

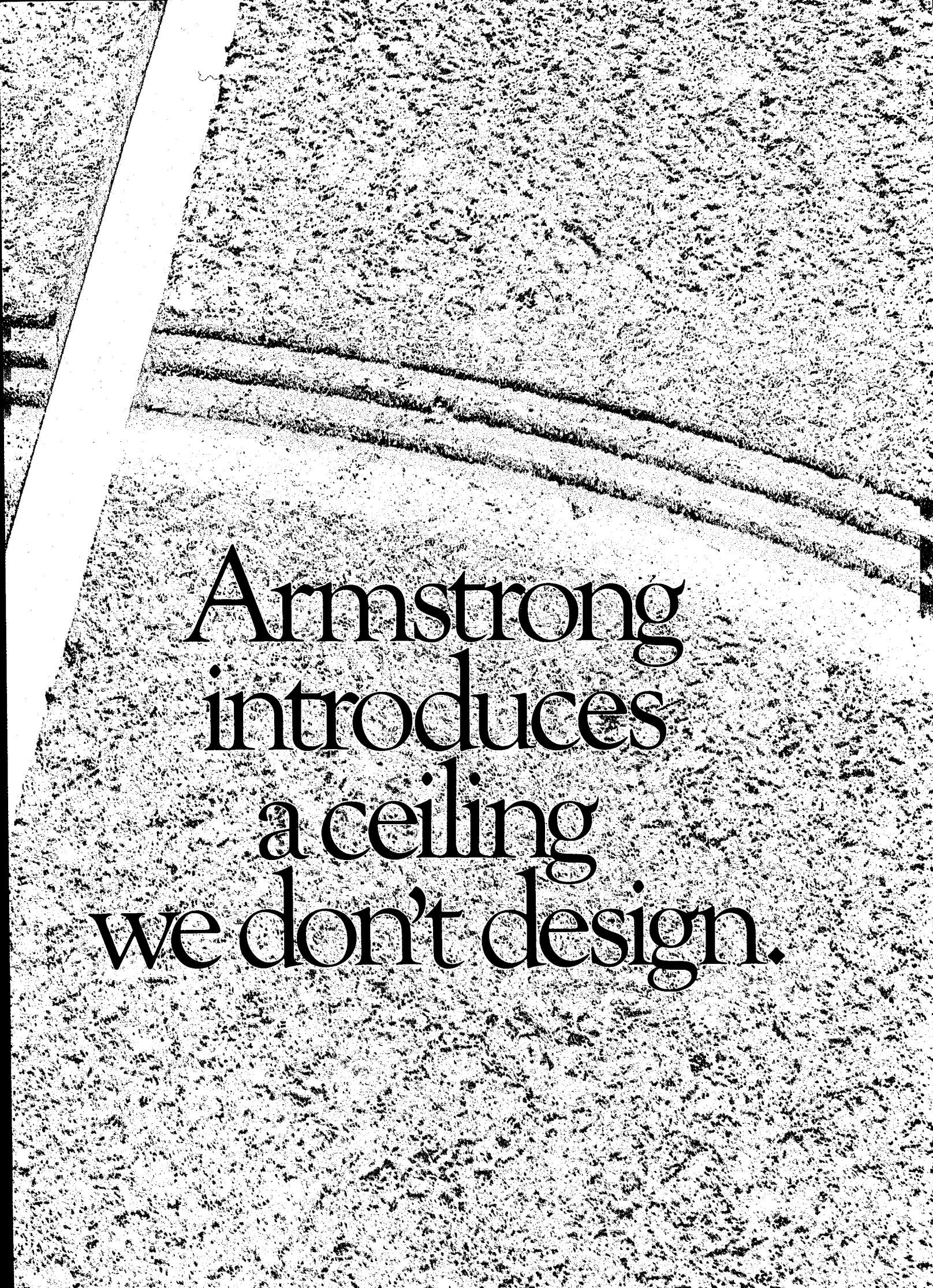
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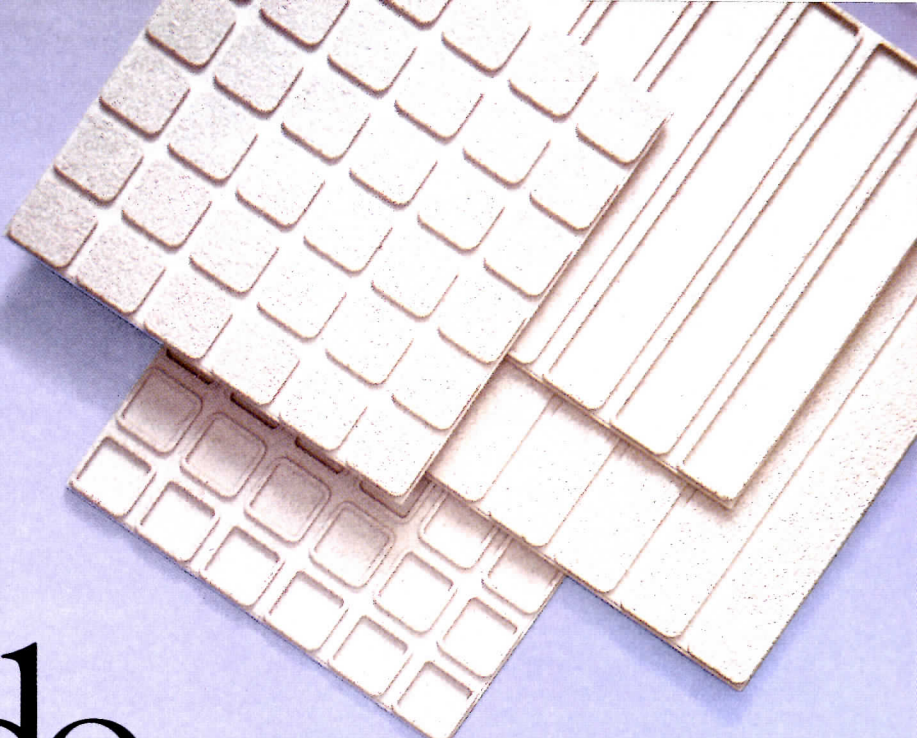






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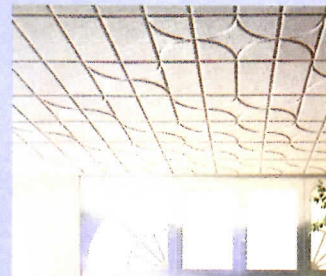




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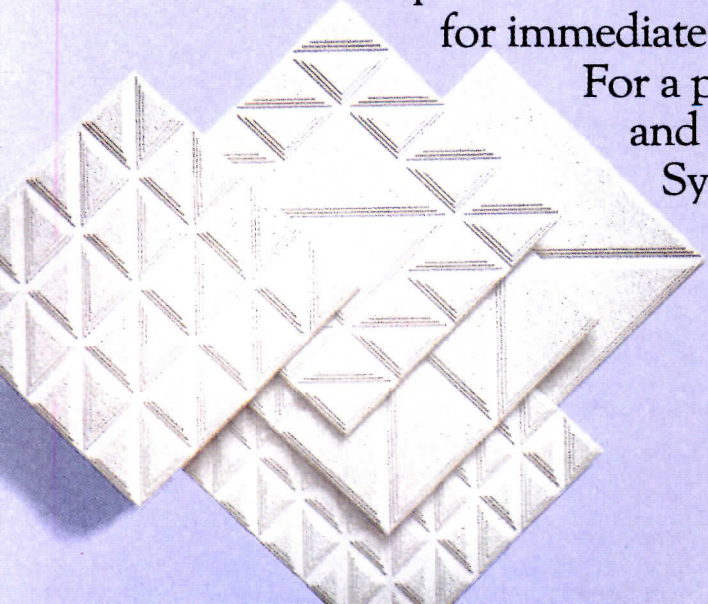
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On returning from a trip, I belatedly read RECORD's November 1985 issue and was delighted with the editorial on licensure for landscape architects. I was frankly dumbfounded by the AIA's position. The professions have all grown sufficiently complex that their increasing interdependence would seem to have precluded an action that seemed rather parochial in these ecumenical times. Licensure for landscape architects has been a matter of fact for over 25 years now and, as you point out, certainly does not preclude architects from practicing in areas where they have skills. It simply protects the right of the public to know it is dealing with competent professionals in the landscape architectural field. Again, in the rather complex area of large-scale community planning, we frequently will end up with a team representing up to 20 different professional disciplines, some of which we may have in-house but the vast majority of which are retained from the best professionals available. Clearly, in those instances where licensure is indicated, we would of course hire a licensed professional.

Edward D. Stone, Jr., FASLA
Fort Lauderdale, Florida

I want to congratulate you on your editorial "Housing the homeless—a challenge to architects"

[ARCHITECTURAL RECORD, January 1986, page 15]. I recently was retained by the Boston Society of Architects to help enhance its public service impact, and one of my very first media submissions concerned the involvement of BSA members in housing the homeless. It is also my understanding that the BSA cosponsored the national resolution on the subject.

It is only by banding together and by increasing both the professional and nonprofessional awareness of this pressing issue that we can as a society solve the problem of housing the homeless.

Lois E. Boemer
Boemer Associates
Marketing and Communications
Boston

Helene Lipstadt's review of *Modernism in America*, published in the November 1985 RECORD [page 89] contains an error. Eero Saarinen, rather than his father Eliel, placed fifth at Wheaton. In a sense, Eero's presence as a premiated entrant represents a coming of age of his commitment to modernism, and Eliel's background presence an indication perhaps of the gap emerging between them. The elder Saarinen had begun to be known as "Pappy," at once a term of endearment and a benign honorific reflecting the feeling of a

new generation that he was somewhat old hat.

Interestingly, Eero submitted his Wheaton entry while he was employed in New York at the office of Norman Bel Geddes; it was his coworker there, Caleb Hornbostel, who won first place (with Richard Bennett).

Peter C. Papademetriou, AIA
Professor
School of Architecture
Rice University
Houston

As an architect who began practicing in the Wright/Mies/Corbusier era with its freedom from eclectic imitation and its emphasis on the honest use of materials and structure, I have been baffled and dismayed at the apparent acceptance of the so-called Postmodern style. What I assumed to be a passing fancy, about as significant as tailfins on cars, has seemingly become not only accepted but fashionable. How can so many be so misguided?

I believe I got a glimmer from the initial editorial of the new editor of ARCHITECTURAL RECORD, Mildred F. Schmertz, in the October 1985 issue.

The second paragraph starts off with the recognition that, for most of us (readers and architects), the primary interest is in the design of buildings. The next sentence is the tip-off: "While making our own *esthetic judgments as editors and writers*, we also offer editorial space to architects, planners, critics, or historians who have *devised compelling theoretical formulations* to justify a particular design approach." [Italics added in both cases.] We know from experience, bitter experience, that the *esthetic judgments of editors and writers* lean toward (or rather topple over into) the aggrandizement of the Postmodern style. Presumably this occurs because Postmodern building yields reams of copy, as one might expect from a collection of Classical sight gags and gimmicks. It should not surprise you editors that most architects are not concerned with design conjecture but do care intensely about physical beauty.

Jo Paul Tognstad, AIA
Honolulu

Corrections

Willis N. Mills, Jr., of SMS Architects is working in joint venture with Skidmore, Owings & Merrill on Metro Center in Stamford, Connecticut [RECORD, January 1986, page 61].

RECORD should have credited Jack Chandler & Associates as landscape architects for the Lief house (November 1985, pages 142-143).

Through April 15

Mies van der Rohe Centennial Exhibition, including photographs, drawings, and models, as well as full-scale artifacts and furniture; at the Museum of Modern Art, New York City.

March 4 through May 25

Built for the People of the United States: 50 Years of TVA Architecture, showing drawings and photographs, organized by the Art and Architecture Gallery of the University of Tennessee; at the National Building Museum, Pension Building, Washington, D. C.

March 19-21

Westweek, furniture exhibits and seminars on contract interior design; in Los Angeles.

April 8

One-day seminar on roofing inspection, maintenance, and repair; sponsored by the University of Toledo; at the University of Toledo, Ohio. For information: The University of Toledo, Division of Continuing Education, 2801 W. Bancroft St., Toledo, Ohio 43606 (Attn: I. Kaufman) (419/537-2031).

April 13-15

Conference on "Frank Lloyd Wright and Contemporary Architecture," with papers, panels and a bus tour of Wright houses; in Ann Arbor, Mich. For information: The University of Michigan Conference Department, 200 Hill St., Ann Arbor, Mich. 48104 (313/764-1300).

April 24-25

Symposium on "New Regionalism: Tradition, Adaptation, Invention," sponsored by the Center for the Study of American Architecture, School of Architecture, The University of Texas at Austin; at Jessen Auditorium, The University of Texas at Austin. For information: Patricia Henderson, Coordinator, Center for the Study of American Architecture, The University of Texas, Austin, Tex. 78712 (512/471-1922).

May 3-6

The Pan Pacific Lighting Expo Conference, cosponsored by the American Institute of Architects, California Council, the American Society of Interior Designers, Northern California and Peninsula Chapters, the Institute of Business Designers, Northern California Chapter, and the Illuminating Engineering Society, Golden Gate Section; at San Francisco. For information: Andrea Hoppe, Conference Director, Pan Pacific Lighting Exposition, 2 Henry Adams St., San Francisco, Calif. 94103 (415/621-4761).

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A new code of ethics: Will there be a mandate for mandatory?

At the AIA Convention in San Antonio this coming June, delegates will once again struggle with the ethics question. A resolution will be presented urging that a newly proposed mandatory Code of Ethics and Professional Conduct be adopted. To architects who have never delved into this particular issue (young, newly minted ones I would suspect), advocating a code of ethics for the architectural profession must seem to be the right thing to do, not unlike respecting Motherhood and the Flag. But as most of you know, the question of ethics has been a vexatious one, so much so, that the acceptance of the new code at San Antonio is by no means certain.

The AIA first adopted a code of ethics back in 1909, and between then and the 1970s, it was revised many times, reflecting the changing nature of architectural practice. Some major changes: architects were no longer precluded from participating in design-build contracts, were allowed to advertise, and could engage in design competitions that did not conform to AIA standards. The turning point occurred in the early 1970s when the AIA's mandatory ethical standards, along with those of many professions, came under antitrust scrutiny. The Justice Department declared that the prohibition against competitive bidding for architectural services was a restraint of trade in violation of the Sherman Antitrust Act. This led to the consent decree which forbade the Institute to prohibit or exhort against engaging in competitive bidding.

In 1979, out of concern that other key issues of the mandatory code would prove unenforceable under the antitrust laws, the AIA Board of Directors voted to terminate it. In 1980, the old code was replaced with a so-called Code of Ethical Principles, that is voluntary, non-binding, and unenforced. Four years later, the 1984 Convention passed a resolution directing that a new mandatory code of ethics be developed to replace it. A seven-man Ethics Task Force headed by architect Harry Harmon was formed to draft the code. What caused the change of heart? According to task force member Peter Forbes, who with the Boston Society of Architects was a prime mover in getting the AIA to reconsider a mandatory code: "There must be a clear exposition of what the AIA stands for. There must be a statement that the AIA is not just a good old boys' club, not just a synonym for 'registered architect,' not just a printing office for contract forms, not just a lobbying force. Instead it is an organization that holds certain truths to be self-evident and is willing to enforce them."

Forbes points out further that membership in the AIA requires more than meeting the minimum standards set by registration law. The AIA should impose and announce an adherence to higher principles, including obligations to the public, clients, colleagues and the profession. Forbes is not speaking of specific contractual conditions. He is calling for standards that would establish the atmosphere of professional behavior within which the member works.

Those who favor the mandatory code do so also because it recognizes the importance of how the public perceives the responsibility of the profession for the acts and conduct of its members, with implications for the profession's continued efforts to explain the value of using an architect. More importantly, if architects are to be successful in their efforts to gain legislative relief from the burden of professional liability claims, they must demonstrate that the profession takes an active interest in policing itself. A mandatory code of ethics is a clear indicator of this resolve. Conversely, if the proposed code is rejected by the membership, such action would have a disastrously negative effect on the public's perception of the profession.

The new code as written appears to be a generally enforceable document. Policies which might attract antitrust measures were avoided, and to make sure, the task force's work is now before the Justice Department for review. So far, Justice has not identified any problems, but there are difficulties which remain to be worked out. It remains unclear, for example, exactly how disciplinary matters will be handled at the local and national levels. Some local chapters argue that such procedures need to be agreed upon in principle before the new code comes up for debate at the convention. The task force believes that, on the contrary, the necessary enforcement procedures should be considered, agreed upon and put in place after the code is adopted at the 1986 convention, but before it goes into effect in January 1987. However this matter is settled, the Ethics Task Force emphasizes that the code is first and most importantly a guide to the betterment of the profession, rather than a disciplinary document. It is also a very careful, yet inspired effort that deserves the profession's thanks and support.

Mildred F. Schmertz

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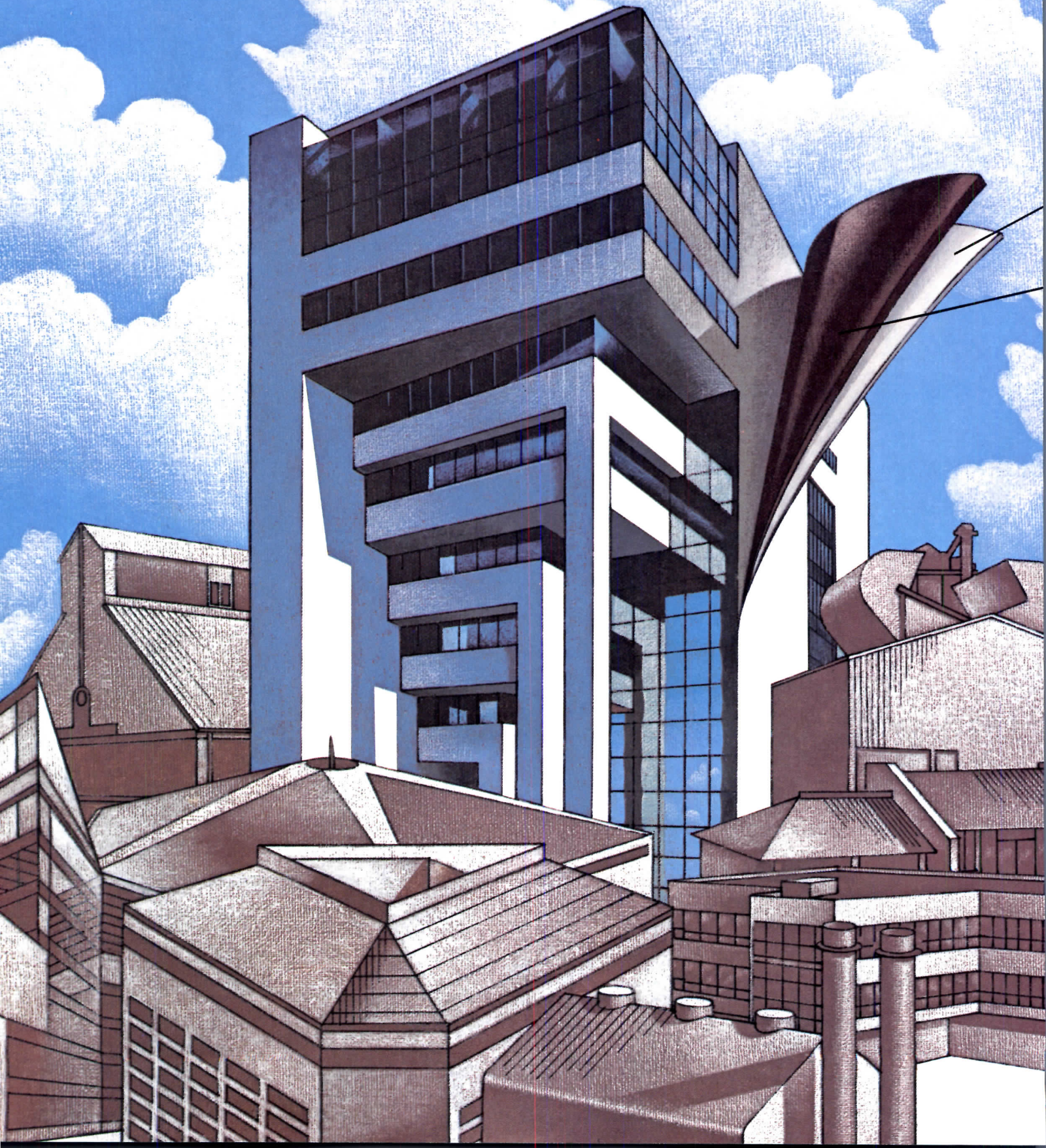




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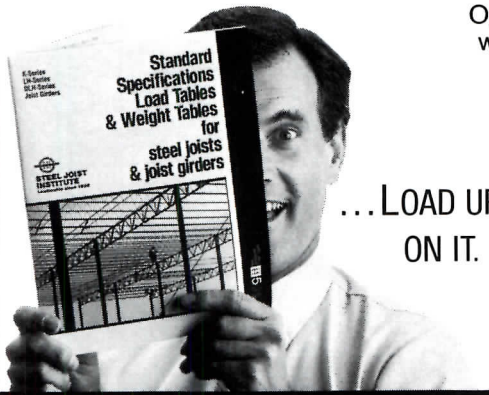


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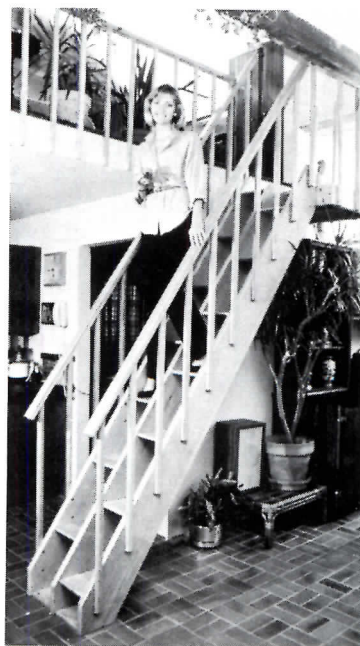
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Design Competition for Pershing Square

The Park in the Center of Los Angeles

Pershing Square is the oldest park in Los Angeles. Located in the heart of downtown, it has long been a barometer of change in the city. This design competition challenges artists and designers to propose a new central square for L.A.; to create a center in a city notorious for not having a center; to reflect the international flavor of the city; and to celebrate the heritage of Los Angeles and the promise of its future. The new park should take advantage of the wealth of plant material able to grow in Southern California and create a setting, botanical in quality and unlike any other open space in downtown Los Angeles.

ELIGIBILITY

This is an open international design competition. It will be conducted in two stages. The first stage is anonymous and is open to urban designers, architects, landscape architects, artists and any other related disciplines or interested parties. Five finalists will be selected to compete in the second stage. Eligibility for the second stage will include (1) a demonstrated ability to legally provide professional design services in the State of California, (2) a demonstrated familiarity with Southern California climatic conditions, plant material and lifestyles, (3) a commitment to have at least one member of the design team located in California should the team be awarded the contract.

REGISTRATION

Program packages will be available March 15, 1986. Entrants may register and obtain the program by sending complete name(s), address and telephone number along with a registration fee of US \$55 to the Competition Advisor. Program includes video cassette. Checks should be made to "Pershing Square Management Association". Registration closing coincides with the first stage deadline, May 31, 1986. The second stage finalists will be announced June 12, 1986 and will submit their refined proposals July 31, 1986. The winner will be announced August 15, 1986.

SUBMISSION

The first stage of this design competition seeks conceptual ideas for the new park in the center of

downtown Los Angeles. Submission will be a maximum of two 30" x 40" boards. First stage drawings will include a plan, cross section and other views of the site. Drawings may be in any medium and may include color and narrative text. In the second stage, plan refinements, technical and budget information and a model may be required.

AWARDS

It is the intent of the sponsor to negotiate a contract for the design of the square with the authors of the

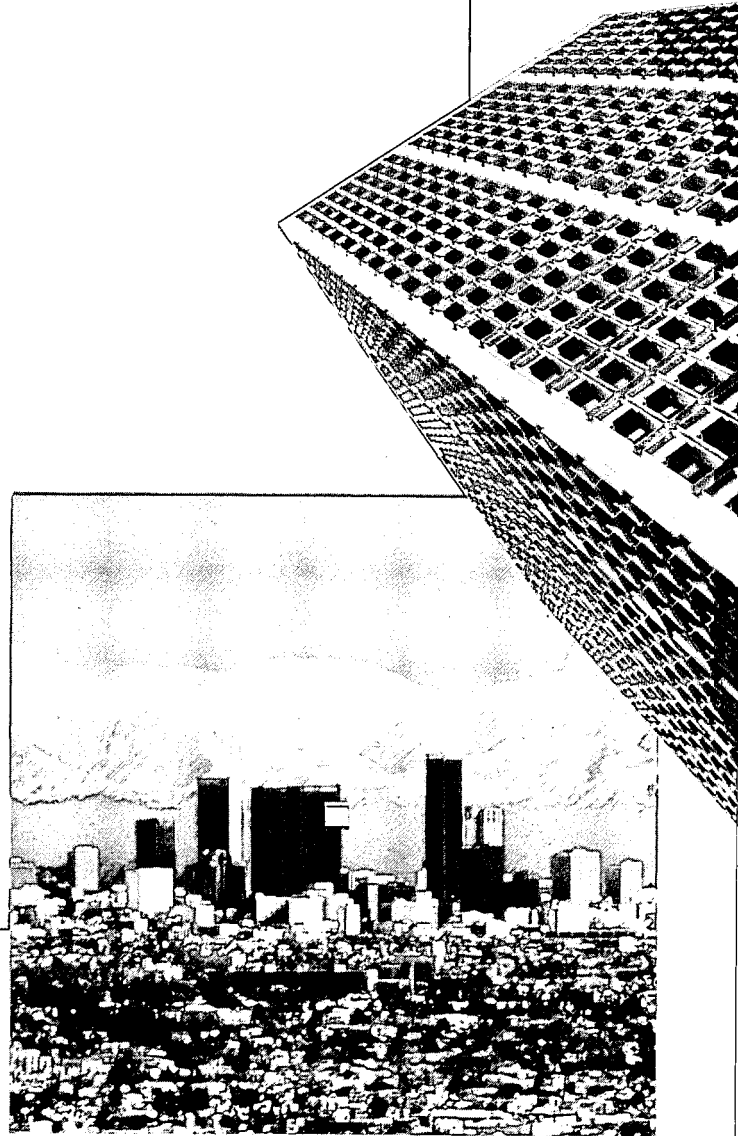
winning entry. Irrespective of contract negotiation, the winner shall be paid a cash prize of US \$10,000. Each of the five second stage finalists shall receive a Certificate of Outstanding Merit and a US \$7,500 honorarium to defray competition expenses.

SPONSORS

This design competition is sponsored by the non-profit Pershing Square Management Association and the Design Arts Program, National Endowment for the Arts, in conjunction with the City of Los Angeles, through the Office of the Mayor, Department of Recreation and Parks, Community Redevelopment Agency and the Cultural Affairs Commission.

For further information and registration write: William H. Liskamm, FAIA, Competition Advisor, Pershing Square Management Association, 523 West Sixth Street, Suite 200, Los Angeles, CA 90014. Or call: Competition Secretary, 213-624-5115.

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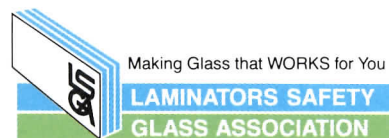


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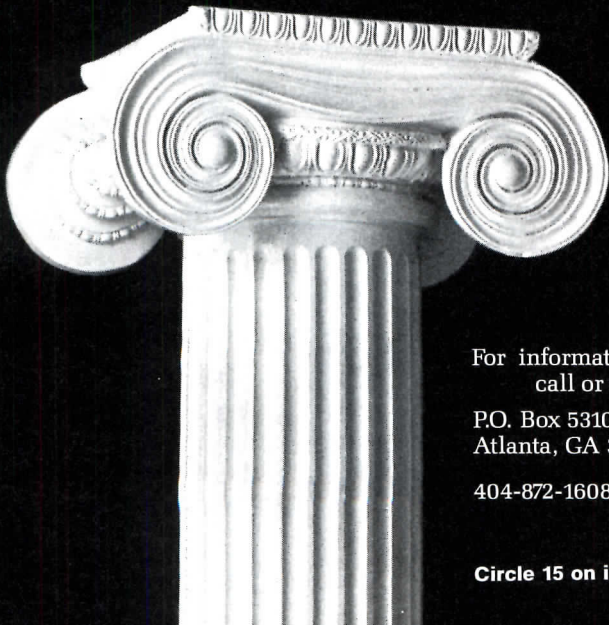
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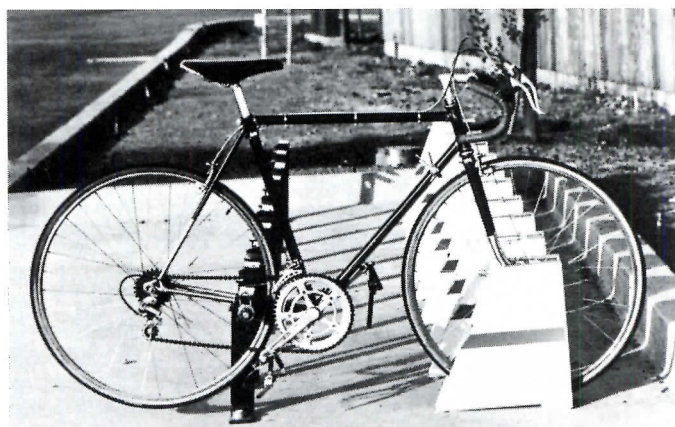
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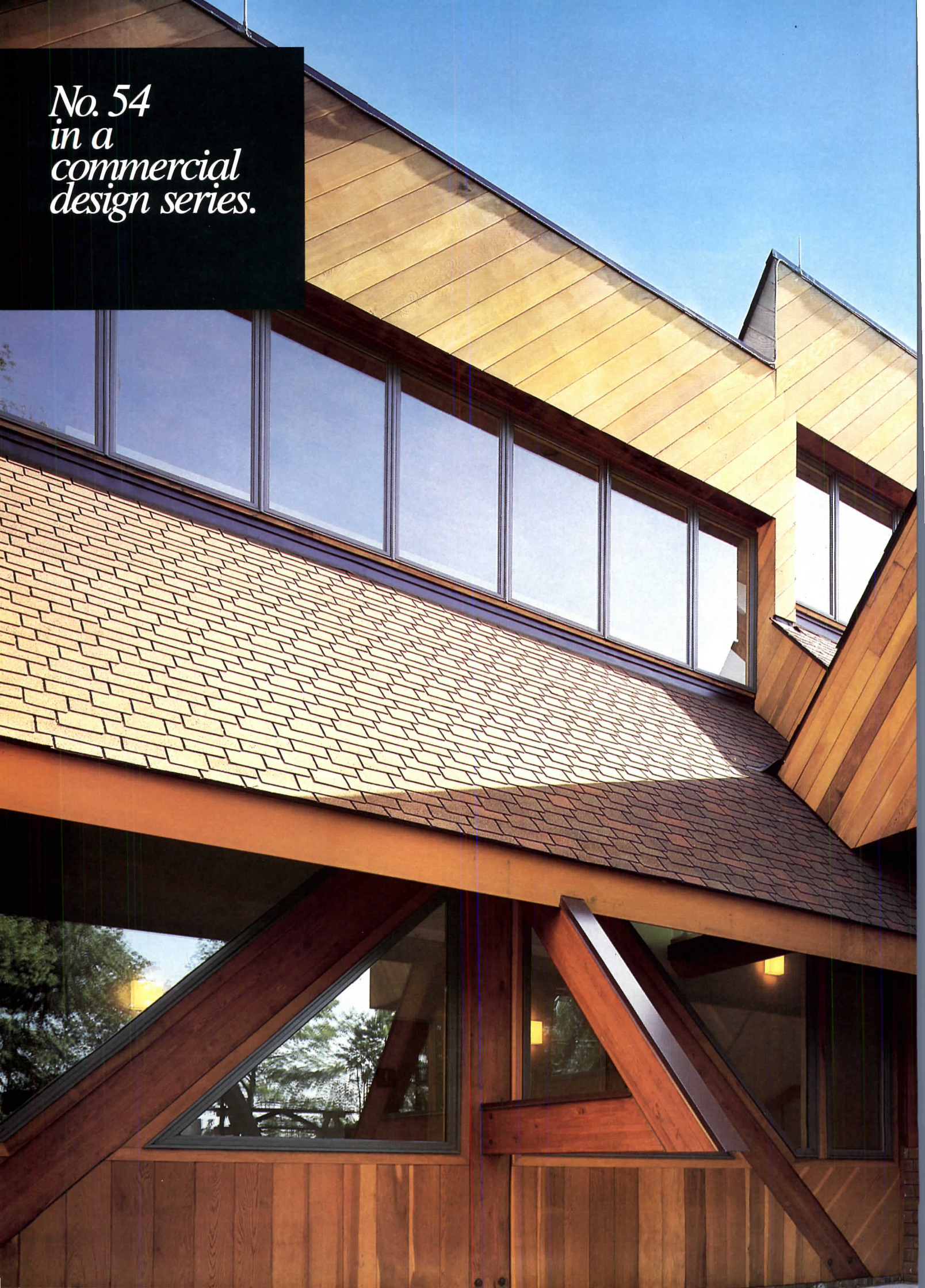
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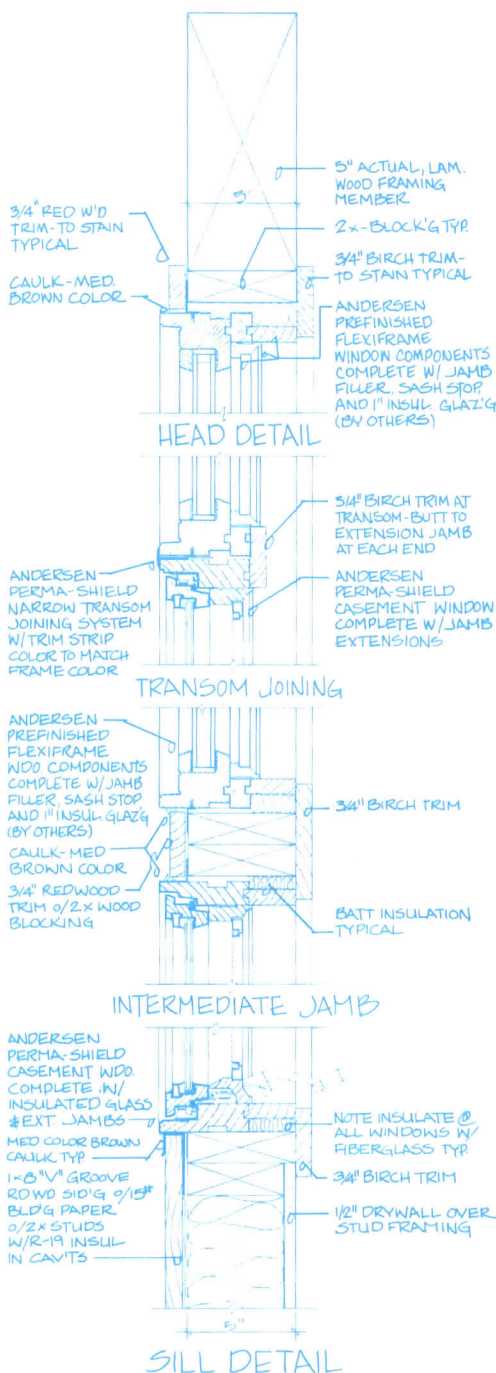
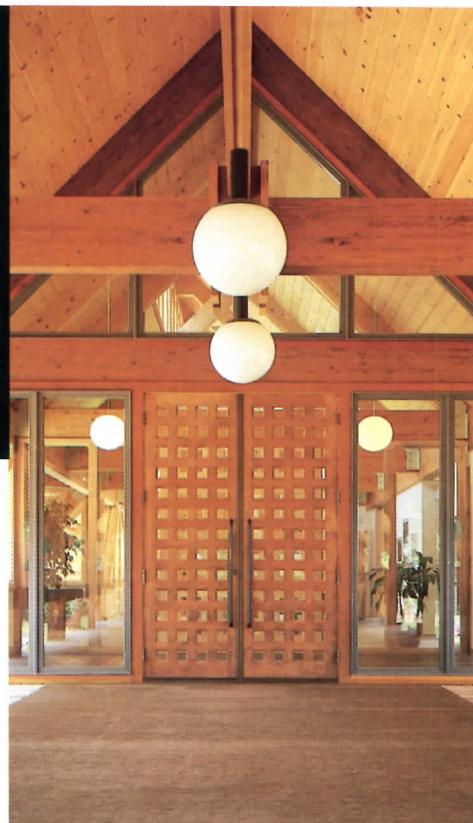


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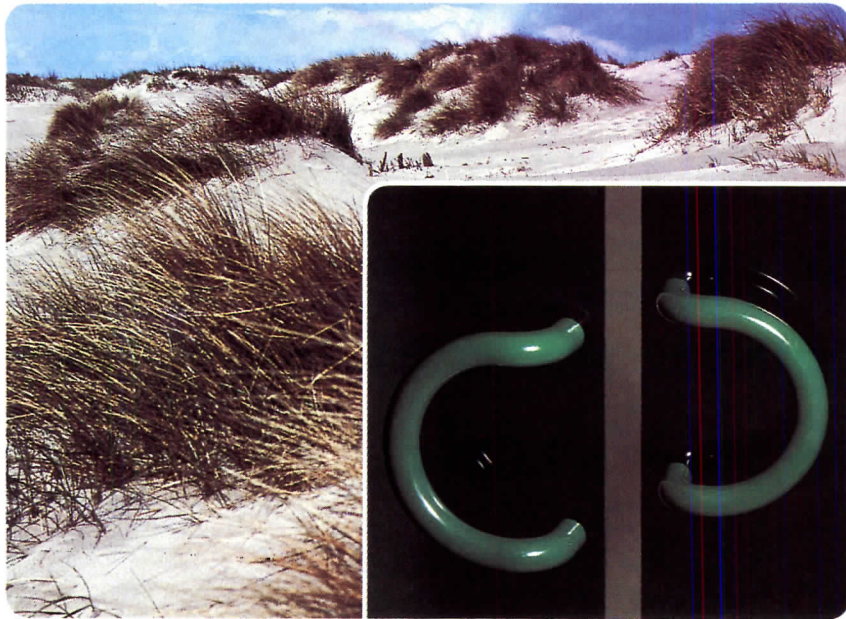
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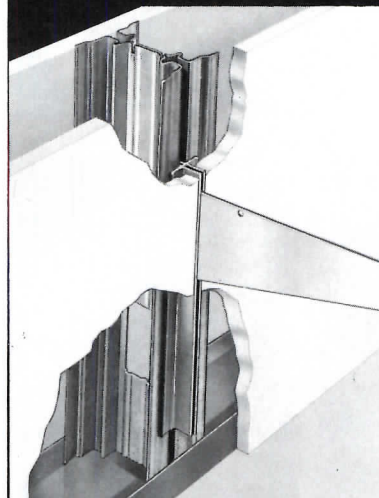
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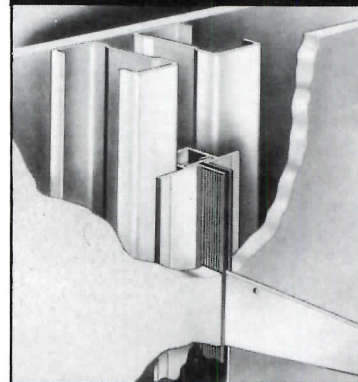
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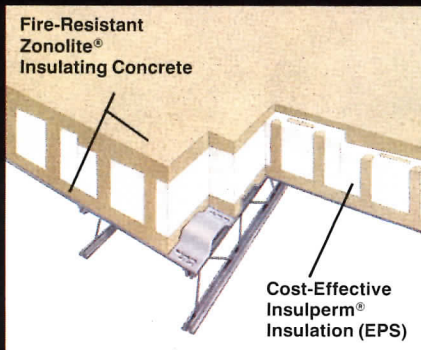
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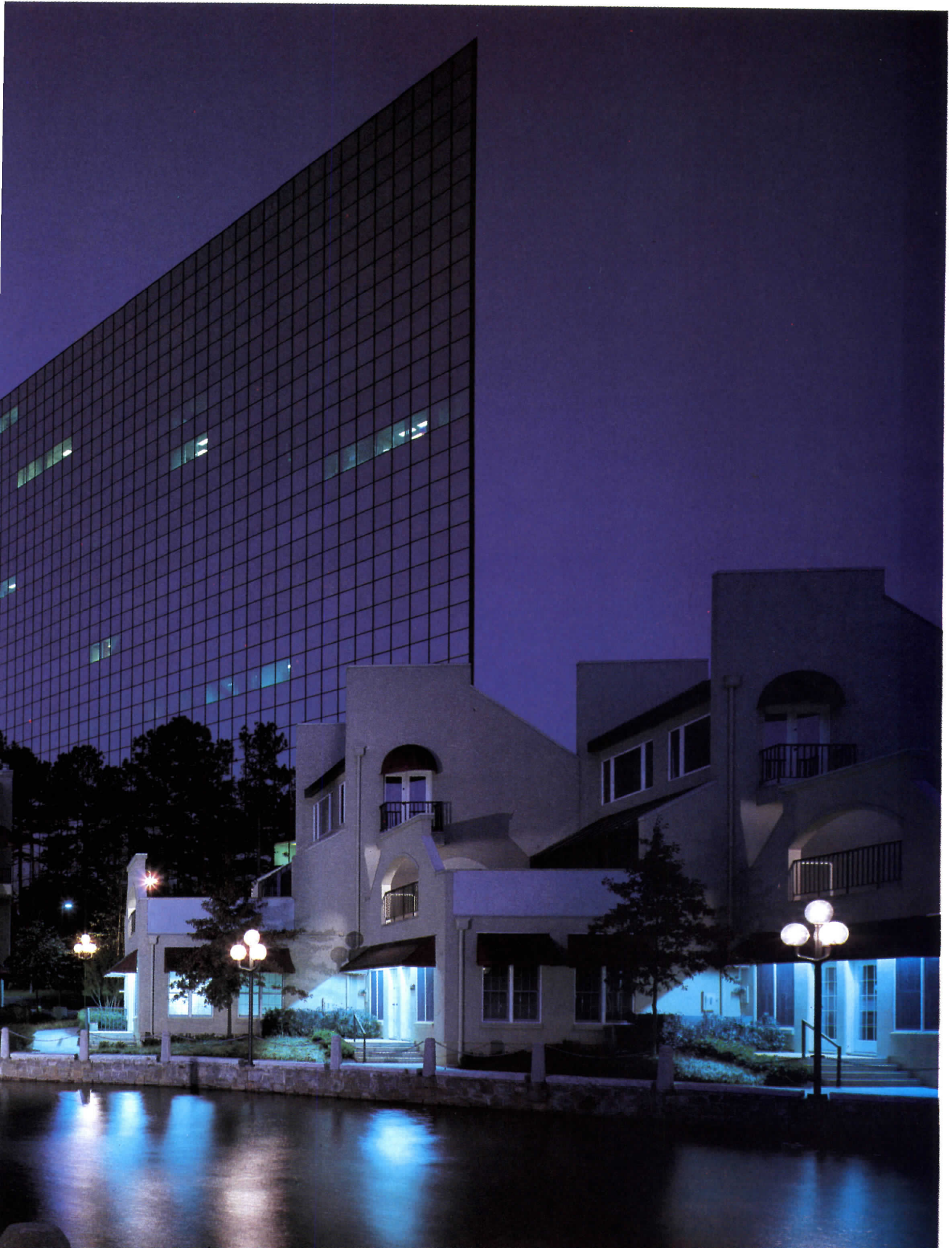


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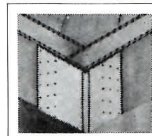
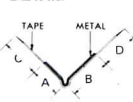
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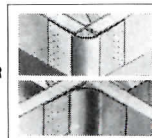
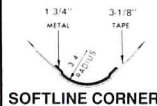
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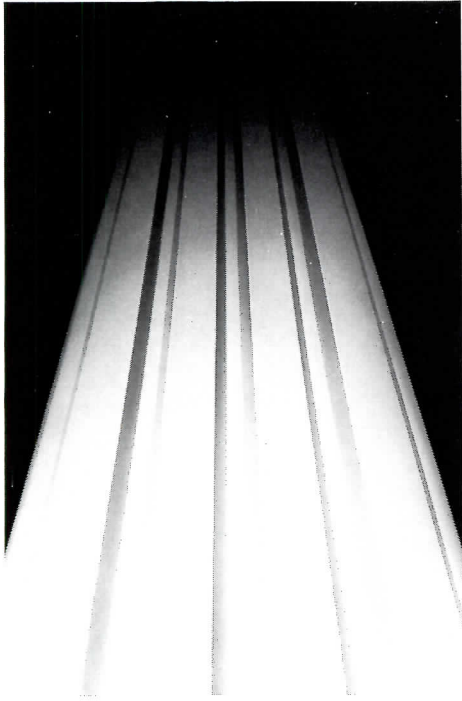


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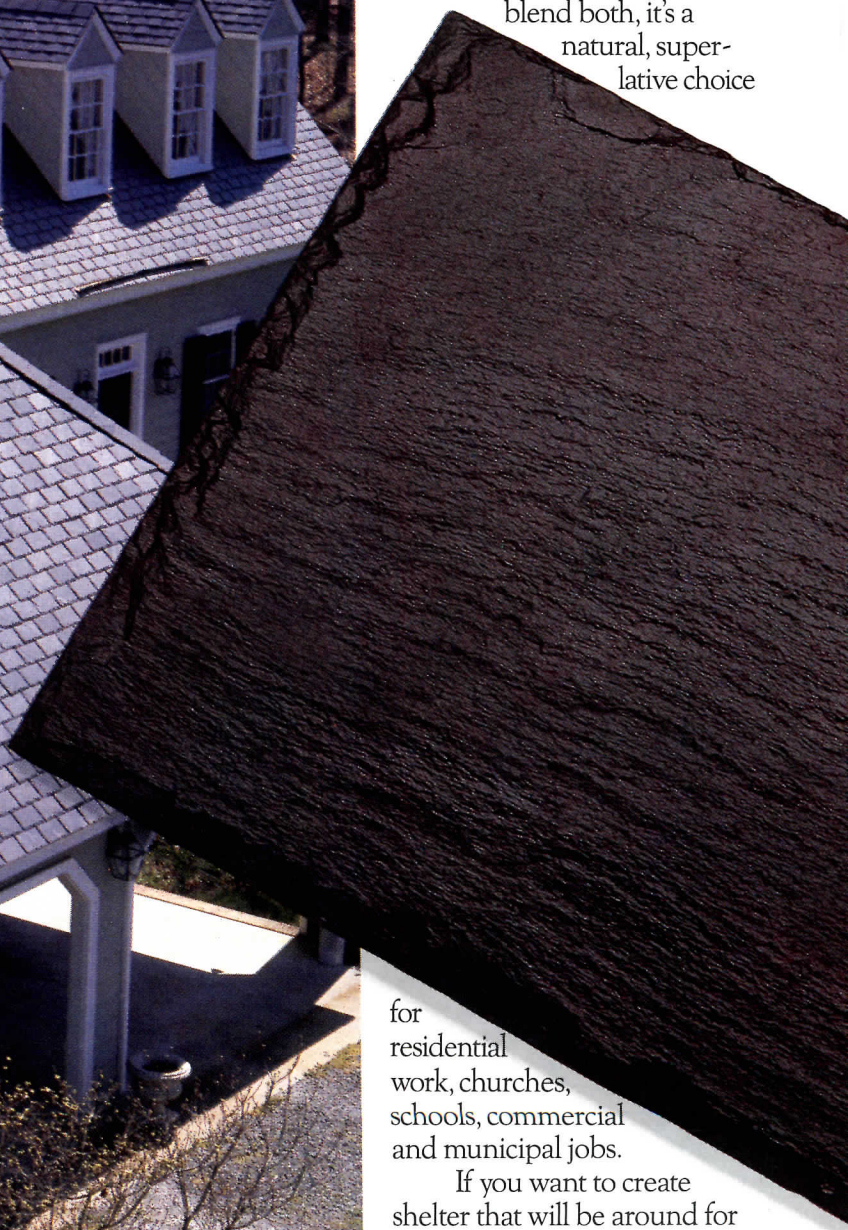
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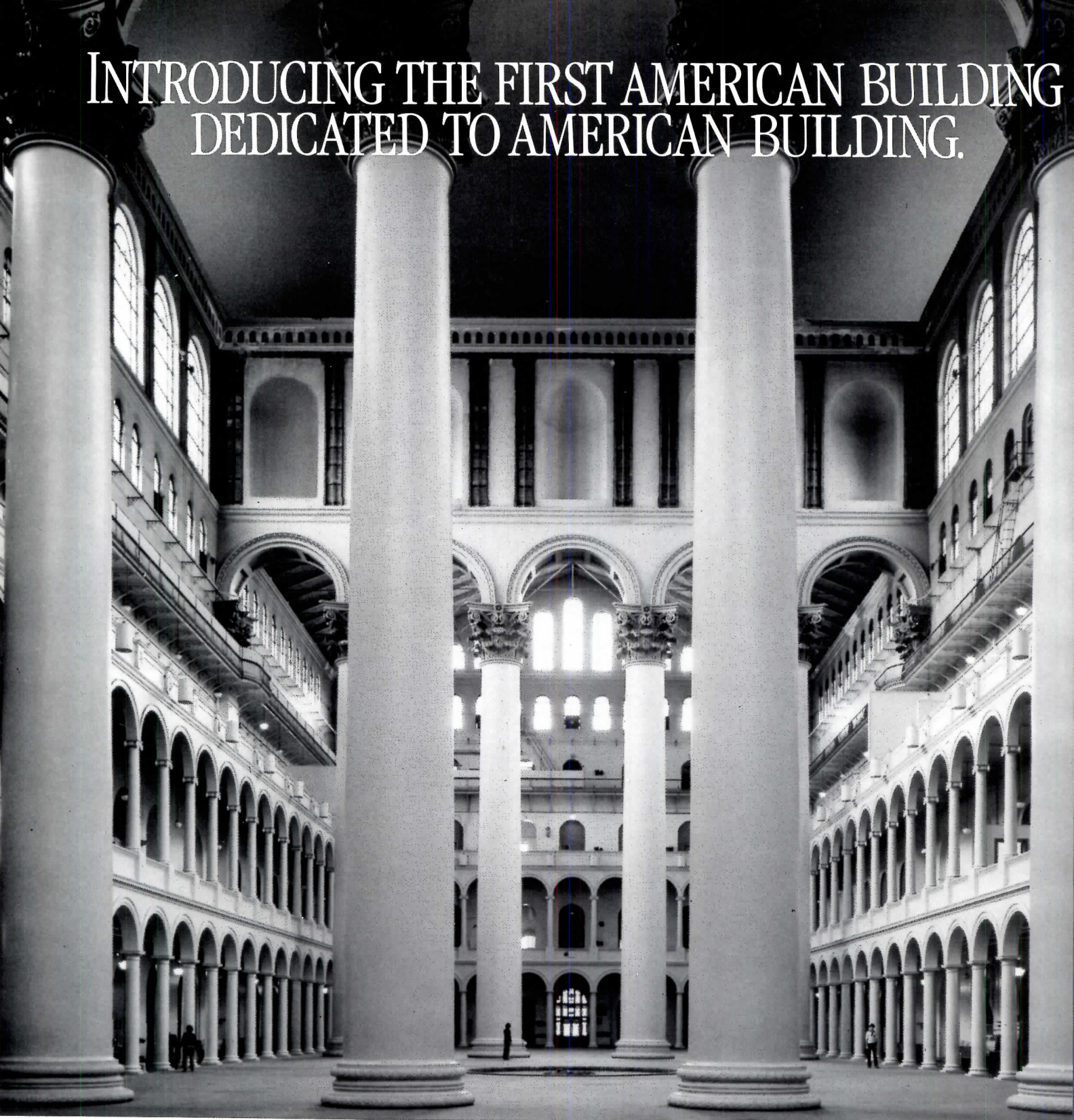
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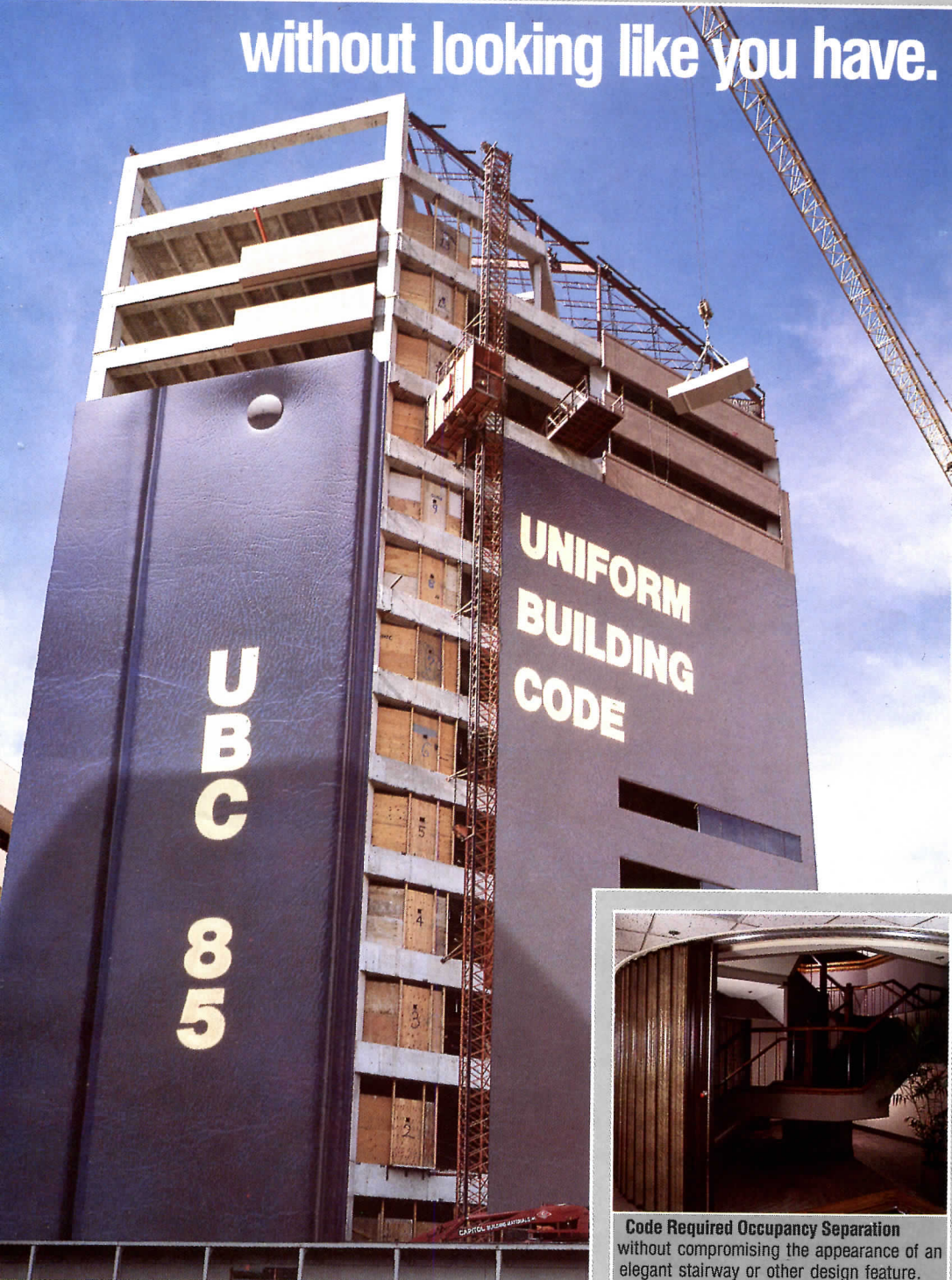
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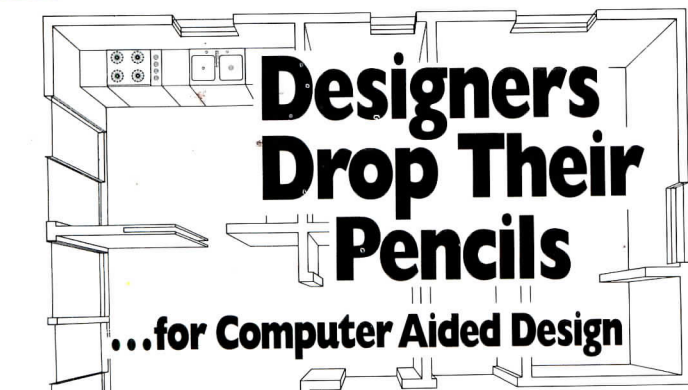
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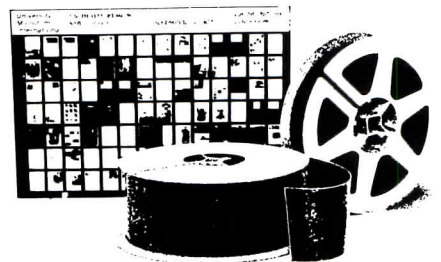
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New seismic standards available

After several years of development, the Federal Emergency Management Agency has released comprehensive design standards that would improve the seismic resistance of new buildings. The standards are intended for voluntary use by code organizations and design professionals who may build in regions without adequate codes, and were developed by the Building Seismic Safety Council with technical support by the National Bureau of Standards and funding by FEMA. Entitled *NEHRP Recommended Provisions for the Development of Seismic Regulations for New Buildings—1985*, the standards are available in a three-part report in which the basic provisions and commentary are contained in the first two parts and an appendix in part three. For copies, contact FEMA, P. O. Box 8181, Washington, D. C. 20024.

Engineers' peer reviews yield insights

The system set up some time ago by the American Consulting Engineers Council—by which members volunteer to monitor and comment on the practices of other volunteer members in order to improve the monitored firm's performance—has yielded both a general knowledge of why many firms most often have problems and some very practical benefits that may result from the review process.

Among the former: a common problem in many engineering firms is a lack of communications between the people who write contracts with clients and the people who will do the work, so that there is confusion on what is to be done and the number of hours that should be budgeted to do it. Another common problem is a lack of project planning.

Potential benefits that the review process may yield include not only better design performances but—of vital importance these days—lower insurance premiums. One major carrier, which insures architects as well, has agreed to work on a program by which engineers participating in the review process may be able to achieve lower rates. Still, ACEC vice president James K. Coyne, citing the current "litigation pollution," recently told a House panel that a third of his members could get no insurance.

More on liability from "Grassroots" and elsewhere

With the AIA estimating that almost half of all firms in the design profession experienced a professional liability claim last year (compared to 12 claims per 100 insured architects and engineers in 1960), and that 13 percent of architectural firms had to operate with no outside insurance, and with the average costs of claims rising from \$5,481 to \$70,000 over the past 25 years, the session on possible congressional action that would solve the liability problem drew a more-than-normally-attentive crowd during the AIA's "Grassroots '86" program in Washington D. C. on January 29 through February 1.

"It's truly a national crisis," said Representative James J. Florio, chairman of the House commerce, transportation, and tourism subcommittee. "The problem is not new, and it has surfaced in past years mostly in connection with medical malpractice and product liability suits.

"But," continued Florio, "in recent months, it has spread to pollution, day-care centers, large companies, small businesses, municipalities, nonprofit institutions, and on and on to the point that insurance companies themselves are having trouble getting reinsurance."

Florio said the causes of the crisis are complex and are traceable to such diverse factors as volatile interest rates, state regulations, insurance company practices, and basic difficulties with the nation's system of tort law.

One major cause, Florio said, may stem from "cash-flow underwriting," by which insurance companies underpriced their product to maximize cash flow when the yield on investment income was high. "When interest rates fell, investment income was no longer compensating for the underwriting losses from underpriced premiums.

"The insurance industry is virtually unique among major industries in that it has been largely shielded from direct federal monitoring by the McCarran-Ferguson Act passed in 1945. While some states, such as Florida, are coming up with proposals for tighter control over insurance companies, questions have been raised whether the states have the capacity, resources, and expertise to deal with the crisis on their own."

The solvency of insurance companies is another problem. "There is no federal safety net, as there is for bank failures," said Florio. "And the data that state regulators receive from some companies are extremely unreliable—even while the number of financially troubled companies mounts."

Among the possible ways to ease the situation, he suggested that insurance companies themselves could insist on risk abatement as the price of coverage. "The federal government, too," he said, "must enforce and improve its laws that protect the public from exposure to the unreasonable hazards of our industrial society. While the government until now has played only a minor role, in the months ahead we will be listening to suggestions on whether a greater role is now required."

Senator Dennis DeConcini, who shared the platform with Florio, told AIA members that he believed the asbestos problem, especially as it affects schools, was in some ways overplayed. "Asbestos was once considered a good fire-retardant material, and now no architect would touch it."

Meanwhile, two dozen professional organizations in mid-January announced the formation of a broad-based coalition to promote tort reform as part of an overhaul of our justice system.

A statement by the coalition, called The American Tort Reform Association, said inflated judgments and the growing unavailability of insurance for a broad spectrum of businesses, ranging from civil engineers to airlines and child-care centers, is reaching "crisis proportions" that can be addressed only by revamping the basic premises of civil justice both at the state and federal level.

ATRA's 12-member steering committee includes the AIA and the American Consulting Engineers Council. Other members include the Associated Specialty Contractors, the Mechanical Contractors Association, the National Association of Plumbing, Heating, and Cooling Contractors, and the National Electrical Contractors.

ATRA chairman James K. Coyne, who has called the flood of liability suits "litigation pollution" (*Engineers' peer reviews*, this page), also calls it "the disease of the '80s that is dramatically weakening our nation. It is a specifically American malady: while the U. S. had 16.6 million lawsuits last year, Japan had less than 1 percent as many. Litigation consumes as much as \$60 billion of our Gross National Product and wastes some of America's finest minds. Two-thirds of the world's lawyers are in the United States, and it's a runaway contagion, spread by the publicity about outrageous jury awards, by widespread TV solicitations from unethical trial lawyers, and by a class-action system designed to infect everyone with lawsuititis." *Peter Hoffmann, World News, Washington, D. C.*

Project: Minnesota Twins Clubhouse, Hubert Humphrey Metrodome, Minneapolis
Architect: Shea Architects, Inc., Minneapolis
Construction: Lund-Martin Construction, Inc., Minneapolis
Electrical Contractor: Sterling Electric Construction Company, Minneapolis



New modular fixtures answer multiple remodeling needs: advanced optics mean better lighting, wide range of options gives design flexibility, four-week shipment keeps projects on schedule.



You can insist on the look and quality of the best linear lighting — even if you're up against a tight completion deadline.

Remodeled spaces have all the lighting problems of new construction without the benefit of long lead times.

This carefully-designed space is actually the clubhouse of the Minnesota Twins baseball team—a far cry from the bare-concrete and exposed-pipe image we usually associate with a locker room.

Despite its remarkable luxury, this job suffered under the usual remodeling constraints: an existing structure (the Metrodome) and the pressure of time (the opening of baseball season).

The designers wanted the look of linear fixtures and the even lighting that only a high-quality lensed indirect fluorescent system can deliver. Unfortunately, high-quality linear systems need eight to twelve weeks for delivery — acceptable for new construction but too long for time-sensitive remodels.

Here, the answer lay in a newly-developed modular system: FasTrac by Peerless, which promises four-week shipment on any order of up to 1000 feet.

Softshine optics: on the cutting edge

These 6" round linear fluorescent fixtures offer seven of the controlled optical systems that established Peerless as a leader in lighting technology.

Here, note the even ceiling and upper wall illumination, overall shadow-free environment and lack of glare. These two-lamp fixtures, hung 10' apart, use a wide spread Softshine lens that distributes the light into precisely the right viewing areas.



A selection of specially-designed lenses distributes light facet by facet. This up light combines wide spread with low lens brightness.

This diagram, generated by research computers at Peerless, shows how the light strikes each individually-designed lens facet, then fans out over a wide area while the lens retains a comfortable low brightness.

FasTrac design options: impressive

FasTrac's modular aluminum extrusions come in 4', 8' and 12' standard lengths and twelve standard colors, in one-lamp and two-lamp versions.

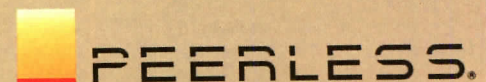
A quick-connector system allows the fixtures to rotate, so they can serve either as up lights, down lights or wall washes. Peerless offers seven different Softshine lenses plus the option of white or matching colored baffles.

Through the use of joiner hangers, fixtures can be made into a continuous run of any length, and black neoprene flex connectors allow configurations. All FasTrac options and components are available on the four-week shipping schedule.

FasTrac is part of the Peerless family of Softshine products, designed to solve illumination problems, design problems and human comfort problems no other fixtures in the world can solve.

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Marketing: Do it like project delivery

Manage marketing as you would the rest of your practice—with continuous attention and as an integral professional function

By Ernest Burden

Suppose, as an extreme example, that an architectural firm devotes all of its marketing energies to getting one special project of a building type for which it is not particularly well known. The firm makes exactly the right moves every step of the way through the proposal and interview process. And it wins the commission.

But, of special value in the case of a coup achieved with such focused effort, this firm is astute and does not allow its marketing and promotions related to this project to stop once the commission is awarded. By playing up its design and production expertise, it achieves public recognition for excellence in a new field. And, of course, the benefits of capitalizing on your professional performance apply to projects of any type for which your firm may or may not be particularly well known.

There is a definite continuous relationship between marketing activities and project delivery that is evident throughout the life of a project. The two activities can be illustrated as two triangles in an hourglass configuration which meet in the middle when a project is awarded (diagram at right). But the way they should interface, however, is shown by their overlapping (diagram on the next page).

In reality, project delivery should begin within the marketing area when client objectives are defined and analyzed. Similarly, the marketing effort should continue, as we have just seen, until the project is completed. Now, we can begin to see why the coordination and, often integration, of the marketing and design-delivery processes are vitally important. Indeed, this coordination and integration form one of the key factors in the success or failure of a design firm today.

There are indeed many reasons to coordinate the marketing and project-delivery processes

To begin with, compartmentalization goes against realities. While, in the past, most design and production functions

Mr. Burden heads the consultancy firm of Burden Associates in New York, and specializes in design communications. A member of the Society of Marketing Professional Services, he is the author and publisher of a newsletter on design-communications strategies and state-of-the-art presentation techniques. The Communicator's ADVISOR and the author of several books, including Architectural Delineation and Design Presentation, both published by McGraw-Hill—as well as Design Communications: Developing Promotional Materials for Design Firms to be published this spring also by McGraw-Hill.

were compartmentalized and isolated from the functions of marketing and administration, this form of isolation today counters what both clients and architects know—that architecture has a business as well as an esthetic side. Clients, in particular, believe that the process results in a product.

Other reasons for not having marketing begin with a request for proposal and end with an interview include how a client will feel about his new relationship with the design firm once he has awarded the commission. It is precisely at this point that he wonders what he has bought. Assuming that the design firm is a large one with distinct marketing, management, and design personnel, the client sees the marketing folks heading out the door toward another project, while he has just inherited a team of designers and a project manager who are all strangers to him.

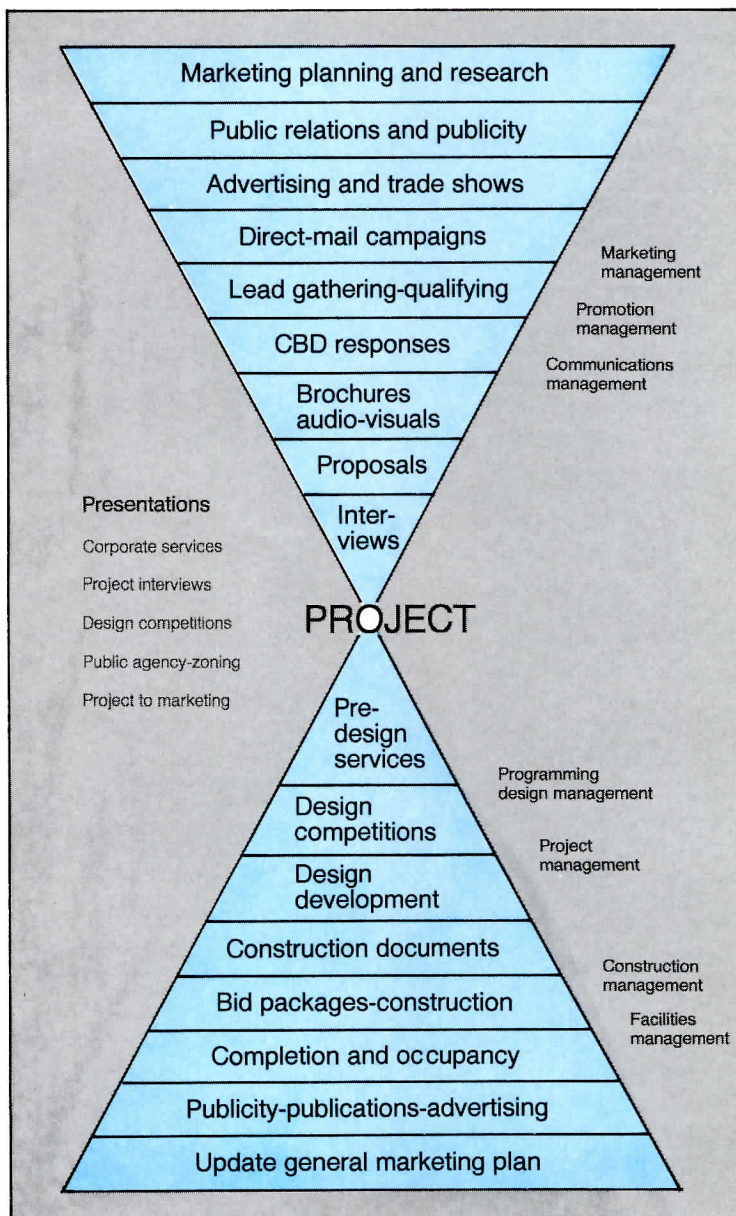
Let's look at why that part of project delivery that analyzes the client's objectives must start in the early marketing stage. The expectations of the client can then control and direct the marketing message. After all, when a client awards a project to a firm, he must have determined that the firm will deliver what he expects. And the firm must know enough to be able to promise to do that.

That marketing efforts should not end at the award of a commission, but continue throughout the life of a project, is also important for getting repeat business. From a marketing standpoint, this repeat business means you have past and current clients to attest to their satisfaction for the benefit of potential new ones. To find out what is most effective here, you should consult clients on their reasons for the selection of your firm. What was most important in your determination of their expectations?

Without a coordinated—even integrated—program governing the marketing process and project delivery, a firm loses the opportunity for a balanced practice, loses the competitive edge, and may even lose many clients in the process. The efficiency and effectiveness of the marketing effort may be diluted or aborted.

To effect coordinated marketing and project delivery, new forms of management are required

As a result of the increased awareness by design firms of management in general, several new forms are emerging. Now there is marketing management and communications management, which govern the marketing and selling effort up to the interview and award of commission.



Past wisdom produced a diagram of marketing and the design-production-construction process (or project delivery) that might look like the one above—two triangles that meet when the commission for a project is awarded. But, in this already, slightly updated version, it can be seen that some functions from the top marketing segment have crept into the lower project-delivery one—and vice versa.

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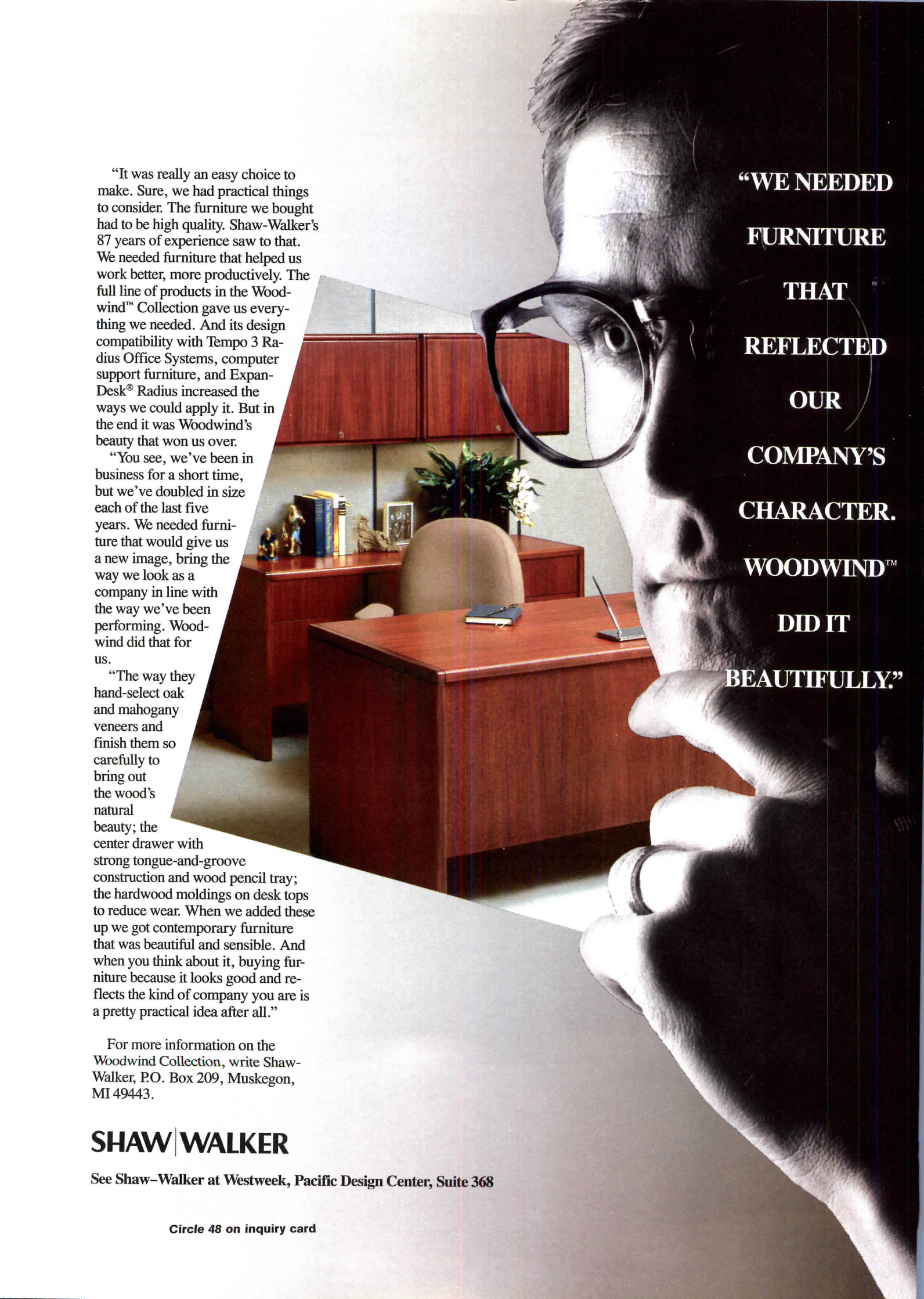
"The way they hand-select oak and mahogany veneers and finish them so carefully to bring out the wood's natural beauty; the center drawer with strong tongue-and-groove construction and wood pencil tray; the hardwood moldings on desk tops to reduce wear. When we added these up we got contemporary furniture that was beautiful and sensible. And when you think about it, buying furniture because it looks good and reflects the kind of company you are is a pretty practical idea after all."

For more information on the Woodwind Collection, write Shaw-Walker, P.O. Box 209, Muskegon, MI 49443.

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Architects have long been familiar with two better-known, long-established activities, project management and construction management. (Facilities management, another newcomer, provides value-added services that are the most direct result of all in relying on database information provided by computer-aided drafting and design.)

A few firms have come up with a totally new form of management that seems to cut right to the heart of the issue by dealing with both the marketing and project-delivery side. It is called client management that, as the name implies, focuses on client development and retention. These are some of the many variations of management possible within a design firm today.

Let's look more closely at how the integration of such seemingly diverse functions as marketing and project delivery can happen: At the building-delivery end of the scale, both project management and construction management rely heavily on many organizational skills, such as preplanning, scheduling, and budgeting. Why should we expect anything less from the management of marketing and communications? Yet, few firms apply the same rigorous requirements to the most important function of all—getting the work.

Before you can coordinate marketing and the other professional activities of your firm, you must be able to manage marketing.

The most important part of any marketing effort can be a finite marketing plan

Write it down. Without such a statement, however simple, a coordinated set of activities is almost impossible.

The goals of the firm should be identified in terms of its potential growth within a market or markets, new markets to explore, potential income growth, and an increase in the number of personnel required to sustain that growth. Such a plan should be updated annually.

How can the plan be carried out? The written marketing plan is the guide behind all marketing communications (by which is meant the visible products, such as mailers and brochures, of preliminary research, and marketing design and production). Thus, there should also be a written communications plan that lists specific collateral products for promotional use.

Once a firm has identified the markets to pursue, this plan identifies how to reach those markets effectively with the appropriate material and messages, what format to use, and what should be highlighted in each piece

of marketing material. It also identifies whether to use project photos, graphics, text, or an audio-visual or video format. Each item in the communications plan is given a priority and a specific relationship to all the others.

The plan should contain a schedule and a budget for all the items to be developed. The schedule should outline when all the pieces are to be prepared and how long it will take to produce them. Use a simple bar-graph format as you would for tracking design and construction activities. Since any project takes much longer than one anticipates, it's a good idea to build in some contingency time—except, of course, for items that are on a critical path. Each item on the schedule should be assigned start and stop dates, and target dates for completion. Times for reviews can be highlighted. The schedule should be done in a format that is easily reproducible, such as an 8 1/2- by 11-in. or an 11- by 17-in. foldout.

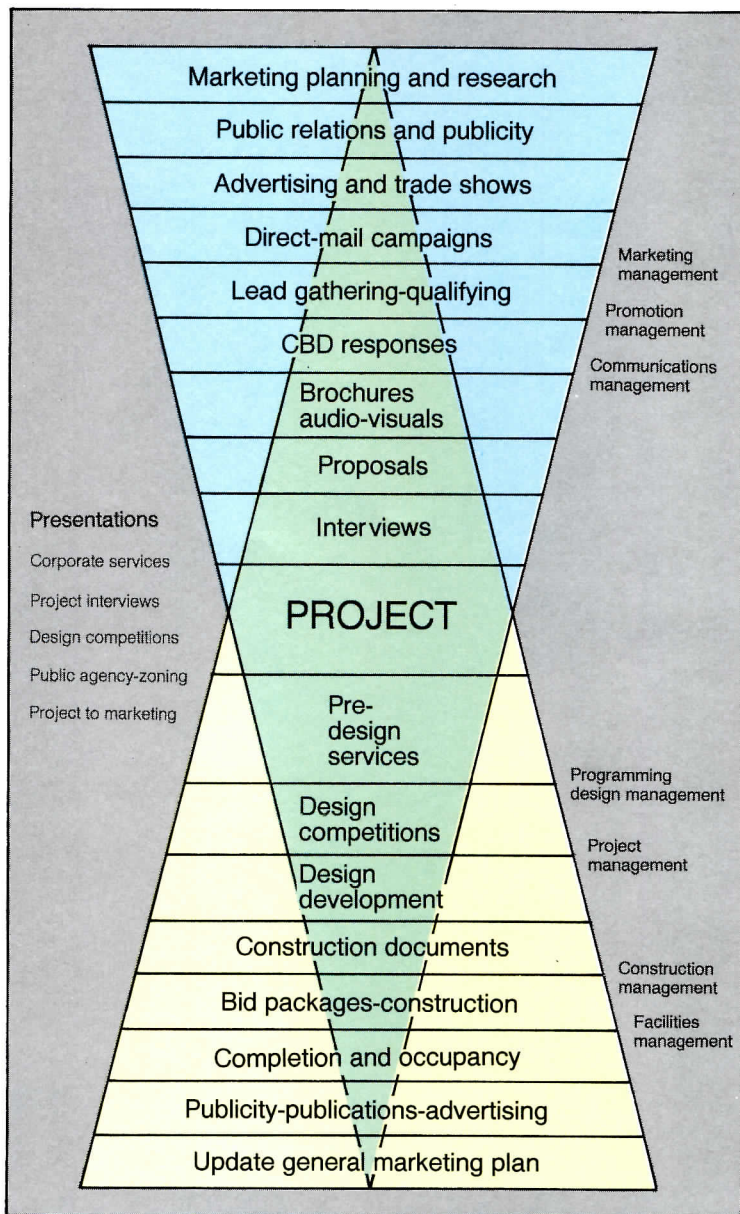
An integral part of the schedule is the budget. The communications budget is usually 25 to 30 percent of the marketing budget. It does not include marketing salaries, but should include public relations retainers, advertising, and funds for graphic artists and photographers, plus the production costs of all the items scheduled.

In the spirit of integrated firm-wide activities, a truly comprehensive and coordinated communications program combines the creative talents and efforts of the entire firm, not just the marketing staff. It's this combination of ideas that make it a "campaign" or "program" rather than an isolated project, such as producing the company brochure or newsletter. A coordinated approach will help to stabilize the firm's mission, and control the kind and volume of work.

While a program should be based on internal ideals, rather than on a response to stimuli from outside forces, one needs a system that will produce meaningful results that will help develop these ideals, refine them and, most of all, test them for goal effectiveness. Otherwise energy and money are spent needlessly.

While a communications program supports marketing efforts, it does not replace them; it enhances them. It gives marketing the tools it needs. But more importantly, it gives architects the freedom to do their basic job while the promotional material does its job of getting new work.

The material is helping to pre-sell the firm in a positive manner, that nothing else can do except for personal contact. We have to be present with our client to verbalize



The up-to-date diagram shows that marketing cannot stop with the award of a commission. Nor can project delivery start only at that point. Both functions must occur simultaneously throughout what can be seen to be a new expanded project life.

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our thought, but promotional tools can work for us as a silent sales force. Such media get the invitation to make the personal call. Therefore such media should represent a close substitute for being there in person.

The task, then, becomes to turn the physical reality into a communications reality. The challenge is to bring the three-dimensional reality of projects, of people, of a firm's experience, its buildings, into a visual format that can be presented to others—either for mass distribution or to a targeted audience. Firms need to package their three-dimensional design products in a two-dimensional media.

The task is to change a physical reality into a communications reality. Clients do not want the physical reality; they just want to understand the ideas that went into it. Therefore, the process must describe how the product got that way. You have to link the features of your past projects to the exact needs of the client's project. You have to emphasize needed benefits to the client rather than dwell on the excellence of your projects' features.

You can take a client to see your completed projects but this is time-consuming, expensive, and, in the case of most busy clients, difficult to schedule. Therefore, the promotional media must be a close simulation of actually being there on site, and actually talking with your people and learning about your experience. Promotional media are not the place for abstractions or other esoteric images. Before the marketing pieces are designed, it is important to know what the marketplace wants in general, and what selected clients in particular want to know about your firm.

But even the reality of your work must be tempered by what your clients expect. Usually a firm has an image of what it is—or, at least, what it thinks it is, or would like to be. But there is another image that exists in the eyes of the client, and some firms do not know what this image is and, therefore, have no way of controlling or directing it. There are several ways to determine what your image is and what it should be.

The most common way of determining what your message should be is internal soul-searching and goalsetting, although you must caution against basing it on what you want to do rather than what you can do. Then there is the form of market analysis that simply looks at what others are doing and what shifts are occurring in the marketplace so that you can adjust accordingly. Unfortunately, such

adjustment may mean that you are always one step behind your competitors.

For maximum results, there is the client survey, in which specific questions are asked to determine precisely and objectively how the firm is perceived by those who might hire it. An obvious secondary benefit of the survey is the knowledge you gain of what the client is buying before you decide on what you are selling.

Armed with this objective evaluation from clients, the communication process becomes a positive activity instead of a guessing game. No firm would design a building without an exact knowledge of the client's needs and desires. Why try to market design services blindly? When designing a brochure, for example, it's a good idea to think that the client is looking over your shoulder and is editing as you write. By taking this objective viewpoint, we begin to learn what is in our clients' minds.

What does a corporate communications program consist of? A comprehensive corporate program includes, among other items, the following:

- A corporate identity program
- An advertising and public relations program
- A direct-selling campaign

Different communications efforts have different rates of return. Some are virtually instantaneous, while others require months, even years. Advertising tends to produce a quick response because it reaches a broad audience with, hopefully, a specific message. Public relations produces a slower response because, generally, it deals with broader issues to which a limited number of people must react. Direct selling, such as brochures and other direct-mail programs, has a moderate rate of response, although it can lead to contracts sooner than public relations.

Among the promotional materials you will first want to work on is a corporate identity program. As in all other marketing pursuits, knowing your client base is important to the development of a corporate identity. The logo or logotype or firm name may go on all your material, and is often the first visual contact that a client has with your firm. Therefore, it should be appropriate to the majority of clients served. This graphic representation of a firm can include:

- Logo and logotype systems
- Stationery, business cards, forms
- Brochures, pamphlets, circulars
- Newsletters
- Announcements
- Signage

The development of such a program should creatively express

the firm's operation, display its unique character and capabilities, and provide a workable format for the design of collateral promotional material.

The key to successful public relations and publicity is that they interest clients

In the past, everything that a firm did to promote itself was labeled "P.R." Today, promotion is more highly specialized and relates to bringing awareness of a firm to potential clients through various printed media.

It can include such diverse items as:

- An openhouse at a new or remodeled office
- The opening of a new project
- An organized tour of projects
- Lectures, seminars, and workshops that the firm conducts
- Hospitality suites and exhibits

Advertising and trade show participation are perhaps two of the newest forms of reaching potential clients. Each area is still virgin territory, full of potential for design firms. Those who have advertised have discovered that it can change the whole makeup of a firm quite positively.

Direct-mail campaigns are a fairly definite method of getting specific messages to targeted audiences

Since there is such a wide range of material that can be sent, direct mail remains one of the most widely used methods of getting messages out. Some of the items that such a campaign may include are:

- Brochures and fliers
- Newsletters and magazines
- Information booklets
- Posters and announcements
- Article reprints
- Video resumes and brochures.

Those who have participated in any sort of promotional campaign realize that 90 percent of the work occurs after it's over—in qualifying leads and following up possibilities. As in any business, leads are a liability until they are qualified and a realistic prospect or project emerges.

By far the most common way of showing the experience of a firm is through a corporate brochure

It doesn't matter whether the brochure has two or eight colors, as long as it represents the experience and commitment to the needs of the client base it serves. As the firm's main brochure, it is without a doubt the number-one marketing tool. Of course, it may be augmented with brochures of special services or types of projects that the firm may provide.

Today, many firms are beginning to experiment with new brochure formats for the presentation of

their capabilities. Some are using an audio-visual format. Such programs have the added, convincing advantage of featuring people from the firm in speaking roles and, by having previous clients appear on the tape, describing the way the firm handled the project. This is without a doubt the strongest form of promotion. But you can't count on getting positive client testimony if your project delivery was not up to par with the client's needs.

Once you have cleared the promotional stage, you must produce effective proposals. When you get to the stage of making a specific proposal to do a specific project, you have to recognize that the client is asking for an exact method of performing an outlined set of tasks. The key is in interpreting the client's motivation, reading between the lines, and matching up the firm's capabilities to the project's needs.

At this point, project delivery and marketing must interface on a one-to-one basis. Project delivery must now be wrapped in a marketing package. Some of the items that need to be designed specifically for each project are as follows:

- Project descriptions
- Individual resumes
- Representative client lists
- Organizational charts
- Project schedules
- Photos of similar projects
- References

All promotional activities were performed for one purpose: that is to get the opportunity to present the firm's capabilities and qualifications to potential clients. At the project interview, marketing and project delivery are head by head.

Up until now, the client has not met the design team, project manager, nor any of the other team players. The marketing representative may lead the interview and make a commitment to the client to remain on the project as part of the formal project review team. The selected project team may want to go over the list of critical issues that were used to win the job by rechecking them with the client. Whatever techniques are used, it is important to reassure the client that he actually bought what he thinks he bought and that his project will come out as anticipated. As the project goes on, the activities of the marketing people will include documenting design and construction—again to reassure the client, but also to use in future marketing communications.

From this, we can see just how a few of the project-delivery and marketing functions intermesh and why we need management to control the process.



ONE...



TWO...



THREE...



...GO!

The Tri-Fount™ Washfountain — the best way yet to move traffic through a washroom.

It's as easy as 1, 2, 3.

1. It can wash one or two or three people at once.
2. It meets all barrier-free codes.
3. It's a real cost saver—saving water and energy with each use, saving time and trouble with minimal maintenance through the years.

Each of the three independent spray nozzles is controlled by its own push button, so each user activates a single metered .5 GPM flow of preblended water. It really cuts down on waste and waiting time.

Leg and toe clearances, and required reach to the push buttons and water streams, are well within existing barrier-free codes as well as ANSI A117.1-1980 standards. Less than five pounds of pressure activates a safe, tempered flow of water which shuts off automatically. Optional backplash—mounted soap valves are available, too. Concealed spray formers, recessed push buttons, and a rugged access

panel provide unsurpassed vandal-resistance.

The Tri-Fount™ Washfountain is also easy to maintain, with front access to all supplies and stops. The unit's metering valve assemblies employ the same basic design as Bradley's field-proven 90-75 metering faucet. Timing can be adjusted from five to twenty seconds by turning a screw—without turning off the water. And if the metering cartridge should ever fail, it can be replaced quickly and easily.

For more information, call your Bradley representative or contact Bradley Corporation, P.O. Box 309, Menomonee Falls, WI 53051. Phone 1 414 251-6000.



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CORPORATION



We get the job done better.

Circle 50 on inquiry card

Computers: For full effectiveness, limit your legal risks

By identifying and guarding against potential problems, you can assure that computers ease and do not encumber your firm's operations

By Gerald Walpin

The October 1984 issue of RECORD listed and described over 350 computer software programs written specifically for architects. Such programs cover all facets of an architect's business: office management, project-cost analysis and control, project scheduling and management, space planning, design and drafting, and architectural engineering. Often this software is written and sold by those most familiar with the profession—architects themselves.

This tremendous growth in computer usage has had an unforeseen consequence: the legal problems resulting from computer use have generated a rapidly growing area of the law, which is emerging as a full-fledged area of legal specialization. This article imparts some of the wisdom gained so far. And it examines some of the legal ramifications of the use of computers and software by architects.

An architect who has failed the test for due care may be liable for his computer's mistakes. While the computer can assist an architect in his work, it does not relieve an architect of his responsibility for exercising professional judgment.

When a computer error is one that indicates a failure to take due care, liability may be imposed by the courts. In a recent case, a consumer was denied credit on the basis of computerized credit information, and sued on the basis of that information's inaccuracy (*Thompson v. San Antonio Retail Merchants Association*). Because the credit service had failed to exercise reasonable care in programming its computer and didn't audit its information, the consumer won the case.

An error in programming that works its way into a building that is thereby faulty could, of course, lead to much greater liability than that involved in a simple consumer credit case. But the legal standard for finding negligence will be the same—reasonable care. In the words of one court finding: "Men feed data to a computer and men interpret the answer the computer spews forth" (*Ford Motor Credit Co. v. Swarens*).

The important point is that excessive reliance on computer-generated results may constitute an absence of reasonable care. On a practical level, a prudent architect will verify the accuracy of

computer-generated results, either by manually verifying selected computations, verifying the results with a completely separate software program or, at the very least, testing the program on other data where the result can be independently confirmed. Of course, all steps taken to verify results should be documented carefully, and this documentation preserved, in case it is ever necessary to demonstrate that reasonable care was taken.

More difficult to comprehend, an architect may be found liable for not using a computer

While an architect's potential liability for computer mistakes is easy to understand, computers can lead to liability in less obvious ways. For instance, an architect could be held liable for failing to use a computer.

One way in which this can occur is an architect's telling his clients that a computer will be used, but, in fact, not using it. For instance, an architect may show off his computer as a marketing tool to win business. In showing his potential clients how fast and accurate he can be with his computer, he may also be obligating himself to supply them with computer-assisted services, even if the written contract is silent on this.

Even in the absence of an explicit or even implicit promise to use a computer, a court might find an architect at fault for not doing so. In a parallel case involving malpractice by an attorney, he was found at fault when his legal research failed to unearth an important pending case (*Holt v. State Bar Grievances Board*). The finding held that computerized research facilities, now widely used, would have located such a case. To the extent that the use of computers in architects' work becomes the norm, the failure to use a computer for certain tasks may similarly constitute negligence.

Architects may also be at risk when they process data for others or reveal confidential information. An architect may use his own computer facilities to process data supplied by others. This sort of service also brings with it the possibility of liability. In one case, a Minnesota school district had a junior high school appraised for insurance purposes. When the school was destroyed by fire, it turned out to have been underinsured. The court held that a valid legal claim could be stated against the statistical company that performed erroneous statistical computations on which the appraisal was based (*Independent School District Number 454 v.*

Statistical Tabulating Corporation).

An architect may be held liable for unauthorized disclosure or use of confidential information entrusted to him by a client. The potential for the abuse of confidential information is enlarged when such information is stored in a computer, due to the ease and speed with which the information can be copied or manipulated and (on many computers) the difficulty of detecting such abuse when it has occurred.

Apart from the technical features that can be put into a program to block access to confidential information, prudent architects will have reasonable restrictions on employee access to computers containing confidential material and, even more important, restrictions on dial-up access to the computer by telephones from outside. Other precautions could include the bonding of employees, and the spelling out to employees of exactly what is considered confidential and what the limitations on access and use are. Architectural firms may have recourse against an employee who misuses his position to gain access to confidential information. In one extreme case (*Evans v. Virginia*), employees were convicted for stealing computer information about securities held in safekeeping by a client bank.

There can be problems from both software developed by architects and software developed for them. When an architectural firm decides to develop its own software, it can go about it in one of two ways:

- If the firm has employees with the proper qualifications, it can develop the software itself.
- It can retain outside consultants to develop software to its specification.

But either route may result in the infringement of pre-existing programs. Often, the decision to develop software is made because existing packages lack one or more needed features, or because existing software is incompatible with a firm's existing computer. In these cases, the development process is often defined by reference to existing products. And, unless a package is developed completely from scratch, the potential infringement of the rights of the owner of the referenced product can become an issue.

The practice in the computer industry of developing products that are functionally compatible with pre-existing products is well established. For example, the development of products that are "IBM-compatible" is an industry in

Mr. Walpin is the senior partner and chairman of the litigation department of Rosenman Colin Freund Lewis & Cohen. He has written this article with the aid of two associates, Michael Marks and Aron Zysow.

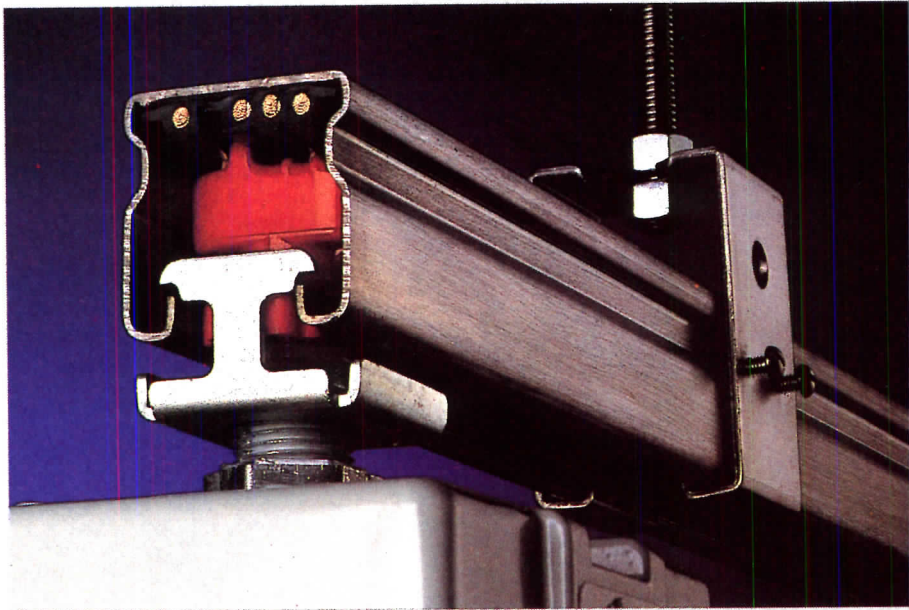
The Speed of Light

Install the new, fast-track Wiremold® Chan-L-Wire® Industrial Lighting System in 1/3 less time than pipe and box.

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Installation of lightweight galvanized steel strut and hangers is quick and easy. Patented Chan-L-Wire cable pulls smoothly through strut and provides 30 Amp, 277/480 Volt, 3Ø, four wire service. Tap assemblies establish contact with cable conductors and can be installed anywhere along strut run. A wrench is all that is needed to secure a fixture to power. The Chan-L-Wire System is compatible with all lighting manufacturer fixtures and can be installed or relocated in 1/3 less time than pipe and box.

This unique system provides unmatched flexibility. You can install fixtures anywhere you want along Chan-L-Wire strut to meet your lighting needs. Then, later on, if you need to move your fixtures,

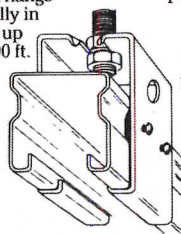


simply loosen the tap and move the fixture to its new location. Exclusive "self-healing" cable seals over old termination points overnight. In fact, the system is so flexible that it can even be used for temporary lighting requirements during construction. The fast-track Chan-L-Wire Lighting System is compatible with fluorescent and high bay lighting. It even allows you to mix and match lighting types within varying industrial environments. UL listed and code approved. Manufactured to meet the same high quality standards that you've come to expect in all Wiremold products.

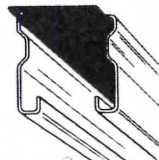
The Chan-L-Wire Industrial Lighting System. It's new. It's fast-track. It's economical. It's worth finding out about. Contact your authorized Wiremold Chan-L-Wire Distributor or write to The Wiremold Company.



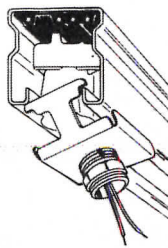
1. Strut hangs usually in runs up to 300 ft.



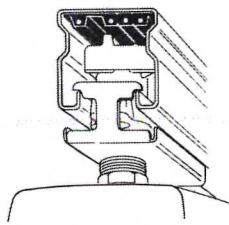
2. Chan-L-Wire Cable is simply pulled through strut.



3. Tap is installed at fixture location by aligning terminal block in neutral channel and securing metal saddle in strut.



4. Mount fixture to tap and complete wiring.



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by Wiremold®

itself. With software, the issue is exactly how much use a developer may make of an original package in developing his own. The general rule has been stated by the National Commission on New Technological Uses of Copyrighted Works:

"One is always free to make the machine do the same thing as it would if it had the copyrighted work placed in it, but only by one's own creative effort rather than by piracy."

While this area of the law is not yet fully developed, court decisions can provide some guidance on when an architect programmer can be liable. When the programmer has access to and uses the source code of an existing product, the courts have generally categorized the development process as involving piracy, rather than creative effort.

In one recent case (*SAS Institute Inc. v. S&H Comcuter Systems Inc.*), the defendant adapted a statistical analysis program used for one manufacturer's computer to a different computer. Because he made direct use of the source code in developing his own program, the court ruled that his conduct constituted a breach of his license agreement with the plaintiff. In addition, the court found that the source code for the defendant's program was so similar to the original that it infringed on the copyright. Even visual or operational similarity can be viewed as evidence that, when combined with other factors, dictates a finding of infringement.

Here are some general guidelines on developing new software:

- New programs that perform the same functions as prior programs should be developed independently, i.e., as little use as possible made of the prior program in the development effort.
- When the developer of software has had access to the source code of a similar program, a serious potential for infringement exists.
- The screens used by the prior program should not be copied.

On a practical note, when an independent consultant is retained to write the software, the agreement with the consultant should include a statement by the consultant that the software to be developed will not violate any patent, copyright, trade secret, or other proprietary right of any third party. The contract should also provide that the architect will be indemnified by the consultant for any liability resulting from a breach of this representation.

While such a clause will not prevent an architectural firm from being sued, or affect the determination of whether the developed program constitutes an infringement, it is important for

two reasons: First, it makes clear that the architect can look to the consultant for recovery of any liability; second, it may make the consultant conscious of, and careful about, the infringement issue.

Copyright ownership of newly developed software may or may not be a clear-cut issue

When software is developed by an architect's employee at the direction of the architect, the architect usually owns all rights in the resulting software, just as he owns the other results of the employee's labors.

But when that architect retains an outside consultant to write software on his behalf, the issue of ownership should be agreed upon in advance. The situation becomes sticky under copyright law when an outside consultant is used.

Section 201(b) of the Copyright Act provides that, in the case of a "work made for hire," the employer or other person for whom the work was prepared is considered the author (and thus the owner of the copyright), unless the parties agree otherwise in writing. Many software contracts, in order to give copyright ownership to the employer, rather than the consultant, provide that the software will be considered a "work made for hire."

Unfortunately, however, as a matter of technical application, this does not work. Section 101 of the Copyright Act defines a "work made for hire" very narrowly as either: (1) a work prepared by an employee within the scope of his employment or (2) certain enumerated types of work, which do not include most computer programs, even if the parties agree in writing that the work will be considered a "work for hire." As a result of this restrictive statutory definition, the designation of a computer program as a "work made for hire" may be ineffective to transfer ownership to the architect.

In addition, any document intended to assign a copyright should be recorded in the Copyright Office by the architect since, if this is not done, there can be problems later on if the consultant tries to record it himself, or sells the program again to another firm that then records it. Professional advice in this area is sometimes a good idea, since the work-made-for-hire, and assignment and recordation provisions of the law provide many traps for the unwary.

A subject that concerns all computer purchasers is their remedies for faulty equipment
An architect who finds that he has bought or leased a computer or software that is not performing as

well as he was led to believe it would may be able successfully to sue the manufacturer of the computer system or the software designer or supplier.

Naturally, sellers usually seek to disclaim liability for any problems that may result from the failure of their product to perform as promised. Typically, they undertake to do no more than to replace faulty equipment or attempt to put programs in working order and, in any event, disclaim liability for more than the amount paid for the equipment or program. These limitations on their liability have not always held up in court.

In one case, a corporation that purchased a computer system to do its accounting recovered over \$2 million in punitive and compensatory damages on the basis of a claim of fraud. The computer company apparently knew about defects but gave a false impression of its programs' speed and effectiveness (*Glovatorium, Inc. v. NCR Corporation.*)

When a newly installed computer system fails to perform adequately, it's important to act quickly. An insurance agency once claimed that the failure of its computer system led to its ultimate commercial demise. But, while the company that sold it the equipment was attempting to remedy the problems, the statute of limitations was running out; it was too late by the time the case went to court (*Triangle Underwriters, Inc. v. Honeywell.*)

The statute of limitations applicable to computer malfunctions can run out even before a computer error is discovered. The problem that architects face is that they may be held liable for errors caused by erroneous computer results long after the statute of limitations has run out for the computer supplier.

An architect might thus be held liable in a case brought some years after his error was committed and yet be unable to bring a timely claim of his own against those responsible for the computer error. Patience in dealing with a malfunctioning computer system can prove very costly in the long run; to avoid this, architects should obtain an agreement from those responsible for malfunctions that will exclude the period when corrective action is being taken from the limitations period.

Among other problem areas are employee claims about adverse effects of computer use. A general concern that faces all employers who provide video display terminals to their employees is the frequently made charge that exposure to these terminals is injurious to health. Although some studies do indicate that users of

these terminals suffer more than nonusers from eye problems, muscle strain, headaches, backaches, and stress, the more serious allegations that the use of these terminals causes cataracts and reproductive problems have not been scientifically corroborated. Still, labor unions and women's groups are trying to pass legislation to regulate display terminal manufacture and use.

Not surprisingly, there is an increasing market in insurance for computer users

These policies cover such things as computer failure, software error, and business interruption. One specialized policy currently being offered covers unauthorized access by outsiders, but does not cover unauthorized access by employees. These computer insurance policies have been designed to offer protection against losses that may not be covered by standard property and liability policies.

In one case brought as a claim under a business interruption policy, the insured had been forced to shut down its computer system when water damage in the basement of its building made the air conditioning inoperative. Its insurance company said it was not covered because the water damage was confined to the basement, and physical access to the computer system was unimpaired. The insured business sued successfully (*Datatab, Inc. v. St. Paul Fire and Insurance Company.*)

In every one of these areas—computer-generated mistakes, not using computers, errors in processing data for others, breach of client confidentiality, copyright issues related to software development, faulty equipment, and employee and insurance claims—the architect in the computer age faces myriad legal complexities.

Obviously, most architects will never experience a lawsuit of this kind. But, by being aware of potential legal issues when contracting for computer services and equipment, tomorrow's architectural firms will be able to offer their clients the finest in state-of-the-art technology while protecting themselves from unpleasant legal entanglements.

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It's Promenade. And like a diamond, it's hard and beautiful. Just to give you an idea of how hard it is, it rates a 7.0 to 8.0 on the Mohs scale. And the beauty shines through the glazed matte finish with subtle shading in five different colors. All of which will help you coordinate with today's contract colors.

It's in the rough, mainly because of the surface. Promenade's textured surface increases friction, so it decreases slippage. And that's important in all your high-traffic commercial applications.

Promenade is durable, as well as versatile. It's vitreous, meaning the moisture absorption is no more than 3%, so it can handle applications of extreme tem-

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So you see, Promenade is just about everything you need in a commercial ceramic floor tile. Rough, tough and beautiful. And even a breeze to work with. The flat-back surface makes for easier installation,

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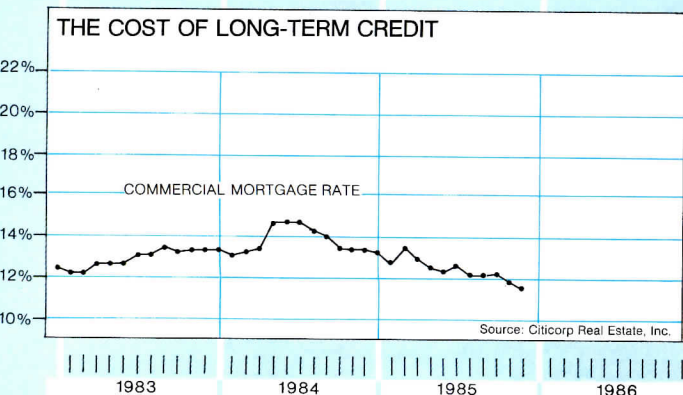
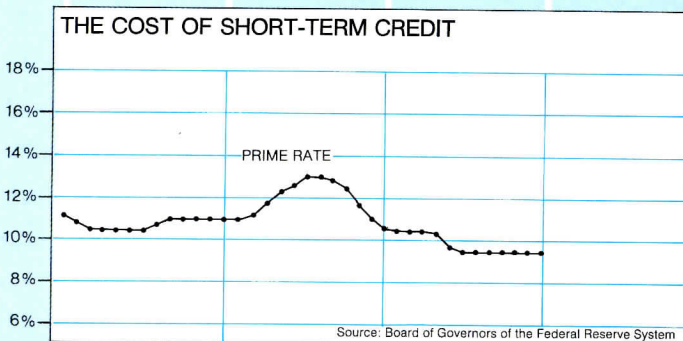
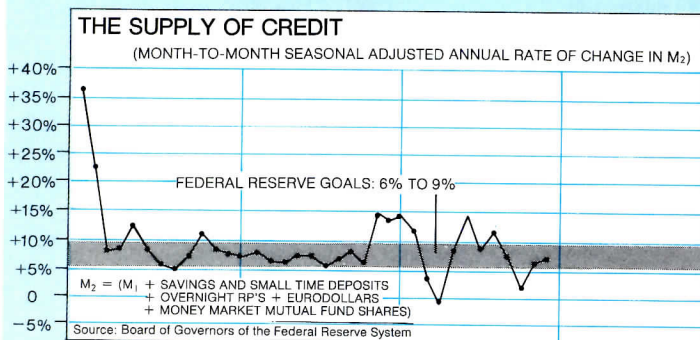
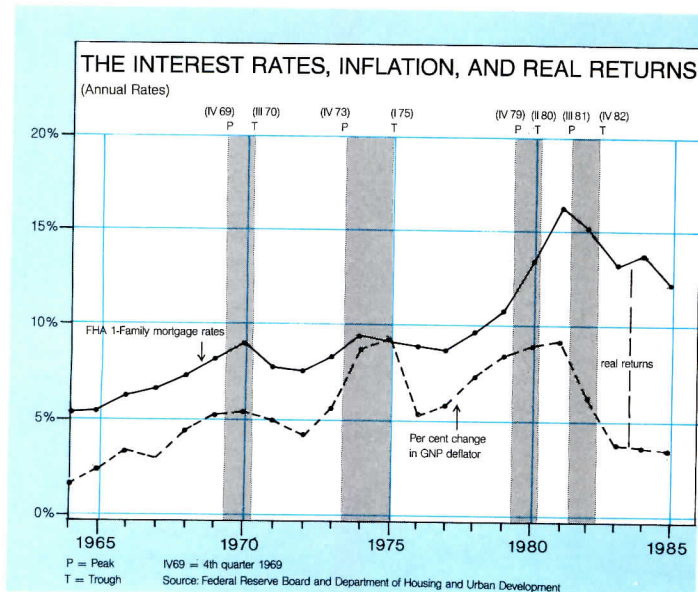
Promenade is available in 4" x 8" and 8" x 8" * with matching 4" x 8" bullnose trim. And now you can get it nationwide through our extensive distribution network.

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Finance: Declining interest rates may perk up economic growth

By Phillip E. Kidd



Currently, inflation and inflationary expectations are low. Monetary policy is accommodative. Interest rates have declined all along the yield curve and are at levels not seen since 1978. Despite these very positive factors, real economic activity is well into its fifth consecutive quarter of uninspired growth.

Normally, the convergence of these conditions occurs when the economy is shifting from recession to recovery, igniting a robust gain in real activity (considerably above the 3.5 percent long-term real GNP growth trend). This time, these forces have come together when the economy has already been advancing for more than three years.

Usually, at this "age," which is quite "old" compared to most postwar recoveries, concern mounts about the ability to sustain the expansion. However, the presence of low inflation, supportive monetary policy, and falling interest rates virtually assures that the economy will play integral roles in determining the actual amount of real expansion this year.

Inflation is substantially below its disastrous levels of 1980-81. Moreover, declining oil prices, recent moderate wage settlements, and stiff price competition for domestic goods from foreign imports augurs well for the continuation of the slow descent in inflation indexes of the past three years.

Although the interest-yield curve fell in 1985, the most dramatic changes were late in the year in the long-term markets, where Treasury-bond rates eased into single digits and mortgage rates dipped toward 10.5 percent. Yet, when these nominal (or money) rates are adjusted for inflation, current real long-term interest rates are still more than two and a half times those of the mid-1960s, the last time inflation was under 4 percent for any significant period of time (top graph).

Examining the progress of the past four years indicates how difficult it will be to cut these real rates in the future. Since it peaked in 1980-81, a two-thirds reduction in inflation has only led to a one-sixth drop in real rates. Major reasons for this gradual slippage have been the persistent mismatch between potential demand and supply of funds and investors' inflationary psychology.

It's not surprising that investors, after experiencing successively higher rounds of inflation in the late 1960s and 1970s, have remained

very nervous about a re-emergence of inflation. Only a number of years of low inflation will convince them that it is no longer a threat.

Although tremendous progress has been made, we are only starting our fourth year of relatively low inflation. In fact, viewed against the 0.5-percent to 1.5-percent figures of the 1950s and early 1960s, 3.5 percent inflation is still too high. However, the promising outlook for inflation this year will erode a little more of the investors' skepticism, relieving some pressure on real interest rates.

Our shortage of capital is the other primary contributor to large real interest rates. The investment needed to rehabilitate our infrastructure of water supply, roads, transportation, etc., to upgrade our manufacturing competitiveness, and to modernize and to redirect our population's technical and business skills is overwhelming domestic savings. Fortunately, these high real interest rates have attracted billions of dollars of foreign money, which has augmented our savings and helped support real activity gains in the past three years.

Gradually, our dependence on foreign savings will lessen. Domestic growth is expected to quicken in 1986 (3 percent real advance versus 2.5 percent in 1985). The reduced value of the dollar and expanding overseas economies will revitalize our export sector, while slowing the increase in imports, providing a two-pronged stimulus to domestic production [RECORD January 1986, page 45].

With manufacturing and agriculture regaining some strength, employment, income, and savings will rise. Larger domestic savings combined with still significant foreign investment inflows will put more downward pressure on real interest rates.

Underlying this environment will be the first twinges of fiscal restraint (provided the Gramm-Rudman Act, which would require a balanced budget, survives a constitutional challenge) and a monetary policy conducive to growth. Although the pattern of decline is likely to be uneven (a rebound of interest rates in the spring, then a slump in the fall), there is sufficient downward momentum to lower real long-term interest rates by 100 to 150 basis points (a basis point is 1/100 of a percent) by year-end. In turn, mortgage rates will fluctuate between 9.5 percent and 11 percent this year. This will be a definite boon to construction in general and owner-occupied housing in particular.

Mr. Kidd is a prominent economic consultant and former director of economics research of the McGraw-Hill Information Systems Company.

MOVEABLE FEAST.

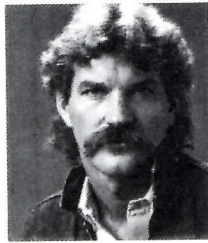
The assignment: Redesign a decades-old Pullman sleeper into a rolling hotel for business travel.

The media: WILSONART Color Quest™ decorative laminates and Decorative Metals.

The designer: Thomas J. Bolin, ASID, Planning & Design, Inc., Minneapolis.

Bolin comments: "WILSONART surfacing products offered me both the color and surfacing finish choices and the easy-care, hard-wearing characteristics I had to have to pull off this assignment.

"I needed a comfortable, luxuriously appointed interior that wouldn't feel confining despite the space limitations (of an 85' x 10' car), while meeting the unusual functional requirements of outfitting a moving, smoke-spewing train. WILSONART gave me the solution."



Thomas J. Bolin, ASID
Planning & Design, Inc., Minneapolis

Photo: Craig Anderson
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The dining/conference area (photo below) set the Art Deco design referent used throughout the car. The visual expansion is created with a color progression of Mauve Mist to Wildrose to Amethyst gloss decorative laminates on the inset ceiling.

The same palette forms table tops and decorative inlays on Northsea-clad cabinets, with gloss Black accents.

WILSONART Satin Brushed Natural Aluminum clads pocket dividers which open to pass-through service from the kitchen.

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Practice:

Is there a new market in energy conservation or just risky business?

New ways to finance energy retrofits: do they bring engineers business or bypass their services? Here, we look at both sides of the question

Once the passing of the oil crises of the 1970s relieved consumers of the most immediate incentives to conserve energy, many of the innovative business ventures and practices they generated, among them subspecialties of the design professions and construction industry, fell by the wayside or became marginal.

One surviving practice, shared-savings energy contracting, is now, by all accounts, thriving, after changing its spots somewhat along the way. But its revival is getting mixed reviews: The Energy Committee of the American Consulting Engineers Council views the practice with distinct skepticism and "is investigating recent surges in shared-savings energy contracts. . .," while some energy experts are talking about it in such glowing terms as "the hot ticket in energy right now."

This unconventional practice generates a new set of benefits and risks for participants

A shared-savings agreement works like this: a client contracts with an energy-service firm to plan and implement an energy-conservation retrofit program for his building, which most probably involves new equipment, insulation, structural renovation, a change in energy-usage patterns, or a combination of all four. From this, the energy-service firm guarantees that the client will save a specific amount of energy. The client receives these services without paying any money upfront. Instead, the contractor arranges with a lending institution for third-party financing to cover his costs, which the client pays off at the rate of a set percentage of the resulting savings on energy costs over a period of time, generally five to ten years.

Ideally, this means that the contractor will have an engineer conduct an "energy audit" of the client's building and, based on the existing equipment, conditions, and the occupants' needs, recommend a long-term scheme that includes a maintenance program.

At its best, the shared-savings agreement makes it possible for a client who has no accumulated capital to simultaneously finance a badly needed energy retrofit, reap savings on utility bills, and make a capital investment that will continue to benefit him once the contract expires. The advantage to the contractor is that it generates work that would not otherwise exist, and provides a fairly long-term, steady source of income.

It sounds great in principle, but even the most enthusiastic proponents agree that it's more risky for both parties than a straight cash deal. For one thing,

the parties commit themselves at the outset to a long-term relationship, which presumes that both will continue to exist as business entities until the contract expires. For another, it is almost impossible to accurately forecast energy costs and project profits over five- to ten-year periods.

Ed Bajer of the American Consulting Engineers Council's Energy Committee says that his organization is concerned that consulting engineers are not usually involved in these arrangements and conservation methods are installed without an expert study of the client's needs, resulting in less energy savings and less money for the client.

Another factor in the ACEC's (and others') skepticism is that in the halcyon days of energy tax credits, shared-savings contracting acquired an unsavory reputation as something of a tax scam, with contractors and building owners greatly overstating forecasted energy savings, thereby reaping undeserved tax benefits based on inflated projections rather than on the actual value of the contract.

Economic and political changes are making shared-savings contracts worth another look

Today, however, current fiscal policy is sending energy tax credits the way of the bustle, eliminating them as an avenue of abuse. But, ironically, it is these same fiscal policies that are making shared savings so viable today. With cuts taking increasing bites out of operating and capital budgets, it is now becoming one of the few ways that cash-poor public-sector institutions can afford energy engineering services.

This, says Patricia Rose, an energy conservation specialist at the Department of Energy in Washington, is where engineers stand to benefit. Without the guidance of an independent expert like an engineer, she says unknowledgeable consumers may turn to companies that recommend only the products they make or sell rather than those that will produce the greatest energy savings. If the energy savings are insufficient for the contractor to make his money back, the contractor could go out of business, leaving the client with inefficient equipment, continuing high energy costs, and, possibly, responsibility for paying back the third-party financing. Hence, Rose cautions, the consumer's only real protection is a good lawyer and "an independent energy analysis, done by someone other than the installer, that will give you a list of options before you go to the contractor."

Howard Bozich, president of Impact Management Systems, an

energy service company and past president of the 22-member National Association of Energy-Services Companies heartily concurs. Engineers should look upon shared-savings as a new avenue for their skills, he contends. "In the last seven years, we have hired seven consulting engineering firms to work on performance contracts and that is work that would not have been available but for performance contracting."

However, he admits, "Conservation is a tricky business. It is difficult to project savings and frequently the performance never comes up to the promised savings. We are also upset about bad projects where they don't use engineers." But the practice is growing and changing, and he attributes engineers' negative reactions mainly to lack of knowledge.

Carefully drawn contracts and communication are central to a profitable arrangement

Ted Czernik, an engineer and president of TWC, Inc., a Rhode Island energy-service firm, has been in the field since 1980. He says that in order for the shared-savings contract to work, "the energy-service company has to be very professional and the client very knowledgeable or he won't feel that he's getting his money's worth." The best deal, he explains, gives 80 to 90 percent of the savings to the company, otherwise earnings will not cover the costs of service and financing. For the same reason, a good service firm will not be aggressive in forecasting savings.

The human element is also important to the success of these contracts, Rose says. In addition to economy, plans should take into account comfort and temperature requirements of a building's functions (cool computer rooms, warm nurseries, etc.). Engineers and contractors need to work closely with the occupants, including maintenance staff, to obtain their cooperation and assure that "someone in the boardroom or the boiler room isn't undermining your conservation plan." Buy-out options are also advisable to allow an honorable divorce if the relationship is not working out.

Risks notwithstanding, industry experts contend, the need to pare costs and the lack of capital will probably continue to make shared-savings contracts an attractive option for public-sector institutions. As such, it could well be an interesting business prospect for engineers, but one that is clouded by sliding energy costs that threaten to make it unprofitable in the long run for contractors.

Julia Lichtblau

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

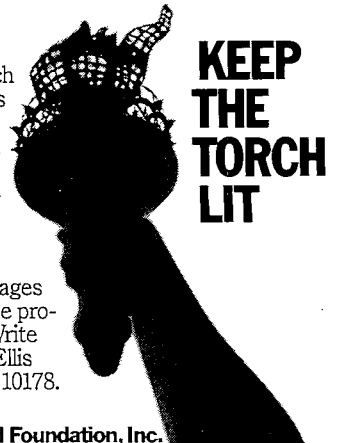
All of the money must come from private donations; the federal government is not raising the funds. This is consistent with the Statue's origins. The French people paid for its creation themselves. And America's businesses spearheaded the public contributions that were needed for its construction and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

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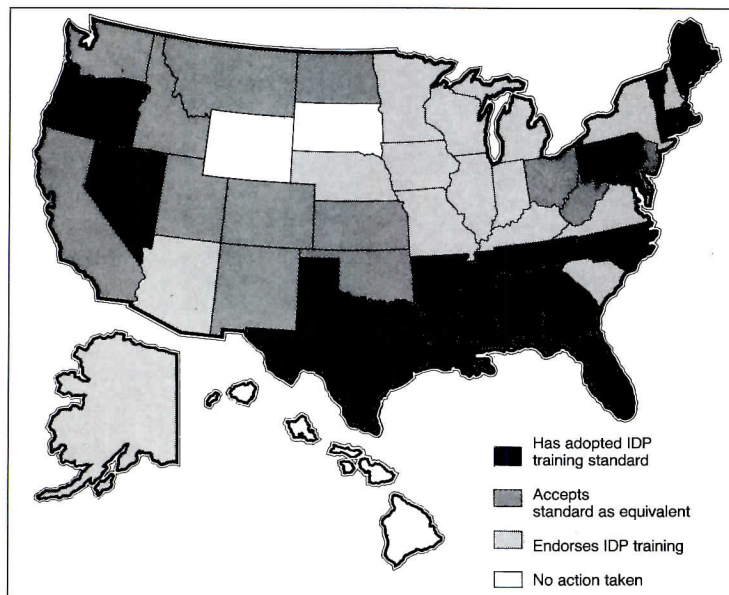
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Architectural education: The Intern-Architect Development Program, a status report from the trenches

By the IDP Coordinating Committee



The current status of IDP adoption by the various states as of January 1986 is shown in the map above.

When ARCHITECTURAL RECORD last reported on the status of IDP in May 1984, only ten states then required candidates for registration to satisfy the program's internship training standards. Nine more states had endorsed the training standard as acceptable documentation to the "... diverse experience in architecture..." required for admission to the Architect Registration Examination.

Today, the roster of jurisdictions that mandate the IDP training standard has doubled in number: 18 states now specify IDP's performance-based standard as the only measure of internship training. Another 14 accept the IDP training standard as equivalent to their experience requirement for licensure, and 15 plus the Virgin Islands endorse IDP training for interns. Only seven boards (including territories) have taken no position on IDP, while four are currently considering adoption. Thirty-one states have identified IDP state coordinators (two of them paid positions under the state registration board) responsible for program implementation and administration within the state.

Almost 10,000 interns, supported by over 1,500 AIA member firms, are now participating in the program nationwide. Over a third of the AIA's local state components have organized advisory networks to serve interns; many also offer supplementary education programs tailored to intern needs. The AIA College of Fellows has endorsed IDP and has encouraged its members to involve themselves in program activities and implementation. Eighty-seven of the 92 schools offering NAAB-accredited programs in architecture have appointed IDP educator-

Implementation of the IDP as an organized transition from architectural graduate to licensed practitioner has grown by leaps and bounds over the past couple of years. Here is a thoughtful summary of where it now stands

advisors to introduce the program to students.

Edward V. Kemp, AIA co-chair of the IDP Coordinating Committee, believes that IDP has reached critical mass. "The committee now feels confident that its goal of making IDP available to every interested intern can be met by the end of 1987," Kemp reported recently. "A year ago, even the most optimistic of us was not hopeful of widespread implementation in this decade."

At first, the profession was lukewarm towards IDP

It hasn't been easy. The committee, created in 1975, found its task of establishing a standard for the internship interval in architecture very much of an uphill battle. Current committee member James H. Boniface, AIA, notes that while the profession has supported standards for the accreditation of its academic curricula since 1940 and has utilized a uniform examination since 1962, it has consistently resisted efforts to prescribe standards which will ensure that those seeking entrance to the profession will have had a comprehensive exposure to architecture's body of knowledge during their internship, the critical link between academia and practice.

Boniface believes that the practicing professional's traditional role as mentor to intern-architects in the office has been profoundly affected by deep-seated and permanent changes in the nature of the profession itself. He minces no words when he describes the situation he encountered as he entered the profession in the early 1970s: "I will be frank. Without guidelines to assist interns and their employers, the concept of 'diversified experience' often translated directly into 'crapshoot,' with the odds set in favor of the employer by his/her ability to schedule work and hire/fire according to the needs and objectives of the firm, which in the real world often meant short-term economic self-interest.

"And yet the profession's educational curricula and regulatory requirements still presumed the existence and efficacy of the mentor/apprentice relationship in preparing graduates for examination, registration, and practice. Schools of architecture and state licensing bodies continued to rely upon the offices of practitioners to assist in the process that develops and sanctions young architects."

Uniform requirements were set to help practitioner and intern

The Intern-Architect Development Program was designed to provide a

framework for this internship interval in architecture by making available to the motivated intern a program of training, supplementary education, and advice and counsel that would promote effective and comprehensive preparation for the profession. The establishment of uniform internship requirements was also intended to assist the practitioner in the training of competent, versatile, and committed employees; to provide state registration boards with an easily administered standard against which the experience of those seeking entrance to the professional examination could be measured; and to benefit the profession generally through the development of broadly experienced and knowledgeable architects whose progress through internship would be guided by the best advice the profession had to offer.

First implemented in 1976 as a pilot program in three states (Colorado, New Jersey, and Texas), the IDP training standard and program resources were tested, assessed, revised, and validated by participants across the country. By 1982, its provisions had been firmly established and efforts were redirected toward state and local implementation.

From the outset, students and interns embraced IDP with enthusiasm as a transition from academia to practice.

Resistance continued among employers and AIA chapters

Architects who employed interns, however, remained wary of the new program. Many took a cursory look at IDP publications and came away with the conviction that implementing the program within the office would compromise productivity and profitability. Others resented the apparent "spoon-feeding" of graduates whose seeming lack of useful skills was already a bone of contention within the profession. Said one prominent architect: "In my opinion, IDP won't work and will flounder in a year or so of its own weight. As a board member, I will oppose it in my state. All that is necessary... is to graduate from an architectural school, pass the licensing exam, and work in an architectural office."

Practitioners foresaw hours of paperwork, intern demands for exposure to areas of practice inappropriate to their status and level of understanding, and violations of office confidentiality as interns reviewed their progress with out-of-the-office advisors.

Faced with widespread employer apathy, interns looked to their local AIA components for assistance. Results were mixed. *Continued*

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Many associate members encountered chapter apathy—or even outright hostility—to program elements, and themselves took on the responsibility for administering a local internship program. Other intern-architects simply bypassed the local AIA organization and pursued IDP independently.

NCARB promotion led to more widespread interest

On another front, the National Council of Architectural Registration Boards, working with its more limited constituency, the state registration boards, was promoting IDP endorsement among the profession's regulators. Architect and public members of the licensing bodies, recognizing that the IDP training standard offered a preparation for practice that was superior to the traditional durational requirement, altered their regulations to endorse or even require the IDP training standard.

Where IDP was adopted as a requirement for registration, AIA components and member practitioners were quick to implement its program elements. But those state registration boards that accepted the IDP standard as an optional equivalent to their durational training requirement—a form of endorsement that accorded with established AIA policy—often found that the necessary AIA and practitioner support network failed to follow. Voluntary implementation lagged.

Gregory S. Palermo, the AIA Board member charged with IDP liaison, was disturbed by the apparent dichotomy: "The AIA has long recognized that there are many paths to the profession and to ongoing self improvement. We have a mandate from our membership to preserve that diversity of approach, and our policies with regard to the education standards, IDP implementation, and continuing education requirements reflect this concern. How are we to maintain our credibility on these issues if we neglect our responsibilities to support voluntary programs like IDP that clearly contribute to improved preparation for the profession?"

An informational outreach program spurred developments

Early in 1984, the IDP Coordinating Committee, concerned that program implementation was being hindered by widespread practitioner misunderstanding, made the AIA audience a particular target of its informational and promotional efforts. Resources were developed to rebut practitioner concerns, and outreach activities were expanded. Squads of experienced IDP participants were mustered to carry

the IDP word to architectural firms and AIA components.

"It's really nothing new," was the message carried by IDP Coordinating Committee member James E. White, AIA. "Seven hundred value units distributed over 14 major areas of practice are required to complete IDP. This is roughly equivalent to the typical three-year internship period, the difference being the comprehensive exposure assured by compliance with the minimums of the IDP training standard."

White emphasized the intern-architect's responsibility for achieving and recording the value units that measure progress through IDP: "Simply put, the Intern-Architect Development Program is a 'road map' for those preparing to enter the profession. Guided by the IDP training standard, which identifies and specifies minimum levels of exposure to office practice and project-management responsibilities, the intern is expected to document the credits gained through on-the-job experience, observation, and supplementary education activities. This record is periodically certified by the employer, and reviewed quarterly by the intern's advisor."

In 1985, both AIA and NCARB expanded active commitments. Nationally, AIA's commitment to the program was renewed and strengthened; its 1985 budget provided an increase in AIA program and staff funding to support additional outreach and implementation activities. Vice President—and now President—John A. Busby, Jr., FAIA, became an enthusiastic proponent: "The AIA will continue to commit its energies and resources to IDP implementation. We expect our members to discharge their responsibilities to the profession and its aspirants by supporting interns participating in IDP. For my part, I intend to make IDP a particular focus of my presidency in 1986, and anticipate substantial growth during my tenure in Washington."

NCARB program staff was also expanded in 1985 to serve the growing numbers of interns who established NCARB/IDP council records to document their IDP experience. President Theodore L. Mularz, FAIA, long an IDP advocate, reiterated his organization's commitment: "It is our hope that the additional thrust given to the program during the coming year will help those states that recognize IDP's benefits but are having difficulty with implementation."

The demand for information kept

staff and members of the IDP Coordinating Committee on the road for much of 1985: over 100 IDP assistance visits were conducted at AIA component meetings, state and regional conventions, schools of architecture, and state board offices last year. Training sessions were scheduled for professional sponsors and advisors across the country, and information on successful firm and chapter programs was collected and widely disseminated.

The increased AIA and NCARB budget commitments also enabled the committee to expand its membership to staff six IDP regions, each represented by an AIA and NCARB liaison to promote more effective communication. A streamlined version of its introductory slide show was produced for component use, and committee meetings were scheduled to coincide with AIA regional and state conventions in order to reach the individual member as well as component officers and executives.

A dramatic increase in interest and participants soon followed

A marked turnaround in practitioner attitude began to be felt by mid-1985. The numbers of interns and practitioners participating in IDP began a steady increase that became dramatic by the fall of 1985 and still shows no signs of leveling off. Practitioners were persuaded that IDP was good for the office as well as for the intern. Firms discovered that the program's much-feared record-keeping requirements were intern responsibilities, and that satisfying the educational needs of young interns, a task that many were already performing, was in fact made easier by the uniform documentation and common expectations outlined by IDP. Components that established advisory networks among their membership reported administrative requirements to be minimal. Practitioners involved in IDP as sponsors of office interns, as advisors to one or more interns employed elsewhere, or as chapter IDP coordinators, confirmed the personal and professional rewards to be gained in counseling future architects.

With the enormous increase in interns participating in IDP comes a concomitant increase in the numbers of IDP "graduates" who have completed the program and passed the Architect Registration Examination. Many of these newly registered architects are choosing to repay the profession's investment in them by serving as sponsors and advisors to current intern-architects.

"As more and more interns come up through the IDP system," notes

NCARB co-chair William M. Fenton, AIA, "the committee's implementation task becomes easier. A corps of young practitioners, knowledgeable of program requirements and sensitive to their obligations to those entering the profession, is now becoming available to service and maintain the IDP support network. We expect that IDP will soon come to be recognized everywhere as integral to the system that produces new architects."

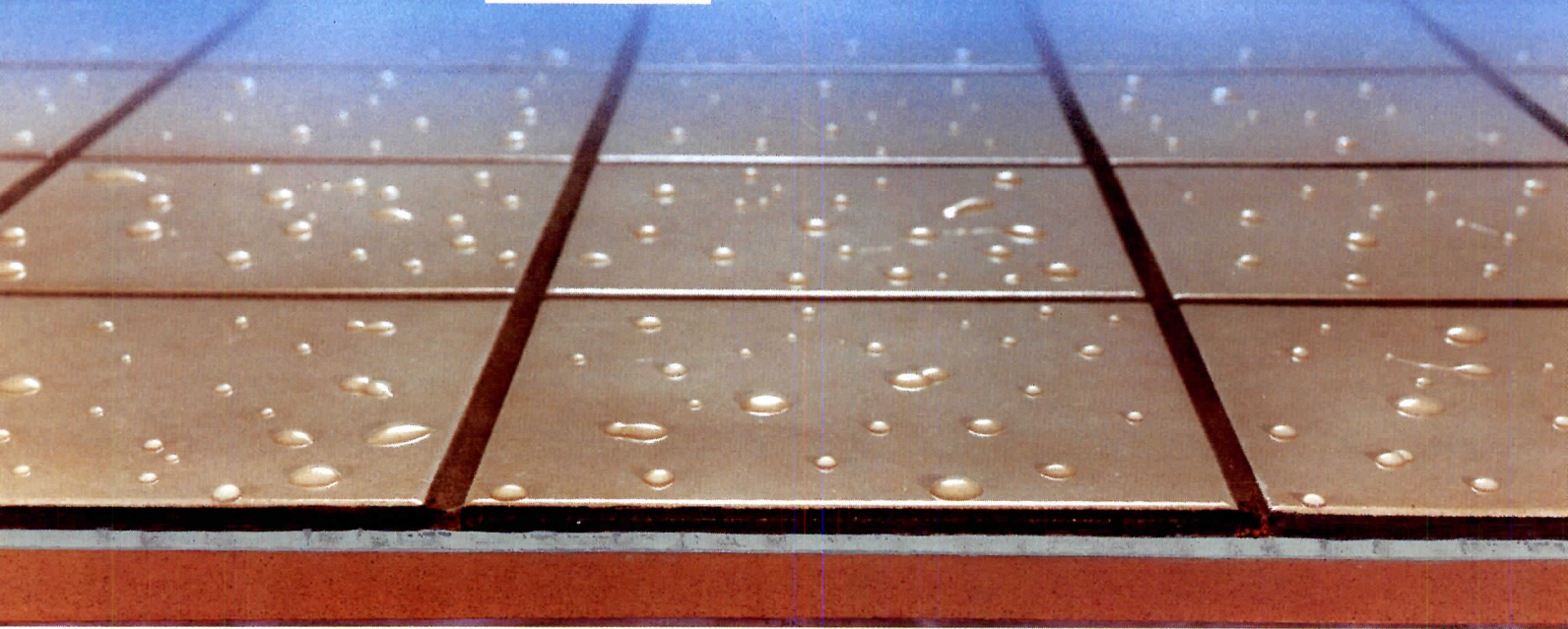
There is still a way to go, but the future is optimistic

What's next for IDP? Planning for 1986 will consolidate recent gains. Outreach efforts will continue—AIA and NCARB program budgets anticipate a doubling of the number of IDP assistance visits scheduled last year—with particular emphasis on jurisdictions whose registration boards are actively considering IDP adoption. The AIA's 1986 Grassroots meetings in Washington will feature two IDP workshops for component leaders, and its annual convention in San Antonio will also highlight IDP activities. The committee will continue to cooperate with the American Institute of Architecture Students and the Association of Collegiate Schools of Architecture to schedule and staff regular IDP briefings at member schools. Committee members will also be working with AIA's professional development department to increase the number of supplementary education programs directed toward intern needs.

In a move that members hope may soon herald another transition for the Intern-Architect Development Committee—from implementation to program maintenance—members will begin development of the first of a planned annual series of regional IDP conferences to bring together national program staff and those with state and local IDP responsibilities—state coordinators; registration board members and administrators; AIA component executives and IDP chairs; and professional sponsors, advisors, and educators—for an exchange of information and experience that will assist in local IDP maintenance.

"It is premature to suppose that the 'battle' is over," cautions Ed Kemp, "although we are enormously encouraged by the response to our recent initiatives. Those who have been carrying the IDP standard for so long welcome the new recruits, but we're a long way from resting on our laurels. Much remains to be done to invest IDP with the resources necessary for its fullest application."

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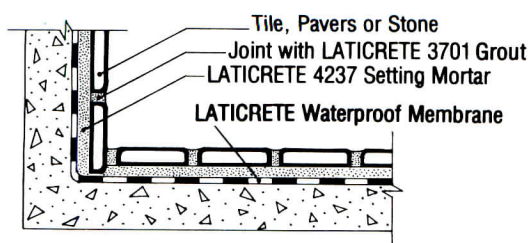
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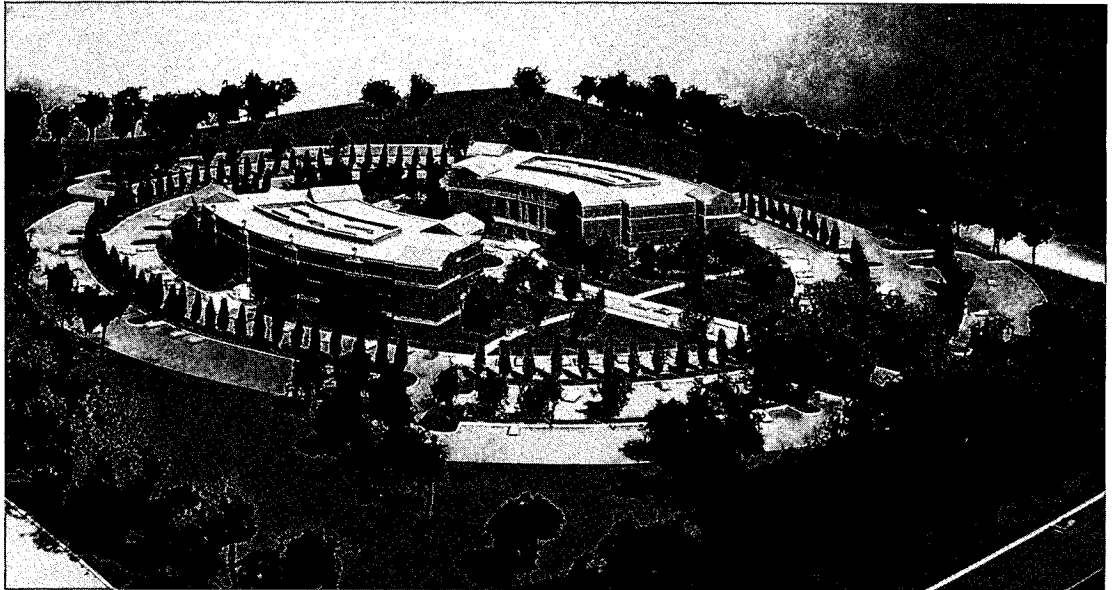


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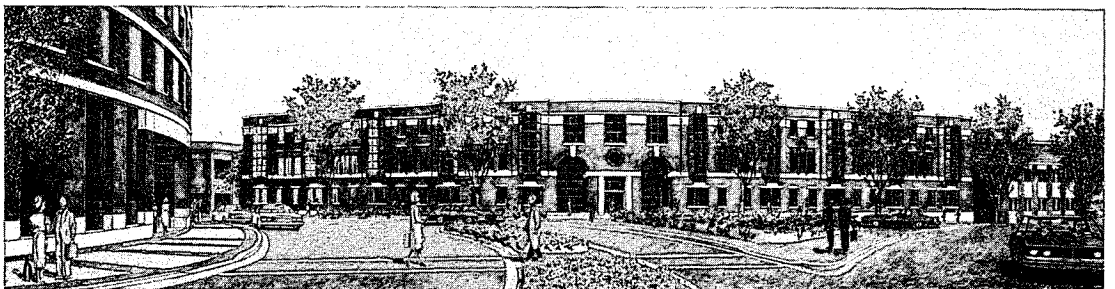
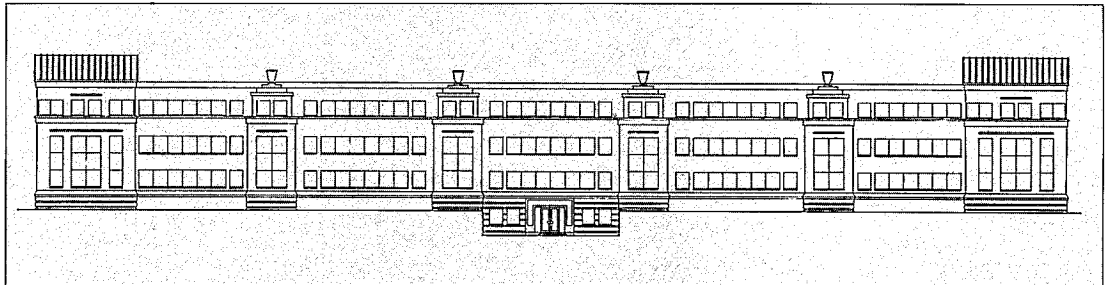
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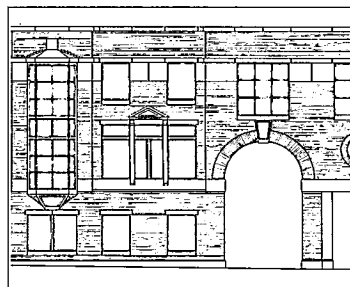
Redefining the low-rise office building: Two current projects by Robert A. M. Stern



©Nathaniel Lieberman



Although Robert A. M. Stern's brand of genteel historicism has typically been associated with residential design, recent projects by the New York architect reveal how certain domestic elements can be successfully applied to small office buildings. The first of these projects to be completed was Point West Place near Boston [RECORD, February 1986, pages 128-135], a severe Neoclassical box that contrasts strikingly with nearby suburban strip development. The second, Prospect Point in La Jolla, California, is a no-less-serious stucco-and-wood structure meant to evoke southern California's Mediterranean architectural heritage. Two new speculative projects on the East Coast exemplify further refinements in the genre. Rye Brook Park (model and elevation top) will consist of two 100,000-square-foot office



buildings located near the center of a 30-acre, wooded site in Westchester County, New York. The four-story structures, arranged formally around an oval motor court, will be surrounded by concentric terraces providing parking space for 660 cars. Sheathed in earth-colored brick, buff stone, and light bronze-tinted glass, the buildings will be articulated by rusticated bases,

corner pavilions rising to peaked metal roofs, and smaller bays modulating curved outer walls—time-honored details that evoke 18th-century garden architecture.

In Newton, Massachusetts, Stern has unveiled plans for Two Newton Place (perspective above and elevation left), a three-story, 110,000-square-foot office building intended to bring a "powerful urban statement" to the commercial center of the Boston suburb. Although its overall massing and detailing represent a respectful bow to One Newton Place, an adjacent brick-and-stone building designed by Skidmore, Owings & Merrill (left in perspective), Stern's project departs from its more austere neighbor through such ornate architectural elements as two-story-high oriel windows, a round-arched entrance bay, and pedimented window surrounds.

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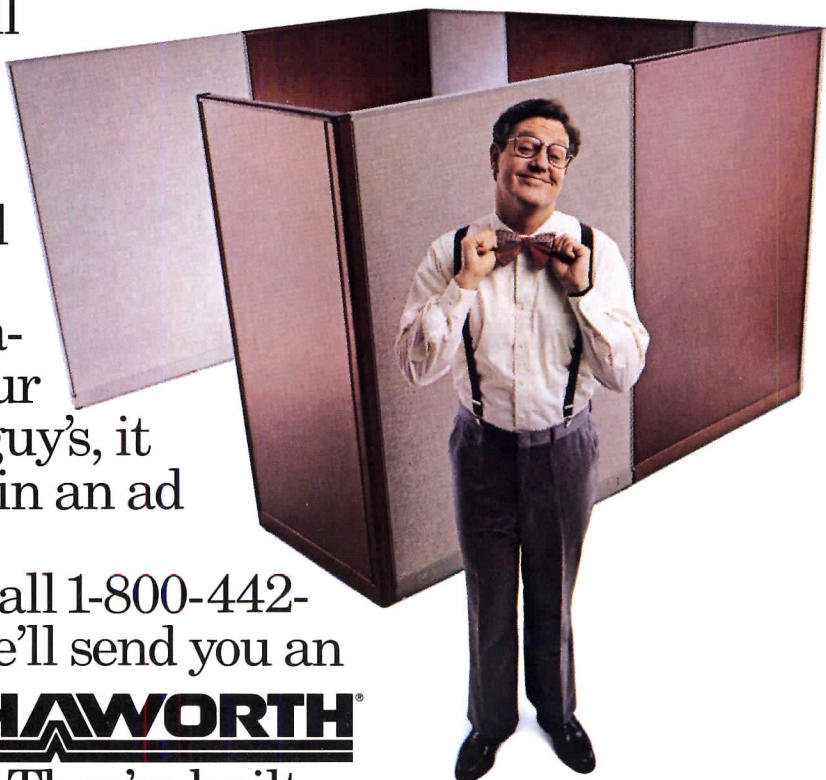
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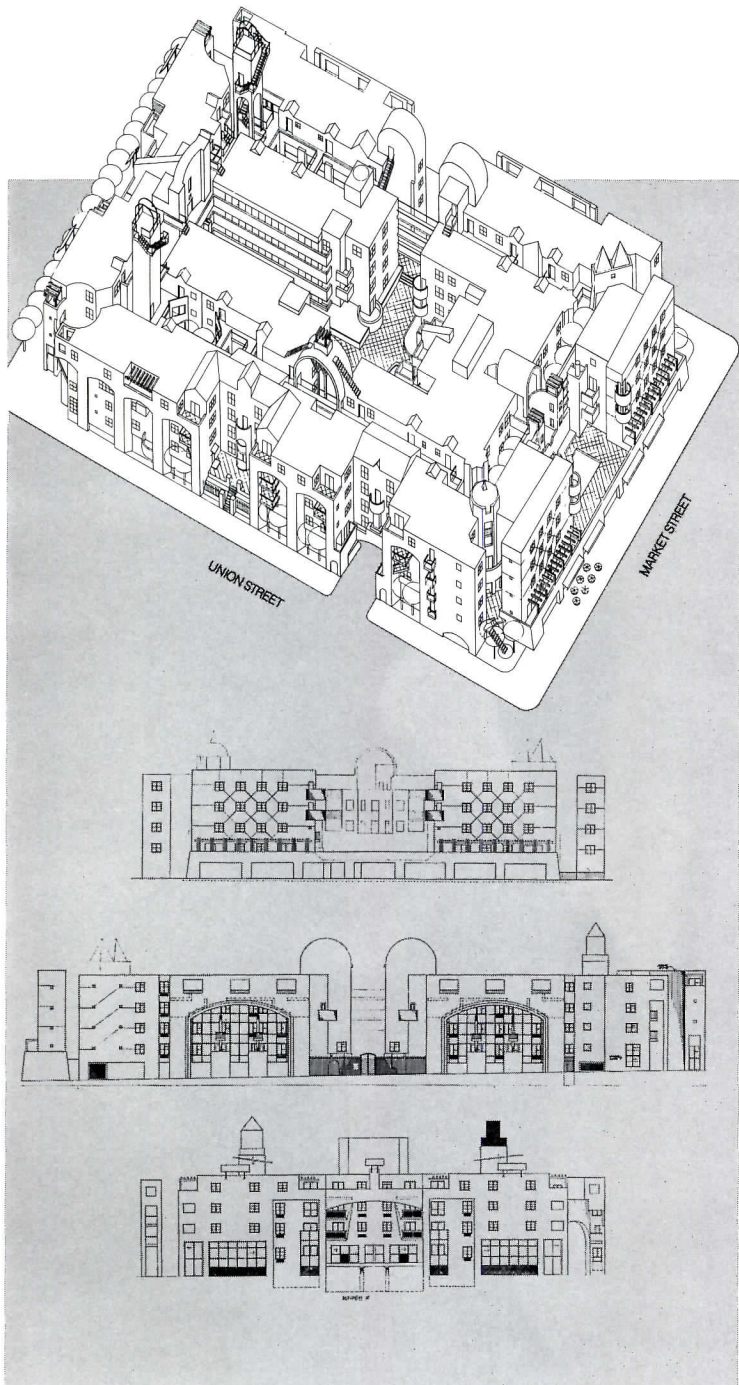
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Palmy days in San Diego



While San Diego celebrates the success of Horton Plaza—the recently completed shopping and entertainment center that has rejuvenated the city's downtown retail district (see page 128)—plans are afoot to infuse new residential vitality into the blocks immediately adjoining the extravagant complex. One of the most intriguing projects to date is a proposal dubbed Marina Palms, a four-story, 180-unit apartment house that architect Rob Quigley says “seeks to address an appropriate regional architecture and sophisticated urban design agenda within the standard doughnut layout and traditional floor plans dictated by the developer.” Toward that end, Quigley has designed the block-square, garden-style project with four distinctive facades, each of which responds to the specific nature of its street. Seen in

axonometric view, the Union Street elevation exhibits intimately scaled arched openings and street-facing courtyards; by contrast, the Market Street facade (top elevation) recognizes the boulevard quality of that street with its concrete plinth supporting broad, simple masses articulated by vine-covered pergolas. The Front Street facade (middle elevation) was designed as the project's primary gateway with a pair of rounded towers marking the public entrance, while a recessed pedestrian arcade on the G Street facade (lower elevation) refers to nearby retail activity. The project's low-rise scale and Quigley's inclusion of such gracious details as winding exterior stairways, small rotundas, and a sun court, represent a thoughtful acknowledgement of San Diego's Mediterranean climate, topography, and architectural heritage.

News briefs

Robert Venturi of Venturi, Rauch and Scott Brown has been selected over five competing firms to design a major extension to the National Gallery in London. The extension will be situated west of the current Trafalgar Square building and will house the Gallery's early Renaissance Italian and northern European collections. The selection committee's choice of Venturi was based on the architect's overall body of work and his general ideas for the addition, not on any specific scheme for the site. A final design is not expected to be made public for at least a year.

Mark Mack has been named to head an architectural team responsible for developing the San Francisco Design Center. The new showroom facility for contract furnishings will be constructed on an industrial site south of the city's Market Street corridor. Other firms on the design team are Robinson Mills & Williams (associated architects), The Burdick Group (program planning and interiors), and Vanderbyl Design (graphics).

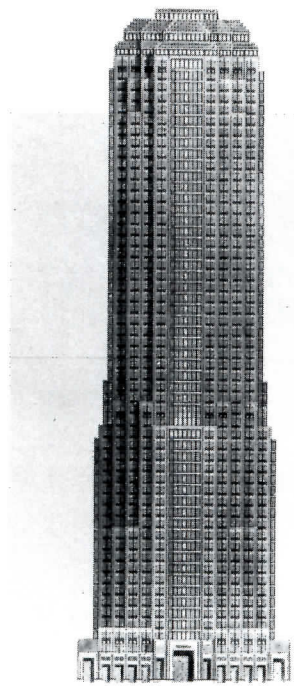
Charles Moore and the Urban Innovations Group have been named the winning team in a national competition to design a new \$20 million civic center in Oceanside, Calif. Moore's premiated design and the entries of four other competition finalists will be featured in RECORD's April design awards/competitions section.

Minoru Yamasaki has died of cancer in Detroit at the age of 73. The son of Japanese immigrants, Yamasaki was best known for his romantic interpretation of modern architecture, including such works as the United States Consulate in Kobe, Japan, and the Lambert Air Terminal in St. Louis. His most famous structures were the World Trade Center in New York, the 110-story twin towers that were briefly the tallest buildings in the world, and the Pruitt-Igoe low-income development in St. Louis, the demolished project that came to exemplify public housing's failure to address the needs of the poor.

“**The American Architect**” is the theme of the American Institute of Architects' 1986 National Convention, scheduled for June 8-11 in San Antonio.

Spiro Kostof's *A History of Architecture: Settings and Rituals* has been named the outstanding architecture and urban planning book of 1985 in the 10th annual Professional and Scholarly Book Awards, sponsored by the Association of American Publishers.

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The commercial building boom that has transformed downtown Dallas over the past decade continues unabated—witness plans for Republic Bank Center, a 60-story, 1.5-million-square-foot office tower that will be, upon completion, the tallest concrete-core/steel-framed structure in the country. Architects for the granite-clad building are Skidmore, Owings & Merrill (Chicago office).

... and a touch of flash in Charlotte



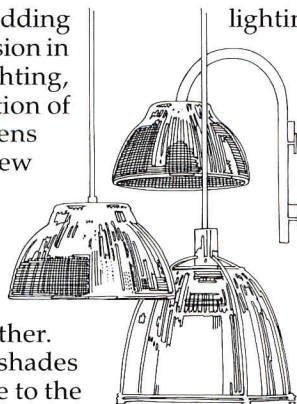
The first Postmodernist skyscraper in Charlotte, N. C., a 34-story, 1.2-million-square-foot tower dubbed Two First Union Center, will feature a setback facade sheathed in bands of silver reflective glass and red Finnish granite that terminates in a dramatic, glass-enclosed vault. The project was designed by JPJ Architects and is scheduled for completion in mid-1987.

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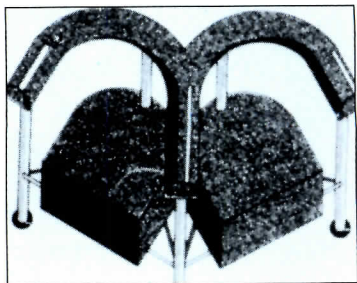
Memphis/Milano in Victorian New York

Andrew Carnegie favored conservative architecture for his ornate Fifth Avenue mansion, now the Cooper-Hewitt Museum. Memphis, the Italian design collective, has made headlines by breaking the rules Carnegie revered. In an exhibition entitled "Memphis/Milano" the Cooper-Hewitt has brought their worlds together, with unexpected and instructive results. From the informal alliance that coalesced around Ettore Sottsass in 1981, 11 artists are represented in an exhibit that includes 150 drawings of furniture, fabrics, lighting, and architecture, and 75 objects.

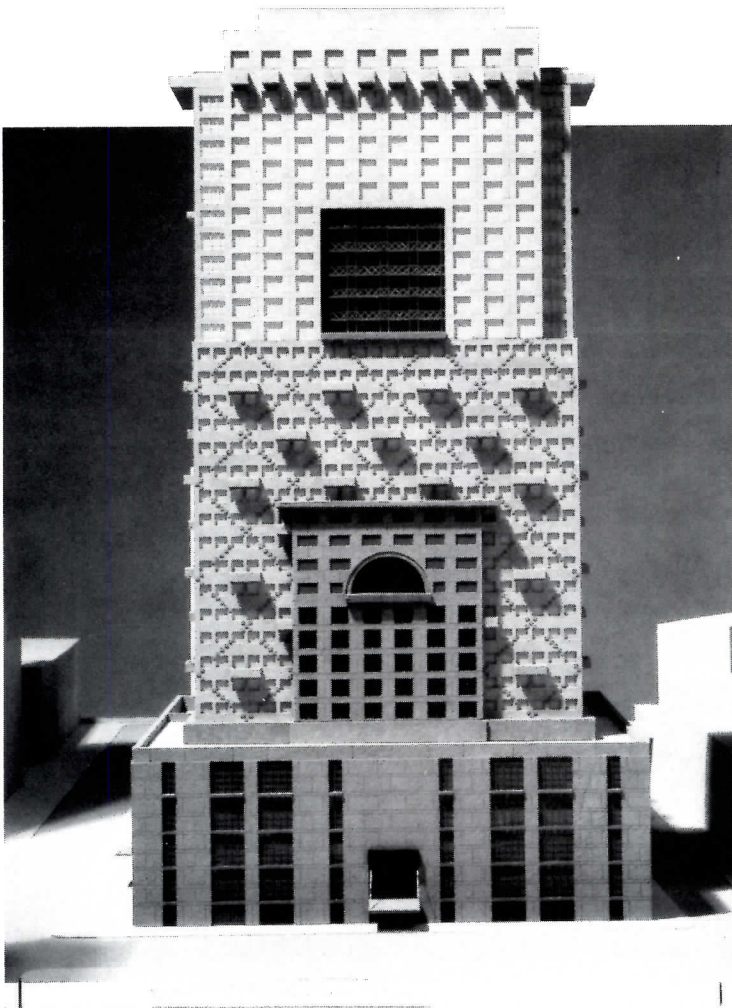
As it turns out, the Victorian mansion accommodates furniture of the future rather easily, for one decorative extreme balances the other. An arrangement of lamps and tables centered on Peter Shire's Bel Air easy chair, a colorful jumble of geometry, is cheerful and bold against the room's luxuriant white Classical detail. The architectonic forms of Michael Graves's Stanhope bed pull a marble fireplace and massive wooden mantle into a Memphis ensemble.

Although Memphis's individual pieces are determinedly eccentric, their cumulative effect achieves a notable congruity. Ceramic and glass are especially successful, where imagination is braced by craftsmanship. The drawings are less appealing: their spontaneity values sincerity over reflection, and harmony dwindles to repetition. We are invited to sit on Michelle DiLucci's First Chair, a spartan arrangement of metal tubing and wooden discs, and it is surprisingly comfortable, except for the list price of \$365. But perhaps this is appropriate for a group that describes itself as a "mutation of the consumer mechanism."

Barbara Radici's book *Memphis* serves as the exhibition catalog. She claims the group "has tried to capture planetary anxieties . . . the shudders and tensions of the third world." The show, however, pays more attention to esthetics than ideology. Memphis would probably approve, since Sottsass calls his efforts "conscious momentary and provisional figures." This temporary world is on view until April 13. *Thomas Matthews*



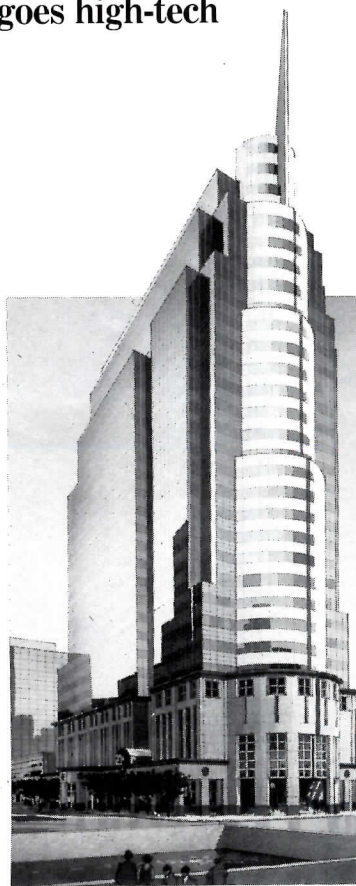
A quintessential marriage of art and architecture: Michael Graves designs for Sotheby's



Sotheby's, the world's largest international art auction house, has unveiled plans to erect a 27-story condominium tower, designed by Michael Graves, atop its current five-story headquarters on Manhattan's Upper East Side. In addition to the residential portion of the project, the proposal will add 21,000 square feet of gallery and office space to the auction house's present facilities. Graves's design calls for a tripartite structure comprising the existing Sotheby's as a base, a 16-story midsection whose facade is articulated by balconies and a diagonal patterned grid, and an 11-story crown that features larger areas of glass and corner windows. The most striking aspect of the project is a central gray-green stone bay that, in Graves's words, "will identify the theme of the building and communicate the relationship between the residential tower and the auction house. In form it can be read as a modern abstraction of either a decorative artifact or an emblematic house or palazzo." Notes Sotheby's president Michael L. Ainslie, "The structure couples esthetics and purpose, and is both appealing and pragmatic. Graves espouses a design idiom that combines contemporary elements with classical design. This concept represents Sotheby's itself."

Blue-collar Jersey City goes high-tech

Although the words "Jersey City waterfront" do not readily conjure up mental images of a contemporary office district, that is exactly what is emerging in the aging metropolis. Amid moldering dockside warehouses and factories, a combination of new and renovated buildings is transforming the obsolete industrial district just across the Hudson River from lower Manhattan into a remarkably viable commercial center. The area's most visible building project to date is a proposed 31-story speculative office building that will be, at 530 feet, the tallest structure in New Jersey. Rising from a polished granite base, the setback tower will feature a ground-floor arcade and a full-height rounded bay that faces a riverfront park and the New York City skyline. Project architects are The Grad Partnership.

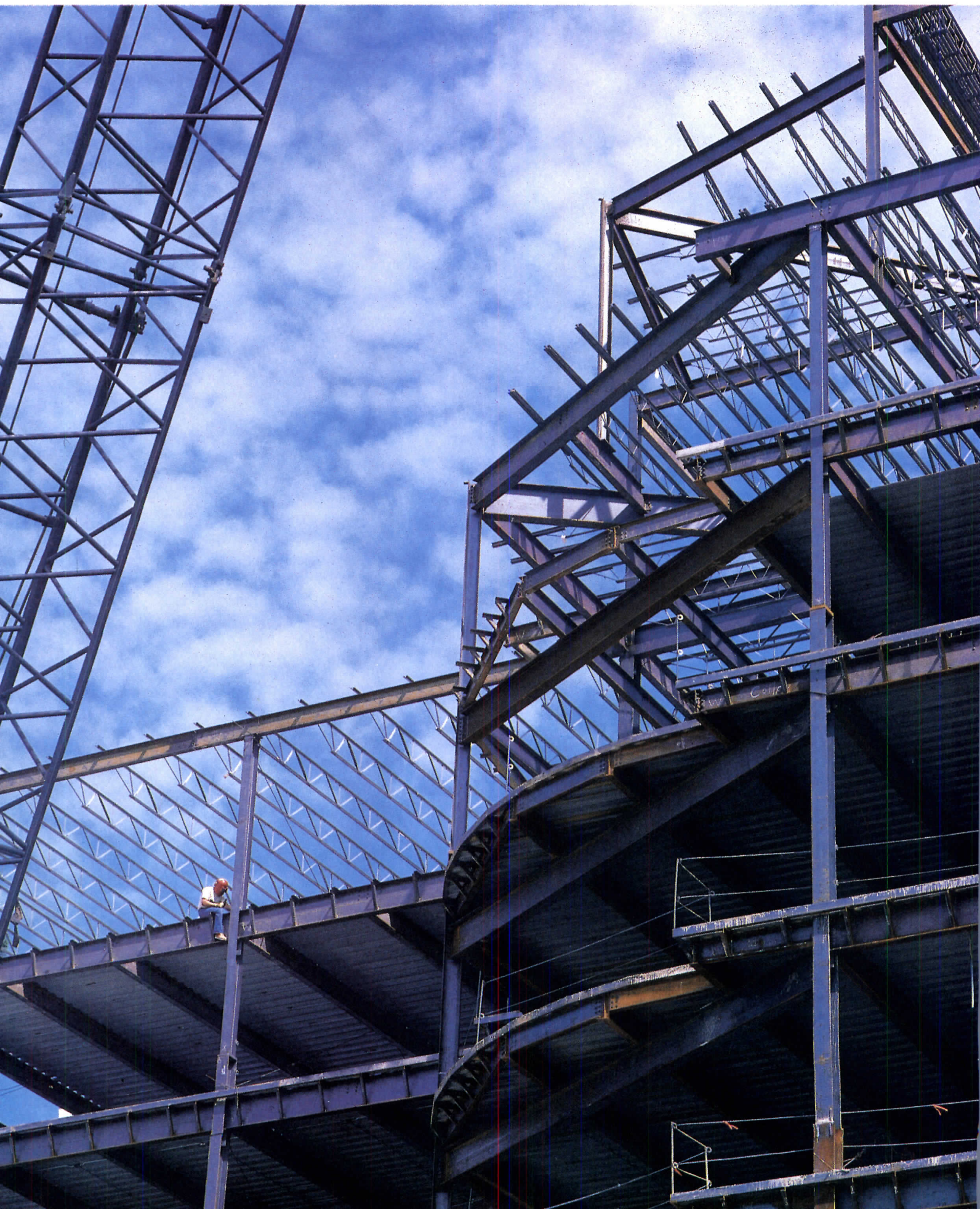


Competition calendar

- A call for entries has been issued in a competition for the redesign of Pershing Square in downtown Los Angeles. Cash prizes will be awarded to five finalists, and the winning design team will negotiate for the project contract. Entry deadline is May 30. For details, contact Janet Marie Smith, Pershing Square Management Association, 523 West Sixth St., Suite 200, Los Angeles, Calif. 90014 (213/624-5115).

- The city of Charleston, S. C., will invite five design teams to a four-day charrette competition for a new aquarium and visitor center. All participating teams will be paid, and the winning team will become project architects. Qualifying deadline is April 18. Contact Jonathan Barnett, Department of Planning and Urban Development, 116 Meeting St., Charleston, S. C. 29401 (803/577-6970, ext. 325).

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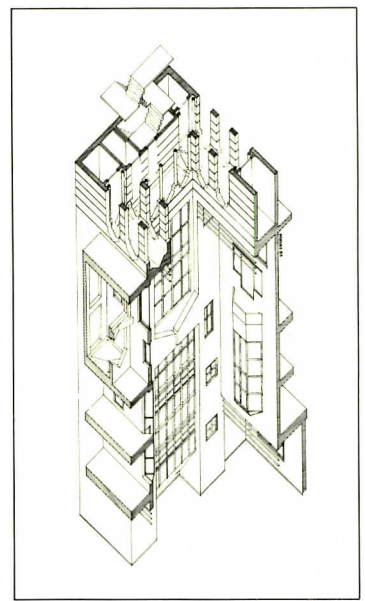
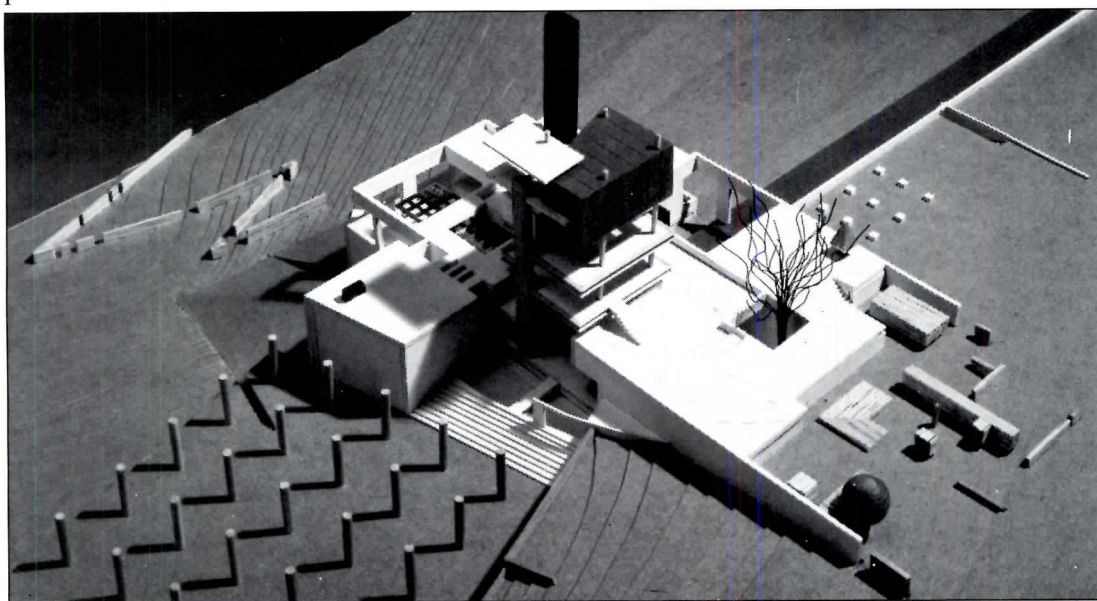
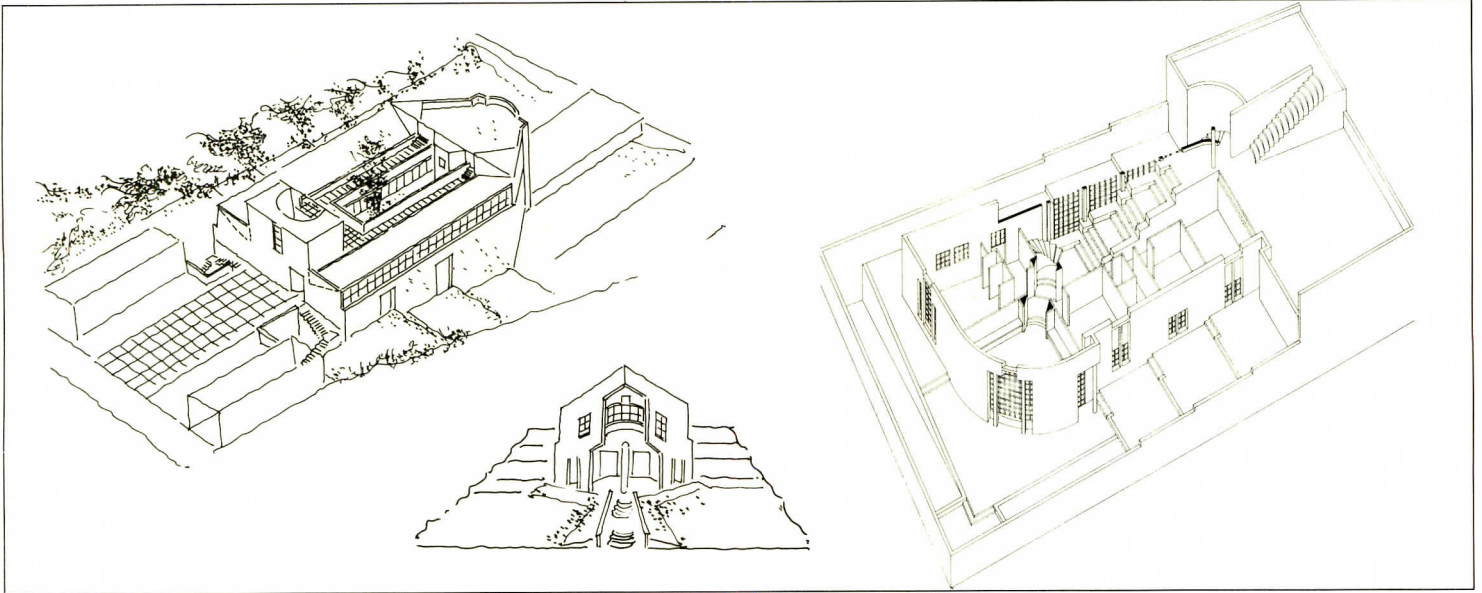
Architect: Robert Husmann AIA & Associates
General Contractor: Spaw-Glass Constructors
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12-story North Central Plaza II used 241,000 square feet of Vulcraft composite deck as well as 38 tons of Vulcraft joists.

Design awards/competitions: New York Chapter/AIA Architectural Awards for Unbuilt Projects

The New York Chapter of the American Institute of Architects recently sponsored its first design awards program for unbuilt projects. The intention of the program, according to the competition brief, was to honor "the work of many of our most creative minds [which], for reasons beyond their control, never sees the light of day either as executed work or as drawings and models . . . but has advanced the profession and art of architecture." The program jury consisted of Thomas H. Beeby, dean of the Yale School of Architecture; Mario Botta, partner of Mario Botta & Associates in



1. Two Adjacent Houses, Tel Aviv, Israel; Karmi Associates, Architects. Designed for a hilly site at the edge of a new suburban development north of Tel Aviv, two houses are set back from the street behind sunken "outdoor rooms." Although the dwellings exhibit a similar architectural vocabulary, they feature distinctive, diametrically opposed private domains—a patio in the house on the left and a long sloping corridor in the house on the right.

2. Weinstein Residence; UKZ, Inc., Architects. The program called for a 10,000-square-foot single-family house on a sloping, 4.2-acre suburban site. The client's desire for separate private and public activities dictated the architects' decision to organize the structure around a cruciform, poured-concrete base that houses all public functions, including four

courtyards. Private spaces are located in a steel-and-glass structure atop the base.

3. 42 Downing Street, New York City; Proposition: Architecture, Architects. The proposal was to convert an existing 5,000-square-foot garage in New York's Greenwich Village into a three-unit apartment house. In order to introduce light into the interior of the building, the architects placed two lower-level duplexes on either side of a new courtyard. The third apartment, a triplex, bridges the top of the courtyard.

4. NCNB National Bank Headquarters, Tampa, Florida; Wolf Associates, Architects. The architects conceived this 30-story, limestone-sheathed office project as "a soft-spoken counterpoint" to the mirror-clad structures that characterize much of Tampa's recent architecture. The cylindrical

form of the building was intended both as an evocation of a citadel guarding the entrance to downtown and as a metaphorical lighthouse, a symbol deemed appropriate for a coastal city.

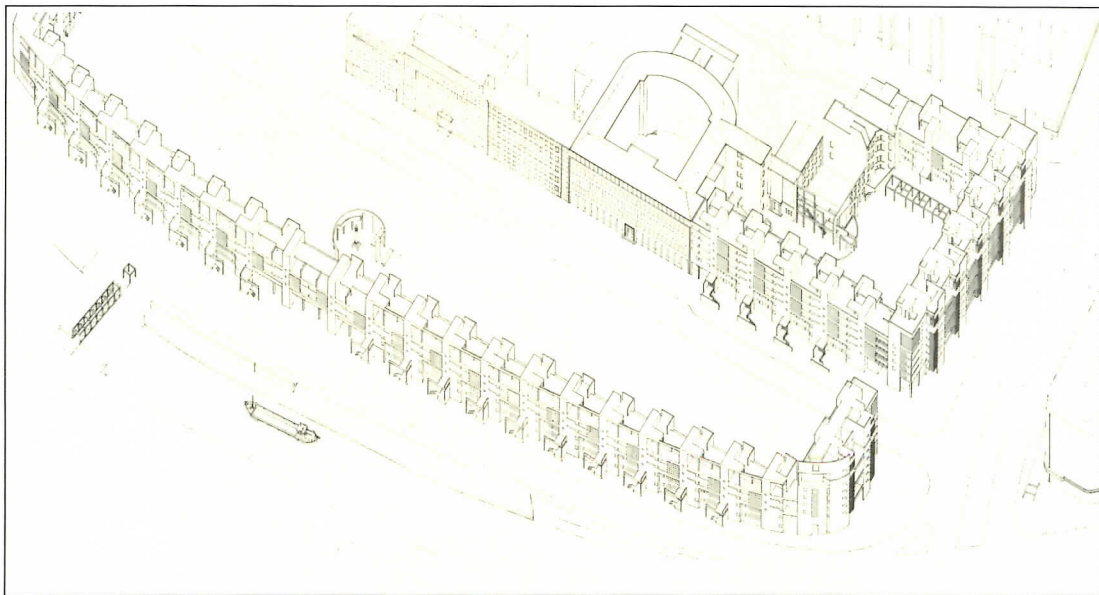
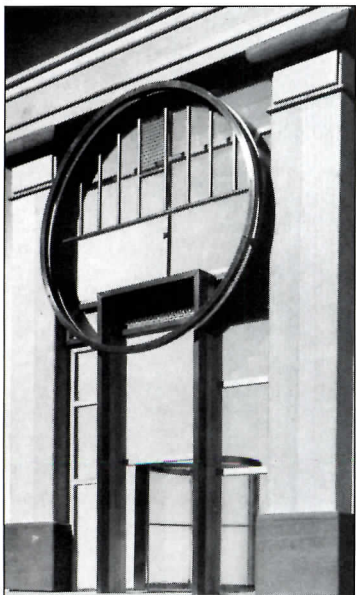
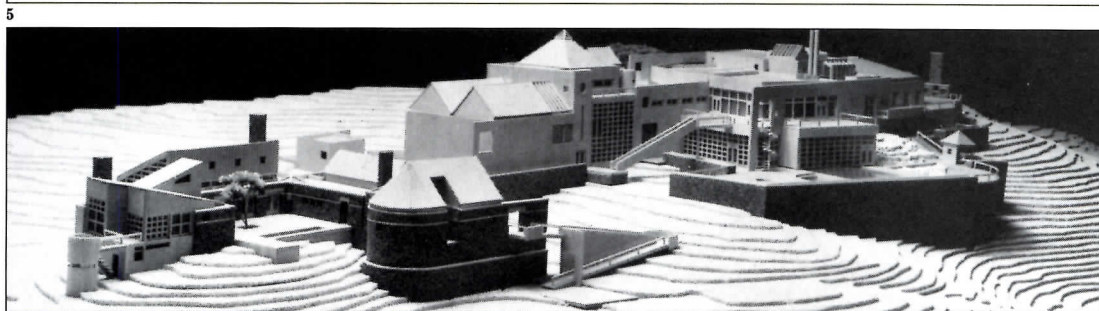
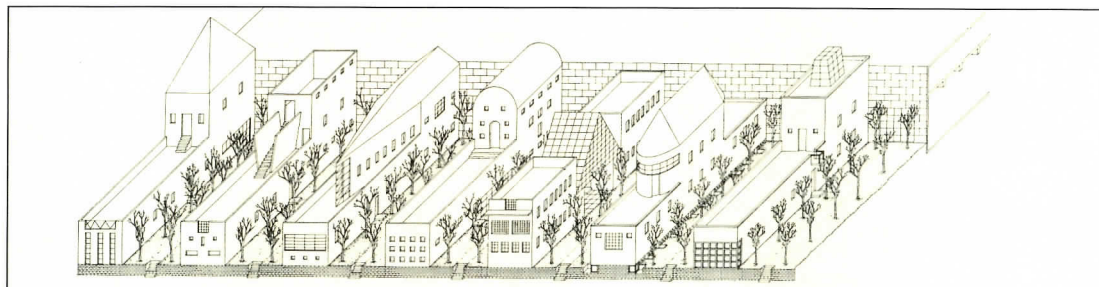
5. Autonomous Artisans' Housing, Staten Island, New York; Steven 'Holl, Architect. In order to provide residential and studio space for artists working in several disciplines, the architect proposed converting an existing warehouse into shared work space and erecting individual houses against the structure's outside wall. Each artisan's craft would be expressed in the design of the structures' upper level: a tin pyramid crowns the tin bender's house, for example, while a brick barrel vault tops the mason's house. Although one juror criticized the architect's invention of form as "an arbitrary and mechanical method of achieving

variety," another admired the project's "clarity of concept and straightforward implementation."

6. Recreation Center, Lac Quimet, Quebec; Bobrow & Fieldman, Architects. Modernist forms constructed in native stone and wood were proposed for a 30,000-square-foot recreation/administrative building, part of a summer and winter resort town in Quebec's Laurentian Mountains. The architects' challenge was to integrate the facility's distinct programmatic elements—including indoor/outdoor swimming pools, exercise rooms, a gymnasium, locker facilities, ski and bicycle rental areas, a day-care center, dining rooms, and open lounges—into a unified, 530-foot-long architectural ensemble.

Lugano, Switzerland; Douglas Davis, architecture critic of Newsweek; Kenneth Frampton, professor of architecture at Columbia; Dr. Heinrich Klotz, director of the Deutsches Architekturmuseum in Frankfurt, West Germany; and Elizabeth Plater-Zyberk, partner of Andres Duany and Elizabeth Plater-Zyberk Architects in Miami. The jurors reviewed 176 submissions and tapped 28 projects for three levels of recognition, including the eight honor-award-winning designs illustrated on these pages. In addition to commenting on specific projects, the jurors had much to

say on the general state of architecture in New York. Klotz, for example, admired the pluralism of the competition entries, but he characterized some of the submissions as "too pragmatic." Davis found the architects' work "schizophrenic in an esthetic sense"—a reference to the current Modernist/Postmodernist struggle—and he called the tendency by some architects to confront the city "quite appalling." Beeby observed that, while the overall quality of the projects seemed high, it "was not extraordinary in relationship to the work done in the rest of the United States at this moment."



7. New Entry and Lobby for 233 Park Avenue South, New York City; Russo + Sonder, Architects. A new two-ring bronze entrance for an existing office building is an updated version of the Neoclassical arch located on a neighboring structure. The design is meant to retain the planar quality of existing limestone-and-brick facades and reflect the expression of two-story columns in the renovated lobby. The jury praised the architects for their attention to detail and for the way the juxtaposition of circle and rectangle on the entrance functions as a "sign element" for the building.

housing that had previously occupied the two-block site. Toward that end, the architects have proposed a crescent-shaped row of low-rise residential buildings along the Landwehrkanal with open space behind and, on the adjacent block, additional dwelling units wrapped around a quadrangle. The jurors praised the project for its "place-making capacity," and they admired the architects for their attention both to the urban street wall and to the space enclosed by the buildings. "The project reconciles the individual's need for privacy with the needs of the city," they concluded.

Michael Mosteller and Fred Travisano, Architects; Ambassador's Residence, Doha, Qatar, Wolf Associates, Architects; A New American House, James Tice and Fay Sultz, Architects; House Addition in Connecticut, Green Card, Architects; Borderline Village with Garden Pavilion, USA Design Group, Architects; Gotta Residence, Richard Meier and Partners, Architects; and Veraison Vineyard, UKZ, Inc., Architects.

Projects cited for awards include the United States Embassy, Abu Dhabi, Wolf Associates, Architects; Administration and Academic Building for the School of Agriculture at Cornell University, Gwathmey Siegel & Associates, Architects; Oceanfront Hotel, Coney Island, New York, Giuliano Fiorenzoli, Architect; West Houston Street Hotel, New York City, Der Scutt, Architects; Villa in New Jersey, Robert A. M. Stern, Architects; Private Residence, Brooklyn, New York, Robert A. M. Stern, Architects; Hillside Housing, Cincinnati, Ohio, Charles Wolf/Kathryn Dean, Architects; Battery Place Housing, Peterson, Littenberg, Architects; Siemens Office Building, Richard Meier and Partners, Architects; and the Marcus Residence, Westchester County, New York, Walter David Brown, Architects.

8. Internationale Bau Ausstellung Housing, Berlin, West Germany; Richard Meier and Partners, Architects. Part of a larger housing redevelopment program in West Berlin, this project attempts to recreate the urban density of

In addition to the projects shown, other entries tapped for honor awards include the Cannaregio Housing Proposal for Venice, Steven Forman, Architect; Designs for Room and Furniture Renovations at the Cecil Hotel,

Projects awarded citations include the Fort Lauderdale Public Plaza, Wolf Associates, Architects; and the Groupe Bouygues Headquarters, Kohn Pedersen Fox Associates, Architects.



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Physical Education Building, College of DuPage, Glen Ellyn, IL; Architects: Wight & Co., Downers Grove, IL.

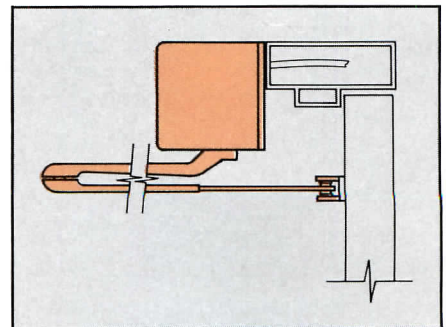
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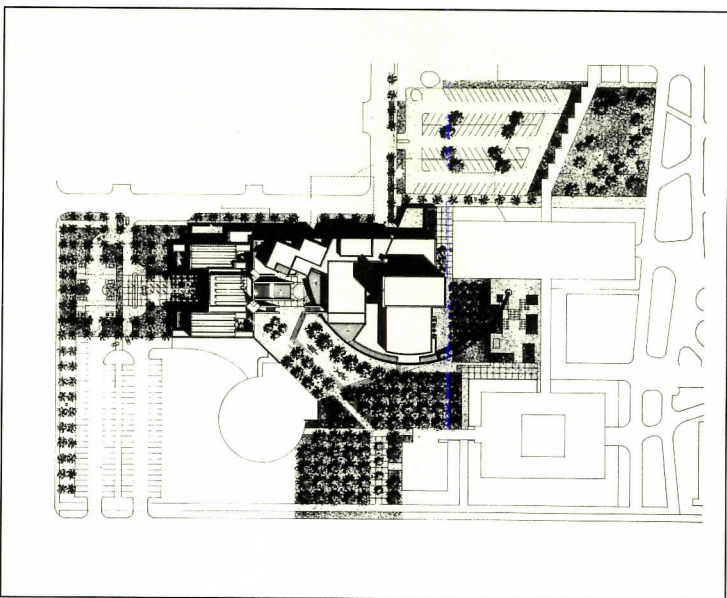
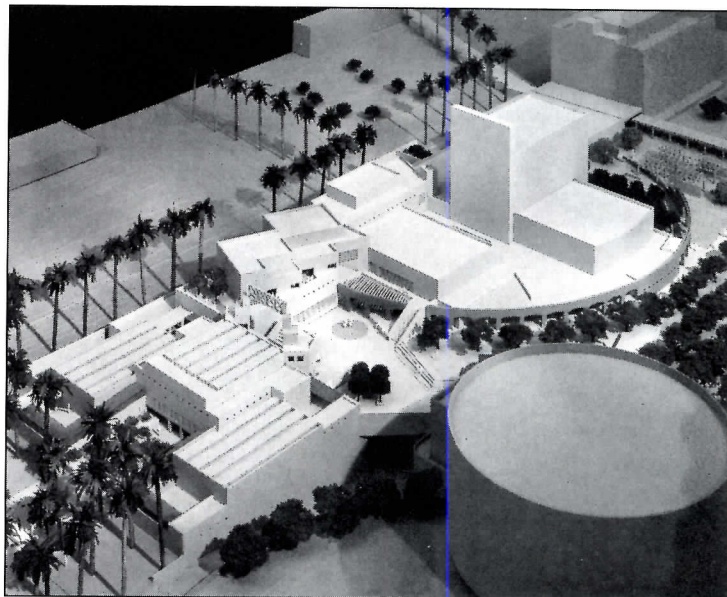
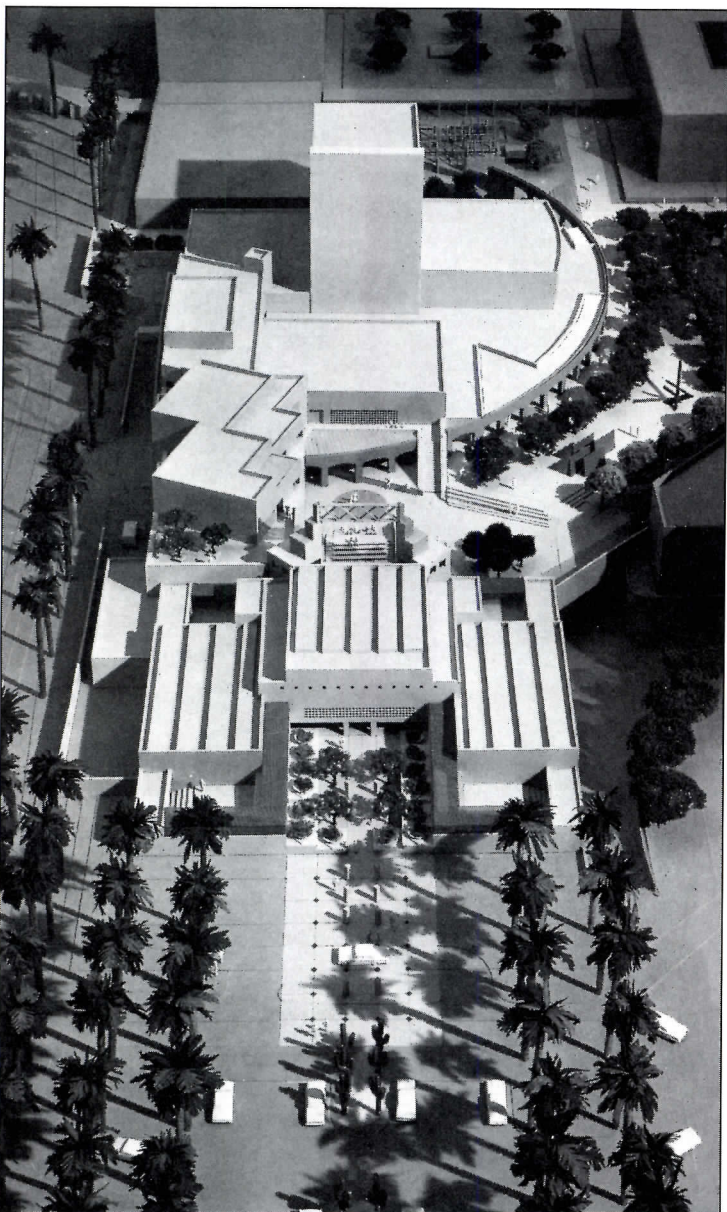
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Arizona State University Fine Arts Complex Architectural Competition

Antoine Predock of Albuquerque has been named the winner of a national competition to design a new \$15-million fine-arts complex at Arizona State University in Tempe. Predock's winning design was selected over 56 competitors by a jury comprising architects Henry Cobb, Donlyn Lyndon, and Hans Kammerer; landscape architect Hideo Sasaki; and A.S.U. representatives Jules Heller, Gerald McSheffrey, and Victor Zafra. The complex will be located on the A.S.U. campus at the intersection of Mill Avenue and Tenth Street and is expected to be completed in 1990.

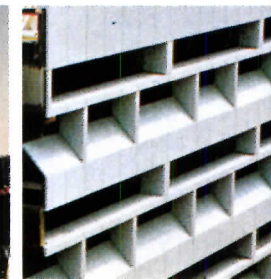
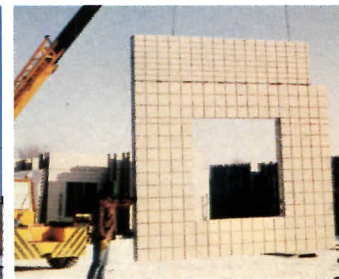


The competition prospectus called for a multidisciplinary complex that will include a museum to house the university's art collections, a 500-seat theater for dramatic and dance performances, a smaller dance studio/theater, and such ancillary facilities as scenery and costume shops, instruction and rehearsal rooms, art storage areas, and administrative offices. The challenge for competition participants, then, was to design a unified architectural ensemble that could accommodate this unusually diverse fine-arts program. The premiated scheme by Antoine Predock prevailed over competition finalists Edward Larrabee Barnes Associates of New York (the runner-up), ELS Design Group of Berkeley, Arthur Erickson Architects of Vancouver, and

Barton Myers Associates of Toronto. In its comments the jury contended that Predock's scheme "captures and strengthens the A.S.U. campus, reflecting the dynamism and optimism of the West with its tradition of adventure and discovery." More specifically, the jurors were impressed by Predock's "imposing" Mill Avenue entrance—a palm-lined forecourt that leads into a water garden flanked by trellised sculpture terraces (foreground in model above)—and by a subtly curved wall that "graciously tips its hat" to the circular Gammage Memorial Auditorium next door, a late work of Frank Lloyd Wright. Although

Predock has placed the center's performing and visual arts components in separate buildings (the theaters are located in the curving structure, the museum in the rectilinear building in model views and plan), the artistic media will come together on a large public plaza intended as an outdoor performance and exhibition space. A strong sense of the ceremonial characterizes the center's circulation plan: the approach to the theater is either through a grid of trees or along a curving arcade/aqueduct that terminates in a fountain-embellished entry patio; to reach the museum one descends to the so-called Nymphaeum, a shaded below-grade forecourt around which galleries are arranged. In

terms of architecture, the A.S.U. complex exhibits, according to Predock, "a low, unifying silhouette with towers and loft projections that appear as abstractions of the surrounding mountains and buttes." Clad primarily in pink and beige stucco with accents of sky blue tile and red brick, the project will be a rare (for Phoenix) example of southwestern regional contextualism—a welcome mode of architecture that is practiced more frequently in Predock's home state of New Mexico than in more development-oriented Arizona.



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Modernism and Mies

By Roger Kimball

Perhaps more than any of his peers, Ludwig Mies van der Rohe (1886-1969) epitomized the stringent ethos of Modernist architecture. Obsessed with esthetic clarity and possessed of an uncompromising moral seriousness, he approached architecture as an essentially spiritual vocation. As Mies saw it, architecture was an art whose task was to realize a conception of building that could answer to the unprecedented and, to his mind, ineluctable imperatives of our technological age. "Architecture," he wrote in 1923, "is the will of an epoch translated into space."

Though the high seriousness of this Modernist vision has been repeatedly challenged over the last 20 years—indeed, some would say that it has been decisively overturned—there was never any question that the centennial of Mies's birth could go without public recognition and homage. For whatever one's position on Modernism, it is undeniable that Mies, along with Frank Lloyd Wright and Le Corbusier—with Walter Gropius sometimes making the trinity a foursome—is one of the three or four greatest architects of the century. The comprehensive exhibition of Mies's work currently on view at the Museum of Modern Art in New York, together with the several studies and monographs devoted to Mies recently or soon-to-be published, offer an apt occasion to review Mies's artistic achievement and the uncertain fate of his Modernist legacy.

The retrospective exhibition of Mies's works at MOMA, on view through April 15, was organized by Arthur Drexler, director of the museum's Department of Architecture and Design. Drexler has also announced that he intends to publish an illustrated monograph on Mies sometime during the centennial year. Since his book will no doubt serve as something of a catalog for the exhibition (which is scheduled to travel to Chicago and Berlin after it leaves New York), it is a pity that the work couldn't have been ready for the New York show, especially as a press release promised that it would "cover every project and building ever executed" by Mies. The exhibition itself is somewhat more modest, though its 450 drawings and many architectural models and photos—all of which were drawn from the Museum's extensive Mies archive—do effectively document the entire span of Mies's long and productive career.

Roger Kimball is a frequent contributor to *RECORD*, *The New Criterion*, and other publications. He recently lectured on *Modernism and Mies van der Rohe* at a faculty seminar at Columbia University.

Beginning with such early unbuilt projects as the Schinkeley proposals for a memorial to Bismarck (1910)—represented here by a particularly striking drawing—and the elegantly lavish Kröller-Müller House (1912), the exhibition presents the highlights of Mies's Modernist architectural achievement. It includes drawings for the visionary, unbuilt projects of the early 1920s (the

are a welcome supplement to the usual fare of drawings, photographs, and models. They begin to give one a sense of his feel for materials and care for detail that is difficult to appreciate second hand. This dimension of Mies's craft is also evident in the separate gallery devoted to examples of the furniture that he designed to complement his interior spaces. Included here are the well-known



Hedrich-Blessing

Friedrichstrasse Office Building, the Glass Skyscraper, and so on) as well as photographs and drawings of such signature structures as the German Pavilion at the Barcelona International Exposition (1929), the Tugendhat House (1930), the twin apartment buildings at 860-880 Lake Shore Drive in Chicago (1951), and the Farnsworth House (1951). This part of the exhibition culminates with the last great works of Mies's American period, of which the Seagram Building in New York (1957) and the Berlin National Gallery, begun in 1962, are perhaps the most noteworthy.

There is little in the conception or inventory of the exhibition that will be new to students of Mies; the architect emerges as the familiar lofty figure: handsomely corpulent and taciturn, devoted totally to his work, endlessly revising, refining, distilling his thought in countless drawings and ever more fastidious spaces. And those spaces, too, are familiar: most of the drawings and models on view have been frequently reproduced in books on the master. But the several full-scale replicas of architectural elements designed by Mies that are included in the exhibition—a chrome-plated steel cruciform column like those he used in the Barcelona Pavilion and the Tugendhat House, for instance—

MR and Barcelona Chairs (1927 and 1929, respectively), among other pieces, as well as numerous drawings and sketches that illustrate the evolution of Mies's design conceptions.

In addition to Drexler's forthcoming monograph, the Mies Archive at MOMA is sponsoring a collection of critical essays on Mies and a catalogue raisonné that will list all of the Archive's drawings from 1910-1938; it has also sponsored an English edition of Wolf Tegethoff's 1981 German study *Mies van der Rohe: The Villas and Country Houses* (MIT, 1985), which provides an exhaustive scholarly account of Mies's domestic architecture from the Concrete Country House project of 1923 to the Farnsworth House. Other recent publications on Mies include *Mies van der Rohe* by David Spaeth, with a preface by Kenneth Frampton (Rizzoli, 1985). Spaeth, himself a practicing architect, has produced an admiring, workmanlike account of Mies's oeuvre; unfortunately, though, his book is marred by occasional factual inaccuracies and, more generally, by a tendency to emphasize the functionalist, "technocratic" side of Mies's architectural practice at the expense of the passionately meditative artistic sensibility that motivated it.

When Mies van der Rohe died in 1969, the primacy of his Modernist vision was relatively unquestioned. While many architects working today have abandoned Mies's functionalist view of the world, others cling to the tenets that Mies helped popularize earlier in the century. To mark the centennial of the Modern master's birth, Roger Kimball reviews Mies's long career and re-examines his work and its relationship to the body of post-Miesian architecture that has emerged over the past two decades.


The most significant contribution to Mies studies in recent years, also sponsored by the Mies Archive, is undoubtedly Franz Schulze's *Mies van der Rohe: A Critical Biography* (University of Chicago, 1985). Based on a great deal of original research, including numerous interviews with Mies's friends, family, and colleagues, as well as a patient sifting through the mounds of material at the Mies Archives at the Library of Congress and at MOMA, Schulze's biography presents a portrait of Mies that is considerably more textured and complex than the usual image of him as the coolly rational fabricator of ever slicker, ever more minimal boxes of steel and glass. In my view, the only real fault of the book is its style: though he is capable of rising to a kind of eloquence on occasion, Schulze's painstaking prose is often rather dense, even ponderous. But while this makes for a certain tedium, in the end it must be counted a minor blemish, for Schulze's book not only provides us with a thorough, well-organized chronicle of the architect's life and work, it also (and this is especially rare) contains a sensitive, critically sophisticated account of Mies's central esthetic preoccupations.

Schulze proceeds more or less chronologically, his nine chapters taking us from Mies's childhood in Aachen, near the German/Belgian border, and continuing with his apprentice days in Berlin and his embrace of "the new architecture" during the 1920s. He describes in detail Mies's involvement as artistic director at the Weissenhofsiedlung Housing Colony in 1927, when Mies assembled Gropius, Le Corbusier, Theo van Doesburg, and Bruno Taut, among others, to collaborate with him on a model housing project. Schulze sets each of the architect's important projects in the context of his life, skillfully interweaving biography and architectural criticism throughout the book. Thus we hear not only about Mies's proverbial passion for Havana cigars, quantities of martinis, and a few expensive suits, but also about his intimacy with the well-known couturière Lilly Reich, who greatly influenced Mies and who was responsible for the lavish appointments at the Barcelona Pavilion and Tugendhat House.

Architects will be particularly interested in Schulze's discussion of Mies's long and tangled relationship with Philip Johnson, which began in 1930 when Johnson was director of the Department of Architecture at MOMA and continued through their collaboration on the Seagram building during the 1950s. As Schulze notes, Johnson was

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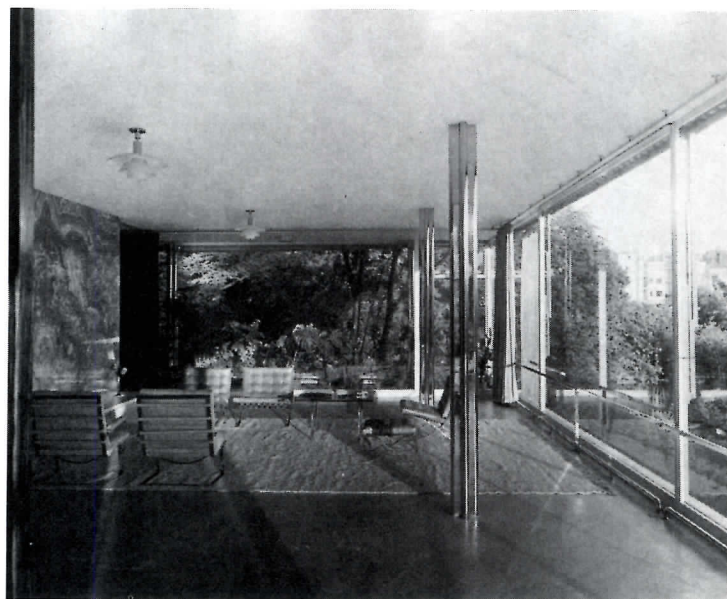
Top: Tugendhat House, Brno, Czechoslovakia, 1930.
 Bottom: German Pavilion for the International Exposition at Barcelona, 1929.

instrumental in bringing Mies to the attention of the American public. He included Mies in an exhibition on international Modern architecture that he and Henry-Russell Hitchcock organized in 1932, and later, in 1947, devoted a retrospective exhibition to his work. Johnson's monograph for the 1947 exhibition remained a standard work on Mies for decades.

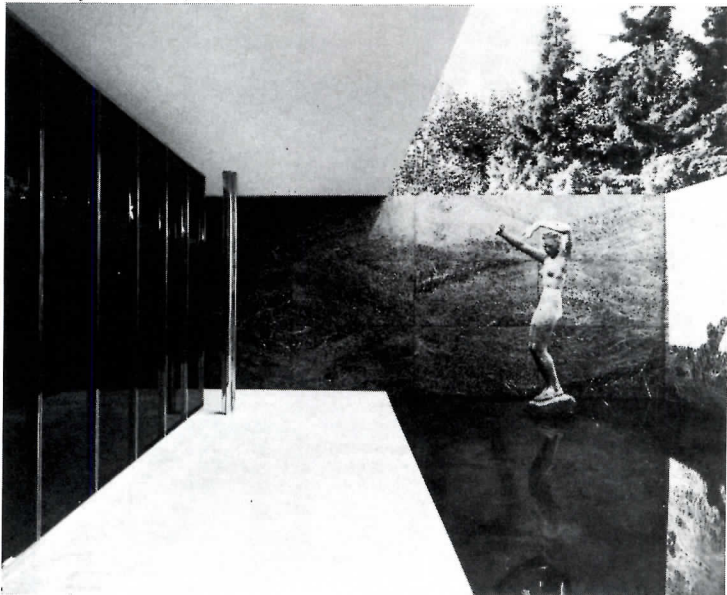
Schulze also thoroughly investigates Mies's directorship of the Bauhaus from 1930-1933, the years of inactivity and frustration after Hitler came to power, and his emigration to the United States in 1938 at the behest of the Armour (later Illinois) Institute of Technology, which had invited him to come as director of its school of architecture. Schulze concludes with Mies's prodigiously fertile years in America and his eventual emergence as perhaps the most pre-eminent—and most widely imitated—Modernist urban architect. At the time of Mies's death in 1969, Schulze notes, "every major city in the Western world bore his imprint."

Mies was born Maria Ludwig Michael Mies in 1886. The youngest of five children, he grew up in a middle-class Roman Catholic household. His father was a skilled stonemason, as was his eldest brother, and Mies's fabled sensitivity to materials and insistence on exacting craftsmanship no doubt have their roots in his early experiences helping out in the family business. Though he later became an avid reader of philosophy, Mies's formal education was rudimentary: he attended the cathedral school in Aachen for a few years in his early teens, but left at the age of 15 to apprentice himself to a local architect. He was soon an accomplished draftsman. In 1905, when he was 19, Mies boarded a train for Berlin, his sights firmly set on a career in architecture.

In Berlin Mies worked for two well-known architects, first Bruno Paul and then, from 1908 to 1912, for the influential Peter Behrens, at whose atelier both Gropius and Le Corbusier (then still known as Charles Jeanneret) had also worked. Schulze aptly describes the artistic atmosphere in which Mies found himself in Berlin as "protomodern," wavering between the expressive, organic embroideries of Jugendstil and an impulse to be ever more *sachlich*, ever more unornamented, factual, objective, abstract. In this milieu, the grandly reserved Neoclassical architecture of Karl Friedrich Schinkel was much admired, and Schinkel's influence—a lasting one for Mies—is especially evident in the houses Mies designed in the 1910s for the rich burghers



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who provided him with his first commissions.

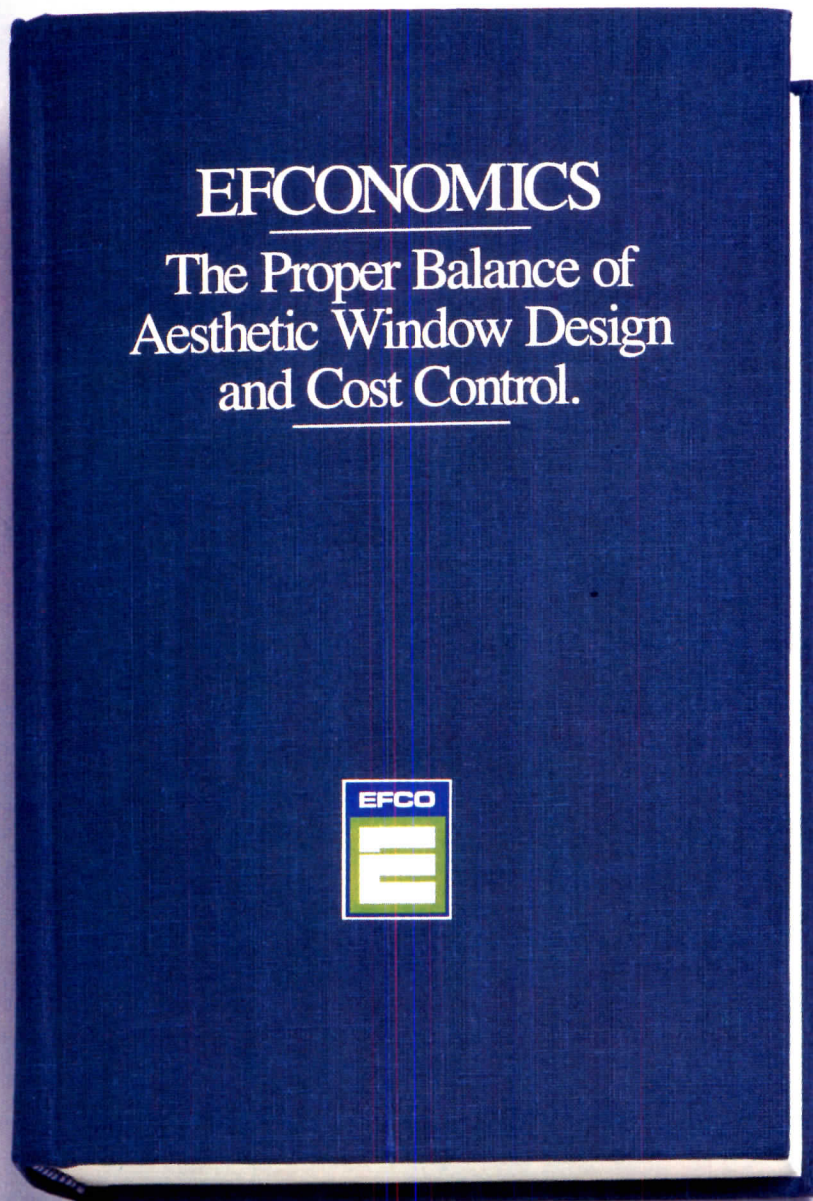
In 1913, just as he was setting out on his own, Mies married Ada Bruhn, the daughter of a rich industrialist. In the years ahead, Mies depended greatly on the social connections Ada's parents provided, as well as their periodic infusions of cash. The couple had three daughters in quick succession, but the marriage was not destined to be a happy one. Here, as in his later romantic relationships, Mies's almost Olympian reserve and self-absorption put severe limits on the degree of intimacy and commitment he could tolerate; always, his independence and his work came first. "I don't belong to anyone," Mies told Laura Marx, the devoted companion of his later years, "who cannot live alone." Though they never divorced, Mies and Ada separated for good in 1921.

As Schulze points out, 1921 was a decisive year for Mies in other ways, too. Dissatisfied with the sound of his name (*mies* means "seedy," "miserable," or "wretched" in German), he now rechristened himself Ludwig Mies van der Rohe by the artifice of attaching his wife's maiden name to his surname with the aristocratic-sounding "van der." More importantly, he began designing again in earnest, after a long fallow period, producing in the next few years some of his most arresting and original architectural images. Particularly striking were the Friedrichstrasse Office Building project, in which Mies envisioned a triangular glass-sheathed steel skeleton soaring 20 stories without setbacks, and the Glass Skyscraper project, in which he contemplated two irregularly rounded glass towers rising up like shimmering,

transparent crystals. A year or two later, Mies conceived his flat-roofed, open-planned projects for a concrete office building, a concrete country house, and a brick country house. None of these projects was built—indeed, it is doubtful whether the skyscrapers could have been built as Mies drew them—but they did represent a stunning feat of architectural imagination. And though Mies was to return to a more traditional idiom for a short while, the five unbuilt projects of the early '20s can be said to mark the turning point in Mies's conversion to Modernism.

Throughout his book, Schulze expertly traces the confluence of friendships and influences that helped form Mies's esthetic sensibility. In the present context, he notes the impact of the American skyscraper on the Friedrichstrasse Office Building project and the crucial influence of Frank Lloyd Wright's revolutionary treatment of interior space on the flowing, open floor plans of the country house projects. Wright, in fact, may have been the single most important precursor of Mies's distinctive treatment of space in his domestic architecture. There were, however, other influences. Especially important for Mies's innovations in the 1920s were his friendships with the painter Hans Richter and, through him, the De Stijl artist Theo van Doesburg and the Constructivist El Lissitzky; the cool geometries of De Stijl and Constructivism left an indelible mark on Mies's approach to design.

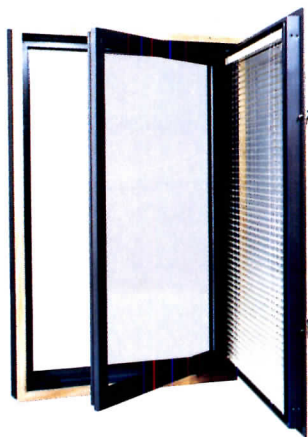
Much of this history has, of course, already been set forth in other studies on Mies. But Schulze's book distinguishes itself not only by its comprehensiveness but also by its attention to the relation between Mies's esthetic preoccupations and his architectural practice. Schulze shows that Mies's commitment to Modernism cannot be understood apart from his understanding of the unique strictures and opportunities with which the modern age confronts the architect. The central influence on Mies's understanding of those strictures and opportunities was the sweeping pessimism of Oswald Spengler's two-volume *The Decline of the West*, published in 1918 and 1922. When asked late in life about Spengler, Mies denied having read him; but it happens that he owned a first edition of Spengler's work, and his marginal notations indicate that he had in fact read it with some care. According to Schulze, the definitive impact of Spengler on Mies was first elaborated by Arthur Drexler. Especially important for Mies was Spengler's insistence that "Cultures are organisms and world history is their collective



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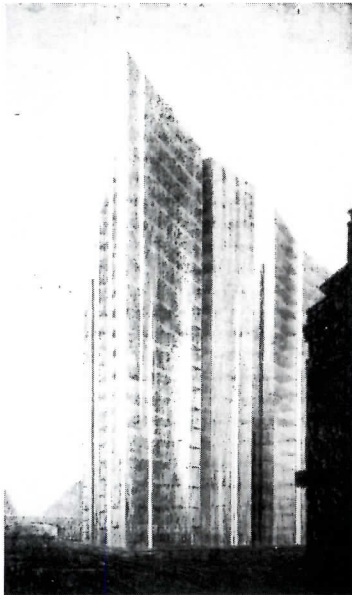
Top left: Friedrichstrasse Office Building project, Berlin, 1921.
Top right: Project for a glass skyscraper, 1922.

Bottom left: 860-880 North Lake Shore Drive, Chicago, 1951.
Bottom right: The Seagram Building, New York City, 1957.

biography." In his view, contemporary Western culture, the product of an ever restless, "Faustian" sensibility, was already in the winter or senescence of its life. And this, he thought, was less a metaphor than a biological fact. It was impossible to change or alter the course of cultural decline; rather, one's task was to understand it and confront it honestly. "For me," Spengler wrote, "the test of value to be applied to a thinker is his eye for the great facts of his own time. Only this can settle whether he is merely a clever architect of systems and principles, versed in definitions and analyses, or whether it is the very soul of his time that speaks in his works and his intuitions."

The influence of Spengler's sentiments, and even his rhetoric, is patent throughout Mies's mature thought. In a famous statement from 1930, for example, Mies wrote that "the new era is a fact; it exists entirely independently of whether we say 'yes' or 'no' to it. . . . We have to establish new values to demonstrate ultimate aims in order to acquire criteria." For Mies, only by building in a way that affirms the "facts" of the modern age—its social, economic, and technological facts—can the architect hope to penetrate beyond the superficialities of inherited building forms and styles to the essence of the problem of building. And it is precisely this concern with the *essence* of building that underlies Mies's commitment to Modernism and to architecture as a high art. Indeed, as Schulze argues, Mies's acceptance of Spengler's vision of decline was decisively qualified by his conviction that the architect was called to discover within the material facts of his time an essentially spiritual reality. "Only when architecture derives from the material forces of a time," Mies wrote, "can it activate its spiritual decisions." In this context, Schulze notes the influence on Mies of Aquinas's discussion of beauty as the visible form of the invisible essence of things. But whatever the source of Mies's esthetic vocabulary, Schulze is surely right that Mies's often-noted emphasis on functionalism and rationality cannot be understood apart from his affirmation of the spiritual, "value-creating" tasks of Modernist architecture.

None of this is to say, however, that Mies was always able to *achieve* his esthetic goals; in fact, there is not infrequently a marked tension between artistic ambition and realization in Mies's work, a tension perhaps best summed up in the question asked by a German critic about the Tugendhat House shortly after it was built: "*Kann*

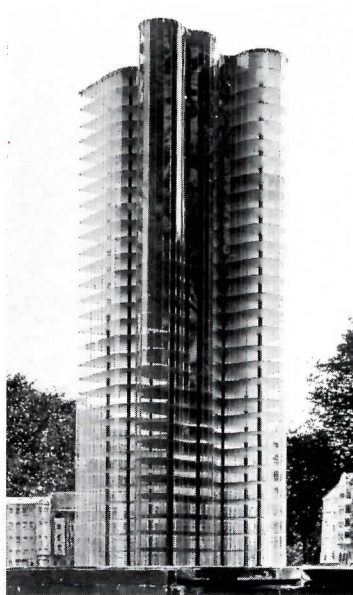


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man im Haus Tugendhat wohnen?"—"Can one live in the Tugendhat House?" The Tugendhats themselves answered yes, but one can be forgiven for sharing the doubts implied in the critic's question. No doubt Mies's exquisitely sculpted space achieves a kind of poetry; but is it not at odds with the prosaic demands of everyday living? From this point of view, the purity of form that Mies seeks often impresses one less as sublime than antiseptic. "So certain was he that the truth of his architecture was rooted in unimpeachable rationality," Schulze observes, "he carried rationality to its irrational extreme."

Yet for Schulze this was at bottom only another way of saying that Mies was "an artist before all else." For Mies's real achievement does not consist so much in providing us with utilitarian



spaces—though he did that often enough, too, especially in his urban architecture—but in having faced up honestly to what Schulze describes as the "narrowed options" of our time. If Mies insisted that "less is more," that architecture must purge itself of extraneous ornamentation, it was not because he was antihistorical or antitraditional, as is generally claimed. No, Mies's passionate minimalism grew out of his conviction that the modern age was a "new era" shaped decisively by science and technology, and that any honest architecture must begin by acknowledging the implications of this fact in its forms and structures. Only thus could one hope to forge an architectural style that is *genuinely* traditional, whose forms and ornament are an authentic expression of its time. As Mies noted, one doesn't invent a

new architecture every Monday morning.

It is, of course, precisely on this question of what constitutes a genuine tradition that Postmodernism departs most radically from Mies's austere vision. Postmodernism's playful approach to tradition, which plunders the entire inventory of architectural ornamentation for catchy details and facades, discounts from the beginning any question of genuineness or authenticity. Thus Schulze is quite right when he notes near the end of his book that during the late 1960s, "the mood of heroic aspiration of early Modernism was transformed . . . into irony." A charter document of that transformation was Robert Venturi's 1966 manifesto against Modernism, *Complexity and Contradiction in Architecture*. "Architects can no longer afford to be intimidated by the puritanically moral language of orthodox Modern architecture," Venturi declared. "Less is a bore."

An index of the extent to which Postmodernism has undermined the seriousness that was central to Mies's outlook is the eager rehabilitation of Modernist forms and structures in an essentially Postmodernist context. Thus, in an article last fall entitled "Modernism Reaffirms its Power," the architecture critic for *The New York Times* assured us that "Modernism has not so much died as been transformed, and in a different guise continues to occupy a position in contemporary architecture that is not so far from the mainstream." What he had in mind, especially, are the Modernist motifs that many contemporary architects have been incorporating into their buildings. But there is a crucial difference between Modernism in Mies's sense and buildings that have the *look* of Modernism. Indeed, as the critic for *The Times* points out, "The current wave of interest in Modernism has none of the moral force of the original Modernist revolution. . . . Neo-modernism, if we can call it that, is esthetic, not ethical; its interests are in celebrating the look, not the meaning, of Modernism." But by separating the "esthetic" from the "ethical" in this way, by celebrating the "look" of Modernism at the expense of its "meaning," one does not so much perpetuate as destroy Modernism; one reduces it to merely another ornamental gesture that can be applied like tinsel whenever one wants the sheen or appearance of seriousness. Mies was fond of insisting that "architecture is not a cocktail." Unfortunately, many contemporary architects seem bent on proving him wrong.

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Leaving Wright enough alone

Frank Lloyd Wright's Guggenheim Museum in New York shown as it exists today (top) and in model form (bottom) with a proposed addition by Gwathmey Siegel & Associates.

By Michael Sorkin

A consequence of the profession's present preoccupation with "context" is a kind of collective confidence about the possibility of adding on. There's an implicit argument that architects, duly skilled and sensitized, should be able to intervene anywhere. We're absorbed with the architectural equivalent of method acting, with thinking we can inhabit the skull of any sensibility. Even when "contextualism" stops short of replication, it encourages action in difficult situations.

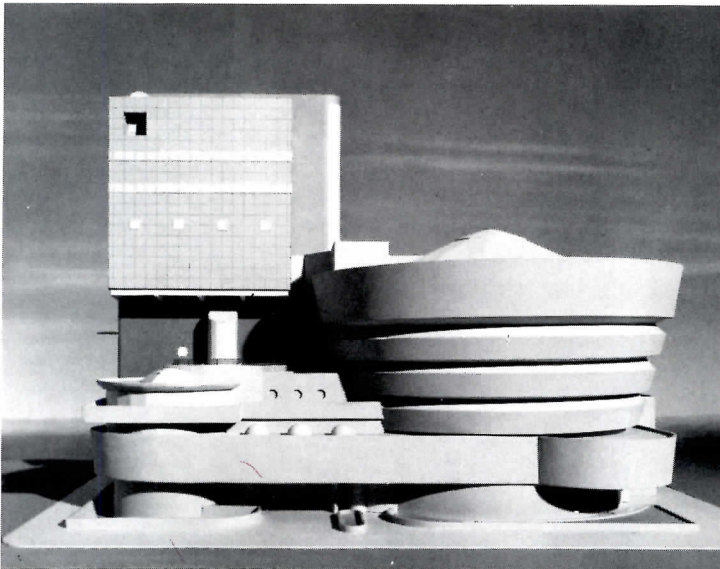
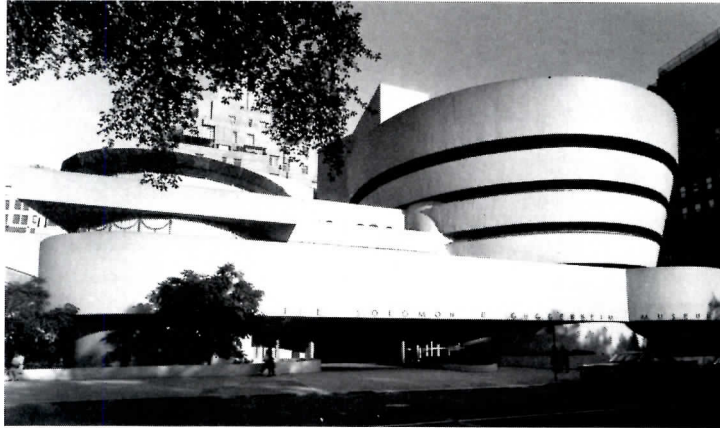
The result, inevitably, is to eviscerate the idea of the architecturally sacred. If adjacency is always a possibility, history becomes irrelevant. As all of architecture is ransacked alike, its field becomes continuous and the logic of its monuments ever more indistinct. Today's vaunted pluralism is really just an excuse to be weak-willed about principles. It confronts architecture opportunistically, as a developer confronts the city. Large proprieties recede before the ethics of occasion. Finally, there's never any need to draw limits.

These matters have been thrown into special relief in New York City over the past several years by the expansion schemes of Manhattan's major art museums. The role of these institutions in the proprietorship of artistic culture, if incidental in terms of real fundamentals, has still focused things. Commonly, we see these places as zones of cultural privilege, susceptible to higher tests than the more quotidian matrix. And the role of MOMA, the Whitney, and the Guggenheim as guarantors of the memory of Modernism itself has put a fairly fine edge on architectural questions. Each, after all, is housed in a seminal Modernist building.

Without question, the Guggenheim raises the issues most schematically. Not simply is this a work of undisputed genius, perhaps the greatest building in the city; it's one of the pre-eminent icons of American architecture. On the postage stamp that celebrates Wright, the Guggenheim is visible over his shoulder, standing in for the most important body of work ever produced by an American artist. This is not to slight the difficulty in adding to a marvelous building like the Whitney or to detract from the egregiousness of the current proposal. But the circumstances on Madison Avenue

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

Robert E. Mates



©Louis Checkman

are, at least theoretically, more generous than those on Fifth. There is both literal and conceptual space around the Breuer building: the Whitney is an end piece, it asks to be built beside. The Guggenheim's aura occupies a wider territory.

Wright built the Guggenheim to be exceptional. Its form draws power from its inscription in an environment where it represents almost complete otherness. The great broadening spiral looks like a cliff dwelling, carved from the Dover of dignified orthogonality which extends the length of the east side of Central Park. Although it's been argued that the Guggenheim is the product of urban antipathy, there's no mistaking the affection of the results, striking for both their originality and their clarity. The amazing elegance of the primary composition is only enhanced by Wright's simplicity of means and elaboration: like its avenue, the Guggenheim has great gravity. Here is Wright's answer to detractors who can't see beyond the decoration of his late work.

As an architectural statement, the Guggenheim is complete. The

scheme to expand prepared by Gwathmey Siegel & Associates—whatever its local merits—is thus forced to contend with the fact that it may be impossible. This has obliged the architects to position the project in terms of one of the justifying rhetorics that invariably arise around such seemingly doomed enterprises. This is nothing new. In the old days, one heard talk of "background" buildings receding into invisibility, of "jewels in anonymous settings." More recently, though, the rhetoric of contextualism has provided a far more elaborated means for describing this kind of relationship. Today's pluralism offers the idea of the "translation" of one architectural language into another. Such "contextual" thinking promises the Rosetta Stone of transmogrification. One might be like Wright, instead of simply aping him à la Taliesin, or just fading into the woodwork. With the rhetoric of pluralism, it becomes possible to propose an *equivalent* architecture.

The problem with genius, though, is that it doesn't compute. There can never be real equivalence. Of

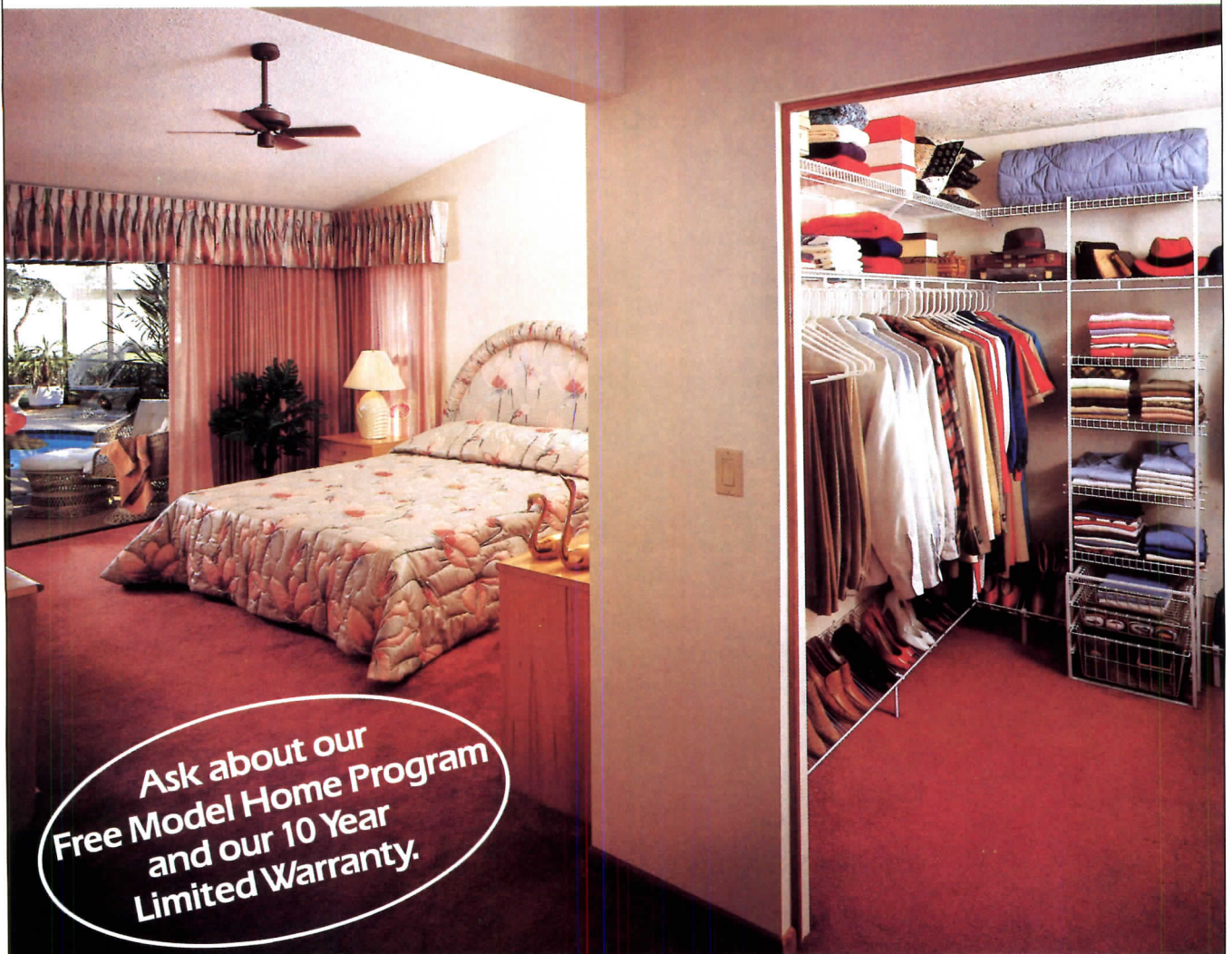
course, some kind of parity might be achieved by another work of equal (but not comparable) brilliance. But what brilliance it would take to reconfigure our sense of the Guggenheim's life in relationship to its informing constraints! In any event, such a barely conceivable work is not at issue. The Gwathmey Siegel proposal presents itself defensively: we're confronted with a rhetoric of giving no offense, the rhetoric of preservation, with plans described as "referential, contextual, and interpretively sympathetic." Indeed, the real justification for the expansion is not architectural but curatorial. There's a need for more space for offices, storage, additional exhibition areas. This necessity is apparently beyond questioning; it is museological manifest destiny.

There's one argument here, though, that clouds matters. Wright himself prepared a scheme for the expansion of the museum, published in 1952. Associating the new scheme with Wright's own initiative obviously has great potential benefit rhetorically. After all, if it can be argued that the new addition is actually a *completion*, the carrying out of the master's original intent, then the inevitable claim of the violation of a landmark is strictly circumscribed. The primary issue of whether to build is displaced by the question of how. And the existence of the Wright scheme opens the door to an appeal to precedent, the main mode of understanding in current thinking about the authority of any existing architectural condition.

Citing the 1952 sketches is a red herring. To begin, the fallacy of privileging a particular moment in the evolution of an artistic intention is clear. We know of a variety of studies for the building—some dramatically different from the built version—which, if interesting in showing the evolution of Wright's thinking, are scarcely to be regarded as more authoritative than what actually went up. The Guggenheim has simply never been seen, in the community's eye, as incomplete. Whether or not there are those who might have preferred another version (say, the one in which the spiral narrows instead of broadens at the top) is beside the point. The question—at this moment in history—is moot. One would not add a moustache to the Mona Lisa, even if one found a sketch in Leonardo's notebooks in which he had studied the possibility.

Still, the argument from the 1952 scheme is not quite so easily dismissed. The '52 proposal and Wright's mention of an "orthogonal curtain backdrop," as well as his shifting of the big spiral from the northern end of the site to the

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south, all give evidence of a desire to somehow neutralize and discipline the Guggenheim's setting. However, the actual proposal, sketchy in the extreme, gives one the sense of a highly ancillary gesture, one that would be read—in its strict orthogonality, dumb repetitiveness, and fenestrated transparency—not so much as part of the Guggenheim but as a more satisfactory version of the end condition on the block behind. Poised between the Wrightian slab and Central Park, the Guggenheim would become a bioptic summary of the Wrightian monument in a Wrightian city, a lateral strip of Broadacre City, embracing greenery, roadway, and the organic style.

This is, naturally, a kind of precedent and a vaguely invocable one. It is, however, not a precedent for adding on so much as it is a precedent for sealing off. The 1952 scheme, among its other attributes, is almost dysfunctionally skinny, a mere 25 feet wide, slab in extremis, an architecture of pure backdrop. With such a manifestly scenographic device, the issue becomes not one of its existence but one of its location. And, there's no question that the concept undergirding the grid was precisely that it be behind. To me, this is the absolute limit of the argument, the possibility that a simple piece, exquisitely slim, be inserted twixt the Guggenheim and its built context, a drapery to obscure the urban stage machinery and foreground the starring performance of the spiral museum.

Although it presents itself by means of this argument from precedent, the Gwathmey Siegel proposal substantially exceeds it. Their scheme is not about a recessive addition but about a co-equal one. The net effect, according to the architects, is to make the "bipartite" composition of the present building "tripartite." The value of this reconfiguration is allegedly corroborated by the "precedent" of the 1952 slab, which is presumed to justify a reading of a building that wants to be three. This apparent longing for trinity allows Gwathmey Siegel to impute legitimacy to what can only be seen as a drastic and destructive alteration.

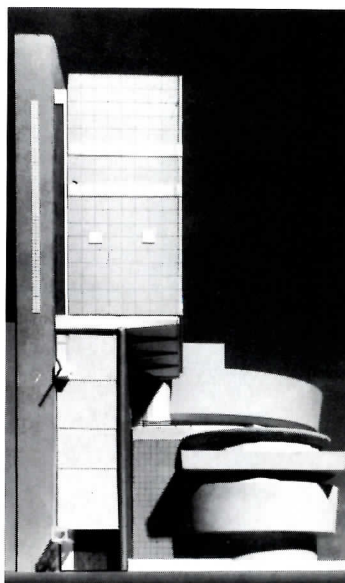
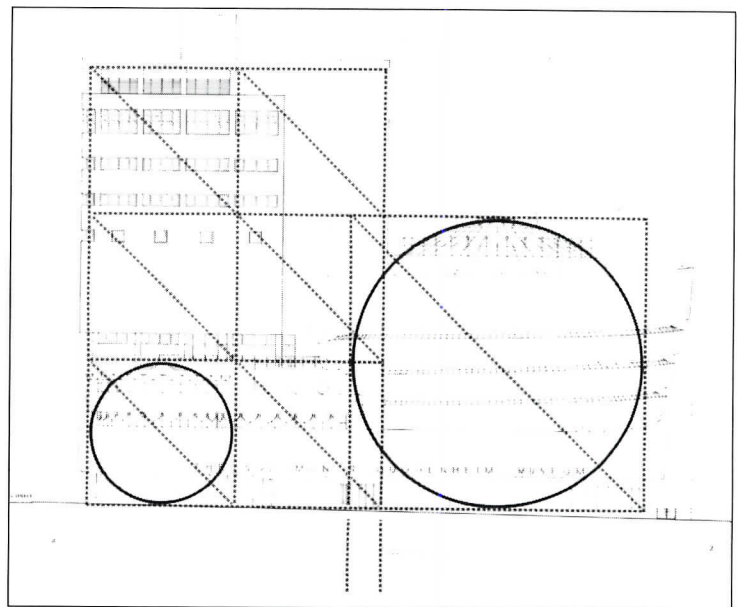
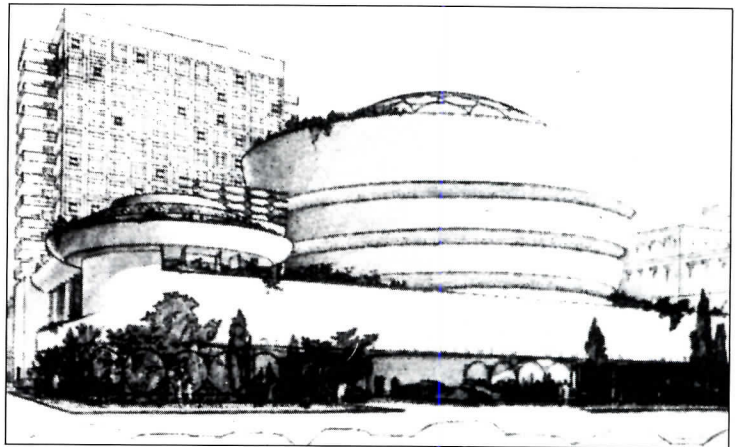
Distilled, what's proposed starts with the construction of a skinny core wall, 15 stories high, against the side of the adjoining apartment house on East 89th Street. From this wall is to be cantilevered a green gridded porcelain enamel box containing office and storage space, its top edge slightly lower than the core wall behind, and its bottom somewhat less than halfway down the fat upper band of Wright's

rotunda. The base of the box rests on a lower element which utilizes the structure of the present addition, itself designed in anticipation of ultimately supporting some sort of tower above it. A tripartite rationale buttresses this box: to establish its own objectness, to provide wider floor dimensions and, finally, to fragment the overall composition and thereby avoid bashing a single disproportionately great lump down the Guggenheim's backside.

This box is a bummer. The rationale of the "third element" seems spurious, premised retrospectively on the architects' decision to create another piece. The need for wide floors to accommodate offices and storage space (form follows function . . . anywhere) is also a backwards piece of thinking, built to the dimensions of a premise that was faulty at the first go. Arguing for the efficiency of the internal arrangements of the piece can in no way justify its intrusion into airspace that incontestably wants to remain clear. More, the effrontery—that's the word for it—of using this precious volume to house *storage* is almost too much to believe. We all know space is tight in Manhattan but this is ridiculous, exactly the sort of shoe-boxing that Wright was so vociferously appalled by.

Finally, there's the strategy of assemblage. By its own declaration, the Gwathmey Siegel scheme is—at some presumably meaningful level of abstraction—"derived" from the Wrightian original. This notion lies at the conceptual nub of their proposal, this argument from translation. To buttress the conceit of implicit continuity, Gwathmey Siegel has produced a series of formal analyses of the Guggenheim. These take the form of conventionally simplistic art-historical geometric studies, aiming to demonstrate, in essence, that the Guggenheim is conceptionally orthogonal. But, like any technique of analysis, this one tends to prove what it sets out to prove. It's scarcely a coincidence that an architectural firm whose work has been religiously square would discover that a four-foot grid was the "key" to the Guggenheim.

This isn't to say that Gwathmey Siegel's analysis is exactly "false," rather that its filter is too coarse: real essences slip through the mesh. The prejudice of the grid leads to a view of architecture in stasis. In an assembled architecture, the grid has the effect of stabilizing relationships among forms, quieting their latent kinesis with the security blanket of an implicit ordering datum. This is precisely what the proposed scheme does. It seeks to create an

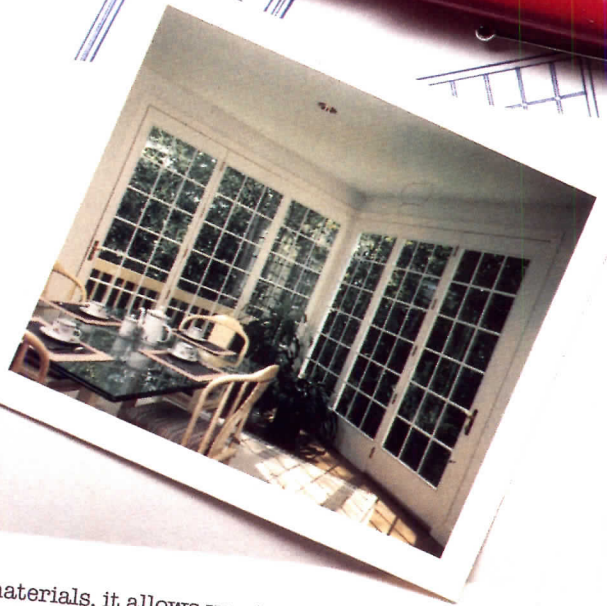


© Louis Checkman

Top: Frank Lloyd Wright's unbuilt proposal, designed in 1952, for his own addition to the Guggenheim Museum. Middle: Rendering of an early study by Gwathmey Siegel showing the geometric relationship between the existing Guggenheim building and the new addition. Bottom: Model view of proposed East 89th Street elevation.

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essentially homogeneous reading by assembling an array of forms nominally subservient to a privileged formal ideal. The architects' obvious aspiration is to create an ensemble in which one will not perceive the Guggenheim and its addition or even the Guggenheim against its backdrop but *the Guggenheim*. This may be a responsible urbanist strategy, this favoring of the whole, but it is altogether wrong vis à vis a holy monument.

The loading on of Gwathmey Siegel's "asymmetrical assemblage" is, in fact, a drastic attack on the Wrightian spirit. The Guggenheim is one of history's most signal examples of an architecture of fluidity and motion. However one parses its geometry, this building celebrates movement, the stability of the spin. Wright's is an architecture of spiral and collision. Gwathmey Siegel's is one of right angles and reveals. It's the opposition of an architecture conceived in three dimensions with one conceived in two. Unlike the stable surface of a circle or a square, the spiral shifts constantly, propelling relationships rather than ossifying them. The Guggenheim, like the abstract expressionism with which its design was contemporary, is action art. The new addition tries to compose it.

Looking at the plan of the Guggenheim, I'm always impressed by the funkiness of Wrightian shapes, the interest in the coincidence of forms as a way of elaborating their purity. Those ellipsoids, partial circles, and weird angles demanded by the moment are what animate the building, give it its propulsive counterpoint. It's a really musical work, intricately elusive compositionally. To call the Guggenheim "bipartite" is to miss its most central aspect. Two rotundas, for sure, but what about the deep linking band of its second story? Is this a third element (is there a clue in the three bubbles off-centered over the entry or the three portholes above them?) or a part of one of the other two? A bipartite reading resonates only from vantage points that Wright intended to reveal two-ness. One of the building's most satisfying aspects is its unendingly subtle resistance to such simplifications.

While I don't question the conscientiousness of intent behind the Gwathmey Siegel proposal (unlike the artistic demolition derby over at the Whitney), this in no way modifies its disastrous potential. It simply intrudes too much: the looming cantilevered box violates a plane of respect that should be absolute. The color strategy (in spite of silly relational palaver about making the box green to respond to the park) is also terribly destructive. That glossy green box will hover like a billboard, calling attention to itself at Wright's expense. The architects seem to believe that skinning the box in a grid somehow makes it the moral equivalent of Wright's "orthogonal backdrop." This is reasoning on the order of thinking that an elephant can be turned to a zebra by applying stripes.

I find, though, that it's the puritanism of the proposal that rankles most. By puritanism I do not mean simplicity; rather, an architecture more controlled by inhibition than passion. Wright is a romantic, an architect of intersection and joinery. In the Gwathmey Siegel proposal, the forms seem too upright to touch. Every volume demands to be distinct, the whole simply the sum of its parts. Looking at the scheme, my eye focuses and refocuses on a little glass cylinder which sits under the cantilever, covering a stair that leads to a new rooftop sculpture garden. Its angled top is sliced off for no apparent reason other than to contrive some interest and rationalize the fact that it just sort of stands there, nervous about not engaging the horizontal plane above it. From across Fifth Avenue the

tube will appear to sit on Wright's roof, a form nominally compounded of the same components as Wrightian ones (the glass of his skylights, the circle of his geometry, the ellipticizing rake of his spiral), but assembled with a sensibility that comprehends, it would seem, nothing of the spirit of the original. This little stub stands in for the whole, a lexicon of wasted intentions.

The real tragedy of this proposal is in the Guggenheim's willingness to trash a treasure for so little benefit. To be sure, the existing building is "inadequate" to a set of "reasonable" museological ambitions: to show more of the collection, to have nicer offices, to serve the public tea. The fact remains, however, that the inclusion of these possibilities on site is in direct conflict with the conservation

of the greatest item in the Guggenheim's collection—the Guggenheim. Acknowledging the preciousness of this building is to render all questions of whether the addition "improves" it irrelevant. It's sufficient that it makes it very different. This isn't to say that a modest expansion is impossible: who would lament seeing the 1968 wing blown away and replaced? Second-guessing genius, though, is the purest folly. To build this new addition would be ruinous.

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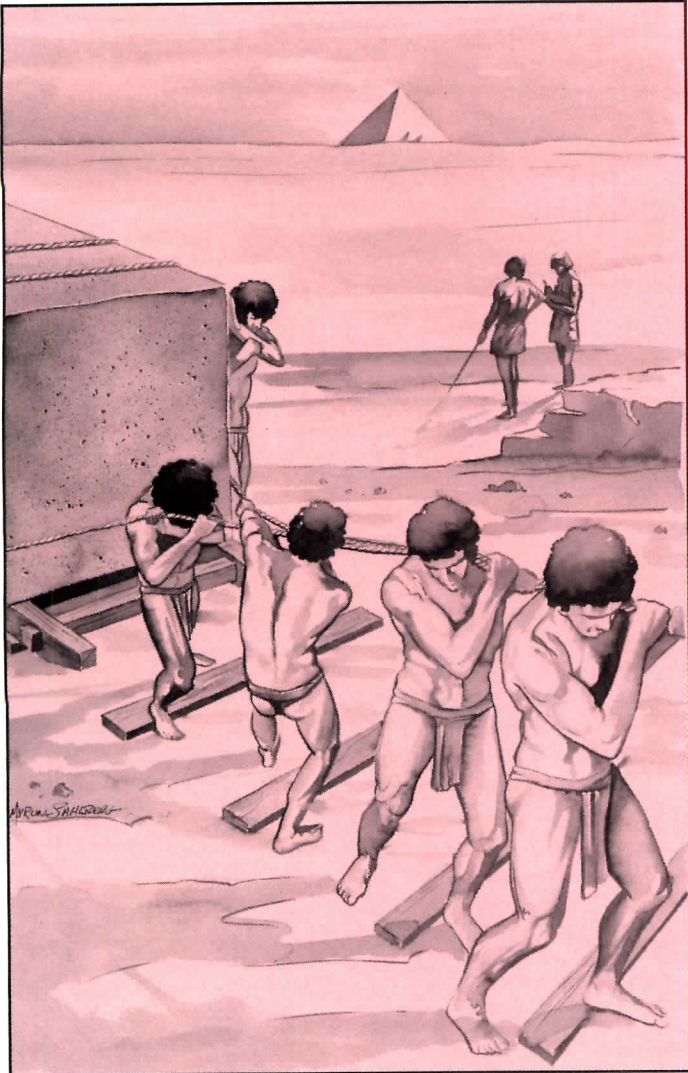
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The man getting out of the taxi met the attractive lady who greeted him in Spanish. Nearer the entrance to the building two gentlemen in pin-striped suits spoke in Japanese. As they headed for the first floor restaurant, a group of people were earnestly discussing world affairs in an African dialect.

Throughout the 12-story building, dialects from all over the world were being used. The United Nations? No... because of their many different dialects and nationalities, these men and women all spoke the same language—the complex international language of international finance. The building is in the heart of Washington, D.C., and its occupants determine the disposition of billions of dollars every year for development projects in many nations.

This is a typical World Bank building, one of the eight privately owned buildings that house the headquarters operation for international investments, loans and financial decisions, serving not only individuals, but whole nations. Located just two blocks from the White House and three blocks from the Treasury Department, the World Bank buildings comprise 10 million square feet of floor space and hold a unique amount of cultural diversity in a home designed to please everyone.

A series of reports giving recognition to the efforts of architects and engineers in the field of resource conservation.

“World Bank buildings hold a unique array of cultural diversity in a home designed to please everyone.”

Commissioned by JBG Associates, developers, the initial design was based on providing appropriate amenities in the speculative office building market (highly competitive in Washington). At the same time, there was an effort to achieve the maximum floor-area-ratio (FAR) allowable under local zoning laws.

Building gets a new owner. During this early design stage, negotiations were opened with the World Bank officials, and an agreement was reached whereby the building would become part of the World Bank facility. According to project architects Weihe, Black, Jeffries, Strassman & Dove, the design became much more specialized at this stage. Instead of being a building that had to be of general appeal, it now had dedicated purpose and occupancy.

The new, more specific purpose meant some revisions in the original design plan. On the first floor, a major cafeteria was added, which had to be equipped to handle the diverse food needs of the World Bank employees. The lobby evolved

into a major focal point, serving as a space not only for those entering or leaving the building, but also as a reception area for those attending the special school facilities on the second floor. A dramatic grand staircase leading from the large lobby to an open balcony provides easy access to the school level. Full health club facilities and other unique World Bank requirements were also included in the design. The result was a 12-story building, enclosing more than 400,000 gross conditioned square feet of office space above grade, with special requirements included at the design stage.

According to George Dove of Weihe, Black, Jeffries,



Richard A. Keilman, Chief, Building Operations Section of the World Bank, is pleased with a building which cuts energy costs by one-third.

Strassman & Dove, "As the building was developed, our firm worked closely with the interior space planning group, 'Inter-space', to develop a comprehensive plan for the interior of the building based on a program from the World Bank."

The building's exterior is molded brick with a high percentage of glass, double-glazed solar bronze for energy efficiency. The window sash is aluminum.

Conservation gets top billing. During the stage when the building was still a speculative design, energy conservation features had been an important consideration, as had budget factors. When the World Bank came into the picture as the eventual occupant and owner of the building, no need was seen to change from that original design concept.

GHT, Ltd. of Arlington, Virginia, was the firm selected to do the engineering. After a life-cycle cost analysis was conducted, an all-electric building design was chosen. This approach had the added advantage of minimizing potential energy supply problems. Once this key decision had been reached, the consulting engineering firm worked closely with the local electric utility, Potomac Electric Power Company (PEPCO), to make the building as energy-efficient as possible.

"Substantial energy savings result from the design of the heating, ventilating and air conditioning system."

In assisting GHT, Ltd., PEPCO calculated operating cost differentials for system design alternatives. PEPCO also assisted in developing a method to control building systems in order to take full advantage of existing electric rate structures as well as planned future "time-of-use" rates.

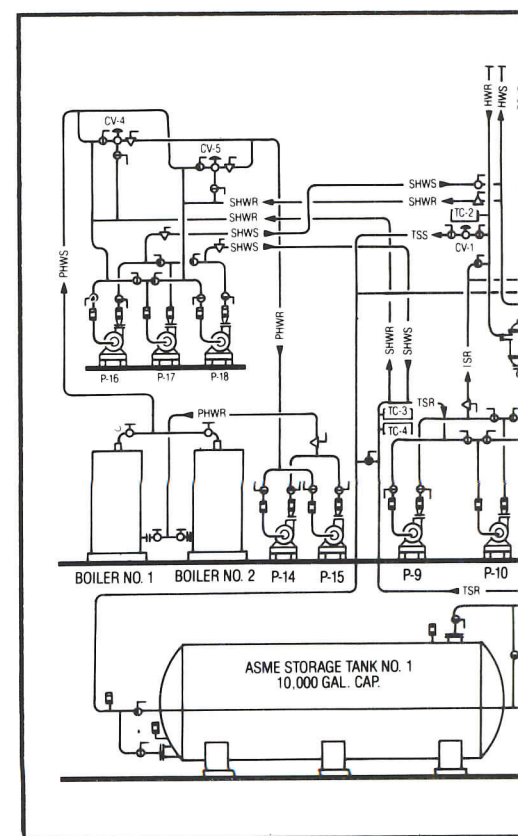
Although a variety of factors were included in the design to enhance the building's energy efficiency, the unique aspect of the design is the inclusion of thermal storage to use excess heat. As a result, substantial energy savings result from the design of the heating, ventilating and air conditioning system (HVAC).

Energy use cut by one-third. Taking all the building system modifications made to increase energy efficiency into consideration, this building uses about one-third less energy than would a comparably-sized building with a more traditional design. A well-designed, well-operated building with these energy-saving features would use approximately 9,700,000 kilowatt hours per year (about 24 kWh per square foot). The World Bank building consumes a little more than 6,600,000 kWh per year (about 18.5 kWh per square foot). This represents an annual savings to the owners, in current dollars, of more than \$140,000 a year.

Among the prominent features used to increase energy efficiency and reduce costs are a double-bundle condenser for heat reclamation, water-based thermal storage for heat storage, air-to-air heat recovery, task lighting and automated demand limiting controls.

The HVAC system has a variety of energy-saving features incorporated into its design. For cooling, chilled water is produced by three centrifugal chillers, one of which is a double-bundle condenser (heat pump) unit. For heating, hot water is generated first by the double-bundle condenser unit and, if needed, two electric boilers are available. The chilled or hot water is then circulated within the building to terminal units.

(continued on page 2)



System Operation

The basic mode of operation of the HVAC system in the Washington, D.C. World Bank building is determined by automatic controls which control a 24-hour sequence including both day and night operations. A summer-winter switch controls seasonal operational changes.

With the switch in the "summer" position and with the system in the "day" cycle, interior zone air handlers, the fan coil units, the outside air-supply air handlers, the exhaust fans, system pump P-12 and chiller system no. 2 start. Valve V-3A opens, and V-3B closes. As the cooling water flow increases, surplus flow detector (FD-1) senses excess chilled water flow in the decoupler bypass and causes a slowing cam switch to start chiller system no. 2. After full start-up of chiller system no. 2, chillers no. 1 and no. 2 modulate capacities in parallel to match the load. When the cooling water flow increases to a predetermined point, the surplus flow detector (FD-1) again senses excess chilled water flow and causes the cam switch to start chiller system no. 3. Chillers no. 2 and 3 remain loaded, and chiller no. 1 modulates as required to match the load.

As the cooling load reduces and terminal control valves modulate toward the closed positions, chiller no. 1 unloads, and reverse-flow detector (FD-2) senses the reverse flow in the decoupler bypass and causes the cam to rotate in a reverse direction, where it de-energizes chiller system no. 1. As the cooling load reduces further, chillers no. 2 and 3 modulate capacity in parallel to match the load. When the reverse flow detector again senses reverse flow in the decoupler bypass, it causes the cam to de-energize chiller system no. 2.

When the system is switched to "night" operation, chiller system no. 3, interior zone air handlers, fan coil unit, outside air-supply air handlers, exhaust fans and system pump P-12 stop.

The condenser water pumps operate whenever the respective chillers operate. The condenser water control for tower no. 1 thermostat with bulb in condenser water supply to chiller no. 1 maintains 85F (adj) entering condenser water temperature. Upon a drop, the fans stop. Upon a continued drop, the 3-way diverting valve opens to bypass the tower. Upon a drop in tower sump temperature below 38F

(adj), thermostat with bulb in sump energizes pan heaters as required to maintain set point.

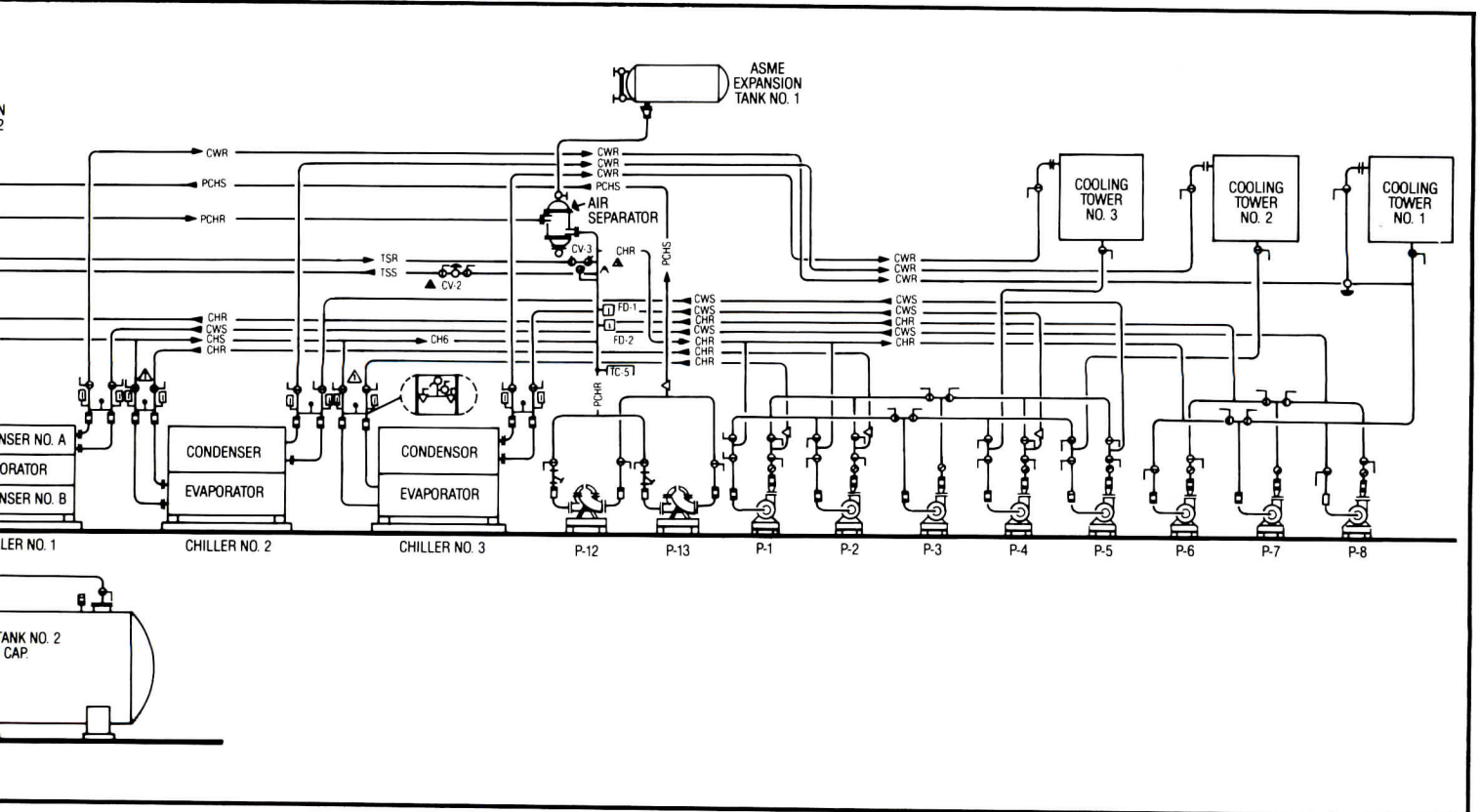
Condenser water control (towers 2 & 3) sequence for towers 2 and 3 similar to that of tower no. 1, except that there is no associated diverting valve.

When the summer-winter switch is in the "winter" operation and the system is on the "day" cycle, the interior zone air handlers, the fan coil units, the outside air-supply air handlers, exhaust fans, system pump P-12 and chiller system no. 1 start. Primary hot water pump (P-14), hot water pump (P-11), secondary hot water pumps (P-16 & P-18), and chiller no. 1 (heat pump chiller) are running, and valve CV-3A is open.

Upon a reduction in heating load, sensed as a rise in HWR temperature (above 95F) by temperature controller (TC-2), valve CV-4 modulates to bypass and pump P-16 stops. Upon a continued rise in HWR temperature, valve CV-2 modulates closed and surplus, and reverse flow detectors (FD-1 & FD-2) are energized. Upon a continued rise in HWR temperature, valve CV-1 modulates open, and thermal storage pump (P-9) allows 95F HWR to be stored in tanks. When thermal storage return (TSR) water temperature reaches 95F (adj), as sensed by temperature controller TC-3, chiller no. 1 condenser water circuit is energized. When condenser water circuit has been fully initiated, valve CV-1 closes, and pump P-9 stops.

Winter day cooling sequence is similar to summer cooling sequence except chiller system no. 1 (heat pump) is the lead chiller, chiller no. 2 is second and chiller no. 3 is last.

When the system is switched to "night" cycle, the interior zone air handlers, the fan-coil units, the outside air-supply air handlers, exhaust fans, and system pump P-12 stop. Surplus and reverse flow detectors (FD-1 & FD-2) are de-energized. When building heating requirements exceed the available rejected heat from chiller no. 1, as sensed by a drop in CHS temperature (from chiller no. 1) below 44F, valve CV-2 opens, and pump P-9 runs, bleeding hot water from the storage tanks into the chilled water line to produce the appropriate load on the chiller. When there is a concurrent drop below set point at both HWR (TC-2) and CHS (TC-1), indicating that all stored hot water has been expended, pump P-18 runs, and valve CV-4 modulates as required to maintain TC-1 set point. When there is a concurrent drop below HWR set point (TC-2) and rise above CHS set point (TC-1), controller TC-2 starts pump P-16 and modulates valve CV-5 as required to maintain set point.





George Dove, architect, and Tom Roach, engineer, are delighted by the results of their integrated passive and active energy efficient design features.

Each floor of the building has two medium-pressure chilled-water air handlers. These, in turn, distribute air to variable air volume terminals which circulate outdoor air from the building's interior to its exterior zones. Exterior office space is air conditioned by four pipe fan-coil units with built-in pneumatic controls. Special dedicated areas, including the lobby, the cafeteria, dining rooms, a book store, a basement print shop, and the maintenance and exercise areas have individually dedicated chilled water air handlers with electric heating coils which distribute air through constant-volume low-velocity duct systems.

During the heating season, heat is extracted from the warmer interior zones by the double-bundle condenser and transferred to the fan-coil units, where it offsets the heat losses of the exterior zones. Any excess heat not needed immediately

“Excess heat not needed immediately is stored in two 10,000 gallon water thermal storage tanks.”

is stored in two 10,000 gallon water thermal storage tanks located in the fourth basement. When no excess heat is available from the interior zones, the heat stored in the tanks is utilized. Only when all internal and stored heat has been used are the electrically heated boilers brought on line.

Local zoning requirements for outdoor air introduction greatly exceed the building's normal exhaust needs. To handle this imbalance, the air distribution system collects excess building outside air and distributes it to the kitchen exhaust hoods as make-up air. By eliminating the need for supplemental outside air, both cooling and heating demand requirements are substantially reduced.

Enthalpy wheels are employed to transfer about 75 per cent of the heat content between the incoming outside air and the outgoing exhaust air streams. During the heating season, heat is transferred from the exhaust air to the incoming outside air stream. During the cooling season, the process is reversed.

Again, both heating and cooling demand are reduced by the procedure.

Thermal storage aids demand control. A demand controller is used to limit and balance loads during periods of peak operation. This cuts energy costs by lowering the assessable demand charges made by PEPSCO. The operation of HVAC subsystems is channelled through the control device to assure minimized demand. At such times, the interior temperature is allowed to rise slightly. In addition, the demand control system has been programmed to transfer operation of one controller to an emergency standby diesel generator during a peak demand period, thus reducing the building's demand charges even further.

Flexible wiring has been employed to allow easy relocation of light fixtures. This allows light to be installed for the task instead of providing a uniform level for a wide area. A centralized lighting control system also minimizes waste by turning lights on and off according to a preset schedule. Local switching is allowed to override the master lighting control to meet specific needs.

The tinted, double-glazed windows also do their part to reduce conduction and radiant heat loss. The energy saved over single-glazed clear glass is significant.

DESIGN SUMMARY

GENERAL DESCRIPTION:

Area: 375,000 sq. ft.
Volume: 3,375,000 cu. ft.
Number of Floors: 12
Types of Areas: Office, conference rooms, cafeteria, retail and printing facility.

CONSTRUCTION DETAILS:

Glass: Dual glazed clear inside, solarbronze outside
Exterior Walls: Masonry; U value: 0.15
Roof: 8" concrete slab with 2" rigid insulation; U value: 0.10
Floor: 8" concrete
Gross Exposed Wall Area: 17,725 sq. ft.
Glass Area: 55,650 sq. ft.

ENVIRONMENTAL DESIGN CONDITIONS:

Heating:
Heat Loss Btuh: 4,135,000
Normal Degree Days: 4224
Ventilation Requirements: 43,000 CFM
Design Conditions: OF Outdoors, 70 FDB indoors
Cooling:
Heat Gain Btuh: 9,633,200
Ventilation Requirements: 43,000 CFM
Design Conditions: 95FDB/78 FWB outside
75FDB/50 RH inside

LIGHTING:

Levels in Footcandles: 70FC
Levels in Watts/Square Foot: 2.3 in office areas
Type: Fluorescent, incandescent, and mercury vapor

CONNECTED LOADS:

Heating and Cooling (950 tons):	2800 KW
Air Handling (450 HP):	480 KW
Pumps (335 HP):	320 KW
Other	2000 KW

PERSONNEL:

Owner: World Bank
Architect: Weihe, Black, Jeffries & Strassman
Consulting Engineers: GHT, Ltd.
General Contractor: Hyman Construction
Mechanical Contractor: E. J. Cornell Company
Utility: Potomac Electric Power Company



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Our new door is a testimony to outstanding design. You'll find it every inch a champion, from its thick sheathing of extruded aluminum cladding on both the frame and door to its fully adjustable sill. Hurd wanted this door to be the most striking entryway in your entire structure, so we made sure it would be the best available. The interior, as with all Hurd windows, is of select Ponderosa pine, to be painted or stained.



The door swings smoothly on a secure system of four hinges, each set in the frame for a clean look. Another feature is the beautiful hardware which matches the stately character of the door itself. Every aspect of this hinged door is Hurd quality. The design, construction, architectural grace and, of course, efficiency, are superior. The only topper to specifying one of these doors in a project would be to specify a row of them.



New Hurd clad horizontal slider fits America's largest market.



Millions of structures were planned and constructed when energy was cheap. Unfortunately, the windows used were often comparable. In today's economy, these windows, most of which are standard sized horizontal sliders, are costing Americans a fortune in lost energy. Hurd clad wood horizontal sliders are the beautiful answer to this incredibly large problem. They are sized to easily replace the energy-wasting, unsightly metal sliders and designed with some outstanding features.

In multi-family, health care or other institutional facilities, there's no better option for sleek but economical bedroom type windows than the new maintenance-free Hurd clad slider.

Hurd Construction

1. Thick, extruded aluminum cladding on both frame and sash (bronze or white).
2. Heat Mirror™ transparent insulation sealed in insulating panel.
3. Thick Ponderosa pine frame and interior.



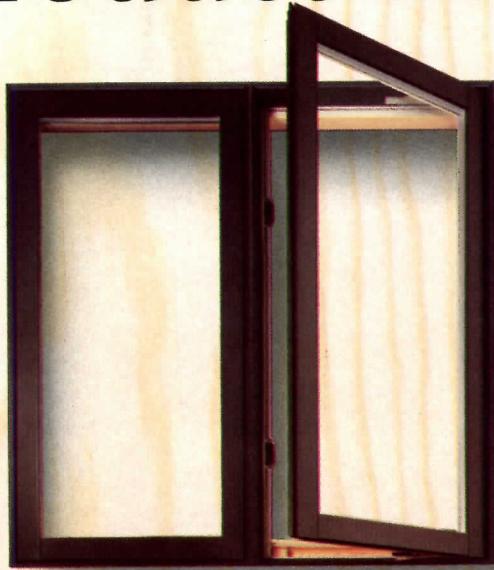
Heat Mirror is a trademark of Southwall Technologies

through product innovation.

Hurd standards are designed to perform.

R-4

Hurd makes basic windows in the most carefully controlled modern environment, infusing the best of today's technology into our craft. We offer the sizes, shapes and window types necessary



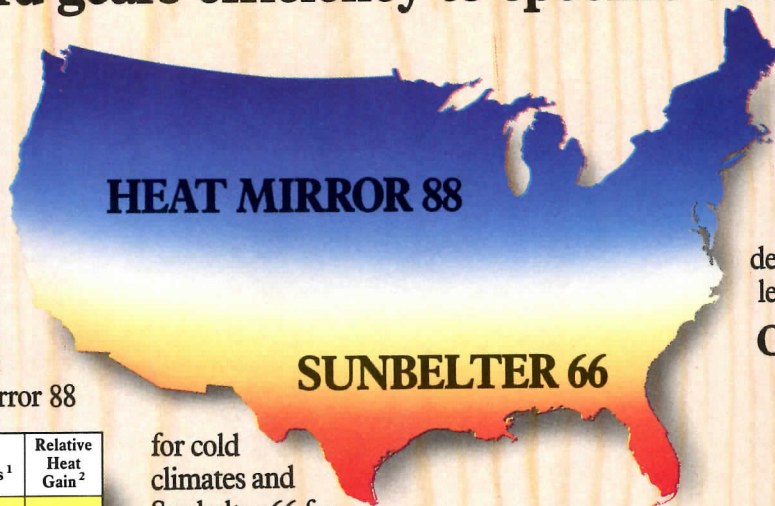
to produce buildings of character and imagination. We also offer R-Values above 4.0, superior comfort and economy.

Consider the Hurd clad casement. A standard product for us, by any other criteria, this is a very exceptional window. The .050 inch thick aluminum cladding on the frame and sash is electrostatically coated so it won't chip, fade or peel. The full one-inch insulating glass is also available with two different Heat Mirror glazings. Top performance is further guaranteed by triple weatherstripping and a thick wood frame.

Although a single glance qualifies this Hurd window as a good choice, further investigation of the adherence to detail will convince you that it's the only choice. You can build a reputation with Hurd.

Hurd gears efficiency to specific climates.

Different areas of the country have different solar exposures and varying heating and cooling demands. Plus, some climates are extremely hot in summer and bitter cold in winter. Hurd can't pretend that one window would be right for all these conditions. Instead, we offer specific glazing options, such as Heat Mirror 88



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GLAZING OPTIONS	U Values ¹	R Values ¹	Relative Heat Gain ²
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Clad Casement 1" Heat Mirror 88	.25	4.05	149
Clad Casement 1" Sunbelter 66	.24	4.20	103
Clad Casement Bronze Sunbelter 66	.24	4.20	86

for cold climates and Sunbelter 66 for hot climates. Each is intended to minimize energy usage and maximize interior comfort. Yet neither restricts the view.

Although you can include this custom feature as a premium, it's a standard offering from Hurd.

¹ Standard ASHRAE (1981) winter conditions.
² Standard ASHRAE (1981) summer conditions.



Making more elevators makes Dover No. 1.

Major projects like this one—the Energy Centre in New Orleans—have helped make Dover the best-selling elevator in America.

In this busy 39-floor building, 18 Dover elevators are equipped with computerized Trafloomatic® controls that minimize response time. The 7-floor parking garage and freight service needs are met with four additional Dover elevators.

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Or write Dover Elevator Systems, Inc., P.O. Box 2177, Memphis, Tennessee 38101.

Energy Centre

Owner:

Lincoln Property Company

Architect:

*Harwood K. Smith
& Partners*

Contractor:

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*Elevators sold and installed
by Dover Elevator Co.,
New Orleans*



DOVER®
ELEVATORS

Workshops of industry

There's been a lot of talk lately about the decline of American industry, accompanied by optimistic predictions about the rise of the so-called electronic information age. While the computer chip hasn't proved to be the economic panacea that some of us hoped it would be, it has begun to change the nature of industry as the sprawling, machine-infested factories of yesteryear are replaced by smaller facilities with office-like environments. The challenge, however, of finding new architectural forms to match the entrepreneurial spirit of these electronic-based industries has gone unmet: witness the bland, boring boxes that have popped up all over our computer lands of Silicon Valley and Route 128.

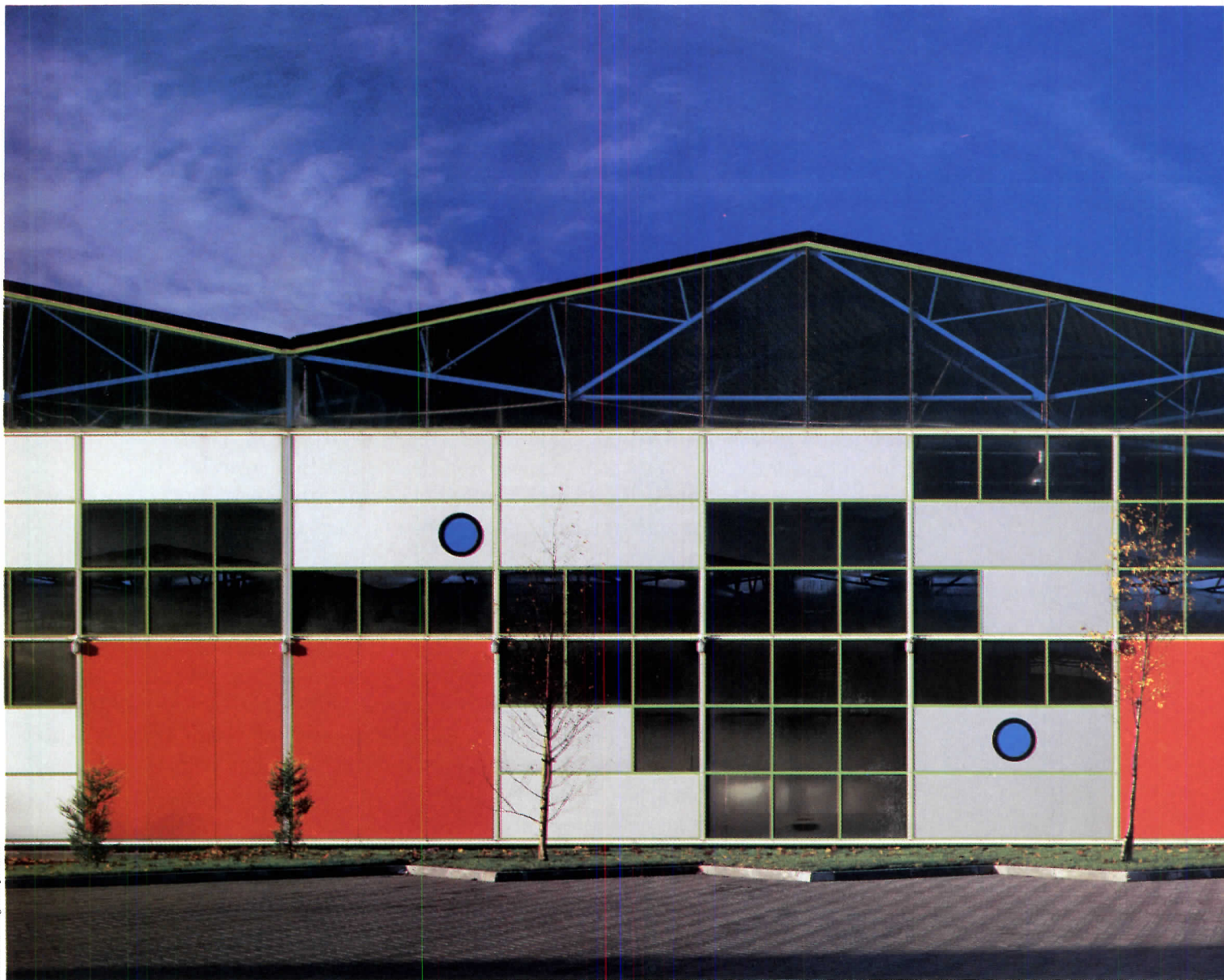
For inspiration, American high-tech companies and their chosen architects might well take note of the industrial buildings included in this study: a pair of speculative buildings designed by Richard Rogers + Partners for light manufacturing in Maidenhead, England; a computer research lab/factory for Arel Industries near Tel Aviv, designed by Karmi Associates Architects; and an auto diesel shop for Red River Community College in Winnipeg, Manitoba, designed by IKOY Architects. Though intended for a different type of purpose and client—multiple, unrelated manufacturers at Maidenhead, highly specialized computer technicians at Arel Industries, and a constant interchange of students, cars, and trucks at Red River—all express a common concern for a community of workers, rather than an assembly-line of individuals.

Accordingly, each building is organized as an industrial workshop, a small-scale mix of offices and flexible production areas that allows for future expansion or subdivision according to the specific needs of its workers. Divergent functions are articulated as buildings within buildings, rather than subsumed by an amorphous whole. The manufacturing plants of both Maidenhead and Arel Industries contain two-story office blocks that assume introspective identities away from the bustle of their open production areas. Similarly, classrooms are housed as insulated, self-contained units within the exposed structure of Red River's garage. Communal spaces within these hybrid buildings are emphasized to enhance communication and teamwork: a central courtyard unites Maidenhead's twin sheds into an industrial village; courtyards and a dining "amphitheater" offer Arel Industries' teams a place to confer outdoors; and Red River's spacious walkways and lounge promote teacher/student interaction away from the hood of a car.

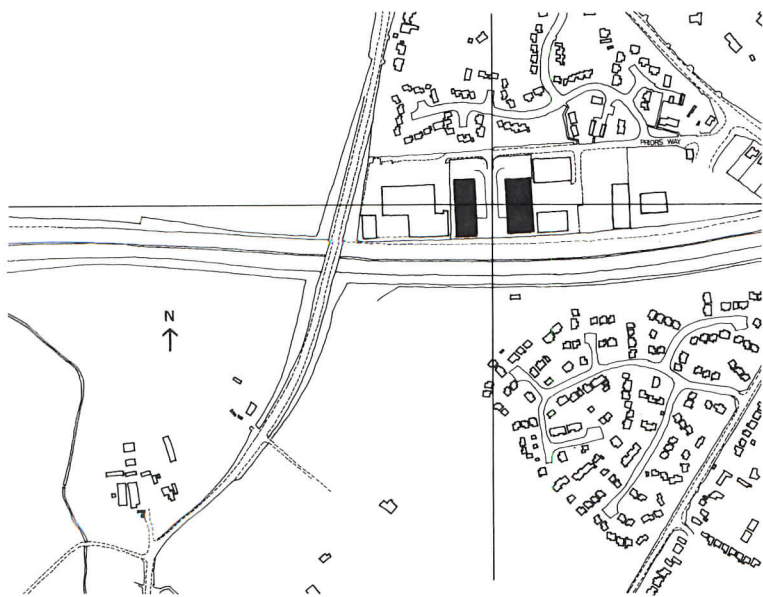
Moreover, the structures that follow allow the viewer a glimpse of their inner workings without hiding them behind expressionless facades. Industrial form is rationally employed to denote industrial function, through low-cost components of concrete, steel, or glass. The kind of modest tech that results offers a valuable lesson to American industry. As Ron Keenberg, design partner of IKOY Architects, points out, "People working in industrial buildings deserve the same kind of design attitude as someone working in a corporate office. There's a point when you have to reconcile functionalism with humanism." *Deborah K. Dietsch*

Speculative light manufacturing units
Maidenhead, England
Richard Rogers + Partners Ltd.

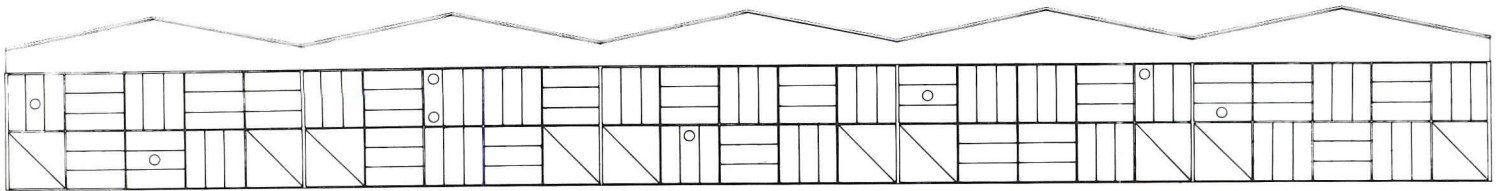
Kit of parts



Richard Bryant photos



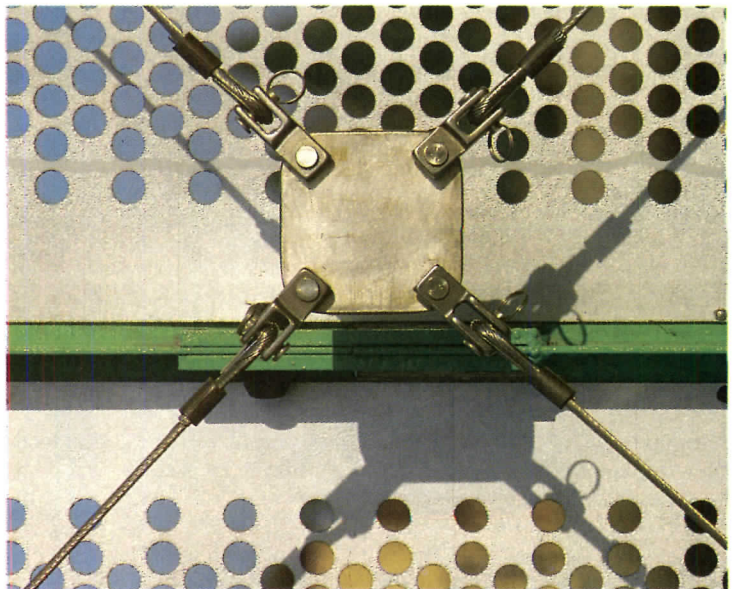
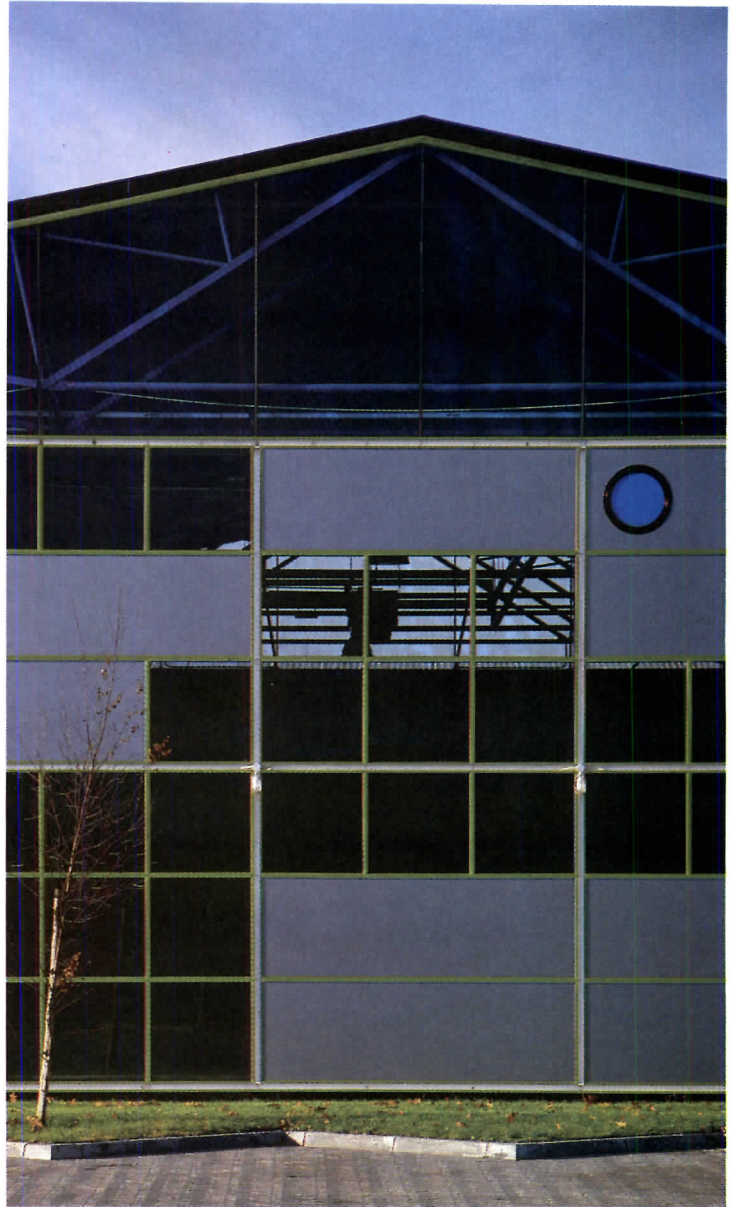
Industrial buildings have always been an important part of Richard Rogers's repertoire. Since collaborating with former partner Norman Foster on the Reliance Controls electronics factory (1967), the architect has designed a half dozen others, most notably the Fleetguard factory in Quimper, France (1981), the Inmos microprocessor factory in Gwent, South Wales (1982), and PA Technology laboratories in Cambridge, England and Princeton, New Jersey (1983). All have played a key role in shaping the virtuoso display of exposed mechanical and structural systems that forms Rogers's exuberant esthetic (and what sets him apart from Foster's cool, Miesian restraint). They also illustrate the fact that the high art of high tech comes with a high price, a result of the custom-engineering and crafted connections required of the machinelike esthetic. However, for a speculative industrial development located next to a major highway in Maidenhead, England (site plan at left), Rogers proves that he can take advantage of inexpensive, off-the-shelf materials and still come up with the impressive, technology-inspired goods. "Just like our early factories, this building stems from the idea of a kit of parts," he explains. "The architectural quality comes out of the order in which the components are assembled." But unlike the interlacing network of cables, masts, and mechanical pipes that crowns Rogers's previous high-tech sheds, the Maidenhead



development remains closer in spirit to traditional, industrial low-tech sheds due to the developer-set constraints of budget and program. The organization of the twin units is kept as generic as possible to suit a variety of industrial applications, with offices separated from production by a zone of services. Mechanical servicing is modestly expressed, limited to ceiling-mounted heaters in the factory area and wall-mounted radiators in the offices. As “basically a skin job,” according to architect Pierre Botschi, the design is concentrated in the individual buildings’ structures: a steel frame spanned by roof trusses and infilled with a grid of metal and glass panels that truly can be (and has been) rearranged by tenants such as Prime Computer. “It doesn’t matter how you put the elevations together; they always look nice,” asserts Botschi of their casual compositions (photo and drawing above illustrate alternatives). The Eames-like result is a far more playful, colorful approach to standard componentry than some of the architect’s previous solutions, such as PA Technology in Princeton. Rogers admits that part of the lesson that he learned from early industrial commissions such as Reliance Controls was a need for flexibility in both plan and elevation. “We’re moving toward a more forgiving architecture,” he maintains. Maidenhead is an example of that forgiveness, without forgetting its functionalist roots.

"It's sort of like jazz: you can improvise on the theme by changing the rhythm and notes," says Rogers of the patchwork pattern of steel-faced, insulated panels, glass, red loading-dock doors, and operable windows that compose Maidenhead's flexible facades (photos below). Individual panels are held in place by means of apple-green, silicone rubber gaskets within a grid of aluminum mullions that is screwed

into the structural steel frame. A strut-braced clerestory exposes the trusses supporting the metal roof decking and creates the illusion that the roof is floating. The entrance gate to the two-building complex (left photo) conforms to the same 3-by-3-foot module as the building elevation. It is constructed from a sandwich of standard, perforated metal panels cross-braced with cables (bottom photo).



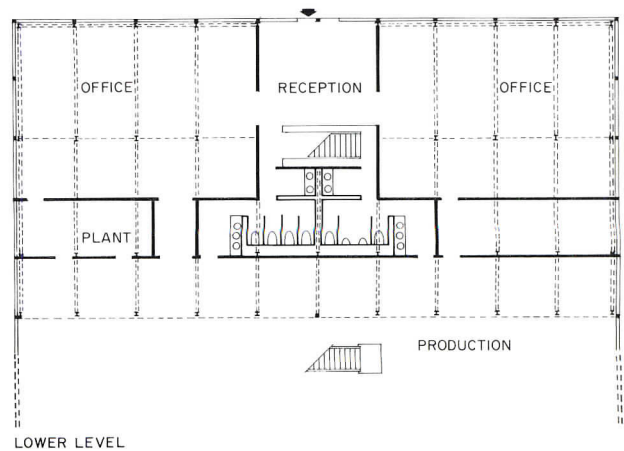
Close-up views of the courtyard elevations illustrate Rogers's interest in transparency, quality detailing, and structural exhibitionism, even in a spec building. Second-story offices (left photo) are glazed to dissolve the building envelope at the corner, revealing the steel skeleton and diagonal bracing inside. Primary structural members are covered in blue, intumescent paint for fire

resistance. The combination of glass, rubber gaskets, and electrostatically applied finish on the steel wall panels allows the building to be "cleaned like a car," according to project architect, Tim Inskip. The blue circles in the steel panels (right photo) pivot out like windows for production area ventilation. Bulkhead light fixtures strung along the aluminum mullion channels illuminate the structure at night.



The interior of each 26,000-square-foot unit is furnished with 6,800 square feet of office space on two levels, divided from the production floor by a nine-foot-wide service zone of toilets, storage, and clean rooms for potential computer-related tenants (plan of building's north end below). In the production areas, to be subdivided by future tenants, plumbing lines, columns, trusses, metal roof decking, and clerestory

bracing are brightly colored and left exposed in typical Rogers fashion (photo below). Side and back elevations are patterned with solid panels to meet local planning guidelines that limit the amount of glass used on the building's site boundary walls. The metal stair is topped by a water tank and provides access from production floor to concrete-block-enclosed office mezzanine (photo opposite page).



*Speculative light
manufacturing units
Maidenhead, England*

Developer:
Speyhawk Land and Estates Ltd.

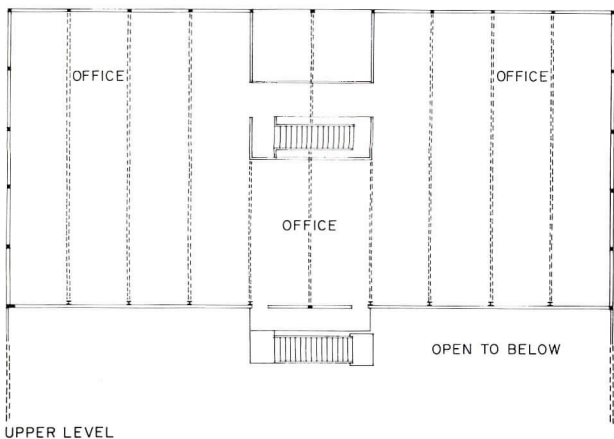
Architects:
*Richard Rogers + Partners Ltd.—
Pierre Botschi, consulting architect;
Tim Inskip, project architect*

Engineers:
Anthony Hunt Associates

*(structural); YRM Engineers
(services)*

Consultants:
*Hascombe Partnership (quantity
surveyor)*

General contractor:
L. Tellings Ltd.



UPPER LEVEL

Computer kibbutz



Raquel Salem photos

The stepped entrance to Arel Industries (top photo above) is placed on axis with its neighboring parent factory. The building's concrete frame exterior shades angled, second-story research offices and ground floor parking (photo above). A second factory will be built onto what is now the side of the building (photos opposite): a row of administrative offices and conference rooms, punctuated by interior courtyards.

"A cross between a research laboratory, factory, office building, and toy shop," is how Ada Karmi-Melamede describes Arel Industries, a producer of computers for calibrating textile dyeing and finishing. In synthesizing a coherent organization for this hybrid building type, the architect has devised a kind of kibbutz for the computer, a model that stresses collective process over individual production. The emphasis on communal spaces, rather than private rooms, developed as a programmatic response to the computer company's collaboration between small teams of research engineers, software programmers, hardware assemblers, managers, and administrators. "Unlike traditional assembly-line factories, the engineers and administrators outnumber the production workers here," the architect points out, adding, "It is the engineers who control the industrial process, and teamwork between research and production staffs is very important."

The provision for a four-stage expansion of the factory within a narrow, 2 1/2-acre site, located in a southern suburb of Tel Aviv, was another design determinant. Poured-in-place concrete frames allow the structure to be expanded vertically, and echo the industrial vocabulary of the conventional textile factory across the street, designed by Karmi Associates in 1965. Horizontal expansion is facilitated by a symmetrical plan that pairs two factories per floor around a central, diagonal spine of administrative offices (see drawings on following pages). Illustrated on these pages is the first completed stage of the complex, a triangular footprint for three future factories that provides the communal spaces to be shared by its entire population.

Inside the building, the simplicity of its symmetrical parti is enriched by changes in scale and light. The hierarchy of the company's staff is expressed in section, with perimeter offices and labs for the research engineers placed a half level above the factory floor and a half level below the administration block. In giving each function a home of its own, Karmi-Melamede has tried to disassociate her vocabulary from an identifiable "style" in favor of a "neutral" architecture based on climatic and structural necessity. As a result, rooms are screened from the sun by simple frames, or defined by columns and windowed walls, but expressed in a white-plastered idiom with distinctly Modern overtones. The scale of the structure becomes smaller and denser toward its administrative center, creating a monastic character in those areas farthest away from the collaborative research/production areas. The 18-foot spans of the neo-Brutalist, concrete frames that shade the angled research offices at the exterior (photos at left) are diminished inside to a grouping of closely spaced "mushroom" columns in the production area. At the opposite edge of the building (photo opposite), administrative offices are constructed as a series of introspective, load-bearing boxes above the production floor which face inward onto courtyards.

Potential conflict between the orthogonal and diagonal geometries within the triangular plan is reconciled by zones of circulation that are spaciouly arranged to promote the urban atmosphere of an industrial village. Corridors act as "streets" between the "piazza" of the production floor. The "bazaar" of indoor and outdoor courtyards under the administrative offices steps down to an outdoor, multipurpose "amphitheater," mainly used for dining off the adjacent cafeteria at the corner of the building. Planted with gardens and flanked by arcades, the courtyards serve as cloistered "living rooms" to Arel's scientific community.

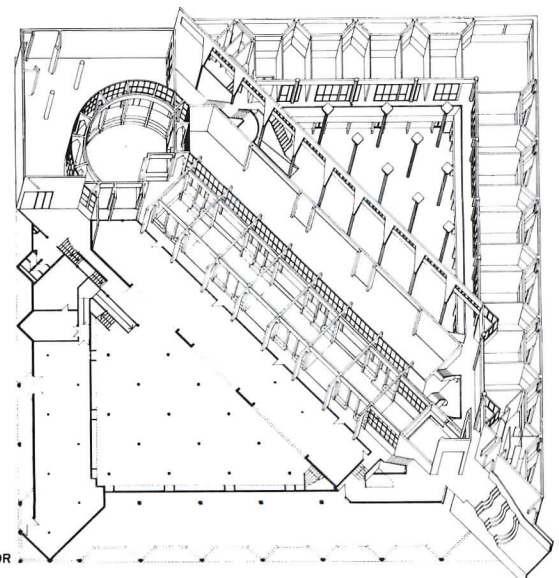
Superimposed over the entire building geometry is an overlay of changing daylight that softens and deforms its rational rigor. "Symmetry in the Middle East is an *idée fixe*," explains Karmi-Melamede. "You never really perceive symmetry in its pure, architectural form, except in high summer, because the sun warps its definition." At Arel Industries, sunlit illusion often appears stronger than the reality of the architecture, suffusing its static spaces with slowly changing patterns of light and shadow.



Future expansion of Arel Industries is accommodated by a symmetrical plan that pairs two triangular factories per floor around a central spine of administrative offices and courtyards (axonometric drawings below). The present facility is built out to the wall behind the arcade flanking the courtyards (right of central axis in drawing and top right photo, opposite page). Terminating the central spine is a circular

outdoor room, mostly used for dining, off the ground-floor cafeteria at the corner of the building (photo below). "It is the only place you really perceive both sides of the building's symmetry," notes Karmi-Melamede. Behind its second-story windows is the mainframe computer room. Leading to this outdoor "social condenser" is a string of courtyards, flanked by pointed, arched arcades with built-in seats

(top and bottom left photos, opposite page). The courtyards open to the sky are planted with gardens, while those positioned underneath the administrative offices are paved with terrazzo in a pattern which corresponds to the arcade. Sunlight plays an important role in patterning the building's symmetrical spaces with an independent geometry of shade and shadow. The production area, as seen



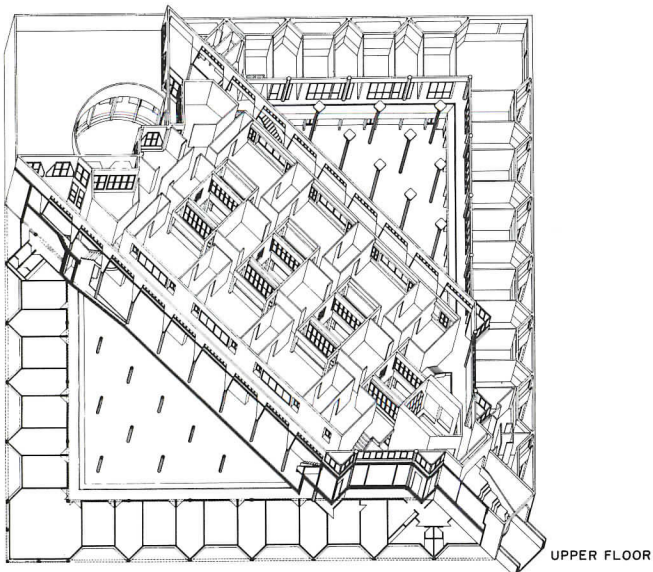
GROUND FLOOR

from the parapet wall of the research corridor (photo bottom right), "looks as nice as a toy shop," boasts the architect. The tops of its ceiling-mounted light fixtures are painted red so that their white shades appear as floating inversions of adjacent "mushroom" column capitals. The area of the factory floor under the perforated base of the offices is used for final computer assembly.

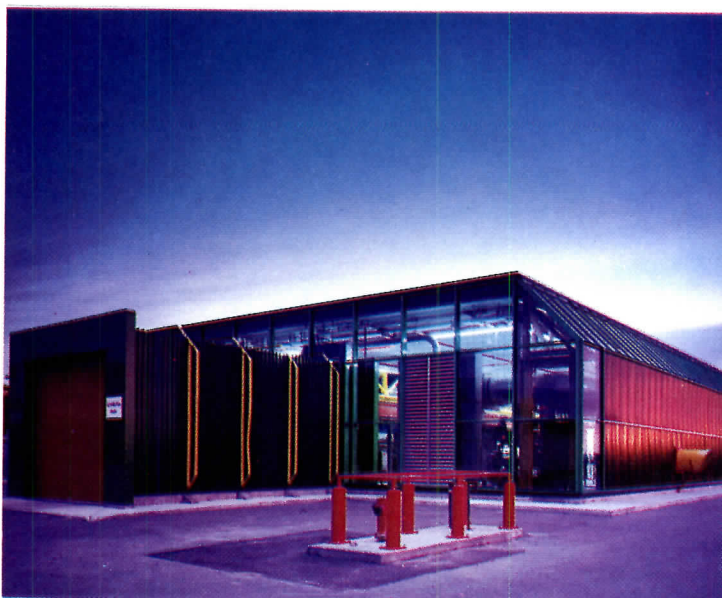
Arel Industries
Yavne, Israel

Architects:
Karmi Associates Architects—
Ada Karmi-Melamede, design principal; Michael Seter, project architect; Dani Kaiser, Haim Leshem, Doron Ohaly, project team

Engineers:
Eli Troim (structural); Yoshpe Sigalis (mechanical); Ozer Shalom (electrical)
General contractor:
Solel-Boneh



Gerry Kopelow photos



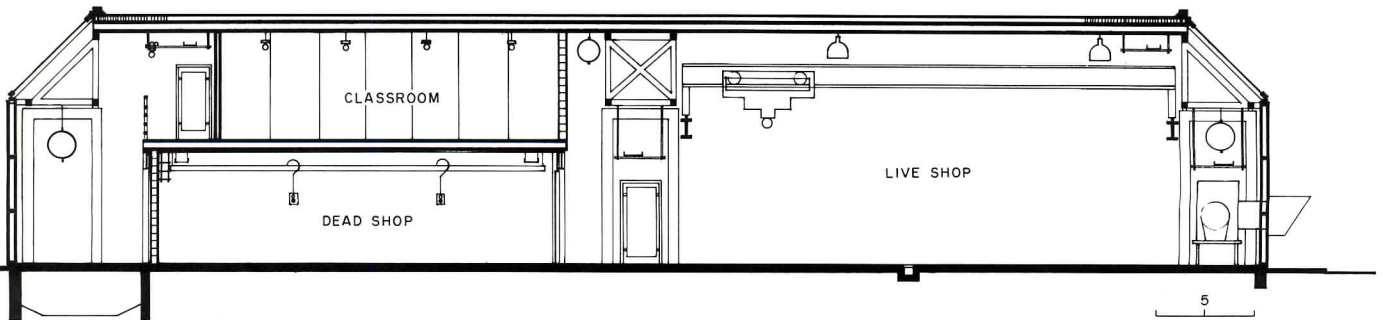
"The average architect looks at British high tech and says 'wow,'" states Ron Keenberg, design partner of IKOY Architects. "But then he scratches his head and asks 'what does it have to do with my practice?'" For the Canadian architectural firm, the answer to this question is simply the "action of building," a sympathetic attitude toward high tech that equates architecture with the visible way in which its structural, mechanical, and electrical systems are assembled. Keenberg is quick to point out, however, that IKOY's work differs from that of its high-tech colleagues across the Atlantic in the firm's refusal to custom-design building components. "We only use standard industrial parts. Those architects associated with British high tech are carrying on the tradition of William Morris handicraft in their long span trusses and cable-suspended roofs. They're not very good at just designing ordinary structures."

The architects at IKOY, however, are, and nowhere is their pragmatic, North American attitude toward building technology more vividly illustrated than at the 60,000-square-foot addition to the Red River Community College in their hometown of Winnipeg, Manitoba. As an educational garage in which students learn the fine art of auto mechanics, the building type presented the architects the perfect opportunity to display their own mechanical and structural skills. Its kinetic, primary-colored construction of steel beams, trusses, precast concrete planks, pipe railings, hvac ducts, plumbing, electrical raceways, and transformers are all assembled from stock catalog items that are culled from several North American manufacturers and approved by the National Research Laboratories of Canada for optimal performance. "Our building sites are no longer construction sites, but assembly sites. About 90 percent of our work is now factory pre-assembled, and we design around the remaining 10 percent," explains Keenberg. In addition to the obvious merits of fast-track construction (which in this case saved the client \$600,000), this tinker-toy approach enables quick repairs and replacement of mechanical and structural systems, and allows for future changes in function.

This is not to say that IKOY has abandoned the "wow" of high tech in its substitution of low-cost, off-the-shelf components for expensive, labor-intensive engineering. In detailing the Red River auto shop, consideration was given to how the assemblage would be viewed from a distance, from the first glimpse of the yellow columns and trusses behind the building's tinted glass, to the screws that fasten its metal skin. Keenberg calls his close-up attention to detailing "tertiary texture," in distinguishing it from "primary" and "secondary" readings, and claims that every combination of component assembly is thoroughly studied, down to how the sunlight bounces off the exterior corrugated siding. The reason for such scrutiny is that the architects refuse to hide *any* part of their building behind a security blanket of gypsum wallboard (removable melamine panels take its place) or within the obscure depths of an electrical closet. Keenberg maintains that this flexible, structural display goes beyond mere elemental exposure. "We're not taking down ceiling tiles and just showing all the spaghetti underneath. The parts we expose have a reason for being there that goes beyond pure decoration." All visible connections are designed by the architects without relinquishing the process to an engineer's mathematical control. This architectural interpretation of traditional engineered proportions has been dubbed "enhanced amplification" by Keenberg, who claims, "We have the potential for developing the overlapping texture and lace of a Gothic building." And like a Gothic nave, Red River's garage-like open plan with inserted classroom mezzanine serves as a simple foil to the mechanical and structural tracery that graces every corner (section and photo opposite page). But the inspired results are neither holy nor overwrought. In celebrating the purpose of its building's parts, IKOY has elevated the familiar industrial metal shed into a finely tuned machine, worthy of the fastest model on its auto shop floor.

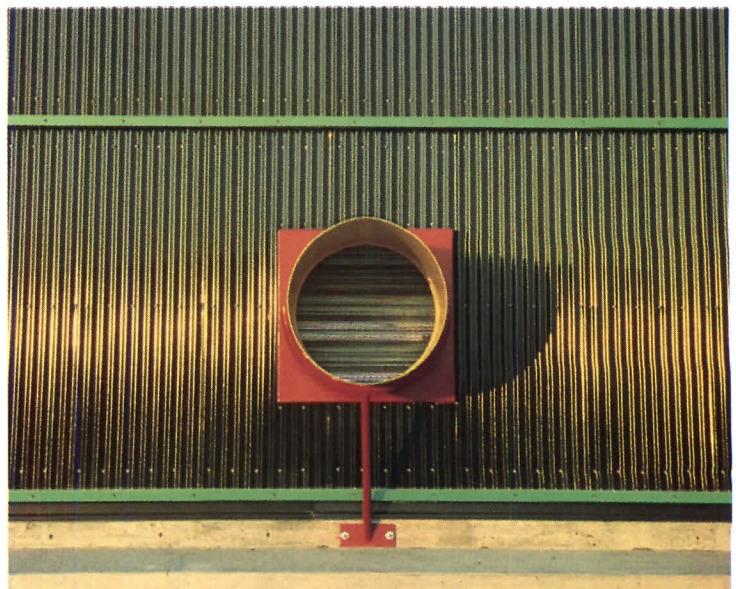
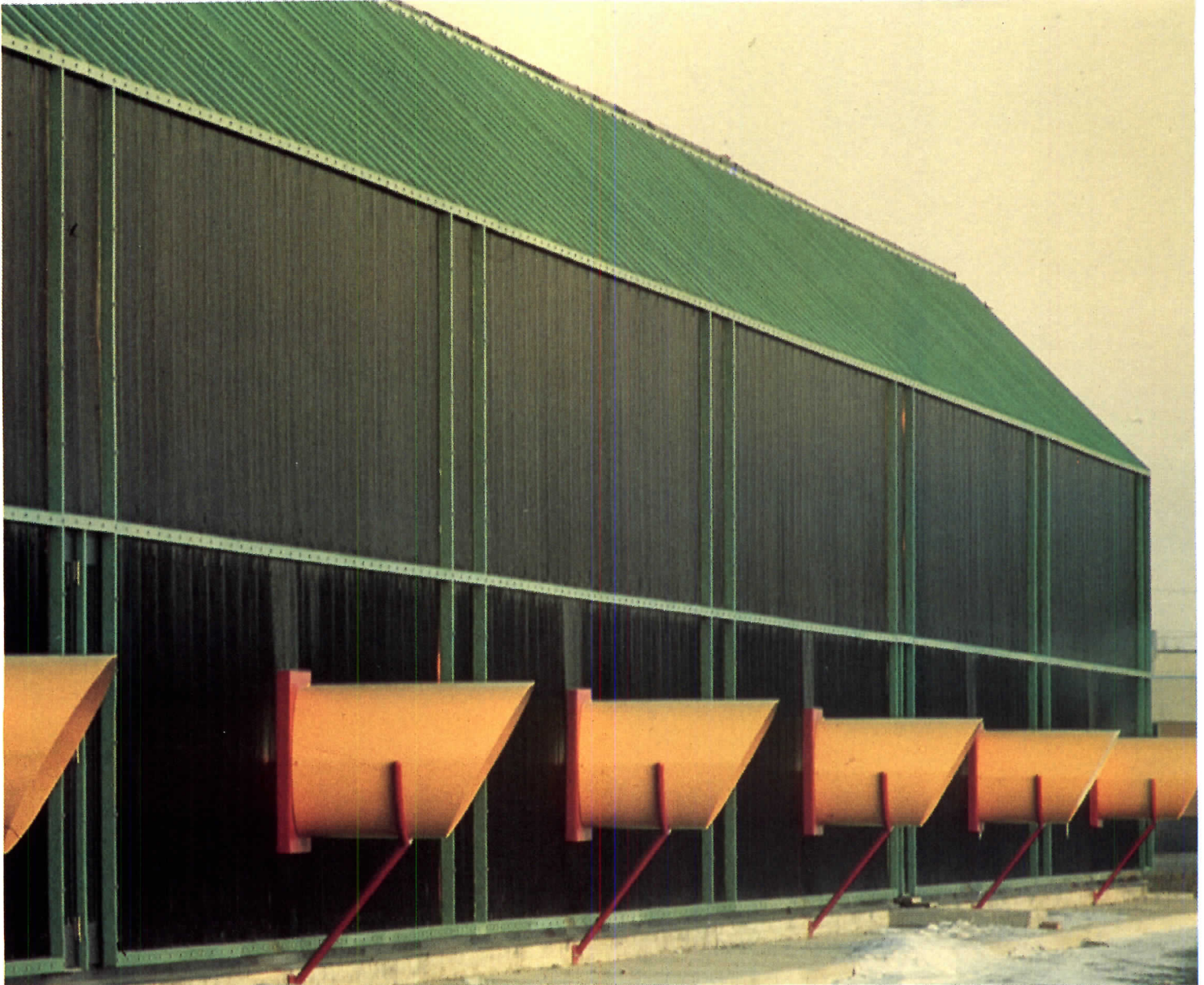


Vehicles are driven into Red River's auto shop through projecting vestibules to prevent the radiation of cold air into the interior (top photo). The building is connected to the rest of the campus by means of a pedestrian skywalk (photo above). South and north elevations are faced in glass (photo opposite), providing a view of the classroom mezzanine (left of section, opposite) and shop floor (right of section).



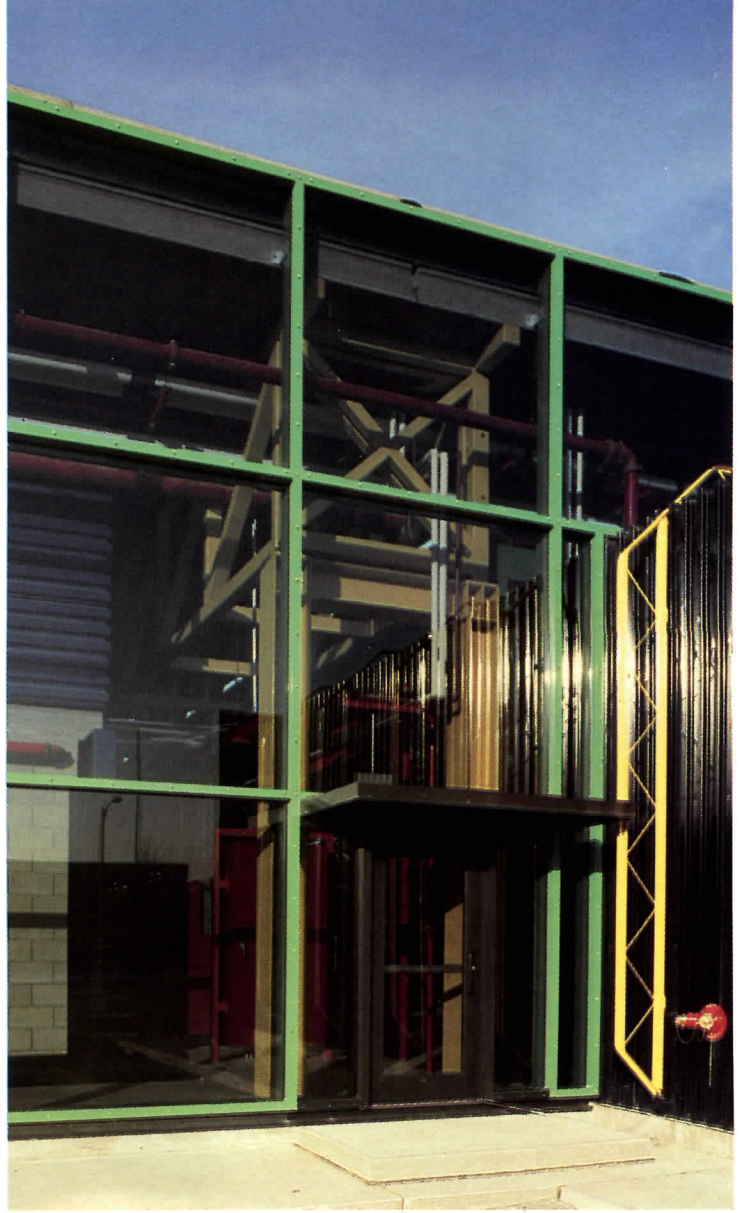
"Because of the automotive exhaust generated inside, this building requires tremendous air changes. And it is air-conditioned, which is unusual for an industrial structure," notes IKOY's Ron Keenberg. On its east elevation, exhaust louvers are covered by projecting yellow ducts, angled upward so that the air is directed away from the building (photos below). The navy blue corrugated

metal siding is lapped and screwed onto a green control grid, a device that braces the skin and breaks down its scale. The exposed screws are examples of what Keenberg calls "tertiary texture, a level of detailing that you don't see from a distance, but you read up close." The roof angle follows the contours of the triangulated truss beneath it, which supports hollow core, precast concrete planks above (visible in



left photo, below). The elevated pedestrian bridge that links the auto diesel shop to an adjacent auto paint shop on campus is supported by a yellow steel frame with typical web stiffener corner detail (photo below). In deference to the cold Winnipeg winters, only its south elevation is glazed, and mechanical servicing to the main building is carried underneath its floor. From the bridge, the auto shop is entered via a

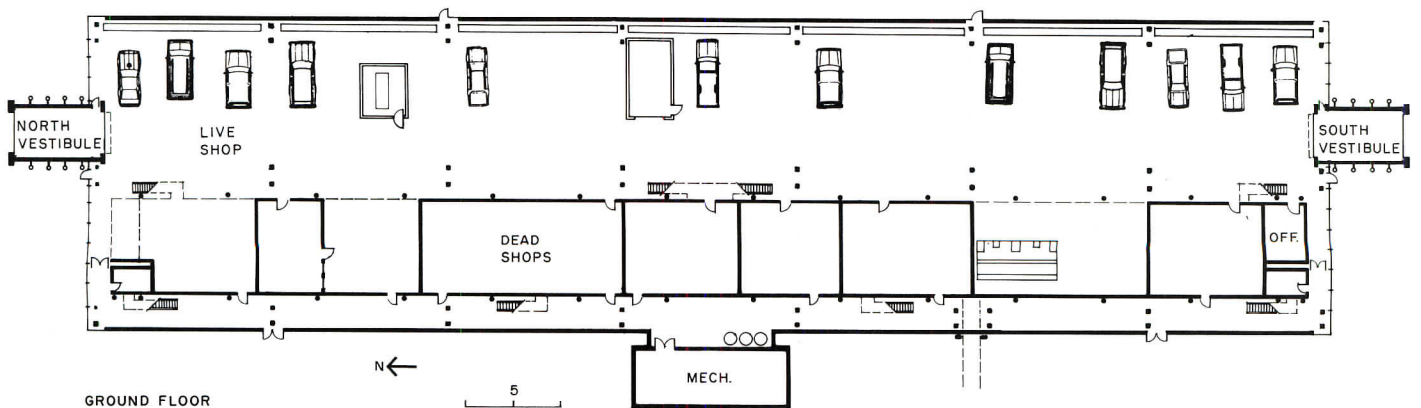
walkway that joins the classroom mezzanine, sunlit by the clerestory above. The main entrance to the building is located within its south elevation (right photo). The architects feel that their only mistake was to clad its facade in gray tinted, rather than clear, glass which diminishes transparency and a view into the building's kinetic assembly of structural and mechanical components.



At Red River, a simple, garage-like open plan complements the "action of building," as a backdrop to a variety of vehicles and grease-monkey instruction. Its automotive shops are divided into two types: a "live" shop for repairing engines under the hood of a car or truck (top of plan below); and a "dead" shop, where the engines themselves are dissected and studied. Inserted over the dead shops is a mezzanine,

insulated by hollow core, precast concrete planks, that contains classrooms, staff offices, toilets, and student lounge (plan opposite page). From the shop floor, staircases lead to the classroom mezzanine past the garage door-paneled dead shops (photo top right). Classrooms are clad in acoustical corrugated metal and adjacent walkway floors covered in battleship-gray linoleum (photo bottom right). Toilets are housed

within a yellow drum next to the student lounge (photo bottom left). Throughout the building, electrical receptacles hang from cab tires, and wiring is run along exposed ceiling troughs (left photo opposite page). Equipment such as electrical transformers, circuit boxes, and the hallway clock (photo bottom right) is hung from pipe rail standards. In the pedestrian bridge (photo top left), the roof is pitched to add more

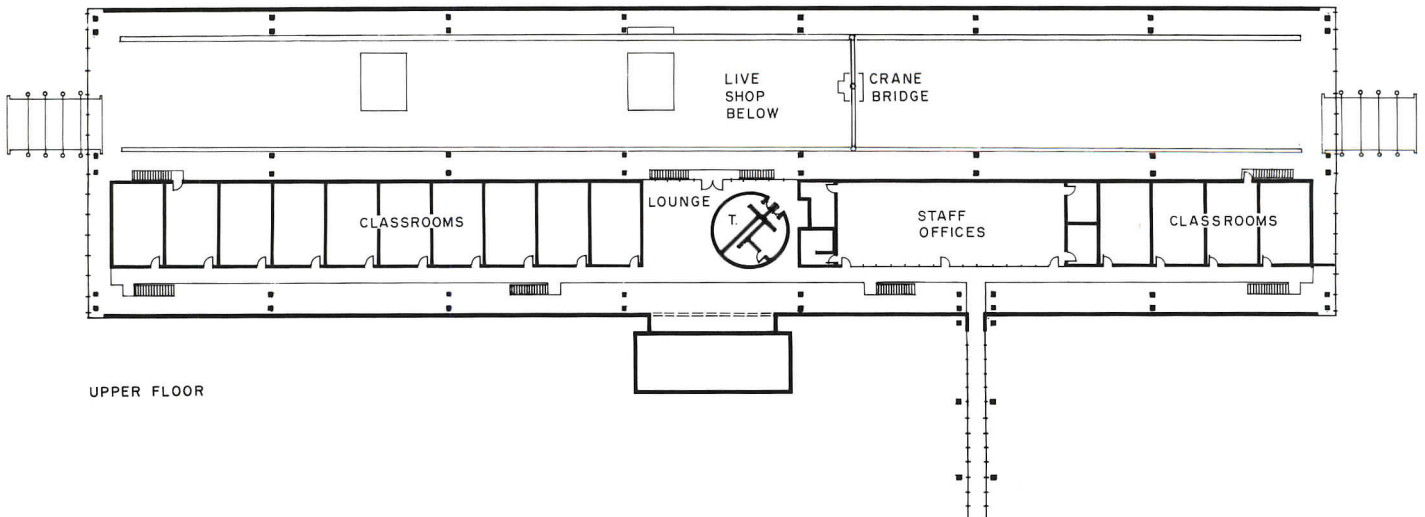
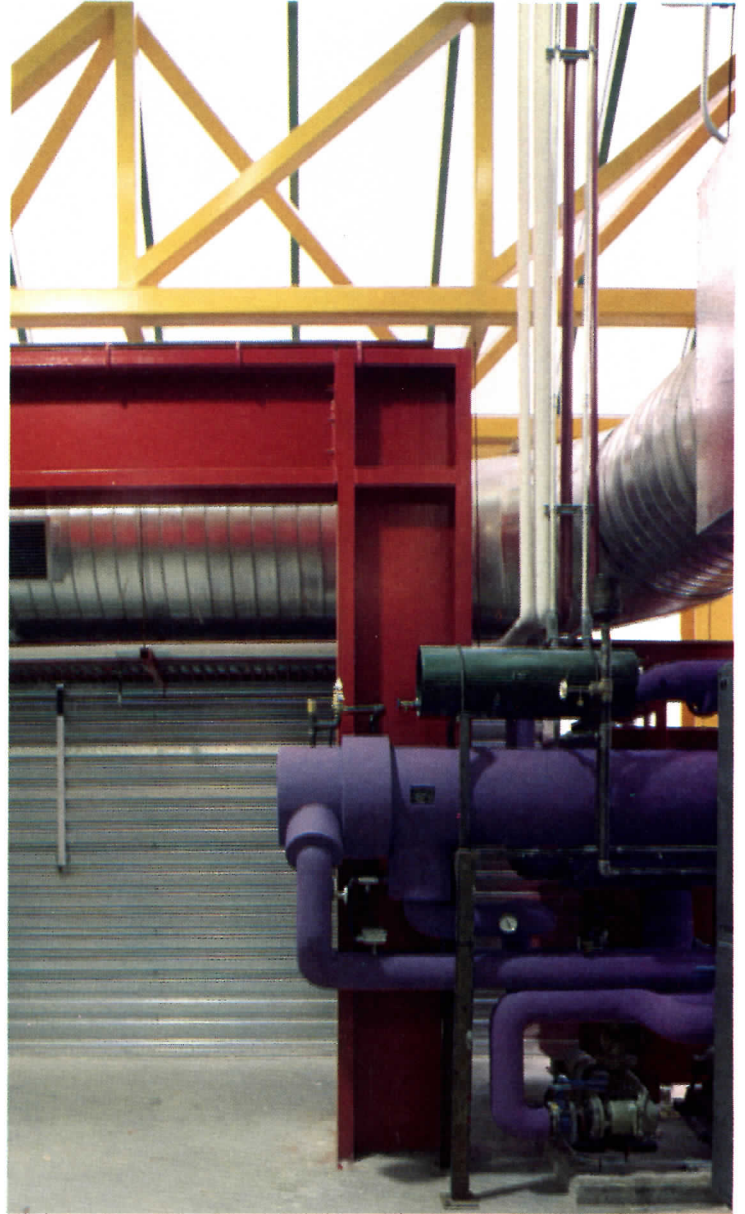


height, and radiators are glorified in scarlet paint. The architects refer to their bright primary palette as "chroma" colors, and feel they look best against the gray of concrete, rather than the high contrast of white which "tends to make them look cheap." Even the freon compressor for the air-conditioning system is given a royal coat of purple paint and a place of honor near the front entrance (right photo).

Auto Diesel Shop
 Red River Community College
 Winnipeg, Manitoba

Architects:
 IKOY Architects—Ron Keenberg, project designer; Terry Stratton, project manager; Don Blakey, project architect; George Heath, project inspector

Engineers:
 William Hanuschuk & Associates—Rick Musyk, project designer (structural); G.A. Currie & Associates (mechanical); AEB Engineering Group (electrical)
General contractor:
 Bird Construction

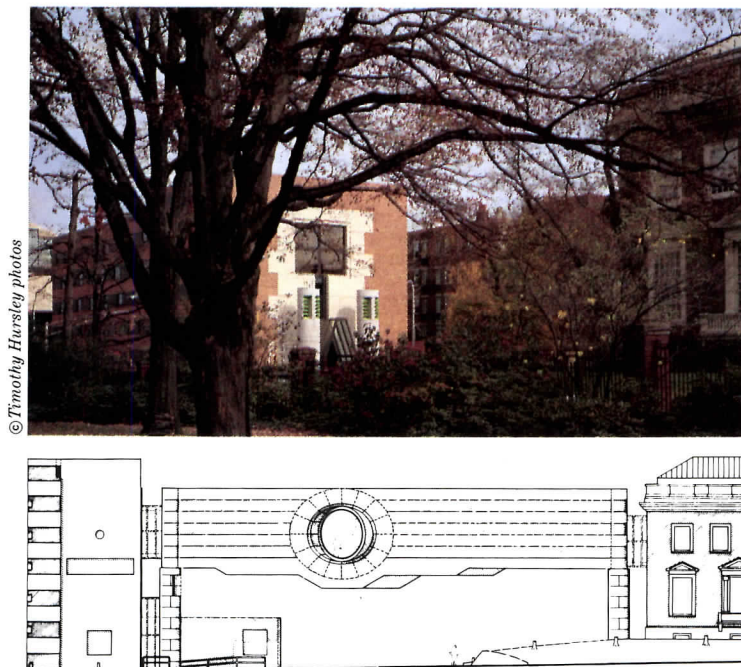




ARTHUR M SACKLER MUSEUM

Best laid plans

The Arthur M. Sackler Museum
Harvard University
Cambridge, Massachusetts
James Stirling Michael Wilford
and Associates in association with
Perry, Dean, Rogers & Partners



At a press conference during the four-day-long dedication of Harvard University's Arthur M. Sackler Museum last October, an over-excited student reporter insisted on quoting one especially bloodthirsty critic's diatribe against the building we were seated in; then, with Bic pen poised vulturelike over spiral notebook, the perspiring but persistent young journalist challenged James Stirling (who seemed not so much irritated as bemused) to defend himself: "Opinion is ever changing; I believe the one you just read was last year's. . . it will be interesting to see what it is a year from now." Though the student was crestfallen, having failed to arouse Stirling's defensive ire, the eminent British architect's detached coolness was not surprising. He is a seasoned veteran of the critical wars. His Leicester University Engineering Building (1963), his dormitories for St. Andrews (1964) and Oxford (1966), and his Olivetti Training School (1972) were all hailed as tours de force when completed—just as his and partner Michael Wilford's Neue Staatsgalerie and Chamber Theater in Stuttgart was [RECORD, September 1984, pages 140-149]. But as time went by and the stylistic seasons changed, the critics recanted with no less enthusiasm. Similarly, when Stirling unveiled his design for an addition to Harvard's Fogg Museum in 1981, *The New York Times* was breathless: "the architectural event of the '80s"; four years later, when that same design was a reality, *The Times* could barely suppress a yawn: "ungainly and not a little dowdy. . . an odd miss for James Stirling." Whether the Arthur M. Sackler Museum (named in honor of its principal benefactor) is a hit or a "miss" depends, as these things often do, on who is keeping score. According to Colin Rowe, whose critique appears on page 122, the building has elements of both. Which, like almost everything else about the Sackler, is, of course, open to debate.

What is not open to debate is that Harvard needed the building. In the late '60s, the venerable Fogg told a woeful tale, not unlike the one New York City's Whitney and Guggenheim museums are telling today: 90 percent of its extraordinary 100,000-piece collection was banished to the basement for lack of space, its staff was shoehorned into janitors' closets rigged up as offices (to name but two of the more dire situations), and Harvard was in jeopardy of compromising its standards as one of the leading academies for art historians and museum administrators. Hopelessly inadequate storage, curatorial, preservation, classroom, library, and administrative accommodations

made the teaching museum's bad situation worse. Though the museum had anticipated expansion as far back as 1927, when the Fogg was built, the adjacent site originally allocated for the purpose had been usurped in 1963 by Le Corbusier's Carpenter Center for the Visual Arts. After wisely rejecting a number of ad hoc proposals to build behind Coolidge, Shepley, Bulfinch, and Abbott's neo-Georgian museum (at right in photo above), the Fogg acquired the Allston Burr Lecture Hall across Broadway Street (site plan, page 122). The 1952 undergraduate science building had been made "redundant" (to quote Harvard) by the university's vast new Science Center. Few wept when the architecturally undistinguished structure was razed along with a pleasant wood-frame house to open up an L-shaped site, which was then presented (after 84 architects were interviewed) to James Stirling Michael Wilford and Associates.

"The building has the feeling of a sort of car battery—it's incredibly dense. Sometimes while working on it I've had the feeling it's going to sink into the ground." Stirling's quip merely hints at the complexity of the problem he was asked to solve. As the 234-page program made clear, the Fogg didn't need one building, it needed two: a five-story office and classroom building and a three-story museum. Add to that the curious contextual question posed by Cambridge's Quincy Street (a street on which one veers from Le Corbusier Modern to neo-Georgian, from John Andrews Brutalism to neo-Gothic), and you have a commission few would envy. Stirling's answer may indeed be a challenge. In esthetic terms, this is clearly not just another blond bombshell being paraded before lascivious eyes; in programmatic terms, this is just as clearly a very intricate piece of work (best revealed in section and axonometric, page 119). However idiosyncratic its appearance, the Sackler is one building that must be studied—and thoroughly—not only to be understood, but appreciated. And however critics may assess the building now, they must keep in mind that it isn't quite finished. Witness the steel rods protruding from the monumental columns flanking the entry (facing page): someday, if all goes well with the Cambridge City Council, the rods will be fitted into a 150-foot-long aerial connector that will link the Sackler to the Fogg (above). For now, however, the steel rods wait. A not-so-subtle reminder, for those who need it, that the saga of Stirling's Sackler is not over yet.

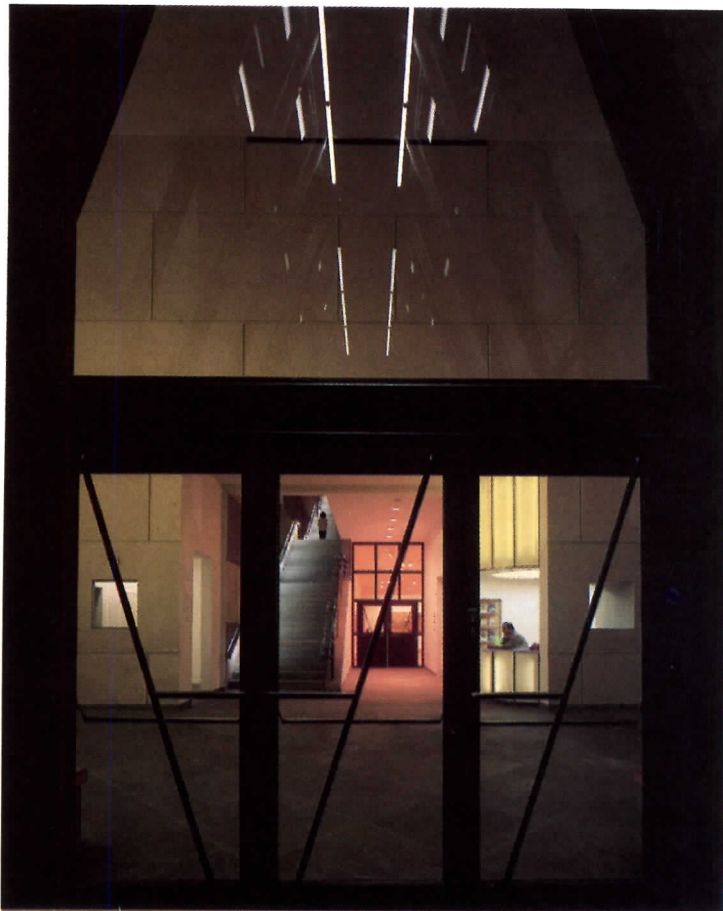
Charles K. Gandee



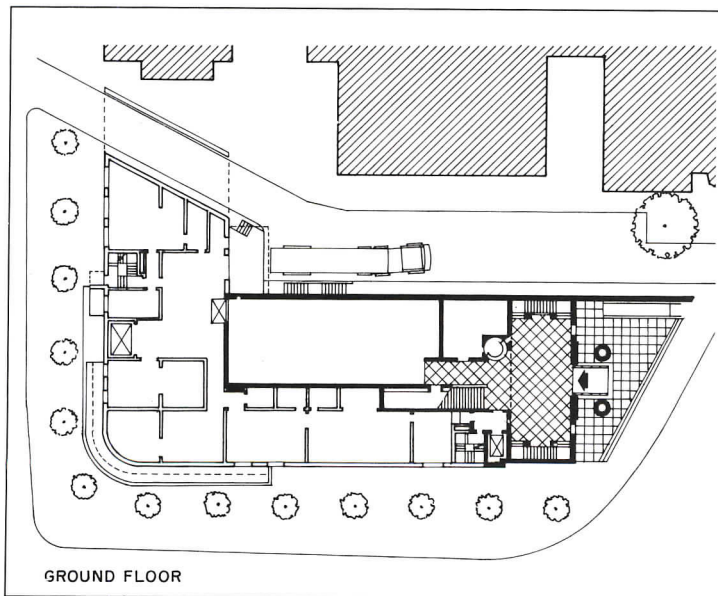


Though the Sackler has been likened to everything from a "turkey club sandwich" to a "fascist nursing home," Stirling's preferred analogy is to a car battery. The architect's reference suggests the dense inner workings of the building, which are revealed—all too clearly, according to some—on the exterior. Since the program called for a museum and an office/classroom building (and for the full retinue of support services required by each) the Sackler presents two distinct images to the passer-by. The first, of course, is the museum image which is so clearly registered in the monumental facade facing south, appropriately enough, to the parent Fogg Museum and Harvard Yard (photo middle left); the second is the less grand image of an office/classroom building, which is certainly no less clearly registered in the striped brick facade sweeping down Quincy and up Cambridge streets (bottom left photo). Because windows are a distraction (and sometimes a hazard) in museums, Stirling positioned the Sackler's galleries on the interior of the L-shaped site (and building); he then, almost protectively, wrapped the exhibition spaces within the requisite offices and classrooms. Though the non-gallery portion of the Sackler is more workhorse than show dog, Stirling relied on windows (set into the center of each room) to provide occupants with light and views of Cambridge's bustling street life. The result of giving priority to interior placement of windows was a random, if not chaotic, fenestration pattern which Stirling sought to tame by banding the building in contrasting brick stripes. Although the butterscotch-and-graphite-gray palette was not Stirling's first choice (pink and green was), the desired effect of a building lassoed together still held. In addition to making order out of the chaotic fenestration, however, the Sackler's stripes give a quirky deferential nod to the strip windows of neighboring Gund Hall and the horizontal bands of neighboring Memorial Hall's slate roof (photo page 122). The neon-green pipe railing that has perplexed so many is signature Stirling. Like the architect's preference for purple socks and cobalt-blue shirts, it is a matter of personal taste.



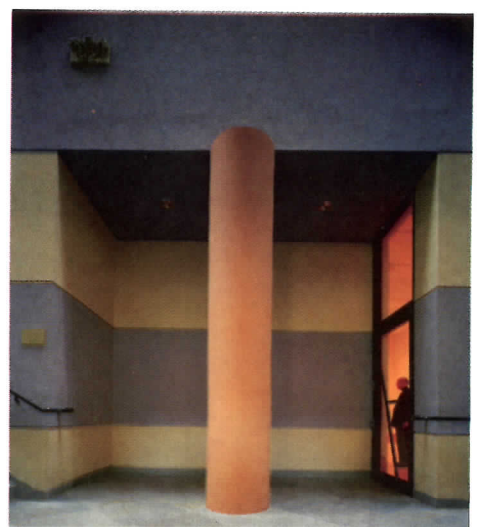
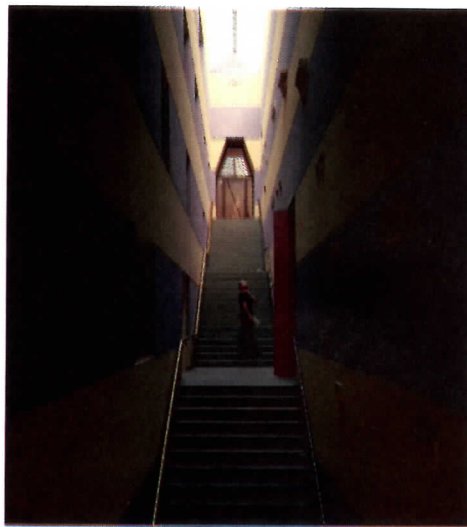
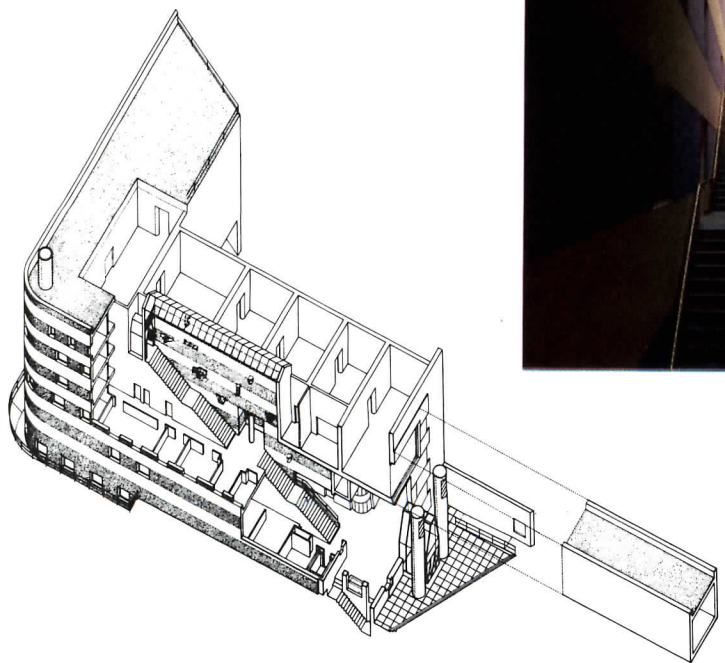
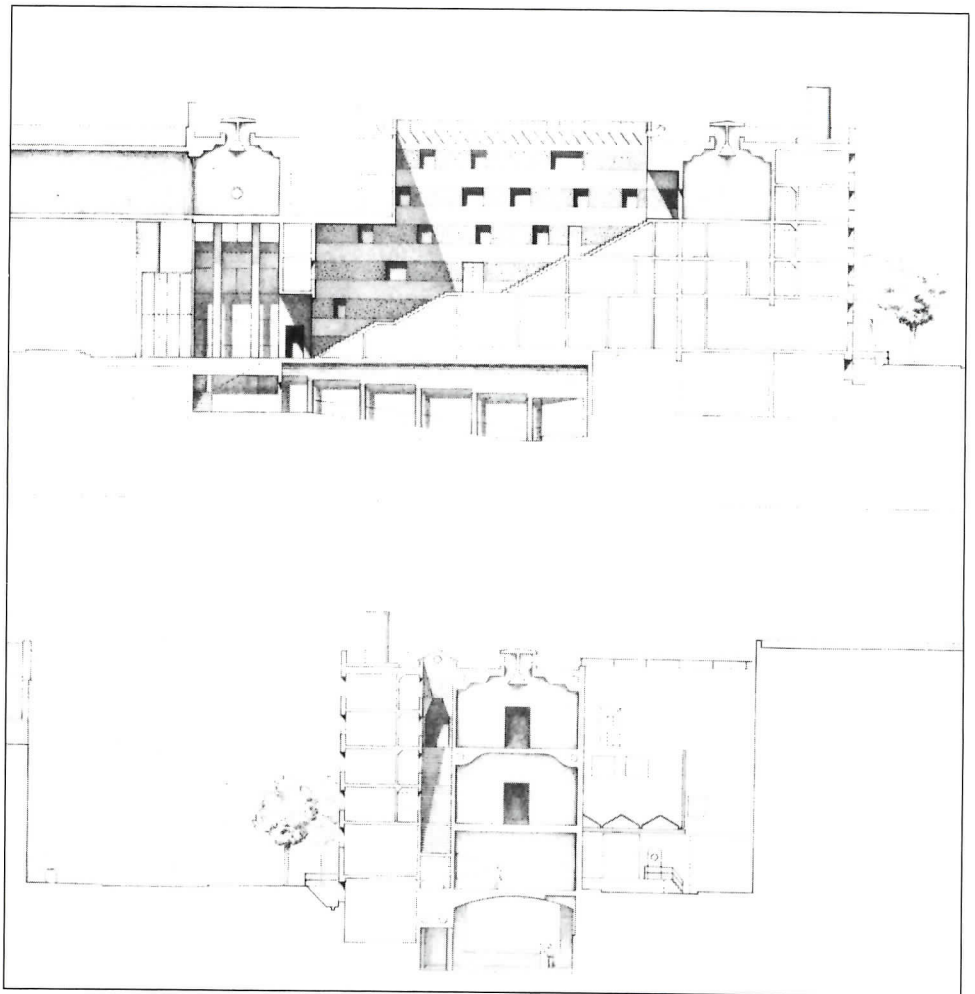


Once through the Sackler's "neo-Mycenaean" glass entry vestibule, museum visitors, students, and staff enter a monumental, if austere, hall (facing page). The slate floor was salvaged from the building razed to make way for this one, and the rusticated stucco walls reiterate the overscaled quoining surrounding the entrance. The great room's 34-foot height is emphasized by two pairs of spindly piers that take their place to either side (facing page and plan below). As the eye follows the piers upward, the source of the anteroom's natural light is revealed in the ceiling-level strip windows with brise-soleil troughs. Encased within the piers are lights that help guide students down the two flights of stairs leading to a 231-seat lecture hall below (photo below). The subterranean room, with its gently vaulted pink ceiling and row of robust structural columns (flattened to face the aisle) contains a large niche cut away from the ceiling—a "psychological window," according to Stirling—intended to frame large horizontal works of art that have, as yet, not been installed. Back upstairs in the anteroom, a luminous tubular information desk acts as a "lantern" to direct visitors to a pair of galleries—one small for exhibitions used in classroom study, the other large for temporary exhibitions.





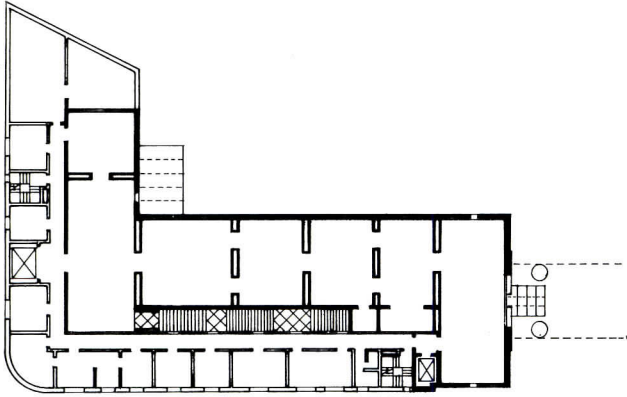
Though an elevator has been provided for those who favor efficiency over ceremonial grandeur, the great stair Stirling set between the museum wing of the Sackler and the office/classroom wing is, even for the lazy, hard to resist (facing page and photo below). "I tend to think of it as a steeply inclined bazaar with overlooking windows, people talking, and flanking activities. There will be the traffic of students en route to classrooms and the flow of the public visiting the galleries; it could be quite active," opines Stirling, who has enjoyed general critical praise for the 7-foot-wide and 51-foot-deep canyon. With natural light flooding in through a ridge skylight, and rough stucco walls punctuated with Coptic architectural fragments, it's difficult to know whether one is inside or out. The lavender and yellow banding adds to the not unpleasant confusion, and lends a sense of déjà vu as it repeats the banding of the exterior. The great stair opens discreetly onto the offices and classrooms, and not so discreetly onto the two upper gallery floors (sections right, axonometric below). A disengaged persimmon-colored column signals the middle gallery entrance (photo below right), just as the flat-topped pyramidal portal at the top of the stairs (an echo of the Sackler's entry vestibule) signals the final approach to the top floor galleries. The handrails—one plain, the other fancy—are a much-commented-on curiosity.



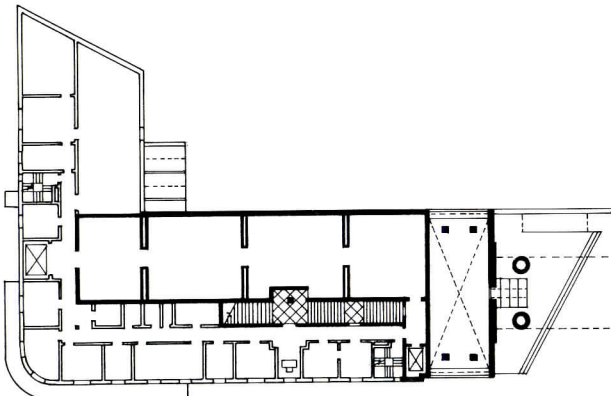


The preference for "rooms" over "space" was not only a preference of Stirling's, but a mandate of the Sackler program (plans below left); similarly, the natural material palette. The gallery walls consist of a rough skim-coat of plaster over canvas over plywood; the red oak on the floors is repeated in the baseboards as well as the half-columns flanking each portal. (The "eye" in the lintels contains security

cameras.) Though the top-floor galleries boast natural light from light monitors (photos below), artificial lighting was specified for the middle-floor galleries, where delicate paper and textile artworks are displayed. Not part of the lighting scheme, of course, is the window in the early Chinese gallery (photo bottom), which someday will open to an aerial passageway between the Sackler and the Fogg.



THIRD FLOOR (GALLERY)



SECOND FLOOR (GALLERY)

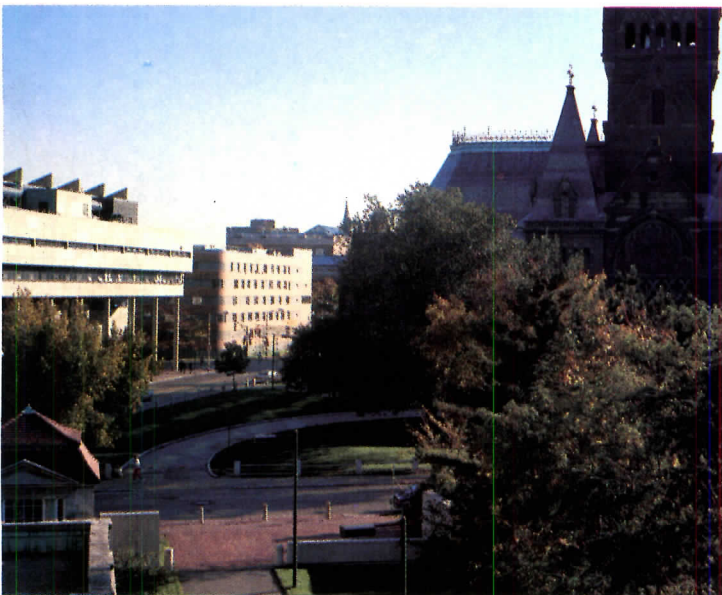


The Arthur M. Sackler Museum
 Harvard University
 Cambridge, Massachusetts
Owner:
 Harvard University
Architects:
 James Stirling Michael Wilford
 Associates in association with Perry,
 Dean, Rogers, & Partners—James
 Stirling, designer; Robert Dye,
 project designer for Stirling/
 Wilford; Peter A. Ringenback,
 principal for Perry, Dean, Rogers &
 Partners

Engineers:
 Syska & Hennessy (mechanical);
 Le Messurier/SCI (structural);
 Mc Carron, Hufnagle, Vegkley, &
 Bent (electrical)
Consultants:
 Claude Engel (lighting); Cavanaugh
 & Tocci (acoustical); R. W. Sullivan,
 Inc. (plumbing and fire protection);
 Joseph M. Chapman, Inc. (security);
 Mark Singer and George Sexton
 (exhibition furnishings)
General contractor:
 Turner Construction Co.

Who, but Stirling?

By Colin Rowe



"The Arthur M. Sackler Museum—as beautiful on the inside as some observers find it ugly on the out—opens to the public." In an announcement of coming issues *Harvard Magazine* (July-August 1985) reiterated what has now become something of an entrenched evaluation which, at best, proceeds like this. A building by James Stirling is more or less predictable. A breach of the normative, a calculated distribution of local perversities; it is expected to be difficult but good, cerebral but a solution. However the Sackler is not quite the pyrotechnical display which was to be expected. Instead it is a firework that has failed to explode; and, though the galleries are not without interest, the exterior is certainly no invitation to applause.

The disappointed observer may then proceed to excuse. There was the site—too small; the program—too complex; the budget—too skimpy; and then, of course, there was the client—and it is surely notorious how difficult a client Harvard is apt to be.

On the whole such is the received critical litany which culminates in something approaching a crescendo of dismay as it addresses upon the Quincy and Cambridge Street exposures of the building. The entrance facade is an overblown attempt at Postmodernism, and then, so the story goes, these two further exposures are distressingly inept and, even more dreadful, they are inexcusably reminiscent of public housing at its lamentable worst.

Against this consensus of judgment, it is often hard to intervene; but, given a building so frequently deplored (in terms not so much vehement as gently bored), it finally becomes a positively refreshing undertaking to point out its virtues. And, therefore, to deal first of all with the "so beautiful" inside.

I shall later argue that the entrance is in the inevitable and the only correct position and I shall now notice that from this inescapable entrance postulate the dispositions of foyer, lecture room, galleries, offices, and service areas—all grouped around the great chasm of the central staircase—follow as a compact, logical, and elegant corollary. All this is ingenious. With its great height the foyer acts as a sort of grandiose, very splendid, internalized portico. The lecture room occupies an accessible but otherwise dead area of the basement floor. And the galleries are the modest neutral containers—four walls and specific points of entrance, with occasional use of enfilade—which one might expect to find in a traditional 19th-century

museum. But, after all this, then what of the staircase? Is it to be regarded as a cause or as a result? As a monumental declamation or an opportune convenience? And, if it certainly has an end, an end which recapitulates the main entrance to the building itself, then what is to be said about its beginning?

The implacably protracted staircase, open from the bottom of the building to the top, is a theme which one is tempted to associate with variations of Le Corbusier's *Maison Citrohan*, and the published axonometric of the Sackler does seem to disclose something of this affiliation—with the staircase as an item approximately clipped onto the volume of the galleries.

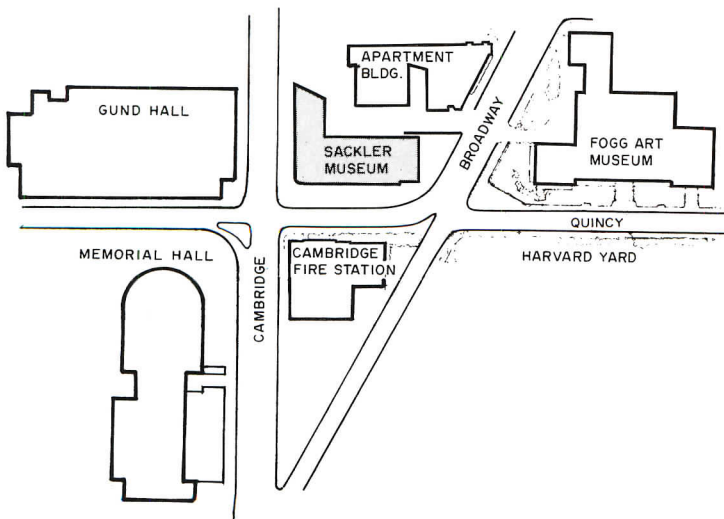
However there is a further species of continuously visible, monodirectional stair. It is the type of the *Scala Regia*, which, after its 17th-century appearance at the Vatican, equipped with neo-Classical emendations was then to enjoy a distinguished early 19th-century career. Solemn, simple, processional, this is the type of stair which one finds in the Tuileries during the regime of Napoleon, in Leo von Klenze's *Hermitage* at Leningrad, in von Gärtner's *Munich Staatsbibliothek* and, probably, in a great many further occurrences, large and small.

Not the type of staircase of Aalto's *Baker Dormitories* at M.I.T., which is very much a picturesque annex to the building which it serves, the *Scala Regia* category is inherently a centralizing and symmetrizing maneuver; and typically it presents a vaulted hall in which one is propelled from an enclosing basement to a columned *piano nobile* where the promise of more expanded movement is fairly conspicuously advertised.

Might the Sackler staircase also relate to this category? It is not too far-fetched to suggest that it does. For, just as the neo-Classical *scala regia*, with its basement supporting columns above, presents an internal recall of the outside goings on, so the stripes of Stirling's stair hall are just as much a recall of the stripy business displayed on Quincy Street.

All the same it is with this notice that we may begin to approach a problem. The neo-Classical *scala regia* is unambiguous. You climb on it to reach the *piano nobile* and then you go no further. But, with five office floors of equal value on the one side and three gallery floors on the other, then to what are fantasies of *piano nobile* to be related? Or, as the entrance facade with its big window up top seems to be announcing, is the *piano nobile* simply the top of the stairs?

Perhaps not a very painful issue this one; but, in any case, it is



questions related to the walls of the staircase which now transpose themselves with regard to its section and its plan. In section there is the roof light which is part of the idea of the staircase; but a quarter of the ascent lies outside this coverage, and the passage of the staircase from one lighting condition to another remains without articulation. Possibly a conscious choice of subtly graded lighting? But, in plan, the beginning of the stairs is not so easily to be rationalized; and it is now time to say that, in local episodes towards the bottom of the stairs, one may discover the imperfect resolution of a highly impressive gesture.

Anybody who wishes may interpret the stairs as a steeply inclined and highly animated street; but I myself will continue to suspect that these evocations of the marketplace are the less-than-appropriate disguises for a lapse in the clarity of identification. Both in plan and in section, the commencement of the stair is without overture, apparently unconsidered, and unhappily ad hoc. In fact it is just at the bottom of this staircase, where the building reveals the defects of its virtues, that one feels the interior has been invaded by a particularly impenetrable fog. The staircase is visible; but, all the same, one feels optically deprived.

Apart from noticing that jumbo semicylindrical wooden columns (presented without benefit of any paint) are, probably, not the best frames for openings in a series of exhibition galleries, this is to conclude any negative remarks which will here be made. The bottom of the stairs may be less than adequate but, with this said, it is now a great pleasure to contemplate the building's exterior which, on the whole, has been provocative of so much private grief.

It is, I think, best to be appreciated from some way outside Richardson's Sever Hall, from where its entrance contributes a frontal and enclosing presence—cyclopean and Mycenaean—which one can only think that Richardson would have enjoyed. Then other points of view are from much closer, perhaps from the immediate sidewalk of Quincy Street where the building's personality is somewhat more abrasive and tactile, something which impends rather than something simply visual.

But Quincy Street is a thoroughfare of architectural parade, and, among Sackler's immediate neighbors, one should observe not only the Fogg Museum and Gund Hall but just across the way what must be surely the most

delightful fire station in the world—brick with limestone trim, neo-Georgian, looking a bit as though Robert Adam had condescended to take hints from a late 17th-century Dutch town hall. It is evidently in terms of these neighbors (and maybe particularly the last) that decisions about entrance were taken.

To have entered facing the fire station would have been difficult because of the disposition of its pediment; and, in addition, it would have loaded the street with a further gratuitous point of punctuation. To have entered from the Gund Hall side would have been to divorce the new building both from the Fogg and the center of Harvard. And hence the entry from Broadway facing the side of the Fogg was not so much a choice as an obligation. Hence, too, a further justification of the parti in terms of its externals rather than its functions: a representational facade, which proclaims public purpose, and a couple of no-less-visible vertical surfaces which infer a somewhat different destiny. And all of this has added immensely both to the acceleration and the scenery of Quincy Street, where stimulus for the eye now provides excitement for the feet.

For, inherently, the Sackler Museum is a major revision of the street. A delightful street but never a distinguished one, a major architectural exhibition without apparent objective, the arrival of the Sackler has provided the articulation which was always needed; and not only has Quincy now been augmented in terms of transversals, it has further gained in terms of a more developed perspective.

Previously, to set out from the Fogg to reach Gund was a psychologically hazardous enterprise. There was Broadway; there was Cambridge; and, in between these two intersections, there was the little, early Modern Burr Hall. And, needless to say, in negotiating this territory, Burr Hall gave no help whatsoever. On the left there was the fire station, with the firemen always ready to look out (from what appeared to be a ballroom) and always ready to pay attention to whatever feminine specimen of interest came into view. But, in spite of the fire station, which acted to project the line of vision, the pedestrian navigation of that single block was invariably a minor torture; Burr Hall was altogether too indented to direct the eye forwards. But now, thanks to the Sackler, the continuity of the street has become surprisingly affirmed. Though Broadway and Cambridge still cut across the line of Quincy, the effect of Stirling's

aggressive orthogonal counter-statement is greatly to minimize their impact.

Such is the result of graphite gray and butterscotch horizontal stripes; and, since it is—almost certainly—the use of these which is considered inordinate and a little cheap, it would be as well if they were to engage a more concentrated attention. Stirling would have liked his brickwork to display the hard metallic resonance of Sever; but, in terms of production and budget, this was an unobtainable quality. However, though in terms of local precedent his stripes are patently related more to the mid-19th-century polychromy of adjacent Memorial Hall than to Sever, they must also be placed in a completely different line of descent. The two striped elevations, and particularly the rounded corner in which they converge, have the obvious look of a German department store of the 1920s; and, if the graphite gray stripes were windows, anybody might swear that they were looking at such a building by Erich Mendelsohn in Stuttgart, Chemnitz, or wherever. But, since Sackler is much more opaque, it is not at some German Expressionist masterpiece that one happens, at this corner, to be looking. Rather it is at some end product, exported to Holland and there restyled, and then commercialized to become internationally available in the 1930s.

But, however discovered—whether picked up in the streets of Berlin, Amsterdam, London, or New York—these striped elevations represent an exceptionally opportune appropriation; and who but Stirling would have thought of taking over the school of Mendelsohn at what would seem to be its most debased and unrewarding? Far more versatile than the contemporaneous stripes of his Wissenschaftszentrum in Berlin, the zebra game has been astonishingly productive and, as the most obvious instance, how brilliantly this Expressionist corner has allied itself with the red and the white of Memorial Hall diagonally opposite!

Then this corner, its curve acquiring resilience from the repetition of its stripes, may also serve as a further source of information. Contemplation of the Sackler's plan suggests that the building is predicated upon an argument about spiral motion versus a statement about flatness. The ascending stairs and the top floor gallery comprise one spiral. The wraparound of office and service accommodation comprise another. The first spiral, the more complete, is compressed into a rectangle. The second spiral, the

more fragmentary and the more expansive (thanks to the curved corner), supports an inference that the whole organism is located within a curvilinear field of disturbance which is inhibited from completing itself by rectilinear restrictions—most notably by the frontalizing statement of the entrance facade.

In other words, one may discern within the plan a commerce between two spatial ideas, rotundity versus flatness, which also carry the connotation of the massive versus the planar; and these may be seen as each informing and transforming the other. Thus the pre-eminent statement of flatness, the entrance facade, becomes invested with implications of depth and penetration which derive from the configuration of what ultimately lies behind it; and thus facade and elevations are interactive. That is: the two elevations united by a curve profess something of the quality of paper while the building's frontispiece possesses a quality of almost unsuperable density. That is: roles and attributes are inverted and, as side and rear are the intended complements of front, so the flat stripes of the one dispensation come, as it were, to be *discharged* as the heroic rustication of the other.

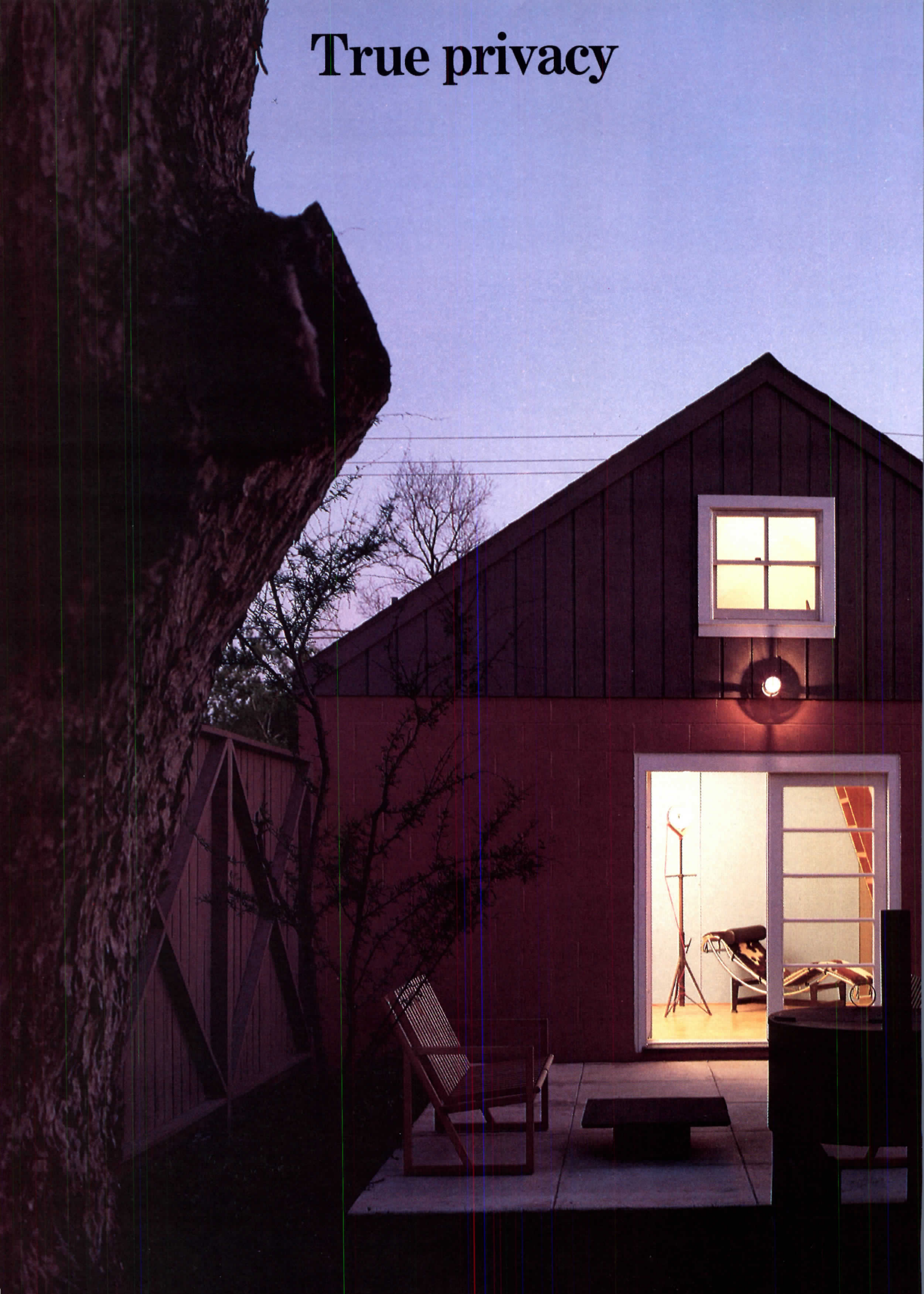
Though too briefly stated, I believe that this may be a not-too-fanciful explanation of the very great vitality with which Stirling has endowed this relatively small museum and teaching facility. Not only a versatile solution to an almost incompatible array of problems, not in any trivial sense a shocking building, it is a major and tragic statement of physiognomic intensity; and, as if all this were not enough, its urbanistic performance is exemplary. All in all it is far, far from the indifferent work which ignorance is led to presume. Not quite the Neue Staatsgalerie at Stuttgart [RECORD, September 1984, pages 140-149]; but, for all that, one of the best Stirling realizations to date.

And about the bridge?

Well, surely, the bridge is both conceptual necessity and functional desideratum. But, since things are so much more than satisfactory as they are, since the general scenery is so good, might it not be the better part of wisdom to desist?

Colin Rowe is the A. D. White Professor of Architecture at Cornell University and the 1985 recipient of the ACS/AIA Medal for Excellence in Architectural Education. Among Mr. Rowe's numerous writings are Collage City (M.I.T. Press), with Fred Koetter, and The Mathematics of the Ideal Villa and Other Essays (M.I.T. Press).

True privacy



House and studio
Houston, Texas
M. Carlos Jimenez,
Architect





Paul Hester photos

"It was my intent to create an urban space within my small lot, an architectural dialogue between house, studio, and tree, through very economical means. As I write this, I hear the rustle of the by now full blooming pecan tree, and feel the serenity of its shadows on the studio walls."

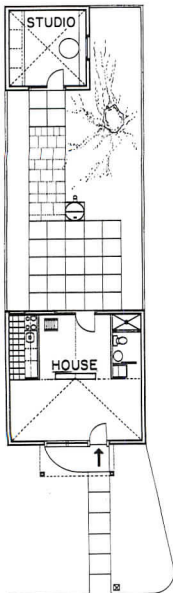
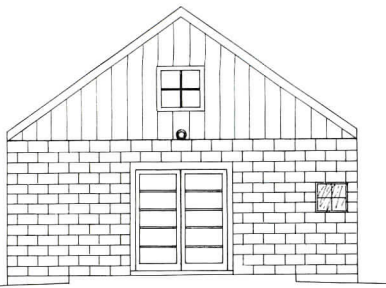
Carlos Jimenez, a young architect practicing in Houston, lives and works alone. To achieve the perfect sanctum, he has enclosed himself within the smallest house possible, further confirming his solitude by doing his architectural work in a studio even smaller. The fenced garden connecting the two structures is a third home, another space too small to seem empty to its solitary inhabitant.

Jimenez, of course, has people over—friends, clients, others who, hearing of his elegantly proportioned little cloister, manage to get themselves invited. The place has the charm of American folk art, the house and studio are simple enough in form to be stitched on a sampler. And it is all as plain as it looks. Jimenez's 25- by 100-foot lot is on a modest residential street lined with small bungalows. House and studio are constructed out of concrete block and wood framing with composition shingle roofing. The house comprises 450-square feet of space connected by ladder to a sleeping loft of about 150-square feet. The studio is a two-story high volume of 150-square feet. The house roof is pyramidal in front, gabled at the back, the studio roof is pyramidal. Small paned sash is used everywhere except in the front window, which has been designed as a large-scaled version of the attic and kitchen windows. The furniture is simple too, consisting of spartan pieces from the '50s and early '60s, well scaled for small spaces.

Jimenez's three dwellings, house, studio, and garden, are each geometrically complete. Together they form a carefully related ensemble too perfect to withstand additions or subtractions. Completely inflexible, this arrangement of spaces works best as a retreat from the world. But people change, of course, and architectural practices tend to get bigger. One wonders how long Jimenez will choose to live in his first-built creation. *M. F. S.*

*Architect's studio and house
Houston, Texas
Architect:
M. Carlos Jimenez
Architectural Design Studios*





Fun city





Horton Plaza
San Diego, California
The Jerde Partnership, Architects



"I have been nearly all over the United States, and San Diego is the prettiest place for a city I ever saw. Is there any land for sale?" When Alonzo E. Horton uttered these words in 1867, he had just stepped off a steamer from San Francisco and was standing at the foot of present-day Market Street, peering out across San Diego Bay toward Point Loma and the Coronado peninsula. Although the Spanish mission at San Diego had existed since 1769, the "city" in 1867 consisted of little more than a dusty handful of adobes in the area now known as Old Town, some three miles north of Horton's landing site. Recognizing the unrealized potential of San Diego's great harbor, Horton purchased 960 acres of shorefront property south of Old Town, laid out a grid street system, and, three years later, built the new town's first hotel, a 100-room inn immodestly named the Horton House, situated along the northern edge of a small plaza at the intersection of Broadway and Fourth Avenue. This modest greensward, adorned with the templelike fountain that Irving Gill designed in 1909, has functioned over the years as the physical and psychological heart of downtown. More recently, however, as San Diego underwent the typical postwar pattern of decentralized growth on its way to becoming the nation's eighth largest metropolis, the area around the plaza has come to resemble less the hallowed spot of the city's origins than the kind of urban combat zone—replete with the predictable mix of porn shops, cheap hotels, and unsavory streetlife—that one might not immediately associate with a place local boosters like to trumpet as "America's Finest City."

Despite the down-and-out character of many of its residents and the sailor-on-leave seediness of its business establishments, the area surrounding the corner of Broadway and Fourth is an architecturally significant enclave of late 19th- and early 20th-century commercial buildings that clearly evoke the San Diego of Alonzo Horton's day. In 1973 the city's powers-that-be, led by then-mayor Pete Wilson, identified a nine-block section of the district south of Broadway that they intended to redevelop as a retail and residential complement to the strong office-building activity underway north of Broadway. At that time, however, developers of downtown shopping centers had not achieved a notable rate of esthetic or economic success (the "festival marketplaces" popularized by The Rouse Company were still a few years down the road), and the possibility for mercantile profit in San Diego appeared remote, given the seemingly impenetrable arc of suburban shopping malls encircling the city from Oceanside to the Mexican border. It took strong financial incentives and a good deal of persuasion by the Wilson administration to convince Ernest W. Hahn, a locally based developer who has built some 50 shopping centers around the country, to take the \$140 million plunge and embark on the decade-long undertaking that would culminate in Horton Plaza.

When Hahn first approached architect Jon Jerde in 1977, Horton Plaza had been roughed out as a prosaic, two-story covered mall-cum-ice-skating-rink modeled on the developer's successful University Towne Centre in La Jolla. Jerde, however, had other ideas. From 1968 to 1977 he had labored in relative obscurity as director of design for Charles Kober Associates, a firm best known for its competent, but unmemorable, commercial ventures, including several Hahn shopping centers. Jerde left Kober in 1977 to work with a new development company committed to the notion of "urban fields"—i.e., a mode of design that focuses less on individual buildings than on the creation of mixed-use districts—that Jerde had first encountered as a student traveling through the hill towns of southern Europe. While San Diego may not be Siena, it is, according to Jerde, a city that needed the "coherent but eccentrically complex topographic armature" exemplified by European urban prototypes if it was to lure people back to the inner city. Toward that end, Jerde reconfigured Hahn's original two-level scheme into four staggered tiers, ripped off the roof to expose public areas to southern California's copacetic climate, and, most significantly, developed a diagonal circulation spine (axonometric overleaf) whose

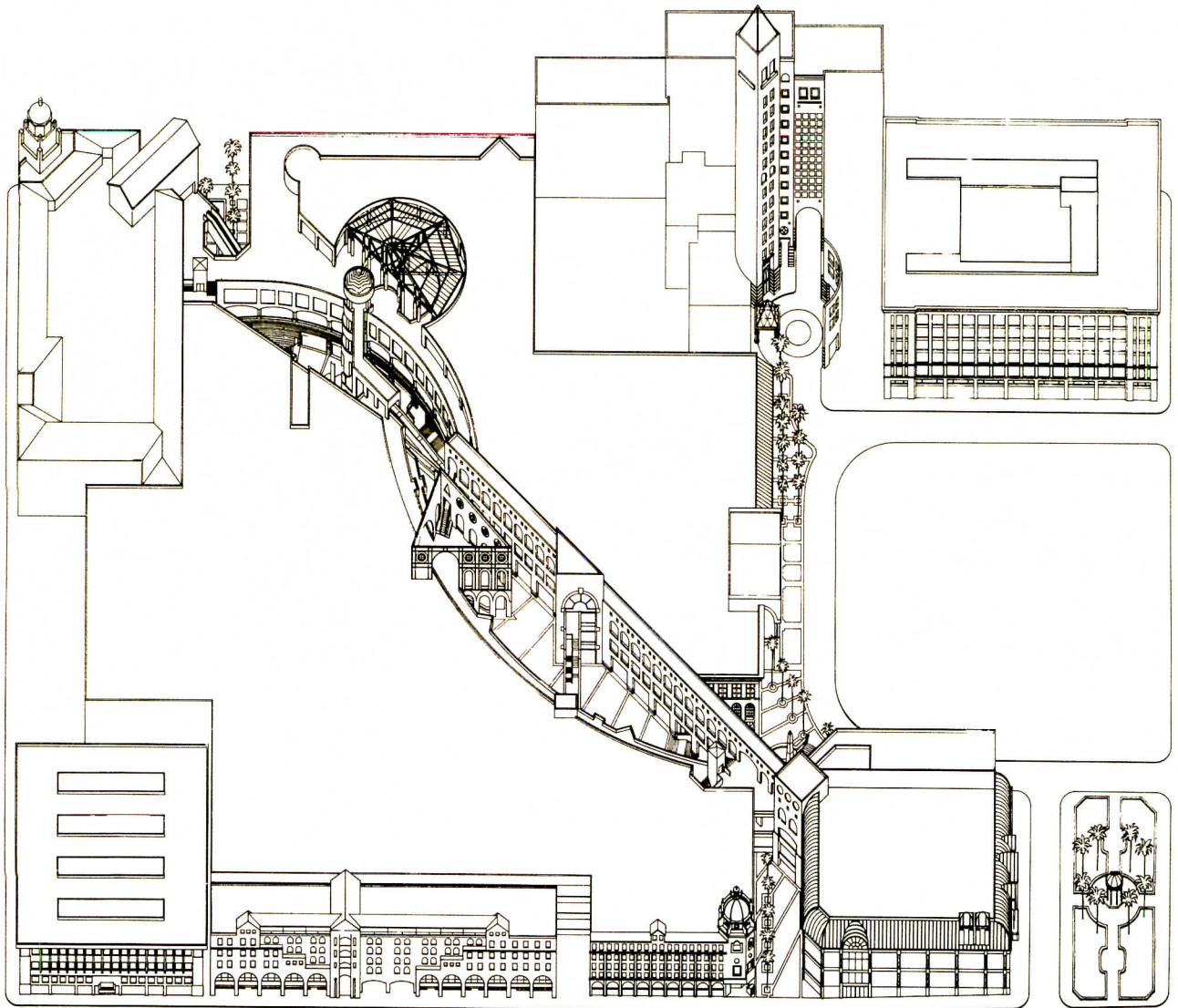
gentle S-curve is meant to encourage slow, even aimless, ambling. (The word that the architect uses to describe the desired reaction is *flâner*, a wonderfully multifarious French verb meaning to stroll, to loaf, to saunter, to lounge.) Jerde draped this architectural framework in a pastel-swathed, stucco-and-tile catalog of archetypal urban components and stylistic allusions that reflect both his European recollections and the input of color specialists Deborah Sussman and Paul Prejza, the environmental consultants who had previously collaborated with Jerde on designs for the 1984 Los Angeles Olympic Games.

Depending on one's mood or esthetic predilections, Horton Plaza might be characterized as either an appropriately idiosyncratic response to San Diego's quest for a sense of place, Postmodernism gone amok, or, in the words of one unimpressed visitor, "just another shopping mall." While some architectural historians will undoubtedly view details like stucco "rustication," pressed metal ceilings, and "Victorian" light fixtures as thin or hopelessly schmaltzy, others will smile at Jerde's good-natured reworking of certain architectural icons—Palladio's Basilica in Vicenza as Robinson's department store, a triangular Gothic palazzo in Venice as a black-and-white mosaic-tile pavilion, the zigzag towers of San Diego's own Santa Fe railroad depot as the domed symbol of Mervyn's department store, to name a few—as well as his effective adaptation of such historic building typologies as the Bolognese arcade, the New Mexican Indian pueblo, and the English crescent. Moreover, if a few preservationists are still bristling over the demolition of some architecturally significant buildings on the site, others are grateful that the historic Balboa Theater and Spreckels Building were spared and that two razed Italianate structures—the Knights of Pythias and Bradley buildings—have been replicated and incorporated into the project.

Although Horton Plaza's sought-after urban diversity occasionally deteriorates into confusion, this is at least partly due to the free hand that the individual shop owners had in the design of their storefronts. Some are appropriately upbeat—the beacon-like tower and marquee of United Artists' seven-screen cinema, for example, or the '50s retro look of Heaven Pop Cuisine—but others go beyond whimsy into the realm of kitsch. Jerde himself admits that if he had to do Horton Plaza over again, he might plan things a bit differently. He is understandably dissatisfied with the cool nighttime illumination cast by mercury-vapor luminaires (they may soon be replaced by warmer incandescent fixtures), and he concedes that the center's store-directory pylons and three-dimensional, color-coded maps are impossible to decipher (they are currently being redesigned).

Nevertheless, it is difficult not to agree with one local architect who observes that even though Horton Plaza exhibits the shopping-mall tendency to focus inward, away from the city's streets and social problems, it still represents a major advancement of the genre. And it will probably shed much of its introversion once San Diego's Centre City Development Corporation completes several complementary mixed-use projects in the adjacent area, including a second complex by Jerde that will extend Horton Plaza's diagonal axis toward the waterfront. In the end, one cannot argue with the center's commercial success: just six months after it opened, Horton Plaza is almost fully leased, and the project ranks in the top 10 percent of Hahn's 50 shopping centers in the category of sales per square foot. Clearly, the consumers have returned to downtown. In order to evaluate the bottom line of Jerde's architecture, however, perhaps all one has to do is climb a Renaissance-inspired staircase, wend one's way through narrow arcades and gracious public piazzas, and ascend one last escalator to Horton Plaza's uppermost level. Here, an exhilarating telescopic vista begs comparison between the faceless office towers in the background and Jerde's exuberant flight of fancy. One image could be any American city; the other, at least for the moment, says San Diego. There really is no comparison. *Paul M. Sachner*

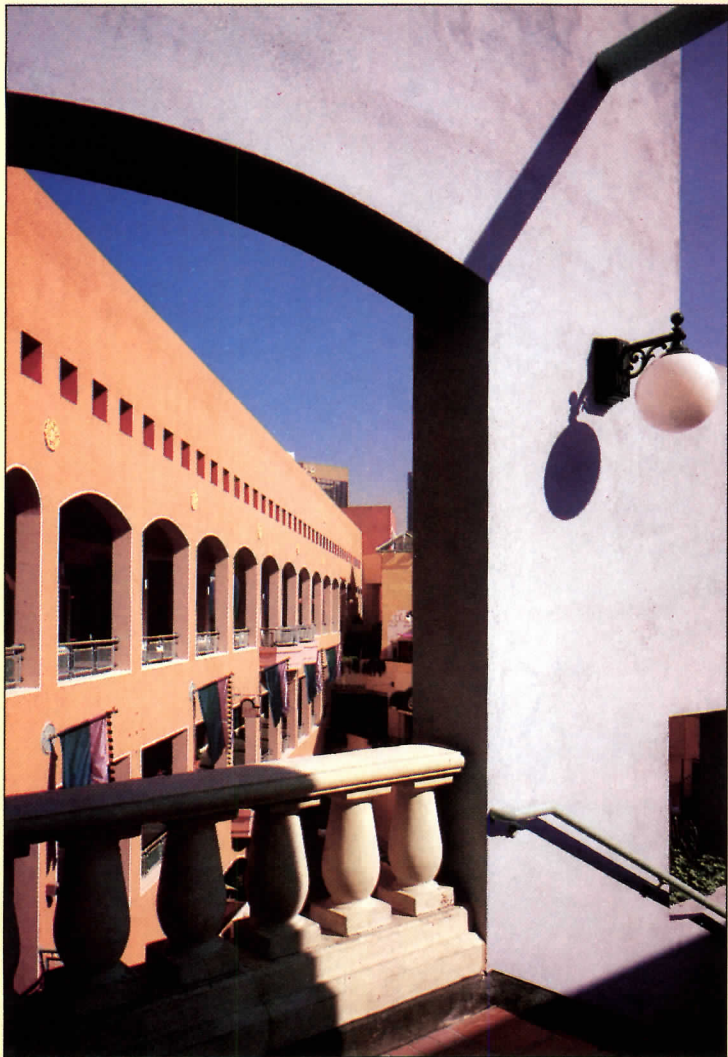


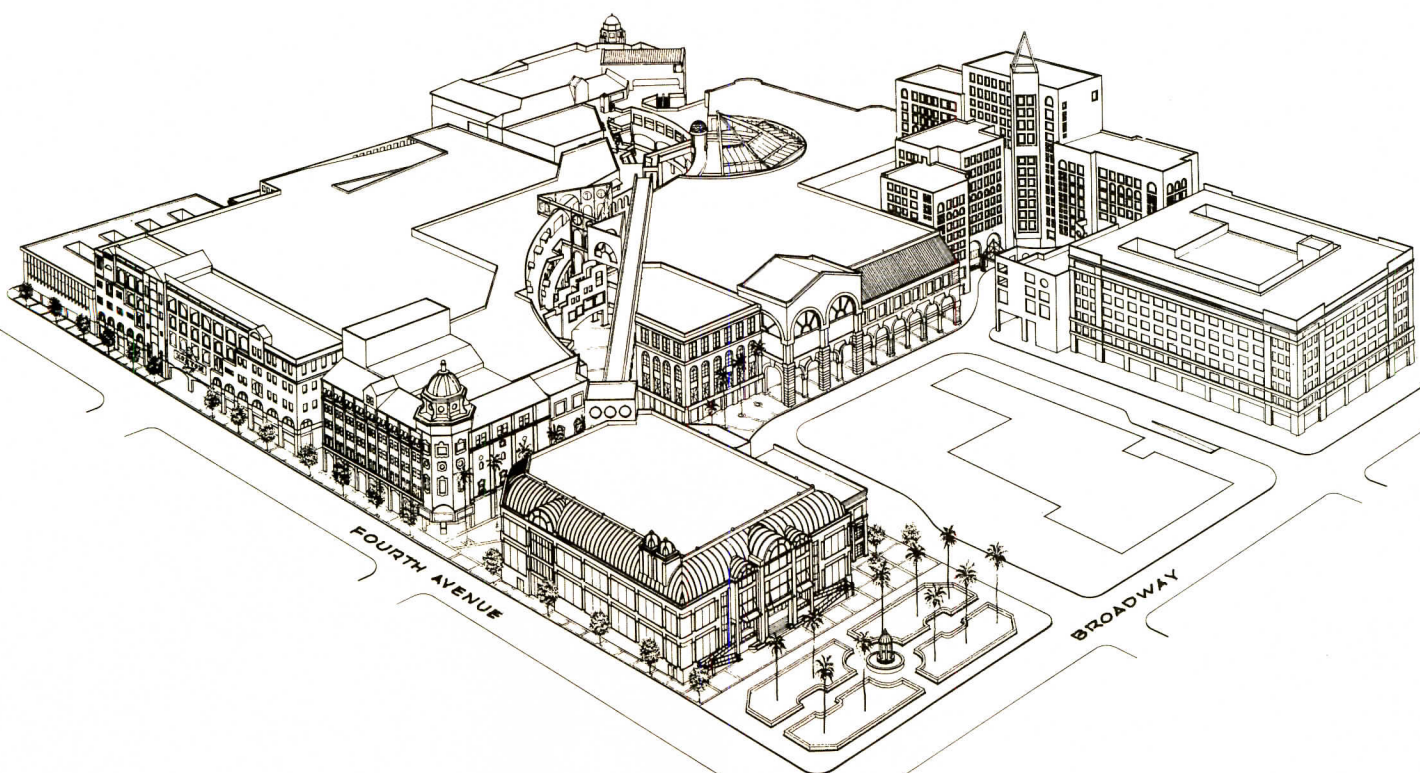


LONGITUDINAL SECTION THROUGH PLAZA

Although Horton Plaza's vital statistics are impressive—an 11.5-acre downtown building site, 900,000 square feet of retail space, four large department stores, 150 specialty shops and restaurants, a seven-screen cinema, a 500-seat performing arts theater, a 450-room hotel (construction just beginning), and parking for 2,400 cars—they are not really extraordinary when compared to the increasingly elaborate agoras, both urban and suburban, that have sprung up in recent years. What clearly sets Horton Plaza apart from its contemporaries is its spirited architecture, an elaborate compendium of historicist forms set along a diagonal pedestrian thoroughfare that intentionally breaks with San Diego's grid of streets. Rather than allowing this spine simply to follow the gentle north-to-south downward slope of the

site (right to left on axonometric and section drawings above), Jon Jerde exaggerated the area's canted topography by positioning the main plaza level one story above grade. This decision not only enhanced a feeling of verticality that had already been hinted at when the project's original nine-block site was compressed into six and one-half blocks, it also dictated the unusually elaborate network of elevators, escalators, staircases, and ramps for the handicapped that connects the retail tiers. In order to underscore their perception of the project as something of a permanent festival, environmental designers Deborah Sussman and Paul Prejza developed a palette of 28 colors—thirteen blues, four reds, seven coral/yellows, and four mauve/violets—that emerges as a pastel variation on the intense color scheme that they created for the 1984 Los Angeles Olympics.





The original Horton Plaza, a tiny palm-ringed park laid out in 1867, now serves as a forecourt for the arched facade of Robinson's department store (small photo top). Inside the new Horton Plaza, a narrow pedestrian passageway, framed by retail arcades and illuminated by strings of clear incandescent bulbs, exemplifies the project's scenographic characteristics (facing page).

Horton Plaza
San Diego, California

Owner:
Ernest W. Hahn, Inc.

Architects:
The Jerde Partnership, Inc. —
Jon Jerde, principal-in-charge; Scott Aishton, senior project manager; William DeEiel, Charles Pigg, Jim Campbell, David Kofahl, Richard Orne, project designers; Robert Reyes, project architect; Lynn

Centner, Terry Classen, construction administrators; Mark Johnson, project amenities coordinator; Frank Wolden, tenant design program coordinator

Engineers:
Robert Englekirk, Inc. (structural); Store, Matakovich & Wolfberg (electrical); David Chen & Associates (mechanical); Paller-Roberts Engineering (civil); Wimmer, Yamada & Associates (landscape); Leighton & Associates (soils)

Consultants:
Sussman/Prejza & Co. (colors); The Callison Partnership (Nordstrom's department store); Tamara Thomas (fine arts); Sy-Art Concrete Construction (parking structures); Rolf Jensen & Associates (fire and safety codes); Gustafson Poulsen & Associates (planning); Darby Sanchis Associates (specifications)

General contractor:
Nuhahn, Inc.



Seeley G. Mudd Chemistry Building
Vassar College
Poughkeepsie, New York
Perry, Dean, Rogers & Partners, Architects

©Peter Vanderwerker photos except as noted



Organic chemistry



Not least among the successes of Vassar's new chemistry building is its failure to address with strict evenhandedness the double agenda presented by the functional demands of an advanced science-teaching facility and its added role as the defining element of a quadrangle sketched by existing period buildings. Belying its designers' declared intent of reconciling technology with tradition, the building's high-tech high spirits emerge undamped by deference to more sedate neighbors.

That the building more clearly reflects substance than setting is owed in part to the ambiguities of a "context" reliant on vantage. The look-alike neo-Georgian physics and chemistry buildings opposite and east of the new entrant had little in common with the winsome Italianate structure to the west, and the putative unity of the ensemble was further diluted by a '60s-Modern bio-science facility lurking at an outside corner (drawings overleaf). Where the building was to meet the central campus, its close companions ranged from the looming Main building, a Bavarianesque Victorian reminder that founder Matthew Vassar's fortune flowed from a brewery, to Marcel Breuer's starched white-brick mid-'60s dormitory pavilion.

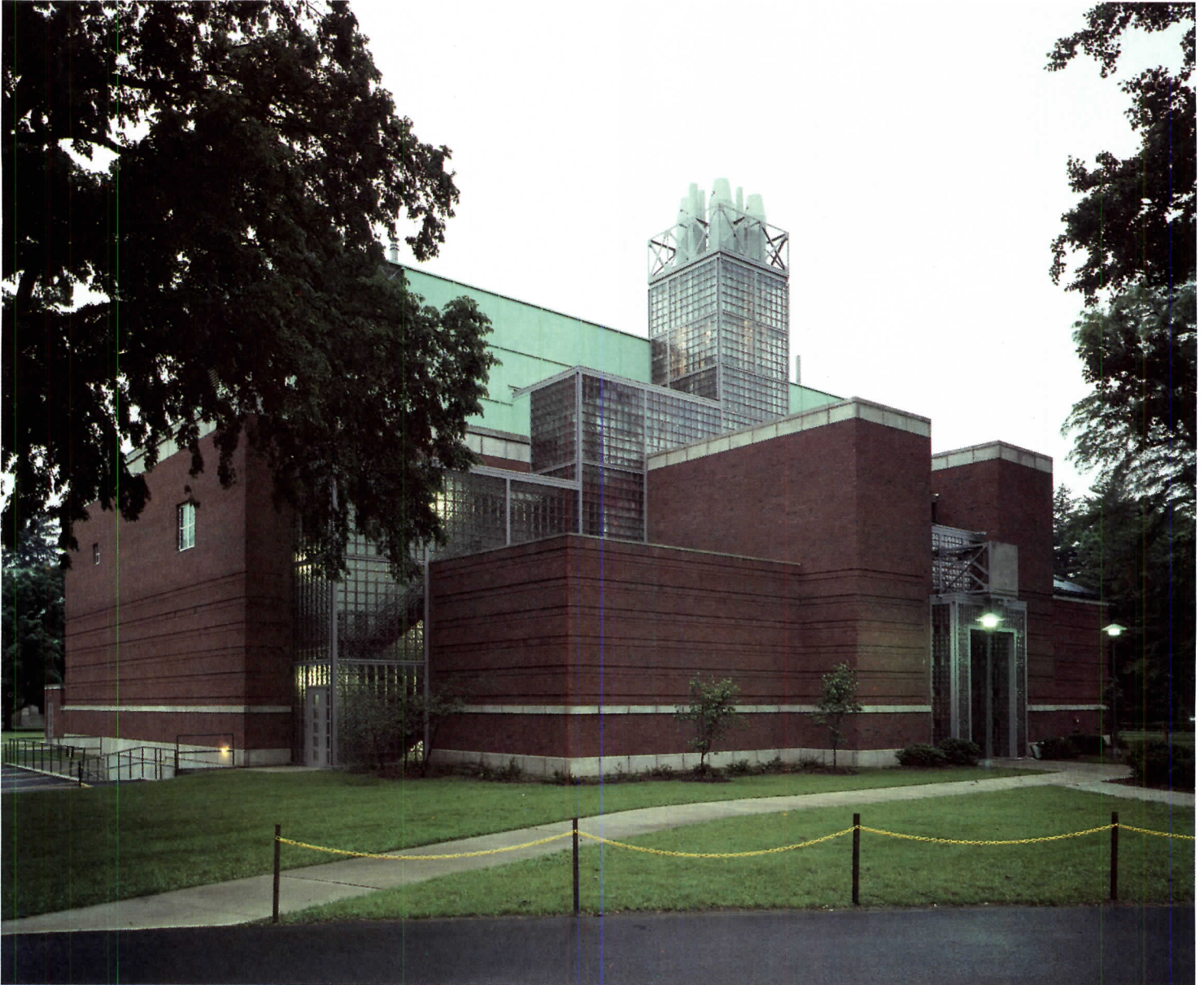
So confronted, the architects chose as reference the existing science facilities in the quad the Seeley Mudd building was to complete. Although the chemistry department's program needs barred the obvious device of establishing kinship with the older buildings by chorusing their shape and size, a volumetric relationship was approximated by deploying the building's principal spaces in a red-brick block that matches in depth, width, and height the building opposite. "Leftover" spaces were then layered against this central mass and stitched to it with glass-block seams whose permeability preserves its discrete identity. In like vein, the mechanical penthouse became a pretend roof of metal, green-tinted and battened to recall, despite its foursquare form, the sloping weathered-copper roofs of nearby buildings, while lesser gestures to tradition—bands of limestone and corbelling to texture blank brick walls, and X-brace ornament strategically applied—soften the building's surfaces without muddying its hard-edged clarity of form. More important, the scale of the structure beneath its outcroppings is sympathetic to the existing buildings in the quad, and its mass, though larger, appropriate to its role as a gateway between them and the central campus—a dual orientation that invited a Januslike rendering of the opposing facades.

On the campus side, symmetrical brick blocks make way for a slim portal that translates a traditional masonry entry as a square-arched portico with steel "pilasters" and glass-block "panels" (overhung by a dedication plaque that cries for a basketball hoop). Above, clerestories recede from the entry and its chunky guardians to join a block-glazed seam containing exit stairs and mechanical shafts, which pyramids to a tower crowned by rocketlike exhaust ducts poised for lift-off.

In contrast to the formal and enigmatic north face, the south facade celebrates openly the mandate to incorporate in the building all practical energy-conserving measures, turning to the science quadrangle a solar wall with an outer screen glazed in a sprightly pattern that mimics nearby traditional masonry facades with metaphoric "piers" and "panels" framing "windows" backed by real windows in the wall behind. On this face, the glass-block seam, interspersed with clear glass, expands from simple connective tissue to an eccentrically configured stair lobby that continues at larger scale the solar wall's background theme of mock piers and panels. Its glinting exterior and sun-dappled well also introduce interiors animated by the architects' pursuit of the pleasures of natural light and the disciplined play of reflective and transparent planes. From even the deepest recesses of the workaday laboratories, the eye can feast on the mingled sparkle and luminosity drawn from minimal outdoor exposures used to maximum effect. In more public areas, where crisp glass-block and lucent glass ignite clear deep-timbred tones and pretty pastels, the feast becomes a banquet. *Margaret Gaskie*

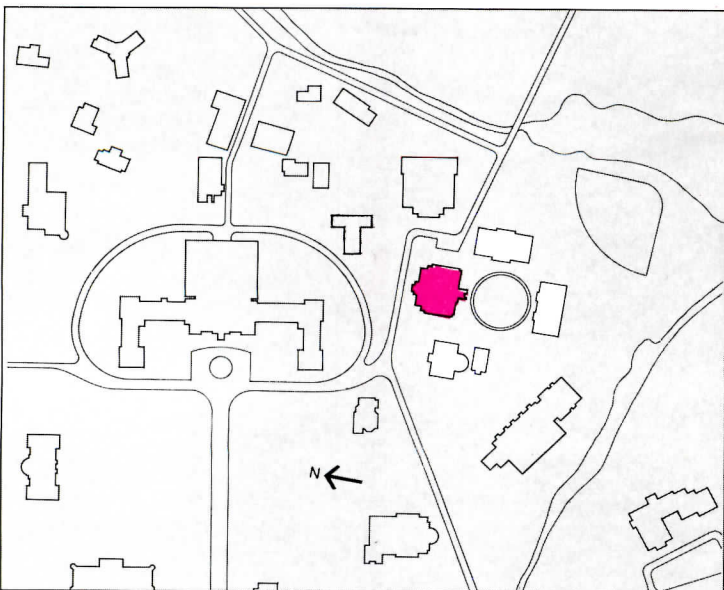
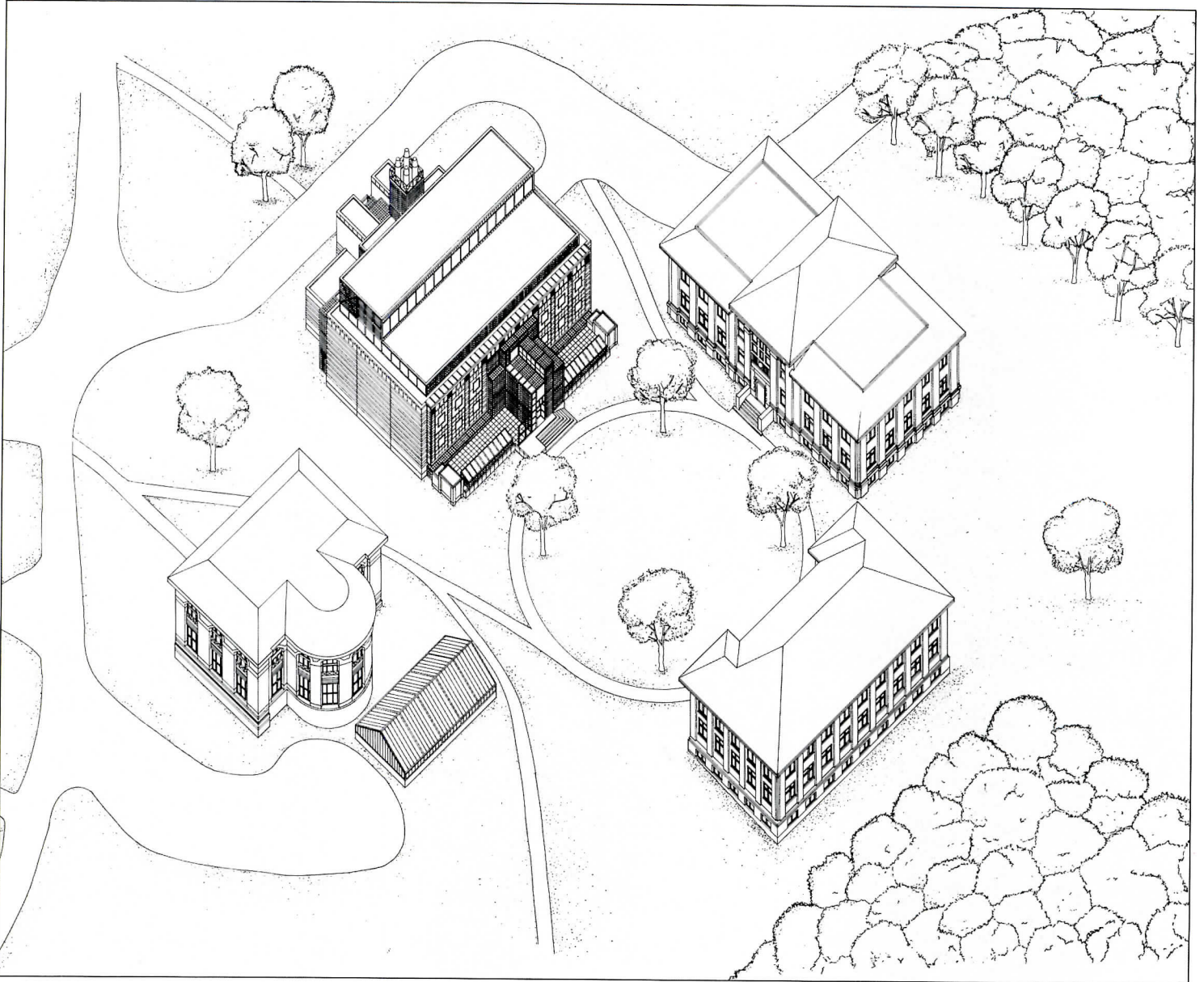
The Seeley Mudd building's courtly if somewhat stiff bows to context were prompted not only by the structure's prominence in the campus precinct it inhabits but by the fact that the quad-closing site was a second thought. As first mooted, the chemistry building was to be placed behind the existing physics building now opposite it, roughly in line with the bio-science facility offset to the southwest of the quad outlined by the

older science buildings. Construction there, however, threatened a peaceful and verdant fringe of the campus with the loss of a large stand of venerable trees (including a 150-year-old oak) and impingement on both the nearby Shakespeare Garden and the natural amphitheater used for commencement ceremonies, raising a predictable outcry from the Vassar community. The site also posed the



problems of poor soil conditions and a high water table. But it was the prospect of a substantial gift from the Seeley G. Mudd Fund, contingent on the building's bearing and prominently displaying the benefactor's name, that led the college to reconsider a site so isolated from heavily traveled areas of the campus. Accordingly, architects Perry, Dean, Rogers & Partners were called in to study alternate sites for

the new structure and subsequently to design it. The chosen site resolved the questions of waterproofing, difficult foundation design, and tree removal, and offered a due-south orientation favorable to the solar-energy features the structure was to incorporate. Not least it presented the opportunity for creating a compact, well-defined exterior space in an area of the campus previously afflicted by sprawl.

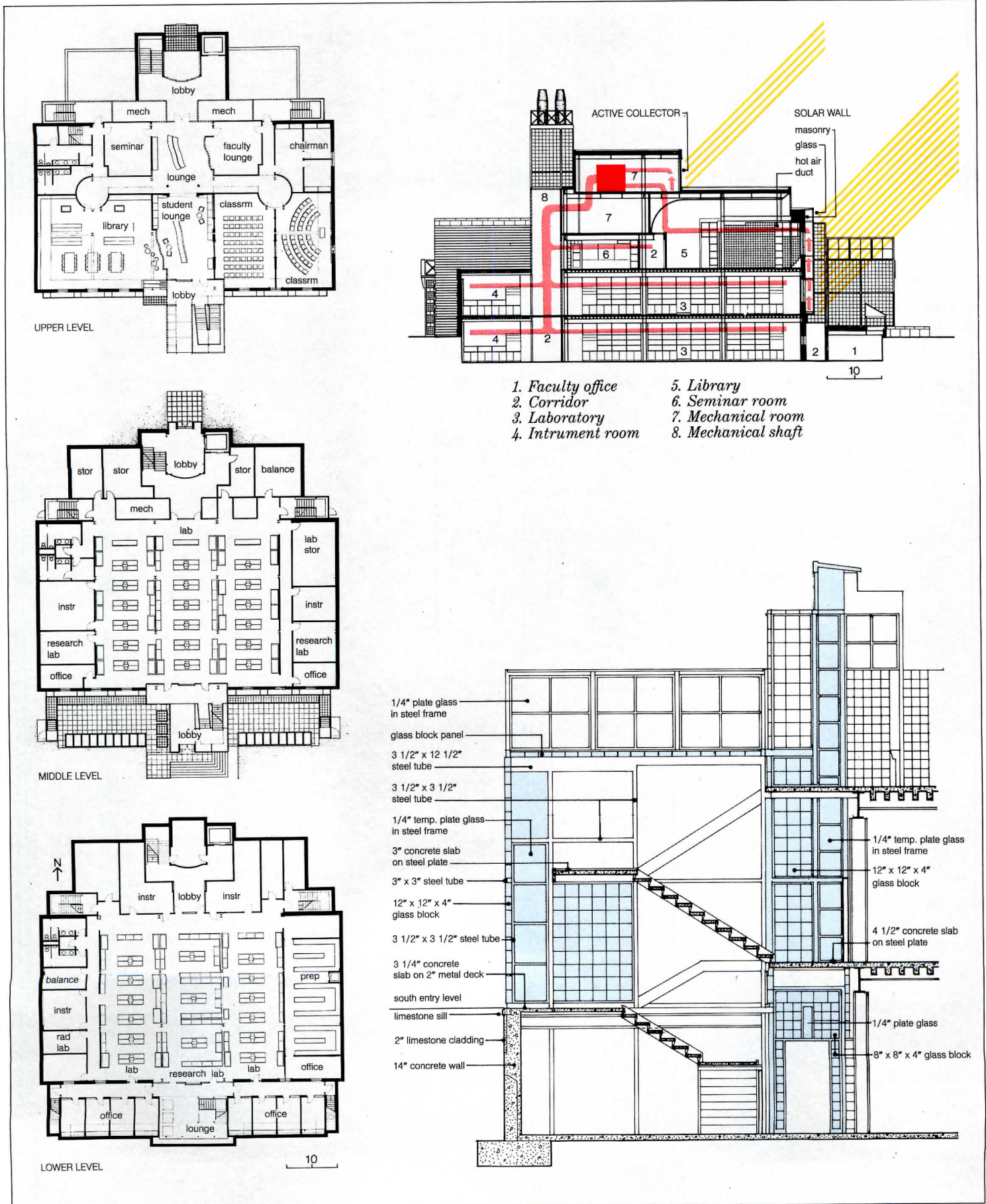


The relegation of vertical circulation and marginal functions to add-on elements gives appropriate centrality to the major functional areas that occupy the principal volume of the Seeley Mudd building. The straightforward organization places laboratories on the first two floors (one partially below grade) and "public" areas—classrooms, lounges, library, and administrative suite—on the third floor. Although

rows of fume hoods delineate three separate sectors in each, the lab floors are essentially large open spaces whose expansiveness is enhanced by perimeter placement of such support spaces as equipment and storage rooms and, on the first level, a row of faculty offices lit by skylights in the terrace above. In keeping with the charge to seize every opportunity for energy conservation, the Seeley Mudd

building hosts an array of energy-saving measures that includes heat-recovery components in the mechanical system, extra insulation, special fume-hood exhaust systems for the laboratories, and task-ambient lighting supplemented where possible with natural light. Most are discreetly confined to the building's inner recesses. But others are highly visible features of its exterior design. For

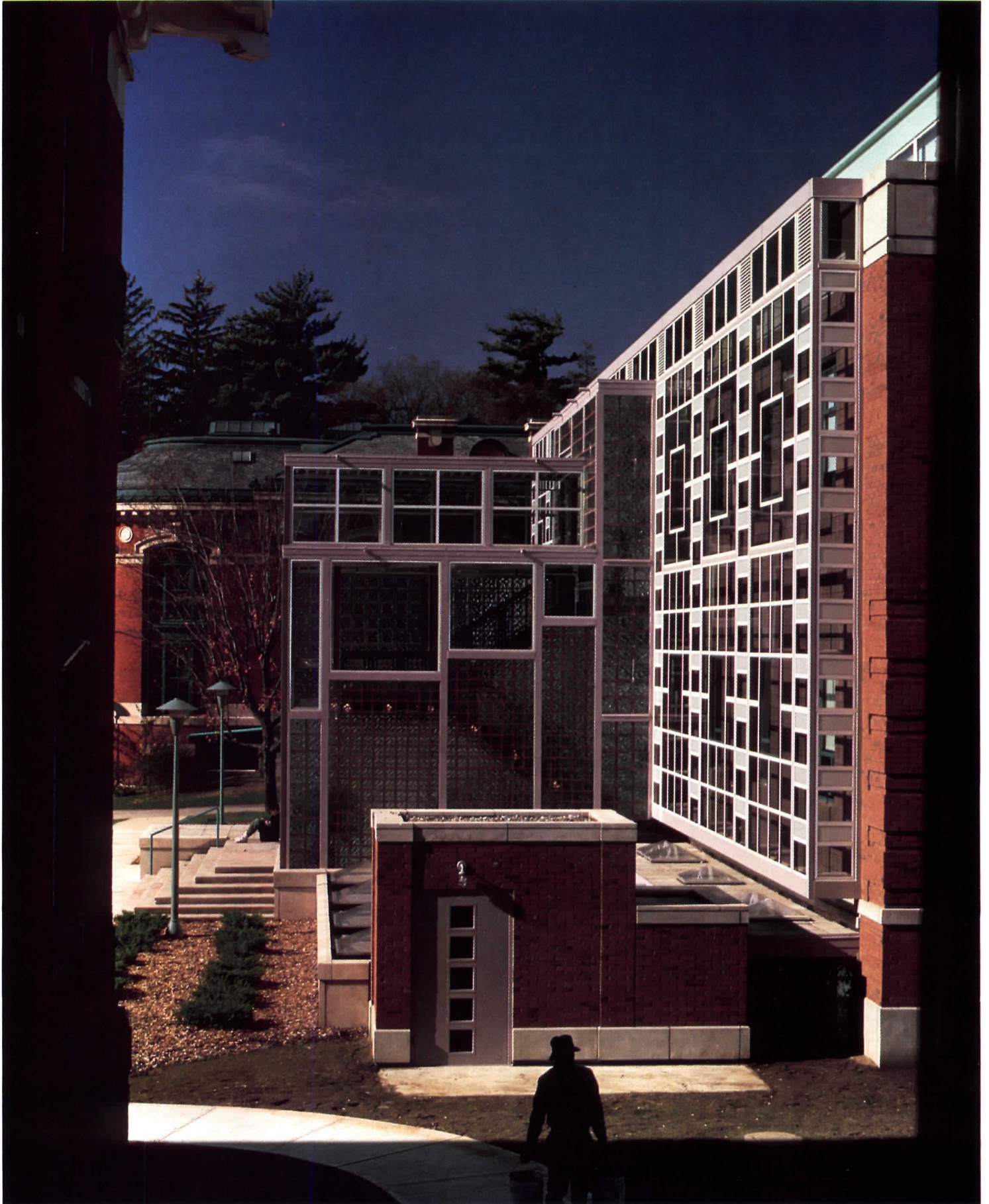
example, three sides of the building envelope are almost wholly windowless slabs of brick lightened only by stone trim at base and cornice, and corbelled banding over otherwise unbroken masonry expanses that minimize winter heat loss and summer gain while shielding the delicate workings of inner laboratories from the outer environment. (The exception of an east wall pierced by third-floor



windows in the chairman's office and an outside classroom proves the rule.) The extensive use of glass block, which combines light transmission with insulation, reflects the same pursuit. Similarly, the added height of the penthouse-disguised-as-roof was made necessary by the unusual demand for mechanical space. The most prominent energy-saving device, however, is the solar wall that masks the entire south facade with a

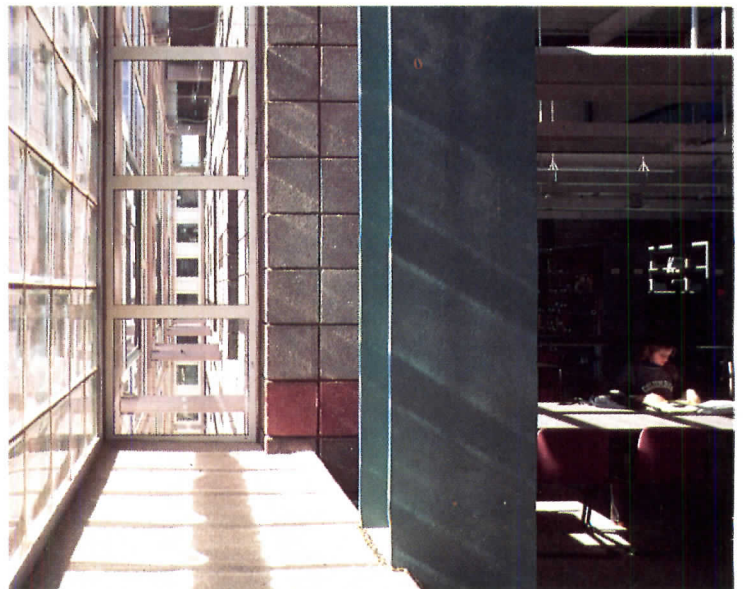
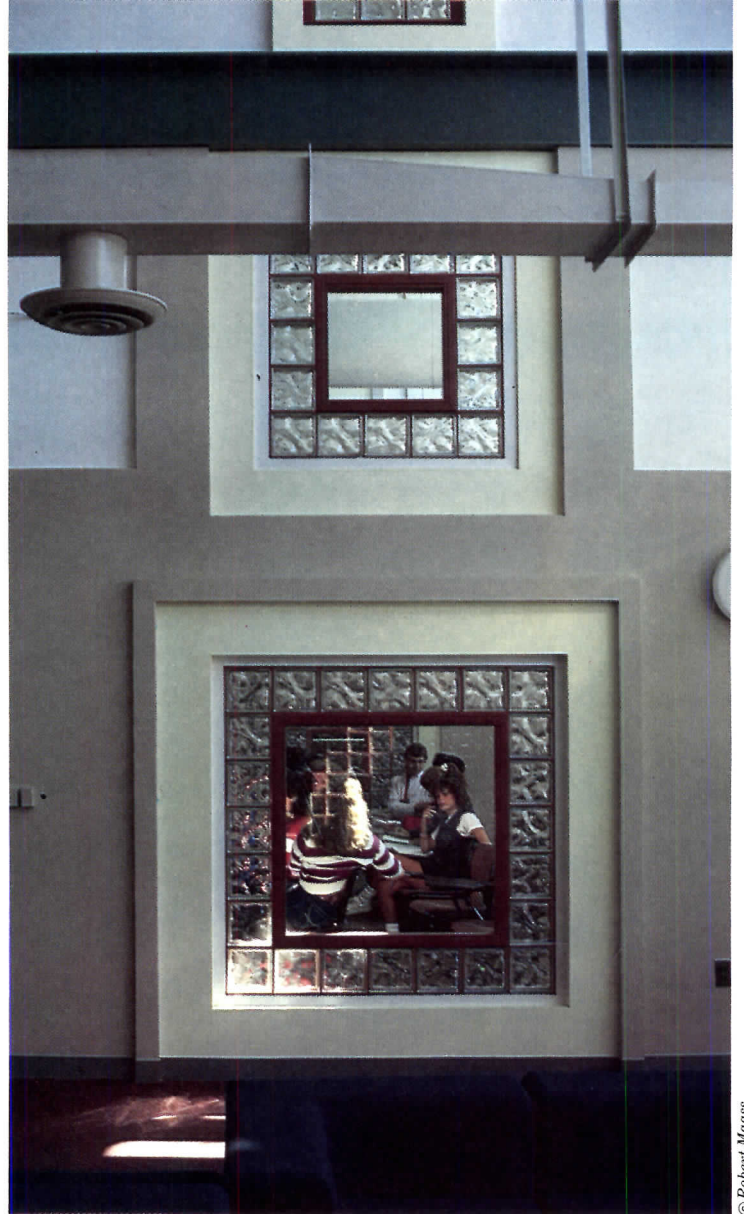
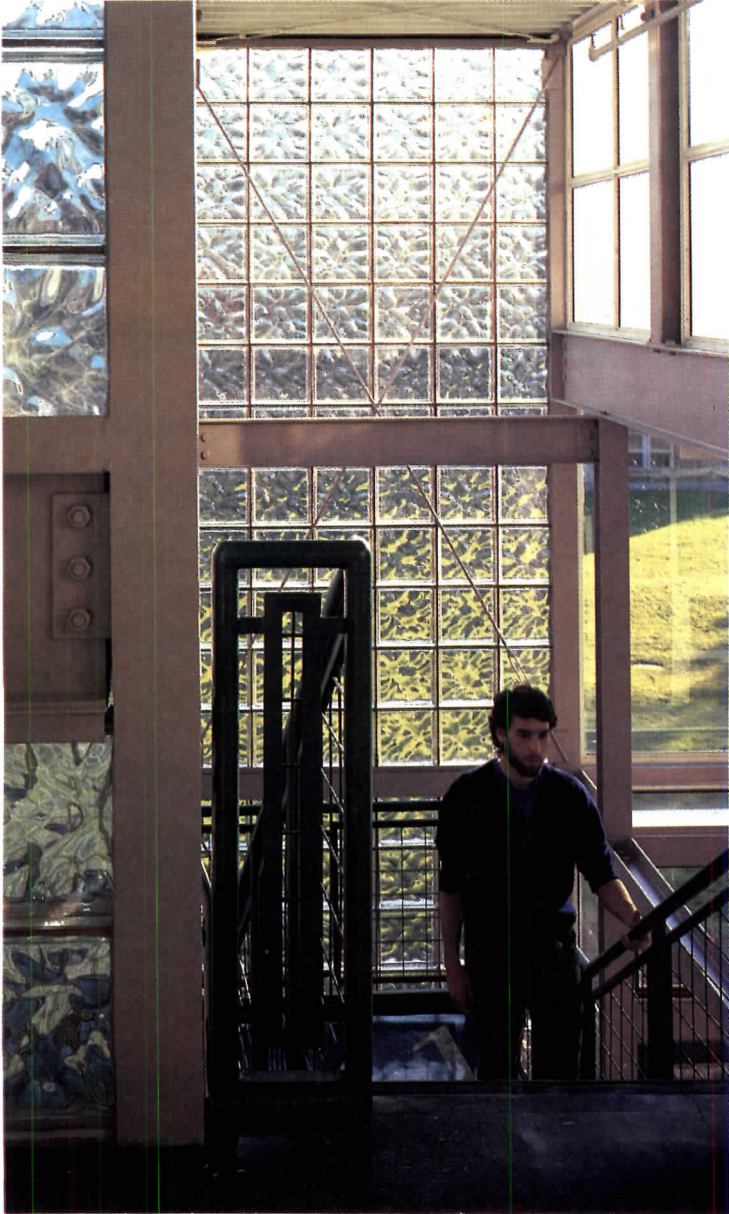
steel-framed glass screen open at the bottom and set two feet outside the concrete-block building wall. In addition to interacting with the central mechanical system for general heating (section), the modified trombe wall provides make-up air for the fume-hood exhaust system when air in the cavity is even marginally warmer than the ambient temperature. Together with the central glass and

glass-block extension that houses the stair lobby, it also contributes direct solar gain and brings welcome light and views to the interior spaces.



Because the Seeley Mudd building handily bridges the science quadrangle and the central campus, the entry stairwells on either face of the building are designed both for easy floor-to-floor access and to discourage through-lab transit. (It helps that these are among the building's pleasantest spaces.) They also give way to architect Charles Rogers' pet pursuits of fully exploiting natural light ("The ideal

building would have no daytime lighting at all") and necessary circulation ("We always try to make these areas more than just a way to get from here to there"). In this case, the detachment of the stair lobbies from a central volume held to the scale of smaller neighbors and tight-cased to conserve energy encouraged their use as light-admitting lanterns. At the more formal north entry (photo opposite), where a



© Robert Maass

narrow lobby is expanded by tucking the embracing stairs in the closed elements on either side, the principal light source is a pair of clerestory steps. On the south side (photos left opposite), the entry lobby is set off to the side of a scissor stair that flares gently as it climbs but makes a sharp turn at the lower level, where the "landing" becomes a lounge. The surrounding cage of steel-framed panels of clear glass and glass block,

combining light and vision with controlled solar transmission, forms a greenhouse that complements the solar wall (photo bottom right opposite). Within the upper level, though, the tricks with glass are just for fun: e.g., identically set block-framed windows (photo top right opposite) that pierce the walls of the student lounge and adjoining classrooms in a succession ending with a peephole in the exterior wall.



Like the exterior, the interiors of Vassar's new chemistry building derive elegance from the canny use of inelegant but wholly appropriate materials. Foremost among them is the same animating mix of glass and glass block, here combined with exposed steel and naked piping and ductwork in a medley livened by the striking use of color—grass-green columns and beams, forest-green stairs and railings, celery-green on

the corrugated ceiling, and mauve-gray frames to set off glass-block panels with terra-cotta grout lines. The full schema is fittingly introduced at the north entrance (photo opposite), which also exposes the articulated glass-block seam between the frontal elements and the principal building volume and the block wall that feeds light to the lower laboratory floor. The laboratories themselves (bottom

photo) contrive to be both obviously functional and handsome. For ease of repositioning, custom-designed benches in gray-green and rose are modular, with fluorescent-green turrets joined to overhead services by a quick-disconnect system. Energy-saving task and task-ambient lighting focuses on the benches, but visual relief and supplementary light are provided by the glow and glitter of outer walls. In such

"public" spaces as the upper-level student lounge (photo below), industrial materials are further softened with lounge, reflection, and color. Carpet and furniture in rust and deep blue inhabit a space framed by a serpentine glass-block wall dividing lounge from library and by dry-wall partitions with painted "panels" of white, ivory, and dove-gray deepened elsewhere to moss-green and terra-cotta.



Seeley G. Mudd Chemistry Building
Vassar College
Poughkeepsie, New York
Owner:
Vassar College
Architects:
Perry, Dean, Rogers & Partners—
Charles Rogers, principal-in-charge
of design, with Peter A. Ringenbach
and Steven M. Foote; Michael
Lauber, project architect; Gabriel
Yaari, project designer

Engineers:
Zaldastani Associates (structural);
Dubin-Bloome Associates
(mechanical/electrical,
plumbing/fire protection)
General contractor:
W. J. Barney Corporation



Engineering Oldenburg

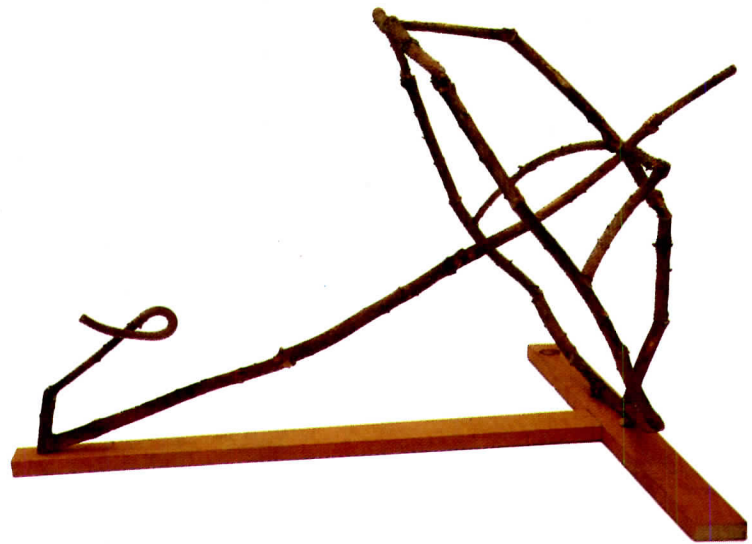
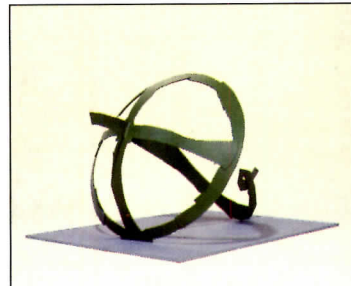
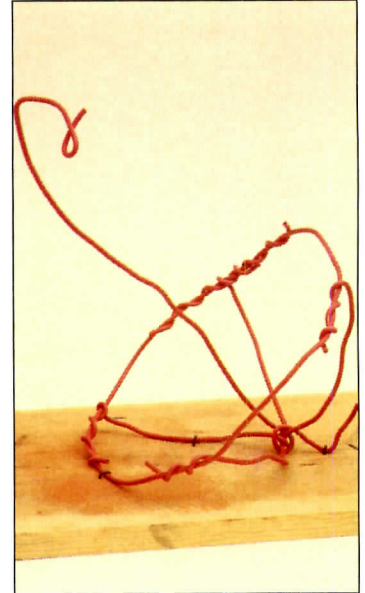
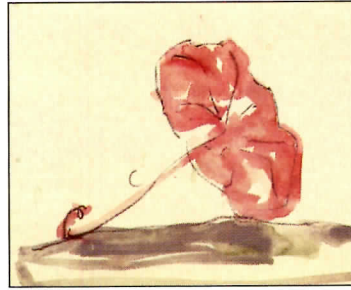
While deserved indifference, cool disdain, and downright furor have greeted much of the artwork recently selected or commissioned for public places, such has not been the reception of sculpted works by Claes Oldenburg. His transformations of everyday objects into colossal structures—for example, a 100-ft, 8-in. baseball bat (“Batcolumn”) in Chicago, the 45-ft “Clothespin” adjacent to Philadelphia’s City Hall, three 11.5-ft diameter “Pool Balls” loosely clustered along the water’s edge in a park in Munster, West Germany—immediately strike a chord of delight. Surprisingly, engineering these behemoth, often eccentric, shapes does not require arcane methods. Their technical success does, however, depend on extraordinary craftsmanship.

Though the element of whimsy is strong in sculptures such as “Stake Hitch” and the “Crusoe Umbrella” (illustrated herein), whimsy does not guide the conceptualization, siting, fabrication, or installation methods of these pieces. For each commissioned work, Oldenburg visits the site, or designated interior, to study the physical setting. His formal intention is to make a discrete object whose shape physically calls into play the immediate surroundings, intensifying the experiencing of both the object and its context. To further marry his work to the site, Oldenburg notes local images strongly associated with the place and its people. One of these images eventually serves as the springboard for the final artwork (knowing this, his project for Miami, an urban-scaled broken bowl of oranges, should come as no surprise).

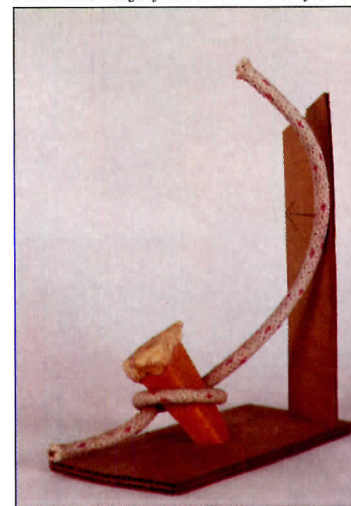
Oldenburg begins each commission by making drawings and maquettes to formally investigate the abstraction of a generic object (illustrations at right). As an acceptable shape emerges, a close consultation begins among the sculptor, the project’s engineer, and the fabricator. Over the years, most of Oldenburg’s pieces have been made in collaboration with engineer J. Robert Jennings, and with Donald and Alfred Lippincott of the Lippincott Foundry in North Haven, Connecticut. An appropriate choice of material, the structural demands that must be met to insure stability, and the optimum fabrication technique are discussed. Typically, the collaboration revolves around a maquette, either made by Oldenburg in his studio, or at the foundry under his direction. Jennings drafts scaled drawings from it to facilitate his calculations for foundations, anchorage, the sizing of members, and the determination of connections. The maquette remains in the foundry during the fabrication process as a constant, primary reference for the ingenious craftsmen whose “up-scaling” often requires the alignment of intersecting, irregular geometries.

A fundamental challenge in the making of a piece of artwork—be it a sculpture or a building—is the translation of an idea into material form. The purpose of technology is to support that translation. “Stake Hitch” and the “Crusoe Umbrella” are particularly interesting in that respect because, in translating an idea, Oldenburg and the project team have attempted (and succeeded) to embody the spontaneity of the transitional, hand-fashioned maquettes in full-scaled works. Therefore, the sculptures’ physicality has a sense of plasticity and gestural extension. This quality may help explain why Oldenburg’s delightful sculptures have continued to endear themselves to their publics, becoming local symbols as well as images of civic pride.

Darl Rastorfer



Photos and images from the collection of C. Oldenburg



Oldenburg’s two- and three-dimensional studies of the “Crusoe Umbrella” (top four illustrations) and “Stake Hitch” (above, left and opposite page) form a critical link between idea and final realization. As intended, the engineering and fabrication of the finished sculptures (following pages) successfully embodied the exuberant spontaneity of the preliminary drawings and maquettes.

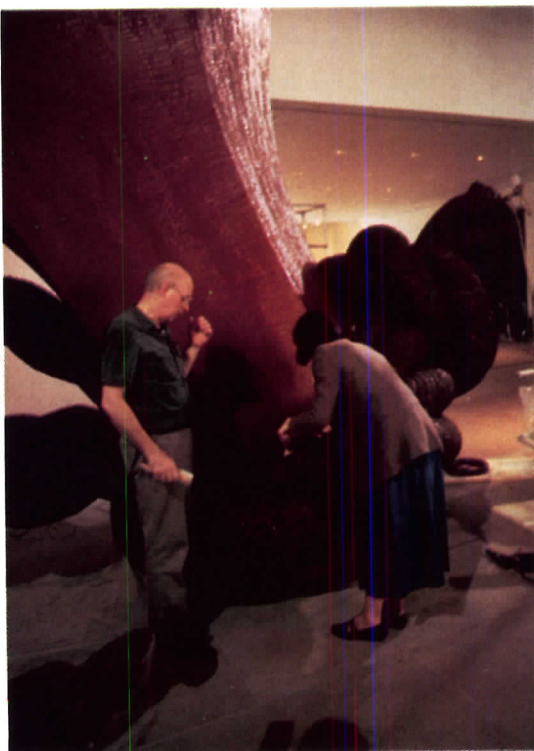
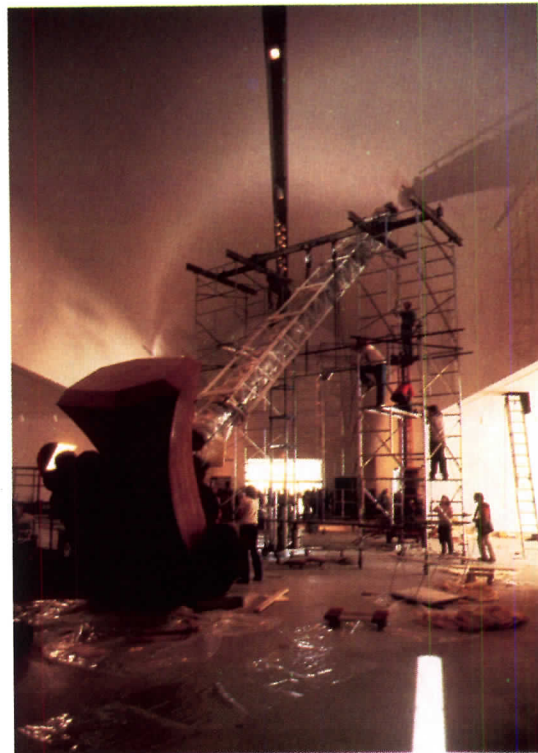


Stake Hitch

To build upon their choice collection of Modern American art, curators at the Dallas Museum commissioned ten works during the construction of their new facility. Designed by architect Edward Larrabee Barnes, the museum's loftiest space, a vaulted hall (facing page) posed a formidable challenge to the curators insofar as they feared that even large paintings would seem to "float" in the gallery. It was their hope that a work by Oldenburg would ground the space.

The sculptor visited the gallery while it was being built. Inspired by the imagery of construction (ubiquitous to Dallas), his first proposal was a line of nails in the vault, appearing to have been driven through from the outside. This proposal met little support. His second proposal—a stake with attached rope—was enthusiastically received. The resulting "Stake Hitch" physically bridges the full volume of the space. In the floor beneath the gallery, the loading dock, the tip of the stake spans from floor to ceiling as shown in the rendered section (overleaf), but is engineered as a separate structure.

The structural solution developed for the hitch incorporates a post-tensioned steel cable, attached above to the vault-shaped truss supporting the span, and below at a point approximately three-quarters up the portion of the aluminum stake which appears at the gallery-floor level. To accommodate the built-in tension and resulting bending moment, the stake is bolted to the reinforced concrete floor. A metal brace effects the standing loop in the slack rope. The hitch is built with three flexible air-conditioning ducts, each continuously wrapped with rubber cylinders. The prepared ducts are twisted together around the pre-tensioned cable. Unlike the stake, which was given its finish surface in the foundry (a gooey-looking plastic worked to make the stake appear to be cast), the rope was textured and hand-painted by Oldenburg *in situ* with subtly mottled color (lower photo, right, with Oldenburg and collaborator van Bruggen). A week was needed for the installation involving an elaborate scaffolding (top photo, right).



Stake Hitch
Dallas, Texas

Owner:
The Dallas Museum of Art.
Commissioned in honor of John Dabny Murchison, Sr. for his arts and civic leadership, and presented by his family.

Artist:
Claes Oldenburg in collaboration with Coosje van Bruggen

Engineer:
J. Robert Jennings

Fabricator:
Lippincott Foundry



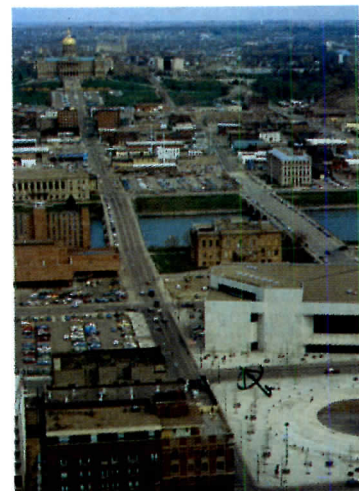
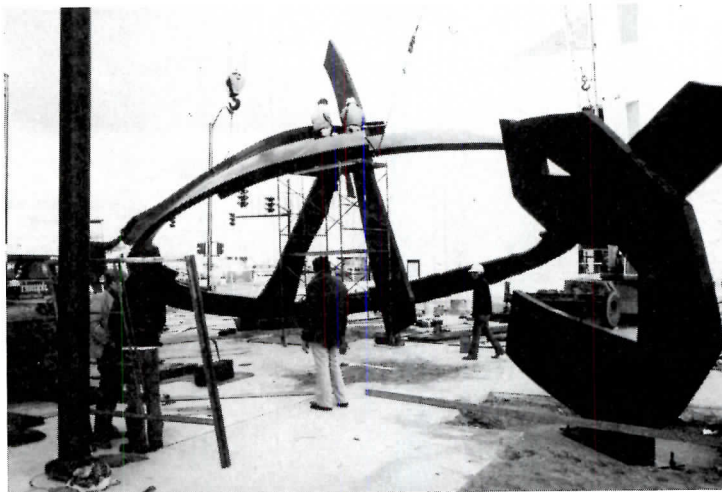
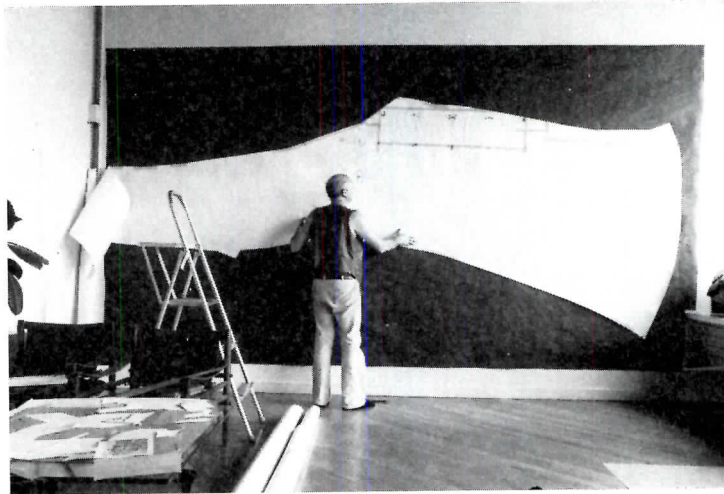
Courtesy of the Dallas Museum of Art

Crusoe Umbrella

Oldenburg considered a number of evocative images (among them a "milkbone" doggie biscuit) but chose to develop a bigger-than-life version of Robinson Crusoe's umbrella for the plaza in front of the Des Moines Civic Center. The artist recalls his first visit to the site in 1978. Standing in the urban square, he had a vision of being on a deserted island beach. Associating himself with Crusoe, the desire for an umbrella followed. The organic shape of an umbrella would complement, through contrast, the plaza's rigid geometry. Too, the dome of an umbrella would harmonize with the dome of the capital building and the sloping street connecting the two (aerial photo, right).

Twigs, wire, cardboard, and styrofoam were among the materials used for maquettes. From the cardboard model, the engineer drafted scaled drawings to facilitate structural studies. Jennings's major concerns were to accommodate the bending moment at the base of the umbrella dome, and to specify a steel plate thickness and connections that reasonably anticipated live loads (a football squad posed atop the structure is not difficult to envision). Oldenburg had considered cantilevering the handle "like a line flung into space" (page 146, top right) but abandoned that pose on the advice of the engineer.

Maintaining the organic quality inherent in the preliminary drawings and maquettes was a major concern. For the final artwork, Oldenburg made full-scale paper patterns of the segments forming the umbrella (top photo, right). Each segment was then fabricated with two 1/2-in. Cor-Ten steel plates joined with a 5-in.-wide edge plate (spacers were also used to keep the inner and outer faces at a constant distance). Segments were welded and bolted into the flat, bar-type overlapping construction. The sculpture was temporarily erected at the foundry to double-check the accuracy of fit, and to determine the optimum erection sequence. The "Crusoe Umbrella" was then dismantled, sandblasted, finished, and painted before it was shipped in pieces to Des Moines.



*Crusoe Umbrella
Des Moines, Iowa*

Owner:
Board of Trustees of the Civic Center of Greater Des Moines

Artists:
Claes Oldenburg in collaboration with Coosje van Bruggen

Engineer:
J. Robert Jennings

Fabricator:
Lippincott Foundry



John F. Schultze

New products

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2. Pilgrim's progress
Although many might dismiss Frenchman Philippe Starck's new-found fame as just another overnight success story—an all-too-familiar tale of rapid but short-lived accomplishments—the designer has, in fact, been hard at work since his mid-teens. Now 37 years old and in high demand, Starck has hit his architectural stride: witness the unveiling this spring of his new furniture collection, previewed on this page, by New York-based International Contract Furnishings. The introduction will mark an important step for Starck and ICF alike: a firmer toehold in the United States for the designer and a move decidedly closer to the leading edge of design by a previously more-conservative company.

In his various architectural and furnishing commissions, Starck has coined his own style—one that he

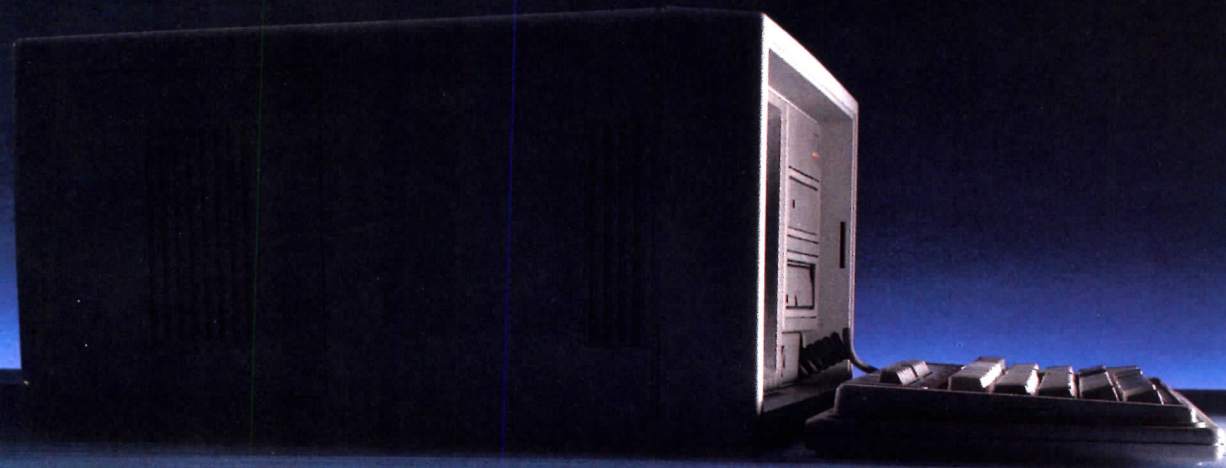
aply calls “industrial baroque”—and he has been intent on charting a “third way” that mediates between fantasy and functionality. Toward that end, Starck has named several of his furniture pieces, including *Mac Gee* and *Francesca Spanish*, after characters in *Ubik*, a favorite science-fiction novel by Philip Dick, and in real life he has cast himself as the book's ubiquitous hero. The plot unfolds, then, as a journey through architecture, with Starck the protagonist plotting a mixed course of dream and reality.

The *Président M.* table, originally designed for the private study of French President François Mitterand, seems poised for just such flights of fancy. The table top is perched on a demountable steel frame embellished by winged supports—shapes that Starck says came to him in a dream. Starck's musings take a different turn in the

Richard III armchair, also designed for Mitterand's study. The *fauteuil's* grande-luxe front is betrayed by its cut-out backside, a more dramatic contrast in the original leather version shown here. Furthermore, Starck has infused his conceptual fantasies with strikingly straightforward pragmatism. The easy-to-assemble *Mac Gee* bookshelf and stackable *Starck* chair, for example, exhibit a disarmingly simple industrial esthetic, while the *Francesca Spanish* chair reveals Starck's attempts to alleviate what he describes as the “humiliation” of folding furniture. Thus it seems that the press's current *enfant terrible* may actually be wise beyond his years. *K. D. S.* International Contract Furnishings, Inc., New York City.

Circle 300 on reader service card

1. *Mac Gee* bookshelf.
2. *Starck* chair.
3. *Richard III* armchair, in leather.
4. *Président M.* table.
5. *Francesca Spanish* chair, folded.
6. *Francesca Spanish* chair.

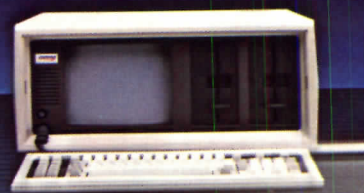
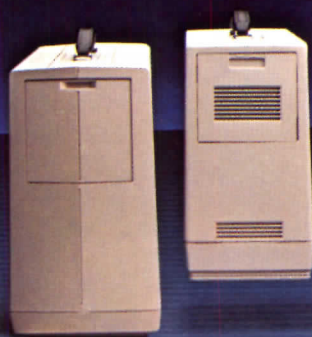


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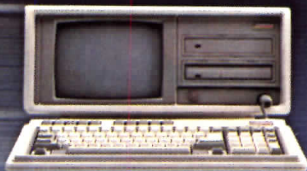
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Storage Devices • 360-Kbyte one-third-height diskette drive • 10-Megabyte half-height fixed disk drive

Expansion Slots • 2 available slots in all configurations

Memory • Up to 640 Kbytes of RAM on the main system board, expandable to 2.1 Megabytes without using an expansion slot. Maximum system memory of 4.1 Megabytes using only one expansion slot

Interfaces • RGB color monitor, RF

modulator, composite video, parallel printer, and asynchronous communications interfaces

Keyboard • Modified IBM PC-AT layout (84-key)

Display • 9-inch diagonal green monochrome dual-mode monitor • High-resolution text and graphics

Physical Specifications • 17.7"W × 7.5"H × 13.9"D • 45cm × 19cm × 35cm

Options • MS-DOS®/BASIC version 3.1 diskettes and reference guide

• 512/1536-Kbyte system memory board • 512/2048-Kbyte memory expansion board • 512-Kbyte memory upgrade kit • Automatic power switching board (110 to 220 volts)

• 10-Megabyte fixed disk drive • 360-Kbyte diskette drive • Carrying case • Technical Reference Guide (available Q2 1986)

CONFIGURATIONS

Model 1 • 256 Kbytes of RAM • One 360-Kbyte diskette drive • Two expansion slots available • 23.6 lbs./10.7kg

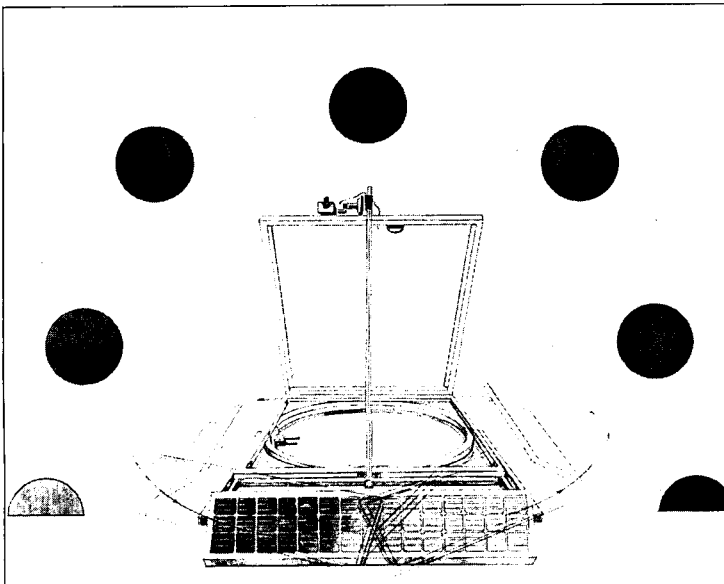
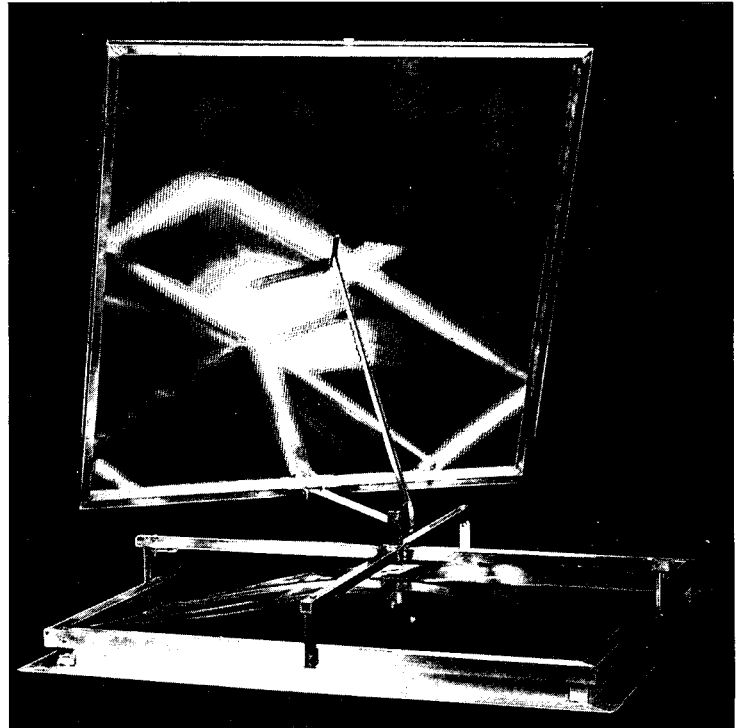
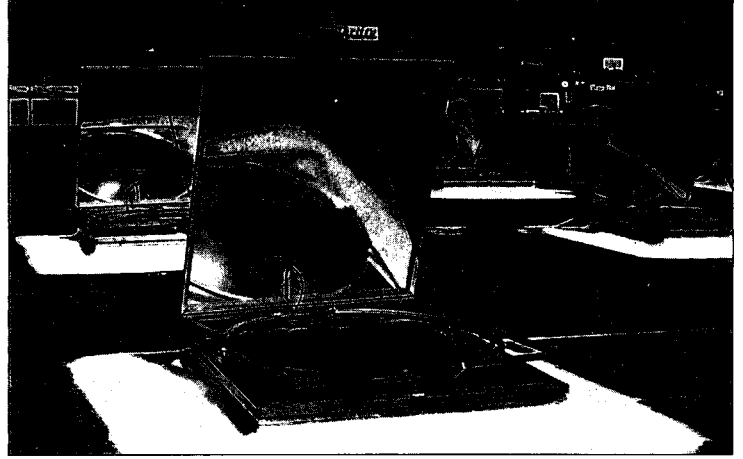
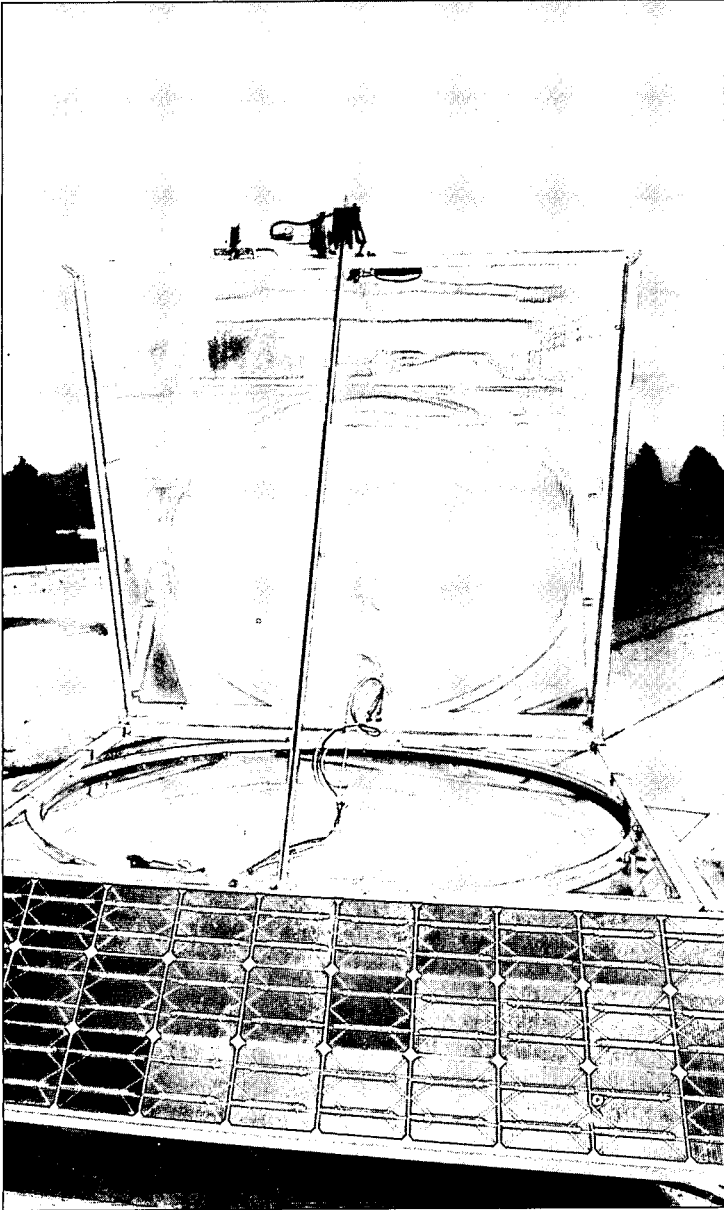
Model 2 • 256 Kbytes of RAM • Two 360-Kbyte diskette drives • Two expansion slots available • 25.6 lbs./11.6kg

Model 3 • 640 Kbytes of RAM • One 360-Kbyte diskette drive • One 10-Megabyte fixed disk drive • Two expansion slots available • 26.2 lbs./11.8kg

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Daylight savings

The *So-Luminaire* daylighting system is designed to collect the sun's rays and distribute them throughout the interior of a one-story building. The system consists of a sun-tracking mirror activated by a sun-sensing infrared photodiode, two fractional horsepower motors, a master photovoltaic cell, and a skylight assembly with a light well and interior diffusion lens. Said to transmit approximately three times more light than a conventional skylight, the *So-Luminaire* is intended to reduce the cost of artificial daytime lighting. The system is also designed to prevent heat loss on winter nights. After the sun sets, a mirror closes over the roof lens, and the unit is positioned eastward for the next morning's sunrise. The radiant heat that has

surfaces during the day is gradually released into the building during the night. Conversely, when the sun is high during the summer, about 15 percent of the system's mirror is in the shade, thus reducing the amount of radiant heat gain. A special sensing device will automatically close the unit during high winds. The system comes fully assembled, and it can be mounted on flat, sloping, or shallow pitched roofs. So-Luminaire Systems Corp., San Diego, Calif.

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SOLUTION: STAINLESS STEEL·O·BOND MATERIAL

The design called for reflective bands of steel. They had to resist waves or ripples, and roll to a neat and clean joint.

The solution was Steel-O-Bond material.

Appearance: Stainless Steel-O-Bond material is made of two sheets of number four finish stainless steel and a thermoplastic core. Like its companion product Alucobond® material, it is non-corrosive.

Flatness: Steel-O-Bond material does not oil-can. It remains visually flat with virtually no substructure support.

PROJECT: The Park Center Office Building, Maitland, FL
OWNER: American Hanover — Maitland Partners Ltd., a joint venture of principals of The Palmer Group Ltd. and Philips & Company.
ARCHITECT, ENGINEER, and CONTRACTOR: The Haskell Company, Jacksonville, FL.
DISTRIBUTOR/FABRICATOR: Whelan Manufacturing, West Trenton, NJ.

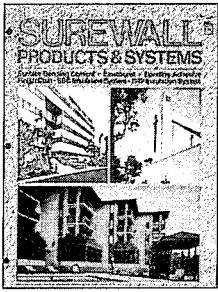
Joining: Panels can be attached with a continuous edge grip system for a perfectly smooth and flush joint.

More information: Steel-O-Bond material is available from Consolidated Aluminum, a leading developer and producer of composite materials for specific needs. For technical data and specifications, see our catalog in Sweet's General Building File, section 7.5/Alu. (In Canadian Sweet's, section 7pre/Al.)

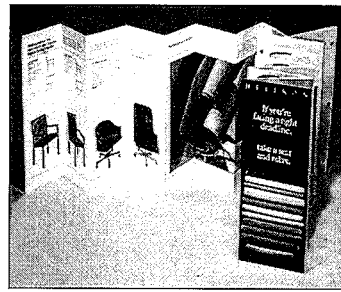
Consolidated Aluminum, Composite Materials Division, 11960 Westline Industrial Drive, St. Louis, Missouri 63146. Phone (314) 851-2346.

Steel-O-Bond is a registered trademark of Consolidated Aluminum for its composite material.

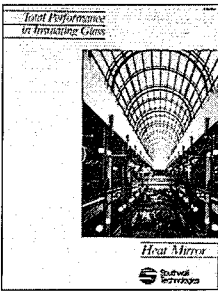
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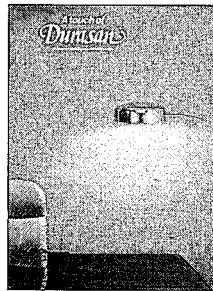
Masonry bonding
Masonry bonding, exterior insulation, and finish products are featured in a 12-page color brochure. The literature describes the composition, advantages, and applications of each product. Cutaway diagrams depict construction details. Finish colors and textures are also shown. W. R. Bonsal Co., Charlotte, N. C.
Circle 400 on reader service card



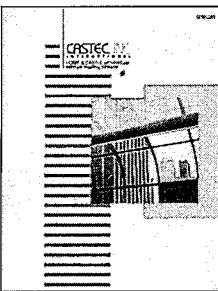
Chairs
An 18-page, fold-out color brochure depicts 18 upholstered office chairs from the manufacturer's *Express Seating* 5-week shipment program. The seat coverings, available in plush, worsted, and textured wool and calfskin, are shown in a variety of colors. Helikon Furniture Co., Inc., Taftville, Conn.
Circle 406 on reader service card



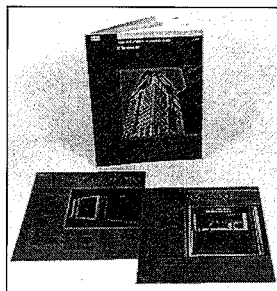
Insulating glass
An 8-page brochure describes the manufacturer's window and insulating glass products. The literature features glass equipped with *Heat Mirror 66*, which reflects heat but not light and is said to have an R-value of up to 4.5. Southwall Technologies, Palo Alto, Calif.
Circle 401 on reader service card



Fabric wallcovering
A 4-page folder contains 20 swatches of fabric covering for the manufacturer's line of prefinished gypsum wall panels. Colors include pearl white, rose ash, paprika, and pepper. The literature also reviews panel construction, application and technical data, and maintenance information. Gold Bond Building Products, Charlotte, N. C.
Circle 407 on reader service card



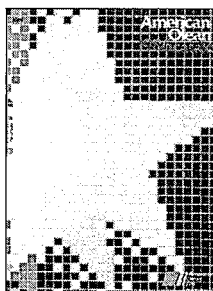
Window shades
A 12-page color brochure features the manufacturer's window-shading systems designed for commercial and residential applications. The literature reviews manual and motorized methods of operation, and describes a variety of available fabrics. Castec, Inc., International, North Hollywood, Calif.
Circle 402 on reader service card



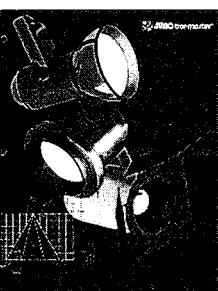
Elevators
A 12-page booklet gives an overview of the manufacturer's elevator systems and related products, including microprocessor traffic-control technology. Diagrams show elevators in plan and section, and accompanying charts list hoistway dimensions, capacities, and speeds. Armor Elevator Co., Inc., Louisville, Ky.
Circle 408 on reader service card



Windows and doors
Wood and wood-clad, double-hung casement and awning windows, and swinging and sliding patio doors are featured in a 16-page color catalog. Photographs show a range of door and window styles and a variety of frame sections. Malta, Div. of Philips Industries, Inc., Malta, Ohio.
Circle 403 on reader service card



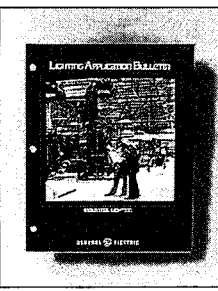
Ceramic tile
A 48-page color catalog depicts the manufacturer's glazed, ceramic mosaic, quarry, and specialty tile. The literature gives the characteristics and dimensions of each line and shows available colors. A section details the tiles' heat-storage properties. American Olean Tile, Div. of American Gypsum Co., Lansdale, Pa.
Circle 409 on reader service card



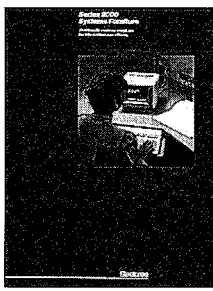
Track lighting
A 48-page color catalog illustrates the manufacturer's line of track lights and compatible connectors and mountings. Sectional drawings of each lamp style include dimensions, and charts list such accessories as barn doors, louvers, and filters. Juno Lighting, Inc., Des Plaines, Ill.
Circle 404 on reader service card



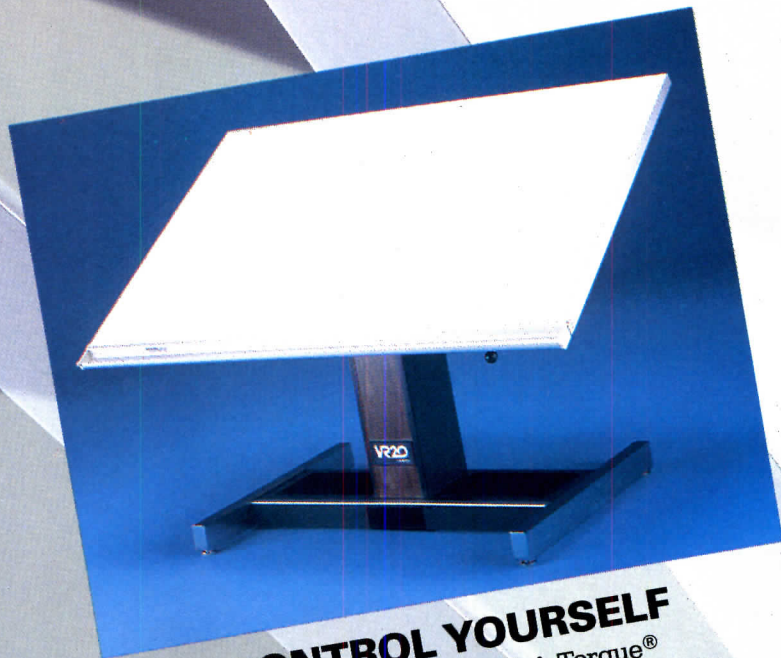
Boilers
An 8-page color brochure describes multiple gas-fired hot-water boilers. Diagrams depict piping systems, and charts list technical data. The literature also reviews a design engineering manual that contains templates for boiler system design. Weil-McLain Multiple Boiler Systems, Div. of Marley Co., Michigan City, Ind.
Circle 410 on reader service card



Technical lighting
A 24-page guide to cost- and energy-efficient lighting for industrial plants discusses such subjects as lighting and productivity; light quality, quantity, and color; and how to choose the appropriate lamp and luminaire. Each section contains technical data. General Electric Co., Cleveland.
Circle 405 on reader service card



Office furniture
Panel-hung and freestanding modular office systems are described in a 32-page color catalog. Photographs show panels, work surfaces, and lateral cases. Lighting, wiring, and data/telecommunication cabling capabilities are also detailed. Steelcase, Inc., Grand Rapids, Mich.
Circle 411 on reader service card
Continued



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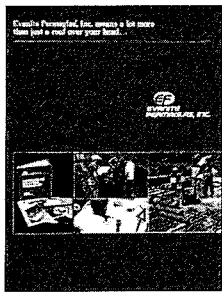
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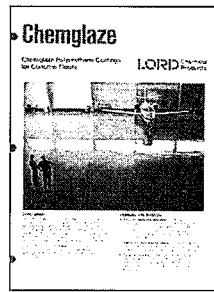
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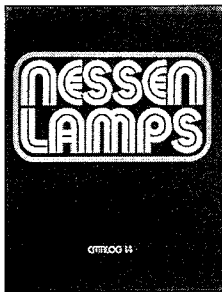
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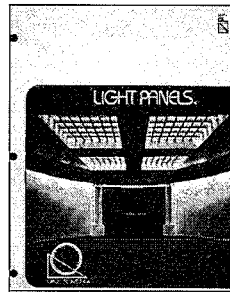
Roofing
A 12-page color brochure features the manufacturer's built-up roofing products and single-ply roofing membranes for commercial applications. Photographs illustrate the manufacturing and installation processes. A variety of examples is included in the literature. Evonite Permaglas, Inc., Corvallis, Ore.
Circle 412 on reader service card



Floor coatings
Chemglaze Z-Line and A-Line polyurethane coatings for concrete floors are featured in a 6-page brochure. The literature explains surface preparation and coating procedures for new and old uncoated and previously coated concrete and lists recommended thinners, catalysts, and clean-up products. Lord Corp., Erie, Pa.
Circle 418 on reader service card



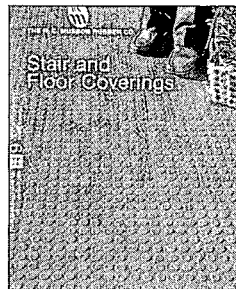
Lamps
Incandescent, halogen, and fluorescent lamps for commercial and residential use are featured in a 50-page color catalog. Seven styles are shown, including hanging, table, floor, and task lamps; wall swingers; torchères; and sconces. Dimensioned diagrams of each model are included. Nessen Lamps, Inc., Bronx, N. Y.
Circle 413 on reader service card



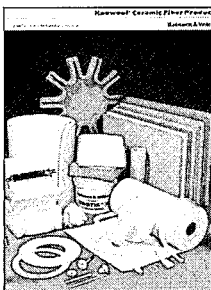
Light panels
Floor and deck panels composed of concrete grids with 6-in. by 6-in. glass inserts are described in a 4-page color brochure. The panels, which are precast and come preglaized, are shown with concrete, wood, and terrazzo finishes. Construction details and specifications are also given. Circle Redmont, Wallingford, Conn.
Circle 419 on reader service card



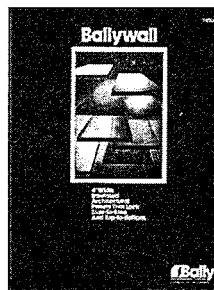
Bathrooms
Bathroom fixtures and storage units in 11 different styles are depicted in a 28-page color booklet. The components are available in lacquer, wood, and laminate with wood trim. The literature also shows coordinated accessories such as soap dishes and towel racks. Poggenpohl USA Corp., Allendale, N. J.
Circle 414 on reader service card



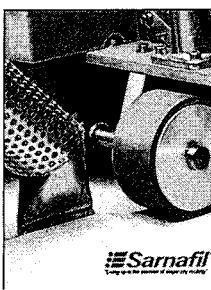
Floor covering
A 16-page color brochure features stair and floor coverings. The literature describes and gives specifications for marbleized or plain rubber stair tread and landing tiles, vinyl stair treads, fluff cord tiles, riser materials, and corner guards. Adhesives are recommended. The R. C. Musson Rubber Co., Akron, Ohio.
Circle 420 on reader service card



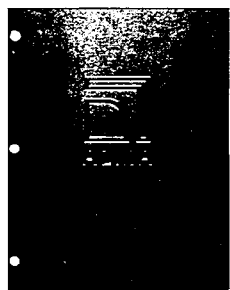
Fiber insulation
A 20-page color booklet describes *Kaowool*, an asbestos-free ceramic insulation that can be installed in bale or blanket form, molded into rigid shapes, stamped into gaskets, blended with liquid binders, and woven into rope and cloth. Charts detail the product's physical and chemical properties. Babcock & Wilcox Co., Augusta, Ga.
Circle 415 on reader service card



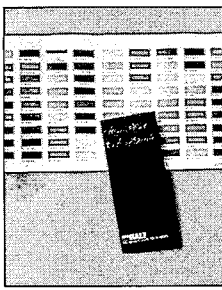
Prefabricated panels
The features of *Ballywall* prefabricated, insulated exterior panels are reviewed in an 8-page color brochure. The panels, which have metal, plywood, or aggregate exterior skins, are joined by means of a patented locking system that is shown in the literature. Bally Engineered Structures, Inc., Div. of Allegheny International, Bally, Pa.
Circle 421 on reader service card



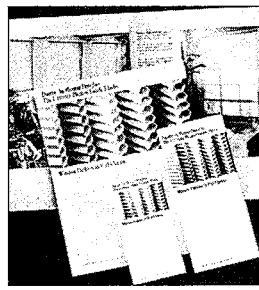
Single-ply roofing
An 8-page color brochure features the manufacturer's single-ply roofing and waterproofing membranes. Photographs and diagrams show three installation methods: loosely laid with ballast; fully adhered, for steep roofs; and mechanically fastened, for light structures subject to wind. Sarnafil, Inc., Canton, Mass.
Circle 416 on reader service card



Office furniture
A 14-page illustrated color catalog features office, lounge, and computer-support furniture. The products are available in a variety of modern and traditional styles and in a range of finishes, including oak, walnut, and mahogany veneers and solids. Alma Desk Co., High Point, N. C.
Circle 422 on reader service card



Blinds
A 14-panel fold-out color card contains 137 swatches in matte and metallic finishes for the manufacturer's *Bali* line of mini-blinds. Photographs show a variety of residential applications. Measuring and ordering instructions are included in the literature. Marathon Carey-McFall Co., Montgomery, Pa.
Circle 417 on reader service card.



Shades
Duette pleated fabric shades, which have a white exterior face and an inner face that can be specified in a variety of colors, are featured in a 12-page color brochure. Photographs show the shades in standard and custom shapes and in a variety of residential applications. Hunter-Douglas, Inc., Maywood, N. J.
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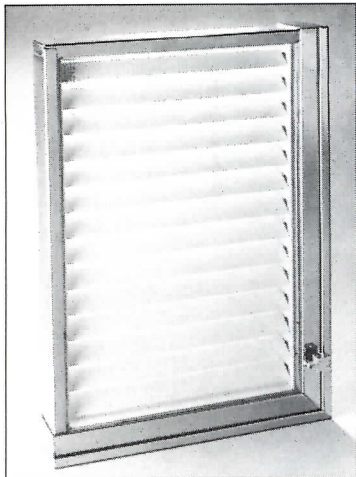
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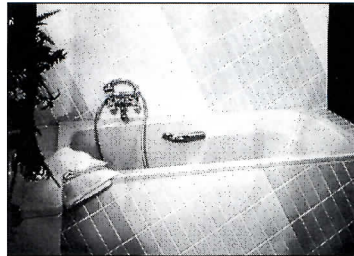
Glazing panels

Vision Control glazing units feature extruded aluminum louvers mounted inside hermetically sealed double glazing. This design is said to create a noise barrier 140 percent more effective than conventional air-spaced glass panels, and is also said to offer low-maintenance operation. Panels are available in a variety of colors and finishes. ACA Products, Inc., Swampscott, Mass. Circle 302 on reader service card



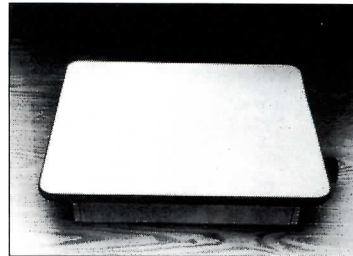
Floor coverings

Cork-o-Plast and *Wood-o-Cork* floor coverings have a 20-mm-thick vinyl surface guaranteed for 10 years against wear. The floor coverings are available in planks or 1/8-in.-thick tiles with a ribbed vinyl backing. *Cork-o-Plast* comes in 20 patterns, and *Wood-o-Cork* is available in teak, cherry, mahogany, and red and white oak. Expanko Cork Co., Inc., West Chester, Pa. Circle 305 on reader service card



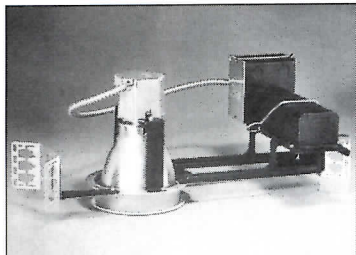
Bathtub

The manufacturer's *Europa* tub, which features handgrips and an optional whirlpool system, is available in both 5- and 6-ft models. The tub comes in 11 colors with matte and gloss finishes, and the fittings are available in white, chrome, gold, antique brass, brushed chrome, and pewter finishes. Villeroy & Boch, Inc., Pine Brook, N. J. Circle 306 on reader service card



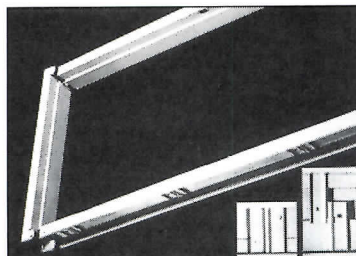
CRT turntable

The manufacturer's ergonomically designed *CRT Multi-Mode Turntable* can be adjusted in three ways: the turntable can be tilted up to 22 deg to minimize glare, moved forward or backward up to 4 in., and rotated 360 deg so the unit can be shared. Marvel Metal Products Co., Chicago. Circle 307 on reader service card. Continued on page 165



Downlighting fixtures

The manufacturer's high-intensity discharge, recessed downlighting fixtures are available with mercury, metal halide, or high-pressure sodium lamps. In addition, wall washer and ellipsoidal downlights are available in a range of apertures, lens styles, and optical designs. The units are UL listed and suitable for damp locations. Halo Lighting, Elk Grove Village, Ill. Circle 303 on reader service card



Expandable door frame

A one-piece expandable door frame has a sliding mechanism that allows the frame to be widened or contracted to match the required wall width. The galvanized steel frame can be used with walls 4 5/8 in. to 7 5/8 in. thick, is adaptable to masonry construction, and carries a 90-minute B-label fire rating. Therma-Tru Corp., Toledo, Ohio. Circle 304 on reader service card

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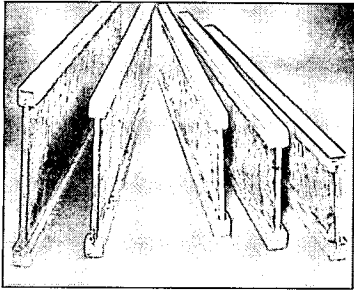
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Two of the unique effects at the Imperial Bronzelite WaterWorks® installation at Home Savings of America Headquarters in Irwindale, California. *Landscape Architects: Fong and Associates (Costa Mesa, California)*

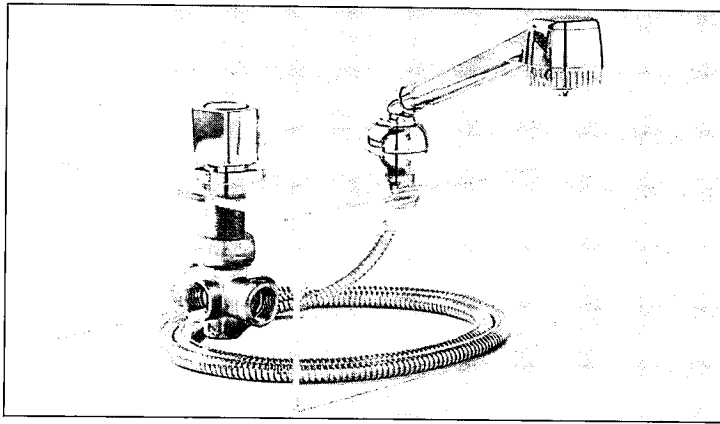
Circle 82 on inquiry card



Truss system

The *GNW Metal Web Truss System* made from galvanized 20-gauge steel is lightweight and stackable due to an inverted rib design. The system is available in four sizes for truss depths of 9 1/4 in., 11 1/4 in., 14 1/4 in., and 15 3/4 in., and its patented tooth design is said to grip instantly when pressed into wood chords. Gang-Nail Systems, Inc., Miami.

Circle 308 on reader service card

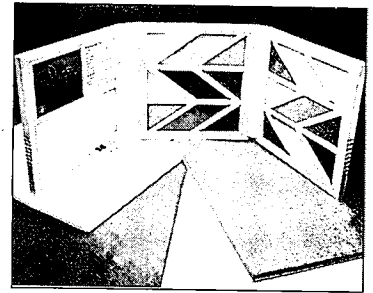


Shower system

A deck-mounted shower system features a concealed hose, a five-port diverter with 3/4-in. inlets for hot and cold water, a 3/4-in. outlet to the tub spout, and two 1/2-in.

outlets for shower installation. The system is available with a variety of handsets and in a selection of finishes. Ondine, Div. of Interbath, Inc., City of Industry, Calif.

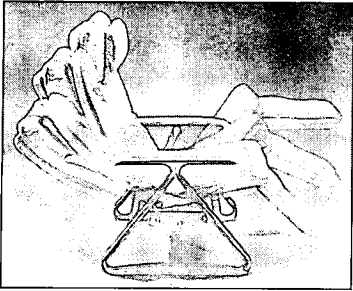
Circle 311 on reader service card



Wool broadloom

Tisca semiworsted wool carpeting made by a one-step double shearing process has a 59-ounce pile and 9/64-in. gauge. The carpeting features *Tex-Bac* latex and cotton backing said to be pull-resistant, and is available in 19 colors for both residential and commercial use. Merida Meridian, Syracuse, N. Y.

Circle 312 on reader service card
Continued on page 167



Swinging chair

The manufacturer's *Swinger* chair/chaise longue swings 90 deg from an upright position and can be locked into position at any point in between. The chair features a one-piece leather cushion and comes in beech with any of five wood stain finishes, polished chrome-plated steel, or high-gloss black polyester-coated steel. Plycraft, Inc., Lawrence, Mass.

Circle 309 on reader service card



Worksurfaces

The manufacturer's *Conference II* worksurfaces are available in "P" or "D" shapes. The "P"-shaped surface comes in three sizes and the "D"-shaped in five. Both shapes are available in laminate surfaces with vinyl edging or wood veneer with lumberband edges. The column base can be adjusted from a 26-in. typing height to a 30-in. work height. Westinghouse Furniture Systems, Grand Rapids, Mich.

Circle 310 on reader service card

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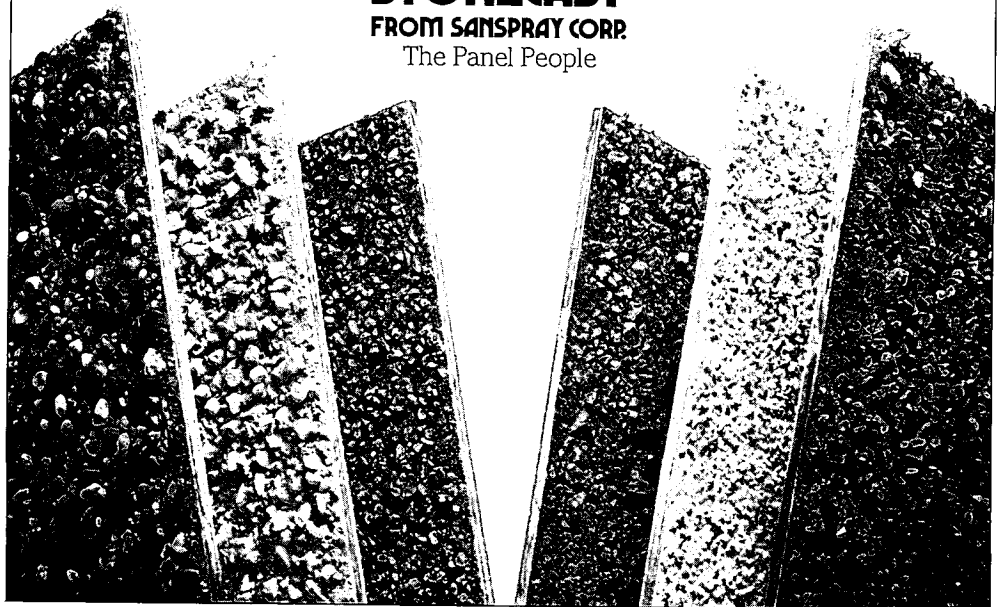
2. They're easy to install. Stonecast panels can be nailed or screwed in place. Standard 4' x 8', -10' and -12' sizes are easily field-cut to fit, or may be ordered factory pre-cut.

3. They're attractive. Textures and colors range from earthtone beach pebbles to grey granite aggregate. Make joints blend or feature them with contrasting moldings and battens. Colored nails and screws keep fasteners hidden.

4. They're economical. Stonecast exterior panels promote savings for the life of your building through low initial cost, simple installation and a long, low-maintenance life. Stonecast Fire-Rated and Granex integral aggregate panels are also available.

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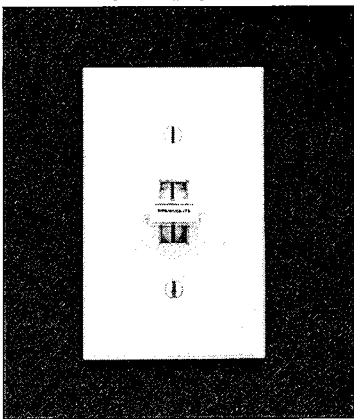
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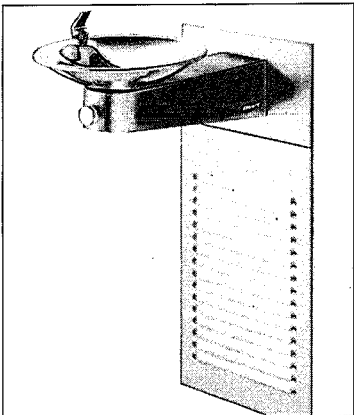
Circle 84 on inquiry card



Slide dimmers

Preset n-Touch slide dimmers for residential and light commercial applications are available in 600, 1000, 1500, and 2000 watt versions. The dimmers feature a vertical slide intensity control and a silent on/off control, have a UL listing through 1000 watts, and can be installed in a single-gang backbox. Prescolite Controls, Carrollton, Tex.

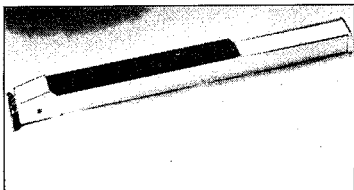
Circle 313 on reader service card



Water cooler

A barrier-free water cooler, made of heavy-gauge stainless steel, features a one-piece shielded anti-squirt bubbler and self-closing pushbutton valve for water control. The polished chrome pushbutton is located in the front of the unit, making it easily accessible for handicapped users. The cooler is available with a satin or *Sienna Bronze* finish. Haws Drinking Faucet Co., Berkeley, Calif.

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Pushbar device

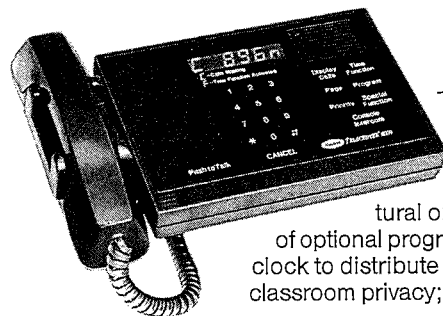
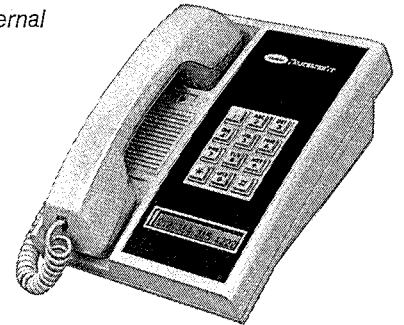
Futurabar heavy-duty pushbar exit device, constructed of extruded aluminum with steel channel reinforcements, is available in 36- and 48-in. widths. The pushbars come in a variety of finishes and configurations for rim, vertical rod, and narrow stile applications. Trim accessories including levers, knobs, and escutcheons are also available. Corbin, Div. of Emhart Hardware Group, Berlin, Conn.

Circle 315 on reader service card
Continued on page 169

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Rauland TELECENTER® better for schools

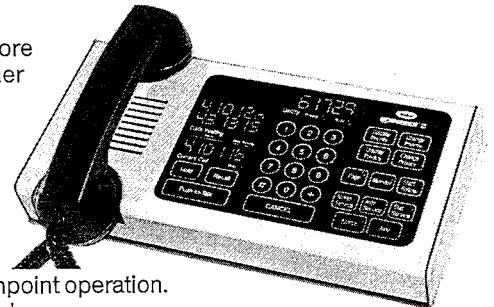
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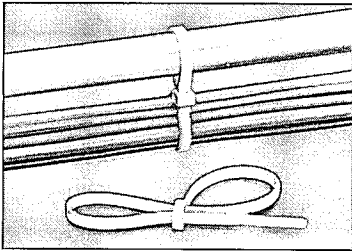
Circle 87 on inquiry card

Continued from page 167



Expanding foam sealant *Will-Seal 150*, a precompressed, chemically resistant foam sealant is available in either self-adhesive rolls or sticks. Designed specifically for vertical construction joint applications, the sealant is said to be vandal-resistant and unaffected by repeated cycles of expansion and compression. Will-Seal Construction Foams, Troy, Mich.

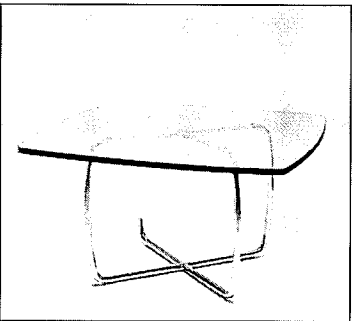
Circle 316 on reader service card



Cable ties

Double loop, lashing-style cable ties, designed to provide 50 lbs of protection, are available in 1-1/4-, 3-, and 4-in. lengths. One tie gathers material into a bundle while the other loop secures it to a pipe or second grouping. The ties are available in white, black, and ultraviolet-resistant materials. Heyco Molded Products, Inc., Kenilworth, N. J.

Circle 317 on reader service card



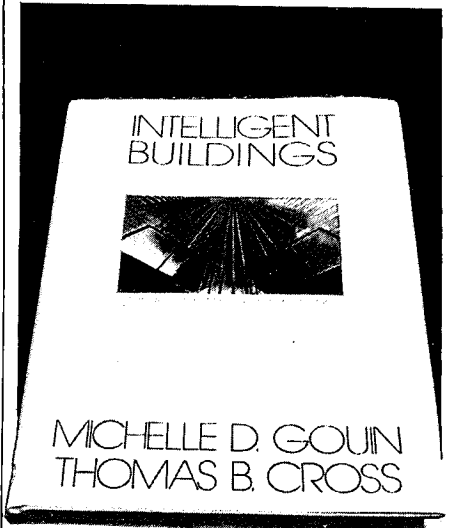
Coffee table

The *Odyssey 1* coffee table features two horizontal stainless steel X's attached by four vertical bars, a 16 1/2-in. base, and a 3/4-in.-thick glass top with polished edges. The top is available as a 24-, 30-, or 36-in. square, or a 30- or 36-in. circle. The base comes in 125 matte or high-gloss colors. Scope Furniture, Ltd., New York City.

Circle 318 on reader service card
Continued on page 171

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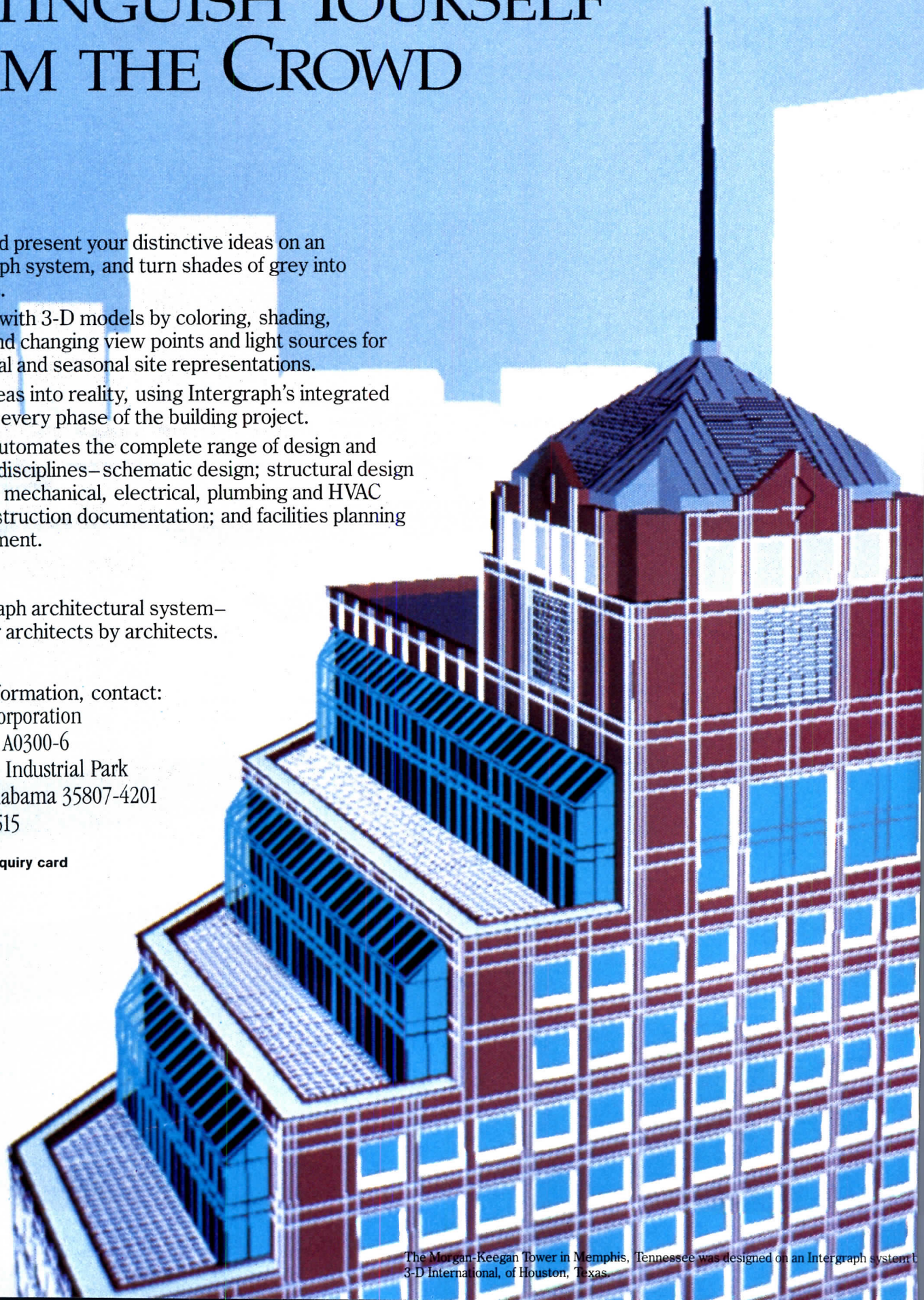
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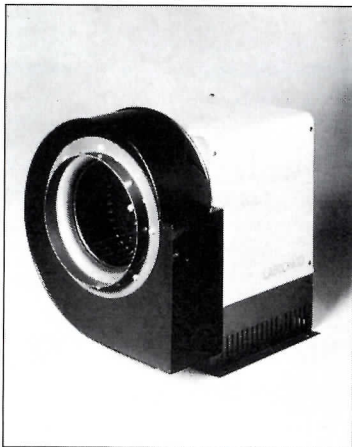
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Circle 89 on inquiry card

Continued from page 169



Low pressure blowers

The manufacturer's line of low pressure blowers consists of 18 models designed to accommodate exhaust applications with moderately corrosive vapors. The blowers feature steel housing and impellers with phenolic plastic coating, gravity belt tighteners, and adjustable sheaths to allow fine-tuning at installation. Labconco, Kansas City, Mo.

Circle 319 on reader service card



Ceiling finish

A cold-mix decorative finish for ceilings and walls can be applied to plasterboard, existing plaster, and concrete using stipple brushes, combs, and other tools. The mix is said to stay workable for hours without heating water on site. Wondertex, Ltd., West Sussex, England.

Circle 320 on reader service card



Windows

The manufacturer's *Perma-Shield* circle top windows are designed to complement casement, double hung, and awning windows of various widths. The units are available in white or *Terratone* and can be ordered with optional vinyl grilles, colonial casing for double-hung units, and ranch casing for casement windows. Andersen Corp., Bayport, Minn.

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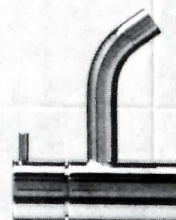
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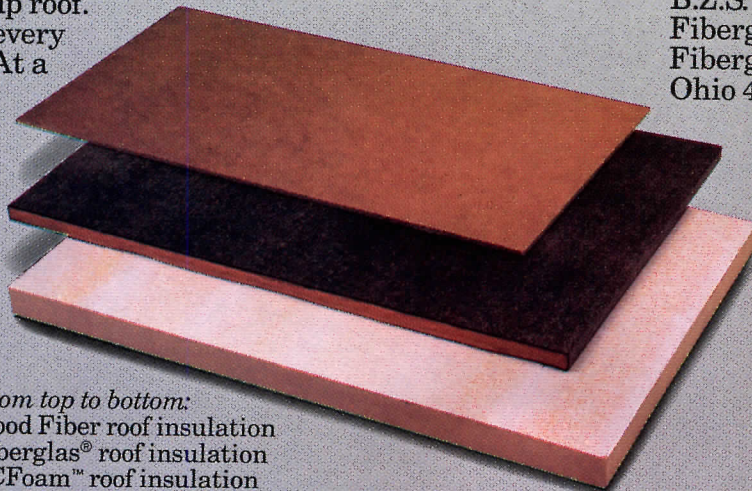
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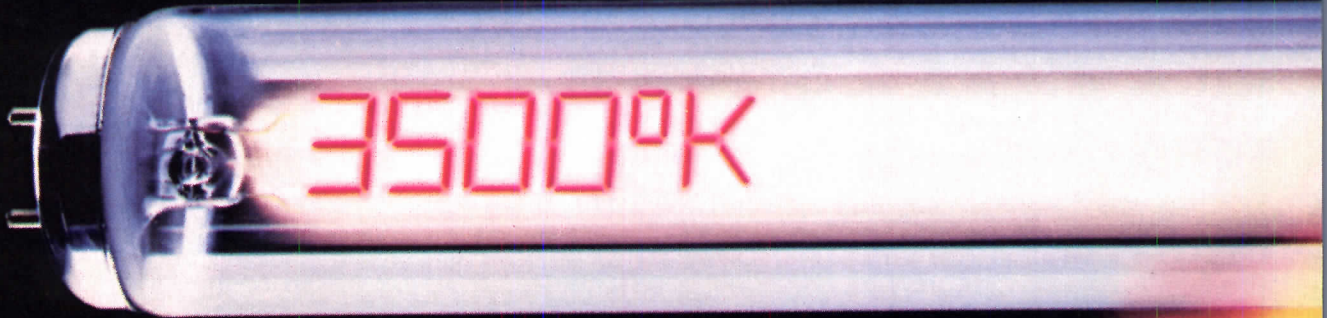
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Compared with standard fluorescent tubes, their good color quality will make people look better, merchandise more appealing, and your business environment more attractive in general. And with Watt-Miser,[®] Maxi-Miser[™] and Optimiser SP lamps to choose from, you're assured of excellent operating efficiency as well as superior lighting quality.

The GE Specification Series fluorescents also come in a wide range of sizes, wattages and color temperatures. So you can select precisely the right amount and color of light for the job at hand.

The SP30 produces a warmer color temperature of 3000K that enhances yellows and reds. The SP41 provides cooler light of 4100K that emphasizes blues and greens. While the SP35, at 3500K, is best suited for areas where a broad spectrum is present.

To see the degree of difference with your own eyes, contact your local GE Lamp Distributor for a demonstration in living color. Or call GE toll-free 800-626-2001, ext. 550.

We bring good things to life.



STOP SETTling FOR AND BEAUTY OF ALL

What windows should you specify for a commercial project?

For years the standard answer to that standard question was standard aluminum. Aluminum windows offered the best combination of performance characteristics. Never mind that they left something to be desired in terms of insulation and beauty.

Now you have a beautiful and efficient alternative. Marvin Magnums. Wood windows that shatter commercial standards.

ENGINEERED TO OPEN
THE MIND.

Where could you use a

commercial wood window?

Practically anywhere you might use an aluminum window. High rise, low rise, hospitals, schools, renovation projects or new construction. The only limitation is your imagination.

Because these commercial wood windows perform. Beautifully. Tests on a 48" x 64" Marvin Magnum Tilt-Turn yielded these numbers:

Air infiltration: .01 cfm @ 25 mph. .02 cfm @ 50 mph.

Wind loads: 200 mph positive pressure. 256 mph negative pressure.

Water infiltration: 0 @ 66 mph.

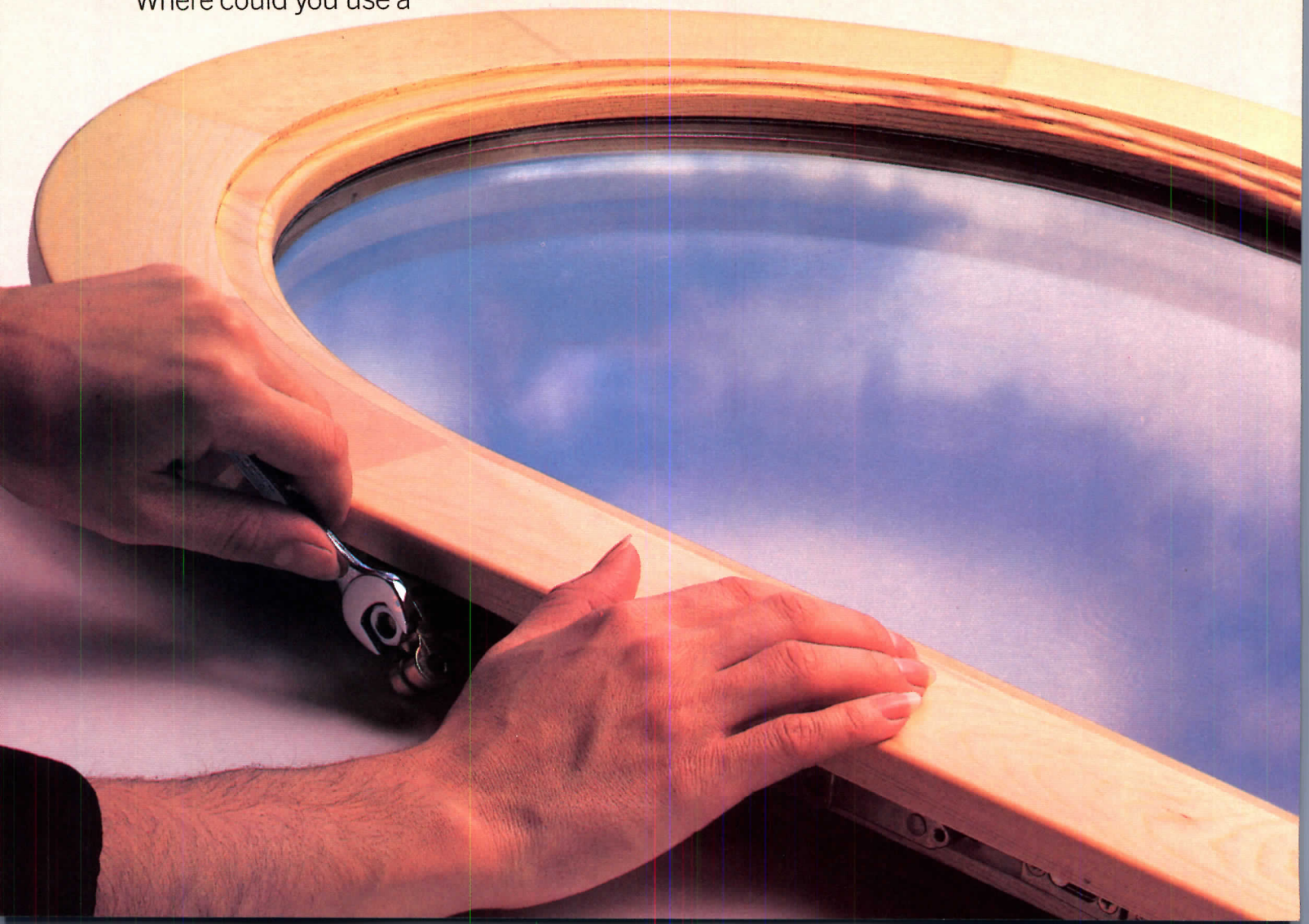
R values: as high as 4.55.

U values: as low as .22.

MARVIN MAGNUMS
PERFORM BECAUSE
MARVIN PEOPLE PERFORM

Those test results didn't happen by accident. They came about because Marvin people put all their pride and skill into every Marvin Magnum we make.

We don't warehouse an inventory of standard sizes. We make every window to order. Only the most precise hardware will do. And we specialize



THE WARMTH MINUM.

extras such as weather-ripping that's welded at all our corners for the tightest possible seal.

Marvin people are with you every step of the way. From our design service up front to our field representatives, each of us is dedicated to making these windows the best choice you could possibly make.

**EVERYTHING IS OPTIONAL.
QUALITY IS STANDARD.**

Marvin Magnums come in a variety of styles.

Our Tilt-Turns swing into the room for cleaning or tilt in for ventilation. Choose the simple, elegant lines of our basic Tilt-Turn or consider a Round Top or simulated double hung. For maintenance, there's a stationary unit with a system



of keyed locks. You can also specify the tilt-only hopper or an authentic double hung with sash that tilts into the room for washing.

Glazing options include 7/8" insulating, 1" insulating, solar bronze, solar gray, solar cool, Low-E or Low-E with Argon. For easy maintenance, most Magnums are available in medium bronze aluminum cladding or Polycron finishes.

Even if you should want

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to investigate your options, we'll gladly work with you.

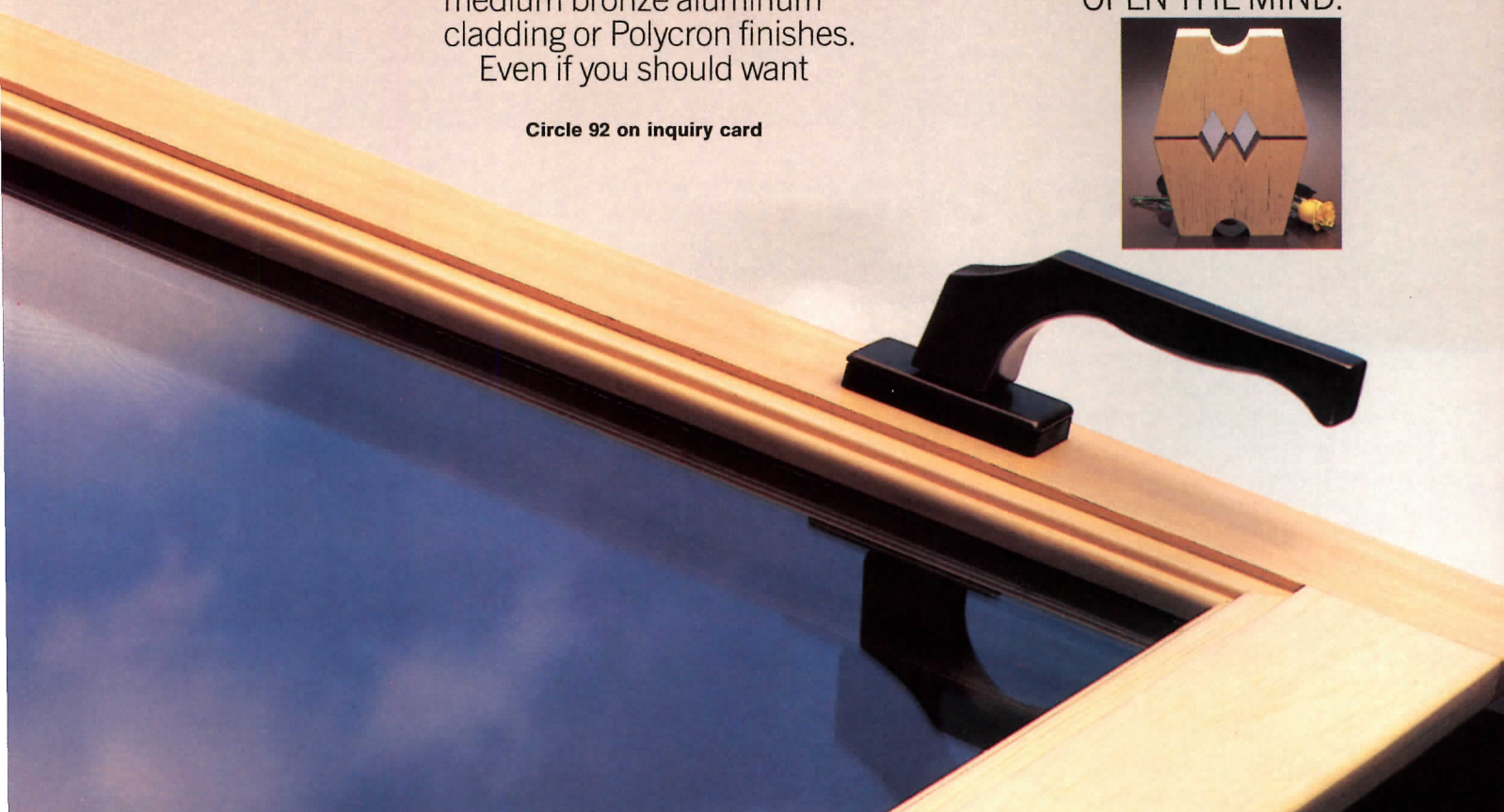
**YOUR TELEPHONE CALL
WILL BE WARMLY RECEIVED.**

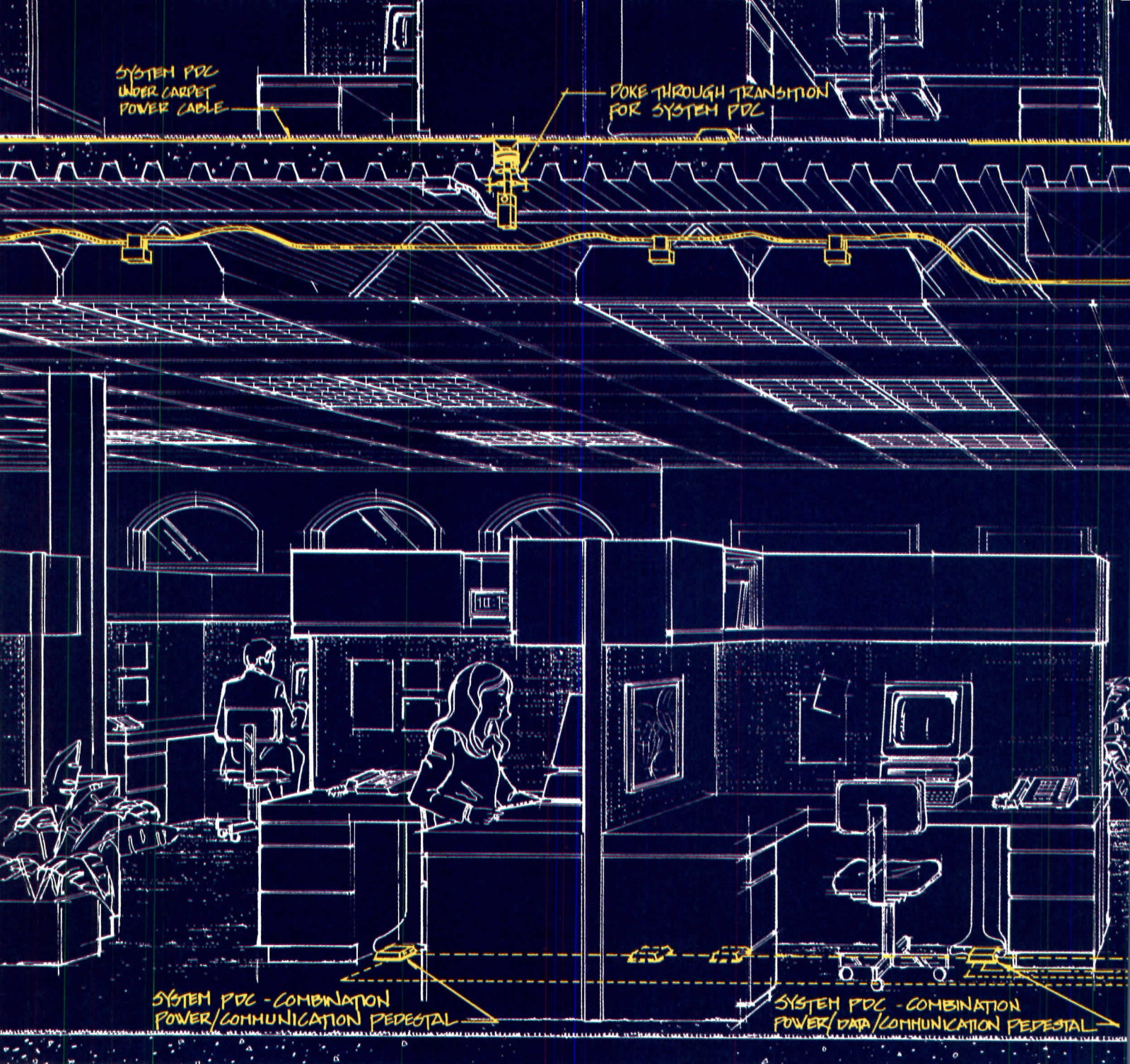
We want to tell you much more about the Marvin Magnum series. Please call toll-free at **1-800-328-0268** (in Minnesota 1-612-854-1464). Or write Marvin Magnum Windows, 8043 24th Avenue South, Minneapolis, Minnesota 55420.

We'll show you how the future looks better through a warm, beautiful Marvin Magnum.

MARVIN MAGNUMS

ENGINEERED TO
OPEN THE MIND.





Why the power in wiring devices is also

Hubbell has long been known as the power in wiring devices. From our Switches, Wall Plates and Receptacles to our Twist-Lock® and Straight Blade Plugs and Connectors.

But Hubbell is more than your best source for quality and breadth of line in wiring devices.

We're also the source of a complete line of wiring systems. Including our Power Poles, Floor Boxes, Fire-Rated Poke Throughs and Flexible Wiring.

Not to mention our unique System PDC™, whose state-of-the-art transition device makes it the most flexible, compatible undercarpet wiring system ever made.

We've got everything you need to choose the right wiring system combinations.

Hubbell's System PDC and Hubbell's Flexible Wiring are both complete systems in and of themselves—and designed to interface with other Hubbell products.

For example Hubbell Power Poles, Fire-Rated Poke Throughs and Floor Boxes all work with System PDC, whose revolutionary transition fitting, called the "Intrafacer"™, makes it the only undercarpet system on the market with this integrating capability.

Similarly, Hubbell's Flexible Wiring is designed to power Hubbell Fire-Rated Poke Throughs, Power Poles, and System

PDC. As well as our wall-mounted switches and receptacles.

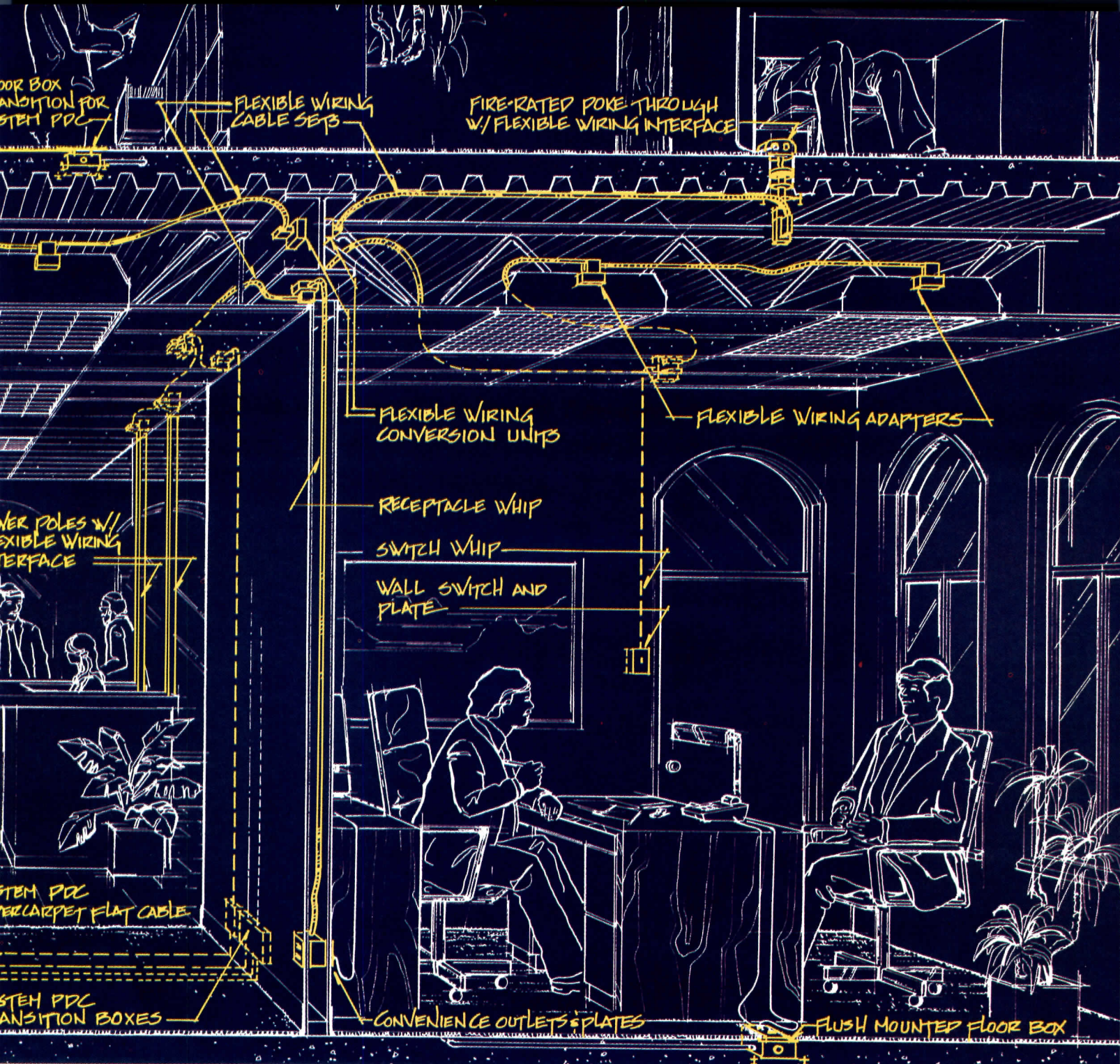
Nothing beats Hubbell compatibility.

In addition to combining with our own systems, Hubbell products are designed to be compatible with other wiring systems.

Like our Flexible Wiring feeding to and partitions, or raised access floor systems.

Or Hubbell Lo-Con® service fittings interfacing with floor duct, or cellular duct.

Whatever your wiring challenge, Hubbell has the wiring devices, wiring systems, wiring know-how to help you choose right wiring combination for your need.



Get the power in architectural wiring systems.

Help you organize alternatives.

We've organized all the wiring alternatives available to you in a comprehensive book which is the only one of its kind in the industry.

"Guide to Architectural Wiring Systems" both analyzes the options. And presents a powerful new evaluation tool for measuring the options against your design and system priorities.

The guide's DEM, or Decision-Making Evaluation Matrix, defines five essential criteria of evaluation. Cost, system capacity, system flexibility, ease of installation, and aesthetic value.

Comparing wiring alternatives according

to these criteria, then ranking them by your project's individual priorities, DEM yields an objective, numerical value for each alternative. So you not only select the best option—or combination of options—for your project. You can also use DEM to illustrate your recommendations.

We can put the power in your hands.

For your copy of Hubbell's "Guide to Architectural Wiring Systems," and its introduction to the powerful new DEM evaluation tool, just send in the coupon at right.

And let the power in wiring devices make you the power in complete architectural wiring systems.

Please send me a copy of the "Guide to Architectural Wiring Systems." Please have my Hubbell representative present the "Guide" with a complete introduction to using the DEM tool.

Wiring Device Division
State Street & Bostwick Avenue, Bridgeport, CT 06605

Name _____

Title _____

Company _____

Type of Business _____

Street _____

City _____ State _____ Zip _____

Telephone (_____) _____



The Power In Wiring Devices

Design Estimator

Dodge MicroSystems



DATE	ANYWHERE U.S.A.		PRELIMINARY DESIGN ESTIMATE	
DESCRIPTION	LABOR	MATERIAL	TOTAL	SQ FT
FOUNDATIONS	119,182	77,372	196,554	3.14
FLOORS ON GRADE	16,274	18,886	35,080	6.56
SUPERSTRUCTURES	468,777	465,097	933,874	14.75
ROOFING	8,363	9,158	17,521	0.28
EXTERIOR WALLS	245,355	246,488	491,843	7.88
PARTITIONS	145,649	147,795	293,444	4.70
WALL FINISHES	77,594	49,110	126,704	2.02
FLOOR FINISHES	58,378	185,554	243,932	2.50
CEILING FINISHES	27,414	88,744	116,158	1.86
CONVEYING SYSTEMS	162,982	236,536	399,518	6.48
FIXED EQUIPMENT	41,616	161,465	203,081	3.25
BOHC	204,855	170,599	375,454	6.14
PLUMBING	189,836	90,582	280,418	3.30
ELECTRICAL	231,549	255,979	487,528	7.81
CONSTRUCTION TOTAL	1,907,563	2,139,370	4,046,933	64.79



New!!! Design Estimator Demonstration Kit from Dodge MicroSystems

Prepare cost estimates easily, quickly
Save time and money

If you have an Apple II or IBM Personal Computer or compatible equipment, you should get this new Demo Kit right now.

You'll see how easy it is, and how fast you'll be able to put an estimate together.

The kit is complete with a full set of instructions and two discs (one for the demonstration system, one for the data).

The cost for the kit is only \$15.00, and we deduct this charge from the purchase price if you buy the **Design Estimator Program** which is \$795.00, including an update six months after purchase.



Call **1-800-257-5295** now,
In N.J. call (609) 426-7300
(ask for Pat Carr)
and place your order for
the Design Estimator
Demonstration Kit.



Cost Information Systems
North Office Bldg.
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The idea of "fast" has become much faster. The idea of "data capacity" has become far greater.

There are new definitions of "power" in a stand-alone PC. While phrases like "sharing files" and "multi-user systems" are being heard more often.

And surprisingly, words like "affordable" and "state-of-the-art" are being used *together*.

Clearly, the Personal Computer AT is different from anything that came before. And what sets it apart can be neatly summed up in two words.

Advanced Technology.

If you've ever used a personal computer before, you'll notice the advances right away.

To begin with, the Personal Computer AT is extraordinarily fast. That's something you'll appreciate every time you recalculate a spreadsheet. Or search through a data base.

It can store mountains of information—literally thousands of pages' worth—with a single "hard file" (fixed disk). And now you can customize your system to store up to

30,000 pages with the addition of a *second* hard file.

The Personal Computer AT runs many of the thousands of programs written for the IBM PC family. Like IBM's TopView, the program that lets you run and "window" several other programs at once.

Perhaps best of all, it works well with both the IBM PC and PC/XT. Which is welcome news if you've already made an investment in computers.

You can connect a Personal Computer AT to the IBM PC Network, to share files, printers and other peripherals with other IBM PCs.

You can also use a Personal Computer AT as the centerpiece of a three-user system, with your existing IBM PCs as workstations.

Most important, only the Personal Computer AT offers these capabilities *and* IBM's commitment to quality, service and support. (A combination that can't be cloned.)

If you'd like to learn more about the IBM Personal Computer AT, see your Authorized IBM PC Dealer, IBM Product Center or IBM marketing representative. For a store near you, call 1-800-447-4700 (in Alaska, call 1-800-447-0890).

The IBM Personal Computer AT, for Advanced Technology.



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Architectural Record 3/86

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DMA Architects Inc. maintains the entire airport design on CADVANCE—including more than 130 gates at 5 concourses, 4 runways, and an underground transit system. And that lets DMA's 5-person firm operate at a 25-person level.

DMA uses each of CADVANCE's 127 layers to define one aspect of the drawing. From walls to plumbing. From landscaping to aircraft configurations. So it's easy to consider proposed modifications. Recently, for example, four alternative International Concourse gate

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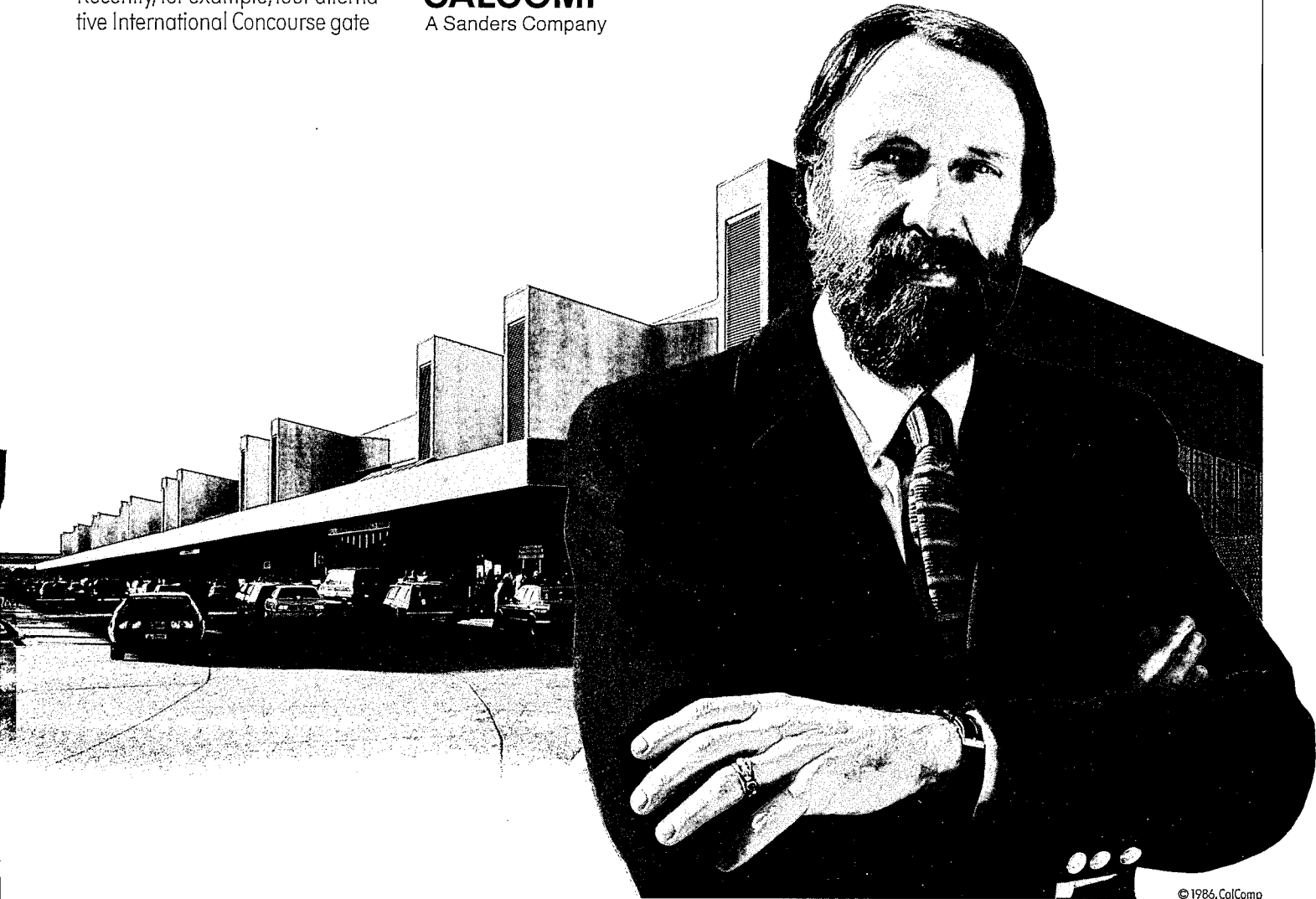
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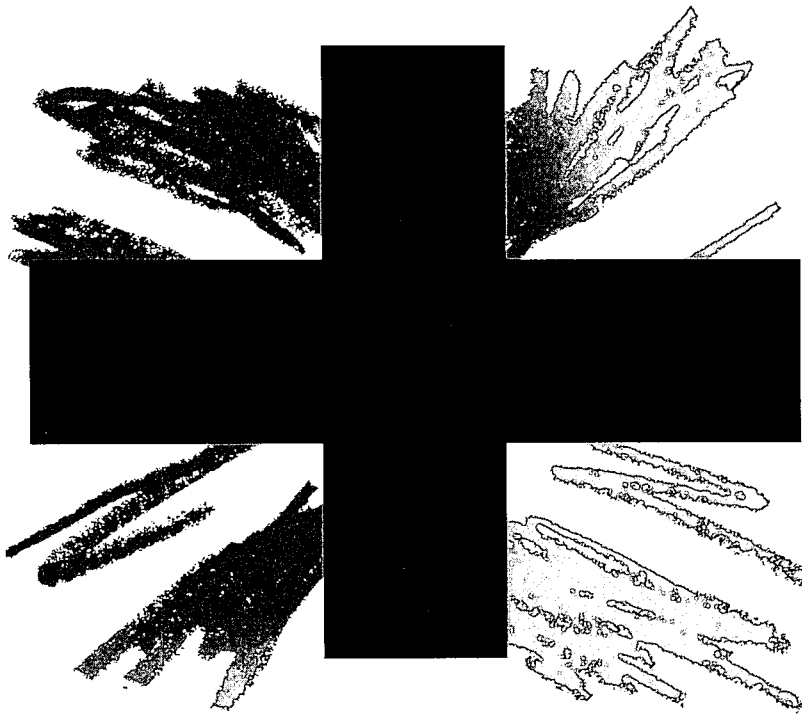


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THE ARCHITECTURAL CAD SYSTEM.

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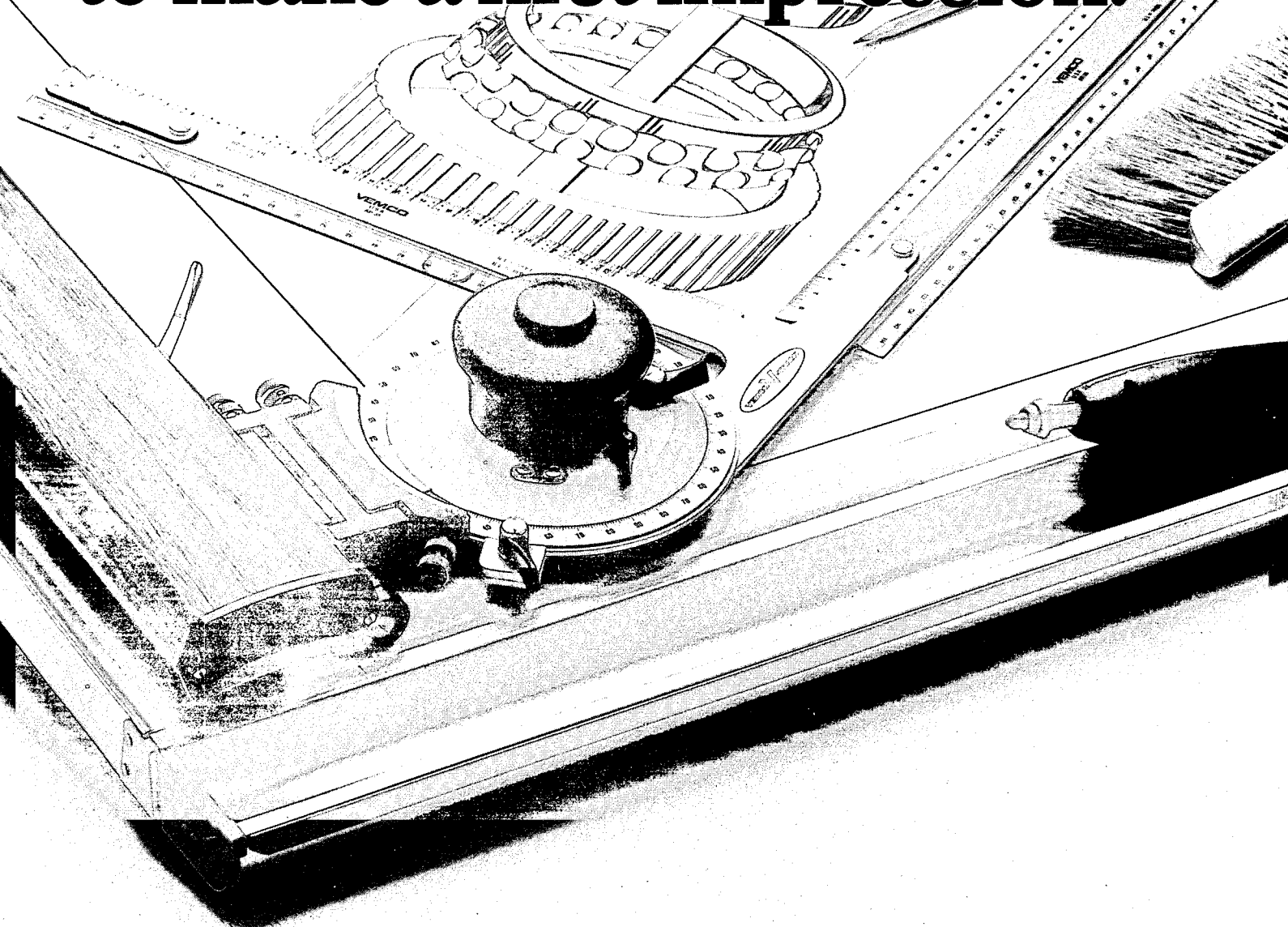


Insight and Outlook. Views of British Design. **36th International Design Conference in Aspen. Sunday, June 15 to Friday, June 20, 1986.** Aspen '86 explores the diversity and vitality of British design today. **Conference Co-Chairmen Kenneth Grange**, Pentagram London, and **Rosamind Julius**, Julius International, are asking – Why Britain? Is British design strong despite or because of a hostile cultural environment? Why do young designers go it alone? Historical heritage – millstone or milestone? Do national characteristics of eccentricity, irony and understatement affect design in today's international business world. Topics range from fashion, photography, film, graphics, advertising, architecture, interiors and product design to theatre and gardens. Speakers include architects **Norman Foster** and **James Stirling**; photographer **Norman Parkinson**; artist **David Hockney**; film producer **David Puttnam**; fashion designer **Bruce Oldfield**; graphic designers **Alan Fletcher** and **Michael Peters**; cartoonist **Ralph Steadman**; Head of Royal College of Art **Jocelyn Stevens**; Director of The Victoria and Albert Museum **Sir Roy Strong**. Work of emerging young designers will be shown in presentations, workshops and exhibitions. **Special events:** fashion show, workshops, a week of British films, "Spitting Image" comedy event, picnics and British foods, cricket match. Steering Committee: Niels Diffrient, Milton Glaser, Frank Stanton. **Regular registration:** \$425 (US dollars). **Early bird registration:** \$375 (if received by May 1). One additional member of household: \$200. Full time student: \$125. (photocopy of current ID required with registration). List all applicants by name. Make check payable to IDCA and mail to: IDCA c/o Bank of Aspen, PO Box 0, Aspen, CO 81612. **Further information:** IDCA, PO Box 664, Aspen, CO 81612, (303) 925-2257.

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Name(s)	Address
City, State, Zip Code	
Profession	Firm Affiliation
Staying in Aspen, if known	

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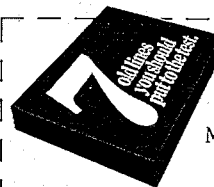
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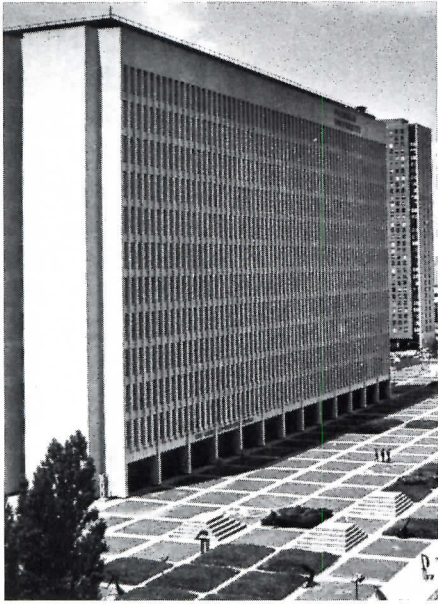
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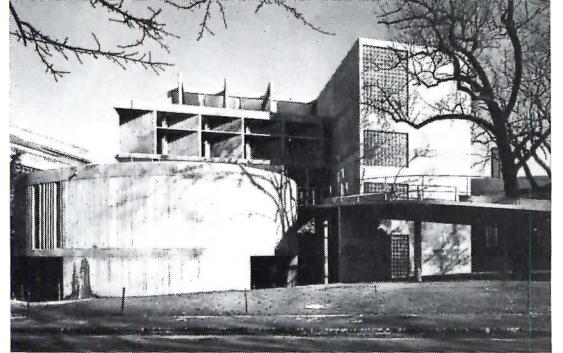
FORDHAM UNIVERSITY



SEALED WITH POLYSULFIDE 1965

*Lincoln Square of Fordham University
New York, NY
Architect: The Perkins & Will Partnership*

CARPENTER CENTER, HARVARD UNIV.



SEALED WITH POLYSULFIDE 1963

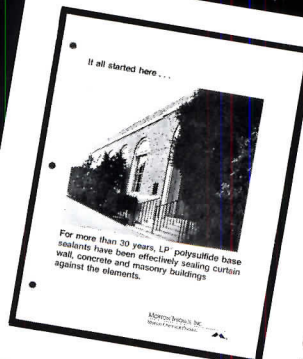
*Carpenter Center For The Visual Arts
Harvard University
Cambridge, Massachusetts
Architect: Le Corbusier*

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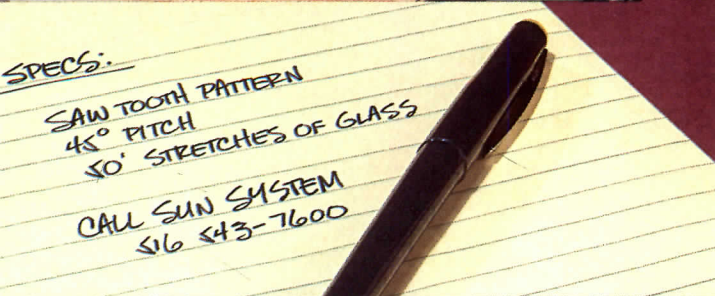
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Specify Sun System for the toughest ones!

There's no sunspace project too tough for our 53 years construction experience. Judge for yourself: The Gallery Plaza in Knoxville called for 10,000 square feet of canopy glazing. Bays were specially designed on 30" centers. Tray roofs were added to facilitate turns. Eaves were formed on-site to assure a perfect fit.

In Utah, we opened-up Fryer Tucks restaurant to the sun, the moon and the stars. First floor bars were extended to achieve the desired height. All glass was customized and the vestibule, assembled on site, matched the contour of the building.

When your specs call for one of our 37 standard units or custom glazing that's both functional and fashionable, specify with confidence — specify Sun System.



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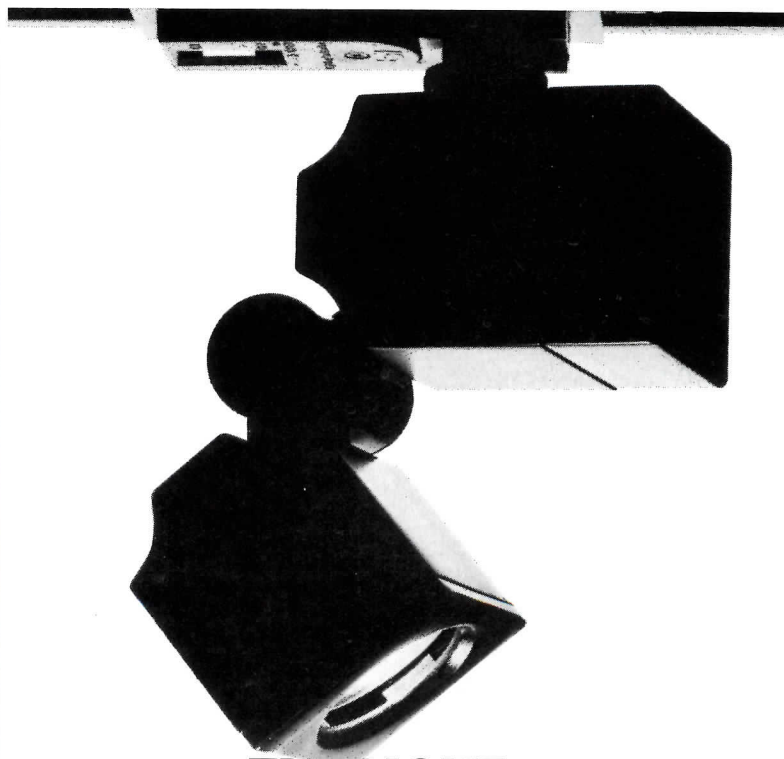


THE NAKED LIGHT

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THE LIGHT FOR ALL REASONS

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One tough oak floor. Thousands of designs.



Hartco designed Pattern-Plus for designers. And engineered it for the future.

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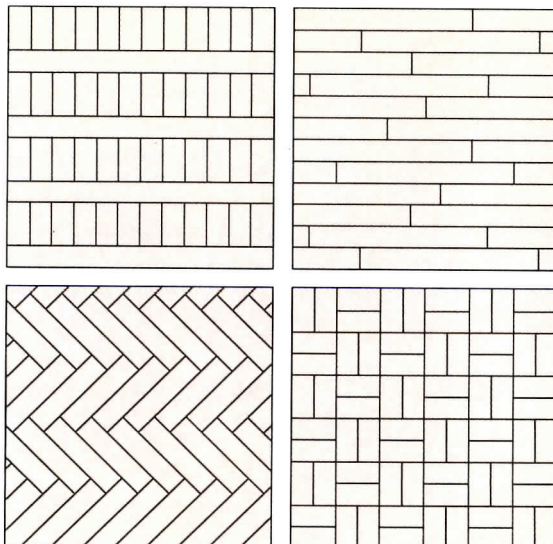
Tongues and grooves are engineered and precisely machined to lock together, give you a smooth, even floor every time.

Pattern-Plus. Designed for designers. Engineered for the future.

For more information on Pattern-Plus, call your Hartco distributor or write Hartco, Inc., P.O. Box 1001, Oneida, TN 37841-1001.

 The
Quality
Wood
Hartco® Flooring

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Pattern-Plus has four lengths, one width, three colors. Mix or match to create thousands of designs.

PPG gives you

More colors than ever before—including eight brand-new ones. For a wider range of aesthetic possibilities than ever



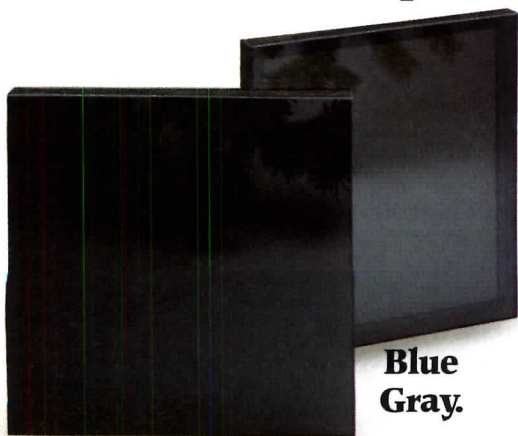
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Aquamarine.

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Pewters, silvers, opals, blues, coppers, grays, browns, pinks, greens. It's a remarkable selection.

And it's all a matter of simple multiplication.



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Blue Gray.

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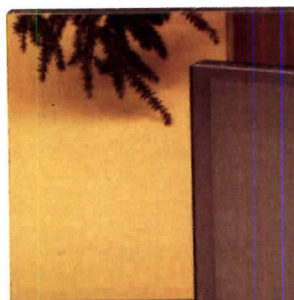
But that's only the start. In most

cases, we can coat the #3 surface instead of #2, which changes the look. And that means there are nearly twice as many colors.

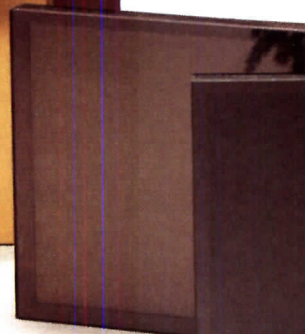


Rock Crystal.

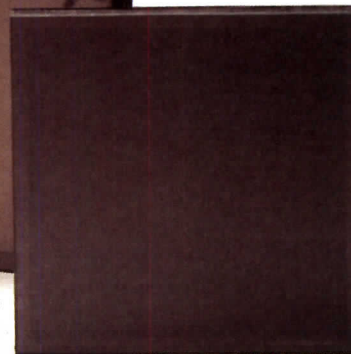
But the possibilities don't stop there. You can match, harmonize, or contrast vision units with spandrel units. Which multiplies your options



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The mind ree... Of course, the... are always practic

more to work with.

considerations.

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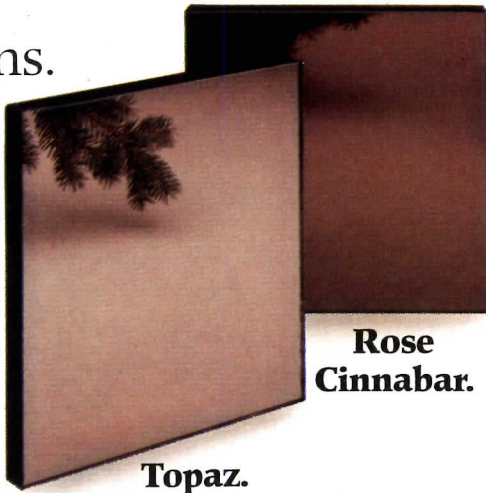
Every one has a shading coefficient below .42, some as low as .14.

And every one has a U value below .45, some as low as .30. So

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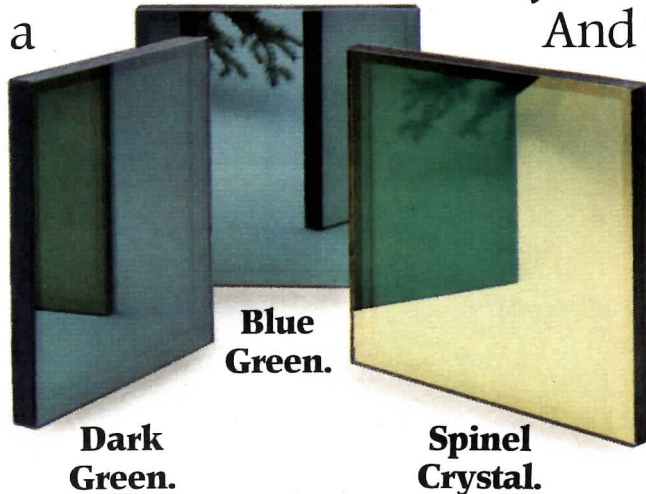
For more information, contact your PPG sales representative, or write

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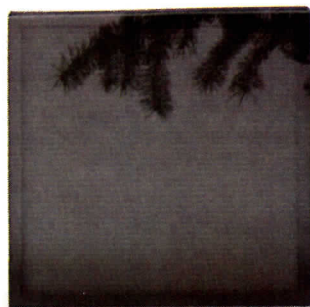
Gold.



Dark Green.

Blue Green.

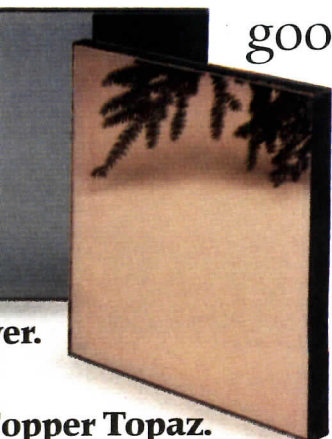
Spinel Crystal.



Pewter.



Fire Opal.



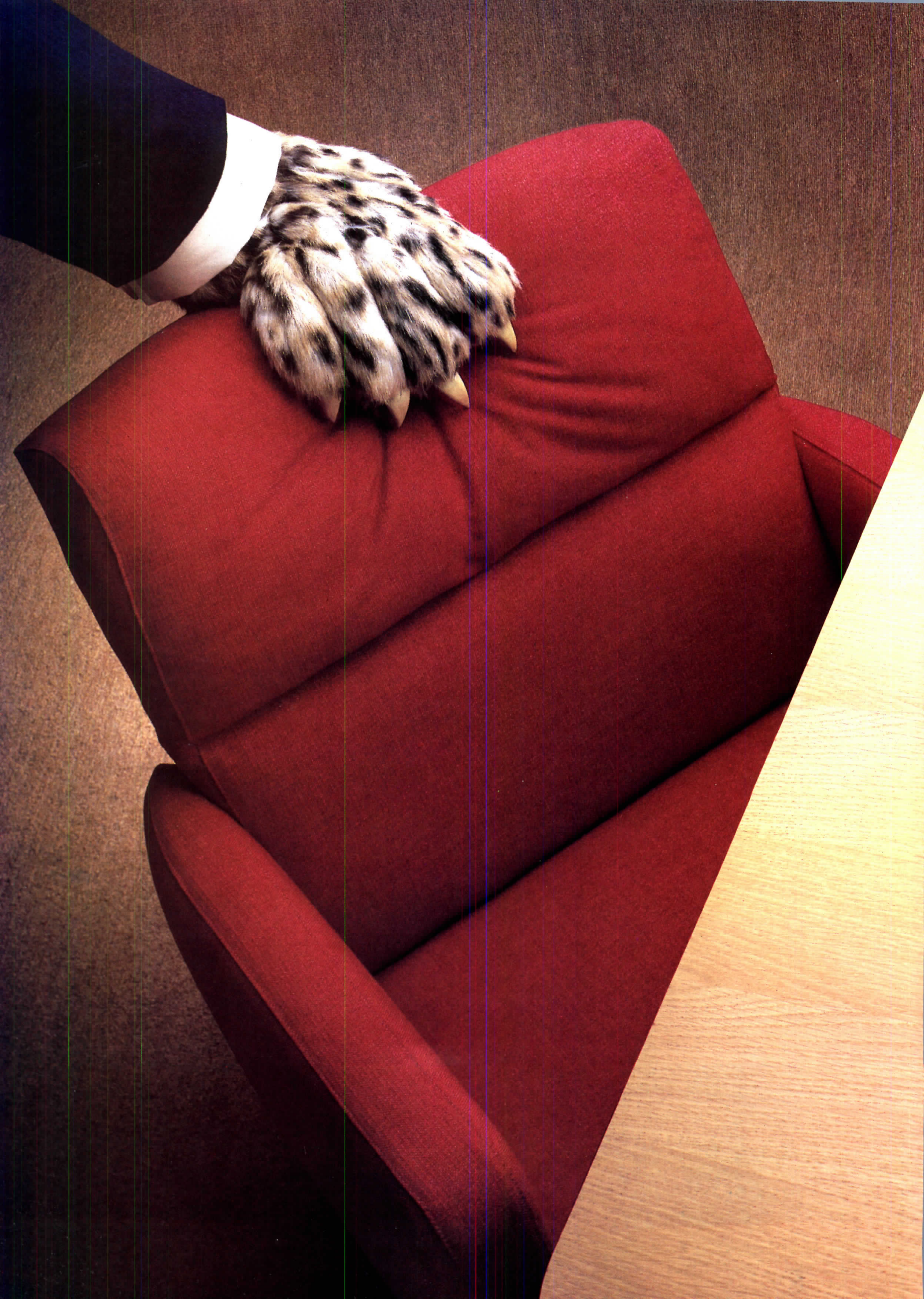
er.

opper Topaz.



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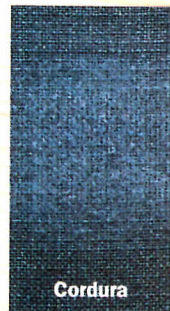
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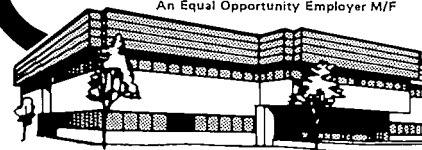
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Manufacturer sources

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

Pages 107-112

Red River Auto Diesel
by IKOY Architects
Corrugated metal skin: PPG 1200 Series;
Duracron finish. Glazing: PPG. Rolling
doors: Richard Wilcox.

Pages 125-128

Jimenez Studio
by M. Carlos Jimenez
Masonry block: Houston Concrete
Products. Roofing: Owens Corning.
Windows: Marvin. Door: Plywood
Distributors, Inc.
Pages 127-128—Paints: Martin Senour.
Sofa: Charles Eames (Herman Miller). Red
chairs: Knoll. Chairs: Stendig. Lamp and
outdoor settees: Carlos Jimenez Designs.

Pages 129-136

Horton Plaza-Retail Mall Building
by Jerde Partnership Inc.
Pages 129-133—Globe lighting standards:
Sternberg Lighting; Sterner Lighting
Fixtures; Marco. Paints: Sinclair Paint Co.;
Donn Edwards. Preformed flashings:
Thycurb, Inc. Obelisk tile, black and white
mosaic tile: Imprunetta. Stained concrete:
Davis Color Co.

Page 131—Escalator: Montgomery
Elevator Co. Built-up roofing: Manville
Corp. Tempered glass: PPG.

Page 133—Indoor lighting: Prudential
Lighting.

Pages 136-145

Seely Mudd Hall, Vassar College
by Perry Dean Rogers Architects
Pages 136-141—CMU: Hudson Valley
Block Co. Precast concrete: Steindl Cast
Stone. Solar wall and steel windows: Hope's
Window's. Roofing: Carlisle. Paints
(throughout), exterior coatings: Thmec.
Glass block: Pittsburgh Corning. Custom
steel frames: Poughkeepsie Iron & Metal.
Steel doors: Johnson Metal Products. VCT
flooring: Azrock. Hardware: Stanley;
Rixon; Von Duprin; Schlage.

Pages 142-144 (top)—Signage: Karman
Ltd. Upholstered seating: Thayer Coggin;
Sunar. Tables, desks, chairs, settees:
Kinetics. Carpeting: Stratton.

Page 144 (bottom)—Stools: Adjusto. Lab
casework, fume hoods: Hamilton
Industries. Trim fittings: T&S Brass &
Bronze. Light fixtures: Lightron.
Modular lounge furniture: Nemschoff.

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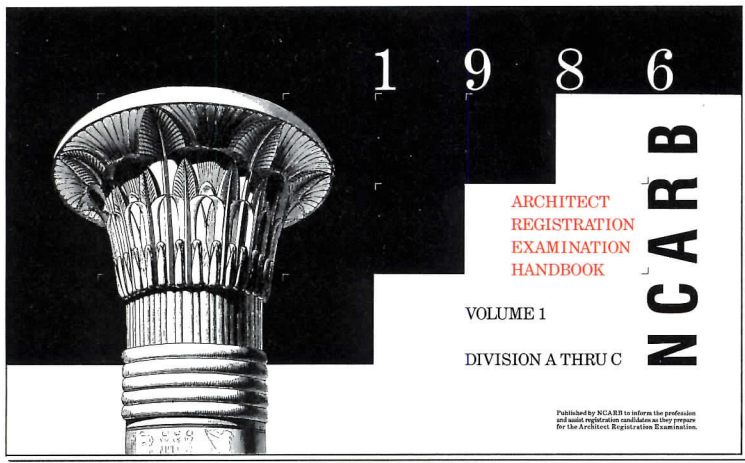
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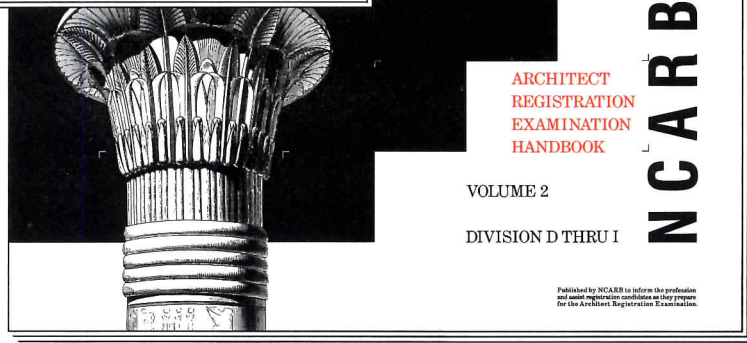
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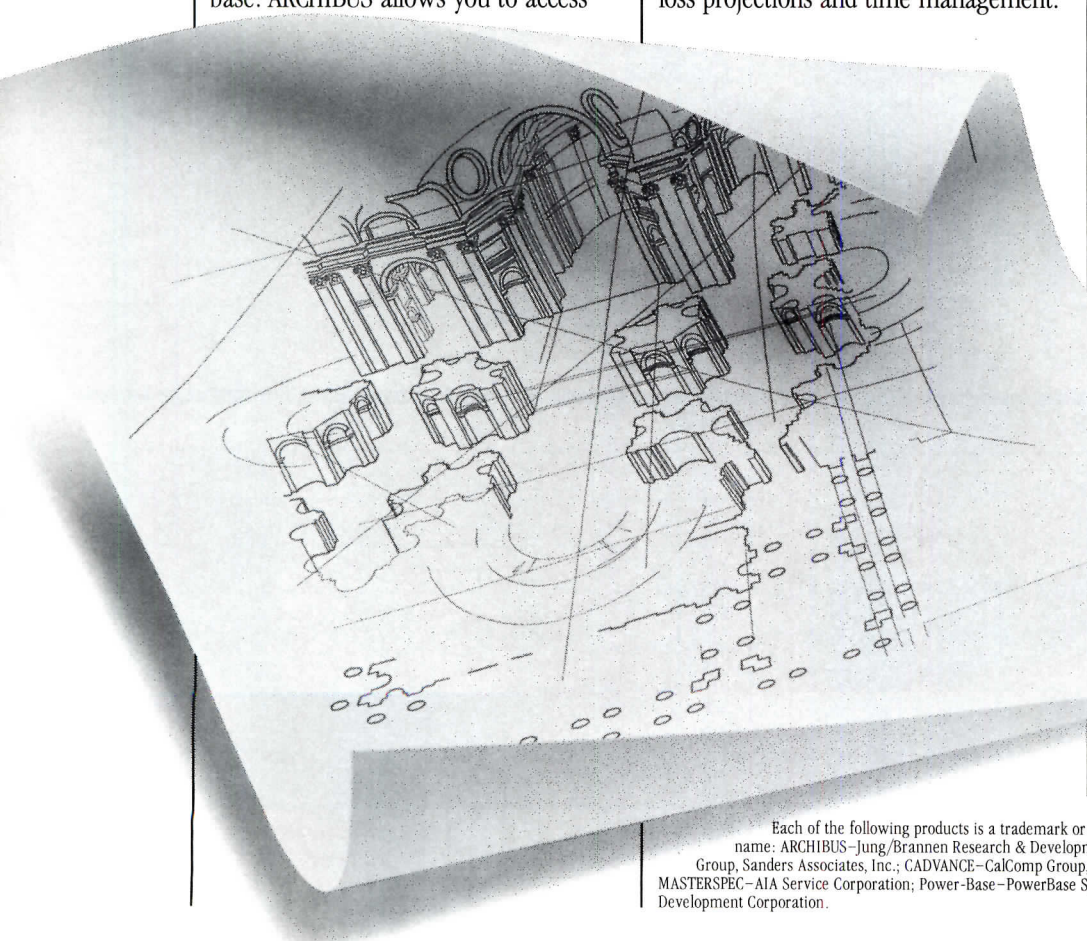
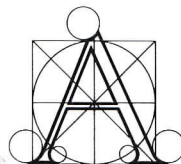
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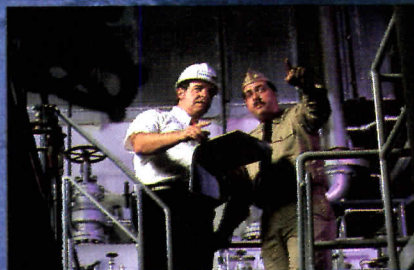
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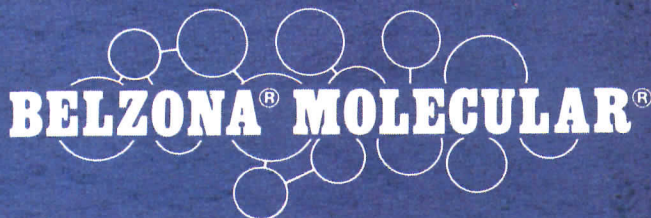


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The Marsh finds a center of balance on a challenging site. And Pella Windows and Doors prove physically fit.

The Marsh™ in Minnetonka, Minnesota, is called "A Center for Balance and Fitness." And everything about the building reflects this theme. In this unusually complex project, Hammel, Green and Abrahamson have created a balance of action and reflection, the solitary and the communal, a center for equilibrium of body, mind and spirit.

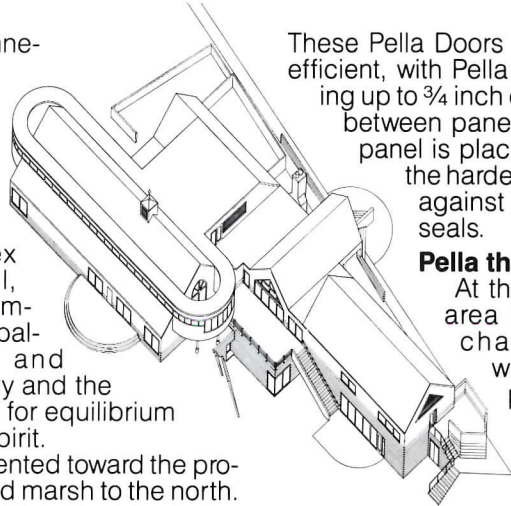
The building is oriented toward the protected view of a broad marsh to the north. The moment you walk into the Marsh, the feeling is one of calm, warmth and healing rest. You sense the openness and serenity of the marsh through soaring custom triangular Pella Windows and Pella Sliding Glass Doors. The feeling is carried out by deliberate residential scale and shapes, as well as by the carefully thought-out lighting, acoustics, colors and materials. So, indoors, no less than the warm wood beauty of Pella would do.

A major shaper of the building was the site, wedged between a busy thoroughfare and the marsh below, and dotted with mature oaks. HGA designed the building around an existing house which was later razed to make room for the volleyball court. The site also had to accommodate an outdoor running track and a children's play area.

The indoor running track, which lends such character to the exterior, was actually added late in the program. A ribbon of Pella Awning Windows at eye level gives the relatively narrow track the feel of an outdoor space, especially with the windows open. As for maintenance, Pella Awning and Casement Windows at the Marsh are easily washed from indoors.

Pella doors used as windows.

Exercise studios have 3000 square feet of spring-cushioned floors. And here, Pella Sliding Glass Doors are used rather than windows, to let in as much light and breeze as possible. An exercise bar mounted across these doors neatly redefines their function and provides safety.



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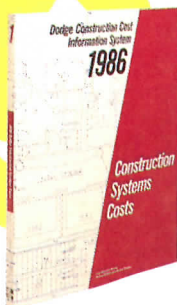


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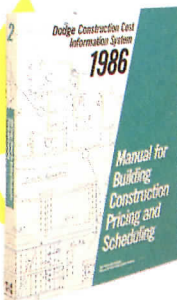


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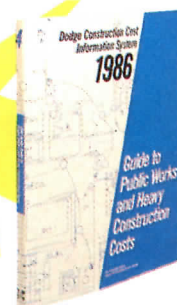


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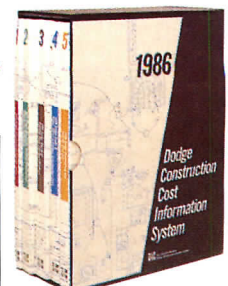
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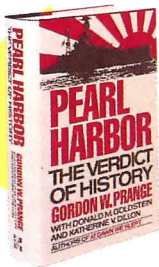
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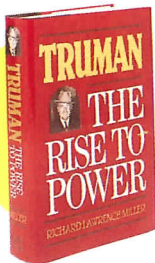
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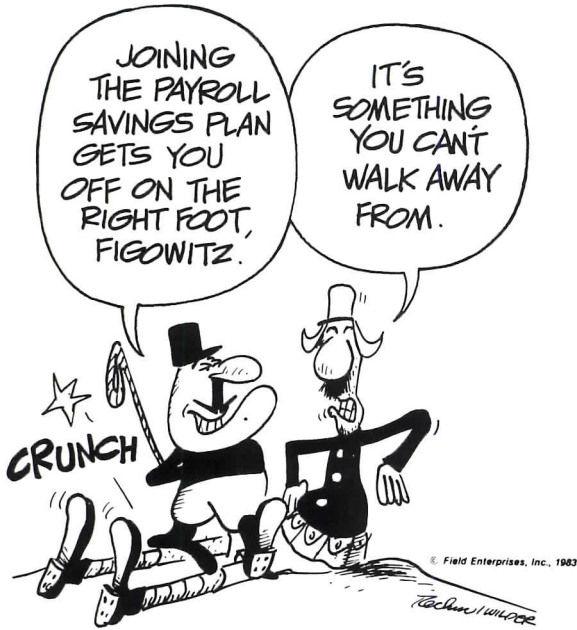
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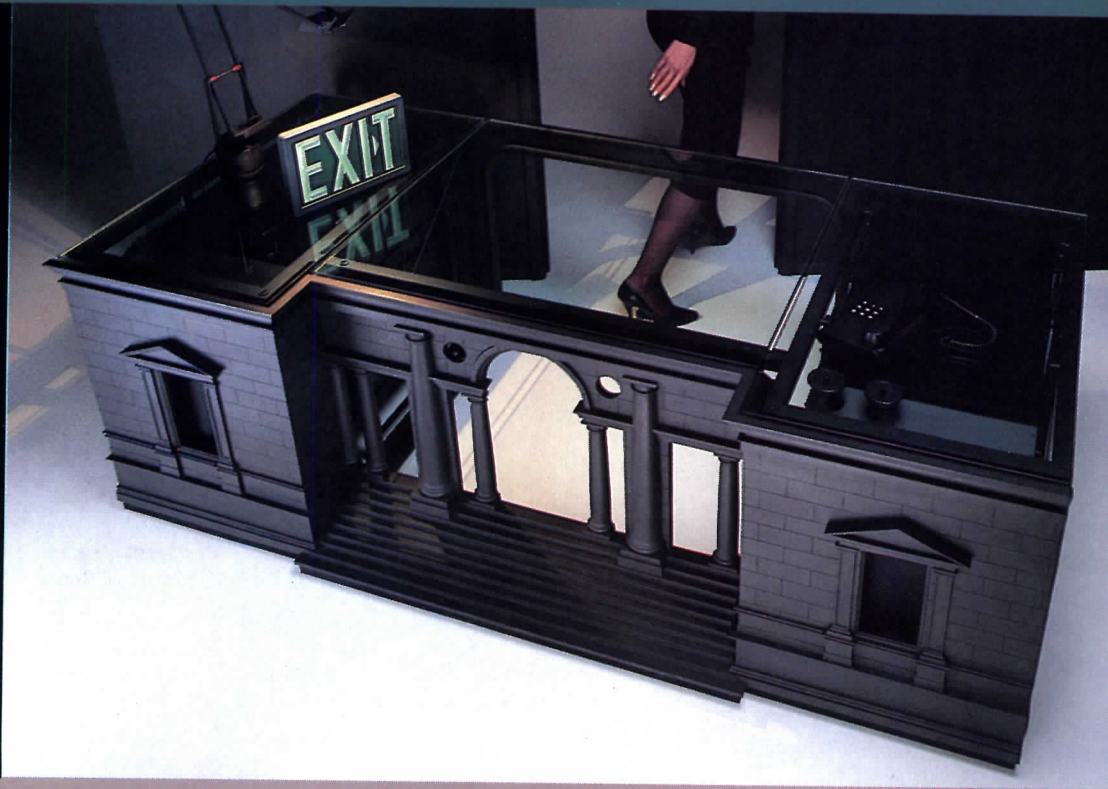
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Tokyo, Japan

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Sheffield S14ES, England

Milan

Via Baracchini No. 1
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South America

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Circle 114 on inquiry card

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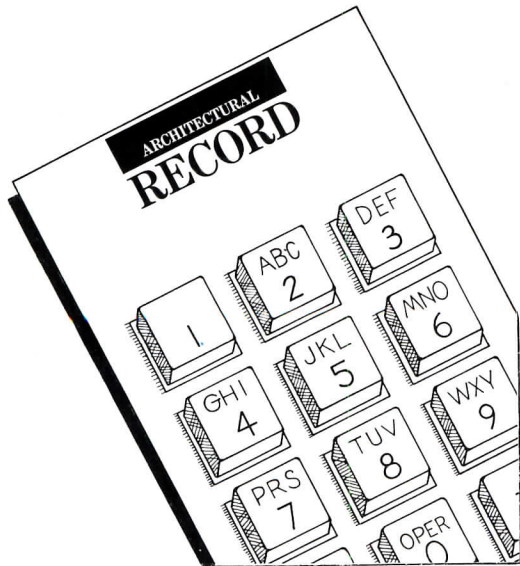
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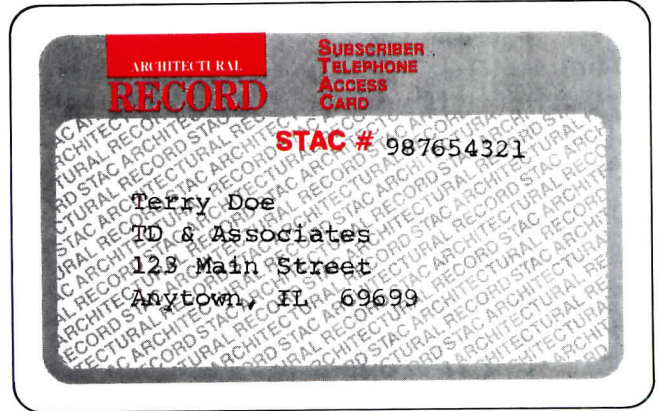
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CALL STAC:

3. Using a standard touch-tone telephone, call 413/ 442-2668, and follow the computer-generated instructions.

ENTER YOUR STAC NUMBER AND ISSUE NUMBER:

4. When the recording says, "Enter your subscriber number..." enter your STAC number by pushing the numbers and symbols (# or *) on your telephone keypad. Ignore blank boxes. Enter:
 # #

5. When the recording says, "Enter magazine code and issue code..." enter these numbers and symbols:
 # # #

ENTER YOUR INQUIRIES:

6. When the recording says, "Enter (next) inquiry number..." enter the first Inquiry Selection

Number, including symbols, from your list below. Ignore blank boxes. Wait for the prompt before entering each subsequent number (maximum 17 numbers).

1.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#	#
2.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#	#
3.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#	#
4.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#	#
5.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#	#
6.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#	#
7.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#	#
8.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#	#
9.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#	#
10.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#	#
11.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#	#
12.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#	#
13.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#	#
14.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#	#
15.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#	#
16.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#	#
17.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	#	#

END STAC SESSION:

7. When you have entered all your Inquiry Selection Numbers and the recording prompts, "Enter next inquiry number," End the call by entering:

<input type="text"/>	.	.	9	1	#	#
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If you are a subscriber and need assistance, call 212/512-3442. If you are not a subscriber, fill out the subscription card in this issue, or call Architectural Record Subscription Services at 914/628-0821.

	Armstrong Soundsoak 60™ Acoustical Wall Panels	Capaul CapCell™ Acoustical Wall Panels
Washable Standard Finish	NO	YES
C.O.M. Option	NO	YES
Standard Colors	16	40
Noise-Reduction Coefficient (NRC)*	.60	.70
Speech Privacy Range*	.69	.85
Square or Radiused Edge Detail	NO	YES
Impact-Resistant Honeycomb Core	NO	YES
Velcro® Reusable Mounting	NO	YES
Matching Wall Covering	NO	YES
National Distribution	YES	YES

*Panel mounted directly against wall.

CapCell™ 10 Soundsoak™ 1

The facts are on the table. When you put Capaul's CapCell Acoustical Wall Panels up against the comparably priced Armstrong Soundsoak 60™, CapCell wins all the contests that really count. Like better acoustical performance. Richer-looking woven fabric that resists the toughest punishment and stains. More standard color choices—plus a C.O.M. option for virtually unlimited design possibilities. And our exclusive Velcro® mounting system makes CapCell the most portable, practical panel anywhere.

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“There’s no gambling on efficiency or comfort in the Tropicana Hotel and Casino with Sloan OPTIMA® No-Hands system.”

Atlantic City’s Tropicana Hotel and Casino never leaves the service and accommodations of its patrons to chance. Their concern for comfort and cleanliness amid the glitter of neon and mirrors was the main



reason for installing Sloan OPTIMA® No-Hands

automated flushometers in the casino washrooms.

A Sloan OPTIMA system uses an electronic device to “sense” the user and automatically flushes the

sanitary fixture—or turns the faucet or appliance on or off—only as needed. This insures that faucets and hand dryers are turned off after use and eliminates unflushed urinals and toilets.

The results: Improved comfort and convenience for patrons with more sanitary washrooms. Reduced costs for management with fewer repairs, reduced water usage and less daily maintenance.

The Sloan OPTIMA system meets all building code requirements and installs easily—and unobtrusively—in any new or retrofit situation. The

system also adapts to soap dispensers, hand dryers, shower heads, and more.

Ask your Sloan representative about Sloan No-Hands automated systems. Or write us.



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