, was briefly owned by Lotus Development Corporation. But ownership long ago passed to Universal Technical Systems in Rockford, Ill.)

DGI itself does many of the custom software translators for converting one file format, such as DXF, to another. Some of the translators are marketed separately, while others are packaged with certain brands of CAD software.

It publishes a bimonthly newsletter, *Conversion Focus*, for the conversion "industry," for \$59 a year.

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the 8500 has 6 to 20 times more throughput. Now that's fast. But the 8500 Series is easy

to handle as well. Media loading is up front. You simply plug in the system and it's ready to plot.

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Product literature

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Steel window guide

A 20-page booklet supplies general specifications for various architectural windows made from hot-rolled steel sections, including commercial, residential, and fire-rated types. Steel Window Institute, Cleveland.

Circle 400 on reader service card



Textured marble

A color booklet introduces new slip-resistant bushhammered, striated, and sandblasted textures available in natural stone and marble for lobbies, stairs, and pool decks. Solnhofen Natural Stone, Inc., San Francisco.

Circle 406 on reader service card



Rubber flooring

Brochures and sample tiles are available for 15 colors and four profiles of commercial rubber flooring and stair treads. Colors include purple, burgundy, and sage green. Endura Flooring, Waltham, Mass.

Circle 401 on reader service card



Roof-deck renovation

A color brochure on the Terra System One precast concrete paver illustrates a retrofit installation step-by-step. Wausau Tile, Inc., Wausau, Wis.

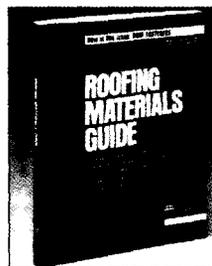
Circle 407 on reader service card



Park and site furnishings

Wood play equipment, fitness courses, and benches and site furniture are illustrated in a full-line color catalog. New product features include bright-colored steel components. Natural Structures, Sherwood, Ore.

Circle 402 on reader service card



Roofing materials

A folder describes the Roofing Materials Guide, containing 400 pages of product and test data on all currently sold low-slope roof membranes, insulation, and fasteners. National Roofing Contractors Assn., Rosemont, Ill.

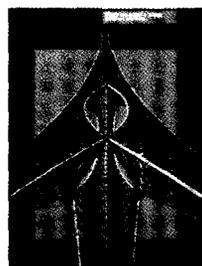
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Laboratory furniture

An eight-page brochure highlights wood and metal cabinets, fume hoods, benches, and other laboratory equipment offered in the Instalab quick-ship program. Kewaunee Scientific Corp., Statesville, N. C.

Circle 403 on reader service card



High towers

A color brochure explains the structural and materials-saving advantages of the Landmark three-legged tower, showing a 761-ft-high tower erected in Washington, D. C. Adelphon, Inc., Fort Worth, Tex.

Circle 409 on reader service card



Flammability standards

A folder describes a two-volume set on flammability standards and tests for textiles, plastics, and other materials used in home and contract furnishings. The Govmark Organization, Inc., Bellmore, N. Y.

Circle 404 on reader service card



Plastic products

A 160-page catalog describes hundreds of retail, display, signage, molding, laminate, tambour, and hardware items. Outwater Plastics, Inc., Wood-ridge, N. J.

Circle 410 on reader service card



Nurse/patient communications

The ProCare 4000 system facilitates the most effective use of health-care staff without requiring hard-to-learn codes, according to a four-page brochure. Dukane Corp., St. Charles, Ill.

Circle 405 on reader service card



Architectural aluminum

Kawneer's 1989 design brochure features operable windows, overhead glazing, and six different curtainwall systems, illustrating each product with color photos of built projects.

Kawneer Co., Inc., Norcross, Ga.
Circle 411 on reader service card

Fabric Membranes

Today's Cutting Edge Building Technology



Glass gables are integrated into Sun Palace membrane roof.

Glue-laminated wood structure supports tensioned membrane roof at Sun Palace swimming facility.



Point-hung tensioned membrane structure at Toyohashi.



Translucent membrane roof brings daylight to college gymnasium at Hiroshima.



Clustered tension membrane Modular Shelters, Pompano Beach, Florida.

Tensioned fabric membrane structures have become the technology of choice for an increasing range of building applications.

Their light weight and a nearly infinite variety of support structure systems allow architects extraordinary design freedom. Their ability to span large areas without interior support posts makes it feasible to bring many outdoor activities indoors, unhampered by weather. Above all, tensioned fabric membranes make possible delightful environments combining indoors and outdoors in new ways.

The magic of light-translucent membrane materials for an entire roof creates a naturalistic atmosphere as if one is outdoors in broad daylight. The light, however, has a softer, more diffused quality than actual daylight, with almost no shadows. Besides creating this delightful atmosphere, this translucency greatly reduces the need for supplementary lighting during daylight hours, a vital factor in applications such as skylight roofs for atriums, shopping malls, convention centers, and sports and entertainment arenas.

Helios Industries, Inc., the International Operations Division of Taiyo Kogyo Corporation, has been at the forefront in developing new technologies in the design and utilization of fabric membrane structures all around the globe. Our technological expertise and experience in erecting membrane structures is ready and available to assist you.

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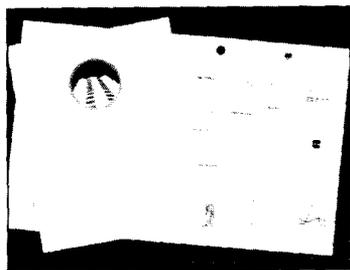
Hong Kong

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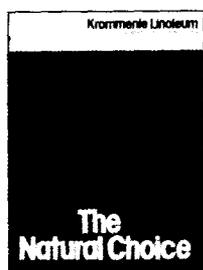
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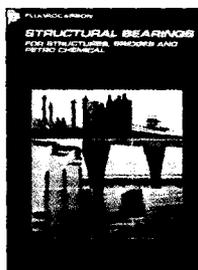
Cast-in-place concrete
A four-page brochure compares the materials-, time-, and space-saving benefits of cast-in-place reinforced concrete to other structural building materials. Concrete Reinforcing Steel Institute, Schaumburg, Ill.
Circle 412 on reader service card



Architectural extrusions
Copper-alloy components for curtainwalls, entrances, frames, and moldings are profiled in a four-page design catalog. Recent applications include the Humana Building in Louisville. MAC Metals Inc., Kearny, N. J.
Circle 418 on reader service card



Linoleum
A design guide on Marmoleum marbled sheet, available in 36 standard colors, shows the flooring installed with decorative and functional inlays. Forbo North America, Richmond, Va.
Circle 413 on reader service card



Structural bearings
A 16-page brochure provides design data and product information on rubber, Teflon, and other slide-bearing systems for buildings and bridges. Fluorocarbon Co., Athens, Tex.
Circle 419 on reader service card



Color specification
A 16-page booklet describes how an industry-specific color matching and computer graphics system meets the needs of architects and designers of interior furnishings. Pantone, Inc., Moonachie, N. J.
Circle 414 on reader service card



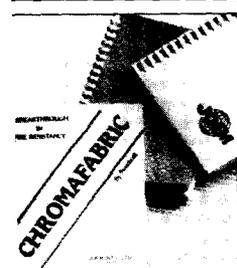
Parking-structure repair
A 72-page "Guidebook for Repair & Maintenance of Parking Structures" explains surface preparation, waterproofing, patching, and other concrete techniques. Structural Preservation Systems, Baltimore.
Circle 420 on reader service card



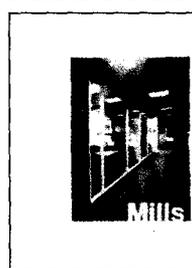
Entrances
American Series aluminum doors, introduced in a four-page catalog, are said to have the carefully made, solid appearance of wood. Custom glazing patterns are offered. Vistawall Architectural Products, Terrill, Tex.
Circle 415 on reader service card



Membrane structures
A colorful brochure shows tension-, air-, and space-frame-supported fabric structures used as temporary exhibition halls, permanent sports facilities, and shade screens. Helios Industries, Hayward, Calif.
Circle 421 on reader service card



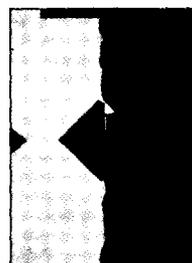
Fire-resistive fabric
A folder supplies samples of decorative, glass-based fabrics that will not ignite, melt, or drip, and have a soft, easy-to-work hand. Joem Distributors, Inc., Island Park, N. Y.
Circle 416 on reader service card



Movable walls
A brochure on Forecast Series partitions demonstrates how recessing the walls at both floor and ceiling creates a "floating panel" effect. Walls work with most open-office systems. The Mills Co., Wickliffe, Ohio.
Circle 422 on reader service card



Healthcare furnishings
A 16-page capabilities brochure on Kineticare furniture shows patient and nurses chairs, group seating, and public area furniture in hospital settings. Institutions specifying the line are listed. Kinetics, Dallas.
Circle 417 on reader service card



Decorative laminates
A 20-page Wilsonart brochure illustrates 26 new solids and patterns in the Design Group 1 line, highlighting stone-looks and leather textures in a variety of room settings. Ralph Wilson Plastics Co., Temple, Tex.
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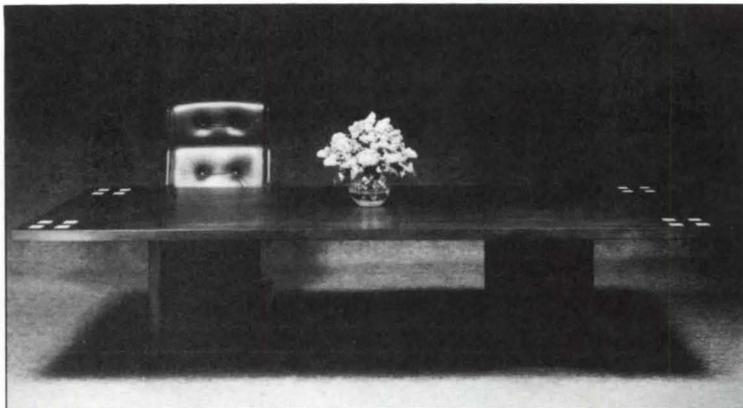
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The Spacesaver Group, 1450 Janesville Ave., Ft. Atkinson, WI 53538
1-800-492-3434. In Wisconsin, call 414-563-5546



Wood side chair

Paul Haigh has incorporated a number of interesting details into his new Sash chair. Although the seat and back are fully upholstered, the outer edges of the frame are flat, enabling it to stack four high. The leg and arm connection is detailed with a polished aluminum bracket. Conde House, San Francisco.
 Circle 300 on reader service card

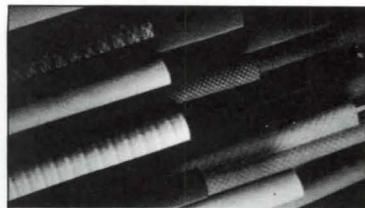


Conference table

Designer I. M. Rosen's signature detail for the Quad tables is a contrasting corner inlay. The

square or rectangular tops come in 10 sizes. Cumberland, Long Island City, N. Y.

Circle 302 on reader service card



High-tech upholstery

A new polyamide fiber from Europe, Quintesse is said to provide both luxurious esthetics and easy maintenance. Suitable for contract weaves, jacquards, and velvets, the fiber comes in bright and subtle colors. ICI Fibres, Greensboro, N. C.

Circle 303 on reader service card
 Continued on page 177



Wool damask

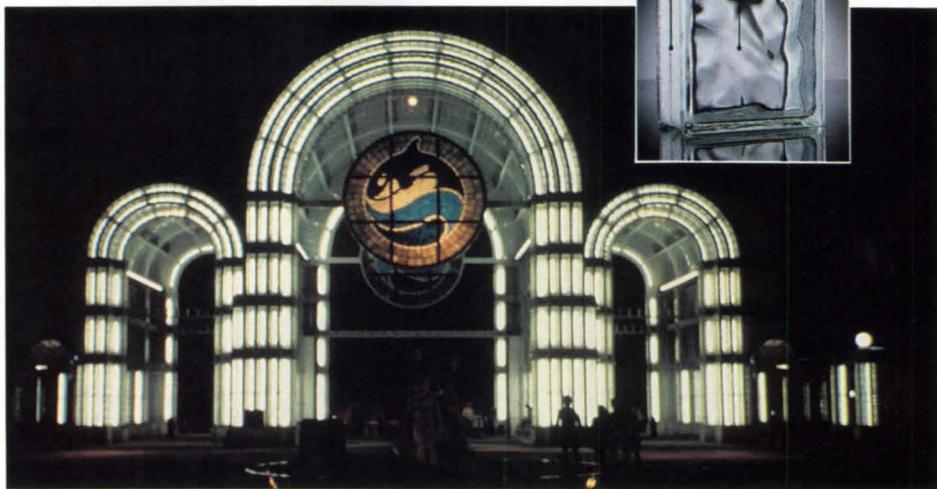
An all-wool damask for contract upholstery and vertical use, Falling Leaves has a tone-on-tone pattern and is offered in five colors. Lee Jofa, Carlstadt, N. J.

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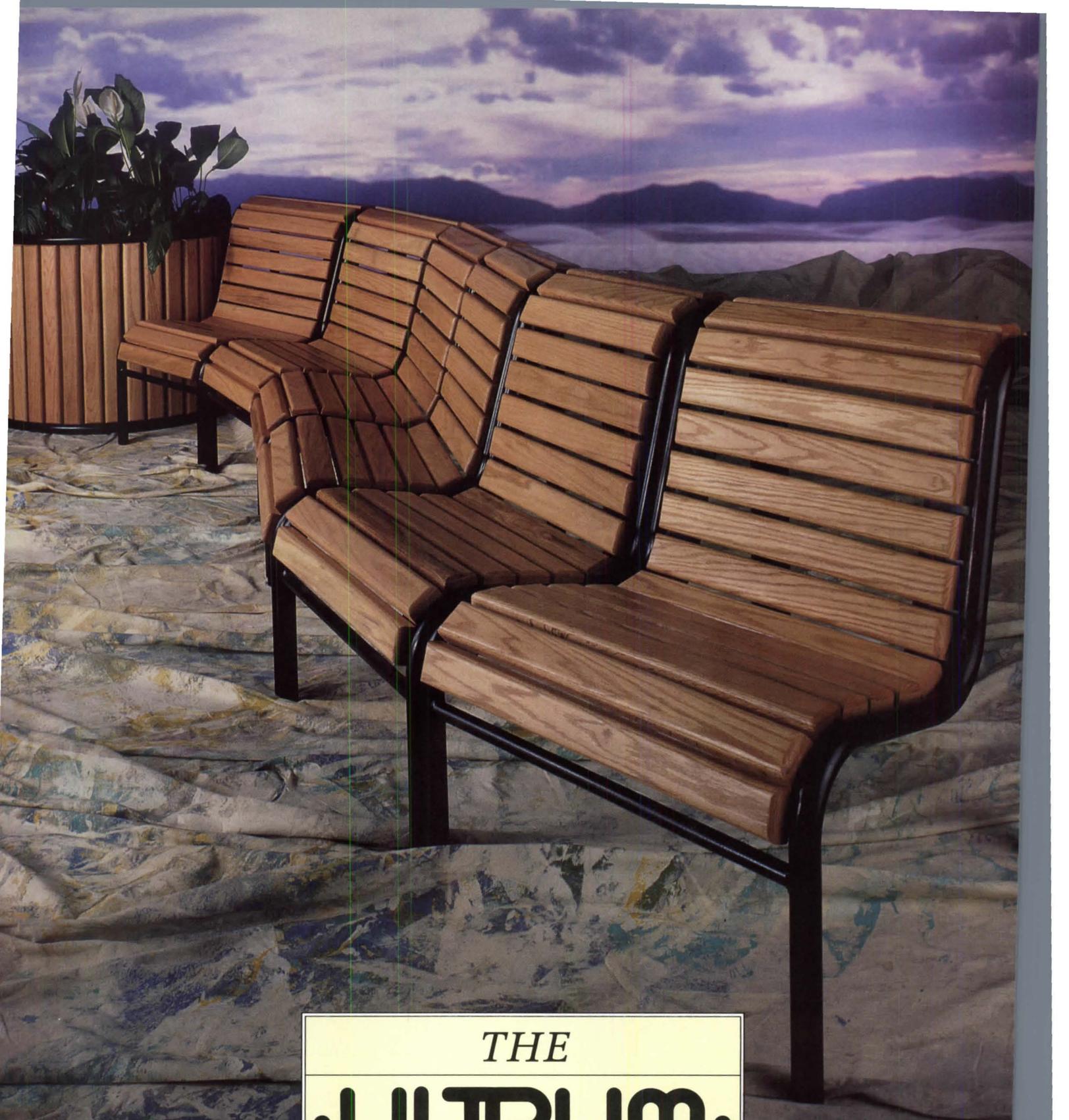
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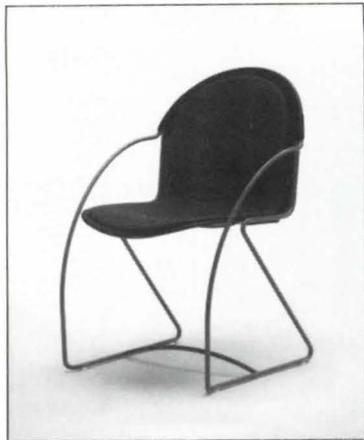


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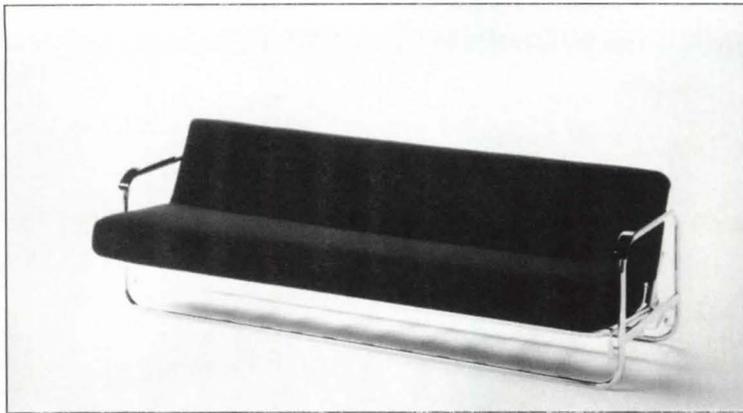
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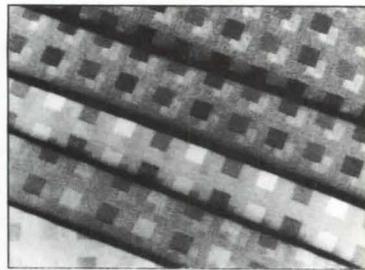


Side stacker
A compact side chair offered in dozens of matching or contrasting frame, Zytel plastic shell, and fabric color combinations, Parade is described as a safe, comfortable chair that needs only the barest maintenance. Steelcase, Inc., Grand Rapids, Mich.
Circle 304 on reader service card

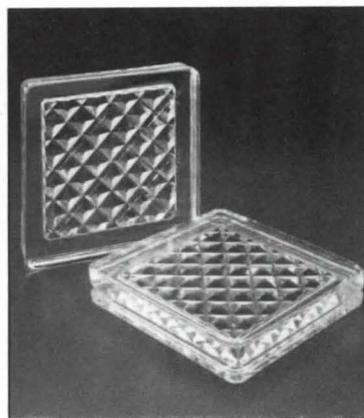


Early Aalto
From 1930, the architect's pre-ventwood, Functionalist phase, a daybed of steel tubing adjusts

flat to create a twin-size bed. Offered in fabric or leather. ICF, Inc., New York City.
Circle 306 on reader service card



Wool-blend fabric
Shadowbox, offered in five colorways, is a half-and-half weave of wool and lenzing, a viscose fiber said to be naturally flame-retardant. Karl Mann Associates, New York City.
Circle 307 on reader service card
Continued on page 179



Glass-block pavers
Developed for use in horizontal applications such as stairways, walks, skylights, and between-floor partitions, this new GlassBlock Paver has been deadload-tested in frame systems for up to 200 lb per sq ft. The unit has a multitriangle Delphi pattern pressed into the bottom, and a skid-resistant raised-line design on the top surface. Pavers can be used in most flat, curved, horizontal, and vertical frame systems. Pittsburgh Corning Corp., Pittsburgh.
Circle 305 on reader service card

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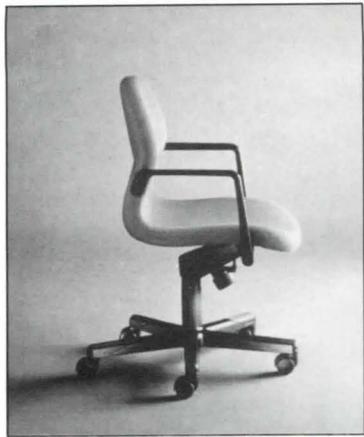
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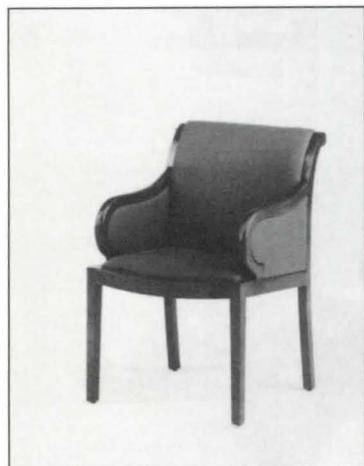
Circle 97 on inquiry card



Passive ergonomic

Reflex is an international effort, with Italians Paolo Favaretto and Giancarlo Bisaglia, working for Estel, developing the ergonomic design for manufacture in Muskegon. The chair is built with elastic webbing over steel tubes, encapsulated in injection-molded foam. A steel flex mechanism between back sections allows unrestricted body movement and stretching. Shaw-Walker, Muskegon, Mich.

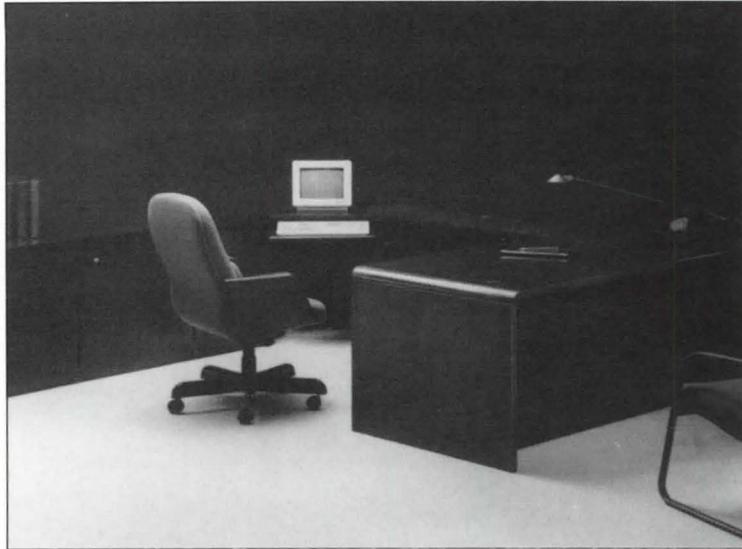
Circle 308 on reader service card



Guest chair

Almost Grecian in detail, John Cladwell's new chair for the Manner Collection has an upholstered back, seat, and sides. Thonet/Madison Industries, Chicago.

Circle 309 on reader service card



Computer support

The Concept Collection offers a large number of workstation, desk, and return options in hardwood furniture for the executive level. An articulating keyboard tray retracts for storage; the 45-deg corner unit can be added to standard U-shaped stations for additional computer space. Dar/Ran Furniture, High Point, N. C.

Circle 310 on reader service card

Continued on page 183

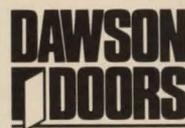
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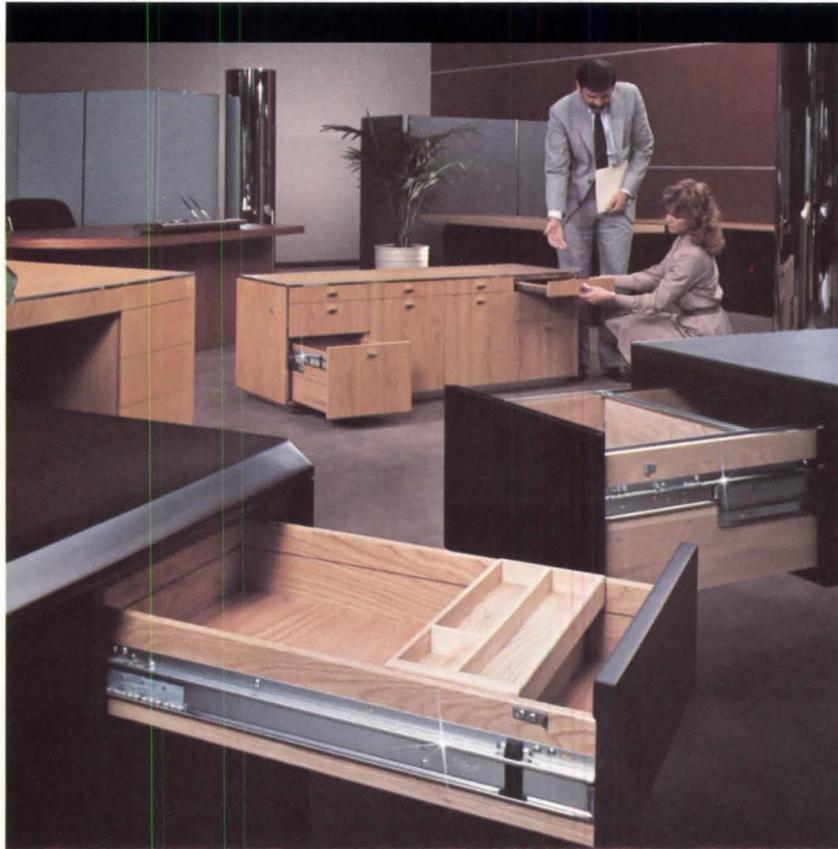
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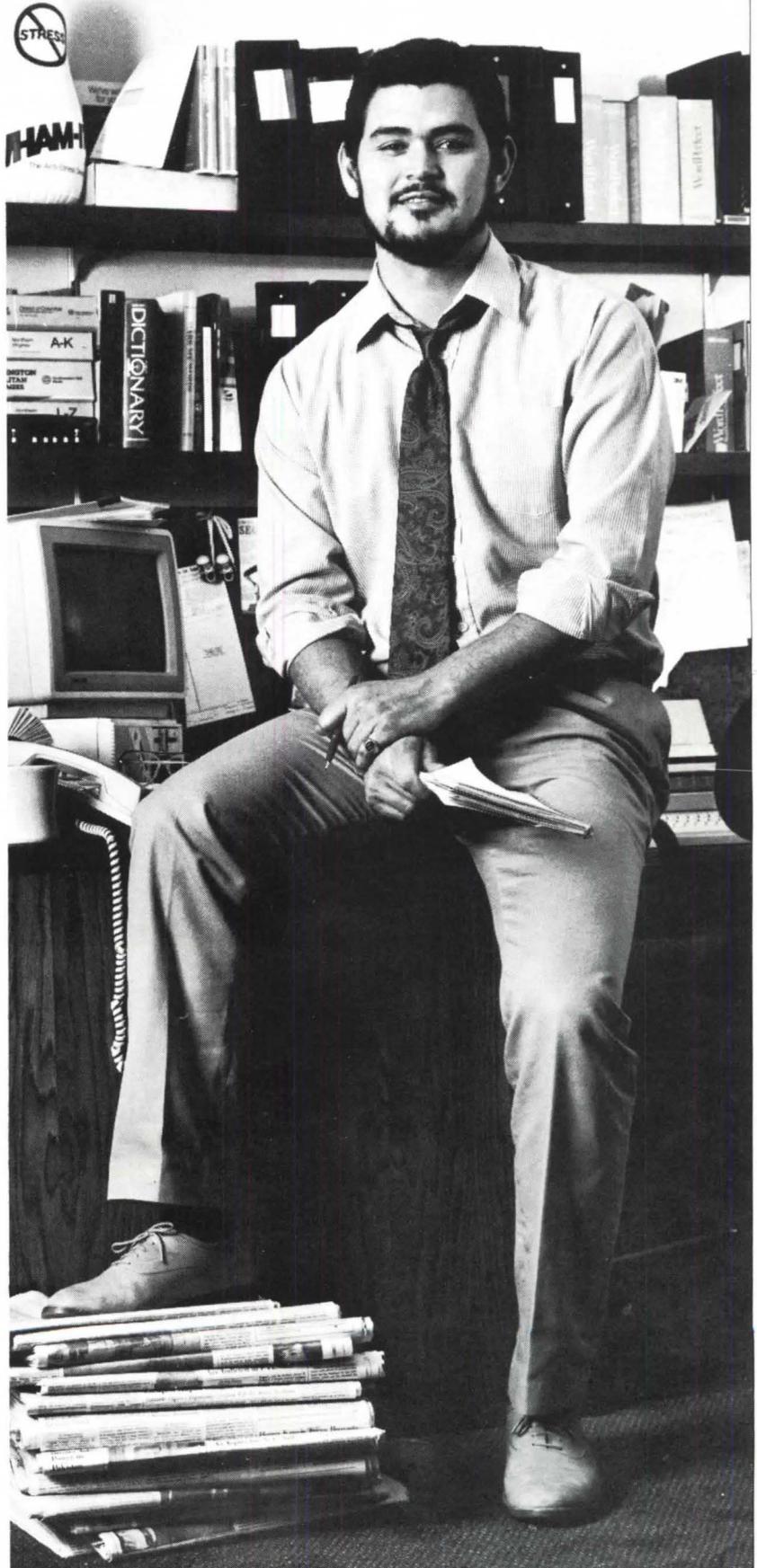


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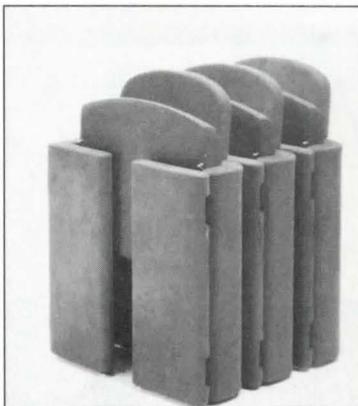
On commission

Based on designs the architectural firm of Rodrigo-Mazure executed for a client in Florida, the Bermont chair is offered on a limited-production basis. It is constructed of an intricate assembly of curved hardwood slats. R-M F, Miami. Circle 311 reader service card

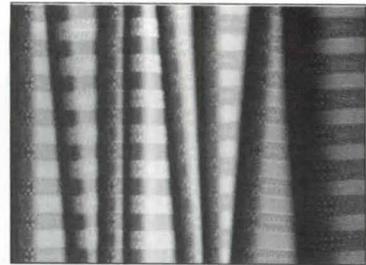


Multiple-use chair

The TreperUno chair has a light steel frame covered with cold-processed foam and removable



upholstery. It can be folded and ganged, as shown. GE Int'l., Long Island City, N. Y. Circle 314 on reader service card



Striped wool upholstery

A new pattern, Biedermeier Stripe comes in 14 colorways, from black and white to more traditional reds and greens. Unika Vaev, Orangeburg, N. Y. Circle 315 on reader service card Continued on page 186



Contract tables

The Heraldic Collection includes the table shown, and a desk, game table, and cocktail-style table. The tables have intricate starburst veneer designs set into an ornate top. Dakota Jackson, Inc., New York City. Circle 312 on reader service card



all-footed lounge

The Viola Club Chair comes in two sizes, 26- and 30-in. wide. Fully upholstered with dacron-covered foam, it is suggested for heavy-use lobby and hospitality areas. Monel Contract Furniture, Inc., Oakland Gardens, N. Y. Circle 313 on reader service card



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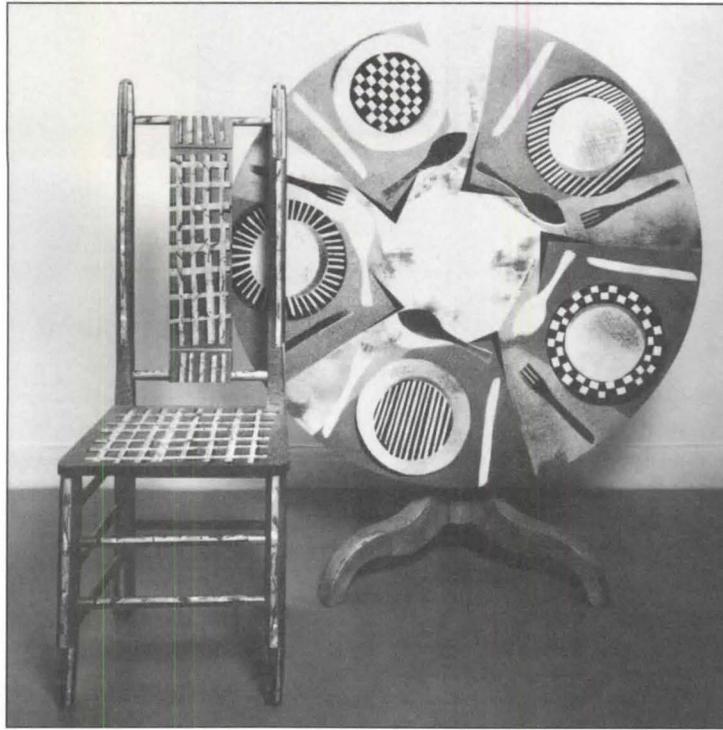
Continued from page 183

Designer-makers cross the pond

The whimsical yet functional pieces at right are produced by members of Britain's Crafts Council, who will represent the U. K. at the first International Contemporary Furniture Fair in New York City, May 21-24, at the Javits Center. A spin-off of the British Design Council, the Crafts Council assists in the marketing of work by designer-makers such as Danny Lane, Nigel Coates, and Helen Yardley. Many of this year's exhibitors have never before shown in this country, but some limited-production furnishings are available in American showrooms.

Information on all of these craft items will be supplied by the British Trade Development Office in New York City.

For those willing and able to cross the Atlantic in the other direction, the Interior Design International annual show will be held in London, May 14-18, at both Earls Court and Olympia halls.



Plates, tableware, and glasses are always ready on Tony Isseyegh's painted tilt-top table. The straight-back chair has a

design of slats and spaces. Tony Isseyegh, Hebden Bridge, West Yorkshire.

Circle 316 on reader service card



Twisted black forged steel forms a tripod supporting a glass top; Tim Sherburne also crafts dramatic candlesticks. Sherburne and Sherburne, London.

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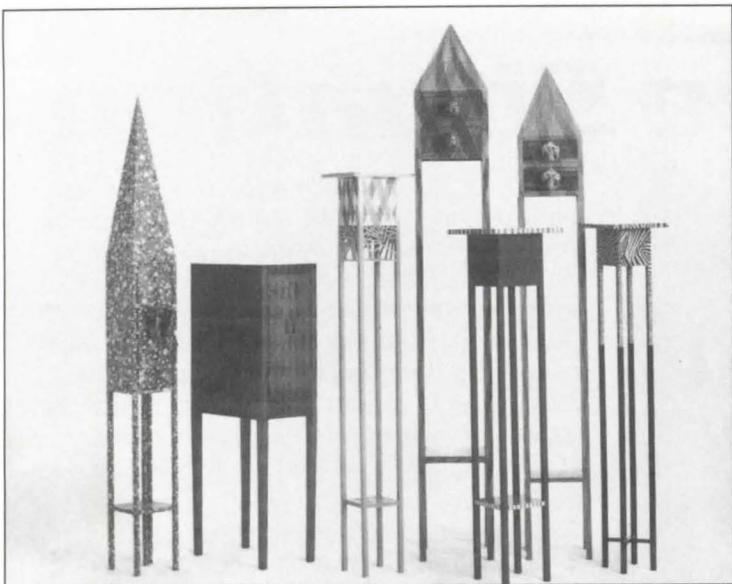
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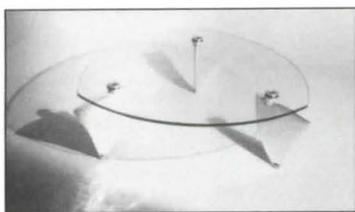


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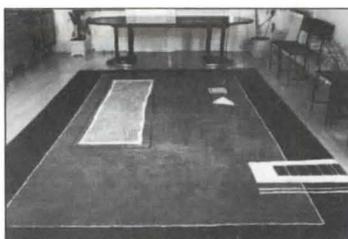


Brian James and David Davies collaborated on jewelbox-like cabinets fitted with tiny drawers and pointy tops. Paint, shellac,

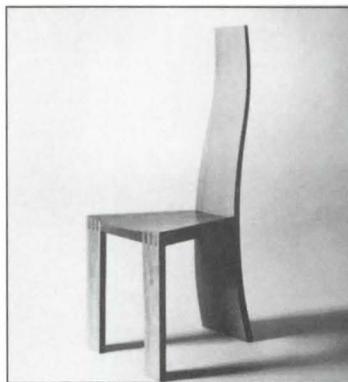
and varnished finishes are gilded and french polished. The Imperial Workshops, Norfolk.
Circle 318 on reader service card



Though designer Matthew Hilton calls his assembly of glass and steel the Flipper Table, one could imagine the legs to be shark's teeth. SCP Ltd, London.
Circle 319 on reader service card

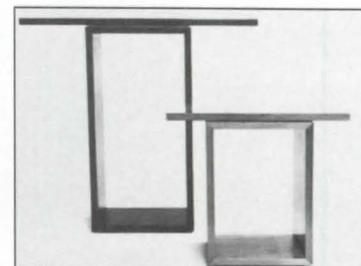


Helen Yardley's limited-edition wool rug comes in Egyptian colors. A-Z Studios, London.
Circle 320 on reader service card



A lectern of curved, stained plywood. Fred Baier, London.
Circle 322 on reader service card

Already almost a classic, Robert Williams' plank-back chair is offered for contract use. Pearl Dot Workshops, London.
Circle 321 on reader service card



The Olso Console by John Coleman strives for geometric perfection. A-Z Studios, London.
Circle 323 on reader service card
More products on page 190



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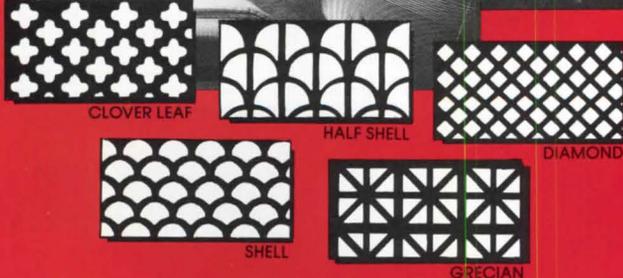
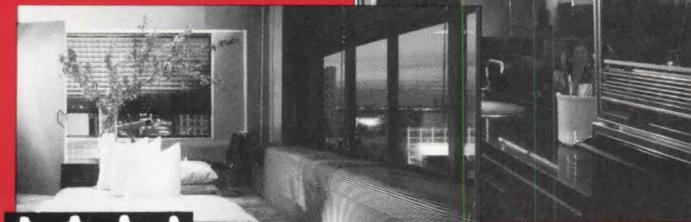
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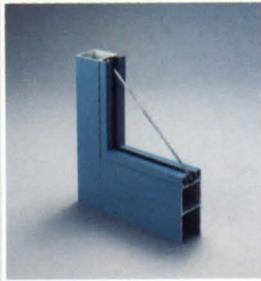
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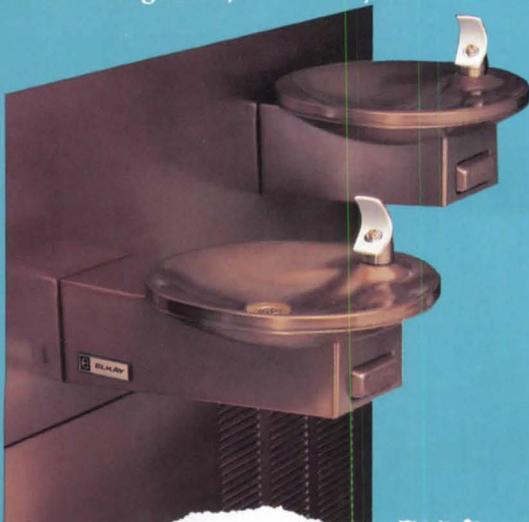
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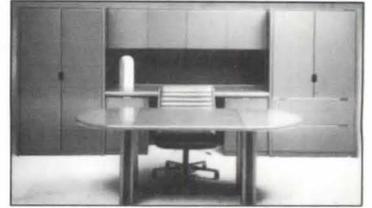


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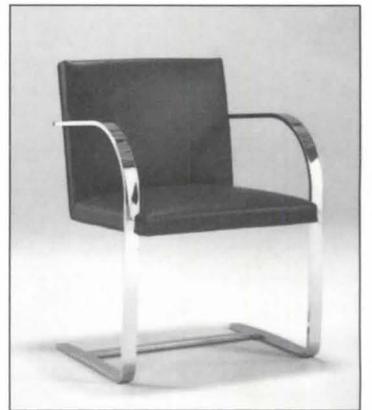
Continued from page 187



Color in components

The Tinta System, interrelated wood casegoods, worksurfaces, and panels, come in many natural woodgrains, and 26 colors of two-step catalyzed urethane paint. Geiger International, Atlanta.

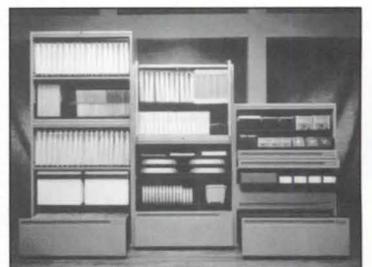
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Modern classic

Brueton's new version of the Brno Chair can be ordered with a bronze finish on the solid stainless-steel flat bar or tube frame, as well as the standard mirror-polished steel. Brueton Industries, Inc., Rifton, N. Y.

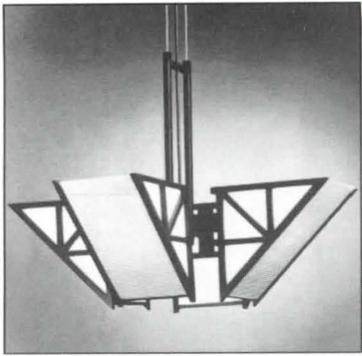
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Media storage

A lateral file series, the Performance Group accommodates printouts, diskettes, reels, cartridges, etc., in 3- to 15-in. openings, receding or pull-out drawers, and binder hangers. Storwal International, Inc. Toronto.

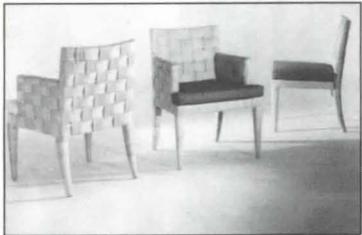
Circle 326 on reader service card



Architectural pendant

By Boston architects Cary Tamarkin and Tim Techler, designers of the Merns Lamp, the Struts fixture has perforated metal framing white glass; light takes standard incandescent bulbs. Also available as a bracket. George Kovacs, New York City.

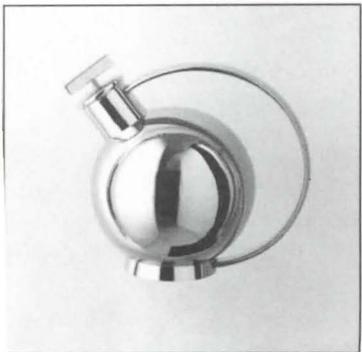
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Block-woven wicker

A more robust version of the Victorian settee, the Block Island group includes an arm chair/side chair (pictured), sofa, club chair, and ottoman. Donghia Furniture, New York City.

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Across the bar

Alessi is offering a stainless-steel version of Marianne Brandt's 1925 silver cocktail haker, originally created in the Bauhaus' metal workshop. The lask shape is very efficient: it really doesn't have to be haken. The Markuse Corp., Woburn, Mass.

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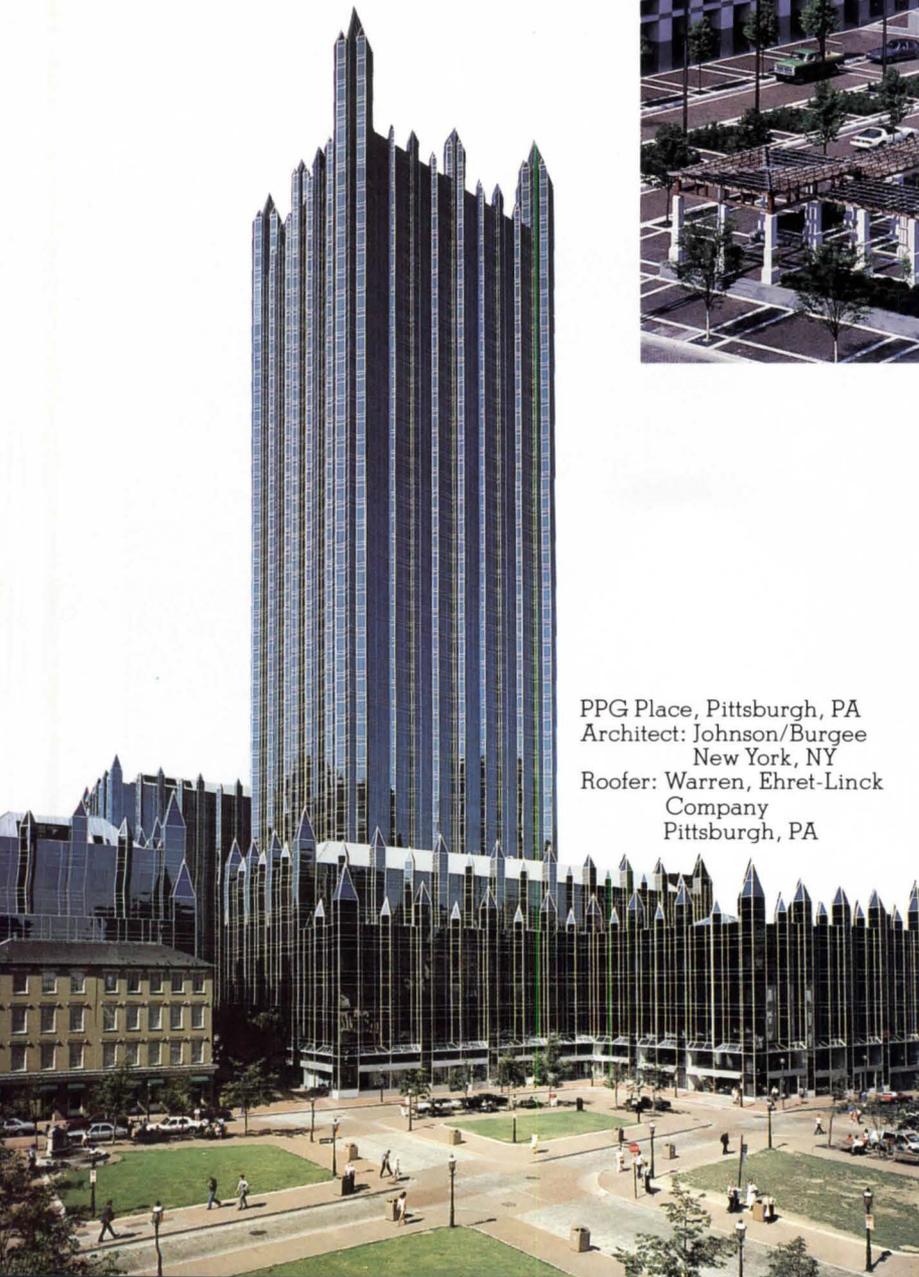
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TCS and the Corporate Ediface

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Architect: Kohn—Pedersen—
Fox Associates
New York, NY
Roofer: Imbus Roofing Company,
Cold Spring, KY



PPG Place, Pittsburgh, PA
Architect: Johnson/Burgee
New York, NY
Roofer: Warren, Ehret-Linck
Company
Pittsburgh, PA

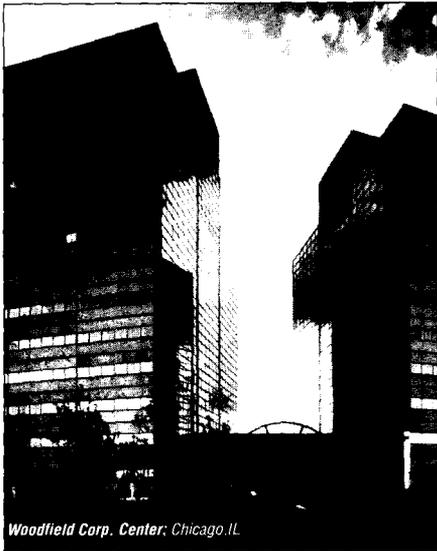
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**Manufacturer
sources**

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Pages 116-121

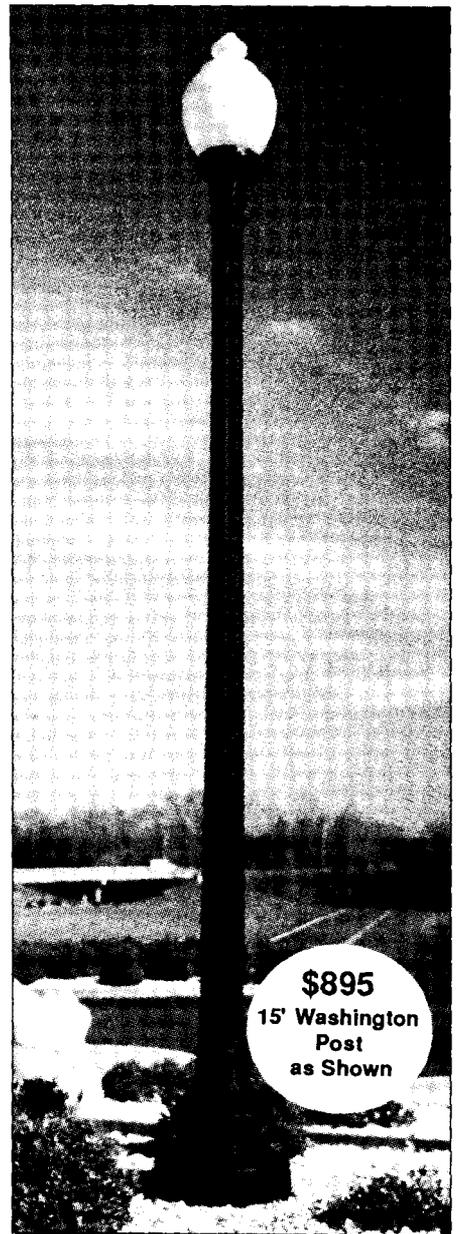
American Museum of the Moving Image
Gwathmey Siegel & Associates, Architects
Pages 116-117—Stucco: U. S. Gypsum. Curtain wall and aluminum-framed windows: Modu-Line Windows. Glazing: PPG Industries (Solex). Entrances: Kawneer. Concrete coatings: Edison Chemical Systems. Roofing: Carlisle Syntec System. Rolling doors: Atlas Door.
Page 118—Auditorium seating: Irwin Seating. Lighting: Red Dot.

Pages 128-131

Delta Air Lines Reservations and Training Center
Lord & Sargent, Inc., and MHT Architects, Inc., architects
Brick: Interstate Brick. Precast coping and trim: Buchner Concrete. Revolving doors: Crane Fullview Door. Metal-framed windows: Kawneer. Glazing: PPG Industries (Solex Solar Green). Perforated aluminum acoustic panels: Kawneer. Window blinds: Hunter Douglas (Sunflex). Thermafiber insulation: USG. Roofing: Tamko Asphalt Products.
Page 131—Stainless-steel and oak railing: Niederhauser Metalworks. Carpet tile: Interface. Wood and glass doors: Weyerhaeuser. Lay-in troffer lighting: Metalux.

139-143

Finlandia Vodka
Anderson/Schwartz, Architects
Pages 139, 141—Desk and conference seating: Knoll International (Saarinen). Leather upholstery: Spinneybeck. Arm chairs: Artec (Aalto). Maple desk and wall cabinets: custom by architects, fabricated by Leinoff Woodworking. Pedestal files: Artec (Aalto). Pulls: Hafele.
Continued on page 196



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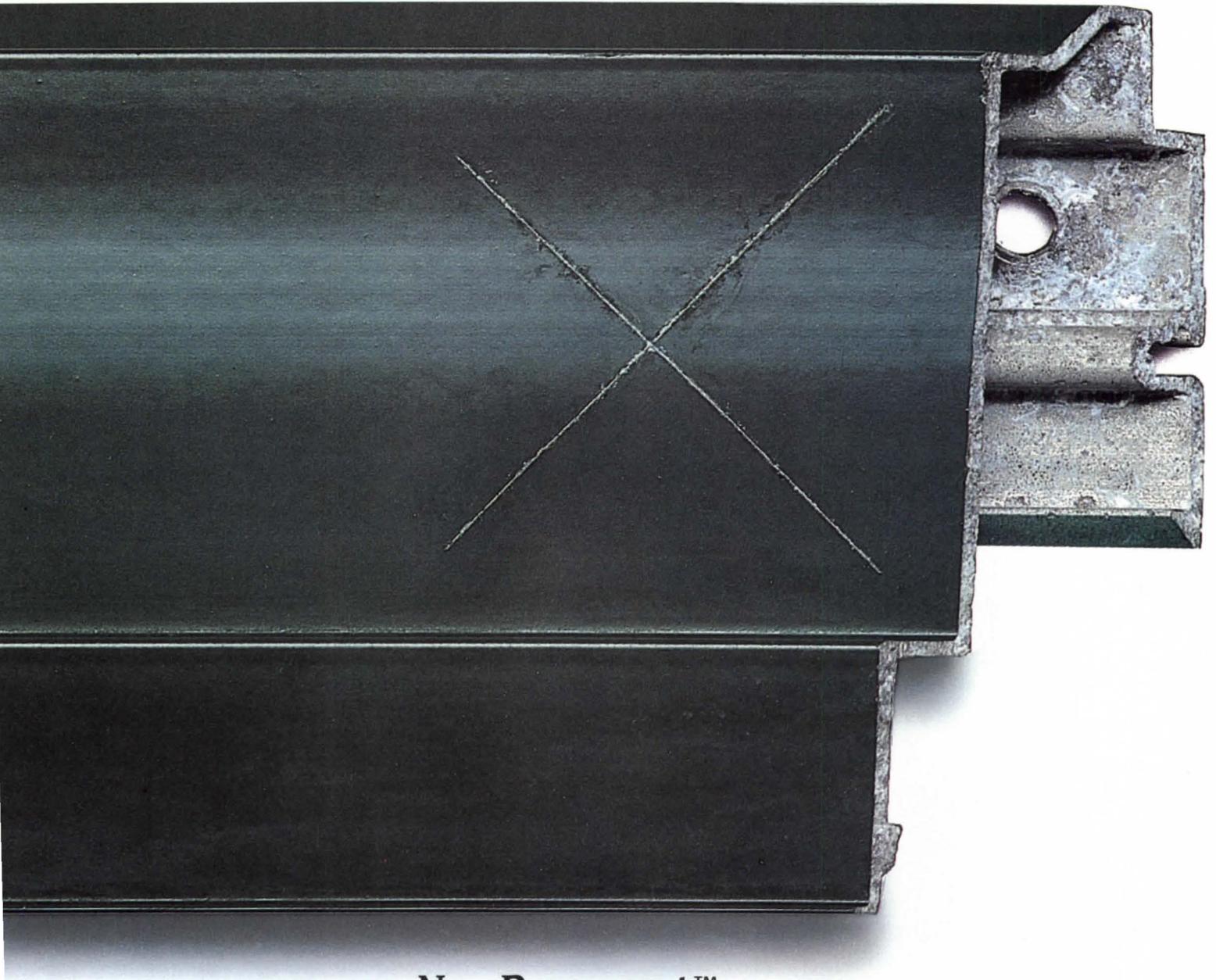


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Architectural Record May 1989 195

Continued from page 193

Hinges: Grass. Drawer glides: Accuride. Ceiling: Armstrong. Lamp: Poulsen. Casements: Gretchen Bellinger. (bottom) Conference table: Cumberland. Carpet: custom by owner.

Page 138—Reception desk: custom by architects, fabricated by Leinoff Woodworking. Office chairs: Knoll (Diffrient). Laminate surfaces: Formica. Paints: Benjamin Moore. Wall light: IPI. Recessed troffers: ICE. Dome fixtures: Lighting Solutions East. (bottom) Sauna lighting: Edison Price. Tile: American Olean.

Pages 138 (top), 142-143 Private Offices, New York City American Design Company, Designers

Pages 138, 142—Translucent screen: custom design; Kalwall. Hinges and locksets: Schlage. Custom cabinetwork: Karl Springer Woodworking. Ceiling: Armstrong. Paints: Benjamin Moore. Vinyl flooring: Vinyl Plastics, Inc. Incandescent lighting: Halo. Pedestal file, desk chair: Herman Miller. Granite-top table: Bieffeplast (D'Urso). Guest chair: DeLorenzo (Jean Prouve).

Page 143—Carpeting: custom design; Karastan. Window blinds: Levelor-Lorentzen. Track lighting: Halo. Workstation: Herman Miller (Burdick Group). Conference table and seating: Herman Miller (Eames Executive Table and Aluminum Group). Occasional chair: ICF (Eliel Saarinen).

Pages 144-145

Woodwork Corp. of America Powell/Kleinschmidt, Inc., Architects
Architectural woodwork, cabinetry, and doors: custom, fabricated by Woodwork Corp. Cabinet pulls: Chautauque Hardware. Coating on column and reception desk: Du Pont. (Imron). Paints: Benjamin Moore. Ceiling: Armstrong (Cirrus). Upholstered lounge seating: Sunar-Hauserman. Floor tile: Fiandre. Carpeting: Karastan. Recessed downlights: Halo.

Pages 146-147

National Shopping Centers Management Corp., Inc.
Bausman Gill Associates, Architects
Steel-framed doors and window walls: A & S Windows. Flooring: Pennsylvania Black Slate. Railings: custom by architects.

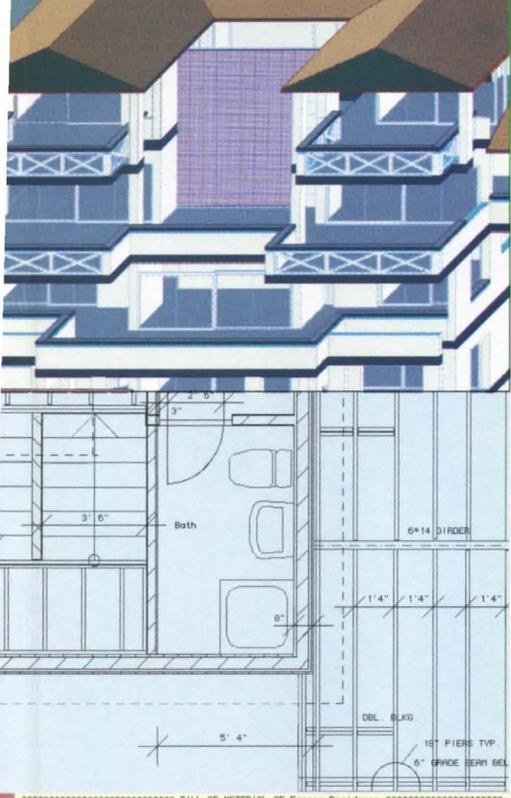
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| - frame wall | 79.37cu ft | | | | | 5" |
| - siding | 25.87sq ft | | | | | 1" |
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| - plywood | 33.98cu ft | | | | | 1/2" |
| - frame wall | 26.43cu ft | | | | | 3 1/2" |
| - gypsum board | 3.78cu ft | | | | | 1/2" |
| WALL | 40.35+40.35sq ft | 5 | 2 | 8" | frame+drywall | 4 1/2" |
| - plywood | 15.13cu ft | | | | | 1/2" |
| - frame wall | 11.77cu ft | | | | | 3 1/2" |
| - gypsum board | 1.68cu ft | | | | | 1/2" |
| door_2'-6" | 6 | 1 | 2 | 2'-6" * 6'-8" | | 4 1/2" |
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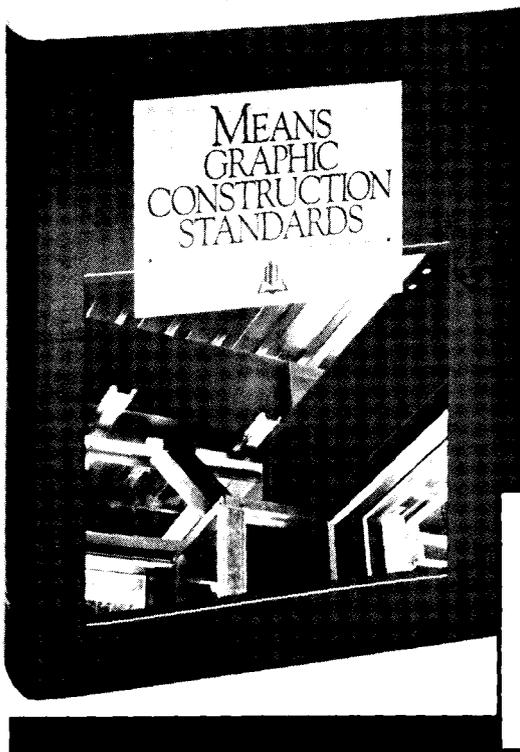
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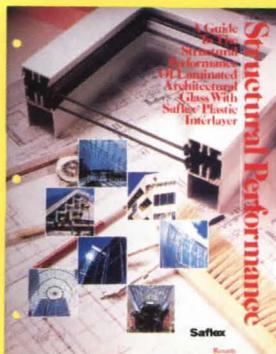
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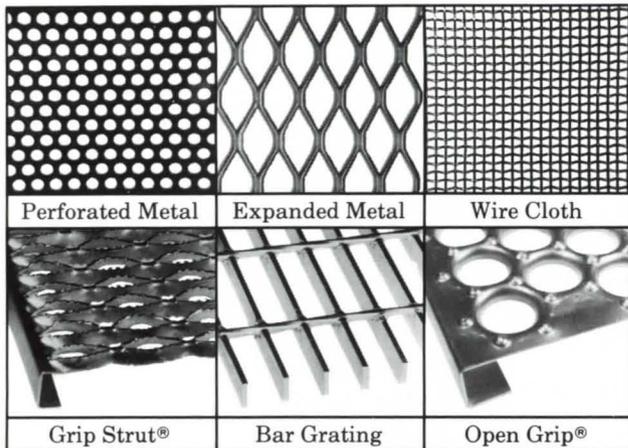
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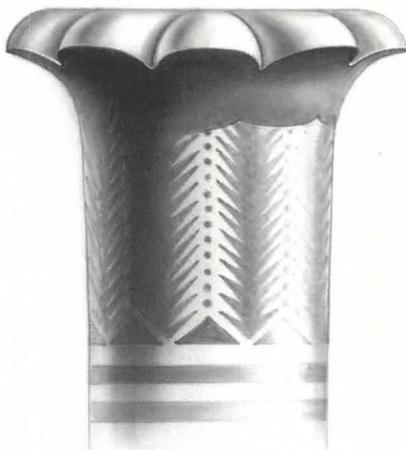
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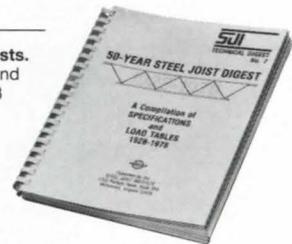
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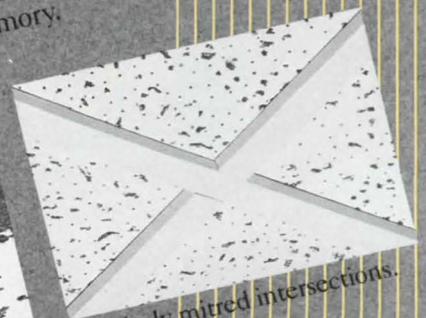
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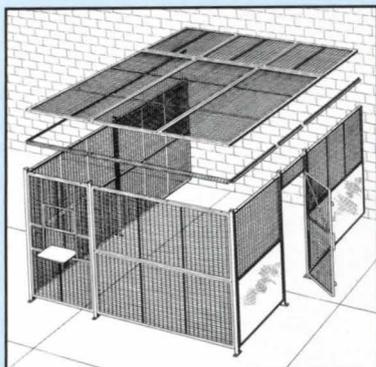


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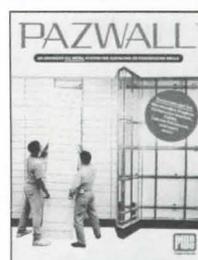


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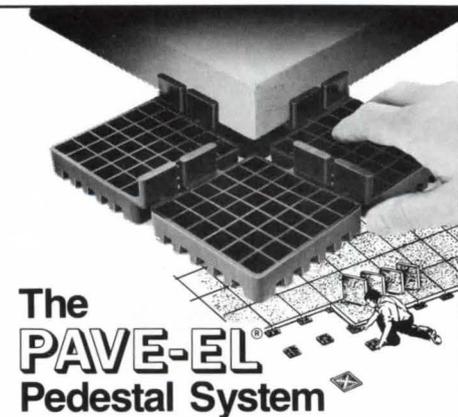
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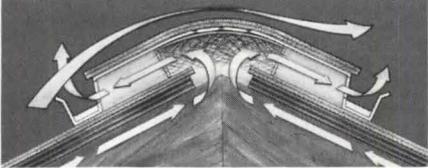
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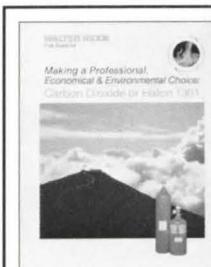


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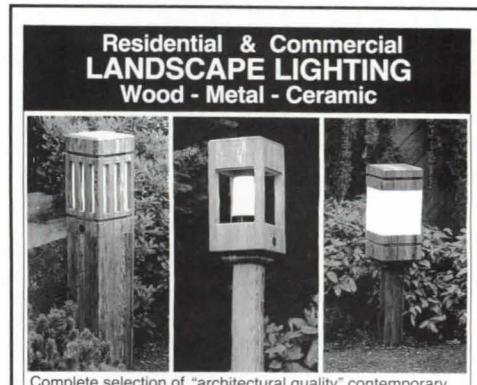
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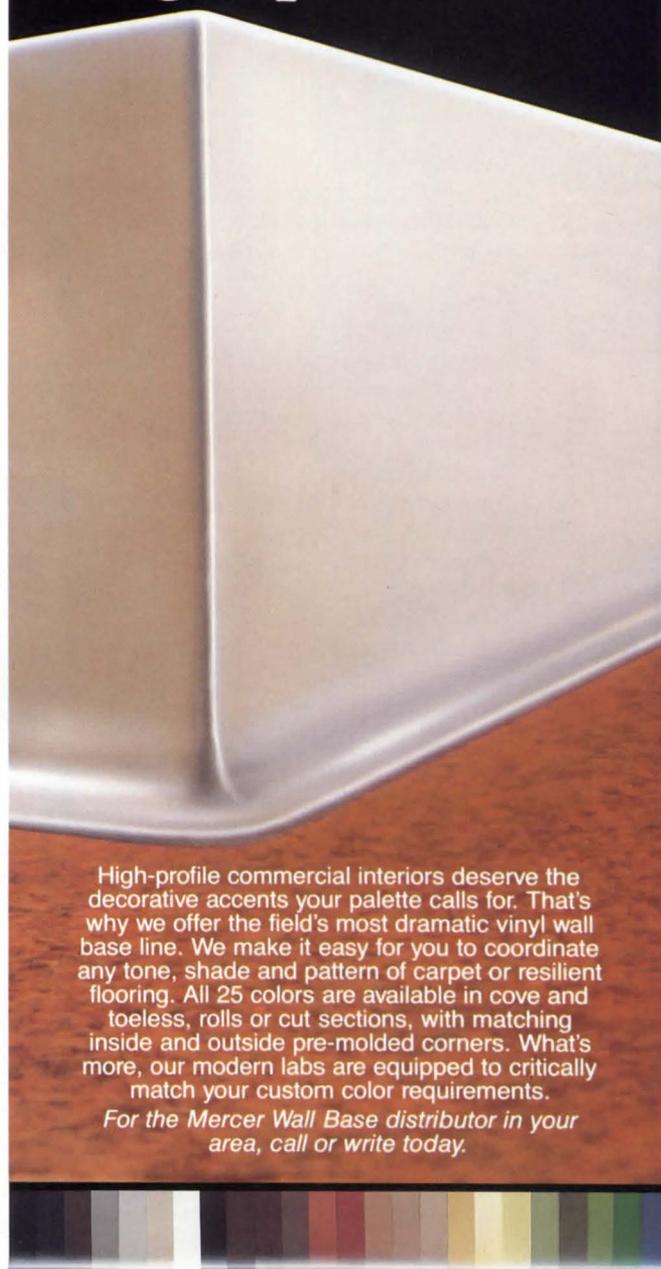
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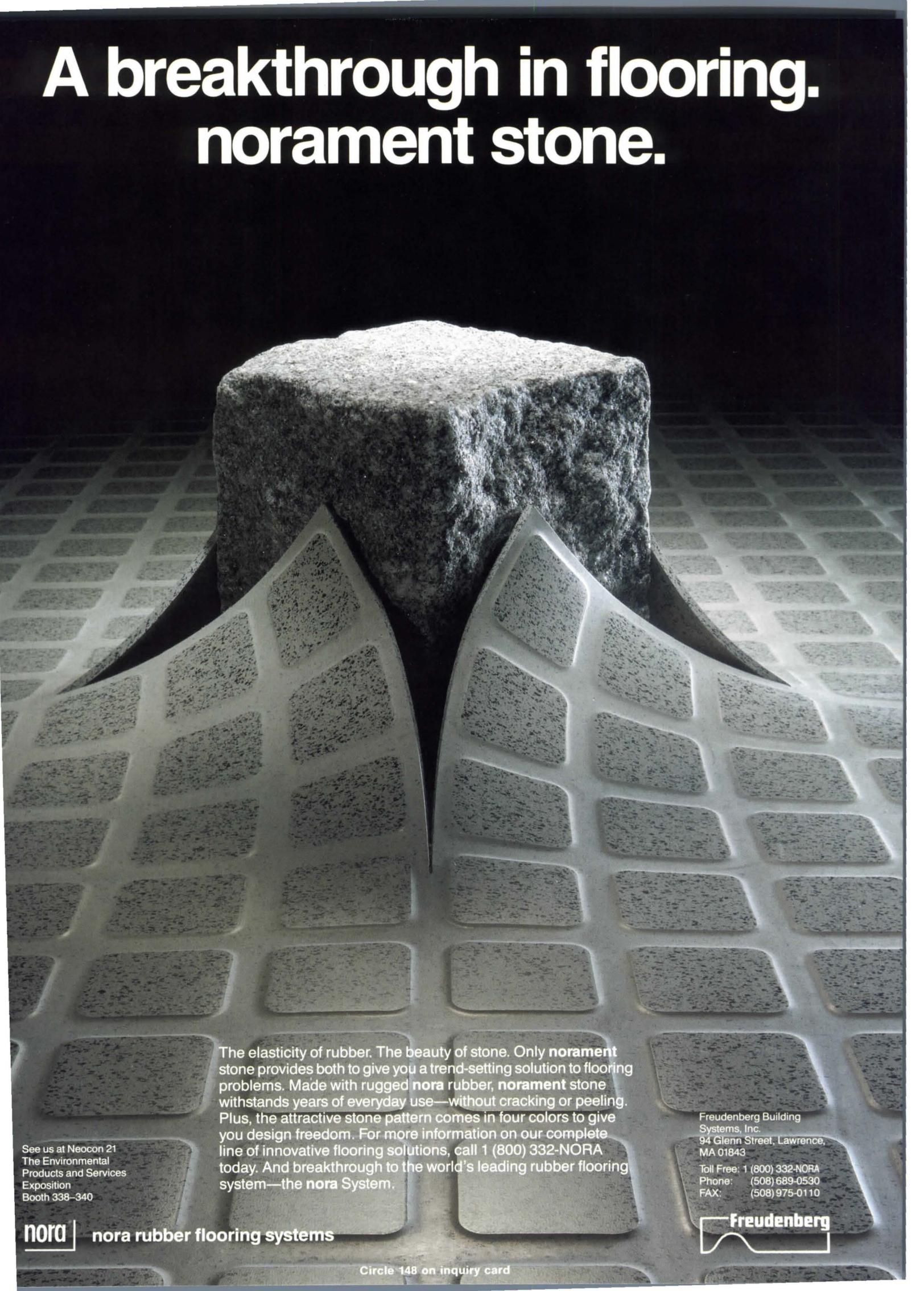
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