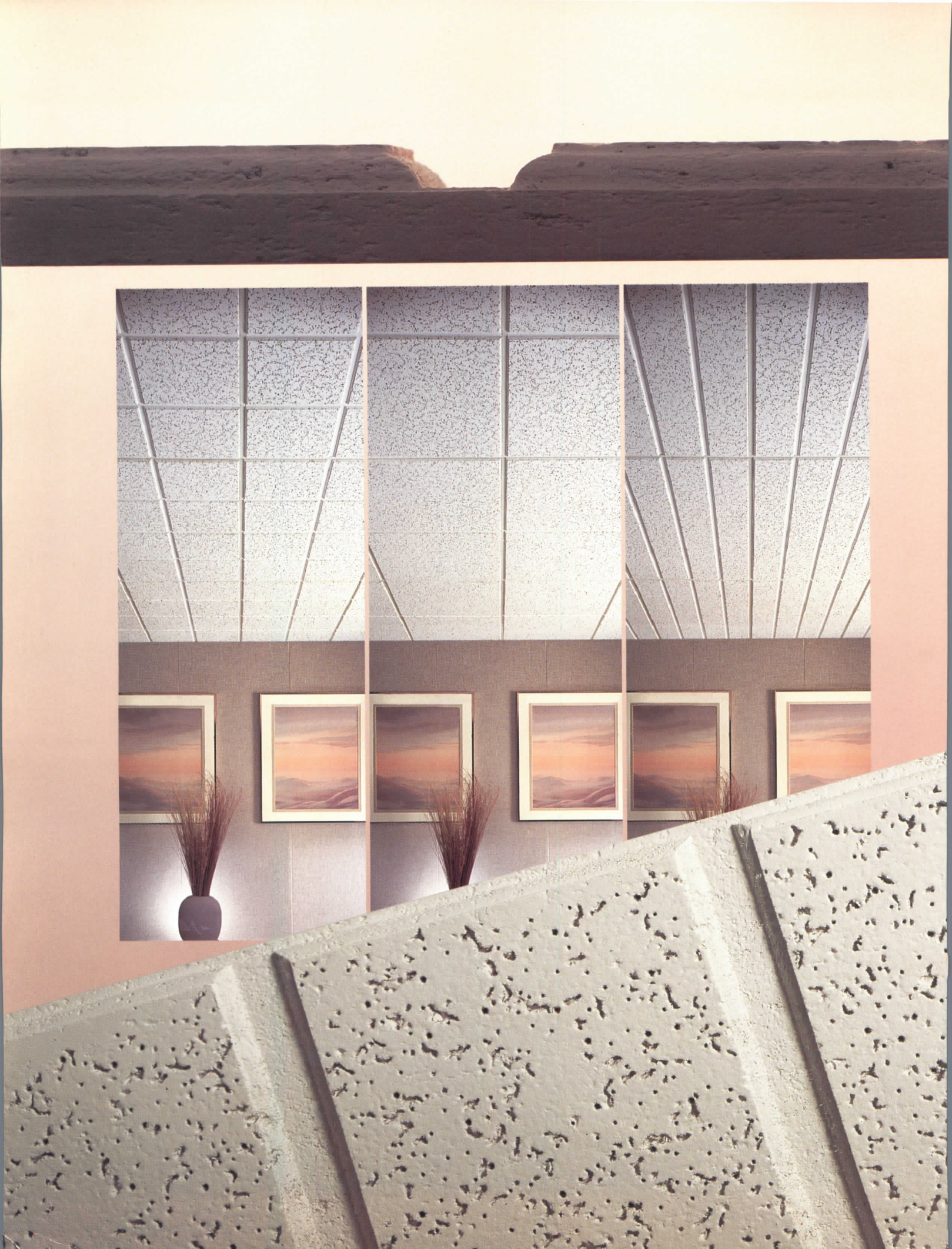



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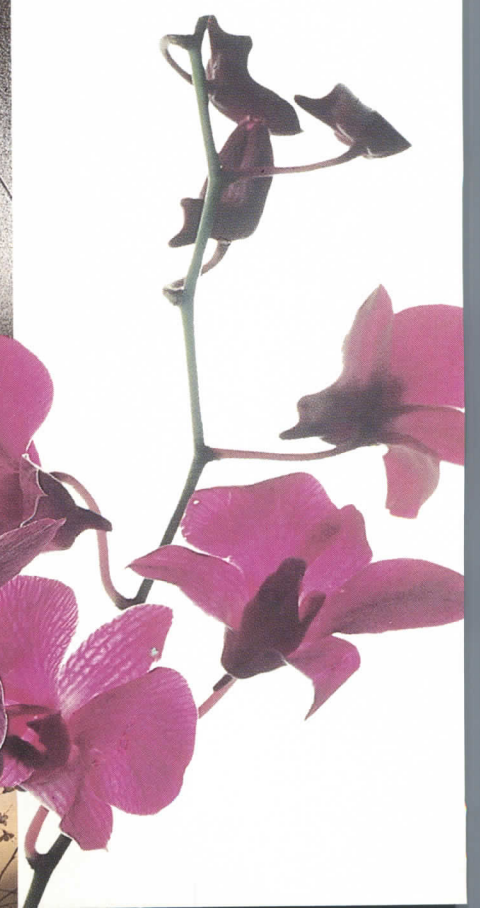
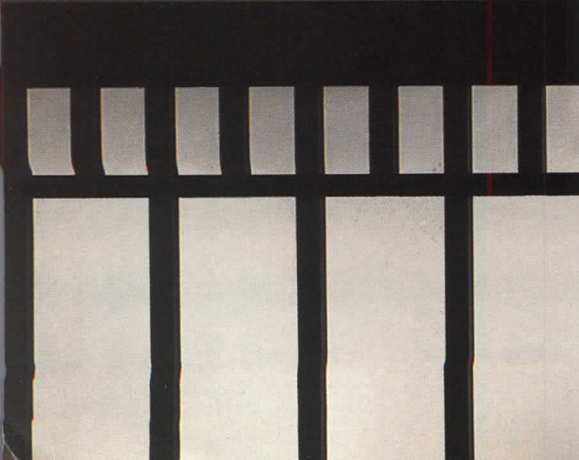
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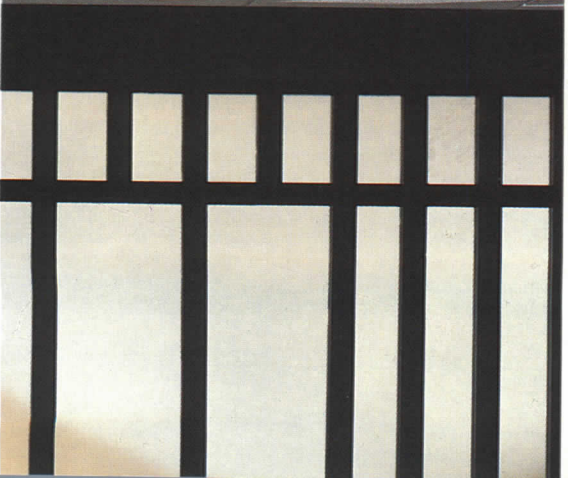
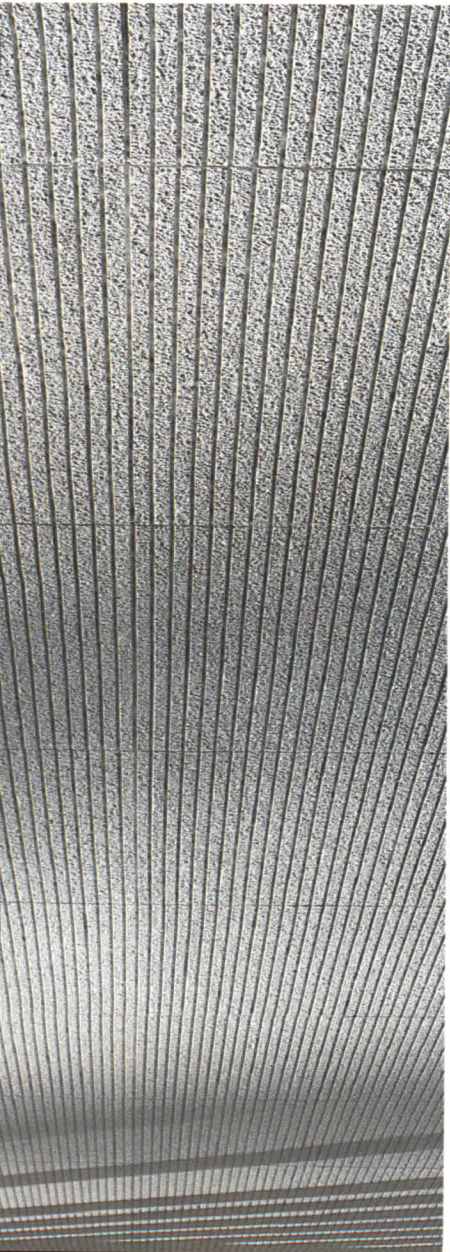
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Cirrus Tegular



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I found RECORDS's article on the third edition of the Aga Khan Award for Architecture [ARCHITECTURAL RECORD, January 1986, pages 94-105] stronger than any of the previous ones. Possibly because the results of the competition had to be explained, if not justified, they led the writer to very original thoughts with very worrisome implications (I am not saying that the article deferred them). The issues are that cultural belonging is needed for authenticity and that authenticity is good architecture. Both propositions need airing.

*Oleg Grabar
Harvard University Art Museums
Cambridge, Massachusetts*

I was pleasantly surprised to see the review of Prospect Point in La Jolla, California [ARCHITECTURAL RECORD, October 1986, pages 100-103], and to see such a beautiful building get some well-deserved recognition.

I would like to add, however, the significant role of the developer in this project, without which that most important and visible corner in La Jolla might otherwise be cluttered with another nondescript and ill-fitting building. At the very outset in 1981, SEG-Southwest Estate Group decided that the site, previously occupied by four small residences in the heart of La Jolla, demanded an extraordinary effort, and they called for a competition (observing AIA rules) amongst five locally known outstanding architects. It was from the results of this competition that Martinez/Wong, who had affiliated themselves with Robert A. M. Stern, were chosen as the architects for the project. In the program for the competition, the developer had already specified a "La Jolla type building," thereby determining the future significance of the project as a building sensitive to the existing urban fabric and the special aura that La Jolla exudes to locals and visitors alike.

Sometimes we forget that the developer has the opportunity to shape the future of our built environment.

*Wolfgang J. Klien, AIA
Klien and Associates
Phoenix*

Mr. Klien was formerly executive vice president and technical director of SEG-Southwest Estate Group.—Ed.

In reference to RECORD's October 1986 article on the liability crisis [page 43 et seq.], while there are an enormous number of unreasonable and unfair cases, I should like to discuss one which is, in my opinion, the ultimate in unreasonableness.

The project was completed over 15 years ago. Recently, an electrician doing some work in the electrical closet was injured when an electrical panel exploded while being worked on. Also, one of the building's tenants suffered smoke damage. The plaintiff's expert witness showed the panel to be an illegal installation. Among other things, the panel was connected before the meter; hence, someone was stealing electricity. Our drawings, of course, showed no such panel. The electric company obviously would not have energized the building and the underwriters certainly would not have issued their certificate. Clearly, someone installed the panel after we were gone from the job.

After interrogatories were taken and it was obvious that we were not responsible, and despite repeated requests to my insurance company's attorney, nothing was done to drop me from the case.

To keep this case out of court, both judge and plaintiff's attorney will push for a settlement. If my insurance company's attorney can keep the settlement in the area of my deductible, the insurance company will be willing to accept the settlement. Why not? If I want to fight it, it will now cost me more money than I can afford.

Since this case, our insurance company has dropped us and new insurance would cost us 20 percent of our annual fees. (Only one company was willing to take us on at all.) Since we don't net 20 percent, our options were either going out of business or going bare. We opted to go bare.

The first thing that happened after that was that we lost a large commission because the clients' legal department would not permit them to contract with an uninsured architect. In the past three years, we had done five projects for them and they were pleased with our services. But no insurance, no contract.

How can we survive?

*Leonard Evantash
Leonard Evantash, Architects
King of Prussia, Pennsylvania*

Corrections

Architect Eric Gazley's name was misspelled in the headline and text discussing his terra-cotta system (ARCHITECTURAL RECORD, January 1987, page 117), as was the name of his firm, Gazley, Plowman, Atkinson Architects A. I. A.

Alex MacLean/Landslides took the aerial photograph on page 72 of the January 1987 RECORD.

Through April 26

Crystal Palaces: The Buildings of the First World's Fairs, focusing on the mid-19th-century design of the London and New York exhibition halls and on their design influence elsewhere; at the Cooper-Hewitt Museum, New York City.

March 10

High Strength Concrete Seminar, sponsored by the American Concrete Institute; in Toronto. The seminar will be repeated March 11 in Montreal, March 17 in Philadelphia, April 8 in Boston, April 9 in Meriden, Conn., April 14 in Austin, Texas, April 21 in Atlanta, and May 12 in Fort Lauderdale. For information: ACI Education Department, P. O. Box 19150, Detroit, Mich. 48219-0150.

March 12

Seminar, Repair and Rehabilitation of Concrete Structures, sponsored by the American Concrete Institute; in Salt Lake City. The seminar will be repeated May 21 in Denver, October 7 in Meriden, Conn., October 8 in Boston, and February 4, 1988, in Baltimore. For information: see item directly above.

March 22-27

1987 Annual Convention, American Concrete Institute; in San Antonio. For information: ACI, Convention Department, P. O. Box 19150, Detroit, Mich. 48219 (313/532-2600).

March 24 through April 9

Women Architects & Designers in the Twentieth Century, an exhibit mounted by the International Union of Women Architects, German Federal Republic Section; in the galleries of the University of Toronto, 230 College St., Toronto.

April 8-10

The European Interior Design Exhibition, a showing of current European design of furniture, lighting, fabrics, and decorative accessories; at the Merchandise Mart, Chicago.

April 9-12

Conference, "The Wright People," to study the relations of Frank Lloyd Wright and his individual and corporate clients, sponsored by the College of Architecture and Urban Planning, The University of Michigan, and Domino's Pizza Inc.; in Ann Arbor, Mich. For information: The University of Michigan Conference Department, 200 Hill St., Ann Arbor, Mich., 48104.

May 3-6

"Architects Only" CEO Roundtable, a workshop on the management of architectural firms, sponsored by PSMJ; in Santa Barbara, Calif. For information: Anita Stasiowski, PSMJ Roundtables, 10 Midland Ave., Newton, Mass. 02158 (617/965-0055).

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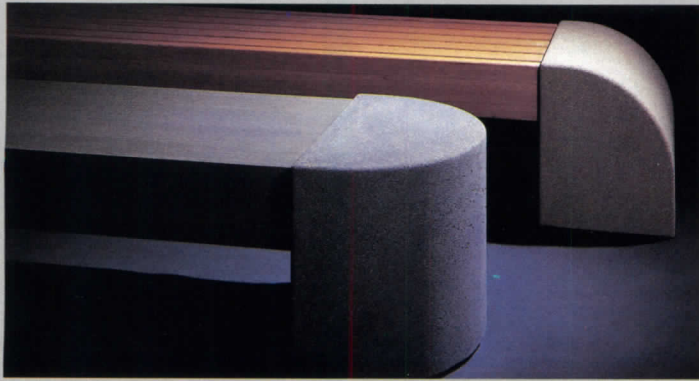
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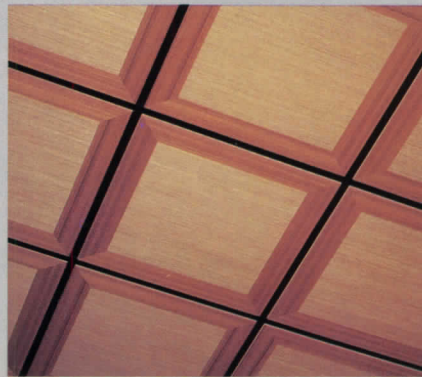
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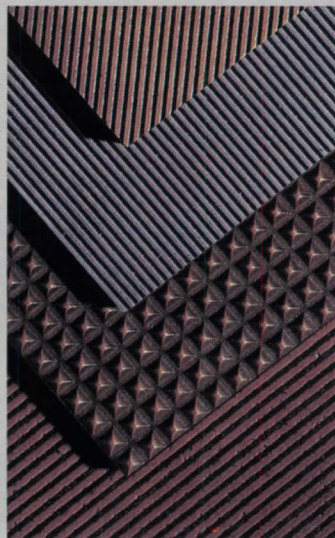
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Pro bono architecture in Appalachia and elsewhere

The AIA's new president, Donald J. Hackl, recently received a challenging letter from architect Leonard J. Currie, who was kind enough to send a copy to me. Currie, who heads a small office in Blacksburg, Virginia, on the edge of the Appalachian mountains, has recently opened a free architectural clinic, held in his drafting room every Saturday morning. He and a few members of his staff, who are also volunteering their time, provide architectural services to the local poor who hope to repair or improve their houses, trailers, log cabins, barns, or other structures. These clients bring plans, sketches, or photographs of the property to be improved, and Currie and his staff provide schematic plans, rough perspective sketches, details, information regarding insulation, flashing, energy conservation, access ramps for the handicapped, solar water heating, etc. No means test is used, or other bureaucratic procedures, and there is no need to make appointments. Clients who offer to make a modest payment to Currie are urged instead (and advised how) to contribute to an architectural student scholarship fund.

Currie's letter to Hackl proposes that the Appalachian effort become a prototype for a national program that might be well suited to small architectural firms similar to Currie's own. Urges Currie: "We are all painfully aware of the public perception that architects are Fancy Dans who serve the rich and who embellish otherwise utilitarian buildings. While we must confess that there are some grounds for such a perception, most of us are anxious to counter the notion. [My program] has been well received by the press, by local officialdom, and by the middle-class and professional community. Part of the implied message is that architects are for everyone, that we are not an elite, that an architect can help solve technical problems, can save money on energy costs, and can improve the functioning of your house, your barn, and your local church. Hence, such a program on a national scale could serve as a powerful public relations function for our entire profession. As architects we can thus be perceived not as a luxury but as a necessity . . . Don, if you were to bless this housing initiative as an important part of your 1987 agenda for the Institute, I think that the program could go a long way toward meeting the pressing environmental needs of our poor and moderate-income public, and would involve more of our profession in social action, enhancing the image of the profession."

Currie's free architectural clinic is an excellent example of the kind of *pro bono* work which more architectural firms could engage in, for all the reasons he cites in his letter to Hackl, and for another that he only implies. Most architects enter the profession in a spirit of idealism that is not easy to sustain in practice. To work on some project, however small, for the good of society keeps this spirit alive. A *pro bono* project can consist of direct service to the disadvantaged of the architect's community, as Currie advocates, or it can be a long-term effort to solve some problem of society in which architecture plays a part. I urge the AIA's new president to bless *pro bono* in all its forms. *Mildred F. Schmertz*

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Final construction total for 1986: a record \$243.3 billion

A 2-percent gain in construction contracting during December brought the full year's total of newly started projects to a record \$243.3 billion—a full 5 percent advance on the 1985 total. "Double-digit gains in the Northeast and North Central regions helped keep the industry's expansion going through a fourth consecutive year," said George A. Christie, vice president and chief economist of the

F. W. Dodge division of the McGraw-Hill Information Systems Company. "Considering the two big risks in 1986—the depressed Southwest and the overbuilt office market—a 5-percent advance was a little better than expected," he added. Responding to falling interest rates, single-family houses set the pace for the construction industry in 1986 with a 20-percent advance.

MIT tackles pressing real-estate problems

The Center for Real Estate Development at the Massachusetts Institute of Technology might sound like a body that responds to commercial interests. It does, for instance, in its recent collaboration with the Chicago accounting firm of Arthur Anderson & Company to produce a survey of office-development opportunities in the new climate of unfavorable vacancy rates and tax changes (available from Anderson for \$250). Current research programs at MIT will study the impact of the new tax law on real estate in general, new ways to fund development, and tap the international capital market.

But the center also performs education and research in the public interest. On its current agenda of research programs are affordable housing, combined public- and private-development strategies, and the appropriate design of all types of future environments. Of interest to both developers and the public are surveys of demographic trends, and economic and social trends affecting the marketplace.

In discussing the program on affordable housing, architect and center director Jim McKellar points out that most Americans have the expectation that, at some point in their lives, they will buy a home. For many, however, the prospects have been greatly diminished.

Accordingly, the center is working with the Massachusetts Housing Partnership (a state-organized group of housing sponsors, and representatives of the housing industry and the state finance agency) to address the needs of primarily low- and moderate-income households—especially in that state. "Since 1932," points out urban-studies professor Langley Keyes, "the federal government has been

involved in providing increasing housing programs. Now, much of that funding is discontinued and the responsibility for housing Americans falls to the states."

The national implication? Given the current Democratic control of both houses of Congress, any rekindling of interest in a federal housing program could well cause the nation to look to what MIT and the partnership come up with. Specific thrusts to be developed include:

- Mortgage assistance. Not only would lower-than-market-rate mortgages be provided to those who qualify, but these would be used to achieve a mix of low, moderate, and market-rate housing within given projects. MIT professor Denise DiPasquale is in charge.

- Housing design and production. The suitability of alternate housing forms to household needs will be addressed. Also, "New forms of housing are required," says McKellar, "that can better meet the needs of existing neighborhoods while recognizing escalating land and construction costs." He expects this thrust to produce more efficient construction techniques, better use of land, increased density for detached units, and/or more diversity of housing types.

- Community consent to publicly sponsored housing. Professor Michael Wheeler and the center's research associate Sandra Lambert will examine techniques for better effecting neighborhood cooperation where publicly sponsored housing is proposed.

For more information, contact Anne-Marie Rowan or Vivi Leavy, Massachusetts Institute of Technology, Center for Real Estate Development, Building W31-310, Cambridge, Mass. 02139 (617/484-5151 or 253-8308).

New York State to license interior designers?

It will if Interior Designers for Licensing in New York has its way. The advocacy group is a coalition of six professional organizations, including the American Society of Interior Designers. It has already managed to get bills before the State's Senate and House with the rationale that "the health, safety, and welfare of New Yorkers is too important to allow unlicensed professionals to design the complex interior spaces in today's society."

Success in New York State will produce pressure on other states to follow suit. IDLNY points out that there are currently 200,000 interior designers practicing in the U. S. and that the rate of growth in both design fees and the value of products specified by these designers has grown by some 26 percent per year since 1978 to arrive at the current combined annual value of \$37 1/2 billion or 1.1 percent of the GNP.

Among the disciplines to be tested would be the ability to select interior finishes for safe flame-spread, smoke, and toxicity ratings; knowledge of building codes; meeting the needs of the handicapped; understanding lighting and acoustic technologies; and behavioral science. For more information, contact IDLNY at 14 East 60th Street, New York, N. Y. 10022 (212/758-1328).

New officers of AIAS to assume duties July 1

The new officers of the American Institute of Architecture Students include: president Kent E. Davidson, a recent graduate of the University of Nebraska-Lincoln; vice president Karen Cordes, a graduating senior from the University of Arkansas; and directors Thomas Awai (a student at Arizona State); Irene Dumas (Mississippi State); and James Kurko (University of Michigan). As president, Davidson will, according to the organization, "represent students in dialogue with the profession," serve as an ex-officio member of the AIA board, as a member of the Intern-Architect Development Program Coordinating Committee, and will become publisher of the student journal, CRIT. For information, contact the AIAS at 1735 New York Ave. N. W., Washington, D. C. 20006 (202/626-7472).

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Practice: Architects' responsibility versus the liability crisis

The conclusion of a three-part report on the joint RECORD/AIA symposium on liability, held in March 1986, explores how much responsibility architects can and should take

Panelists

Ava Abramowitz, attorney and associate general counsel of the American Institute of Architects for liability issues

John A. Busby, Jr., architect, executive vice president of Jova/Daniels/Busby, and at the time of the symposium, president of the American Institute of Architects

Paul Genecki, senior vice president of Victor O. Schinnerer Company

Arthur Gensler, Jr., architect and principal of Arthur Gensler and Associates

Peter Hawes, president and chief executive officer of DPIC Companies and vice president of Orion Capital Corporation

Arthur Kornblut, attorney, architect, and principal of Kornblut & Sokolove

Barry Moore, architect and principal of Barry Moore Architects

Martin Raab, architect, senior managing partner of Haines Lundberg Waehler, and vice president of the New York Chapter of the AIA

Carl Sapers, attorney, partner of Hill & Barlow, counsel to the NCARB, and adjunct professor at Harvard School of Design

Christopher J. Smith, architect, president of CJS Group-Architects, and board member of the AIA

Stanley P. Steinberg, architect, engineer, and chief executive officer of John Portman & Associates

Charles B. Thomsen, architect and president-chief executive officer of 3D/International

The first two parts of this report described those immediate and long-term measures recommended by our expert panelists to lessen—within the existing standards of practice—the impact of the architects' and engineers' current liability crisis (RECORD, June 1986, pages 35-39, and October 1986, pages 43-45). While giving these practical recommendations, the panelists also addressed the more philosophical subject of ethics within the design professions. How much responsibility for their acts, in the current situation, should architects and engineers take on willingly? How much are they capable of taking? How much is it feasible for them to take? And, indeed, if they were to back away from current levels, how could they do so without losing control of traditional professional roles?

Many views were represented. There were panelists who thought that architects were prepared to take on more responsibility. And there were those who thought they should take on less. Those arguing for an increase said that it offered ways to lessen liability exposure. Others said that lowering responsibility was just unthinkable. And those who argued for less responsibility often seemed, in fact, to be arguing for change instead of diminution. Herewith, an overview of what these leaders in the profession are thinking on this vital subject. C. K. H.

Despite all past calls for architects, engineers, and other designers to increase their business acumen, at no time would it seem to be more important than now when skyrocketing liability costs threaten to close many firms' doors. As attorney-architect Arthur Kornblut stated: "It's very important for architects never to lose sight of the importance of service to clients and service to the public. But, if we can't run our businesses properly, we won't be around to do those other things."

This, of course, raises the question of whether building-design professionals are equipped—by temperament and training—to cope with a business crisis of the magnitude of the liability onslaught.

There were arguments that architects are indeed equipped to handle liability problems

Said former AIA president John Busby, "I think that we're beginning to see the profession move into the business world. Architecture is a business, but it is also a philosophy and practice and one cannot go without the other. I

see our members beginning to inquire how they can make their practices more efficient and be more proficient in their relationship with others."

Clearly, attorney Ava Abramowitz thought architects were equipped to cope—or could be. She described the first reaction of the AIA and architects to the liability crisis as "pure wrath against the entire world for having created a collapsing mess they didn't understand and couldn't control." She described the profession's subsequent blaming of lawyers who were perceived to be suing willy-nilly. "That went away when we started to get claims data," she continued. "It showed that 75 percent of the cases were between parties to the construction process and the fact that it was either an owner or contractor or an architect involved. Maybe, we thought, we can do something about this. Maybe if we improve our client relations, we can have some kind of control over the litigation around us."

She described the inability of architects to do anything about how insurance companies determine their rising charges as "liberating." And she amplified: "If you [as an architect] cannot control how insurance works, at least you can control how you work and try to limit the claims made against you.

"So, over time, the focus turned increasingly to practice—but not because architects are the cause of their problems. They are not. In fact, 70 percent of the claims against architects closed with no indemnification payments by the insurance industry. Architects are dedicated to practice, dedicated to quality control, and are learning good business-management techniques. Through those three avenues, there is hope that they can start controlling their future with respect to practice."

Charles Thomsen summed up the positive view on architects' capabilities: "Good design is good business. I get so tired of hearing architects talk about having to be good at business or good at design. You have to do both."

Others were not so sanguine

"I think," said Kornblut, "the schools of architecture and engineering have to rethink how professional practice is taught. Practice has to pervade all the design that is taught throughout every year because that's the way it is in the real world. Right now, schools view practice as a discrete subject that sort of stands out there by itself."

Architect Christopher Smith addressed the issue of education: "We talk to ourselves about

compensation. We cry sometimes about esteem. We're worried about practice. We say we don't have management. It comes back to education."

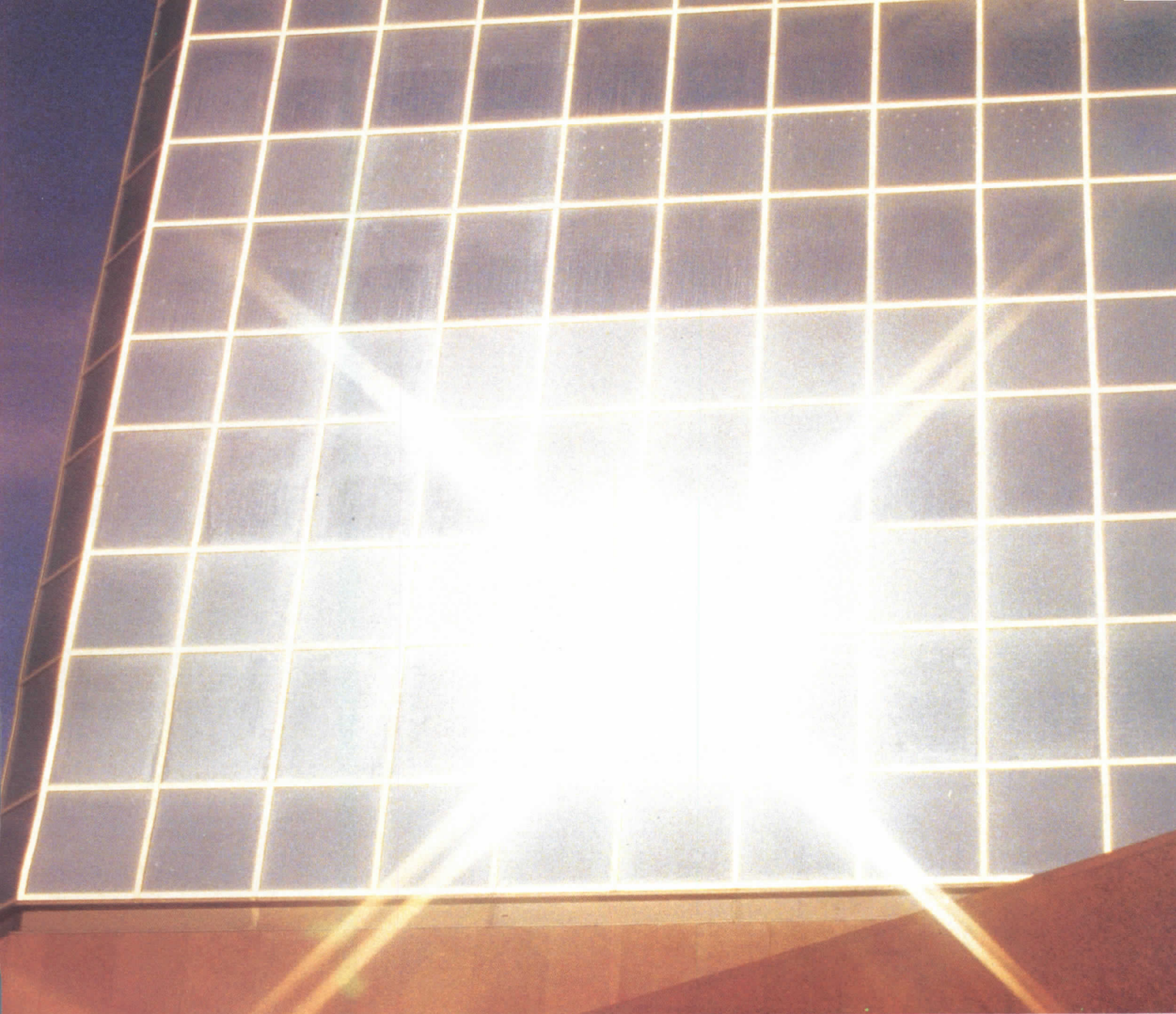
"We need to educate our clients," said architect Arthur Gensler. "[Liability] isn't just an architectural problem. It's a societal problem and society has to recognize it is as much a part of the problem as it can be part of the solution."

Smith also talked about temperament: "By and large, the public views architecture at the top when ranking the honored professions." But there's a big paradox. "Surveys at the AIA," he continued, "show that our own members are the ones that have low esteem for the profession. 'I can't fight for high fees,' says the typical architect. 'I am embarrassed to go out and get new, higher wage-rates for my employees. What do you mean by my charging an additional percentage of my fee for errors and omissions insurance? I won't get away with it. We have a hard time fighting for what we think we need to fight for.'"

Any inability of architects to cope with basic business matters in general might be seen to bode poorly for their ability to continue taking as much responsibility for the proper functioning of buildings as they do. "I do think we have an incredible responsibility for safety," said Gensler, "but I don't think we can take care of it all."

"We can't reduce our insurance by improving our quality of product," said architect Martin Raab. "Quite frankly, I don't seem to get sued for quality. I seem to get sued for things that blind-side you. We're in an environment where low fees and time-bound constraints cause errors, and those errors run through the practice of architecture because of the competitive nature of the business. The commercial building industry is forcing us into a faster and faster process at lower and lower fees."

"The notion that part of the liability problem is fitting together contract documents and construction activity," said Thomsen, "is based on the assumption that the heart of our contract is a design which describes in great technical detail what is to be built and which is always flawed. Has any of us ever produced a perfect set of working drawings? No, absolutely not. If you want to start the list-making on any construction project, you can make enormous lists of errors that the other two parties in the process are guilty of. You always can. If anybody wants to start with the list-making, it's possible."



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"I am anxious that it still be possible to have an architect who is prepared to serve in a traditional fiduciary role."

Despite these views, there were strong practical arguments that architects should continue to take responsibility—and perhaps more than they already do

Thomsen offered an answer to the dilemma he himself had framed: "I don't see," he said, "that architects and engineers are going to change the entire public's attitude on professionals' having to be accountable. I think that's with us. It's probably appropriate, it's probably right."

"It seems to me, if you take a global view over the last three or four decades of the practice of architecture, you can observe that there has been a constant recession in responsibility for the construction phase. Mr. Kornblut will tell you how the AIA documents have, over the years, gradually increased their support for this withdrawal. We used to supervise; then we observed; now we make periodic visits to the site and, if we happen to discover something that's wrong, we might choose to tell the client about it. That may be an extreme characterization but it's the attitude that's developed."

"It can be seen that one solution [to liability problems] lies in taking more responsibility for the construction phase. Forget whether it's 'project management' or 'construction management' or 'design/build' or whatever nomenclature you put on it. Most conflicts come out of the interface between the working drawings and specifications and construction activity," Thomsen said.

"Clearly, in my experience, the overwhelming evidence is the more responsibility we take for the construction phase, the less conflict we have with contractors, subcontractors, and owners. Also, the more responsibility we take for the construction phase, the more money we make. Our clients are willing to pay for having somebody out there to keep them out of trouble, and we actually get along better with the contractors and subcontractors."

Architect Stanley Steinberg argued for other basic changes to the traditional architectural process in order to put the profession more firmly back in the driver's seat: "There is no question in my mind that the practice of architecture is going to change; the construction industry is going to change. I think that the construction industry as a whole is way behind the rest of our economy. Our production of a building is a manufacturing process and we're light years behind the other industries in this. I think grasping the expansion of technology and the handling of information-management techniques is going to be required

of the architect unless he is simply to become a member of somebody else's staff. And I don't think architects are going to do that. I know they are smart. And most of them are driven."

And there was a strong fiduciary argument that architects should take more responsibility

"I think," said attorney Carl Sapers, "that the learned professions have played an invaluable role in America's development. I think the notion that there are people who conduct their lives and their careers at a higher level than that of the common marketplace has helped to put the development of America in balance. I am aware of the pressures since the '60s by Ralph Nader and others to bring the professions down from their high place. It was with some relish that Judge Sirica in the infamous Mardorosan case referred to what many of you do as the 'business of architecture.'"

"I am anxious that it still be possible in this country to have an architect who is prepared to serve in the traditional fiduciary role—who, as one commentator put it, prefers his client's interests over his own and, when the issues are clear, the public interest over both. That's one way of defining what a professional does in America, and I am going to use it as my definition."

"We all have observed a substantial retreat from the architect as a professional and, while Ralph Nader, Judge Sirica, and others have all had a role in that retreat, there is no question that the most important single factor has been the ominous cloud of liability. That cloud has not only accelerated the trend away from small firms, it has surely made design/build and other new forms of product delivery look much more attractive."

"Moreover," said Sapers, "it has made notions of liability avoidance thinkable that ten years ago would have been unthinkable to the professional architect. I will recite three examples. A lot more exist. The most extraordinary is that the architect should argue for a limitation of liability in his contract with his client—for instance, that liability should not exceed the fee paid or a fixed dollar amount. There are, of course, an infinite number of variations on this."

"My first principle of architectural liability is that a fiduciary may not, consistent with his role, limit his liability to that one person who relies on his knowledge and discretion."

"A second example of the current trend is the effort by one insurance company to redefine the architect's role in shop drawings and shop-

drawing submittals—the theory being that, if the architect has no responsible role, he cannot be found liable for failing to perform that role adequately. It is probably a correct notion. But it is also a substantial undermining of the ability of the architect to protect his client."

"A final example is the effort of liability insurers to prohibit the resolution of disputes between architect and client through the arbitration process. It is wholly consistent with the architect's role and his legal obligation to respond to his client as a professional and to have any dispute resolved in a private, speedy proceeding of the sort that arbitration is intended to afford."

"It is, in my judgment, wholly inconsistent with that role to allow the insurance companies to dictate that all potential defendants sit together in a kind of pit where court litigation takes place, where there are contractors, subcontractors, material suppliers, architects, engineers, all treated as just iterations of the construction team," Sapers stressed.

Interjected Kornblut, "Disputes wind up in court and then we are asking judges to, in effect, interpret our contracts rather than interpret them ourselves before things get that far."

"We must," continued Sapers, "all remember that the special consequences of a mistake on a construction project by the professional—the special legal consequences—are, of course, determined because that man or woman is a professional given broad discretion. All of you, I think, know that *the architect may be wrong and not be liable. The test is was the architect negligent. Did he fail in his duty to perform faithfully his services?*"

"That standard is still the standard throughout the United States and the insurance people are pleased to have it, because it means they are not held to strict liability. And I think that standard is there because the law recognizes the architect as a professional who has special duties and special responsibilities. Frankly, when the architect becomes a purveyor of plans, a purveyor of a product, I expect that the special consequences of his mistakes will be changed and he will be treated the same as the Buick Motor Company. He will be held to a strict liability standard—God knows, more devastating circumstances than the ones we presently find ourselves in."

"There are undertakings in which it is perfectly proper to say that the owner should hold design professionals harmless because

these activities are specialized. Those are the ones that involve a substantial risk, such as tearing out asbestos installations."

"But it is inconsistent with the role of the architect as a professional fiduciary to go to the client and say I want you to limit your recovery against me if I really foul up on your project."

Kornblut offered perhaps the most level-headed view of how to handle what may seem like conflicting goals of public responsibility and avoiding undue liability exposure: "A comment was made earlier that we need to strive for a higher degree of perfection. I personally don't think that's really the objective. I think we're all human and none of us is perfect. No matter how hard we strive, we're not going to be."

"We have to be careful and we have to understand what it is our legal system expects of us today in how we conduct our practices. And once we have done that, I think we have done all that we can do. Yes, there will be claims, there will be problems. We will have to deal with them as they come along."

Not surprisingly, Saper's comments elicited a rebuttal. Said Steinberg, "I disagree with the idea that architecture as a profession is mutually exclusive of architecture as a business." And he reiterated a theme with which this report began: "If you don't operate your business of architecture as a business, you are not going to be able to operate it as a profession."

The ultimate answer for many firms may be a good relationship with a lawyer

As Thomsen was quoted as saying in RECORD's October report, the reason he believes his firm has never had a liability loss is the presence of an in-house counsel. Clearly, those firms that may otherwise feel helpless can benefit by using someone who is trained to ward off liability problems.

"But," said Sapers, in a devil's-advocate role, "the Japanese say that architectural firms build things and lawyers divide them up."

"That image of lawyers," said Thomsen, "is not fair. I have seen so many instances of someone who was used to thinking in terms of words and concepts getting clean agreements down that architects, who are used to thinking in three dimensions and graphics, have trouble with."

"I think," said Sapers, "that the *in-house relationship is the ideal*. I think firms that can afford to have an in-house counsel should have one because it's difficult for the professional architect in dealing with his client to bring in a strange

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Management: Here's one way to deal with clients' unpaid bills

The mechanics' lien, invented to assure payment to people who manually build buildings, is now being extended to benefit design professionals

By Steven A. Glazer, Esq.

Architects and engineers occasionally must deal with the problem of the nonpaying client. Among the reasons:

- The explosion in the number of new small firms heats up competition for a dwindling number of projects and, with it, incentive for professional design firms of all sizes to accept ever more "liberal" payment terms.

- The modern development process has become so complicated and time-consuming that payment is often stretched out or withheld by clients in order to control their attenuated cash flows.

- Design professionals want to establish ongoing relationships with clients that lead to future projects, and this eagerness to please is sometimes taken advantage of by clients who slow down payment.

In such a world, it is essential for architects, engineers, and developers to be aware of the legal rights that design professionals have to assure prompt payment for their work.

One right that design professionals have is provided in mechanics' lien statutes. Invented and long utilized by the construction trades, this statutory right is not widely used in the world of architecture and engineering. Developers and financial institutions, too, appear unaware that the mechanics' lien may be available to the design professional—judging from the fact that they often fail to ask the architect or engineer to sign a lien waiver upon partial or full payment for services rendered.

If the cause of designers' reluctance to exercise lien rights is the belief that the rights apply only to construction trades and not to professional design services, the belief is a misconception in many parts of the United States. Most courts that have construed mechanics' lien statutes have made no distinction between one who puts his labor into plans for the construction of a building and supervises its construction and one who performs a manual service such as masonry or carpentry.

A mechanics' lien entitles the claimant to force a judicial sale of the property and a payment of the claim out of the sale proceeds. It gives the claimant the status of a secured creditor, protecting his or her fee in the same manner as a mortgage.

Mr. Glazer is an attorney and an associate with the law firm of Wyman, Bautzer, Christensen, Kuchel & Silbert in Washington, D. C. He is a member of the bars of the District of Columbia, Maryland, and New York and specializes in real-estate and general corporate matters.

The nature and extent of an architect's or engineer's lien rights vary from jurisdiction to jurisdiction

In the majority of states, including California, Connecticut, Florida, Maryland, New Jersey, New York, and Virginia, an architect or engineer who draws plans and specifications and supervises the work performed according to those plans is entitled to a lien on the real property improved in accordance with those plans. In some states, including Florida and New York, an architect or engineer who draws plans and specifications is entitled to a lien in most instances even if the structure is not built in accordance with those plans and specifications. On the other hand, a few states, including California, require that some improvements designed by the architect or engineer must be built for a lien to attach; mere preliminary work is not sufficient.

Maryland and Virginia adhere to the majority rule that an architect or engineer is entitled to assert a mechanics' lien on property for which he or she has provided drawings and specifications and supervised construction. There is case law in Maryland which suggests that an architect or engineer who provides drawings and specifications but does not supervise construction may also have lien rights in that state, although the courts have not yet expressly said so. Virginia courts have not yet ruled on the issue.

The published cases of the District of Columbia courts do not address designers' lien rights to date. In 1982, however, the highest court in the district ruled that a real-estate broker, who was also a property manager for an apartment complex, was entitled to claim a mechanics' lien for repairs and improvements performed by him as part of a management agreement to upgrade the complex for sale. The claim was ruled valid even though the property manager was not a licensed contractor or "mechanic." Thus, it would not be surprising for courts in the District of Columbia to adopt the majority rule accepted by its neighboring states when a case involving a design professional comes before them.

To exercise lien rights, you need to know the basics

The ability of a design professional to assert a mechanics' lien for unpaid services usually turns on facts concerning his supervision of construction and incorporation of the design into the completed structure. Courts generally look to the language of the architectural or engineering contract to determine if construction supervisory powers

are conferred on the professional—as well as to such facts as the number and detail of site inspections conducted. The degree of incorporation of the design into the structure will likely depend upon a comparison of design drawings to shop drawings—as well as to what is built in the field.

The most difficult aspect of asserting a mechanics' lien claim is complying with the notification requirements necessary to "perfect" the claim. Failure to comply strictly can prove fatal to the claim. In most instances, the claimant must give notice of his or her intention to file a lien, either by filing a document with the local court or recorder of deeds, or by sending a formal notification to the owner, or both. Such notice must be given within a time period fixed by statute, usually during construction or within a short span of time following construction or the completion of the claimant's part of such work.

Once a lien is perfected in the foregoing manner, it must be "established" by commencing an action in court, holding a trial, and receiving a judgment decree for a sale of the property (or, if the defendant has so provided, for execution of the bond that has been posted in lieu of a property sale). Such actions also must be brought within statutorily fixed time periods.

The lien right is a powerful tool in the hands of the design professional, so don't abuse it

The power of the lien is especially evident on financed projects. Most mortgages and deeds of trust provide that the borrower must not permit any liens to be placed on the property or must discharge them promptly, following notification from the lender.

This provision is made because mechanics' liens have high priority—in some jurisdictions, higher than the priority of the mortgage or deed of trust securing the construction loan itself. They do not, however, have priority over liens for debts to the federal government or liens for property taxes. The failure of a developer to pay or bond off a mechanics' lien can stop further funding drawdowns on his project and prevent his getting a permanent loan.

There are defenses against a mechanics' lien. If the architect or engineer performed the work negligently or breached the contract with the owner, then the owner, at the trial, can claim that all or a portion of the money is not due. Also, some projects may be protected from liens by sovereign immunity or statute, such as

chancery projects or diplomatic quarters under the control of the Office of Foreign Missions of the United States Department of State.

Despite the defenses, however, a mechanics' lien may perform a function that an ordinary suit for a debt does not: It forces the debtor to put up the amount of the claim at once in the form of a bond. This lever improves the odds for the design professional who finds himself in the typical nonpayment scenario that features mistakes on both sides and settlement as the least costly solution.

The fact that the mechanics' lien provides such leverage calls for prudence in its use, however, to avoid countersuits for slander of title if the use is found improper. It is advisable to seek the guidance of a lawyer who is knowledgeable in the law of the jurisdiction where the lien is to be filed in order to explore its applicability.

The design professional should set up a tracking system for bills to clients so that notices of intent to claim a lien are issued within the appropriate statutory time periods following the completion of each phase of the project. Work completed on a project should be carefully documented and, if construction supervision is not part of the contract, the building inspected to ascertain whether, in fact, the architect's or engineer's ideas are incorporated. Also, all proposed contracts should be reviewed to determine whether they contain waivers.

By the same token, developers and financial institutions are likely to become more aware of their exposure to mechanics' liens from design professionals whose work they use. If an architect or engineer is paid in full or in part for his or her services, the developer may well ask the design professional for a waiver to the extent of payment. The developer or financial institution may also require that waiver of liens be signed by all of the design professional's subcontractors—such as consulting engineers, landscape architects, and interior designers. They may even withhold partial payment until the completion of design work in order to assure that all subcontractors are paid and all lien rights have expired—just as is typically done with general contractors.

In conclusion, architects and engineers should be aware of their right to claim mechanics' liens as part of their strategy to assure prompt and full collection of debts. In short, this tool can be as powerful for the design professional as it is for the carpenter and the bricklayer.

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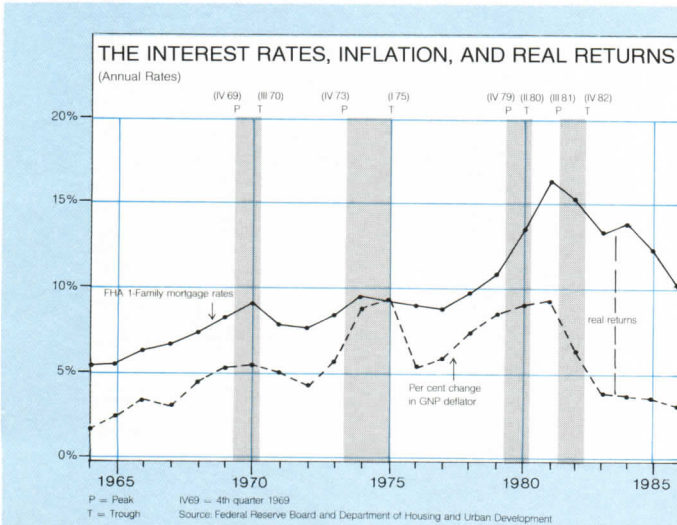
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Top Photo: Farm Credit Bank Austin, Texas
Architect: H.K.S. Architects

Finance: Slump in dollar's value clouds interest-rate outlook

Mr. Kidd is an economic consultant and former director of economic research for the McGraw-Hill Information Systems Company.

By Phillip E. Kidd



Between mid-1984 and mid-1986, the yield curve shifted downward dramatically. Since the middle of 1986, however, short- and long-term interest rates have generally drifted sideways. Now, the early 1987 slump in the dollar's value is raising concerns about the future direction of interest rates and real economic growth. Normally, a collapse in interest rates of the magnitude experienced since mid-1984 would spur consumer spending, which would radiate through the economy, igniting a robust upturn in real economic activity. Although increasing consumer expenditures have supported the economy's expansion, the rate of real gain over the past two years has been 2 to 2.5 percent—well below the nation's long-term trend of 3.5 percent.

One reason for that slower growth is that credit has not been that cheap, despite the drop in interest rates. When nominal (money) interest rates are adjusted for inflation, current real long-term rates are still more than double those of the mid-1960s, the last time inflation was under 4 percent for a significant time span (top graph).

A major factor in sustaining these large real interest rates is that the U. S. does not save enough to finance its massive expenditures for goods and services. So far, that gap is closed by foreigners who buy billions of dollars of our debt and we use that money to buy huge quantities of imports.

Unfortunately, the massive flow of imports into this country takes markets away from domestic producers, eroding our ability to manufacture economic growth.

As our expansion struggled and our trade deficits grew, the Administration, in late September 1985, joined with Japan, Germany, Great Britain, and France in a coordinated effort to lower the value of the dollar. As part of that program, Germany and Japan were to boost activity in their economies and make their markets more accessible to U. S. exports. Such actions were initiated as a means of lowering the U. S. trade deficit and invigorating U. S. growth. Nineteen months later, the coordination is gone; our goods still meet resistance in German and Japanese markets; our economic activity is stagnating; and the other four economies are weakening; but the dollar's value is falling.

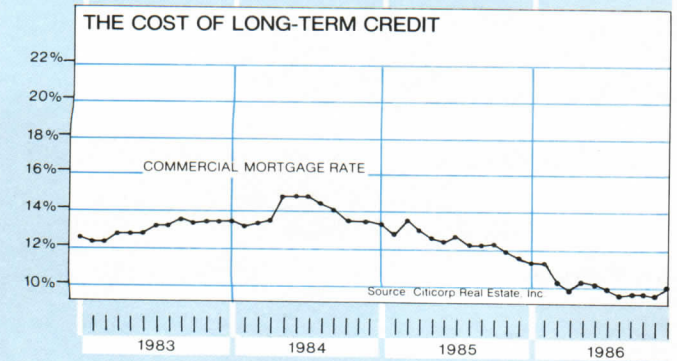
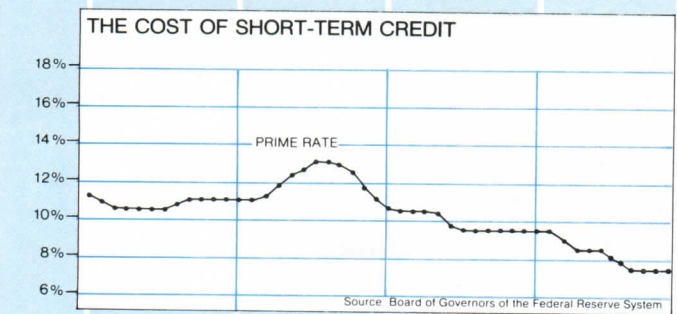
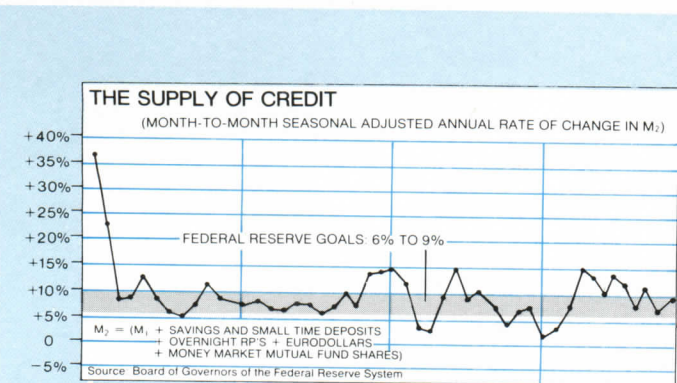
The deterioration in the dollar's position in early 1987 has foreign investors reassessing their view of U. S. financial assets. Presently, they are worried that continued adverse movements in exchange rates will wipe out any returns from such investments. Consequently, it is taking higher rates to get them to invest.

Foreigners are also impacting interest rates through their actions on the merchandising side. Although the dollar's value has been slipping erratically since early 1986, most foreign manufacturers initially maintained their prices on goods sold in the U. S., choosing instead to offset any exchange-rate losses through reduced profit margins. By the second half of 1986, that strategy had become too painful and foreigners began raising prices on their exports sold here. Now there are concerns that such price hikes will translate into more inflation, which will place additional upward force on interest rates.

Strange as it may seem, higher foreign prices could be the best news yet for the U. S. economy. For that to happen, those price increases must convince domestic consumers to shift their expenditures from imports to U. S. products and must encourage consumers worldwide to buy more American goods. Our present excess capacity, plentiful pool of labor, and abundance of materials would allow domestic manufacturers to expand production rapidly to meet that demand without putting pressure on goods prices, inflation, or interest rates. In turn, the added jobs and additional income would boost domestic economic activity and generate extra savings, which would ease some of the supply-of-funds stress on interest rates.

Such a realignment in consumer attitudes is gradually taking place. Meanwhile, monetary policy is also changing. Instead of aggressively easing as it did throughout 1986, the Federal Reserve is ever so subtly firming monetary policy to control the dollar's movements. One result is that interest rates in the near-term will be trading at the upper end of the current ranges for high-quality assets (5.25 to 6 percent for short-term rates and 9.5 to 10.5 percent for mortgage rates). Gradually, as confidence in the dollar is restored, foreigners will more freely invest in U. S. financial assets. However, the interaction of foreign-price increases, firming monetary policy, slowly accelerating domestic production and moderately better domestic savings will cause interest rates to gyrate from one end of the above ranges to the other throughout the spring and early summer.

With monetary policy more restrained and with interest rates no longer headed down, housing for sale and retail building will struggle to hold their 1986 second-half pace in the next three months. Office and multifamily rental construction will continue to slump under the weight of too many units.





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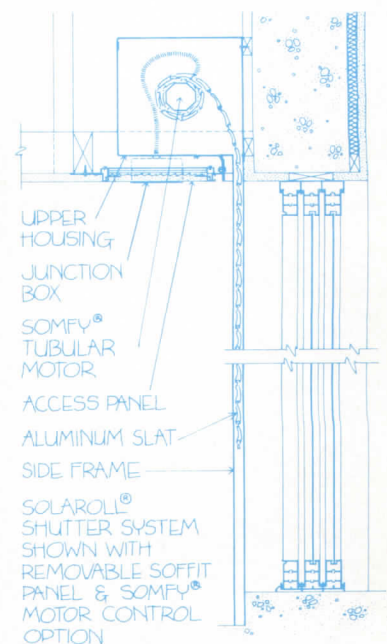


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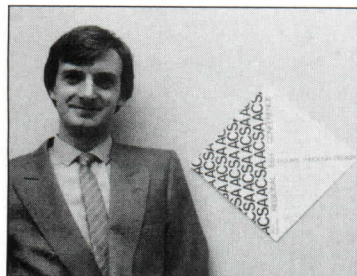
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Architectural education: Integration of law and practice into the curriculum

By Robert C. Greenstreet



One of the areas of architectural education which seems to be the focus of much attention, and which generates the most heated and diverse debate, is the teaching of law and professional practice issues. I would like to add another voice to the topic for three reasons. First, I am primarily an architect rather than a lawyer and therefore may have a different perspective than former authors; second, the course structure we have developed here at the University of Wisconsin is, I believe, capable of providing students with a solid understanding of administrative and liability-related areas, and sufficient skills to implement that knowledge in practice (see listing); finally, revival of the debate is particularly timely, as teachers of law and practice across the country are, for the first time, planning to establish a national forum to address what should be taught in the schools.

New topics are set for each year

As Steve Goldblatt rightly states (RECORD, July 1985), legal issues pervade architectural practice; accordingly, we integrate matters of liability and office practice throughout the curriculum, providing introductory lectures in the first year (introduction to architecture), third year (architectural construction technology), fourth year (law and professional practice), and in the graduate program (advanced law and practice, building process, building economics, office practice and procedures, and automating the architectural office). The graduate courses are elective, although all students will take the first two courses as part of the core requirements, and the faculty have recently voted positively on making law and professional practice a

requirement prior to graduation from the M. Arch program.

The course focuses on architecture primarily as a *process* involving a variety of individuals and a complexity of procedures, and stresses the importance of both legal considerations and the practical abilities necessary in successfully running a practice. It is organized into alternating lectures and seminars, providing a core of basic information supplemented by extensive discussion of alternative procedures and strategies. The lectures cover a broad spectrum of areas, including the structure of the profession, the architectural office, dealings with clients and the building process. The content is necessarily introductory in nature, but is fleshed out in the discussions and can be studied further in the advanced courses.

Real practice is simulated

For the purposes of the seminar, each student develops a personal, simulated practice—inventing a structure, personnel, and workload profile during the opening session. They then prepare simple stationery, an office diary, and equip themselves with required AIA contracts and forms. Following each lecture, the students are presented with four homework questions which they must address within the context of their “practice.” For example, they may be informed that a client for whom they have undertaken design work has not paid his fees despite repeated reminders. What alternatives are open to them? What are the implications of their actions? How should they proceed? Each student examines the scenario, explores various strategies, and finally selects a path of action. All is recorded in the diary, with the actions (writing letters, filling out AIA forms or referring action elsewhere).

Other scenarios present the architect/client relationship (The client keeps asking you to visit long after the building is completed. What do you do?); the concept of professionalism (A local contractor has sent you a Christmas gift of twelve bottles of bourbon. How do you respond?); dealings with the contractor (A sub-contractor complains to you that no payment has been received from the contractor in six weeks. How do you deal with this?); and general issues affecting current practice (You receive a letter from a firm of attorneys representing a disgruntled client threatening legal action unless you settle immediately. What do you do?). Students learn to carefully check each situation through recommended texts or sources—

As part of the continuing discussion on how and what to teach in law and practice at architectural schools, Professor Greenstreet adds some pertinent ideas on what is being done at the University of Wisconsin—Milwaukee

such as the building inspection department, the state licensing board, or the AIA—to evaluate the risks, real or imaginary, and to respond appropriately. During the subsequent class, the student actions are discussed and the most appropriate course, or courses, of action agreed upon.

As 62 percent of architectural firms in the U. S. have only one registered architect on the staff, and only five percent employ more than ten registered architects, according to a 1984 AIA survey, it is likely that many graduates will find themselves in small practices where they will have a variety of tasks. Students also research marketing strategies (although this is covered more fully in the advanced course) and even produce an example of advertising material, such as an actual ad or a mailable brochure. This exercise provides a focus for debate on the structure of practice, the projection of a firm's image and capabilities to potential clients and, of course, helps to shape up basic writing and graphic skills.

By the end of the course, students have learned about the practical issues in working for or running an architectural practice, and have become familiar with administrative procedures in taking a project from inception to completion. They begin to understand the role of the architect in the design and construction phases, the exact extent of the services they are expected to render, and the real nature of the relationships between various parties as outlined in both contract and tort. More important, the students begin to develop an attitude towards practice which inculcates the positive aspects of professionalism with a healthy understanding of the legal pitfalls which cause so many practitioners major problems. In addition, they become familiar with the day-to-day tools of practice; are well versed in AIA documentation, including forms of contract and support documentation (series A-F); and even develop some basic skills in both form-filling and letter writing. Although the students are by no means experienced enough when they leave the university, they have at least a solid foundation of practical knowledge, a professional outlook, and possess enough knowledge and skills both to know their way around an office and to be a useful member of it.

Registration help is an aim

Students are graded both on the quality of their homework (approximately 50 scenarios to deal with during a semester) and on three examinations, which are partly based on Part D of the

NCARB exams. This has, we believe, resulted in an increase in the number of alumni successfully passing registration exams.

Although one can never prepare students fully for the structure of practice, and simulation can never fully approximate the countless variables of reality, we believe that the school plays a valuable part in helping to illustrate both the technical realities that graduating students can expect, and an understanding of how best to successfully work within them. Certainly, the feedback we receive from former students suggests that they have benefited from this learning experience.

Basic course content

Week 1: Introduction; course structure, subject area and course requirements.

Week 2: The law; U. S. legal system and relationship to the practice of architecture.

Week 3: The architect and the law; major pitfalls in practice and some defenses.

Week 4: The building industry; parties involved in the building process, contractual/tortious relationships to the architect.

Week 5: The architect in practice; forms of association, office procedures, and insurance.

Week 6: The architectural profession; structure of the AIA, ethics and behavior.

Week 7: The client; types of client, types of agreement, methods of payment.

Week 8: Legal considerations; property law, zoning and building control, trespass, nuisance, etc.

Week 9: The design phase; cost implications, site problems, and office organization.

Week 10: Tendering and bidding; methods of contractor selection and the architect's role.

Week 11: Contracts; law of contract, types and use of building contracts, forming a contractual relationship.

Week 12: Subcontractors and suppliers; contract commencement.

Week 13: The construction phase; architect's duties and responsibilities.

Week 14: Time and changes; delays, unforeseen circumstances and extras and their time and cost implications.

Week 15: Final procedures; architect's duties, final payment, and ongoing duties.

Week 16: Arbitration and litigation; procedures and architect's possible involvement.

Week 17: Final examination.

Robert C. Greenstreet, Ph.D. is an architect, and Chair of the Department of Architecture, University of Wisconsin—Milwaukee. He is author of “Legal and Contractual Procedures for Architects” (2nd Edition Architectural Press 1984), co-author of “The Architects Guide to Law and Practice” (Van Nostrand Reinhold 1984), and has written frequently on legal and professional aspects of practice.



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News briefs

Dutch architect Rem Koolhaas, of the Office for Metropolitan Architecture in Rotterdam, has won a major competition to design a new city hall in The Hague. Koolhaas won over stiff competition that included such luminaries as Richard Meier and Helmut Jahn. RECORD's April issue will include coverage of Koolhaas's premiated scheme.

Preservation notes from abroad:

A non-profit group in Amsterdam called Save the Orphanage has been formed to stop the proposed demolition of a children's home designed in 1957 by Dutch architect Aldo Van Eyck . . . In Denmark controversy has arisen among residents of Bellavista, a private housing complex near Copenhagen designed by Danish Modernist Arne Jacobsen in 1933. In response to lobbying by some Bellavista homeowners, the Danish Preservation Board has declared the development a landmark, thereby preventing any exterior changes. Other residents, however, wishing to alter windows in order to open up views of the sea, have appealed the board's decision to Denmark's Minister of the Environment. A decision on the project's fate is still pending.

The Lila Acheson Wallace Wing at the Metropolitan Museum of Art in New York has opened to the public. Designed by Kevin Roche John Dinkeloo and Associates to house the Met's collection of modern art, the wing includes a gallery devoted to 20th-century design.

The Chicago Art Institute will open a permanent gallery on May 10 devoted to the city's notable architectural heritage. Called "Fragments of Chicago's Past," the exhibition will feature some 50 building parts from the Institute's collection, organized chronologically in a gallery at the top of the museum's central stair. John Vinci is the exhibition architect.

Philip Johnson, in a newly defined role, will become design consultant to the firm of John Burgee Architects, it was recently announced. "The idea is for me to spend more time on design and less on office operations," said Johnson, who co-founded the firm of Johnson-Burgee Architects in 1967.

To honor Le Corbusier's 100th birthday, the American School of Fine Arts in Fontainebleau, France, is sponsoring a tour of the architect's principal works for practitioners and educators. Dates are July 26-Aug. 2, and the school hopes to offer student scholarships. For details, contact Fontainebleau Schools, 150 W. 85th St., New York, N. Y. 10024 (212/580-2010).

Battling tides and time along Chicago's Gold Coast

Lake Shore Drive, a scenic and heavily traveled thoroughfare along Chicago's Lake Michigan shoreline, could be submerged in 10 years if the city's protective barriers are not reconstructed. The drive and adjacent beaches, parks, and playgrounds are protected by revetments, or rock barriers, supported by heavy timber.

In the 1960s, the timber slowly began to rot when lake levels were low and the wood was exposed to the area's harsh winters and hot summers. Today, the barriers on top are beginning to crumble, and the U. S. Army Corps of Engineers says the city has until the mid-1990s to improve shoreline protection.

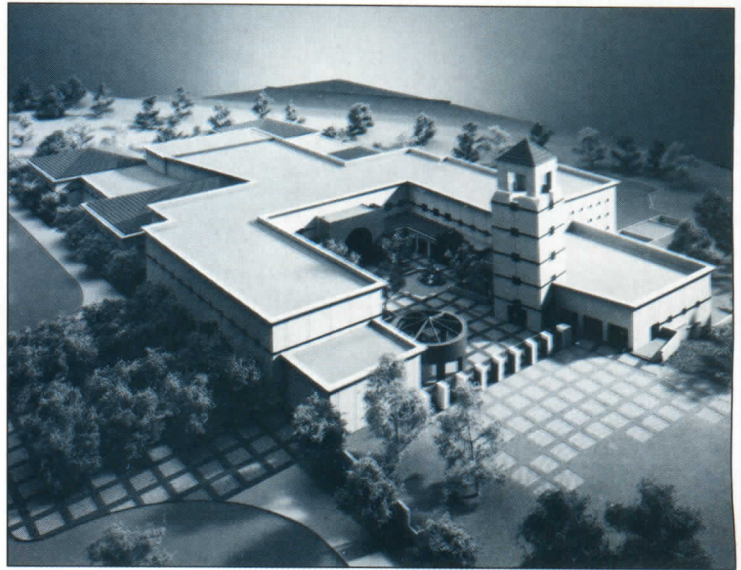
The high lake levels of recent years and the weakened state of the revetments could cause "severe flooding," says Corps spokesperson Evelyn Schiele. "There are a few areas where the rock is already crumbling, and once the revetment goes, there's nothing to hold back the water. We could lose about 35 feet of land a year." Damage to park lands and luxury apartments could total hundreds of millions of dollars, and use of the drive might be lost, creating serious traffic problems. Lake Shore is a major connection between Chicago's North and South sides.

Schiele emphasizes "that the flooding is not something that would happen tomorrow," but local Corps engineers are firmly convinced that remedial work must be done soon. The Corps's Chicago district office has recommended that it be allowed to develop a comprehensive action plan that would assess the cost of corrective work and calculate the damage that could occur if the barriers are not rebuilt. The Corps is already coordinating remedial projects in a few shoreline areas where recent flooding has been particularly severe. A \$1.3-million project on the North Side involves the erection of three revetments and three breakwaters and the extension of an existing concrete seawall. Schiele says the work is being done because "we're getting flooding on side streets and Sheridan Road [another major traffic route]. Cars are freezing into place on Sheridan."

The Corps is also preparing to repair revetments in another North Side area, but that project has slowed because some building owners are reluctant to grant easements allowing workers and equipment into the district.

Chicago cannot afford to wait much longer: several basements and garages in residential towers have already been flooded, and, according to Schiele, "some buildings have suffered structural deterioration." *Jeff Trewwhitt, World News, Chicago*

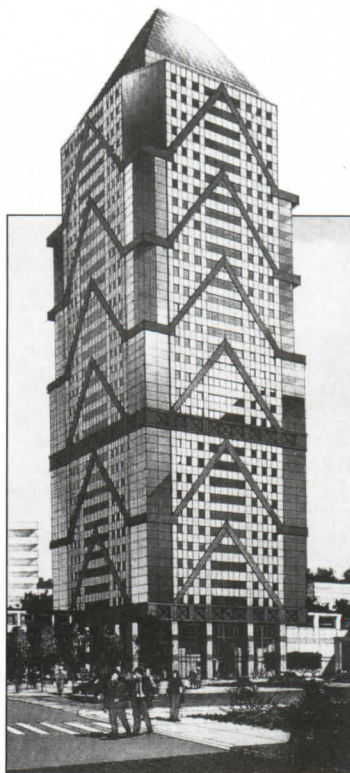
Home on the coastal range



Ground was broken recently in Los Angeles for the Gene Autry Western Heritage Museum, planned for a 13-acre site in Griffith Park, near Hollywood. Funded by the former movie-star cowboy's own foundation, the 139,000-square-foot museum will house exhibitions providing, in Autry's words, "a cultural, historical, and educational legacy of American Western heritage." In its design, the new

structure is meant to express an "esthetic that is symbolic of the Southern California West, yet is not slavish to the recreation of a specific style," according to Chester Widom of architects Widom Wein Cohen. A bell tower, entrance plaza, and material palette comprising cement stucco, red roof tiles, and glazed ceramic-tile trim are clear references to the area's Spanish Mission architectural heritage.

East once again meets West in Shanghai



Although the port city of Shanghai has been China's traditional window on the Western world since the 19th century, the recent spate of foreign-assisted building activity in the People's Republic has largely bypassed the country's largest city for the capital of Peking. Until now: witness plans for a 36-story apartment hotel, called Lotus Mansion, that will be used to house American and European businessmen visiting Shanghai for extended periods. Ten architects and engineers representing Shanghai's Municipal Institute of Civil Architectural Design recently visited the U. S. to sign off on plans for the striking brown reflective-glass and stone tower, which has been designed by the Boston firm of Vitols Associates. The structure is thought to be the first building in mainland China to be constructed entirely with American funds.



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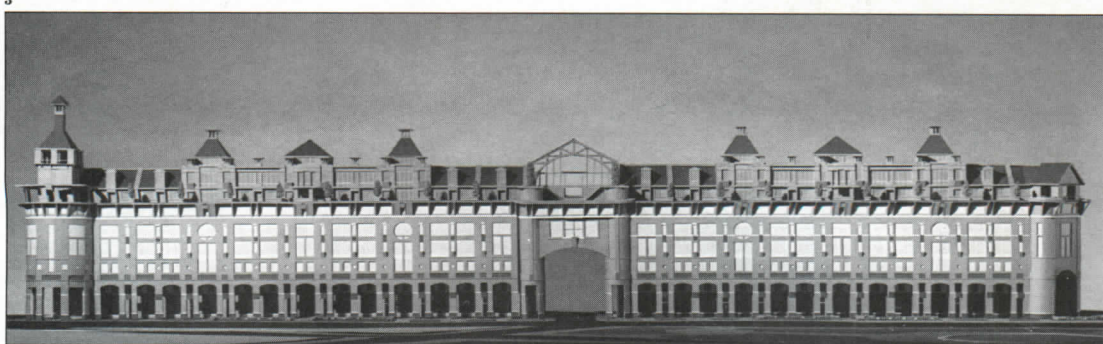
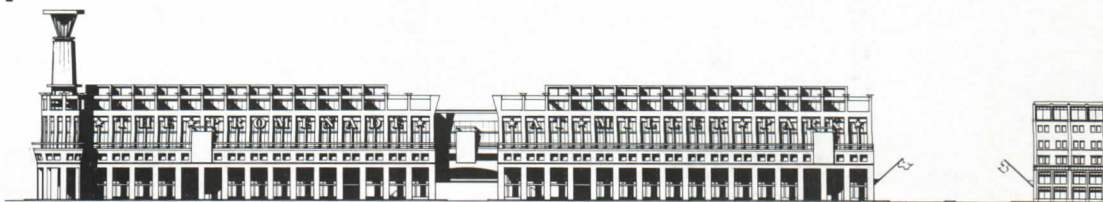
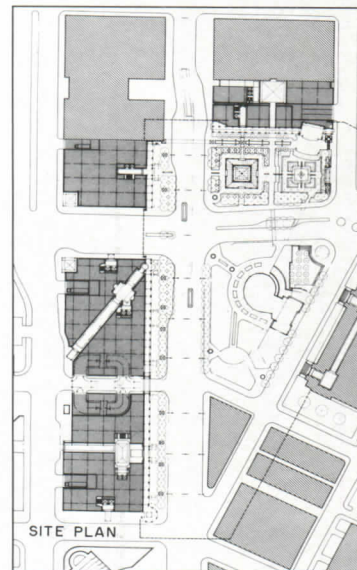
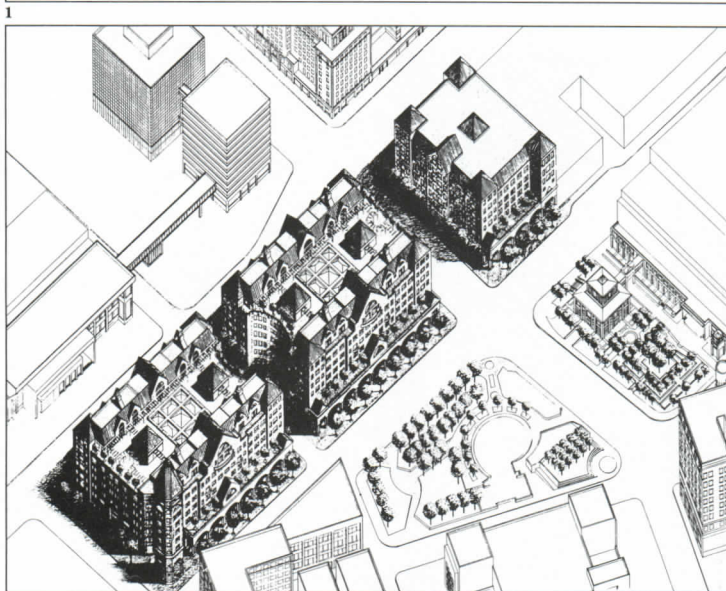
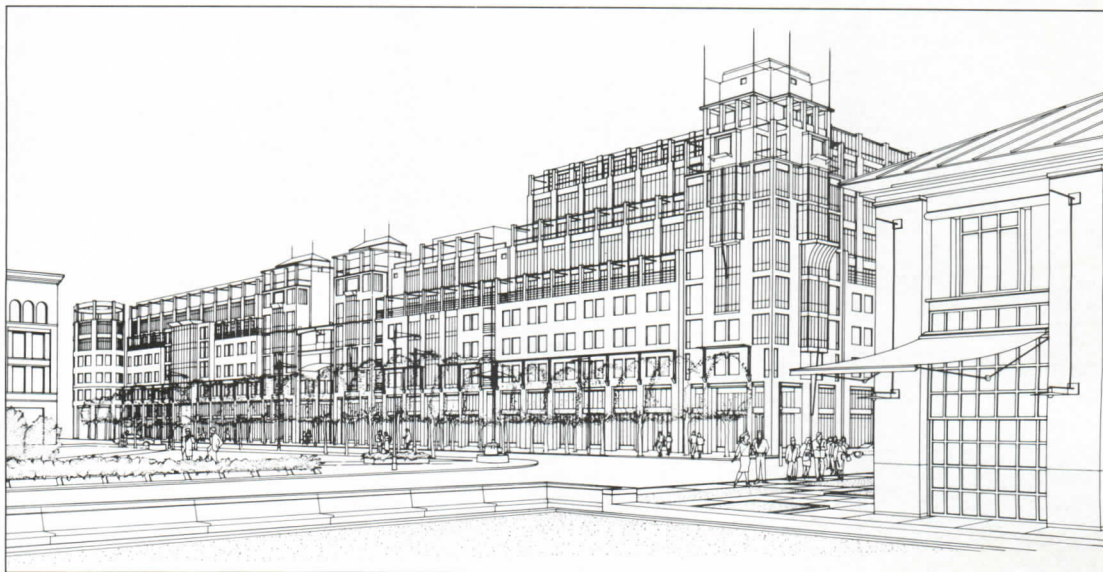
Chugging toward the future, Chattanooga contemplates a downtown revival

Four firms interpret new urban design guidelines proposed for the blocks of Market Street (left in site plan) opposite Miller Park in Chattanooga:

1. Koetter, Kim & Associates
2. Skidmore, Owings & Merrill (Washington office)
3. Tuck Hinton Everton Architects
4. Peterson, Littenberg Architects

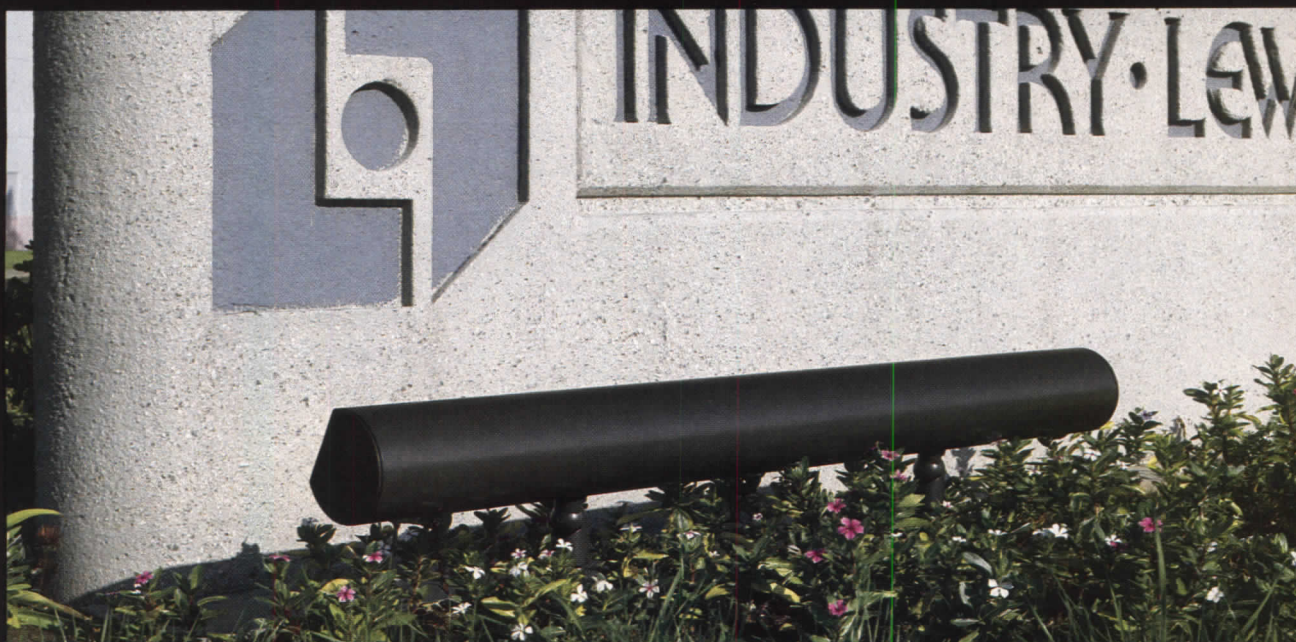
Although its name might evoke the nostalgic image of a singing Tex Beneke about to board a sleek Pullman car, modern-day Chattanooga shares all the problems—population shift to the suburbs, a declining industrial base, and the physical deterioration of its downtown core—that afflict many mid-size American cities. In 1983 the Urban Design Consultancy was formed with the support of the locally based Lyndhurst Foundation to examine Chattanooga's downtown "public realm," focusing specifically on the Tennessee River waterfront, the area around the historic Chattanooga Choo Choo terminal complex, and, midway between these two nodes along the city's principal north-south Market Street axis, the Miller Park district. Given its traditional role as the city's historic center and its strategic location at the point where Chattanooga's two downtown street grids converge, Miller Park was deemed especially pivotal, and the Consultancy commissioned the Boston firm of Koetter, Kim & Associates to develop a set of guidelines that might form a blueprint for the area's physical revitalization.

The Koetter, Kim guidelines call for the retention of trapezoidal Miller Park as a passive urban oasis; the conversion of the block north of the park into a landscaped plaza containing a public pavilion, performance space, and a retail arcade connecting the project with the existing Loveman's department store; and, along the Market Street spine west of the park, the development of "multiuse urban blocks" incorporating offices, housing, retail space, and parking. Unusually specific design criteria mandate, among other things, two-story open loggias along Market Street; provisions for setbacks, cornices, and stringcourses that would divide buildings horizontally into base, middle, and top; and the use of brick or stone as facade materials. While urban-design guidelines of this type are not unique—witness those drawn up for Battery Park City in New York and the proposed Fan Pier project in Boston—their comprehensiveness and sophistication are rare in a city the size of Chattanooga. Even more unusual, perhaps, is the city's commissioning four architectural firms to interpret the guidelines. As the Market Street proposals shown here reveal, Koetter, Kim has done its work well. Despite obvious stylistic differences, the architects' adherence to a fixed set of rules indicates how such time-honored matters as order, scale, and massing might be utilized to re-establish Chattanooga's diminished sense of place. *P. M. S.*



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What the Talking Head says about Texas vernacular

David Byrne, New York City's downtown doyen of the arts, has made a new feature-length film with his band, Talking Heads, that is touring the nation's movie houses. Called "True Stories," the film is about ordinary people in the ordinary place of Virgil, Texas, the latest in a long line of fictional small towns that are meant to embody the essence of real America.

It is also about architecture. Byrne, who left the Rhode Island School of Design for a career in performance art and music, has been learning from Las Vegas: "True Stories" might have been shot to a screenplay by Robert Venturi. For Byrne, as for Venturi, billboards and Main Street are "almost all right." Even the film's titles and posters, presented in the style of a *National Enquirer* front page, are a pastiche on an unassuming vernacular.

If the flat, barren Texas landscape did not exist, Byrne would have had to invent it. His Flatland is there to signify that anything rising into the third dimension—the people and their architecture—is a target for thought and playful teasing. They are the cutout ducks on a fairground shooting gallery.

One example appears when Byrne, as the film's narrator, tells us how industrial sheds get to be the way they are. Another recurs during the construction of a temporary covered stage on the outskirts of Virgil for the town's celebration of the Texas sesquicentennial. The finished structure, seen dramatically lit from within and glowing green in front of the plains sunset sky, is almost a Miesian temple in scaffolding and plastic cladding. It is Byrne's only built work of architecture.

Hugh Aldersey-Williams.

A discreet addition to a proper Bostonian



When Shepley, Rutan & Coolidge designed the Harvard Medical School in 1906, the Boston firm created a serene quadrangle flanked by five neoclassical buildings. For the school's first expansion, architects Ellenzweig, Moore and Associates are proposing a 114,000-square-foot addition (right in rendering) that will form the fourth side of an existing U-shaped building, allowing the creation of a skylit commons. Although the new wing will be clad in contemporary precast concrete (versus the Dorset marble of the original structures), its unified cornice line and stylized capitals and pilasters are meant to recall the proportions and details of its neighbor. The addition will house Harvard's new Pathway program, an innovative teaching curriculum that requires flexible spaces accommodating large group demonstrations and small tutorials.

All quiet along the Potomac? Not a chance

Every month, it seems, a new mixed-use development is proposed along the banks of the Potomac in the Washington, D. C., suburbs of Arlington or Alexandria, Va. This month's entry, dubbed Potomac Greens and designed by Sasaki Associates, is unusually ambitious: a 38-acre parcel just south of National Airport would contain two million square feet of commercial space in 13 buildings, 308 residential

units in seven buildings, a 300-room hotel, 107,000 square feet of retail space, and parking for 4,700 cars. Buildings range in height from three to 17 stories, and just over one-third of the site would be given over to public open space. Most significantly, the developers have proposed constructing a new station on the Yellow Line of Washington's Metrorail transit system to serve the complex.



Venerable London dowager to get a facelift



The London Pavilion, one of the most prominent structures in Piccadilly Circus, will be converted into a mixed-use retail and entertainment complex comprising two levels of shops, a restaurant, and a two-story wax museum devoted to the history of rock music. Built in 1885 as a music hall and converted into a movie theater during the 1930s, the structure has been vacant since 1979 and something of an eyesore in the heart of London's West End. Plans call for cleaning and restoring the building's neoclassical facade, gutting the interior, and adding two floors that will be set into a new gray-tiled roof. Full-size sculpted figures based on a proscenium group originally created for the interior in 1900 will adorn the building's entablature. Architects for the restoration are Chapman Taylor Partners.

The common pursuit



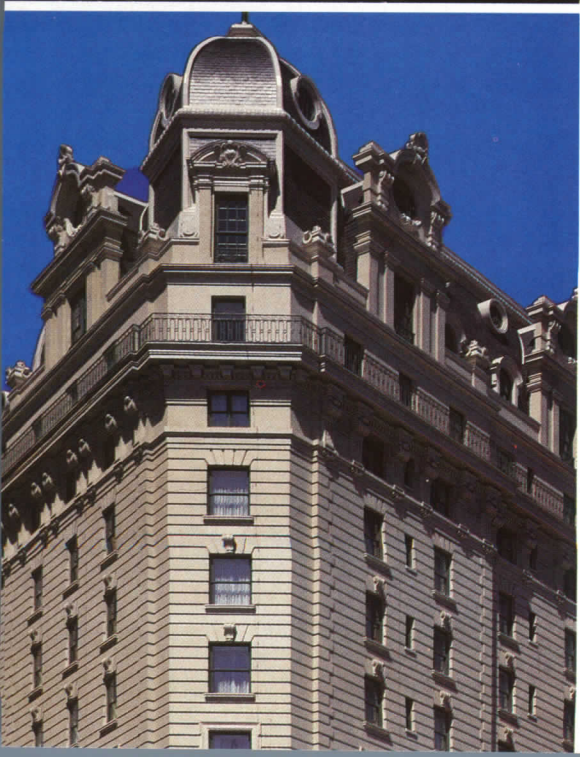
Perhaps the most ambitious project in the ongoing revitalization of downtown Brooklyn, MetroTech is a 4.23-million-square-foot academic, commercial, and high-technology office complex that will consist of eight new structures and three renovated buildings grouped, campuslike, around a landscaped common. The first phase of the 10-block-square project includes a new 26-story headquarters for Brooklyn Union Gas, a nine-story office building for the Securities Industry Automation Corporation, and new and rehabilitated facilities for Polytechnic University, an engineering and research institution that has been in downtown Brooklyn since the mid-19th century. Master-plan architects are Haines Lundberg Waehler; architects of the project's 3.3 acres of public plazas and promenades are The Ehrenkrantz Group & Eckstut.

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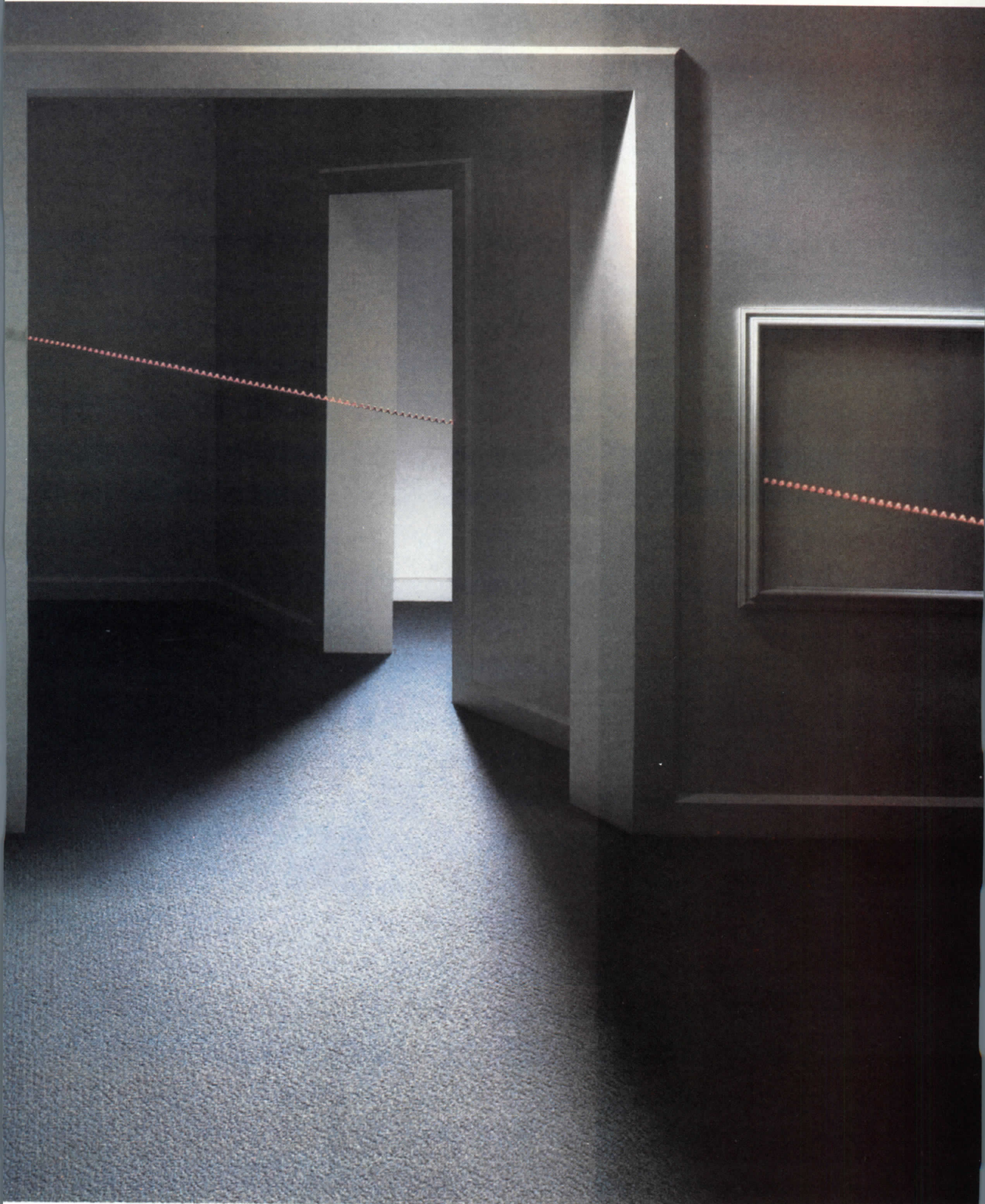
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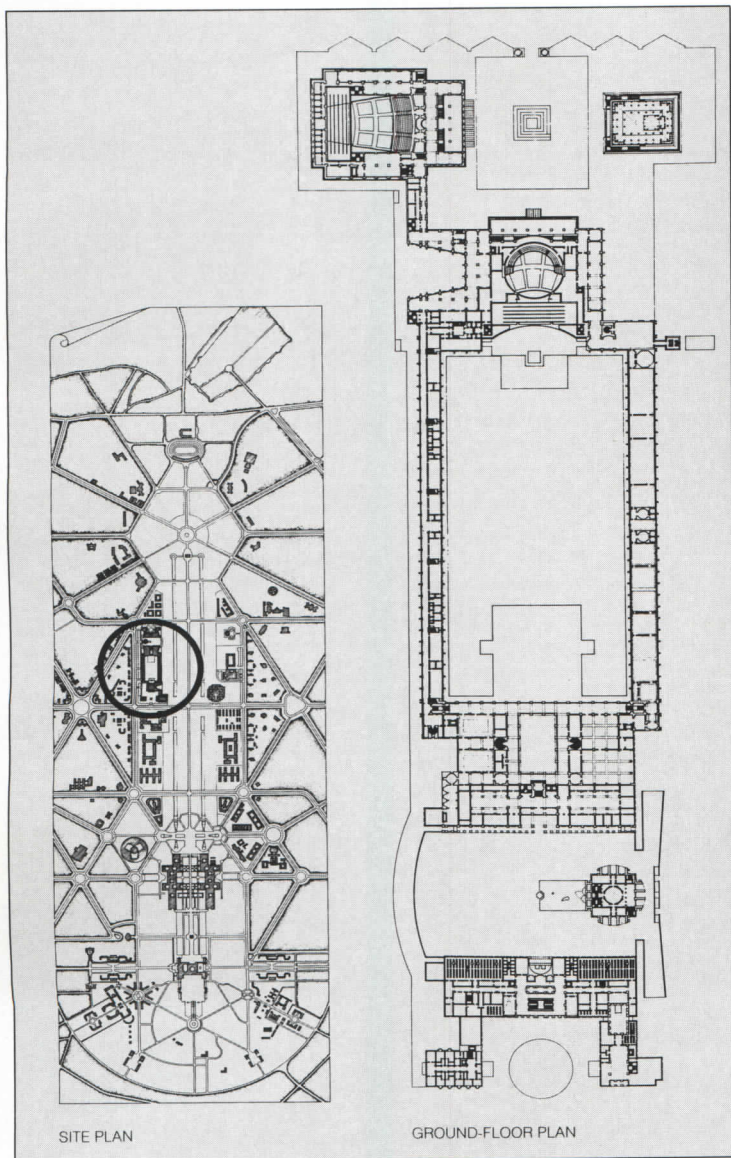
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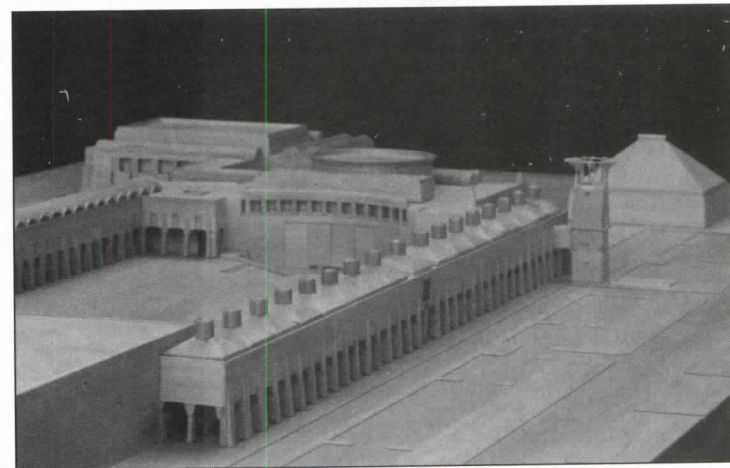
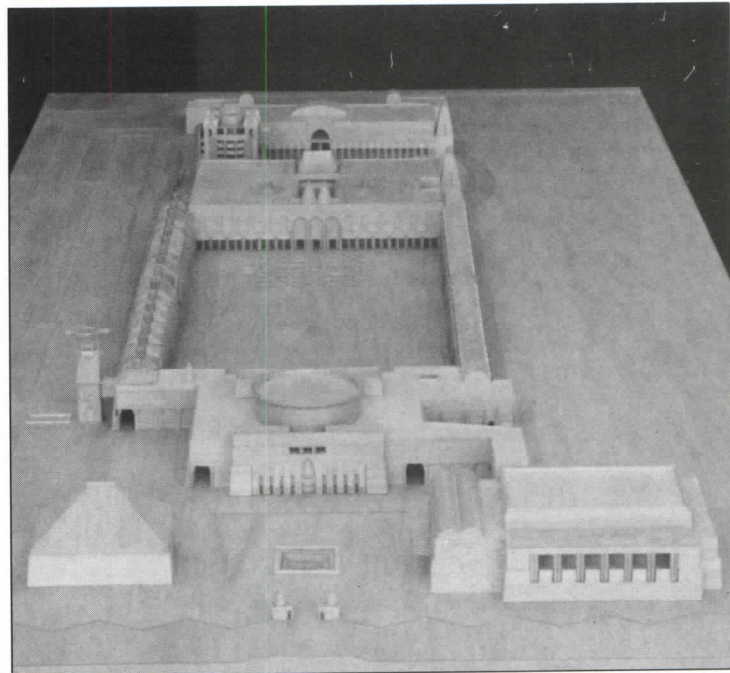
Design awards/competitions: Indira Gandhi National Centre for the Arts Design Competition

Ralph Lerner, an architect from Princeton, N. J., has won an international competition to design the Indira Gandhi National Centre for the Arts in New Delhi. Lerner, the director of Princeton's graduate program in architecture, triumphed over 193 competitors. In addition to receiving the final commission for the \$600-million complex, Lerner will be awarded a cash prize of \$76,000. Gautam Bhatia of India placed second in the competition, while Françoise Hélène Jourda of France, David Jeremy Dixon of the United Kingdom, and Alexandros Tombazis of Greece shared third place.



When he announced plans in 1985 to establish an art center dedicated to the memory of his slain mother, Indian Prime Minister Rajiv Gandhi envisioned a multidisciplinary complex housing programs of research, publication, training, and exhibition in such fields as literature; the visual arts of architecture, painting, sculpture, graphics, film, and photography; the performing arts "in their broadest connotation;" and India's indigenous urban and rural tribal arts. The center (circled buildings on site plan above) is proposed for a 25-acre parcel situated on New Delhi's Central Vista, an axially arranged esplanade that might be considered the Indian capital's equivalent of the Mall in Washington, D. C. Ralph Lerner's premiated scheme, shown above in ground-floor plan and model views, is organized longitudinally along

five courtyards, with a major performing-arts complex at one end (top of plan) and a research and data-storage facility at the other. The theater complex will encompass a 2,000-seat concert hall, an 800-seat national theater that will share its stage with a 500-seat outdoor amphitheater, and a large, traditional Indian theater (pyramidal building in model views). In describing his proposal, Lerner observed that "the architectural point of departure for our project is the juncture of [New Delhi's] two planning traditions." The first is the grand scale and axial vistas of Edwin Lutyens' original layout for the city; the second is the more intimate and informal quality of New Delhi's individual blocks. Lerner's design for the art center is meant to suggest "an ensemble of buildings and exterior spaces conceived on the monumental scale



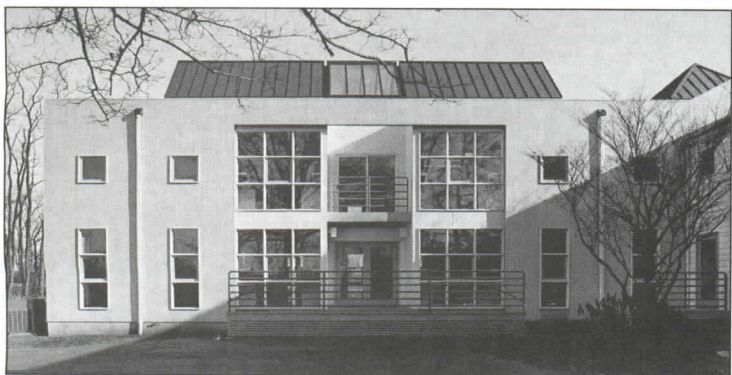
of the capital, yet designed in concert with spaces in and adjacent to the Centre of an intimate scale conducive to group activity and individual reflection." This combination of large civic spaces—particularly the 700- by 350-foot Central Court, which is surrounded on three sides by open colonnades—and smaller sheltered places "enables the complex both to assert the cultural and artistic achievements of a diverse national heritage, and to foster dialogue among groups representing various arts, regions, and levels of society." In a further effort to address the ethnic diversity of Indian society, Lerner sought to display "a number of traditions within the structure of the Centre's unified spatial strategy. We have maintained a preference for simple geometries and geometric relationships typical of Hindu, Mogul, and Classical

traditions. The architecture reiterates the role of a center whose purpose is to encompass all the arts across boundaries of time, region, and social grouping."

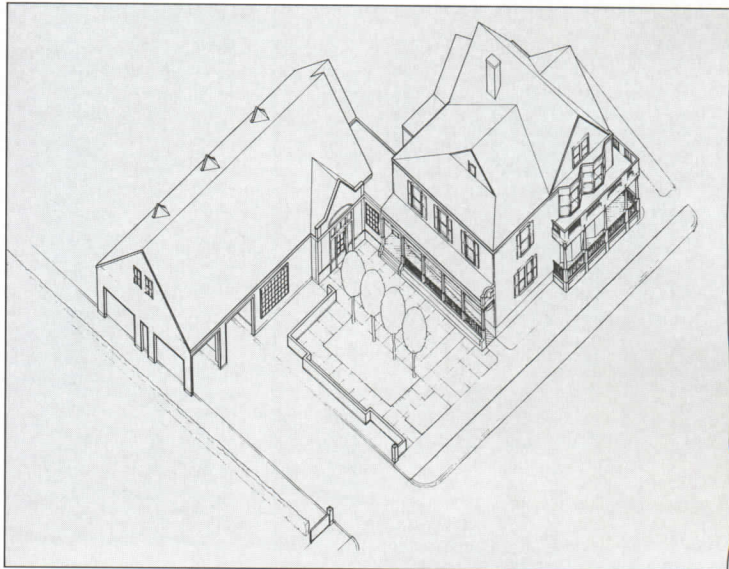
The competition jury consisted of B. V. Doshi of India (chairman), James Stirling of the United Kingdom, Fumihiko Maki of Japan, Olufemi Majekodunmi of Nigeria, and A. P. Kanvinde, Pupul Jayakar, and Kapila Vatsyayan of India. Although the jury was unanimous in its selection of Lerner, an American, some critics in India had argued that a competition for a center devoted to Indian art should be open solely to Indian architects. Calling such criticism "myopic," Prime Minister Gandhi quoted Mahatma Gandhi, who said that "artistic boundaries should cross national boundaries."

New Jersey Society of Architects 1986 Design Awards

A thoughtful blending of old and new characterizes the two completed buildings and three unfinished projects recently cited by the New Jersey Society of Architects in its 1986 design awards program. Commenting on the winning submissions, competition juror John Winkler noted that each of the premiated entries "strove to be more of a theme in symphony, rather than a discordant design statement. Bigger wasn't necessarily better." In addition to Winkler, the jury consisted of architects Hugh Newell Jacobsen, Matthew E. Kroin, and Victor Gong.



©Otto Baitz



1. Court Street Plaza, Hoboken, New Jersey; Dean Marchetto Architects and Morrison Demetrio Associates (joint-venture architects). Located at the southern end of Hoboken's historic central business district, this mixed-use proposal calls for 388 residential units, 62,000 square feet of office and retail space, and two levels of subterranean parking—all housed in a 20-story apartment tower and a group of five-story buildings whose scale and details refer to adjacent 19th-century row houses. The jury characterized the project as "a handsome composition with an exciting interplay of materials and scale. There is great respect for the streetscape."

2. American List Counsel Corporate Expansion, Princeton, New Jersey; Short and Ford, Architects. The architects' challenge was to design an 8,500-

square-foot corporate headquarters addition that both harmonizes with the company's existing building—a 19th-century Dutch Colonial farmhouse—and conveys an up-to-date image appropriate for a high-tech firm. Their solution is a three-story structure, clad in tongue-and-groove vertical siding, whose open hallways surround a central gabled portion housing a staircase and communications systems. "The scale and elements of the composition hold together very well," said the jury.

3. Student Houses, Lawrenceville School, Lawrenceville, New Jersey; Short and Ford, Architects. The design of four, three-story residences, arranged in a crescent and intended to house the first female students at a venerable New Jersey boys' school, is based on a group of late 19th-century dormitories by Peabody and

Stearns. Red and brown brick, forest-green wood trim, bracketed gable ends, and projecting eaves link the new buildings stylistically to the school's original Victorian campus. The jury characterized the project as "architecture that blends in with the vernacular, yet at the same time speaks to the present in an imaginative way."

4. Renovation of Edwards Hall, Princeton University, Princeton, New Jersey; Fulmer and Wolfe, Architects. As the key visual element to their overall restoration of a Victorian Gothic dormitory erected in 1880, the architects literally raised an old mansard roof, creating a historically appropriate peaked roof line that encloses a new fifth floor. The jury called the project "a skillful attempt at blending new and old that shows great restraint, discipline, and sensitivity—a remarkable

remodeling which is strong in itself yet resists drastic altering of the original. The fifth-floor addition is so well done that one would never know a new story has been added."

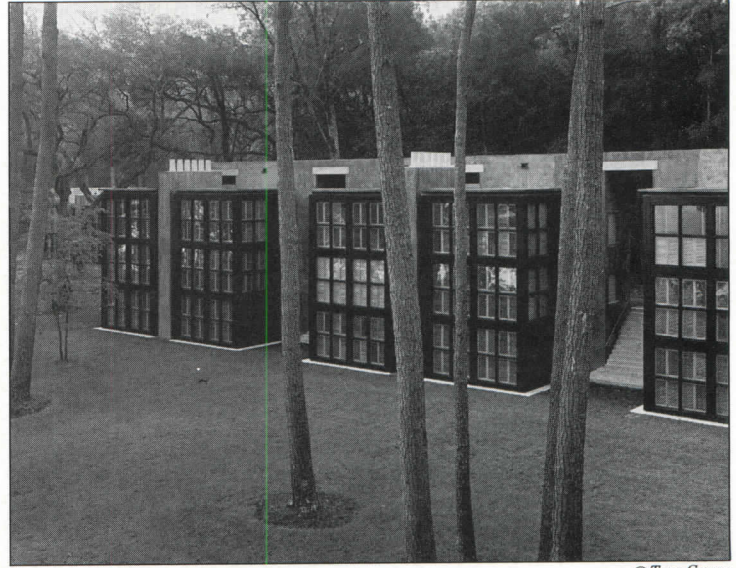
5. Nassau Street Redevelopment Proposal, Princeton, New Jersey; Michael Burns, Architect. A plan for a prominent corner in Princeton's commercial district would connect a 1930s fieldstone service station, already existing on the property, with a 19th-century house that would be moved to the site from across the street. The two buildings would be connected by a new lobby and stairhall at the rear of the house and adapted for commercial use. The jury praised the project ("it maintains the vitality of what could have been derelict buildings") and the architect ("he's created a first-rate commercial building whose style is respectful of its setting").

South Atlantic Region/AIA 1986 Design Awards

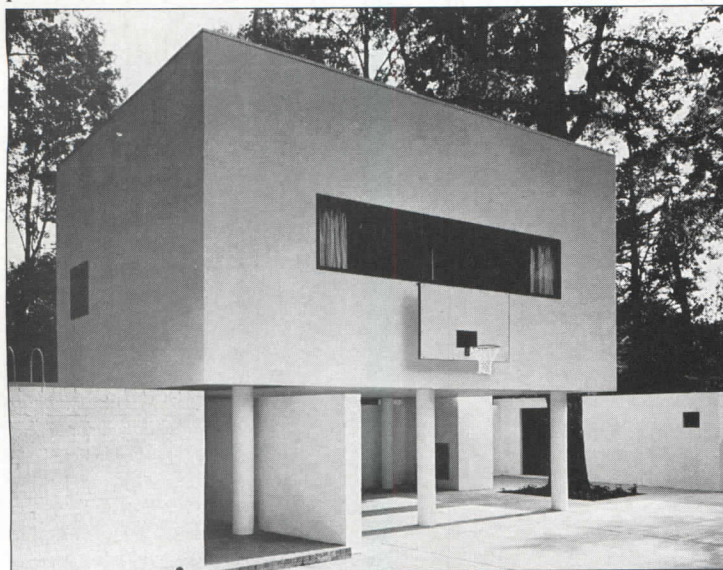
A garden pavilion in Atlanta, a cancer hospital and research institute in Tampa, and a small hotel in Charleston were among the seven completed buildings recently honored by the South Atlantic Region of the American Institute of Architects in its 1986 design awards program, open to architects practicing in the states of Georgia, North Carolina, and South Carolina. The jury reviewing the program's 107 project submissions consisted of New York-based architects Robert A. M. Stern (chairman), Peter Gluck, Arthur May, and James A. Murphy.



1 Gordon H. Schenk, Jr.



3 © Tom Crane



2 Steven Brooke

1. Lenoir County Courthouse, Kinston, North Carolina; Burnstudio and Jenkins-Peer, Architects (joint venture). The building program called for a 45,000-square-foot addition to an existing county courthouse, erected in 1938, that would house offices, classrooms, and a jail. The old and new buildings are connected by a two-story glazed lobby, while the new wing's fluted sandstone facade, marble portico, and layered metal mullions are meant to recall elements on the original WPA Moderne courthouse. The jury praised the addition as "a handsomely detailed, sensitively proportioned structure that successfully relates to its earlier component."

2. Garden Pavilion, Atlanta, Georgia; Anthony Ames, Architect (RECORD, August 1983, page 101). This diminutive guest house and study, located behind the architect's own dwelling, features two very different facades: one is a solid stucco wall that opens onto a public courtyard, the second a translucent, garden-facing screen of glass block that allows sunlight to enter the structure. The building is situated at an angle to the established grid of the main house and is elevated on reinforced concrete *pilotis*, creating a sheltered car park. Calling the pavilion "an impressive personal project," the jury observed that the building's proportions, materials, and scale are strongly related to the vocabulary of Le Corbusier's early villas.



4 Kemp Mooney

3. Middleton Inn, Charleston, South Carolina; Clark & Menefee, Architects. Situated on a wooded bluff overlooking the Ashley River, this L-shaped, 55-room hotel and future conference center consists of two major components—a stuccoed masonry armature containing dressing rooms and baths and a series of shuttered cabinets housing the bedrooms. Regional details like terra-cotta chimney pots and traditional furnishings are striking contrasts to the hotel's disarmingly Modern exterior. "This elegant, pristine design relates beautifully to its site in a carefully controlled manner," concluded the jury. "The sense of scale, choice of materials, and play of volume are highly successful, and the interiors are handsomely detailed in a warm and comfortable way."

4. Klamon House, Atlanta, Georgia; Surber Barber Mooney, Architects. This stucco-covered single-family house, located in Atlanta's Green Hills neighborhood, features an arched central dormer and a columned front portico—stylized adaptations of details found on nearby bungalows erected during the 1930s. Because of the site's steep slope, the house has many changes of level, and the architects contend that the notion of procession became a primary design tool. The jurors especially liked the dwelling's front facade, which they said "intentionally recalls the older neighborhood," and they pointed out that an economy of material has resulted in "a sensitive balance of design."

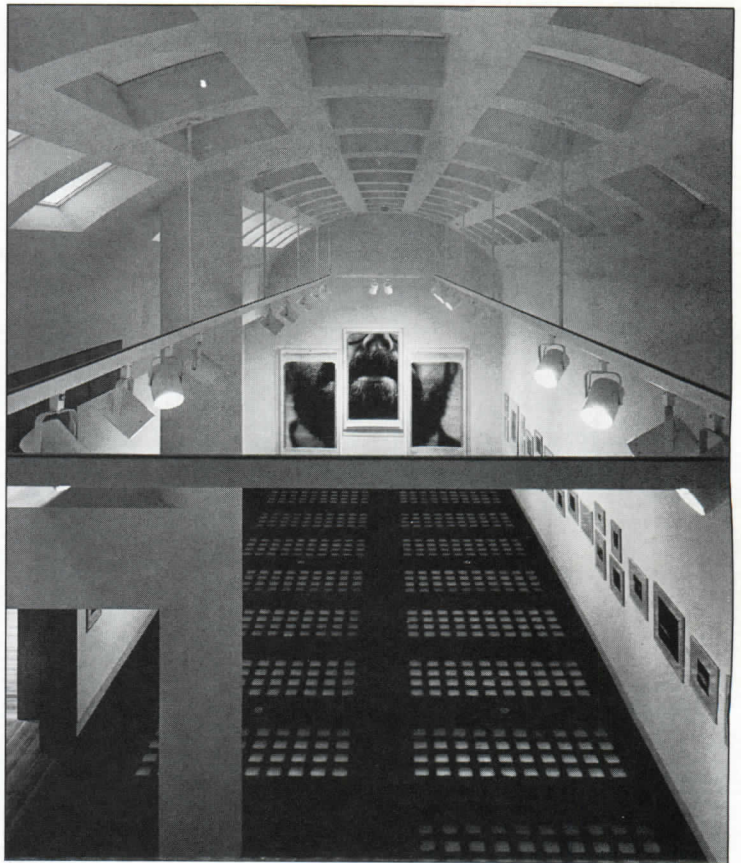


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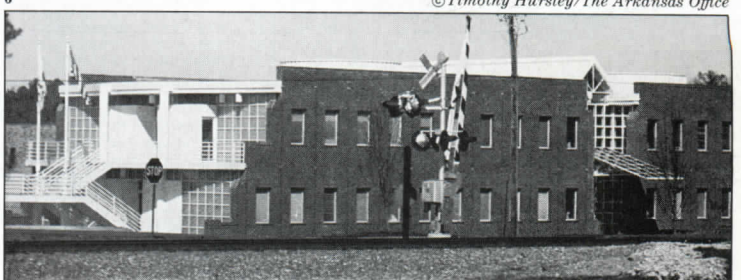
5. **H. Lee Moffitt Cancer Center and Research Institute, University of South Florida, Tampa;** Bentler & Heery, Architects (joint venture). In their design of a 360,000-square-foot, 162-bed research hospital, the architects sought to achieve the stated goals of a coherent circulation system, flexibility for future expansion, harmony with the surrounding architectural context, and the creation of a substantial image "capable of instilling confidence in the institution." Toward these ends, they configured the complex in two contrasting halves—a tower housing patient rooms and administrative offices, and a zigguratlike wing containing diagnostic treatment and research

functions—each of which can be expanded independently of the other. The complex is sheathed in patterned rose-colored stone, and was praised by the jury for its "playful manipulation of form, breakdown in scale, and overall inviting imagery,"—qualities they felt were especially welcome in a building of this type.

6. **The High Museum at Georgia-Pacific Center, Atlanta, Georgia;** Parker and Scogin, Architects (RECORD, November 1986, pages 124-131). Occupying the lower levels of a new midtown office tower, this 4,200-square-foot gallery space operates as a satellite to Atlanta's principal art museum. The museum is characterized by a highly vertical, greenhouselike enclosure—144 feet



©Timothy Hursley/The Arkansas Office



Jonathon Hillier

7 long and three stories high—that the architects intended as a discrete visual element within the commercial structure. Visitors enter the museum on its uppermost level and are directed through a series of intersecting enfilades down switchback ramps into galleries on two lower levels. The jury called the design "a clear extension of [Richard] Meier's building vocabulary, but with a fresh concept of detail and material. The interior is handsomely conceived in its circulation system and variety of exhibition spaces. The volumes are highly inviting and beautifully crafted."

7. **Rock Tenn Company Corporate Headquarters, Norcross, Georgia;** Lord & Sargent, Architects. A new corporate headquarters building, situated in a small town near Atlanta, exhibits a dual personality that is a reflection of the structure's trackside location near old factories and of the company's wish to convey an image of advanced technology. Two long red-brick walls refer to the building's aging industrial context, while crisp, steel-and-glass architectural elements make up the structure's strikingly Modernist core. The jury was impressed by the way that "the conceptual industrial wall recalls *masonry mill architecture*. . . . The contrast between traditional forms and a distinctly modern vocabulary at the building's ends is clearly successful."

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D U P O N T



Exhibition report: New Architecture: Foster, Rogers, Stirling

By Hugh Aldersey-Williams

The British Royal Academy's recent exhibition "New Architecture: Foster, Rogers, Stirling" perhaps told us more about those three architects than even they might wish to let on. And this despite the fact that it was the architects themselves who had chosen which of their projects to exhibit—one built and one unbuilt in each case—and had designed their installations within the Academy's imposing galleries.

The London show was the first major architecture exhibition at the Royal Academy in 40 years. The coincidence of these three internationally recognized talents, all British and of the same generation, had prompted comparisons with Voysey, Lutyens and Mackintosh at the turn of the century, or, more fancifully, with Nash and Soane or with Wren, Hawksmoor, and Vanbrugh in the more distant past. In fact, the American work, either built or planned, by Foster, Rogers, and Stirling appears to be the first by major British architects since the late 17th century, when Christopher Wren sent over plans for the chapel at the College of William and Mary in Williamsburg.

The Royal Academy exhibition revealed Norman Foster as both a genuine technophile and, after the HongkongBank building, the Nimes Mediatheque, and his cancelled proposal for the British Broadcasting Corporation, a convincing and sensitive urbanist. It showed James Stirling as the quintessential architectural *camera lucida*, reflecting and bettering the trends of the moment. In the past, Stirling has taken the Modernism of Mies and Le Corbusier, then the Smithsons' brutalism and the infant "high-tech" style, and made them dance to his eclectic tune. Now it is the Postmodernists' turn, and Stirling is out-Gravesing Graves and out-Kriering Krier. Richard Rogers, disappointingly, came across as a romantic visionary whose own version of technology-in-architecture (as opposed to that of Foster, with whom he once shared a practice) has regressed into Archigramic 1960s social idealism executed with a faux technological virtuosity. This, while Foster's structures increasingly resemble machines.

The three architects' preoccupations were revealed in the way they handled their installation designs. The Rogers room was pure theater with a jutting stage of

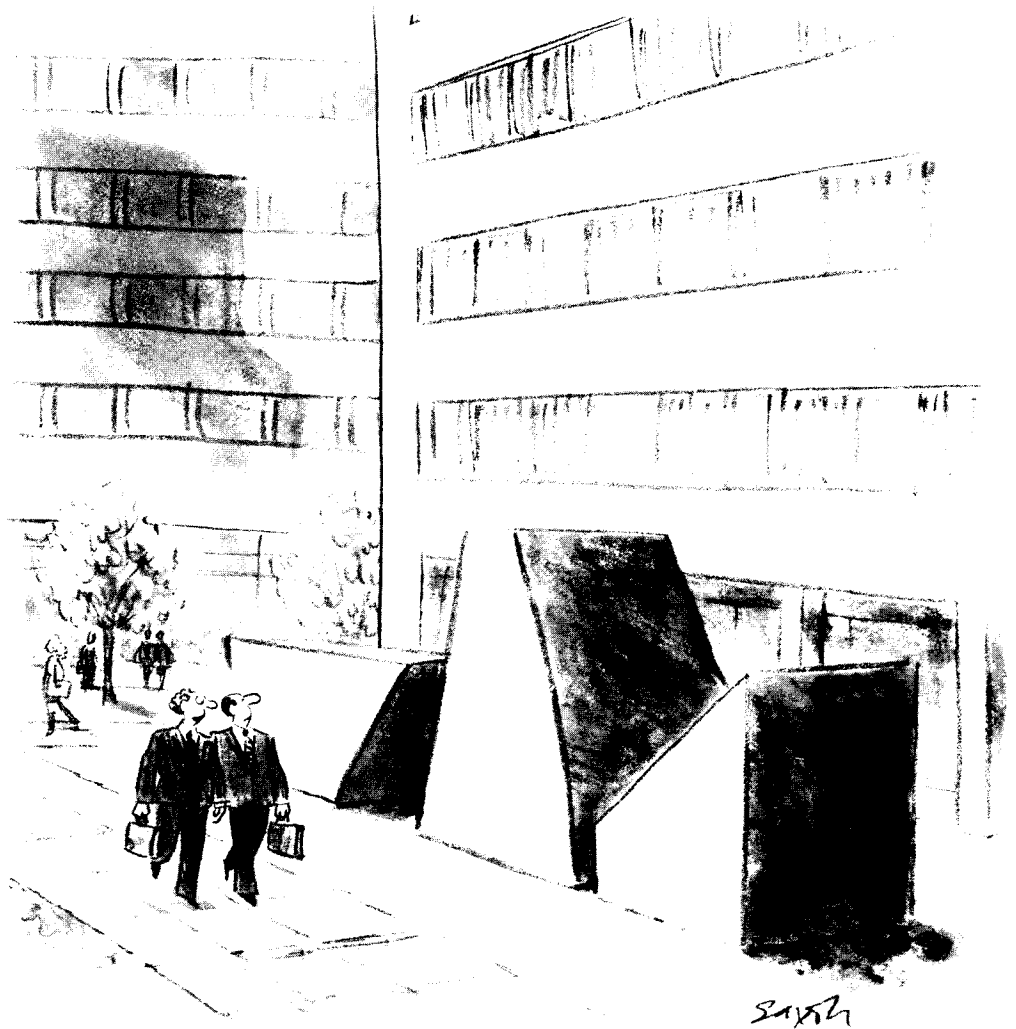
glassy black water in a shallow tank forming the dramatic centerpiece for the architect's Thames-side proposals. Stirling's colorful drawings, huge backlit photographs, a lifesize jumble of elements from one design, and a model suspended from the ceiling to reveal a mole's-eye view of another (Stirling's trademark upward-aimed axonometric drawing style was here brought to life) showed the architect's interest in art, collage, and sequences of space. Foster's combination of rapid-fire slide presentation and comprehensive drawings and models of studies and finished designs alike revealed both humanist and technical concerns. It is interesting to note, for example, that where Stirling shows empty rooms and shades the volumes between room spaces a pretty salmon pink, Foster's renderings depict his rooms cluttered with

people and the spaces between equally cluttered with services. Respectively using devices of drama, tactility, and a sense of discovery about how a building comes to tick, Rogers, Stirling, and Foster selected three very different ways to reach the public viewing their architecture at this exhibition.

The three buildings featured are, predictably, Foster's HongkongBank, Rogers's Lloyd's of London [RECORD, November 1986, pages 104-117], and Stirling's Stuttgart Staatsgalerie [RECORD, September 1984, pages 140-149]. Of the unbuilt projects complementing this threesome, Foster's BBC Building and Stirling's entry to the London National Gallery competition both met the sort of sticky ends that are a specialty of the British process of architectural patronage. The BBC, unexplained, canceled its plans to build, while the

trustees of the National Gallery, after two prolonged and controversial competitions, bravely selected Robert Venturi as their architect. We still await Venturi's drawings. Stirling, meanwhile, has enjoined a game of architectural politics by detailing his rejected entry at this most public of occasions.

Rogers's scheme was rather different. Entitled "London as it could be—a city for people," it was a fanciful combination of a pedestrian suspension bridge and science-fiction rapid-transit link over the Thames between Trafalgar Square and Waterloo Station. The insectlike contraption contained barely any recognizable building form. Rogers showed no substantive drawings of this project nor of the rather more deserving Lloyd's building. In the case of the *Continued on page 77*



"I'll tell you one thing, Hastings—don't ever ask these people what it's all about. It's better not to know."

Hugh Aldersey-Williams is a freelance writer with an interest in architecture and technology. He has edited publications in England and the United States, and he is a regular contributor to *Industrial Design magazine*.

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Books



Contemporary Spanish Architecture: An Eclectic Panorama, by Antón Capitel and Ignacio Solà-Morales. New York: Rizzoli, 1986, \$25 (paperback).

Reviewed by David N. Cohn

This book, a select review of Spanish architecture since 1949, offers a dramatic picture of the chasm that has opened between the "heroic" period of Spanish Modernism in the 1950s and '60s and the Postmodern architecture of today. What is striking about this gulf is how masterful many of the earlier projects are and how disappointing so much recent work is by comparison.

One only has to look, for example, at Josep Sostres's stunning Augusti House (1953), with its crisp, unmannered white forms, or at Alejandro De la Sota's Government Building in Tarragona (1957), which has an expressive, unpretentious monumentality. The Maravillas School Gymnasium in Madrid (1960-62), also by De la Sota, is a fluid interpretation of constructivism, an understated masterpiece.

Recent projects seem more modest in character. They are neat, realistic essays on what is possible within a given program and a given context on a limited budget. The best—the kidney-shaped courtyard in the 1976 Seville apartment building by Antonio Ortiz Garcia and Antonio Cruz Villalon, for example, or the tightly worked layering of the suburban Bellaterra railroad station in Barcelona (1984) by Jaume Bach and Gabriel Mora—achieve a "nice touch." More ambitious architects, however, are often caught in webs of their own making. Juan Navarro Baldeweg's House of Rain, for instance, is certainly an accomplished work, but its formal aims seem overly subtle and personal. The most disappointing failure is Albert Viaplana and Helio Piñón's Plaza dels Països Catalans in Barcelona, where a brilliant idea (they adopt for their architecture the soft curves and recessions of landscape) is compromised by a minimalism that, with its acres of paving and bronze-colored steel, recalls the worst mistakes of the 1960s.

Only two recent projects stand out as truly powerful and original works. The first is Lluís Clotet and Oscar Tusquets' resort house on the Mediterranean island of Pantelleria, where the architects use understated means to achieve a dramatic and suggestive architecture. The second is Rafael Moneo's Museum of Roman Art in

Mérida. Here, massive Roman walls in long narrow rows are broken by arches to form a nave with an archaeological crypt below. Moneo, already well advanced in his career, has established himself with this work as a master of his generation.

The contrast between recent work and that of the Modern generation is especially puzzling because the conditions for making architecture in Spain have probably never been better. True, contemporary architects are severely restricted by a weak economy; however, in the 11 years since Franco's death, Spain has become a new country, eager for new ideas. In Barcelona, for example, the well-known architect Oriol Bohigas has been named chief of city planning, and his department has sponsored many intriguing projects, including the Plaza dels Països Catalans and the rebuilding of Mies's Barcelona Pavilion.

Furthermore, Spain's architects form an exceptionally well-developed community. They are known for their ability to integrate theoretical and technical issues, for their emphasis on building as the measure of architecture, and for their strong regional differences, which have developed in provincial schools of architecture with strong ties to local practitioners. The successful architect in Spain is usually both a teacher and a writer.

How, then, can one explain the younger generation's loss of confidence? The problem is addressed in this book's two introductory essays. The first, by Antón Capitel, is a history of the changing enthusiasms and ideologies that propelled the Spanish Modernists—how, hurrying to catch up with the rest of Europe, they produced a mature, disciplined, and varied body of work. The second essay, by Ignacio Solà-Morales, plunges into the confusion of the present. Rejecting Modernism for its destruction of the city, its ahistoricism, and its false utopias, the new generation of architects has not yet found its own direction. Overwhelmed by possibilities, flooded with information, and, above all, paralyzed by the problems of development that Modernism has left unsolved, they have chosen to retreat, for the present at least, into the well-mannered but timid work we find here. As Kenneth Frampton points out in his introduction, citing the Anglo-American Postmodern scene, they could do much worse. But the book also suggests that as Spanish architects recover an awareness of the city, of history, and of building typology, they should somehow not forget the dynamic spatial experiments of only a generation ago.

Vienna 1900: Art, Architecture & Design, by Kirk Varnedoe. New York and Boston: The Museum of Modern Art and Little, Brown and Company, 1986, \$50.

Vienna 1900: Architecture and Design, by Franco Borsi and Ezio Godoli. New York: Rizzoli, 1986, \$45.

Reviewed by Scott Gutterman

An abundance of material regarding turn-of-the-century Vienna has been published in recent months. The wheels of this particular Vienna revival were set in motion by the massive "Traum und Wirklichkeit" (Dream and Reality) exhibition held in Vienna in July 1985 [RECORD, September 1985, pages 104-113]. Designed by Hans Hollein, the exhibition offered a spectacular Postmodern reconstruction and re-evaluation of the very fertile period in Viennese culture from 1870 to 1930. A scaled-down, more conservative version of that exhibition concentrating on the years around 1900 arrived at the Museum of Modern Art in July 1986, and with it a torrent of art-hype in the popular press. The exhibition managed to make a proper dent in the bourgeois consciousness, despite having to compete with the overwhelming publicity accorded to America's great national mediafest, the Statue of Liberty centennial. The issue of hype is relevant to the renewed interest in fin-de-siècle Vienna because of how it has caused us to see the period. Just as media-simplified sentiments surrounding Lady Liberty invited us to view late 20th-century American history as all sweetness and light, so has popular history made early 20th-century Europe seem a place unavoidably tinged by the darkness that followed. Generalized notions of a last great creative flowering before the ensuing chaos of World War I—a "rehearsal for the end of the world," in the words of Viennese sociologist Karl Kraus—have led us further away from a genuine understanding of this complex period.

The exhibition catalog that accompanied the MOMA show, entitled *Vienna 1900: Art, Architecture & Design*, features a scholarly essay by Kirk Varnedoe that returns to the sources of the "gay apocalypse" stereotype. Varnedoe makes no bones about the "folklore or, more bluntly, cliché" that has developed, stating that "the new idea of Vienna is . . . a powerful and deforming myth." The danger of making a myth of Vienna

Scott Gutterman is an art historian and writer specializing in architecture.

exists not only for the general public, which may wish to simplify the period, but also for the scholar, who may relish its complexity. The recent emphasis on interdisciplinary studies makes Vienna an obvious choice for those who wish to examine the links between politics, history, and culture. Historians, therefore, often lend this period a glowing unity absent from the actual events of the day.

Having stated his objections to such facile historicizing on both sides, Varnedoe proceeds to investigate the fields of Viennese art, architecture, and design with an astonishing degree of clarity and rigor. As a writer, Varnedoe is always stylish, but not overly slick, and he never lets his fluid, alliterative prose style obscure his ideas. He manages to maintain the sense of complexity and contradiction, not only within such movements and counter-movements as the Ver Sacrum and Kabaret Fledermaus, but also within certain figures such as Adolf Loos. The scope of his inquiry reaches out beyond art and design to embrace disciplines like fashion and literature. At the same time, Varnedoe limits himself to those he considers major artists of the period, which gives his work a concentrated focus that makes his over-rich subject easier to digest. His carefully wrought thesis—that the Viennese ultimately failed in their attempt to "fuse a wholly new language"—finally separates, rather than unites, the visual arts from other Viennese achievements in such fields as psychology and music. He cites the inability of these forms to express a middle ground between "the sullen and the giddy." Still, his feeling for the spectacular achievements of Wagner, Olbrich, and Loos, for the design brilliance of Hoffmann and Moser, for the thorny genius of Schiele and Kokoschka is apparent and amply conveyed.

Varnedoe's arguments are well served by a level of design and printing excellence rarely found in a scholarly work. The entire book bears the unmistakable visual style of a Hoffmann design, intelligently employing small black-and-white squares and elegant pitch-black chapter dividers. The color plates are crisp and accurate, the illustrations well-chosen and thoughtfully laid out. On the whole, the book nearly creates a modern-day *Gesamtkunstwerk* (total art work) of the kind that eluded the Viennese artists on display.

Franco Borsi and Ezio Godoli's *Vienna 1900: Architecture and Design* is far less successful. Unlike the MOMA catalogue, which bears the stamp of hammered-out beauty

Continued on page 78

David N. Cohn is an architect and freelance writer who lives in New York City and Madrid.

Unglazed tile technology breakthrough: Specifiers find Quantum II Stain Shield has no "equal."



"The unglazed tile specified for the Holmes Oldsmobile/Honda showroom floor had to be extremely durable to accept the weight of automobiles," stated Bryan Shiffler, of Shiffler Frey Baldwin Clause Architects PC. "The owner was adamant about low maintenance, stain resistance and long life. It had to be impervious to showroom stains such as motor oil and gasoline and it had to be slip-resistant because of customers tracking in snow and ice. It also had

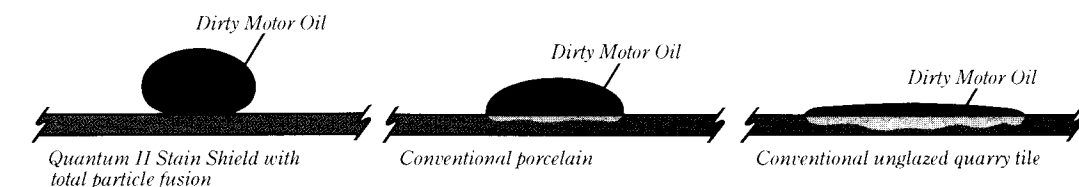
to give the showroom the sophisticated look the owner wanted."

"We tested literally dozens of unglazed tiles for stain resistance, at one point even using battery acid, which we baked on. We managed to damage virtually every tile except Quantum II Stain Shield. We couldn't believe that we simply could not stain it! With anything. In fact, Quantum II Stain Shield certainly has lived up to our client's expectations since it was installed!"

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Depending on your viewpoint, the arguments for and against using unglazed tile have been universal. For the specifier... the wearability, through-body color and slip resistance have made unglazed tile an excellent choice for the high traffic areas such as airports or shopping malls. However, unlike glazed tile, virtually all unglazed tile manufactured today proved susceptible to staining, particularly the popular lighter colors. This is because virtually all unglazed ceramic tile manufactured today has small "pores" throughout the tile body which allow stains to penetrate. Even the best unglazed tiles, with as low a water absorption as .1%, can be permanently stained with the tough stains such as motor oil, red wine, grease, shoe polish or felt marker. Owners who like the superior wearability of unglazed tile had to accept the prospect of expensive maintenance. Generally, sealing the tile was the only alternative to the staining problem, and even then, after significant investment in labor and maintenance, the toughest stains could not be eradicated.

Buchtal recognized the advantages as well as the drawbacks of unglazed



ceramic tile and launched project Quantum II Stain Shield, a product research and development project with the objective to produce the first unglazed ceramic tile that could not be penetrated by stains. In order to understand the staining problem, one has to look into the microscopic structure of the tile body. The tile body is made up of numerous minute particles of clay and other materials. Microscopically, these particles form layers similar to layers of tiny balls. During firing, the heat of the kiln starts a process similar to that of spot welding. The particles are partially fused together at points throughout the tile body to form a strong matrix which becomes the durable unglazed tile. These points of fusion or "spot welds" provide great structural strength and rigidity, but as in a spotwelded container,

they cannot prevent liquids from penetrating. Similarly, even the densest unglazed tiles can also be penetrated. Buchtal sought the answer to obtaining "total particle fusion" in all areas of the tile which needed to be impervious to stains. The result was Quantum II Stain Shield. The Buchtal process of "total particle fusion" resulted in an unglazed tile surface with 0.0% water absorption which rendered the tile virtually impervious to even the toughest stains. Since the first production run was tested, Quantum II Stain Shield has met or exceeded the demanding criteria that were established at the onset of the project. Quantum II Stain Shield was challenged with the toughest of stains — dirty motor oil, acid, red wine, lipstick, felt markers, mustard, shoe polish...they were all easily

removed. Its cleanability surpassed all expectations. In the majority of cases, cleaning with a mild detergent was all that was necessary to eradicate the stain. Non-watersoluble stains were easily removed with an organic solvent such as acetone.

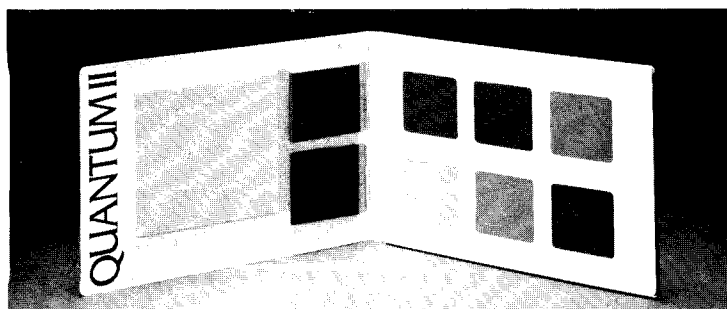
Quantum II Stain Shield is available in nine architectural colors, both in neutral and accent tones, and in six modular sizes (4x4, 4x8, 6x6, 8x8, 10x10, 12x12) to complete the program.

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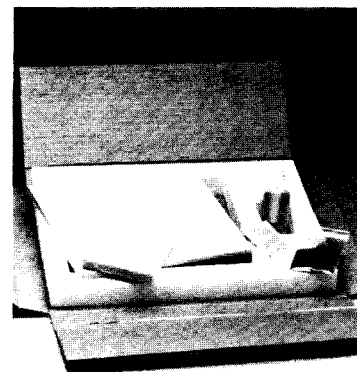


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latter design, a valuable opportunity was missed to proselytize the role technologically inspired architecture can play, here in creating an uninterrupted, highly serviced central space.

The urbanism of Foster and Stirling is very different. Stirling's palazzo for the National Gallery does not defer as much to its context as some previous proposals for the site. But behind its symmetrical, glazed-bay facade lies a progression of naturally lit formal rooms of the traditional sort that Stirling has also employed at Harvard's Sackler Museum and at the Tate Gallery extension, scheduled to open this spring. Stirling's gentle Italian reference (the eventual extension will contain some of the National Gallery's collection of Italian Renaissance masterpieces) goes further in one drawing exhibited at the Academy: In the style of Leon Krier after de Chirico after Piranesi, it showed a ruined Trafalgar Square with Stirling's building in the background and, in the foreground, a fallen tablet inscribed "*Prospetto della Galleria Nazionale, Giacomino Stirling!*"

Foster's urbanism is less camp and more modern. It is also less referential and—new for Foster—more deferential. Central to the program for his BBC building, unveiled at the Academy show, is a diagonal axis through the city-block site that cuts from Cavendish Square to Nash's All Souls' Church. A tall, broad atrium faced with frameless suspended glazing would have offered people passing through the public lobby space an uninterrupted view of the Nash church as well as the chance supposedly to mix freely with the building's users—television stars, politicians, and the like.

The engineering of the atrium in this building and in the overall structure of the HongkongBank are, despite Foster's obvious technophilia, not the minimal designs they might be. They are instead expressions of "unnecessary" structure that add excitement and glamour (as well as expense) to Foster's designs.

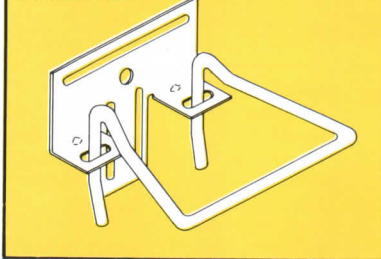
Among the buildings exhibited at the Royal Academy, Foster's HongkongBank is the best exemplar of a quality shared by all three featured architects—the ability to combine the seemingly contradictory values of a strong sense of urban context with an undiluted bravura for their buildings' forms without a descent into techniques of Postmodern fancy-dress. It is a combination all too rarely found in the United States, but one that European architects have reconciled with some success in the past and continue to reconcile today.

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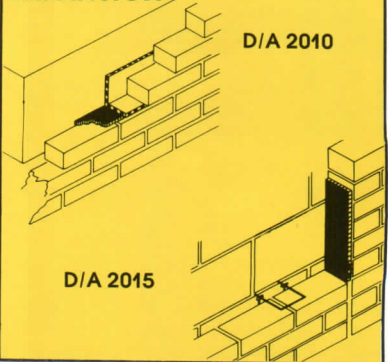
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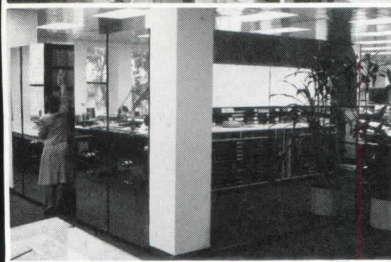
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Continued from page 75

that is so appropriate to its subject, this book has a decidedly hasty quality. A maddeningly uneven prose style pervades much of the writing, whose tone ranges from clipped and blunt to oddly grandiose. "It was in Paris, at the Palais des Illusions, that the curtain rose on the century," begins one paragraph in characteristically overstated and inaccurate fashion. The majority of these clinkers belong to Borsi, who contributed the book's introduction and chapters on Wagner, Olbrich, Hoffmann, and Loos. Godoli's essays, which offer a wider focus in their examination of the development and realization of various styles in Viennese architecture, are much clearer, leading one to blame Borsi more than the translator for the bizarre sentences which so disrupt the early chapters.

Borsi's research and conclusions are also less original and engaging than Godoli's. He presents a fairly conventional rehash of events, supplemented effectively by extended quotations from the written work of his subjects. Borsi, after making a passing reference to the interplay of social and political influences in Vienna, chooses to present each architect from the standpoint of style; he seldom goes beyond mere description to provide a deeper analysis of the work.

It is left to Godoli to present a social context for these architects and their followers. His observations on the influence of Mediterranean and Byzantine architecture are particularly enlightening, and his inclusion of lesser lights of the period makes for a welcome breadth. His writing extends to a brief, but necessary look at design manifestations other than buildings, such as bridges and gardens. Godoli's essays help make this book, if far less than a comprehensive history, at least a repository for some useful information.

The book's design is no less haphazard than much of its writing. Photographs, drawings, and captions are dispersed awkwardly throughout, and there is little sense of rhythm or harmony. Most of the featured pictures are poor and do little to convey the almost automatic beauty of Vienna's architecture. What little color printing one finds is marred by obvious variations in quality. The contrast with Varnedoe's work could hardly be more extreme. Borsi and Godoli's book benefits from the latest Vienna craze without arousing our interest in or furthering our understanding of its subject; Varnedoe, by contrast, offers a generous reconsideration of the period and emerges with a perfectly realized synthesis of art and ideas.

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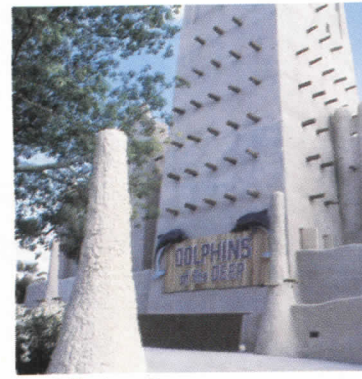
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Frank Lloyd Wright's "Fallingwater", PA.



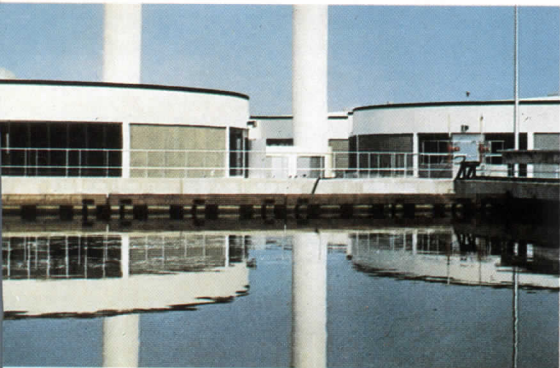
Union Station, Indianapolis



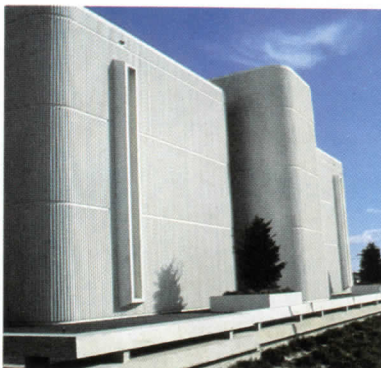
U.S. Army/Air Force Exchange, Dallas



Mills Hyatt House, Charleston



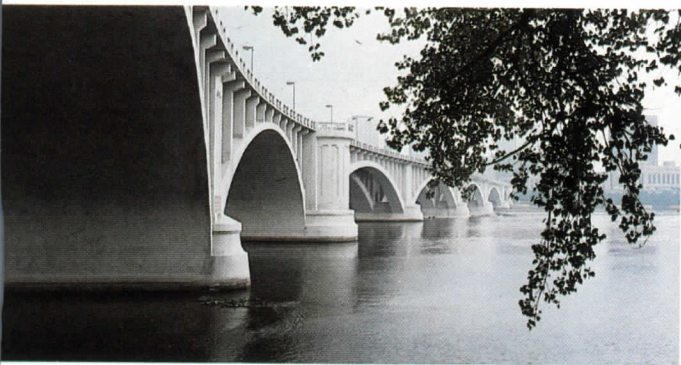
Ontario Treatment Plant, Canada



Calder Library, Miami



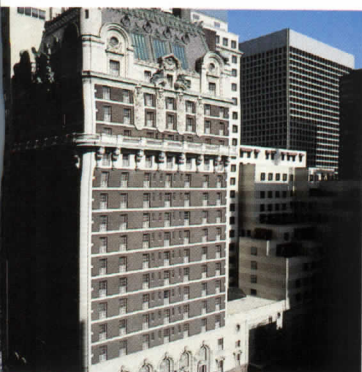
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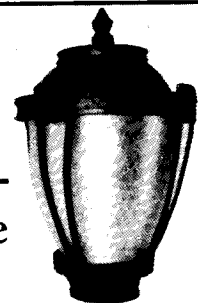
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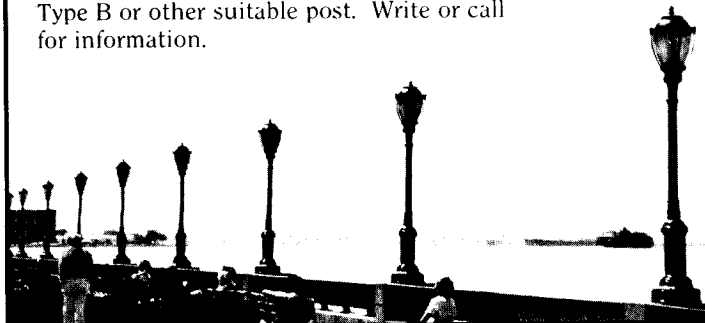
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Independent studies

College admissions officers will tell you that prospective students turn thumbs up or thumbs down on schools they think of attending within the first half-hour of the ritual campus visit. The academic match by then has been made. Now the student asks: Where will I live? How's the food? Where's the swimming pool?

As cohorts of academically equivalent colleges increasingly vie with one another to skim the top of the pool of the talented college-bound, their competitive arena has come to center on the broad domain encompassing student life—dorms as well as labs, gyms as well as libraries—and the amenities that will attract young people whose backgrounds (checked tuition costs lately?) can hardly have been spartan.

Resuming after a pause in the '70s, a new wave of building—this time undertaken not to stay atop a demographic crest but to avoid floundering in its following trough—has been accompanied by sea changes abetted by an evolving consciousness among architects as well. Like the Emerald City viewed without the Wizard's green spectacles, many campuses lost their sheen when the shedding of blinkered allegiance to international-style modernism revealed the damage done to their fragile fabric by a generation of buildings that, however admirable on their own terms, were designed as if in a vacuum. On the rebound, as it were, a new litany began to waft from collegiate carillons: preservation, restoration, adaptation. Then, as a college exhausted that repertoire: addition, infill, background.

No one could deny that the gentler treatment, and particularly more sensitive siting, has helped reweave frazzled campus threads, or that buildings of great distinction have emerged from an ethos of deference. But some begin to scrutinize more closely the Emperor's becoming new clothes. Where is the line between reticence and timidity? Between respect for context and an over-precious—or spurious—aping of overt content? If building as object is bad, is building as addendum better? And what of the context undeserving of deference?

As colleges gain ease with a competitive posture once deemed unscholarly and ungentlemanly, they require of architecture distinction in both senses of the word. And by concurrence, buildings recently appearing on college campuses often display less self-consciousness and more self-assurance within a widening universe of architectural approach.

The sampling on the following pages includes, for example, an alumni center by Michael Graves, who, faced with a site in West Virginia University's athletic precinct, pronounced the context ugly and ignored it, producing an unrelated gem of a "public house." Tod Williams's admiration and affection for the original Princeton campus are patent, but the dormitory he knuckled between old and new residential quadrangles expresses its affinity with the former's Collegiate Gothic tectonically rather than by watered-down visual references. And in an extreme of contextualism, Venturi, Rauch and Scott Brown recommended for Swarthmore's student center a non-site, injecting their new structure into the shell of a disused but venerable and highly prominent campus landmark. *Margaret Gaskie*

Homecoming

© Paul Warchol photos



Its call for design/build proposals for a new alumni center put West Virginia University in the happy predicament of the casual angler who sets a bottom line for catfish and hooks instead a rare specimen bass. For among the responses was one that promised design by architect Michael Graves, teamed with a one-time college classmate as builder. An alert university president, quick to recognize the prize catch, persuaded the Alumni Council to toss back the lesser fry it had netted and commission Graves outright, so claiming for West Virginia University—not Princeton, where he has long taught, nor his alma maters, the University of Cincinnati and Harvard—Graves's first college building.

To Graves, then completing the luxe Humana building, the sparseness of the project must surely have been as a madeleine to Proust's Marcel. On the spartan budget implied by the initial recourse to design/build, the client aspired to a full-scale banquet hall—a gathering place large enough for the hordes of old grads who converge on the campus for pre-game rallies and post-game celebrations (or wakes)—as well as smaller meeting rooms for working alumni groups and new administrative quarters for the alumni association.

From the beginning Graves saw the building as being “about” the reconciliation of domestic stance with public function in a hybrid somewhere between a fraternity house and a stately home. But the more obvious conventions of such quasi-private domiciles, which assume a generous frame, were thwarted by a site that, though tucked conveniently among major athletic facilities, fronting on a fringe road and backing to a swath of natural landscape (photos left), presented a precipitous drop from the road level, where by university fiat the center's main entrance was to be placed, to the gentler expanse where its greater bulk would necessarily reside. Balked of traditional expansiveness by the abrupt descent, Graves substituted wit and wile.

In plan the alumni center is plain vanilla: a simple two-story box with offices, meeting rooms, and service areas arrayed on three sides of a double-height banquet hall. Its distinctive sauce is added by the section (overleaf), which slips at midpoint to shear the banquet hall from the parlor-level entry to the smaller spaces stacked beside it, so that “gatehouse” and “manor” in effect become discrete sectors commingled in a stair hall beneath a high-peaked gable.

Despite a budget requiring, as Graves says, “down and dirty” poured-concrete and wood-frame construction and a decorative vocabulary pared to paint and stucco, the alumni center's dual aspects are keyed on the exterior as well. The rear face, where the banquet hall looks to the woodland across a paved terrace (lower left and facing page), is all manor. Painted stripes, like the stone belts they ape, establish a domestic scale promptly exceeded by the heroic proportions of the central chimney piece (with sculpture niche awaiting a coonskin-capped mountain man); shallow flanking “bays” popped forward with white paint and topped by half-real, half-pretend doubled gables; and a roof hoisted above its natural seat by a mock attic clerestory with lights rendered in applied latticework only sparingly pierced by true windows.

These surface indications of layering and articulation become more tangible at the roadside gatehouse where, Graves says, he “turned up the rheostat,” piling icons of entry lacking only a portcullis onto a fairytale fortress-cottage that might have been imagined by a precocious child. Here the white gables connoting houseness actually do recede, from the largest, which peaks over and lights the stair hall, to the smaller pair that meet the banquet hall's timber truss. And the primary counter-element, the little drum-crowned introductory vestibule that extends the progression outward, typifies the building as a whole in asserting a presence that belies its modesty.

West Virginia's alums may not have known what they were getting, but they know what they got. As the bemused but delighted donor whose name adorns the building remarked, “It's not what I expected, but it's a grand gift to myself.”





ERICKSON ALUMNI CENTER

Entering the center, banquet-hall-bound alumni wend a varied path across the bridged moat, through the lantern-topped vestibule, into a reception hall, and on by stair to the anteroom opening to the great hall—which is its own reward for the journey. Welcoming and dignified, the room's proportions gracefully carry its height, which is nonetheless emphasized by such scale-defining devices as close-set pilasters, windows in the overlooking second-floor gallery, and an attic story that lightly raises the timber-trussed roof.

*Erickson Alumni Center
West Virginia University
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Owner:
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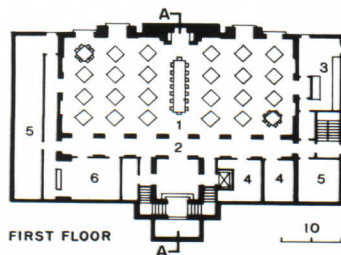
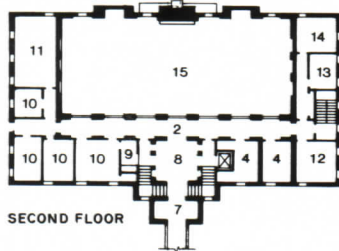
Architects:
Michael Graves Architect—Michael Graves, principal-in-charge; Nicholas Gonser, job captain

Associated architects:
Coco & Baldassano—William Collins, project manager

Engineers:
De Simone & Chaplin (structural); Cannon Design (mechanical/electrical)

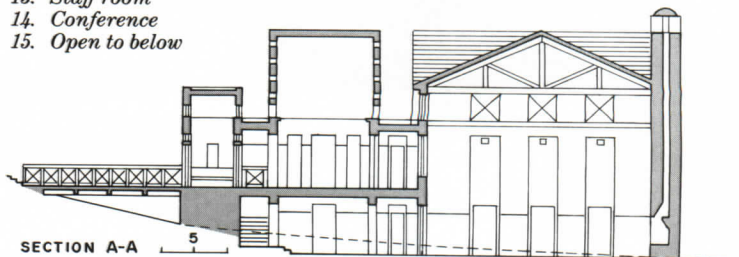
Consultants:
Stone & Thomas (interior furnishings)

General contractor:
G. A. Brown



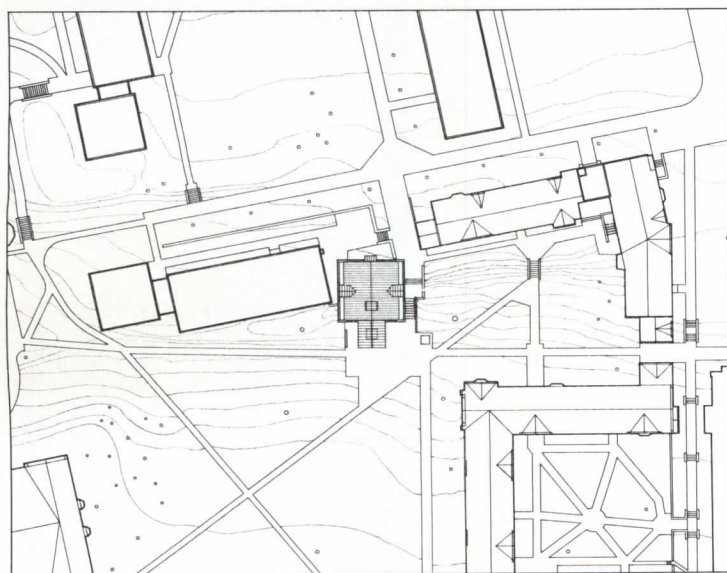
1. Banquet hall
2. Gallery
3. Kitchen
4. Toilet
5. Mechanical/storage
6. Club room
7. Vestibule
8. Foyer
9. Reception
10. Office
11. Work room
12. Clerks' room

13. Staff room
14. Conference
15. Open to below



Quadrangle keep

© Paul Warchol photos



When architect Tod Williams refers to Princeton's new Feinberg Hall as "a tower among towers," the immediate suspicion is of hyperbole if not quite hubris. A tower as evoked by the mention of Princeton is a massive neo-Gothic confection whose highest reaches are a reference point throughout the campus; Feinberg Hall is an 80-foot-high, 10,000-square-foot dormitory prominent only in its own precinct. On closer acquaintance, though, the comparison seems less far-fetched. If a tower, à la Webster, is a structure high in relation to its own diameter and in relation to nearby buildings, Feinberg, with its 40- by 40-foot base and low-lying neighbors, qualifies in both respects. More important, it qualifies subjectively as well. Lent substance in part by its own qualities and in part by its position, it is a very *big* little building.

Since the late '60s, which among other upheavals saw the traditional eating clubs loosen their once-ironclad grip on student social life, Princeton has been converting dormitories wholly lacking group spaces to residential colleges on the Oxbridge (and, more to the point, Harvard/Yale) model. In the ongoing scheme, Feinberg Hall's 40 additional beds, with a dining commons now under construction, will complete the shift of an existing housing complex to the college system.

The site for the insert—which is literally that—was a cramped afterthought squeezed between two dormitories that ride the steep ridge (a drop of 15 feet within the new building's modest span) at the juncture of Princeton's upper and lower campuses. Officially part of the new college (top in site plan) whose uppermost component is the unfortunate '50s holdover immediately to the east, the site was bound on the west by one of a trio of Princetonian-picturesque '20s-Gothic dorms that sketched an open-ended court. As infill between them, the new building not only owed courtesy to its dissimilar near neighbors but was poised as a portal linking the upper and lower residential areas—and so, in effect, the core campus with later additions.

Addressing the neighbors with fine evenhandedness, Williams withdrew the new building from both. "Hinged" on the east, the hall pivots to align with the upper set of dormitories and augment their tentative enclosure, while it formally fronts on the southern quadrangle, to which it contributes a slope-negotiating stepped forecourt and side stair passage—but no entry. By allowing the building to stand free of the near-tangent bracketing dormitories, the rotation also freed its development as an independent entity, respectful of its elders but rooted in its own period and ethos.

Feinberg Hall's strongest, if not most apparent, kinship is in fact with the neo-Gothic of the older campus, a tectonic bond forged by a load-bearing masonry structure that, absent visual likeness, asserts qualities of density and permanence. It follows these exemplars too in the leavening perpendicularity of its vertically composed fenestration, the lift of false pediments on the east and west faces, and especially in the exaggerated pitch of the standing-seam copper roof.

But, ironically enough, its most salient venture toward verticality was an unanticipated late addition. Well into development of a compact design that coiled student suites around a central stair, code changes decreed adding a second stair and an elevator for the handicapped. With nary a foot to spare in the original plan, Williams did the obvious—or what after many rejected schemes became obvious. The elevator was detached from the dormitory altogether and wrapped in a brick-shielded fire stair tied back to the building by its landings—which, the residents quickly discovered, make dandy porches. Nor do the serendipities end there. The offset shaft with its see-through face and butterfly canopy also provides an alternate path of vertical circulation, adds import and interest to the building's presence on the north quadrangle, and by a trick of perspective slims and stretches its heftier companion.

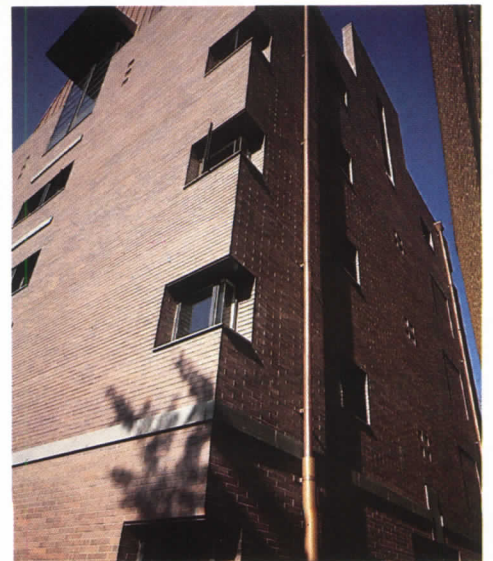
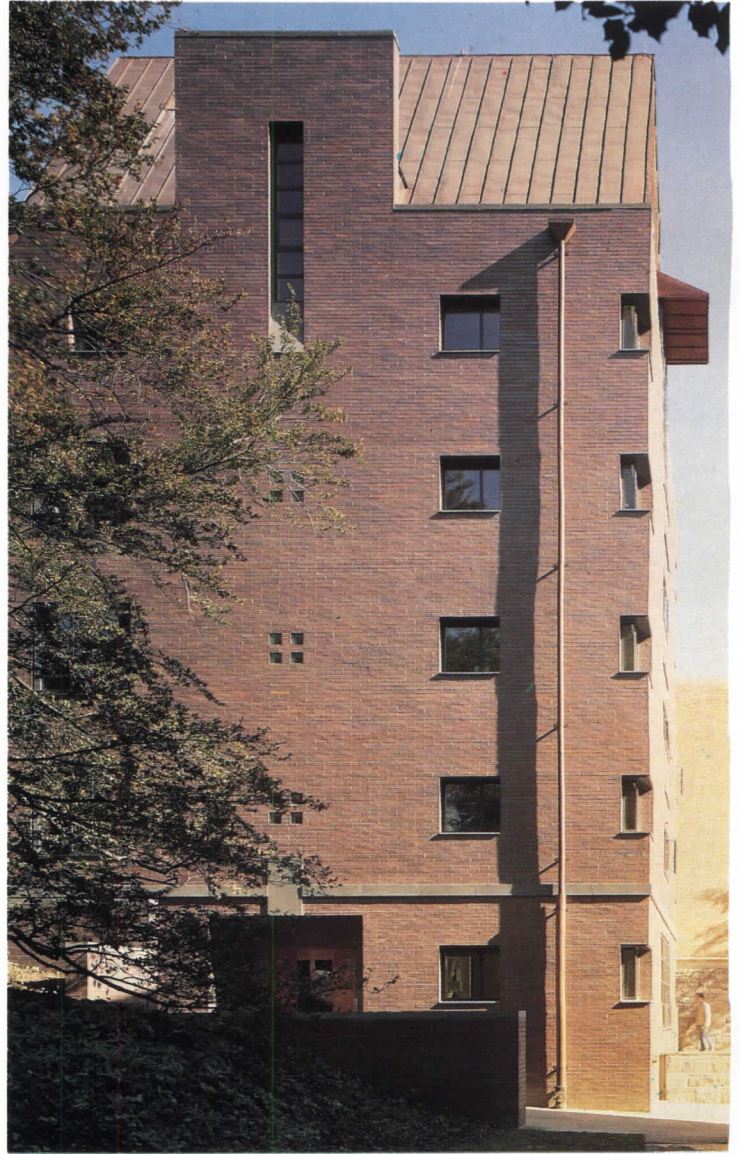
Big little Feinberg Hall invites macho adjectives . . . tough, unsentimental, muscular. The *mot juste*, however, was volunteered by the construction crew: "Pound for pound," they pronounced, it was the *tightest* building they'd ever worked on.



FEINBERG HALL

Feinberg Hall's ambivalent stance toward the residential college it joins is evidenced by the provision of entries on all sides—except the face it turns to the college quadrangle, where the entrance suggested by a bluestone-paved forecourt that extends to the neighboring dorm is gestural only. The true front door is off the stair passage that climbs the ridge on the west, with secondary access from a handicapped

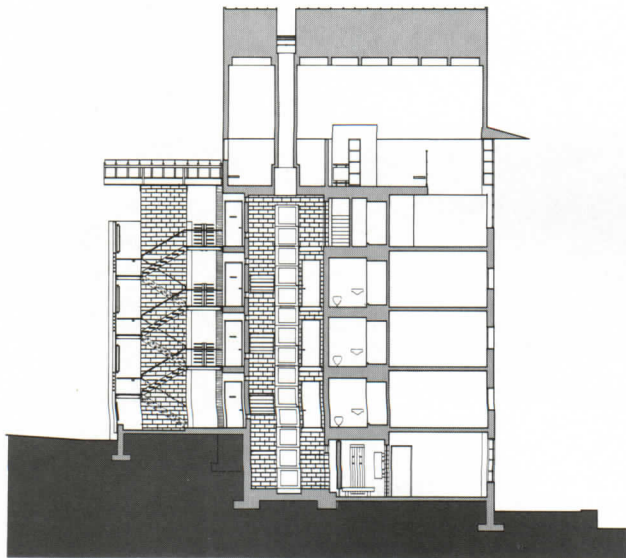
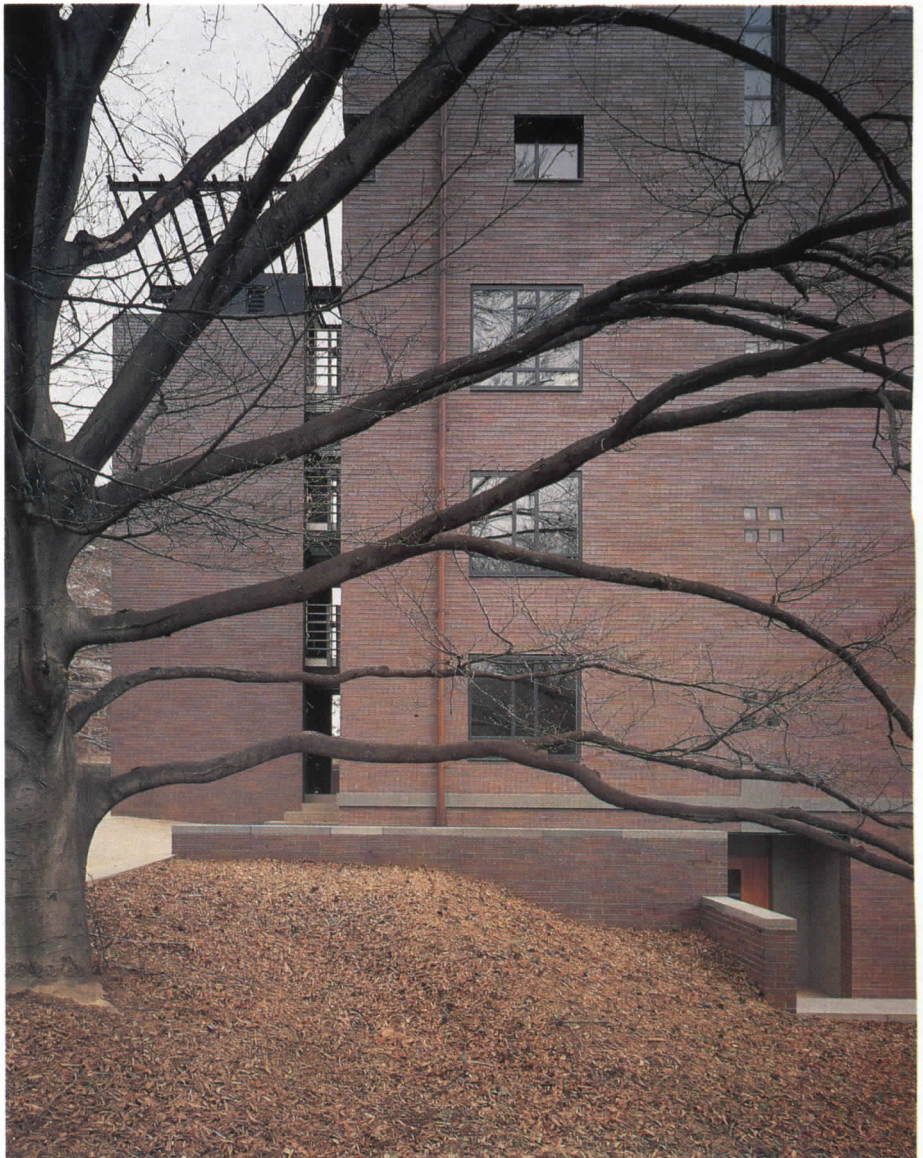
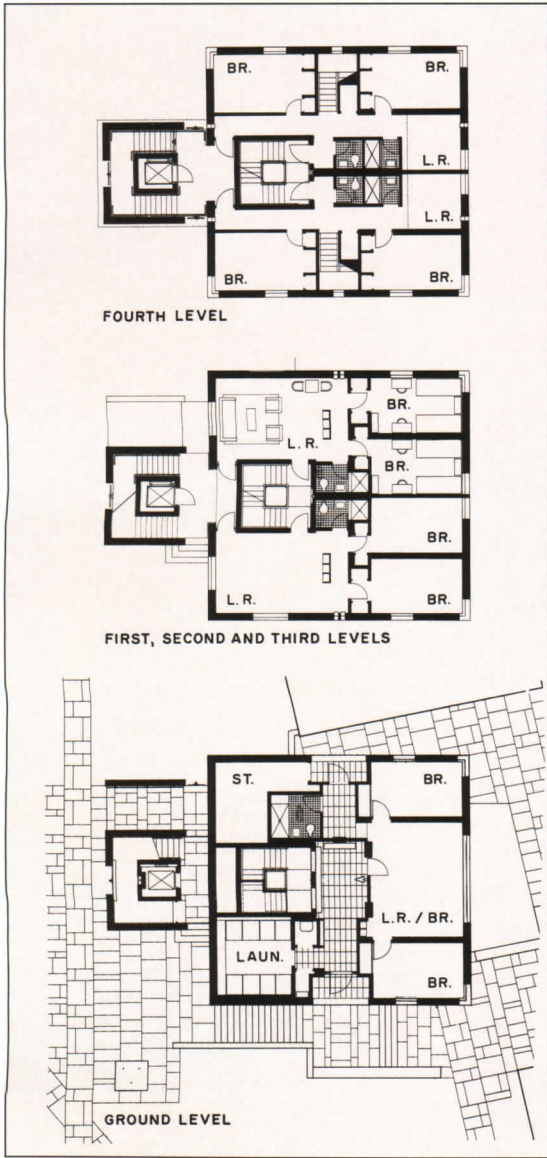
ramp on the east and via the fire-stair tower. A solo version of Princeton's traditional vertical-entry dormitories, Feinberg Hall, like them, in any case makes scant ceremony of entry. From the main (side) door, a small vestibule opens on a ground-floor lobby that is little more than an expanded corridor leading to the central stair shaft. Off the lobby are a laundry room and a suite suitable for either handicapped



students or resident advisors, with a central living room positioned for semipublic gatherings. The first through third floors are typical, each housing two four-person suites of living room, two bedrooms, and bath. On the top floor, however, the attic beneath the 30-foot gable allows a shift to two sought-after six-person duplex suites with mezzanine lofts beneath the peak. Because the hall is freestanding, all suites enjoy three

exposures, and windows are placed for maximum effect from within as well as without. At the building's south corners, deep interior sills invert to notches that emphasize the load-bearing thickness of the walls, and elsewhere lintels are exaggerated to stress the weight of masonry above. Save for the fenestration that marks vertical and horizontal divisions, exterior embellishment is confined to raked horizontal joints

in the cladding of aubergine ironspot Norman brick; a low belt course of jadelike gray-green slate punctuated by "buckles" over the side entries; and brief bands of slate that trace floor lines between the central windows of the south facade. As the building weathers, the subtle color of the slate will be echoed in the patina of the copper roof and copper downspouts carefully distanced to cast a distinct shadow.





In a reversal of the more usual order, Feinberg Hall's masonry structure supports the steelwork that lightens the building's mass with such permeable elements as the railings of the outer stair shaft, bisected at the front by a purely decorative column, and the inverted steel and wireglass canopy (opposite) that floats above. The painstakingly detailed but lighthearted industrial esthetic carries to the interior stair tower (right) that, despite softening touches of oak, dominates the modest lobby. The centerpiece open-tread metal stair spirals around a shaft topped by a skylight from which natural light floods the 80-foot well—unfortunately filtered by the client's addition of a safety grate that both blocks the light and visually cramps the stairway. The shaft also contains components of the mechanical systems that throughout the building are bared and organized into compositions not unfamiliar to the trendier galleries. Living areas, however, depart from the hard-edge idiom. More generous than the run of college rooms, they are made yet more spacious by the extra few inches of ceiling height Williams squeezed out by using exposed flat slab decking—a nicety reaching a glorious extreme in the 30-foot-high attic living rooms (below right).

*Feinberg Hall
Woodrow Wilson College
Princeton University
Princeton, New Jersey*

Owner:

*Princeton University (Jon Hlafter,
director of physical planning)*

Architects:

Tod Williams & Associates—Tod Williams, principal designer; Keith Hanadel, Rick Gooding, project architects; Fred Biehle, Annie Chu, Susan Davis-McCarter, Ralph Gentile, David Heymann, Robert McAnulty, Michael Morris, Billie Tsien, project team

Engineers:

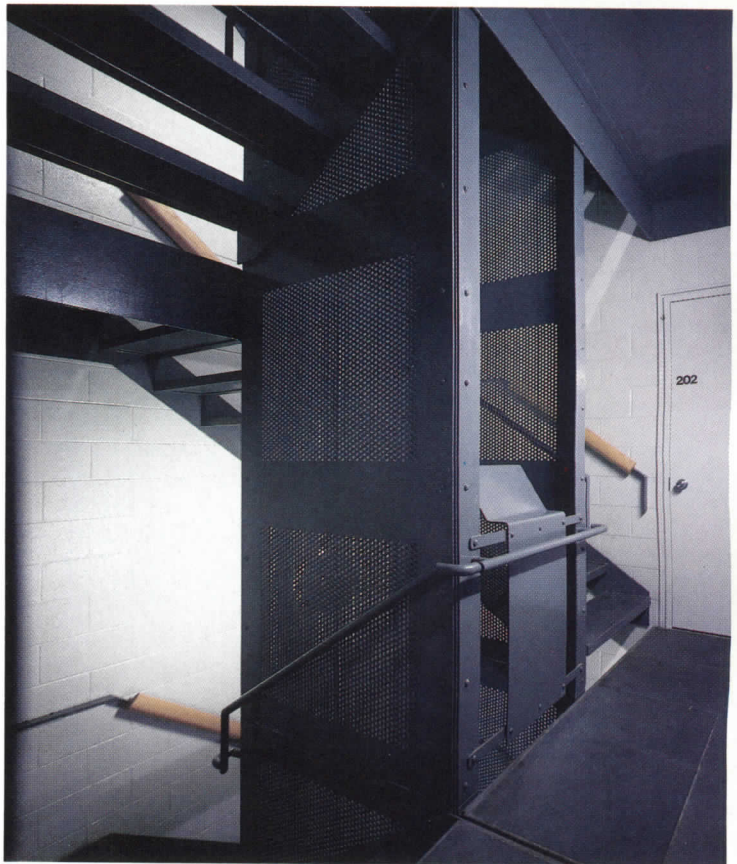
Severud-Szegezdy (structural); Ambrosino, DePinto, Schmieder (mechanical)

Consultants:

Rick Shaver (lighting)

General contractor:

S. T. Peterson & Company, Inc.



Infill to the nth

Matt Wargo



Well-maintained, the granite and limestone exterior of Clothier Hall required only minor repairs—flashing, pointing, replacing roof slates—except in the cloister where rotted breezeway supports were replaced. In addition, the inner garden was dropped in level in the course of new landscaping to create for the student center's clientele an outdoor room more sheltered than the facing swath of lawn.

Howard Roark would have roared at the very thought, but Venturi, Rauch and Scott Brown's first concern in designing the new Tarble Student Center for Swarthmore College was persuading the client that their work should be invisible.

Soon after the lovely one-time library that had housed the original student center fell victim to arson in 1983, the firm was asked to study the replacement alternatives being weighed by a college building committee. Three principal options were considered: rebuilding on the burned-out site, where an emblematic remnant of the old building remained; starting fresh with a new structure in a new location; or, after the earlier lead, altering for the purpose Clothier Hall, another of the campus's Collegiate Gothic treasures. To VRSB, however, there was really only one option—to adapt Clothier Hall.

Formerly housing the college auditorium, the '20s building had been shunted aside by a new music building and, except for occasional student performances, was unused. Yet its size, distinction, and location on the campus's highest point made it second in prominence only to the sprawling Second Empire building that was Swarthmore's original home. It stood at one apex of a triangle encompassing the library, dining hall, and post office, where even the college's legendarily frivolity-averse, nose-to-the-grindstone students would be hard-pressed to avoid it. And it offered a ready-made envelope.

These arguments—and a brilliantly apt design solution—eventually overcame the committee's qualms about altering Clothier's interior and subjecting it to the heavy use of a student center. Confronted with implementing the victory, though, VRSB may have sensed something Pyrrhic. To increase the building's capacity while preserving its unique qualities, the firm proposed to slip into the cavernous hall, like a ship in a bottle, a freestanding structure that would add a second level of usable space. Deceptively simple in concept, in practice this meant putting together within the confines of the auditorium a 50- by 100-foot building with every usual component except weatherproofing.

The base of the structure (plans and sections overleaf) is given over to a capacious, comfortably furnished commons and a Brauhaus-style snack bar and adjoining food-service area, both lined by broad-gridded expanses of glass double-hulled to provide acoustic isolation while drawing light from Clothier's tall arched windows. But it is the insert's roof, set at the original balcony level that is the student center's grand assembly room (photo opposite), a mezzanine "all-campus space" flexibly equipped for activities ranging from film showings to weekly dances festively lit by Japanese lanterns hung from the hammer beams.

Limited by the dimensions of the host building, the insert alone could not accomplish the tripling of usable space to the 35,000 square feet needed to meet the program requirements. So another large space to house the bookstore was carved out by enlarging a half-basement that was little more than a dirt-floored crawl space—an exercise that entailed excavating another five feet deep and replacing six columns. Beyond the bookstore, the basement harbors a tight cluster of game rooms that typifies VRSB's zeal in wresting from the container every possible inch of space: a cabaret in the former stage area, offices in the stage house above, a mini-lounge tucked into an incidental side apse.

Not surprisingly, it is such found spaces in scattered nooks and crannies that lend the student center much of its peculiar charm, abetted by the warmth of the insert against the cool dignity of the stone shell. There is delicious mischief in domesticating an edifice so deliberately imposing, and not the least of the fun is in the great hall's outward refusal to so much as hint at the goings-on inside. VRSB's solution is a tour de force to be sure, but not merely clever. The adaptation generously responds to the program and is heavily used. Pointedly displaying as well as preserving and protecting the building's fine interior, the new use transforms an irreplaceable constituent of Swarthmore's campus from monument to living building. And it's not a bad essay in complexity and contradiction either.



Because conflicting activities in the new structure—e.g., a movie in the all-campus space competing with the snack bar's jukebox—would be frequent, acoustic isolation was a major concern. Accordingly, the lower level (below left) was encased in a "double hull" with glazing on either side of a dead-air pocket lined with acoustic absorbent, cutting sound without blocking light. In addition, the floor above is

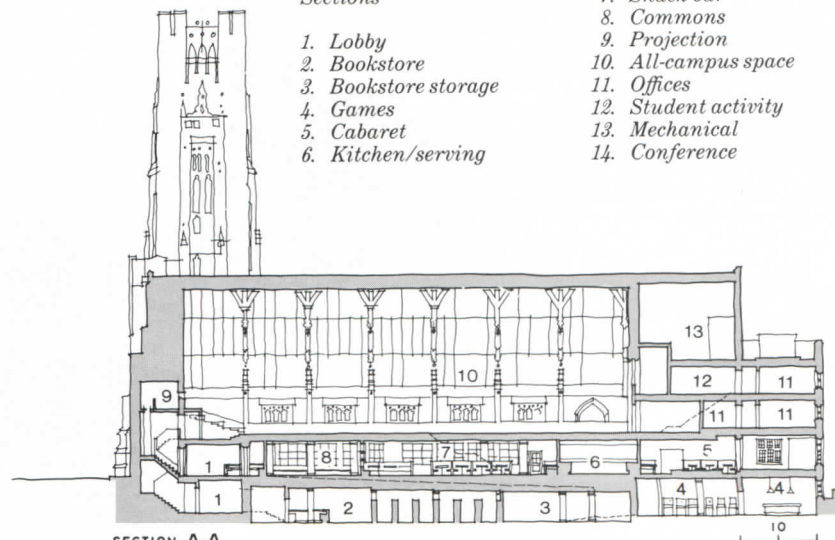
resiliently mounted to combat impact noise. Continuing upward to enclose the mezzanine, the wall is topped by pairs of playful little pinnacles (below right) that march in a-b-a-b rhythm with the spruced-up roof arches. The whimsy is only skin-deep, however, for the pinnacles are a major component of the insert's mechanical systems. The globes capping them augment the quartz lamps that wash the ceiling,

Tom Bernard photos except as noted



Sections

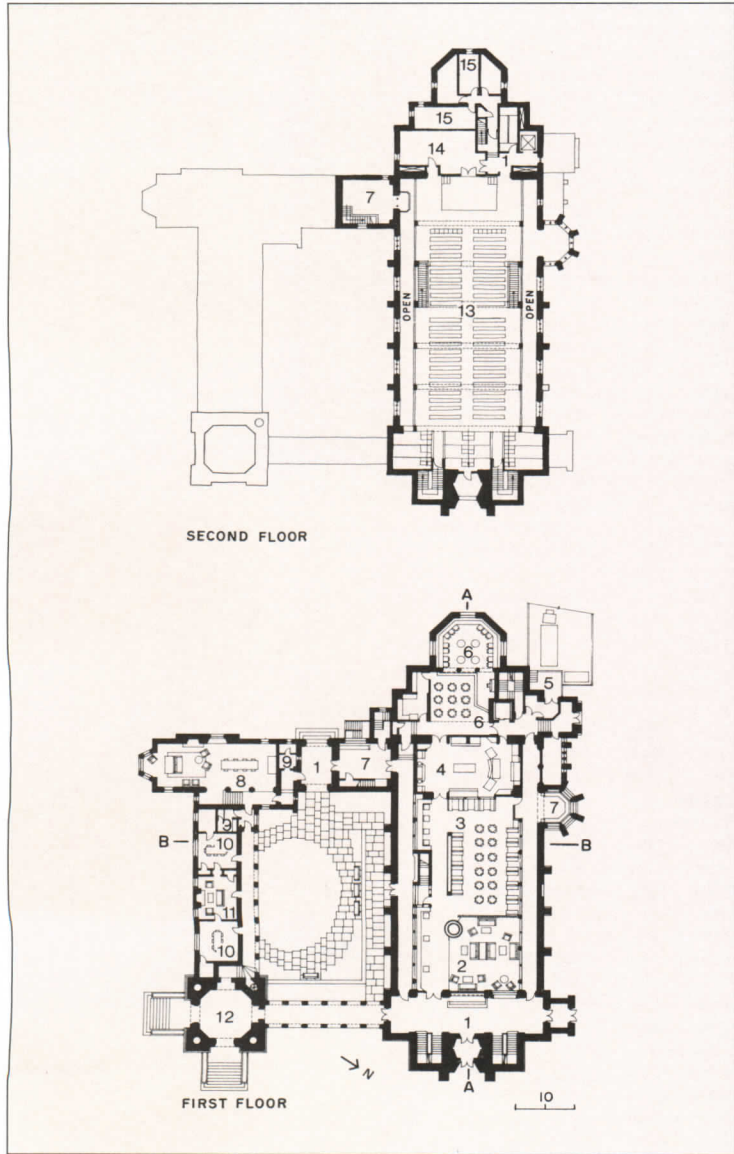
- | | |
|----------------------|----------------------|
| 1. Lobby | 7. Snack bar |
| 2. Bookstore | 8. Commons |
| 3. Bookstore storage | 9. Projection |
| 4. Games | 10. All-campus space |
| 5. Cabaret | 11. Offices |
| 6. Kitchen/serving | 12. Student activity |
| | 13. Mechanical |
| | 14. Conference |



SECTION A-A

and their bodies conduct air fed through the handrails, which double as supply ducts, to top vents directionally controlled to condition only the lower 12 feet of the space beneath the roof. Similarly, structural and mechanical elements intruding on the tight headspace in the commons (below right) and snack bar were wedged between the lighting coffers. (The elegant independence of the insert's systems faltered,

however, in the kitchen, where, to avoid the all-campus space above or the bookstore below, plumbing and exhaust pipes had to be routed through the former stage area.) Save for changes as minor as removing the lobby doors (replacing one with a window wall) to visually join it with the commons (above right) and punching windows in the old stage house, such care preserved the original fabric intact.

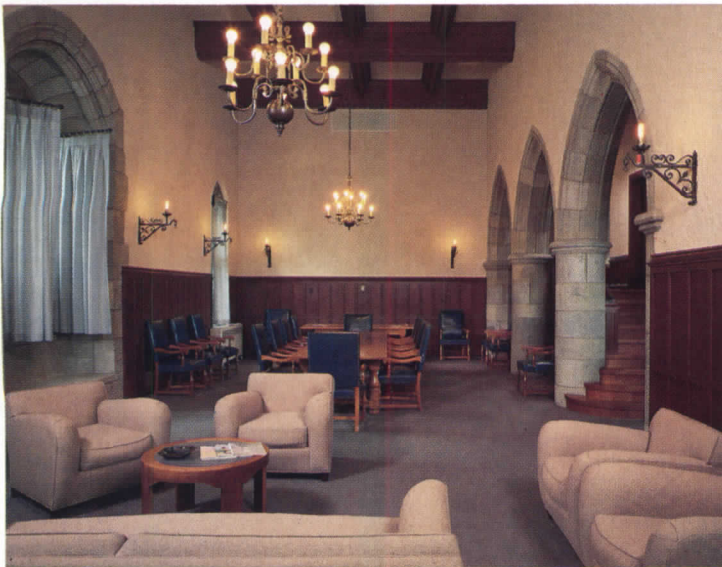


- 1. Lobby
- 2. Common room
- 3. Snack bar
- 4. Kitchen/serving
- 5. Loading
- 6. Cabaret
- 7. Lounge
- 8. Study/meeting
- 9. Toilet
- 10. Conference
- 11. Meeting
- 12. Tower
- 13. All-campus space
- 14. Storage
- 15. Office





Despite the substantial square-footage gained by inserting a freestanding building to house Tarble's major common areas, and tunneling its bookstore beneath the original structure, accommodating the full range of activities programmed for the student center required VRSB to look at all the available space in Clothier Hall's neo-Gothic envelope as usable space. Nudged, tucked, and wedged into odd corners, the "accidental" rooms found in the process wear an air of improvisation in contrast to the handsome built spaces, to the benefit of both. The stage area formerly occupying the chancel, for example, is now a two-level cabaret (above left), with dance floor and upper seating area divided by a row of pointed arches, once the stage backdrop with organ pipes above. A shallow side apse, just big enough for benches and a few tables, becomes a study alcove spectacularly walled by the tracery of the tall arched windows (opposite). And former offices around the cloister were refurbished with a light hand to provide additional meeting and study spaces (below left).



*Tarble Student Center
Swarthmore College
Swarthmore, Pennsylvania*

Owner:
Swarthmore College

Architects:
Venturi, Rauch and Scott Brown—
Robert Venturi, Steven Izenour,
principals-in-charge; Daniel
McCoubrey, David Marohn, project
managers; Timur Galen, Gabrielle
London, Robert Marker, Sherry
Williamson, project team

Consultants:
Dian Boone (interior design); George
Izenour (theatrical); John Sarkioglu
(lighting)

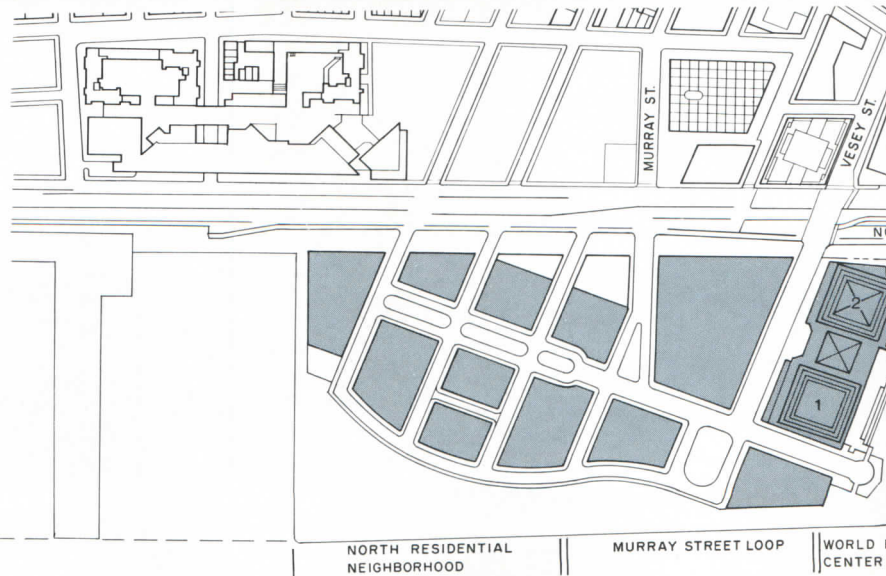
General contractor:
Paul Restall Company



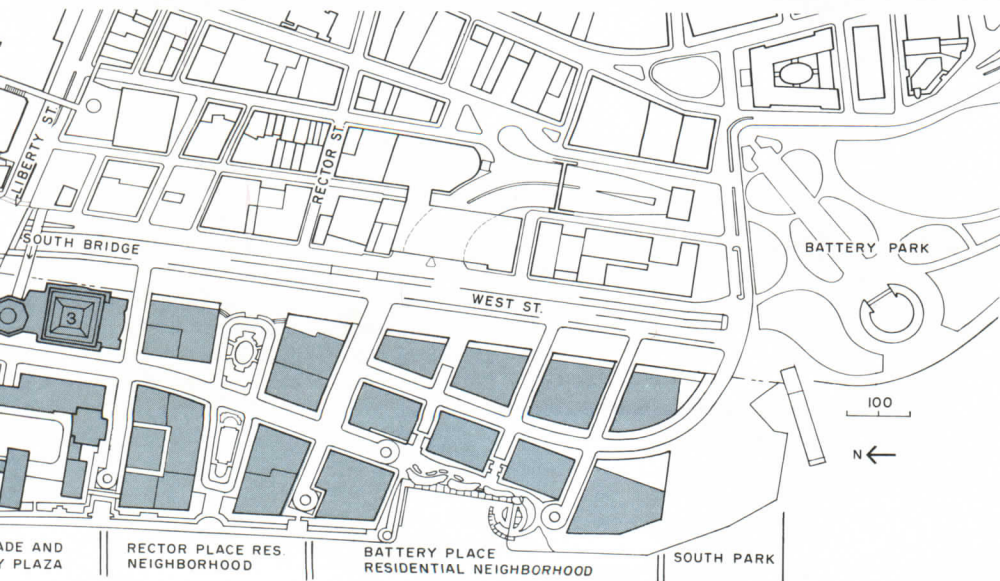
A vision with a message



©Stan Ries



1. *Merrill Lynch*
2. *American Express*
3. *Dow Jones*



Battery Park City proves that high design can work at super scale

By Carter Wiseman

In the early 1900s, approaching Lower Manhattan from the water must have seemed like arriving at Oz. The storied spires of the Woolworth and Singer buildings must surely have struck travelers as something akin to fairytale castles, beacons to a rich and wondrous kingdom. The blandification of more recent architecture masked that fantastic vision, but now the romance is back. From a boat in the harbor, especially at sunset, the glittering skins and varied crowns of Battery Park City have renewed New York's claim to skyline without peer.

Most of us will probably come to know the particular pleasures of Battery Park City with our feet on the ground. And up close it is clear that this \$4-billion undertaking is no mere stage set to be seen from afar. It is a unique phenomenon—an entire community with a distinct identity, yet intimately linked to the forms and purposes of Manhattan. Stretching over 92 acres along the southwestern edge of the island, Battery Park City will, when finished, provide 6 million square feet of office space and up to 14,000 apartments.

The massive towers of the World Financial Center are already home to Merrill Lynch & Company, the Home Insurance Company, American Express, and Oppenheimer & Company. Their employees can look out upon a riverfront esplanade, a "winter garden" the size of the Grand Central concourse, and a rich mix of parks and gardens sprinkled with public art. Shops and restaurants are already springing up to serve the projected workforce of 31,000, and soon the buildings now in place will be joined by a high school, a museum or two, and a marina intended to reopen the delights of New York's waters to its inward-looking populace.

Although conceived as a unit, Battery Park City has none of the authoritarian regularity that might be expected of such a sweeping scheme. Working under a demanding set of design guidelines, some of the country's finest architects have imbued the development with the sort of visual texture and surprise characteristic of urban spaces that evolved over generations. While much of the housing remains to be built, the commercial core and the first residential portion are now virtually complete—and the success of the entire project is unmistakable. Battery Park City has become the standard by which any future urban design must be measured.

Happily, what is going on along this bit of the Hudson River is nothing like what the original planners of Battery Park City had in mind. Created in 1968 to develop the landfill produced in part by the ground dug up for the World Trade Center, the Battery Park City Authority spent more than a decade struggling through a variety of plans for the site. Most were based on lonesome clusters, or "pods," of buildings sealed off in fact and in spirit from neighboring Manhattan, and all were threatened by financial disaster. In 1979, the Authority's leadership was shaken up, and the agency was linked to the Urban Development Corporation. The new man in charge, Richard Kahan, hired the urban design firm of Cooper, Eckstut Associates, and together they worked out a new master plan, one that took an approach radically different from its predecessors.

Instead of the fortress-like forms common to the early plans (a trace of which survives in Gateway Plaza, a dreary clutch of apartment buildings developed by the Lefrak Organization), Alexander Cooper and Stanton Eckstut concentrated on traditional New York shapes and materials that had proved themselves popular over time. The team extended Manhattan's street pattern into the new land, and ran an elegant esplanade along the river. Most important, the planners laid down an extensive set of architectural guidelines. Those guidelines mandated buildings of varied sizes and shapes, as well as materials that would reflect the city's existing fabric. For inspiration on the

commercial portion of the plan, they looked to the cathedrals of commerce in the financial district; for the residential areas, they turned to such venerable parts of town as Gramercy Park, West End Avenue, and Beekman Place. "What Cooper and Eckstut taught us was to make it look as if it had always been there," says Gary Deane, the project's director of planning. The result: buildings with masonry bases, prominent cornices, and distinctive "hats;" sidewalks with traditional hexagonal pavers; and black iron fences with which any New Yorker would feel at home.

None of this would have survived the rigors of implementation without strict enforcement. Amanda Burden, the Authority's vice-president for planning and design, policed the developers and architects, blocking many an attempt to skirt the guidelines. And Meyer (Sandy) Frucher, the present head of the project, saw to the extraordinarily complex dealings required to render the vision into fact. "The Authority was brutally diligent," says Alex Cooper. Adds Cesar Pelli, who was picked by Olympia & York, the Toronto-based developer, to design the World Financial Center: "The execution is the part of a project where things come unraveled. This is where you have to make the deals and the compromises, and settle the disputes. Sandy has been a first-rate chief executive."

Although less striking at first glance than the commercial towers, the residential portion of Battery Park City just to the south is no less significant as design. Here, a variety of architects was selected deliberately to create at one stroke the effect of a community that had grown up incrementally. The group included Ulrich Franzen & Associates/The Vilkas Group, Jack Brown and Irving E. Gershon, Davis, Brody & Associates, James Stewart Polshek and Partners, the Gruzen Partnership, Mitchell/Giurgola, Bond Ryder James, Conklin & Rossant, and the team of Charles Moore/Rothzeit, Kaiserman Thomson & Bee.

Working with the Cooper, Eckstut guidelines, the architects came up with an extraordinary potpourri of buildings that nonetheless appear to be part of the same urban family. What Peter Samton of the Gruzen Partnership describes as "enforcing a mixed bag" proved, at times, "a pain in the neck," but ultimately produced what he rightly expects will be "a nice place to live."

There is no mystery to the success. The varied colors and sizes of the brick, the unpredictable roof lines, and the use of different types of windows overcame the anonymity so common to large housing complexes. Yet because the materials and the forms are drawn from familiar sources, the buildings exude an almost palpable feeling of welcome. "The guidelines became the surrogate for a context," says Ulrich Franzen. "They created a level of sensitive design probably not otherwise possible."

Of course, what makes Battery Park City such a striking addition to the New York skyline is not the apartment buildings, but Cesar Pelli's towers for the World Financial Center. Pelli is an unashamed fan of urban disorder. "I wanted to incorporate into the design the complexity of life in the city," he says. "All the cities we love—Paris, London, Rome—are architecturally messy. They all have wonderful juxtapositions. Within the givens of architecture, we wanted to have as much variety as possible." Faced with requirements for vast square-footage, Pelli decided to pursue complexity first by creating buildings of different heights; they range from the nine stories of the two "gatehouses" to the 51 stories of the tallest tower.

To reduce the impact of the biggest buildings, the architect used two simple visual tricks. One was to shift gradually from a stone skin at the bases to glass at the tops, visually and literally lightening the buildings as they went up. All are secured by copper tops in varied shapes. The other device was to create setbacks with what Pelli calls "jackets." By "peeling" the jackets away at the corners, he was able to mitigate the potentially monolithic effect of what would otherwise have been sheer



walls. (Paul and Albert Reichmann, the brothers who run Olympia & York, so liked the technique that they persuaded Pelli to use it on his southernmost tower, which he had intended to leave unpeeled. The architect concedes that the developers improved the building significantly.)

Lest the arrangement of the four towers appear random, Pelli imposed on the site an underlying grid pattern. Had he insisted on this four-square approach throughout, though, he would have had an awkward fit with South End Avenue, a main thoroughfare that intersects the grid at an angle. So the architect sited the base of one of the Merrill Lynch towers to match the grid, but rotated the shaft so that it would face the street, thus creating a dignified terminus to the view from the south. Pelli says the idea goes back to his work with Eero Saarinen on Morse and Stiles colleges at Yale, where the new buildings were "deformed" to create a visual whole with the existing mass of an old gymnasium.

The force of that lesson is even more evident in one of Pelli's greatest accomplishments at Battery Park City: the subduing of the World Trade Center. In designing that lamentable pair of 110-story dolmens, Minoru Yamasaki committed the worst of urban sins, which is to destroy the sense of scale. Without discrete windows or recognizable bits of trim, there is no standard by which to measure these buildings relative to their surroundings. But Pelli has turned this facelessness to his advantage. By using the different heights of his own towers to create a series of steps, he has made the World Trade Centers appear to be merely the next steps beyond his own. And since his scale is clearly announced by the details of his buildings, the World Trade towers are "captured" as part of a new composition.

Playing at such a game while maintaining the sense of street-level scale so bruised by the World Trade Center confronted the architect with a daunting task. Pelli dealt with it on the exteriors of his buildings in part by concentrating on the entries, embellishing them with several layers of metal and stone, varying the color and texture to divert attention from the bulk above. The masses of office workers to be accommodated in the buildings' vast public spaces created a similar problem of scale on the interiors. Here, the architect turned to some bold decorative techniques, applying stenciled patterns to the ceilings and cladding the walls with fabric done in overscaled versions of Owen Jones patterns. So much marble was required that a disused Italian quarry was able to reopen on the Battery Park orders alone.

While the Financial Center's workers are the prime beneficiaries of such decorative largesse, the general public can look forward to a share of the spatial riches in the Winter Garden. It is made up of a series of telescoping vaulted segments, its glazed skin supported by a steel tracery that gives the 120-foot-high space the airy feel of a 19th-century European railroad station. Its western wall faces the Hudson, and once the restaurants and 40-foot palm trees planned for the space go in, it is sure to be one of the most dramatic in New York, particularly as the sun sets across the water.

Artistry at Battery Park City is not limited to the architects. From the earliest stages, the Authority has seen to it that the buildings have an appropriate setting. The World Financial Center Plaza, which covers three-and-a-half acres in front of the winter garden, is the result of a collaboration among Pelli, artists Scott Burton and Siah Armajani, and landscape architect M. Paul Friedberg. Stanton Eckstut has been working with artist Mary Miss and landscape architect Susan Child on the South Cove Park. A "public environment" by Richard Artschwager is under way, and Ned Smythe has recently finished a colonnaded open-air "room" of precast aggregate and blue stone. Jennifer Bartlett is also doing a collaborative project. Rector Park, designed by the landscape firms of Innocenti & Webel and Vollmer Associates, is one of the most serene oases anywhere in New York City.

Whatever they may think of the trimmings, some visitors to this new

city remain skeptical of the architecture. The residential buildings in particular seem to draw fire from critics upset that the Cooper, Eckstut guidelines forced the designers to look backward rather than forward for their muses. And indeed, here and there around Rector Park there are touches that verge on the cute. Even accepting the guidelines, not all the buildings are of uniform quality, either in design or execution. But there is nothing fundamentally immoral in looking to what has worked in the past for help in building for the future. Nor is there anything inherently demeaning in creating buildings that are largely facades. As Stanton Eckstut points out, "The wall is a significant architectural problem."

Among the converts to the Cooper, Eckstut philosophy is no less powerful a developer than Donald Trump. Having acquired the abandoned railroad yards on Manhattan's Upper West Side, Trump two years ago set about making plans for what had become the largest remaining undeveloped site on the island. His first choice to do the master plan was Helmut Jahn, an apostle of the new and shiny if there ever was one. The result was a certifiably "forward-looking," space-age scheme that resembled nothing so much as the first proposals for Battery Park City. Evidently persuaded that such a plan would never make it through the city approval process—and quite possibly persuaded that the new Battery Park City was better—Trump replaced Jahn with Alexander Cooper. (Eckstut had split off to form a partnership with The Ehrenkrantz Group.)

Although the original vision for Battery Park City is now firmly anchored in reality, much remains to be done. Developers for three of the five residential sites at the south end of the project have only recently been designated, and zoning and mapping are still under way for the portion north of the commercial core. (A debate is smoldering over whether that parcel should include a fifth commercial tower.) Unlike the southern portion, which was based almost entirely on New York City precedents, the northern portion is likely to have a more Bostonian look. "We're searching for a different effect," says Gary Deane. Accordingly, the main boulevard has been modeled on Commonwealth Avenue.

One of the most encouraging recent developments isn't on the site at all. The original housing strategy for Battery Park City provided for roughly one-third luxury units, one-third moderate income, and one-third subsidized. The financial crises of the late 1970s made that unworkable, and the result is that almost all of the housing now being built is at the high end of the price scale. (Two-bedroom condominiums sell for about \$500,000.) That bothered Meyer Frucher, who felt that the project, which was supported by public funds, was losing too much of its originally enlightened social purpose. But instead of insisting on what he describes as "token" low-income housing, he has worked out a plan with the city and the State of New York to devote a portion of Battery Park City's revenues to building and renovating low- and moderate-income housing elsewhere in the city. The first \$400-million has already been committed.

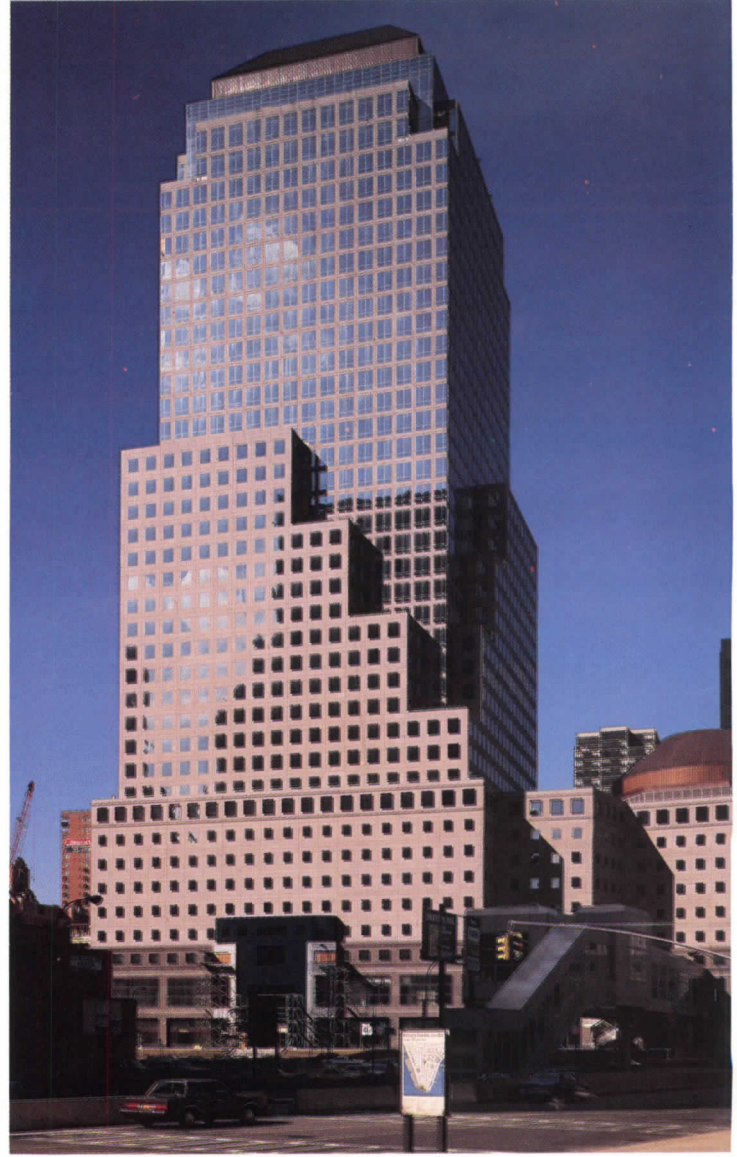
It will be years before the phenomenon on the Hudson River landfill can be called finished. With the help of the New York Zoological Society, Frucher is hoping to add a "biosphere" to the attractions of his domain. He also wants to experiment with new apartment forms to encourage more families to move into the development. There is talk of building a trolley that would connect Battery Park City to the South Street Seaport, directly across Manhattan on the East River shore.

But as far as the architecture is concerned, one main player is content to wait. The copper "tops" of Cesar Pelli's towers are brown now; it may be a decade before they develop their green patina. Which is, in the architect's view, as it should be. Although his work at Battery Park City is, he says, "a monument to private enterprise," he feels that the public remains more important. "Everybody in New York," he points out, "will share in the aging of these buildings."

To reduce the sense of mass, the architect of the four commercial towers, Cesar Pelli, relied on two visual tricks. One was to enclose the shafts in "jackets," which he then "peeled" away. The other was to use large expanses of stone and small windows at the bottom, visually increasing the amount of glass as the towers rise. The effect is to make the buildings appear slimmer as they

get taller. The geometric "hats" were designed to invoke the romantic pinnacles of the nearby financial district. Pelli's interiors (the Dow Jones lobby is on the facing page) are corporate sleek with a difference. Designed to accommodate large numbers of office workers, they nonetheless have distinct identities, which are accentuated by stenciling and overscale fabric patterns on the ceilings and walls.

© Wolfgang Hoyt/ESTO photos except as noted



The major public amenity of the commercial core is the "winter garden." The glass enclosure, which is roughly the size of the Grand Central Terminal concourse, is to be planted with palm trees. It faces a 3 1/2-acre plaza designed as a collaboration among Pelli, Scott Burton, Siah Armajani, and M. Paul Friedberg.



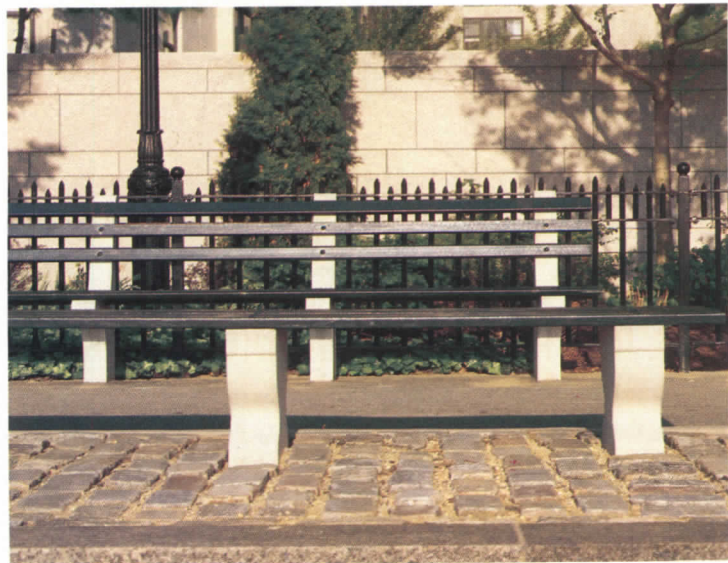
The architects of the residential buildings all abided by a common set of design guidelines, but each came up with unique variations. Davis Brody's tower (below, left) is enlivened by several different colors of brick. The team of Charles Moore/Rothzeid, Kaiserman Thomson and Bee (below) used prominent balconies and (bottom) a street treatment reminiscent of vintage New York apartment buildings.



A fundamental concern of the Cooper, Eckstut master plan was the creation of vistas. The stepped effect achieved by the residential buildings and the Pelli towers brings the enormous masses of the World Trade Center into balance as part of an entirely new composition. The esplanade (right) was designed in zones to encourage active and passive uses. The hardware was based on traditional New York City models.



The public spaces at Battery Park City got as much design attention as the architecture. Rector Park, the centerpiece of the first residential parcel, owes much to the example of Gramercy Park, but, unlike its model, has no gates and is open to all. A long-neglected harbor view (below) has become a main attraction for Battery Park City residents and visitors alike. The benches along the esplanade (bottom)



©Stan Eries

were installed to give a clear view past the railings at the river's edge. The attention to detail is the key to the success of Rector Park. Careful brickwork and skillful plantings help make it a place to be used as well as observed. The esplanade (right) will eventually run the length of the development, linking the residential parcels at both ends to the commercial buildings in the middle.



©Stan Riles



A fine American hand

American Craft Museum
New York City
Fox & Fowle Architects

©Dan Cornish/ESTO photos



Given the mixed nature of their own creative process, architects have always had good reason to mistrust any esthetic hierarchy that raises art above craft on a pedestal of “higher” values. Even a cursory survey of the current art scene validates such skepticism. Gauged by criteria of style and medium, conventional boundaries between art and craft often blur nowadays to the point of invisibility; and when the standards are expressive power and refinement, and the ability to stir the passions of connoisseurs and a broader public, the “artisan” is as likely as not to equal or outstrip the “fine artist.” These generalities take on particular shape, texture, and color in an exhibition entitled “Craft Today: Poetry of the Physical,” on view through March 22 at the American Craft Museum in New York. The provocative, eclectic assemblage of more than 300 objects is scheduled to travel, but nowhere will carry the symbolic weight it holds in its present venue, a new facility designed by Fox & Fowle Architects to be the nation’s foremost craft showcase.

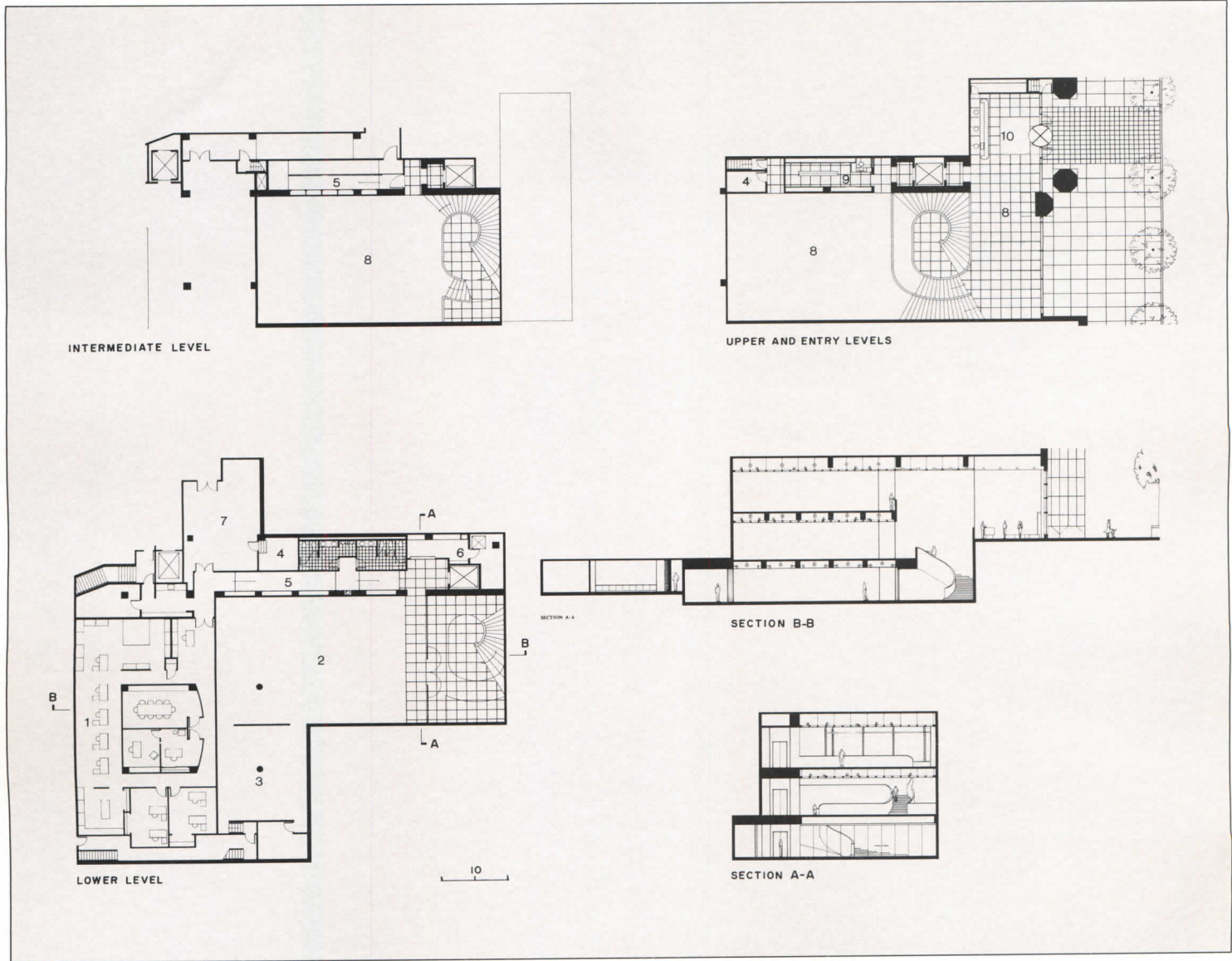
Widely influential, the Manhattan museum has been pre-eminent in its field ever since it was founded by the American Craft Council 31 years ago, even if the modest galleries inside its two earliest homes—remodeled brownstones down the block from the Museum of Modern Art—afforded scant opportunity to display this stature. As prime real estate, however, both sites were extremely valuable, and ultimately enabled the Craft Museum to come into its own. MoMA purchased the first parcel, on the north side of West 53rd Street, in the late '70s to clear the way for Cesar Pelli’s expansion; the development team of Gerald D. Hines Interests and CBS Inc. later acquired the second property, across the street, along with appurtenant air rights, to erect a high-rise designed by Kevin Roche John Dinkeloo and Associates (and now leased by E. F. Hutton). The American Craft Council consummated the latter deal with extraordinary acumen, signing a contract that granted the Council condominium ownership of an 18,000-square-foot shell at the base of the new tower, with a 72-foot frontage on 53rd Street, its own entrance, and \$750,000 for improvements. Besides giving the museum four times the space of its previous quarters and full control over the layout of its new interior, this novel arrangement permanently ensured physical autonomy and freedom from corporate

interference—benefits not always enjoyed by “satellite” museums installed in office buildings for zoning breaks and prestige.

Despite all the wheeling and dealing, the Craft Council’s budget was tight, and the specific architectural envelope supplied by the developer less than ideal: recessed behind a clumsy, elephantine facade, the principal 20-foot-high volume at street level threatened to overwhelm any small-scale craft objects, and the basement below promised nothing. Fortunately, all parties agreed at the outset to house the museum in a four-story wing to the east of the 35-story tower where it adjoins the low block of a public library, a location that implicitly set the galleries apart from the main building entry in a separate pavilion (substitution of light for dark tinted glass in the curtain wall and adjustment of stone patterns around the front door reinforced this distinction). Fox & Fowle then ingeniously excavated enough of the basement floor to insert a mezzanine slightly more than halfway below grade, a level that by city zoning regulations would not alter the permissible floor-area ratio already assigned the total building.

While the multilevel parti added usable program space, it also accentuated the visual and logistical role of vertical circulation; hence the grand curved staircase-atrium that forms the only flamboyant gesture in an interior otherwise self-consciously understated. Galleries served by the open well are simple yet flexible enough to accommodate everything from boats to brooches, faïence to feathers, and an exhibition lineup expected to change at least four times a year (ceiling grids neatly inset with tracks and rollers simplify the reorganization of hanging displays). In theory, Fox & Fowle’s virtuoso stairway would seem to upstage this carefully orchestrated ensemble, yet in fact it is essential to its success. Craft Museum attendance surveys have shown that many first-time visitors are passers-by attracted by what they see through the front windows and across the atrium, and once they come inside, the vistas and pathways up and down prove irresistible. Craft objects are unmistakably the stars of the show. But the background drama of contour, material, and proportion that makes people eagerly climb or descend the stairs to take a closer look speaks well, if quietly, for the art and craft of architecture. *Douglas Brenner*





1. Office
2. Event space/gallery
3. Educational center
4. Mechanical
5. Ramp
6. Service
7. Loading and receiving
8. Gallery
9. Museum shop
10. Reception





Four tiers of galleries (including the entry level) and the 40-foot-high atrium provide varied settings keyed to objects of very different scale. The lowest level has also been wired for video monitors and overhead film projection, to supplement in-house educational programs, lectures, conferences, and craft demonstrations. This multilevel layout is equally hospitable to a single large exhibition (such as the inaugural multimedia survey illustrated here) or to subdivision for several small shows running simultaneously. Roller-tracks recessed in ceiling grids expedite the suspension of movable display walls and individual artifacts. Bosun's chairs hung from the overhead trolleys enable staff to shift high installations or lights without scaffolds. Gallery lighting fixtures are mounted above wooden grids to minimize visual distraction. By

establishing a module reflected in maple floors, the coffered effect articulates the interior without compromising its purposeful restraint. Comments museum director Paul J. Smith: "The kinds of work we show are so rich, so textured, so powerful in their materiality that the best environment is a simple one." Smith and his colleagues were likewise wary of incorporating craft ornament or furniture as permanent fixtures, even though they usually encourage the integration of craft and architecture (and are planning an exhibition on that theme for next year). Nevertheless, the museum welcomed subtle embellishments, such as a bird's-eye maple reception desk (opposite) and elevator cab designed by Fox & Fowle in collaboration with cabinetmaker James Schriber. Budget permitting, bronze handrails will eventually grace the stairway.



Serpentine stairs act as a lure to draw the visitor in from the corner entrance and gracefully ease circulation through the galleries. Nooks, landings, and balconies create unusual settings for display and surprising perspectives on the objects shown. (Serendipitously, from the upper flight one can see Matisse's "The Dance" through a window of the Museum of Modern Art.) The sweep of the painted stair parapet took its ultimate form empirically. Once steel stringers and stair pans had been installed, oversize studs were attached to the stringers and cut to length (inside the margin permitted by code) along a freehand profile traced with bent hanger rods. Wood-carvers used hatchets to rough out lengths of the parapet cap on site and then refined each section in their workshop, before applying final touches to the continuous curve at the museum.

*American Craft Museum
New York City*

Owner:
American Craft Council

Architect:
Fox & Fowle Architects—Bruce S. Fowle, partner-in-charge; John Menz, associate-in-charge; Sylvia Smith, project architect; Richard Cook, design coordinator

Engineers:
Office of Irwin G. Cantor (structural); Cosentini Associates (mechanical)

Lighting designer:
Jules Fisher & Paul Marantz, Inc.

Stairway:
Carolina Steel (steel stair fabrication); Mestel Stair Design (wood parapet cap)

Reception desk:
Fox & Fowle Architects (designer); James Schriber (craftsman)

Construction manager:
Herbert Construction Company



Missed connections

Musée d'Orsay
Paris, France
Gae Aulenti, Architect;
A. C. T. Architecture

In 1969 the last train pulled out of the Gare d'Orsay, and Victor Laloux's masterpiece went dark in the City of Light. Built in 1900 by the Paris-Orléans railway company to link southwestern France to Paris, the station had ironically fallen prey to the very technological progress its grand iron-and-glass barrel vault so proudly symbolized in *fin-de-siècle* Europe. Orsay's platforms could not accommodate the longer trains electrification brought in 1939, and once demoted to commuter status with the bulk of its activities moved underground, the grossly underutilized station trundled inevitably toward the end of the line. By the late '50s the reprieve granted by the War years finally expired, and the obsolescent station lay deteriorating on the Left Bank of the Seine like the rotting carcass of a dinosaur that had stumbled into an inhospitable future.

In 1961 the railway company decided to sell the station, and the siren call of opportunity went out to French developers. The site was offered in competition to 13 architects, who submitted plans for a luxury hotel and convention center. Looking over the various schemes (Le Corbusier's included), one shudders to think of what might have been—"Miami Beach on the Seine." Had the French bureaucracy been less tortuous, Orsay would have been razed and the new complex built. But a decade-long tangle of red tape stalled the project just long enough for Parisians to get a powerful whiff of redevelopment, Georges Pompidou style. On the other side of the river, the demolition of Victor Baltard's great iron-and-glass food market, Les Halles Centrales, and the construction of a glitzy, futuristic shopping mall in its place, awakened the city to the historic preservation cause. (Pompidou's unveiling of Piano & Rogers' Beaubourg added fuel to the preservation fire.) The subsequent swell of public sentiment against grandiose redevelopment schemes paid for with irreplaceable landmarks persuaded Pompidou that destroying Orsay would not endear him to his constituency, and in 1971 the demolition order was retracted. To ensure Orsay's future, Minister of Interior Jacques Duhamel made Laloux's station an addendum to the list of *Monuments Historiques* in 1973, (that same year, coincidentally, the station's in-house hotel finally closed its doors). Once saved, however, the question remained: what to do with Orsay?

The answer came in 1977, when the directors of the *Musées de France* succeeded in their entreaties to the new President, Valéry Giscard d'Estaing. While the mighty Louvre casts a wide curatorial net—stretching from antiquity to Romanticism—and Beaubourg contains, as best it can, the offerings of this century, no Parisian museum offered a worthy home for France's greatest period of artistic flowering, the 19th century. Giscard approved the concept of a museum devoted to the 19th century, allocated the necessary funds, and invited six French architectural firms to submit designs. The president selected the firm of A. C. T. Architecture in 1979, but, alas, all was still not well.

On closer inspection, the museum directors had reservations about A. C. T.'s scheme. The general organization of a grand central "street," flanked by a pair of "buildings" that created an additional level of gallery space, was sound, the directors concluded, but a haphazard assortment of theatrical flourishes was not exactly on the right track. To assist the architects, a second competition was initiated "for interior architecture." Four firms were invited to design in detail one segment of the new museum, and Italian architect Gae Aulenti (opposite page) prevailed over her three French competitors. It was perhaps inevitable that a power struggle between A. C. T. and Aulenti should ensue, and it did. Jean Jenger, director of the *Établissement public du Musée d'Orsay*, recalls the early days of the project: "Aulenti was hired for the furniture, the lighting, the colors, but when she arrived and saw A. C. T.'s plans she said 'This is not good, and this is not good, and oh no this can't be.'" Aulenti is less diplomatic: "I said if the architects A. C. T. continue on as they are, I won't stay." Aulenti stayed.

In architecture, as in all endeavors, performance must be gauged relative to degree of difficulty. And to be fair, the task of transforming

the Gare d'Orsay into the Musée d'Orsay was herculean. There is virtually nothing about a derelict train station and an abandoned hotel to recommend either as appropriate accommodation for 4,000 works of art, 629 employees, and 25,000 visitors per day. Laloux's buildings may have offered an extraordinary range of spaces—from the grand to the bland—but few were amenable to the museum program. And since Aulenti achieved control of the project *after* construction of A. C. T.'s scheme had begun, she was also in the awkward position of having to develop a design she did not admire. Another handicap, of course, was Aulenti's portfolio: showrooms, apartments, and offices were inadequate preparation for a project of Orsay's magnitude and complexity; previous success with set, exhibition, and furniture design strengthened her dossier, but not enough.

For anyone familiar with Aulenti's brand of cool, analytical modernism, entering the museum is a perplexing disappointment. One searches in vain for the control, precision, and rigor that are the hallmarks of the designer's work. Instead one finds such an inexplicable jumble of materials, forms, colors, and details that one could easily be persuaded that this is the ill-conceived product of a collaboration between many designers with a regrettably wide range of talents. Given the variety of spaces to be renovated and the variety of art to be displayed, homogeneity was neither possible nor appropriate; yet it is unevenness, not diversity, that characterizes Orsay as realized. To be sure, there are areas in which Aulenti succeeded, and for which she deserves praise. The quality of light, air, and acoustics is admirably high, and the almost 100,000 square feet of limestone and sandstone used throughout the vast museum give it a substantive, permanent feel. Though more obsessively detailed than necessary, galleries for the Impressionist and Post-Impressionist collections, situated in sun-filled rooms up under the roof, are also successful (pages 136-137). There, owing to the relatively undistinguished character of existing spaces, Aulenti was able to take total esthetic control. In the station's great public halls, however, her delicate charge was to devise an architecture which would effectively engage the station, the museum, and the art in a subtle, three-way dialogue. The desired rapport, however, did not emerge. In the galleries occupying the former station's quasi-side porches and vestibules (section page 131), Aulenti's insistent expression of the new museum's independent structural system is more polemically than visually compelling, which is a disappointment but not a disaster. The disaster one finds at the monumental heart of Orsay.

The nave is an extraordinary room of exhilarating scale, reinforced by A. C. T.'s central spine. For Aulenti, though, the crucial problem was how to draw visitors off the axis and into the side galleries. Since she is obstinately silent on the subject, one can only speculate that the search for a visual lure led her to ancient Egyptian funerary architecture, where she found the model for her polychromed gallery facades lining Orsay's spine. The mysterious meeting of Nile and Seine in Aulenti's historical pastiche is alien, morbid, and distracting. A simultaneous plunge into postmodernism, however, is but brief, as elsewhere in and around the nave Aulenti has deployed a mind-boggling array of stylistic maneuvers that suggest nothing so much as chaos. The eye veers from metal bridges with beefy structural supports to stone staircases with flimsy aluminum panels bolted to their sides; from guard rails of wire mesh laid over metal grids to bizarre stone-panel constructions tentatively tilted in front of air conditioners (page 134). At the east end of the central spine, Aulenti erected a pair of giant towers, and clad them in moss-green stucco with a brown waffle-pattern overlay of stone aggregate. Intended to bridge the vertical gap between the ground-floor sculpture and the barrel vault above, the slit-eyed pylons stand like ominous watchtowers in a prison yard, looking down accusingly on the activity below. The Gare d'Orsay's nave was Laloux's finest achievement, its transformation the ultimate test of the Musée d'Orsay's architect. Gae Aulenti failed the test. *Charles K. Gandee*

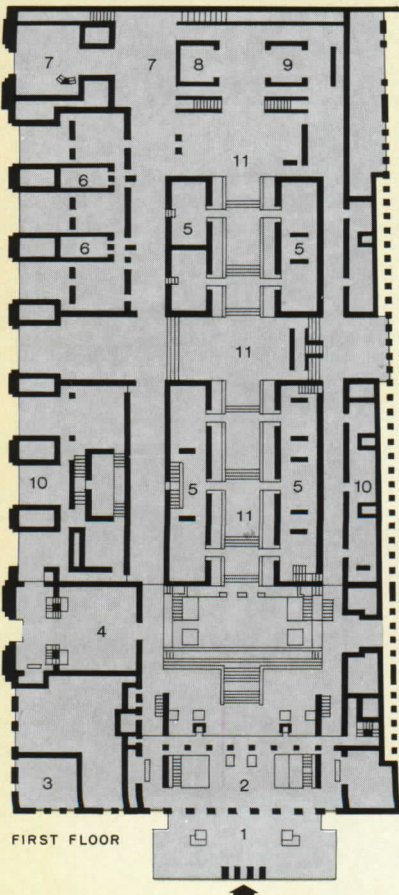
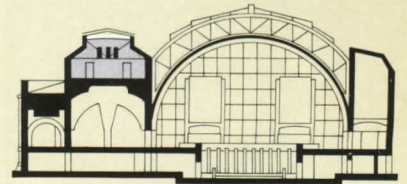
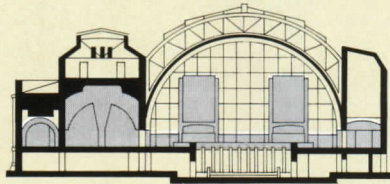
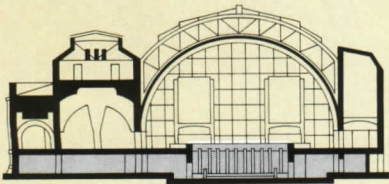
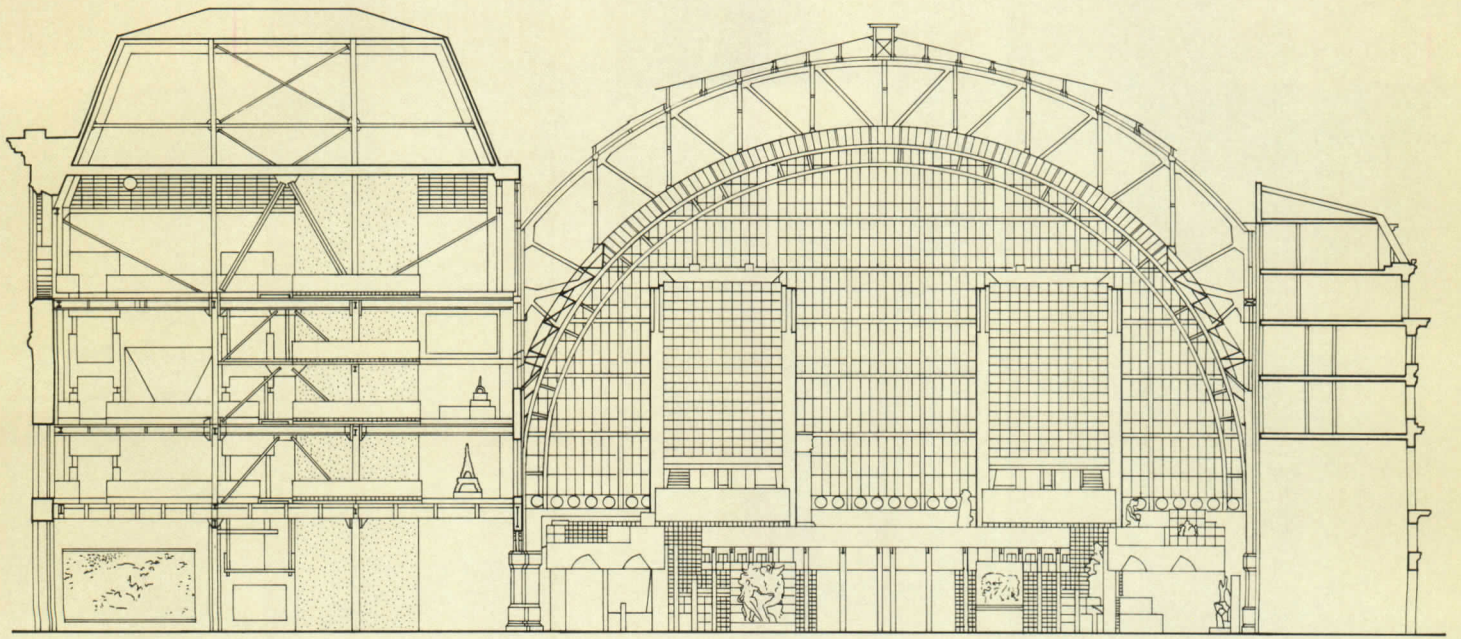


©Serge Hambrovy photos

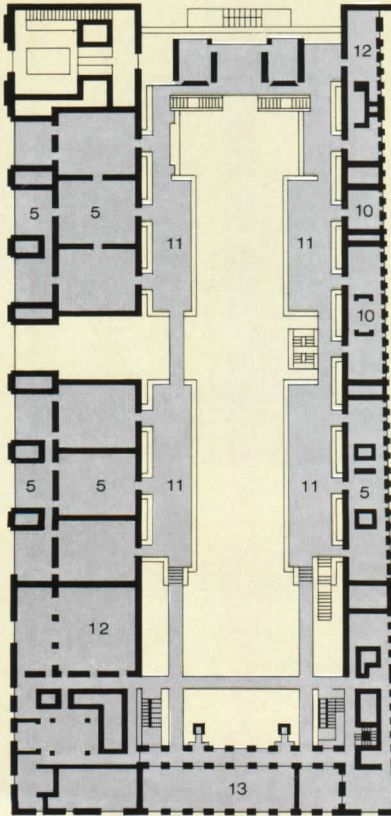
At the end of the 19th century, when it was announced that a train station would rise from the ashes of the Cour des Comptes (torched in 1871 by the Commune), Paris was aghast: such a prominent site on the Seine—in plain view of the Louvre, the Tuileries, and the Place de la Concorde—was no place for an “industrial” building. In deference to the criticism, architect Victor Laloux wrapped his high-tech tour de force, the iron-and-glass Gare d’Orsay, in a thick limestone blanket, which he then embroidered with garlands, urns, and allegorical figures (previous page). The result is that, unless you’re perched atop the nearby Eiffel Tower, or privy to a section (facing page), you can only glimpse the great metallic structure nestled within. On the north, along the Quai Anatole France, Laloux strung a line of porticoes and domed vestibules between the river and the station’s luminous barrel-vaulted heart; on the west and south, he stretched the Hôtel d’Orsay—the public rooms toward the Rue de Bellechasse, the guest rooms along the Rue de Lille. (The station’s east flank was already well-protected by a government building.) Eighty years later, of course, when the station was rerouted to museum service, these insulating spaces came in handy, since they were of decidedly more manageable scale than the complex’s unwieldy core, a room 450 feet long, 103 feet high, and 131 feet wide. Despite its overwhelming dimensions, however, the former station’s main hall is the salvation of the new museum’s plan. Visitors wending their way through galleries deployed around the central spine can constantly reorient themselves by looking to the sun-filled space (plans facing page). In Laloux’s day, travelers were ushered into the station along the transverse axis from the river on the north; nowadays, however, museum-goers enter directly on the nave’s more powerful longitudinal axis from a spacious plaza in front of the former hotel on the west (plans facing page). The crowds are vast, and the lines are long during the morning hours, but the entry sequence is a model of efficiency. In its detailing, of course, it also testifies to designer Gae Aulenti’s obsession with the grid (right). There is one inconvenient snafu at the door: antiterrorist security requires armed guards with metal detectors to search even school children and their bookbags. But once past the airport-style checkpoint, visitors are channeled down a flight of stairs (below), where the expanse of Laloux’s great barrel vault is finally revealed in all its meticulously restored glory (overleaf).



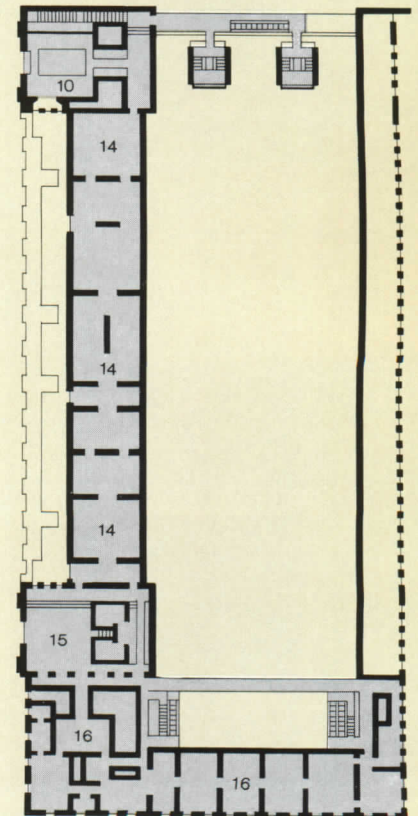
1. Entrance
2. Admission
3. Gift shop
4. Bookstore
5. Paintings
6. Photography/Graphic arts
7. Architecture
8. Guimard exhibition
9. Thonet exhibition
10. Temporary exhibitions
11. Sculpture
12. Decorative arts/furniture
13. Restaurant
14. Impressionist collection
15. Café
16. Post-Impressionist collection



FIRST FLOOR



SECOND FLOOR

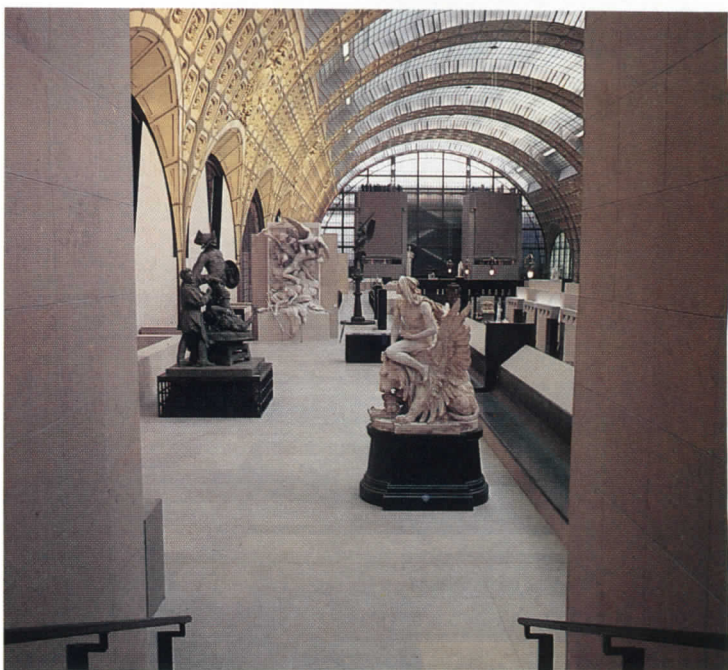


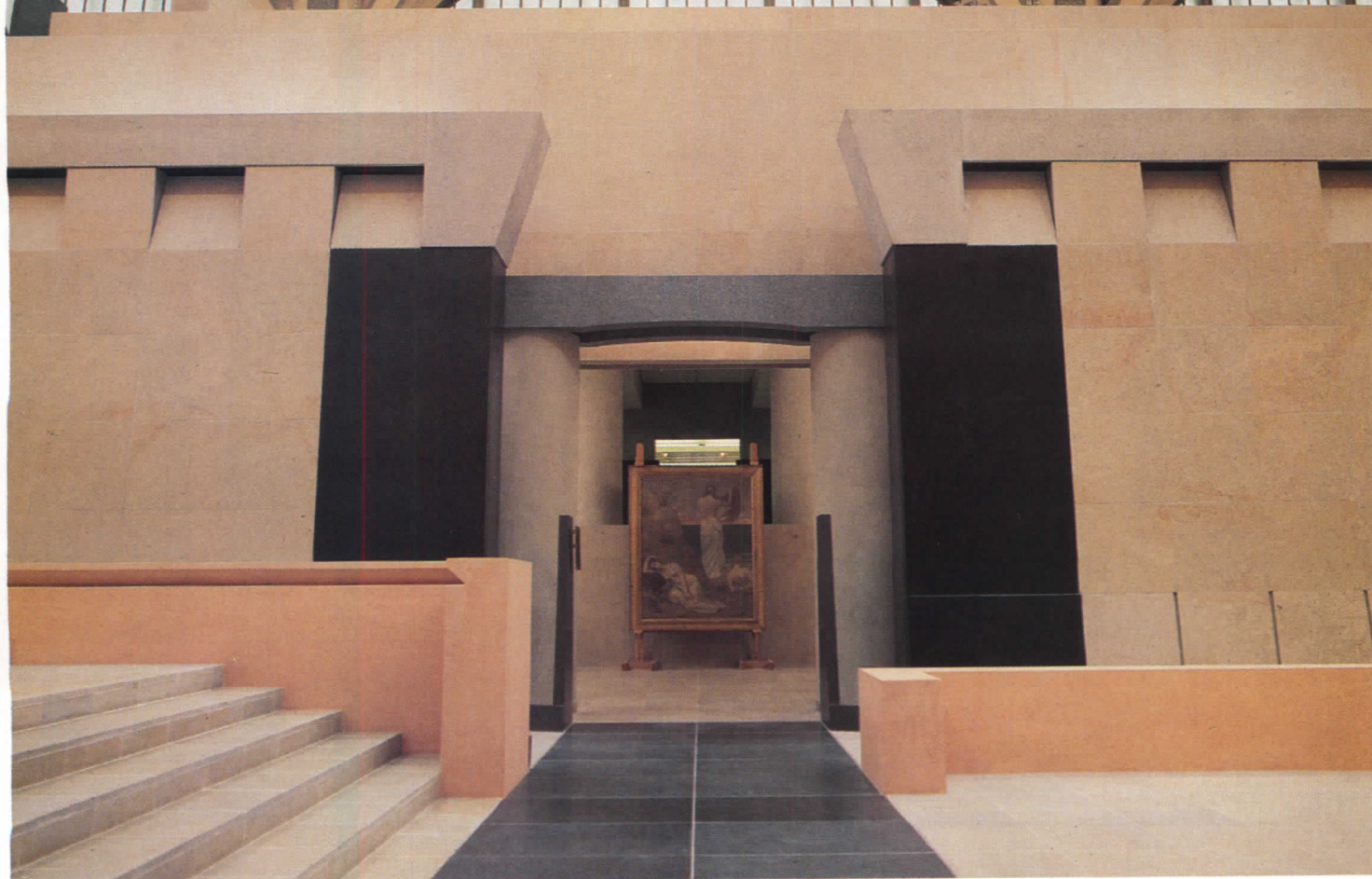
THIRD FLOOR



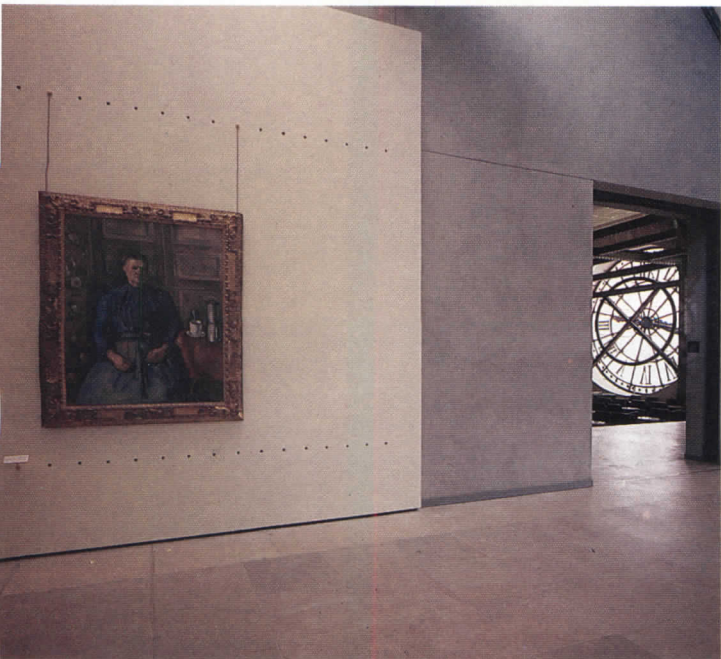


Although the intimidating scale of the Gare d'Orsay's grand nave may have been ideal for dwarfing Anthony Perkins in Orson Welles's 1962 film adaptation of Kafka's *The Trial*, it seemed less than ideal, 15 years later, when the French Government decided to convert the station into a museum. (Understandably, the curators were not interested in subjecting their collection—or museumgoers—to Kafkaesque angst.) The French firm of A. C. T. Architecture won the museum design competition because its scheme proposed an interior "street" flanked by "buildings," which spatially tamed the awesome hall while giving it functional purpose. Despite Italian architect Gae Aulenti's reservations about A. C. T.'s parti when she gained control of the project, she was obliged to develop the firm's design. Among the more difficult tasks confronting Aulenti was the articulation of facades on the linear building blocks flanking the central corridor (left). The problem, according to the architect, was clear: "When you have this great nave, you have to do something with the same strength . . . with the same figurative weight." Though the detached facades are functional (they not only allow light to penetrate the interior galleries but their walls house the hvac and electrical systems), sadly, their "figurative weight" is both overpowering and discordant—not only within the context of Laloux's great space but within the context of Aulenti's oeuvre. She appears to have forgotten her lifelong commitment to modernism, and lost her way among Pharaohs' tombs in the Valley of the Kings (overleaf). When asked about a possible Egyptian connection, however, the architect bristles: "I cannot reply. It is not my intention, it is not my problem, it is not my method. It is your problem." It is also the museum's problem. The search for clues to explain this contemporary riddle of the sphinx ends in Aulenti's oblique apologia: "The modern movement did not like to speak of such spaces [as the nave], because of the monumentality. This is completely new in modern architecture . . . we don't want to speak about monumentality." Aulenti appears to have erred inexplicably in a number of other troubling ways around the nave. Standing on the sculpture terrace (above right), for example, you can hear the bustle of activity in the "street" below, but owing to the height of the solid stone parapet, you cannot see it. Also awkward are the limestone panels that fill the great arches of the porticoes and vestibules off the nave (left and following pages). Though the panels provide desperately needed wall space, and though their thickness accommodate hvac and electrical systems, the V-shaped cutouts Aulenti made to visually connect contiguous galleries create such awkward geometry that the eye focuses on the walls first, the paintings second (page 135).

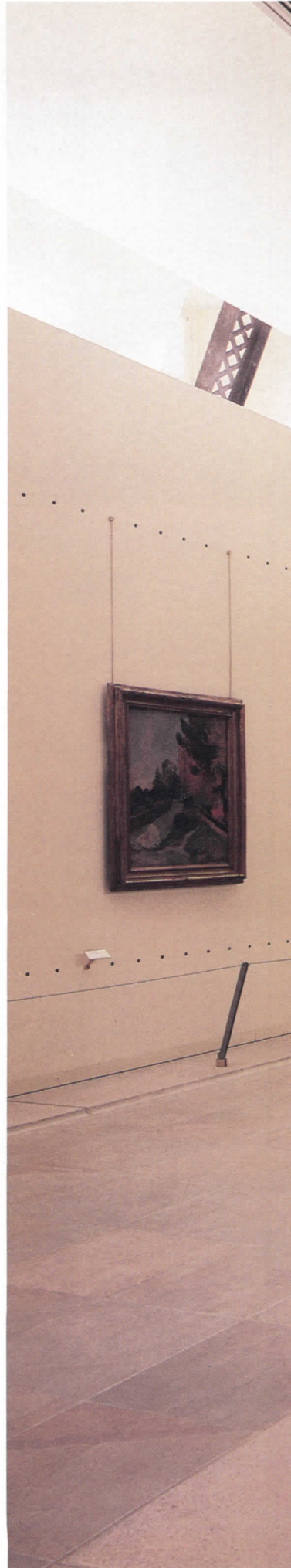




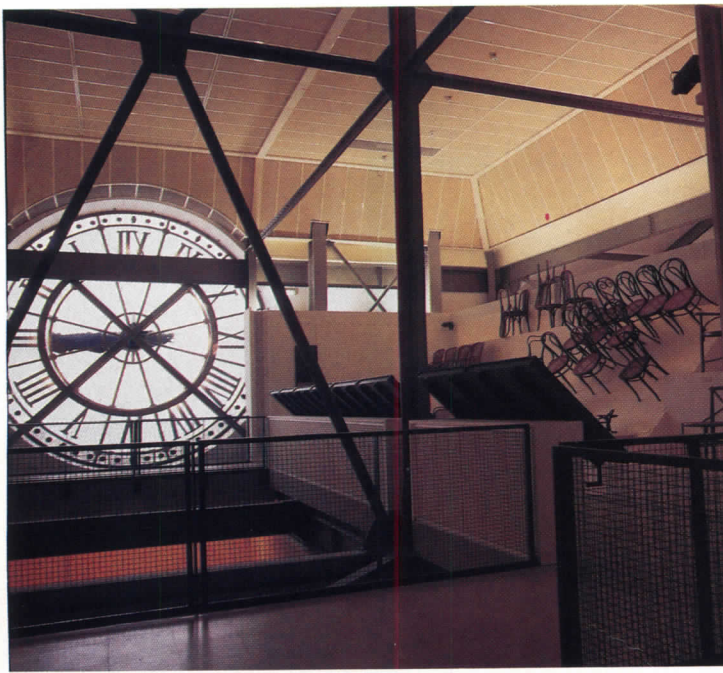




Despite reservations about entering a design competition already won by another firm, architect Aulenti finally accepted the invitation from Paris "because it was a museum of the Impressionist period, which I love." In fact, the Musée d'Orsay's collection spans the period from 1848 to 1914, yet, as Aulenti's comment suggests, it is the Impressionist collection that attracts the multitudes. To better accommodate the Van Gogh-and-Monet-hungry throngs, Aulenti moved work from the Louvre's Jeu de Paume museum into found space above the former station's domed porticoes (sections page 131). Visitors can simply bypass Courbet and proceed directly to Renoir by means of an escalator discreetly situated behind the nave's glazed east wall. Though the character of the Impressionist galleries is certainly more modest than that of the vast public halls downstairs, the intimacy of the rooms suits the scale of the work (left). Aulenti's exploitation of skylights is also appropriate, remembering the critical importance of natural light to the Impressionists. If these rooms have a decidedly more casual air than the ones below, it reflects Aulenti's commitment to taking her design cues from the space: "If you have different spaces, you have to respond to them in the right character. . . . We worked with the differences and chose not to homogenize." The informality of the Impressionist galleries is restated in mercifully comfortable wicker lounge chairs, as well as in the exposed structural and mechanical systems overhead. Though Aulenti prides herself in treating different spaces in different ways, there are consistencies. For example twin friezes above and below the picture plane appear throughout the museum. Though many have found these parallel rows of punched holes distracting, they are more than serviceable: in addition to providing anchors for hangers and labels, they open onto hidden fiberglass acoustic baffles. The Impressionist galleries run in enfilade along the north arm of the museum, between the two clock towers that once hurried travelers along. Around the corner, along the west arm of the museum, the iron colonnade in the neighboring Post-Impressionist galleries recalls the layout of former hotel corridors and rooms (facing page).







The twin clock towers flanking the Impressionist galleries, and punctuating the former train station's facade along the Seine, have been called into service by Aulenti. Wide-eyed visitors can ascend the east tower either by escalator or by stairs in the vertically stacked architecture galleries. At the top of the tower, museum-goers find a curious exhibition of Thonet furniture (left), a continuation of a bentwood furniture display in one of the new towers Aulenti erected to terminate the east wall of the barrel-vaulted nave (below). Since the public never had access to the clock towers, Laloux did not provide much in the way of interior ornament—except, of course, for the great iron structural rib cage that Aulenti left on view. In the west clock tower dividing the Impressionist from the Post-Impressionist galleries (previous pages), Aulenti inserted a café (facing page). This informal respite is a casual counterpart to the grand, gilded restaurant below, which is fittingly housed in the former hotel's restaurant (not shown). The glazed faces of both clocks allow for breathtaking views across the Seine.



Musée d'Orsay
Paris, France
Owner:
Musées de France
Architects:
Gae Aulenti, Architect—Valérie Bergeron, Monique Bonadei, Giuseppe Raboni, Luc Richard, Marc Vareille, project architects; Emanuela Brignone, Colette Chehab, François Cohen, Nasrine Faghi, André Friedli, Pietro Ghezzi, François Lemaire, Yves Murith, Margherita Palli, Italo Rota, Jean-Marc Ruffieux, Gérard Saint Jean, Takaschi Shimura, project team

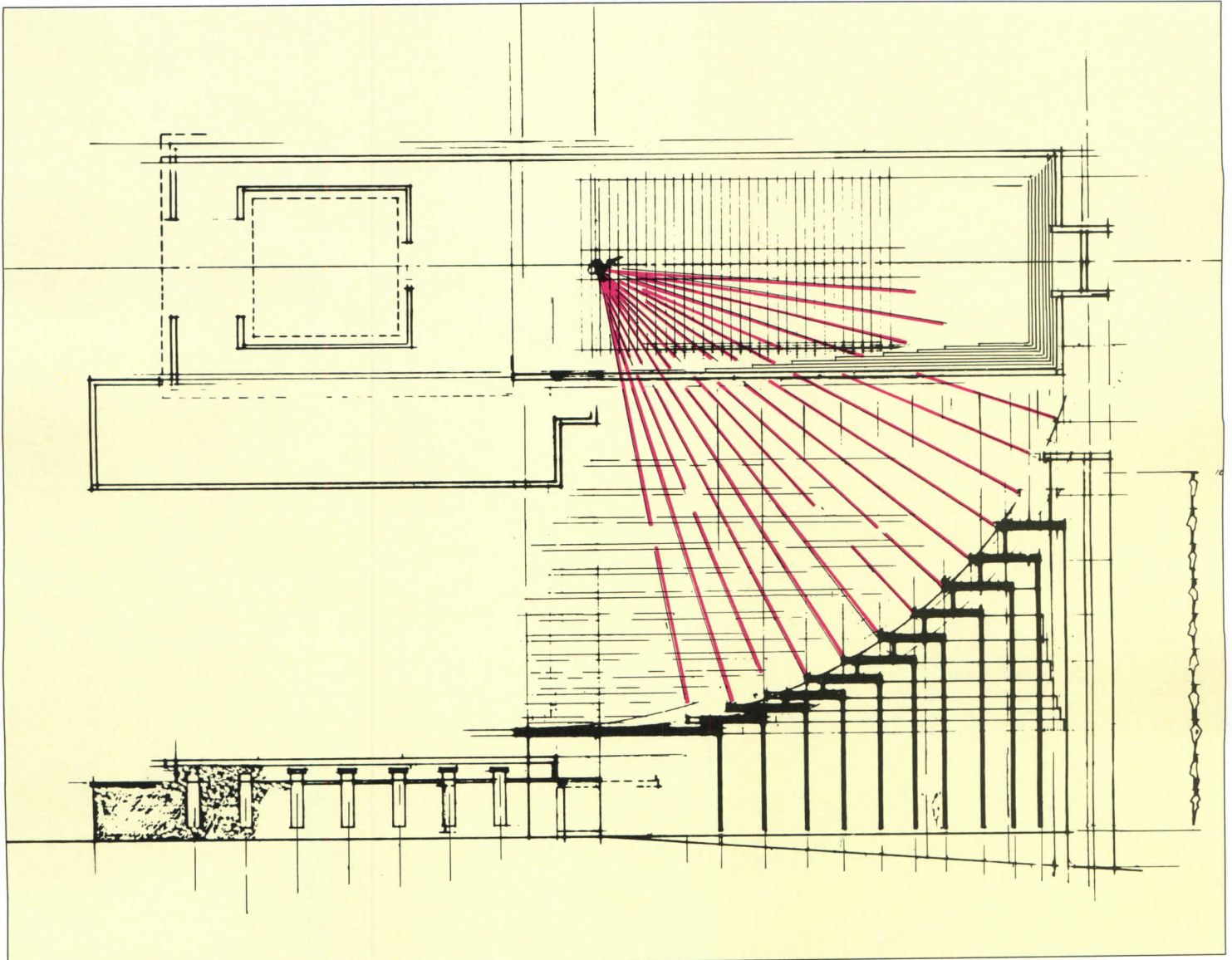
A. C. T. Architecture—Jean-Paul Philippon, Renaud Bardon, Pierre Colboc

Engineers:
B. E. T. C. I. (structural); Géotechnique appliquée (foundations); R. Lamoral (acoustical); B. Guindollet (electrical)

Consultants:
NOVOREST (restoration); Piero Castiglioni (lighting); R. Péduzzi (architecture exhibition); PREVENTEC (fire security)







Drawings courtesy Gunnar Birkerts and Associates

**Albion Church
Albion, Michigan
1960**

The unbuilt sanctuary Birkerts designed for his first church commission integrates light and space with a refined, dynamic geometry. The nave (drawings above and at right) is entered where the ceiling height is at its lowest. The space begins its logarithmic ascent past the organ balcony edge, terminating at the altar font. Light is intensified in the same direction. Similarly, the skylight on the altar wall increases with altitude. As the roof planes ascend, they grow narrower, press ever closer to the altar wall, and diminish in width—a dynamic welding of light, space, and implied motion. The sightlines are such that the seated worshiper views neither the direct source of daylight nor the termination of the staggered ceiling.

Formed to light: Thirteen projects by Gunnar Birkerts

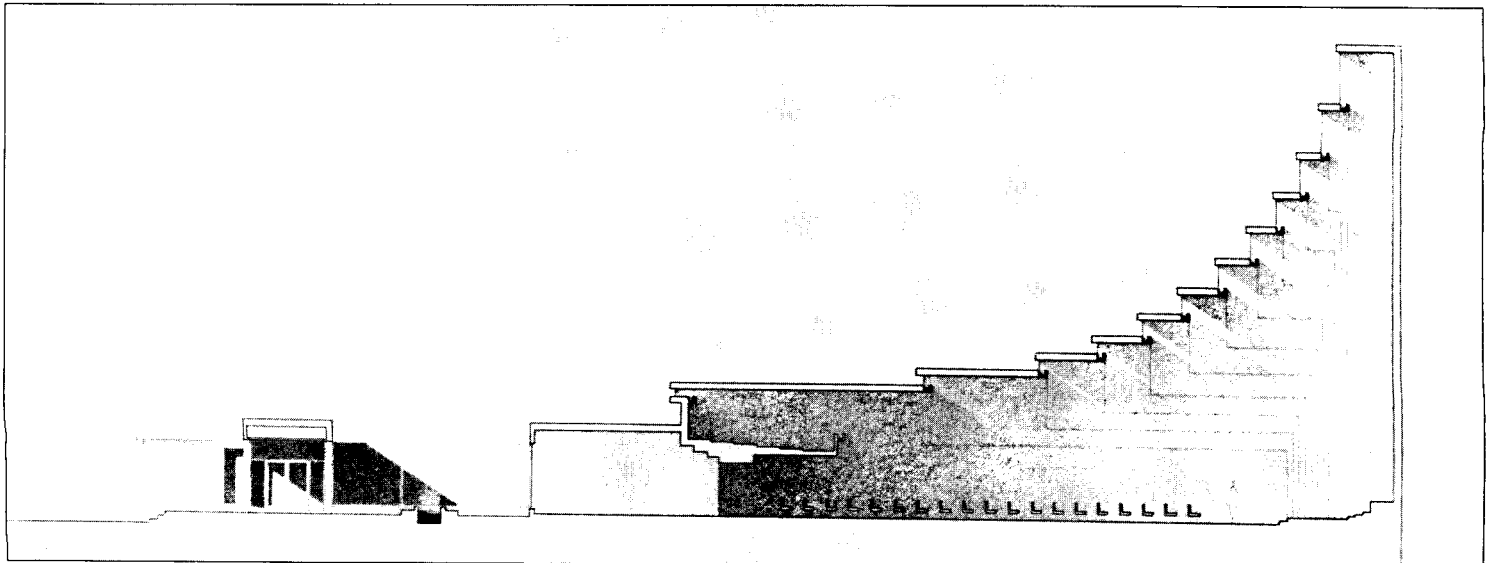
Over the past few decades, the field of architecture concerned with the relationship of a building to its natural environment has benefited from significant scientific and technological advances. Many of the advances were spurred by the ecology and energy conservation movements of the 1960s and '70s. In the 1980s, daylighting in particular became the subject of intense investigation as evidence emerged pointing to the substantial role natural lighting systems can play in reducing a building's operational costs ("Building with the sun," RECORD, May 1985, pages 152-159), an economic consideration particularly relevant to nonresidential buildings. With equal zest, engineers and architects quantitatively studied and tested the thermal characteristics associated with daylight. And sociologists and psychologists lent their expertise. Though the data of the latter two groups were necessarily "softer" than results from instrumentation, it came as no surprise that the social scientists could conclusively demonstrate natural lighting's contribution to a building user's sense of well-being with positive effects upon his productivity. Today's rigorous professional concern for engineering an architecture sympathetic to the natural environment is apparently unrivaled in history. With new tools to measure and model the quantitative characteristics of daylight, a complex lighting program can now be integrated into a design with ease and certainty of result.

On a different plane, developments in contemporary daylighting esthetics have been part of a unique vision heralded by key architectural figures of this century, including Le Corbusier, Aalto, and Kahn. Carrying forward one of architecture's timeless concerns, these Modern masters gave a new face by manipulating natural illumination of innovative structural systems, surface materials, and transparent membranes. As part of their individual signatures, light was given a distinct personality by each architect: Corbu used it to dramatically illuminate his powerfully shaped volumes; Aalto to create whimsical and rhythmic patterns; and in Kahn's work, light is spirit and wonderment.

Such is the double legacy to which architects are now heir: on the one hand, an ever more exact technology; on the other, inspired poetry. At a moment when purely stylistic concerns preoccupy many of our best architectural minds, this bequest has been largely forgotten. It remains, however, a vital concern among a small and accomplished group of practitioners. Gunnar Birkerts is among them. His astute manipulations of natural light have been a pioneering effort throughout nearly 35 years of practice. With his decided interest in, and respect for, technique, combined with an intuitive esthetic sensibility, Birkerts's work summons a rare synthesis of art and science.

The group of 13 projects illustrated on the following pages has been selected specifically to represent Birkerts' involvement with daylighting design. It is a remarkable collection, both for its diversity of building type and for its absence of stylistic unity. Daylighting is the common denominator, and a major force in shaping the structures, particularly in section. The resultant qualities of light are as varied as the building envelopes themselves. In the University Reformed Church, for example, light is treated as a wash that bathes a surface of architectural concrete (pages 142-143). Light does not enter the nave directly, nor is its source explicitly revealed. First gathering light—either from the general skydome or from the sun directly—and then releasing the light to the interior only after an architectural manipulation, is a process common to all the represented projects. One form of manipulation is *reflection*, the single bending of a light ray. Reflection within the vertical chutes, defined by wall-like beams and diaphragms, delivers to the University Reformed Church its warm, glowing, directional light. Another basic manipulation, *diffusion*, refers to scattered light. (It is the diffusion of direct sunlight in the atmosphere that creates the ambient light of the skydome.) Diffused light was selected for the Duluth Public Library (pages 146-147) because its even, softened quality is ideal for reading and writing. As with the IBM Office Building (pages 148-149), light is diffused at Duluth as it passes through an ingeniously faceted exterior wall. With ribbon windows banding the building, light appears like a halo, spreading toward the building core where it is met by diffused light radiating from the central monitors. A third way in which light can be manipulated is defined by Birkerts as *deflection*, e.g., a double reflection. Most clearly demonstrated by the Citrin Office Building (pages 148-149), deflection is also used to provide ambient light in the library at the University of Iowa College of Law (pages 146-147). Here, light is caught by a curved blade, directed to a reflective ceiling, and finally bent to fall on the tops of library tables.

It is possible to use daylight as a structural means to unify a composition, as Birkerts's work demonstrates quite clearly. Birkerts goes further and uses light as a prime shaper of space whereby internal volumes are compressed, expanded, and projected organically, forming themselves toward an appropriate light. Lighting systems carry a special magic in architecture since, like space, light is phenomenon, not substance. And light is alive, changing with the passage of the sun from day to day, and season to season. Our growing understanding of how better to avail ourselves of its function and beauty suggests that there is much to look forward to in the 1990s. *Darl Rastorfer*

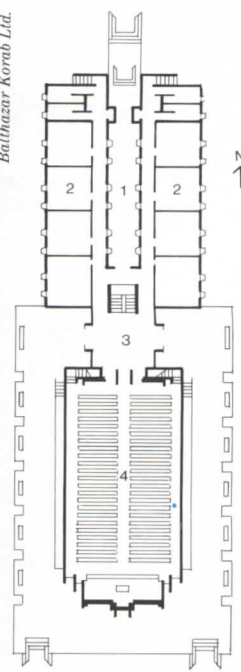


**University Reformed Church
Ann Arbor, Michigan
1964**

The University Reformed Church represents an exercise in detailing simplicity and conceptual purity. A chaste palette of architectural concrete forms the light-giving structure. The very thin, deep beams (8 in. and 24 ft, respectively) span lengthwise and rise upward in steps (photo right and section facing page). Between the beams are perpendicular stiffening fins which, together with the beams, double as reflective light boxes. Incoming daylight is directed vertically inside the deep boxes, setting the nave walls aglow. In fact, the reflected and diffused daylight in the interior seems more intense than the light outdoors. The central ceiling spine, shown in the section, was eliminated in the final design so as not to overpower the subtle light of the peripheral walls.



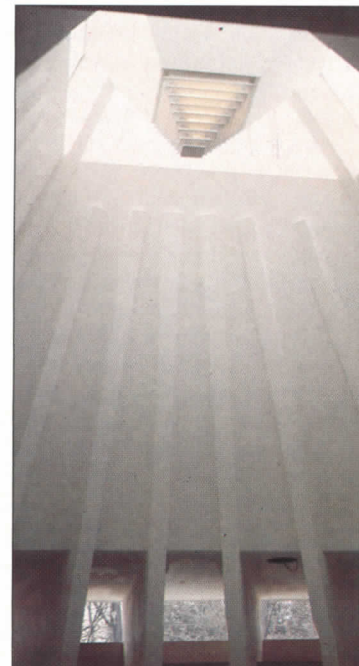
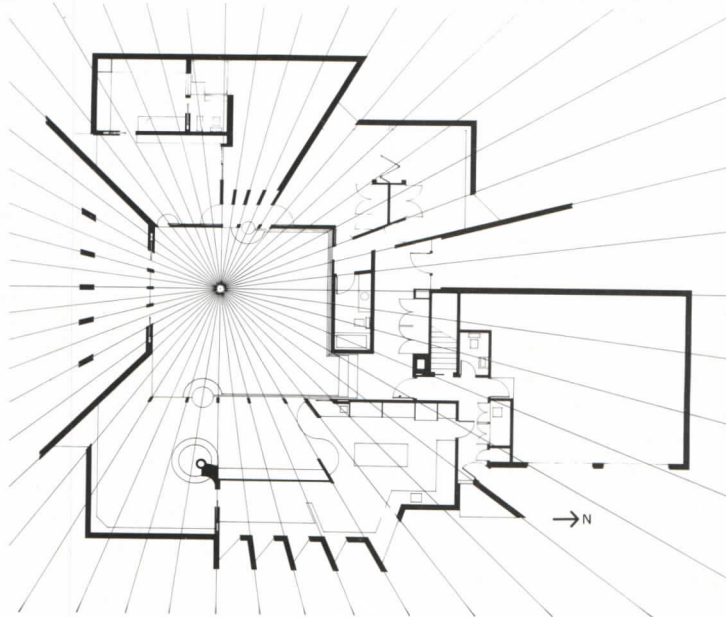
Balthazar Korab Ltd.



1. Foyer
2. Sunday school
3. Narthex
4. Church

**Freeman Residence
Grand Rapids, Michigan
1965-66**

Like the University Reformed Church, the Freeman Residence pairs daylight with a structural configuration comprising fins and wall surfaces. The fins, which frame the roof while baffling and directing light downward, culminate in a pyramid centered in the residence's atrium (plan near right). A four-sided skylight surrounds the apex of the radiating beams. Within the skylight is an inverted, smaller pyramid (photo right and section facing page). The smaller pyramid serves as a reflector, directing daylight onto the inflected ceiling. During the dark hours of the day, an artificial light source integrated within the reflecting pyramid replicates the luminosity and pathway natural light follows as it splashes along the fins and washes the walls, filling the space with soft, ambient light.



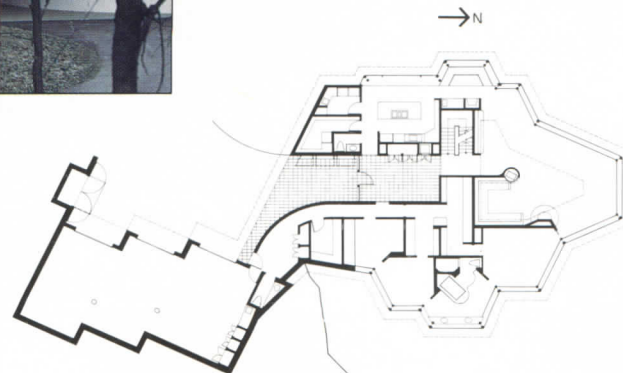
Gunnar Birkerts and Associates

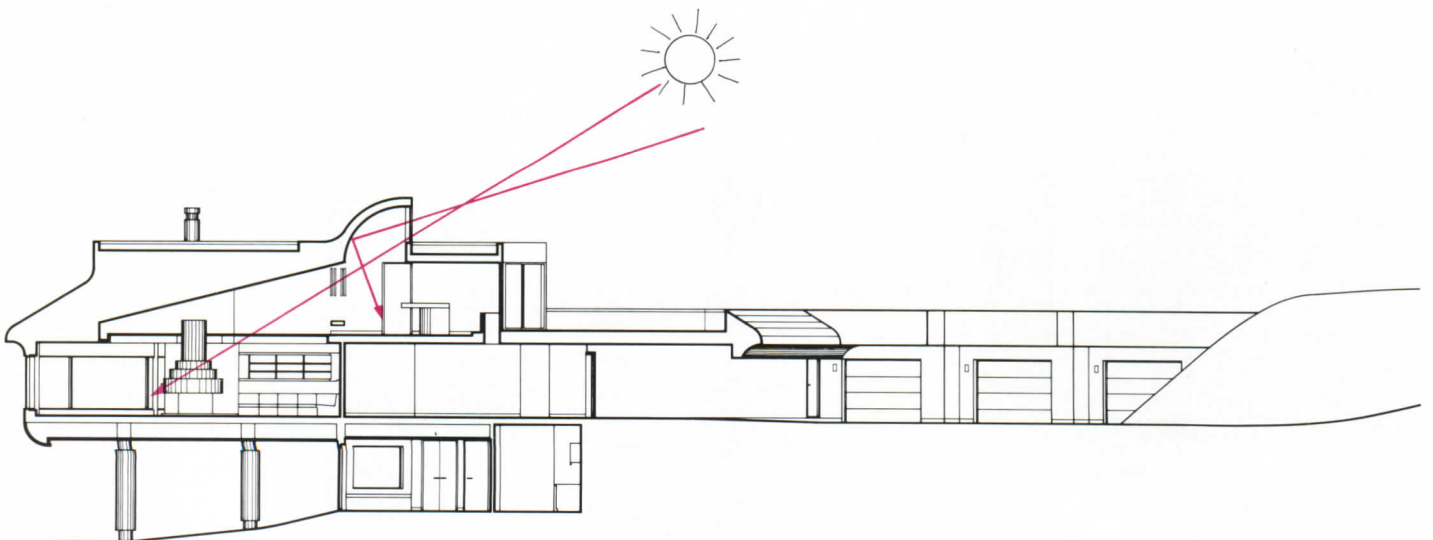
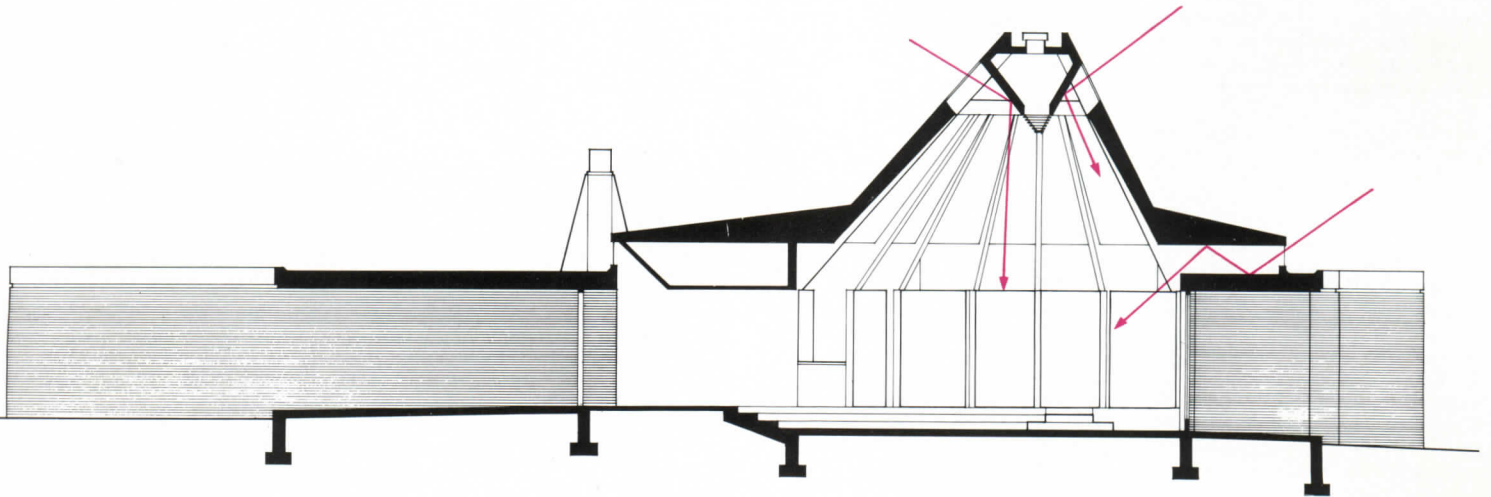
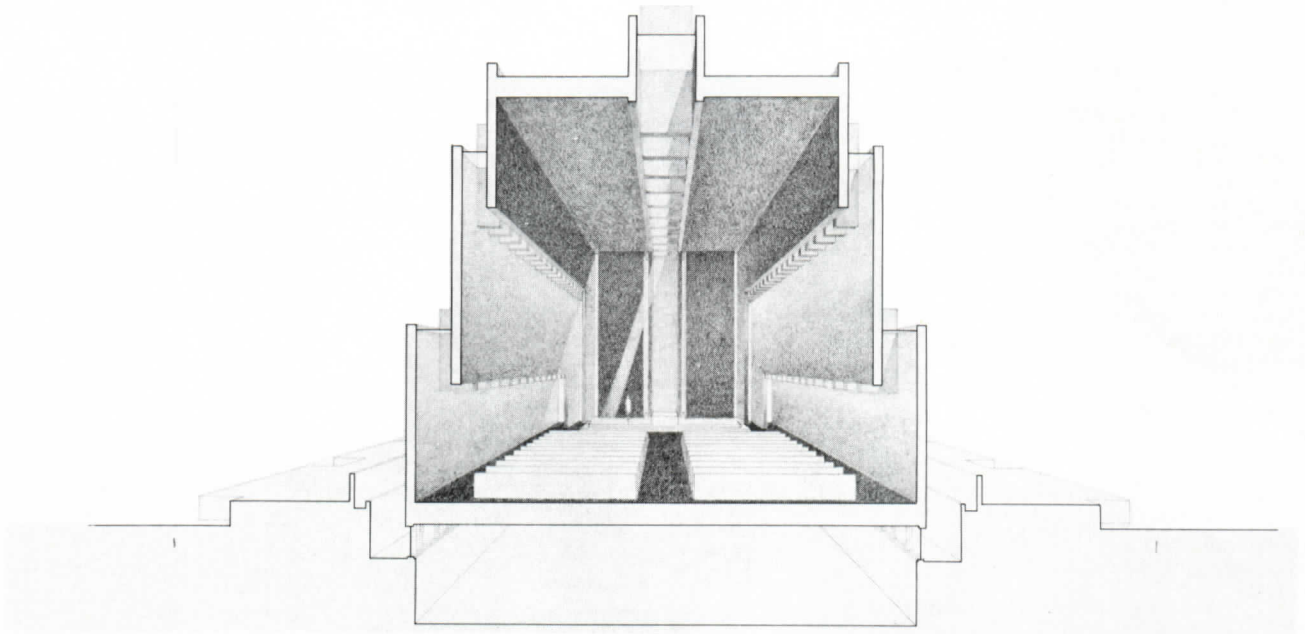
**Ferguson Residence
Kalamazoo, Michigan
1980**

Whereas most of Birkerts's lighting structures gather their light from the general skydome, the Ferguson Residence ties itself to a more specific earth/sun geometry. The house is nestled into the north-facing slope of a wooded ravine, and north light (i.e., light from the skydome) is emitted through the bank of view-giving windows encircling the living areas (plan right). As a counterpoint, strong directional sunlight from the south penetrates the house through a light monitor stacked above and behind the south-facing openings on the second level (right and section facing page). The curved surface of the monitor reflects a portion of the captured light downward and back toward the south, while allowing a slice of direct daylight to penetrate deeply the building section in a diagonal swath.



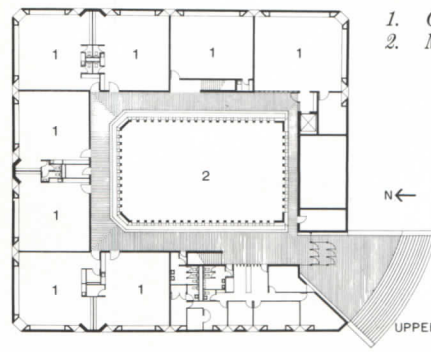
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**Lincoln Elementary School
Columbus, Indiana
1965**

At the Lincoln Elementary School, daylight enters the primary space through an intermediary chamber. The primary space at the school, a multipurpose room, is surrounded by corridors and classrooms (plan right). Light is admitted around and above its perimeter. Through reflection and deflection, the light is pulled down and across the building's core to illuminate the upper and lower corridors and the multipurpose room itself (section on facing page). Thus, "borrowed" light is given to spaces that by themselves lack direct access. A different daylighting technique was developed for the classrooms. Windows are placed in conjunction with baffling walls so that two classrooms are lit with a single opening (photo near right). The baffles bounce light onto sidewalls, eliminating glare.

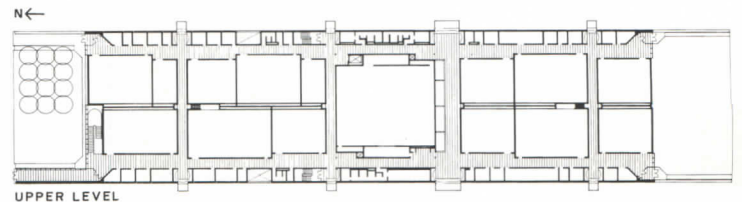
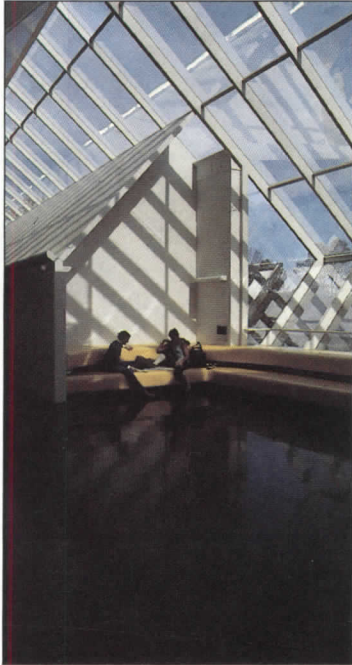


- 1. Classroom
- 2. Multipurpose room



**Dance Instructional Facility
State University of New York
Purchase, New York
1971**

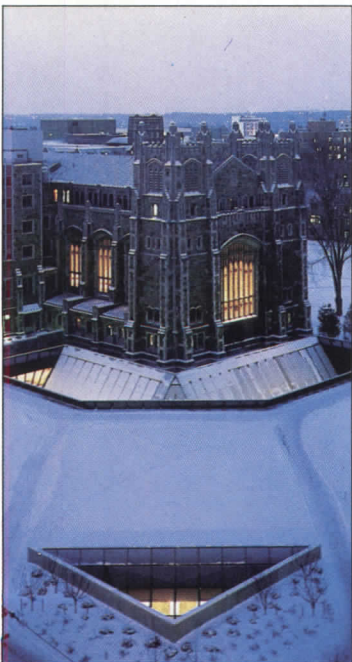
The corridors that surround the dance studios at SUNY Purchase are the first and direct beneficiaries of sunlight (photo near right and plan). Appropriately, where movement is casual and spontaneous, as in the halls, light is allowed to be its most tempestuous (photo near right). A more controlled light is given to the studios (photo far right). Light collected in the corridors is diffused into the dance areas through a high band of windows, or it is reflected into the studios from an opaque surface parallel to the windows (section facing page). This complex lighting configuration achieves a number of architectural objectives in the dance areas. It prevents glare, and the high windows in the studios allow a zone at the floor level for mirrors and the barre, while eliminating distracting views.



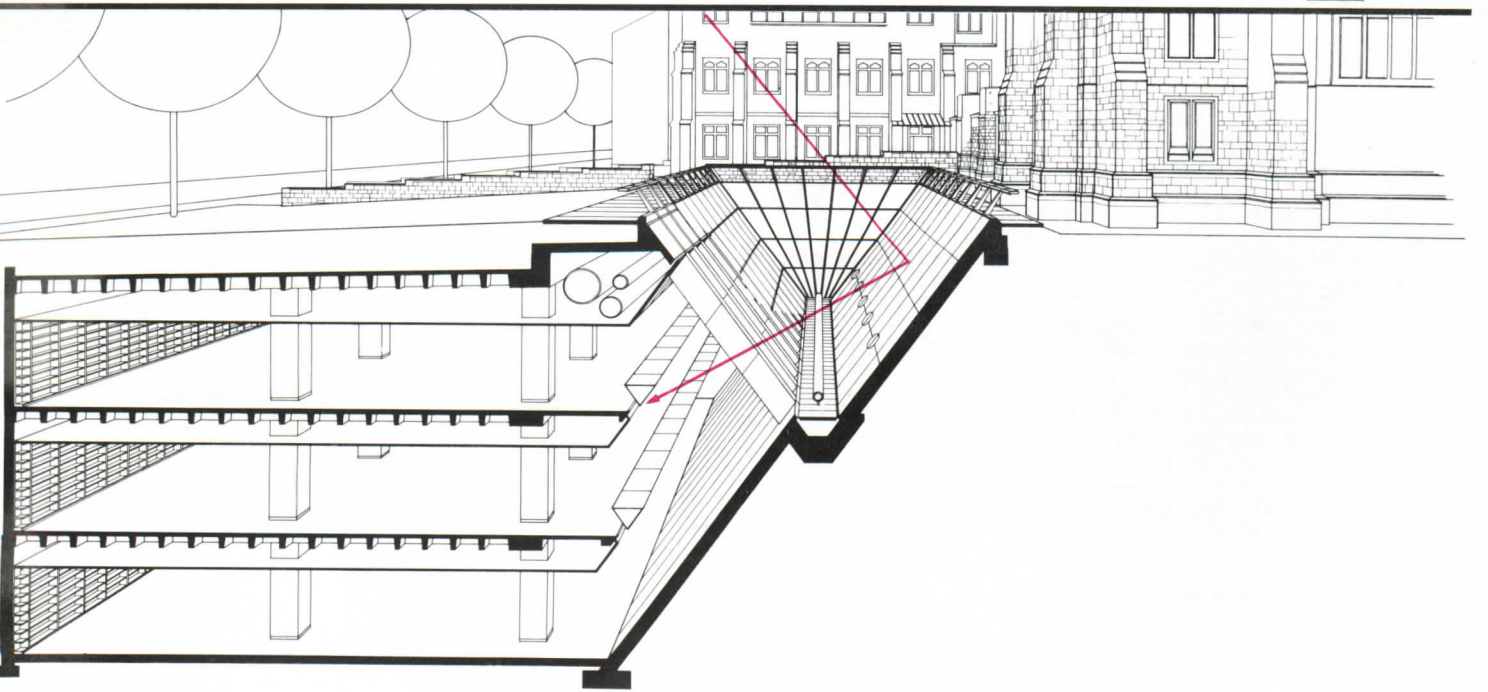
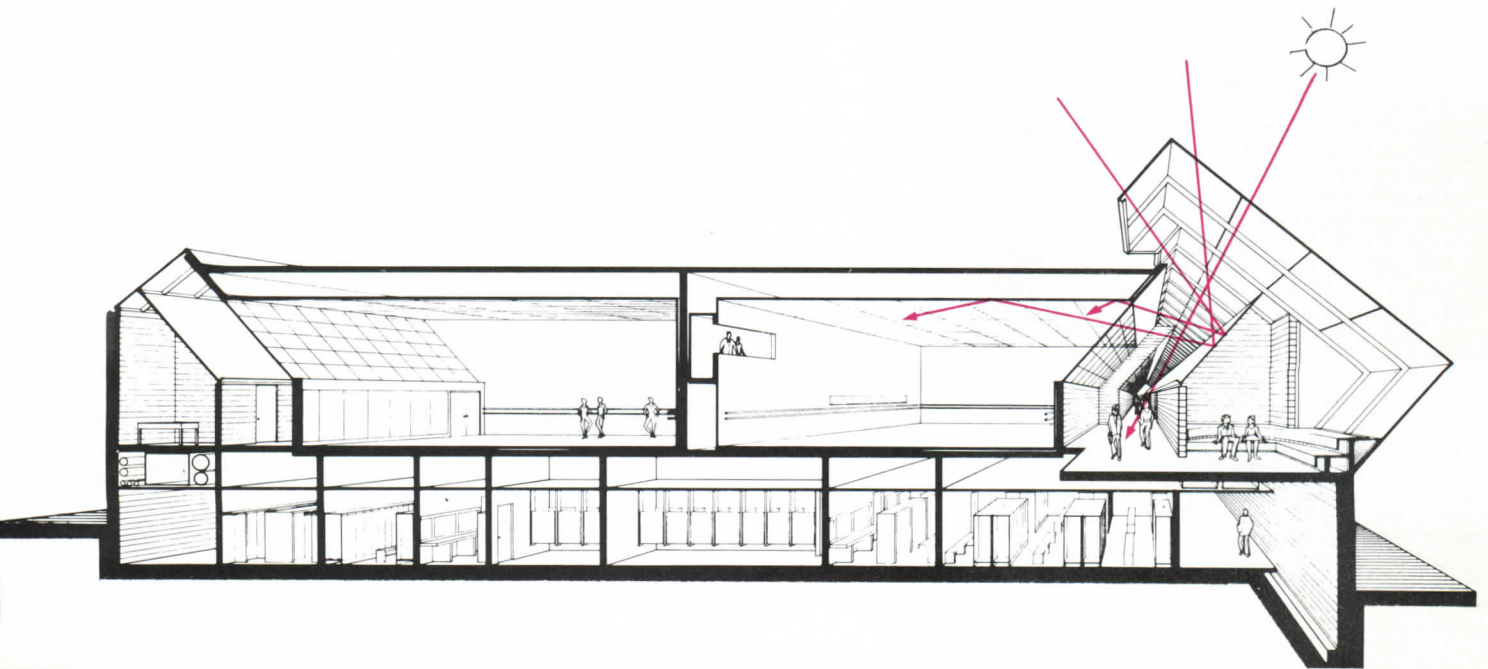
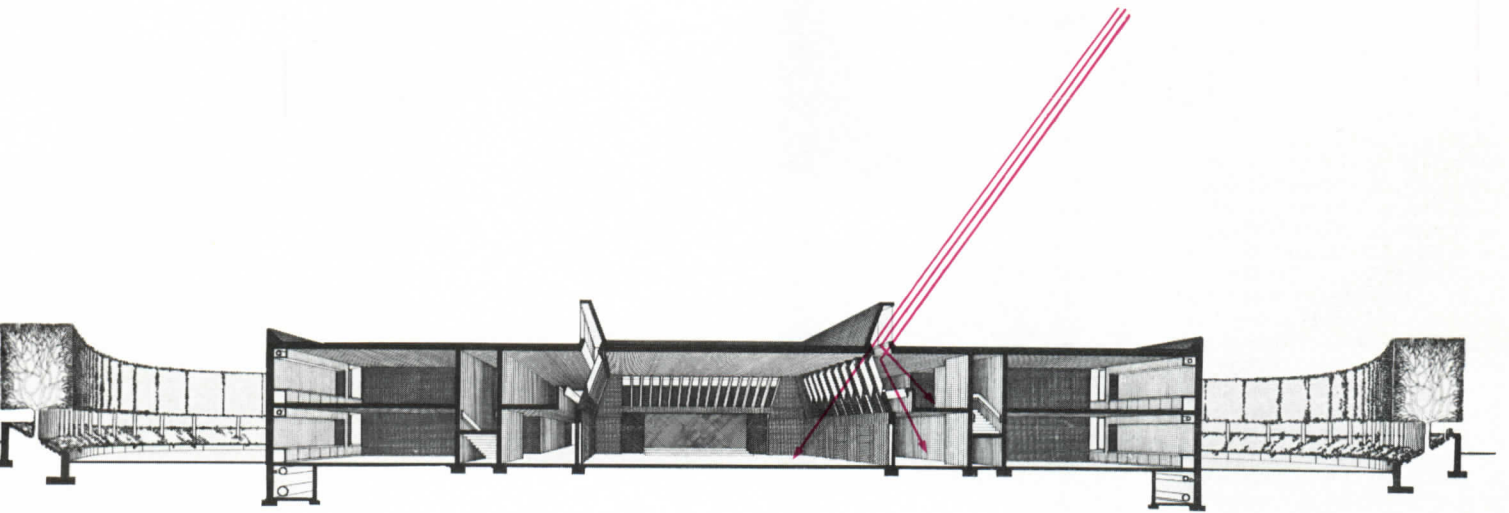
Joseph W. Molitor photos

**Law School Addition
University of Michigan
Ann Arbor, Michigan
1974**

The original Law School at the University of Michigan was a self-contained college built in a single phase during the 1920s. In adding a library some 50 years later, Birkerts deferred to the Collegiate Gothic complex and proposed an underground structure incorporating abundant natural light and views (photo near right). The library was organized around a deep V-shaped trough. The far side of the V forms a limestone base to the older building while serving as a light reflector that continues down the interior to the base level (section facing page). The near side of the V is glazed and supported by deepened mullions covered on both sides with mirrors which reflect the Gothic facade above (photo far right). Open balconies allow light to spread deep within the building.



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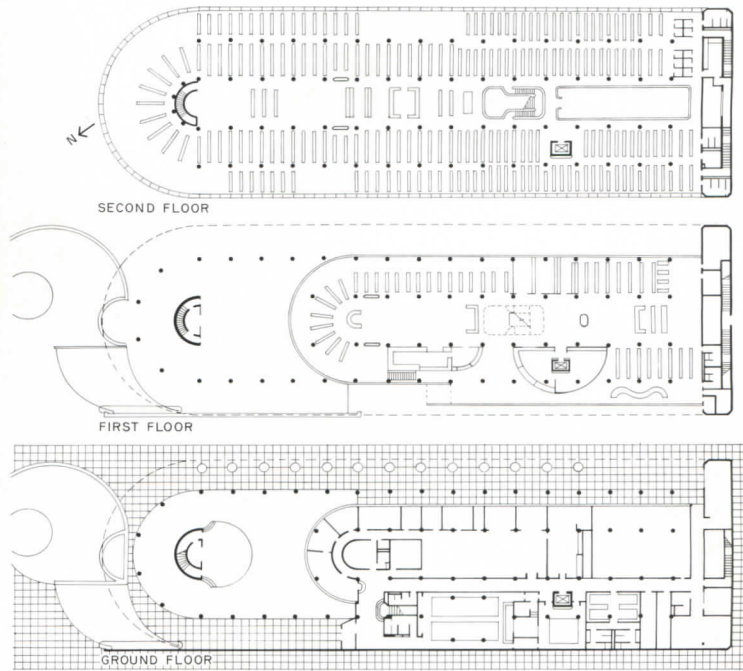


**Duluth Public Library
Duluth, Minnesota
1976**

Daylight at the Duluth Public Library is not permitted to flood the reading and stack spaces unchecked, since high levels of full light would be both distracting to readers and destructive to books. Rather, the light enters the space having already been diffused or reflected by the building itself. On the upper level (photo below right and section facing page), the ribbon windows are inclined for self-shielding so that only indirect light penetrates the building skin. Here, as at the level below, the interior wall above the glazing inclines inward to reflect the now-controlled light. (A band of silver panels under the windows, photo above right, maximizes the amount of diffused light available.) Light to the core enters from a two-sided, continuous, louvered monitor. Its curve reflects light downward and across the interior (section facing page).



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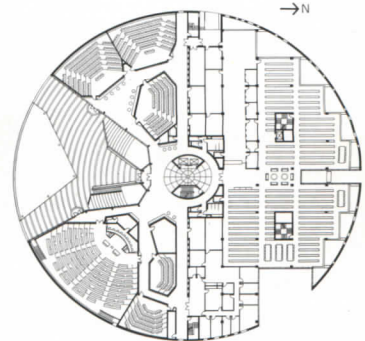


**College of Law Building
University of Iowa
Iowa City, Iowa
1986**

Birkerts's most recently completed project, the College of Law at the University of Iowa, encompasses a number of highly effective daylighting techniques. Outstanding among them are those used in the library. On the north side of the building, light reflectors, stepping down a slice in the building, catch bands of southern sunlight from over the central dome. The fins angle the light ever deeper into the core as they march up the multilevel library (plan and photo near right, and section facing page). The banded interior wall of the library, as well as the balcony faces, act as light diffusers, which are particularly effective for light entering through the circular building envelope at windows stacked vertically, or framed in deep reflecting fins at the ceiling (photo far right).

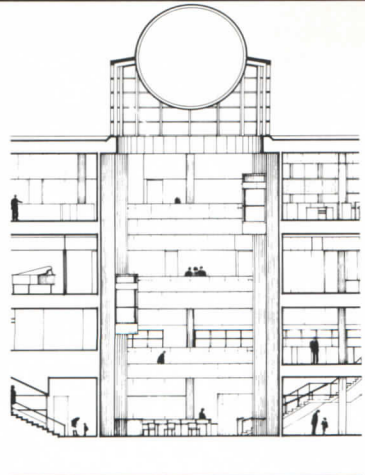
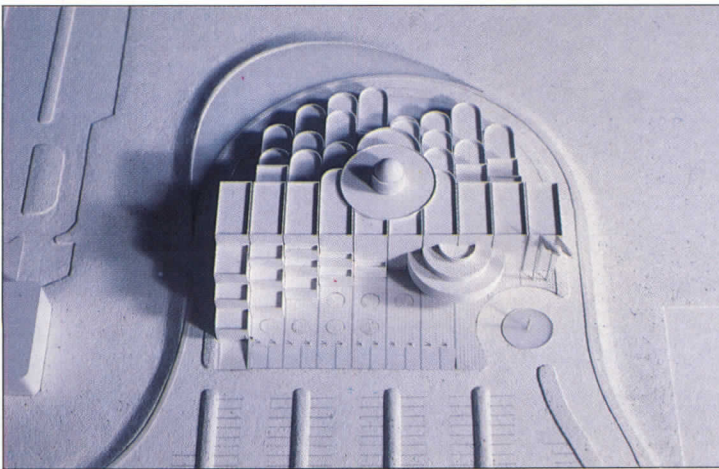


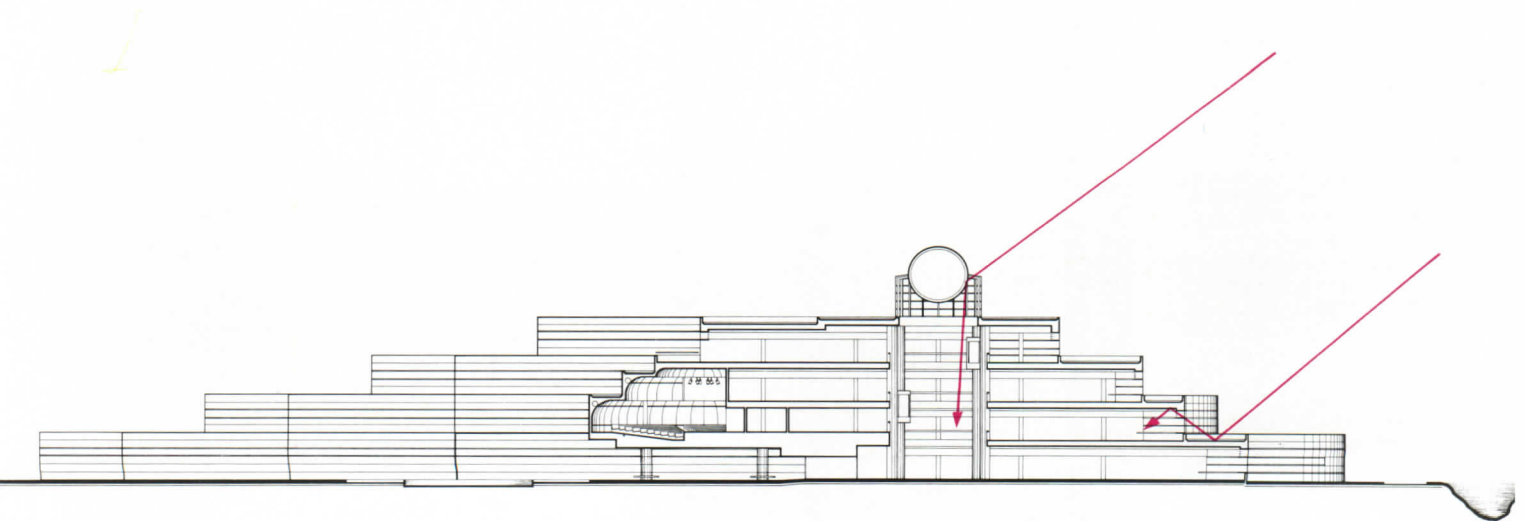
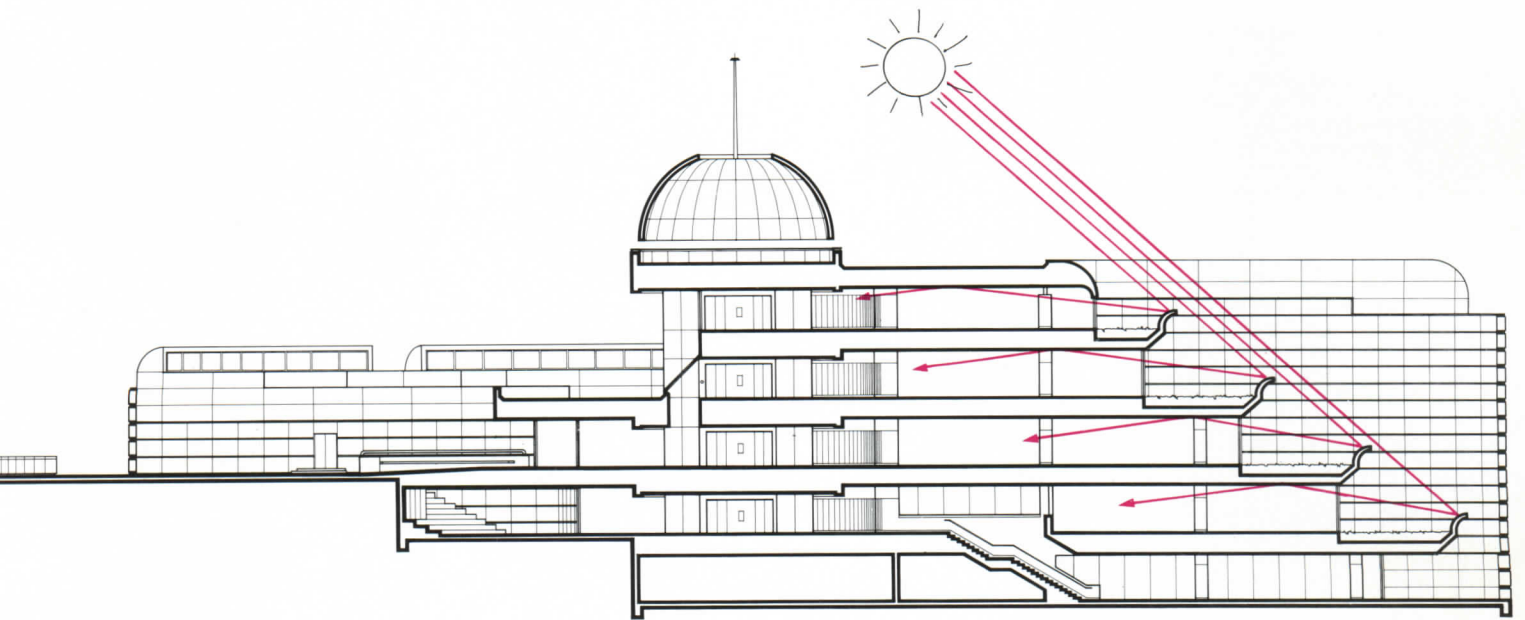
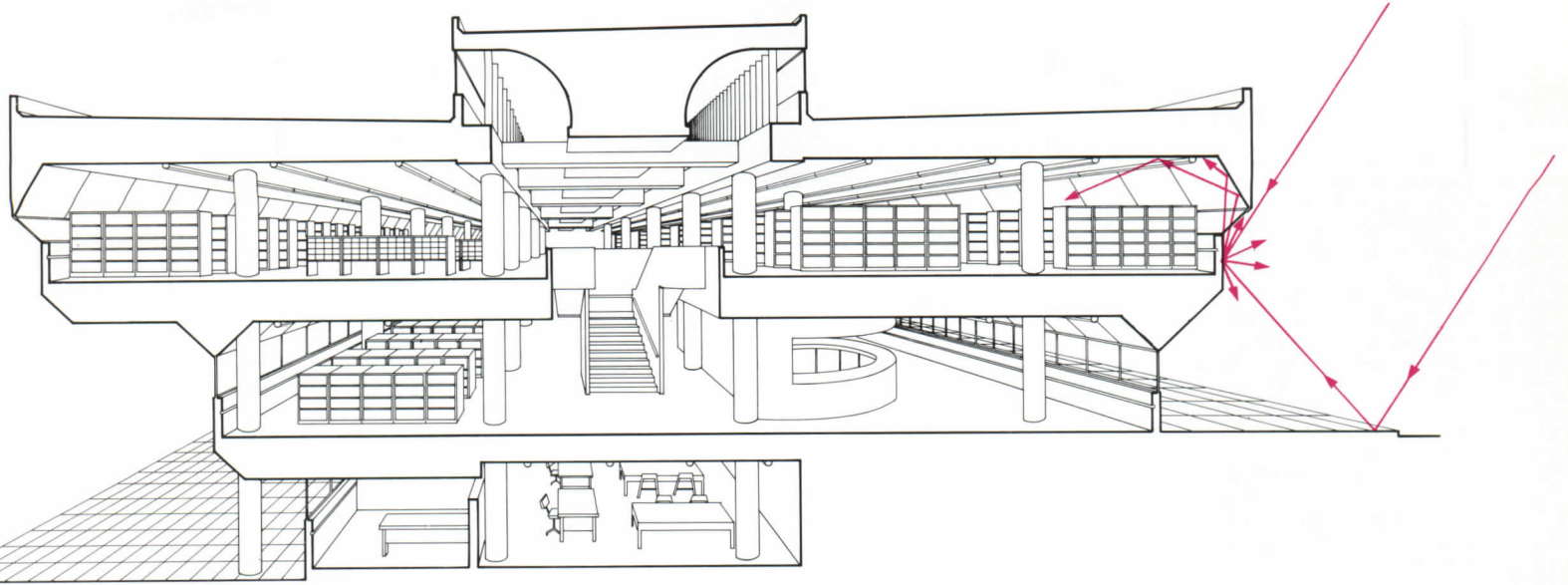
Photos courtesy Gunnar Birkerts and Associates



**Anchorage Library Competition
Anchorage, Alaska
1981**

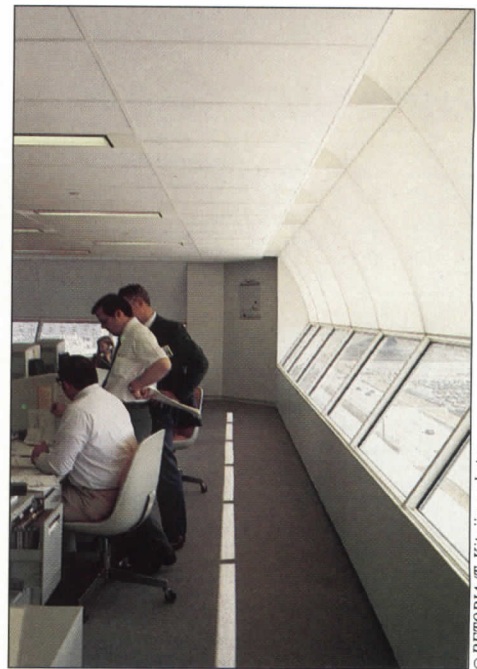
Birkerts's entry in the Anchorage Library competition was greatly influenced by solar orientation, climatology, and views into the surrounding landscape. Happily, the best views from the site were toward a range of southern mountains. Since the brightest, warmest sunlight also comes from the south, the building steps down in that direction with a series of narrow, curvilinear projections terminating at terraces (upper section of model at right). To further maximize the presence of southern light, terrace floors are reflective, bouncing light into the reading areas (section facing page). Light is given to the core of the building through an atrium. To focus more precious arctic light into that space, a mirrored tracking lens was designed for its summit (partial section at right).





**IBM Office Building
Southfield, Michigan
1974**

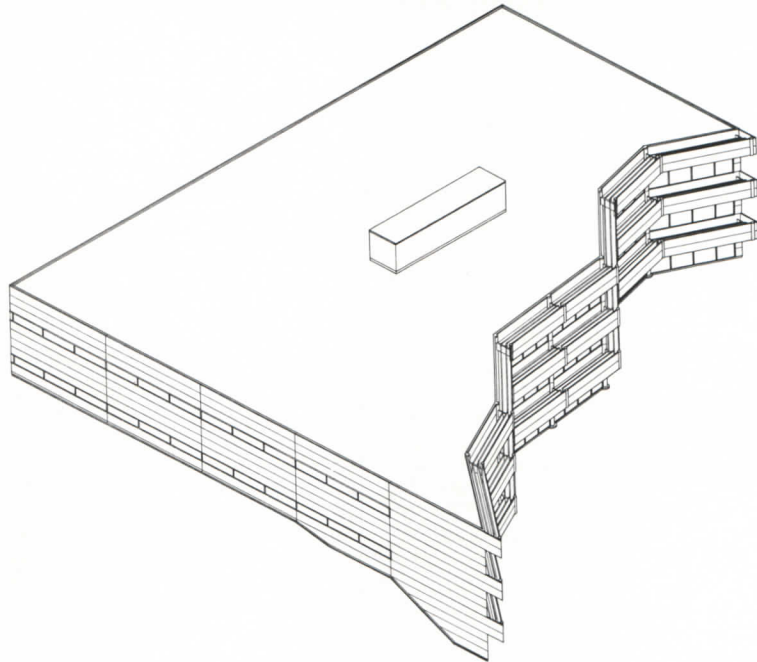
IBM's Southfield office was built at a time when energy conservation was stressed. The natural lighting scheme was integral to meeting that need, though glazing represents only 20 percent of the wall surface (photo near right). Limited glazing does not, however, curtail views or adequate interior daylighting. Through an ingeniously modulated wall section (facing page and photo far right), light striking the exterior stainless-steel reflector-sill is sent through the sloped glass, splayed across an interior metal light reflector shield, and sent into the office space. Distributed around all four sides, the office floors glow with a halo of glareless light. Birkerts places electrical light at the top of the interior reflector to maximize its effect at night.



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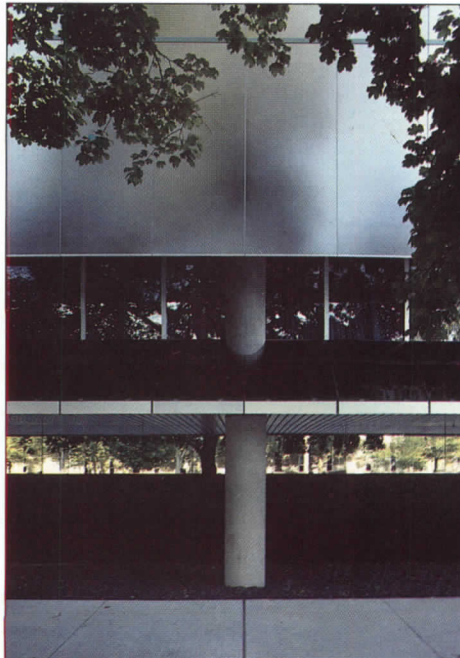
**Citrin Office Building
Bingham Farms, Michigan
1979**

Never built, the program called for a multi-occupancy office building. Economics determined the essentially square plan, but the south side of the site, with its stream, ravine, and abundant tree-growth, suggested the full use of glass and a broken geometry (photo right and plan facing page). The south-facing glass is sheltered by a system of sun shades which fully blocks direct sunlight during the summer but admits the lower angled rays of the winter sun (wall section, facing page). As indicated in the plan, the vertical staggered shading fins open or close in their spacing as they negotiate the faceted southern facade. The building interior gains additional reflected and diffused light from the matte white inside face of the fin blades. Other exterior walls provide a continuous, narrow vision strip for light.

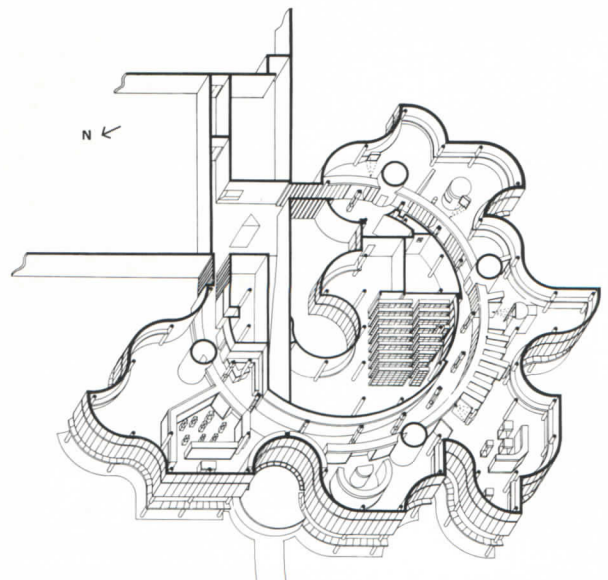


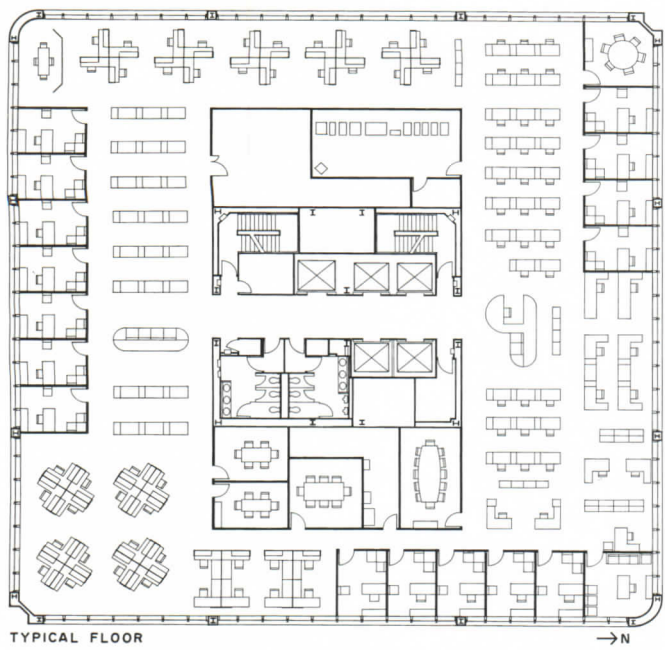
**Museum of Glass
Corning, New York
1976**

A tour de force, the facade of the Museum of Glass actually lights the space surrounding the building (drawing and photo right). This is accomplished by a faceted configuration sheathed with a reflective surface of stainless-steel-coated glass. Equally innovative, the exhibition spaces are offered light and views through a continuous linear periscope detailed with mirrors (photo and partial section, facing page). Aside from the pure whimsy periscopic vision affords, the reflected daylight entering at the floor level challenges our sense of gravity, giving the impression that the built-in exhibit displays and ceiling hover above the floor. Furthermore, the indirect lighting scheme removes most infrared and ultraviolet rays—a conservation requirement established by the Museum curators.

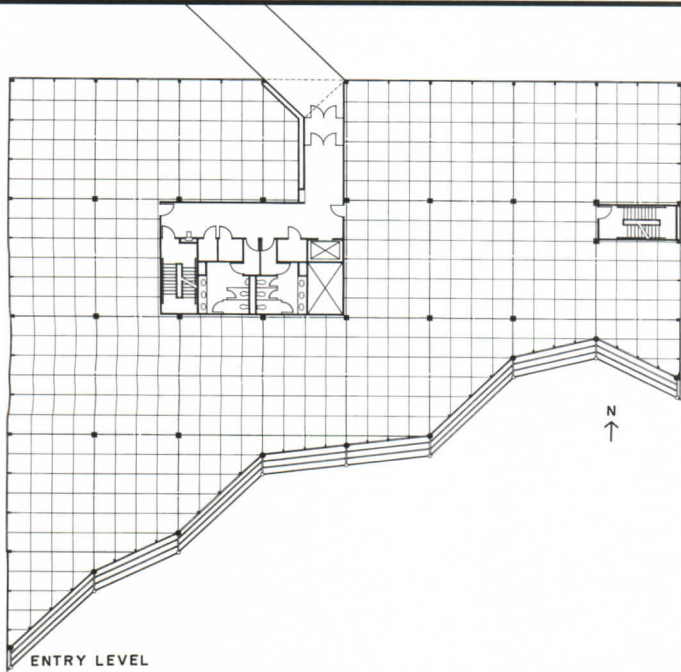
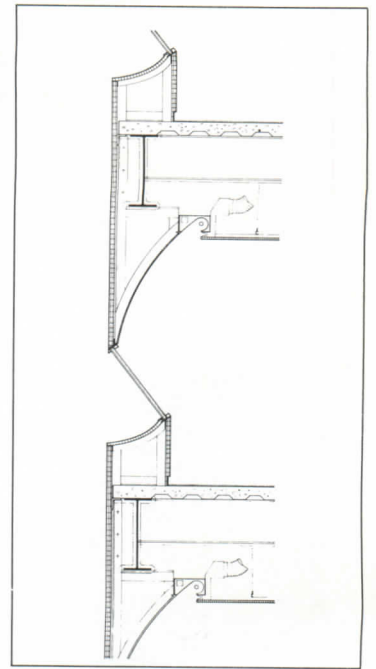
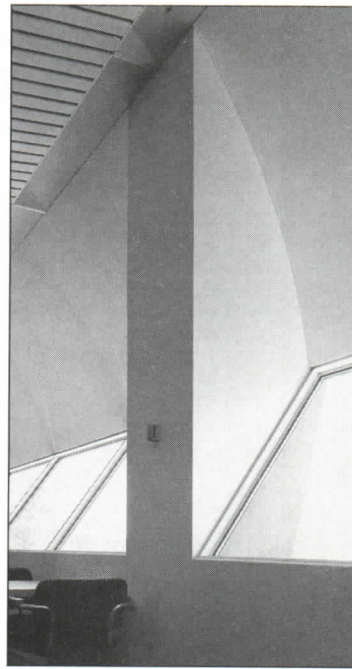


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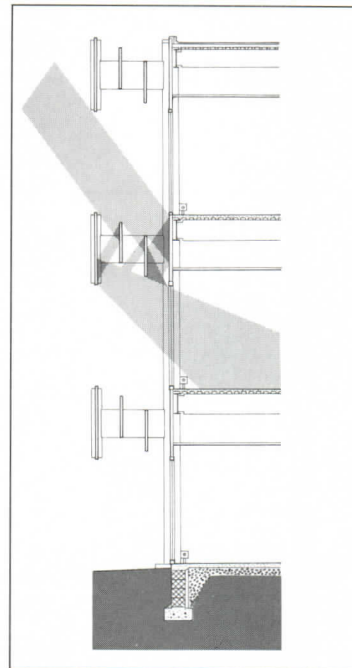




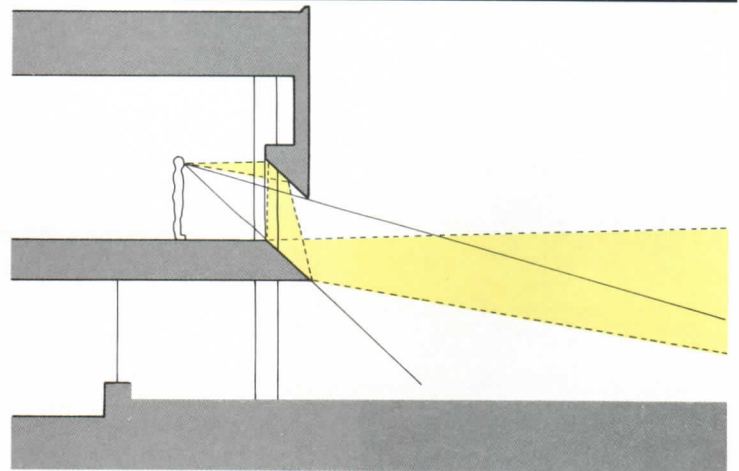
TYPICAL FLOOR

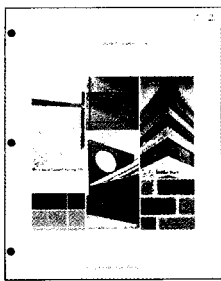


ENTRY LEVEL

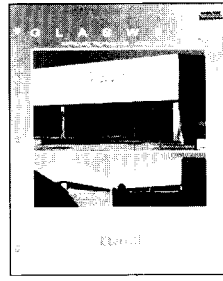


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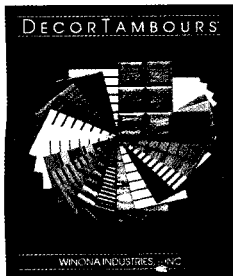




Structural ceramic products
Application and specification information for all *Stark* products—structural glazed facing tile, acoustical tile, security/seismic tile, *Millennium* masonry and *Jumbo* brick—is included in a 12-page color catalog. Typical installations are pictured for each product category. Stark Ceramics, Inc., Canton, Ohio.
Circle 400 on reader service card



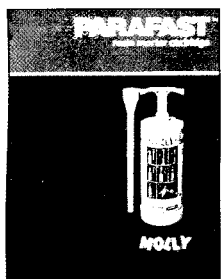
Cladding panel
A color brochure shows *Glasweld* mineral fiber reinforced cement building panels used for curtain walls, cladding systems, fascias and interiors. Text explains how new adhesive attachment techniques allow monolithic facades without moldings. Eternit, Inc., Reading, Pa.
Circle 406 on reader service card



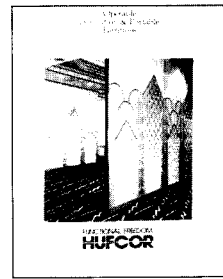
Architectural tambour
The complete *DecorTambours* line of linear and architectural grid pattern tambour is covered in a 32-page color catalog. Product is manufactured of solid wood, wood veneers, metals, acrylics, laminates and paintables. Winona Industries, Inc., Winona, Minn.
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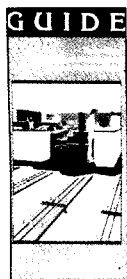
Concrete bearing wall
The construction economies of the *Stack-Wall* precast concrete bearing wall, floor and roof system are explained in an 8-page color brochure. The system is shown used in high-rise apartment buildings; floor plans illustrate the layout flexibility claimed for *Stack-Wall* construction. High Concrete Structures, Inc., Denver, Pa.
Circle 407 on reader service card



Resin structural anchor
Data sheet introduces *Parafast* polyester resin mortar for bonding almost any structural bar to most types of building materials. The *Parafast* cartridge holds separate amounts of resin, aggregate and hardener; depressing the integral plunger mixes the components for use in a standard caulking gun. Emhart, Temple, Pa.
Circle 402 on reader service card



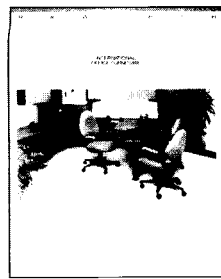
Space-dividing partitions
Operable, portable, and accordion partitions for a variety of interior applications are presented in this manufacturer's 1987 catalog. The *Omni-Directional* track and carrier system, which provides a tight acoustical seal with a half-turn of a handle, is included. Hough Mfg. Corp., Janesville, Wis.
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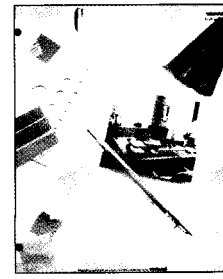
Underfloor system maintenance
A 12-page "Guide to in-floor electrical distribution system maintenance" helps building owners and managers understand system terminology. Activation and abandonment techniques for distributing grids are illustrated, using both preset inserts or blank raceway. Walker Div., Butler Mfg. Co., Parkersburg, W. Va.
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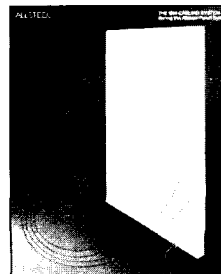
Metal roofing
Color catalog on *Series 300* architectural roofing shows all 16 standard *Kynar* finish colors available for the aluminum or galvanized steel roof system. Application photos, load tables and detail drawings are included. IMETCO, Tucker, Ga.
Circle 409 on reader service card



Electronic office
An 8-page brochure shows office furniture designed to meet the wire and cable management requirements of the international office. The *Power Base* 18-wire raceway kit, which can adapt to electrical standards worldwide, is featured in the literature. Haworth, Inc., Holland, Mich.
Circle 404 on reader service card



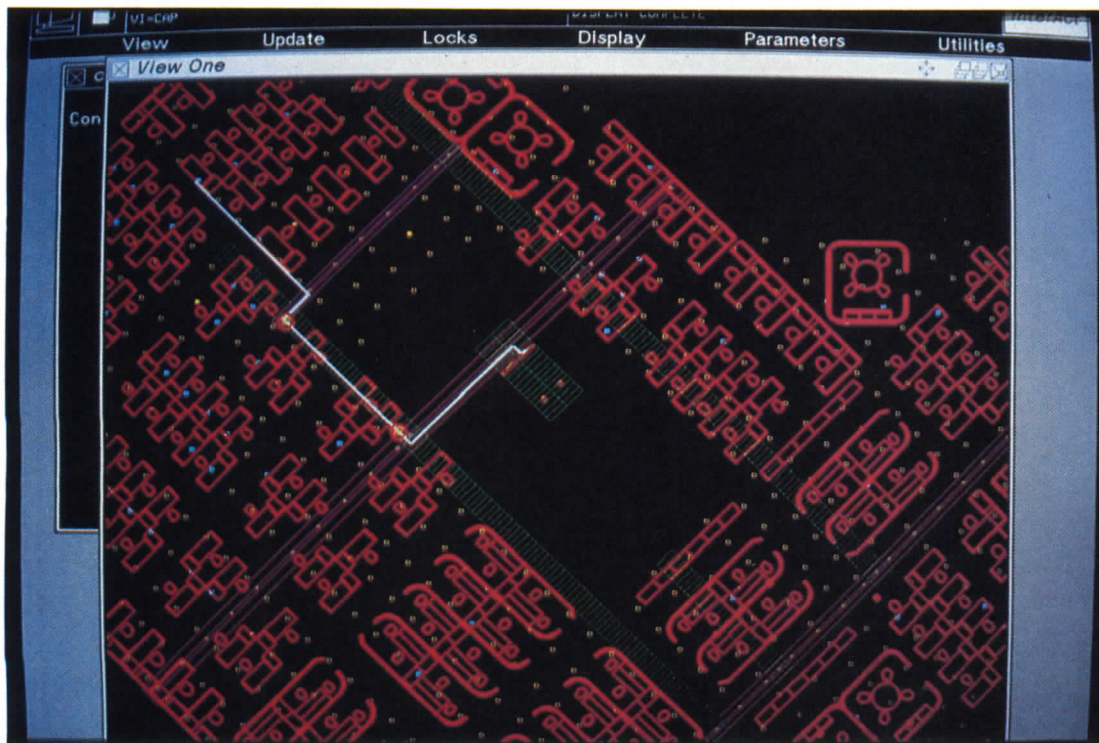
Window treatments
A specification guide presents decorative window shades and blinds marketed for commercial and institutional applications where energy efficiency and fire code requirements are essential. Many of the window treatments are available in *Verosol FR* flame retardant fabric. ComShade Co., Inc., Pittsburgh.
Circle 410 on reader service card



Panel raceway system
Three solutions to the problems involved in routing IBM cables into *Allsteel's* single- and dual raceway panel systems are illustrated in an 8-page brochure. Also discussed are plenum and non-plenum cabling and terminal hook-up options. Allsteel Inc., Aurora, Ill.
Circle 405 on reader service card



Heating and cooling equipment
A 32-page "working catalog" includes a photo of each refrigeration, heat transfer or other product; lists its key features and advantages; suggests appropriate applications; and provides complete specification data. Carrier, Syracuse, N. Y.
Circle 411 on reader service card
More literature on page 158



Wire management made easy

It's almost impossible to keep track of the miles of cables and the hundreds of outlets in an electrified floor installation with only the original diagrams to guide you, say the people who came up with the *Maproute* software program.

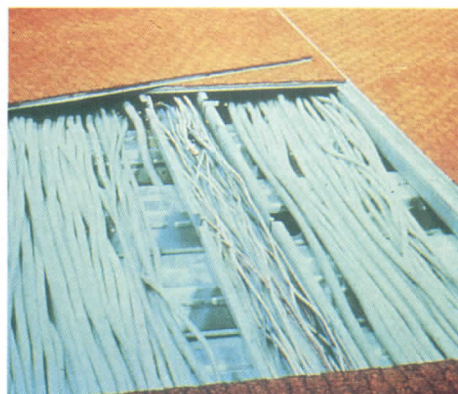
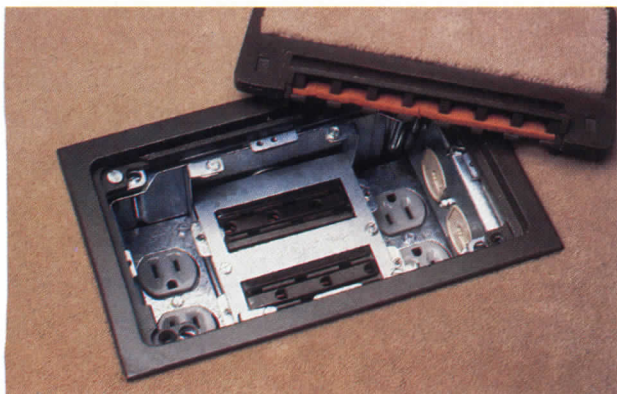
Maproute lets on-site building personnel use a graphics terminal linked to a host computer to instantaneously check the status of all in-floor outlets (lower left) and the trenches serving them (lower right). Designed to work with this manufacturer's *Q-Floor/Taproute* cellular distribution system, the program memory holds a detailed model of the entire electrified floor system for a particular building, showing how it was originally wired. It can display any part of that system in detail on a high-resolution, full-color monitor (top). The present status of each outlet is indicated: which services are now available, and whether they are active, dormant, or faulty. The screen also shows how much cell or trench capacity remains in that location.

Every time a cable is pulled or abandoned, or a workstation is moved, this distribution change is entered into the program database, along with cable type and size. The system then automatically re-calculates all system parameters, including cable routes.

When new cables are required, *Maproute* prompts the best path to follow, considering available cell and trench capacity.

Costs for the *Maproute* system begin around \$40,000, which includes an *InterPro* graphics workstation, access to software and database, and user training with support services.

H. H. Robertson Co., Pittsburgh.
Circle 300 on reader service card



Access flooring

The *Wood-Lok* system is described as a cost-efficient, acoustically comfortable raised service-distribution floor for general office installations. The panel itself has a particleboard wood core encased by galvanized steel sheets, said to ensure deformation resistance under concentrated and rolling loads.

Each panel is mechanically fastened to the supporting pedestal structure at all four corners, providing a solid-feeling walking surface with good noise control.

Wood-Lok panels have a Class A fire rating (ASTM E-84), and the floor may be cut to fit around corners and into walls. Panels measure 24-in.-square; carpet tile is available in 24-in. modules.

Donn Corp., Westlake, Ohio.
Circle 301 on reader service card
More products on page 152



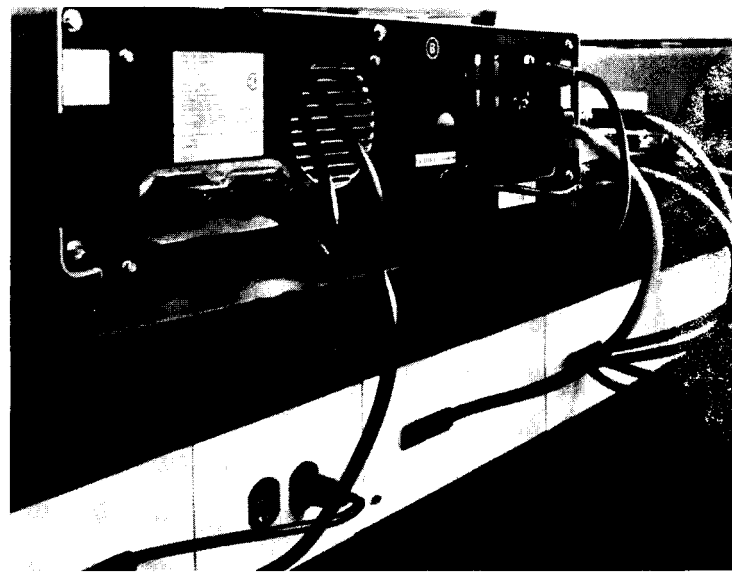
Surface-mount delivery system
Mult-A-Serv is described as an elegantly simple way to distribute telephone and data networks, as well as electrical power, along the interior walls of commercial buildings. Designed for low-voltage wire-management requirements, it may use power cable approved for installation without separate raceways.

The modular metal enclosure has a standard 2.5-in. depth, and comes in three cross sections of 13, 17 and 21 sq in.; the wire capacity required dictates the cross section installed. Data, communication, and power receptacles are held on mounting plates within the enclosure. Power cable is supported with a snap-in partition. Outlets can be mounted along the system length by means of a slide nut fitted within a groove on the back wall of the metal housing.

The *Mult-A-Serv* delivery system can be mounted at any height on walls, partitions, and workstations, in either retrofit or new installations. When receptacles are required, the closure strip is snapped out and the boxes mounted where needed and wired. The office and institutional installations shown here contain face plates for coaxial and multipin data connectors, telephone jacks, and 110V power outlet boxes.

Visible parts include a plastic closure strip that snaps into a metal enclosure; top and bottom vertical angle fittings; steel angle fittings and end caps; and plastic accessory face plates. *Mult-A-Serv* components come in shades of tan, brown, and cream; the base metal enclosure is also available unpainted. Midland-Ross Corp., Pittsburgh.

Circle 302 on reader service card

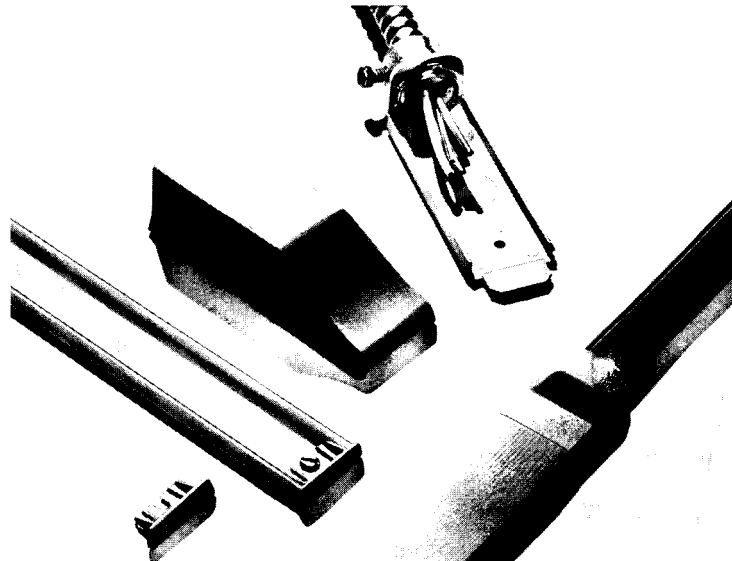


Plastic raceway fittings

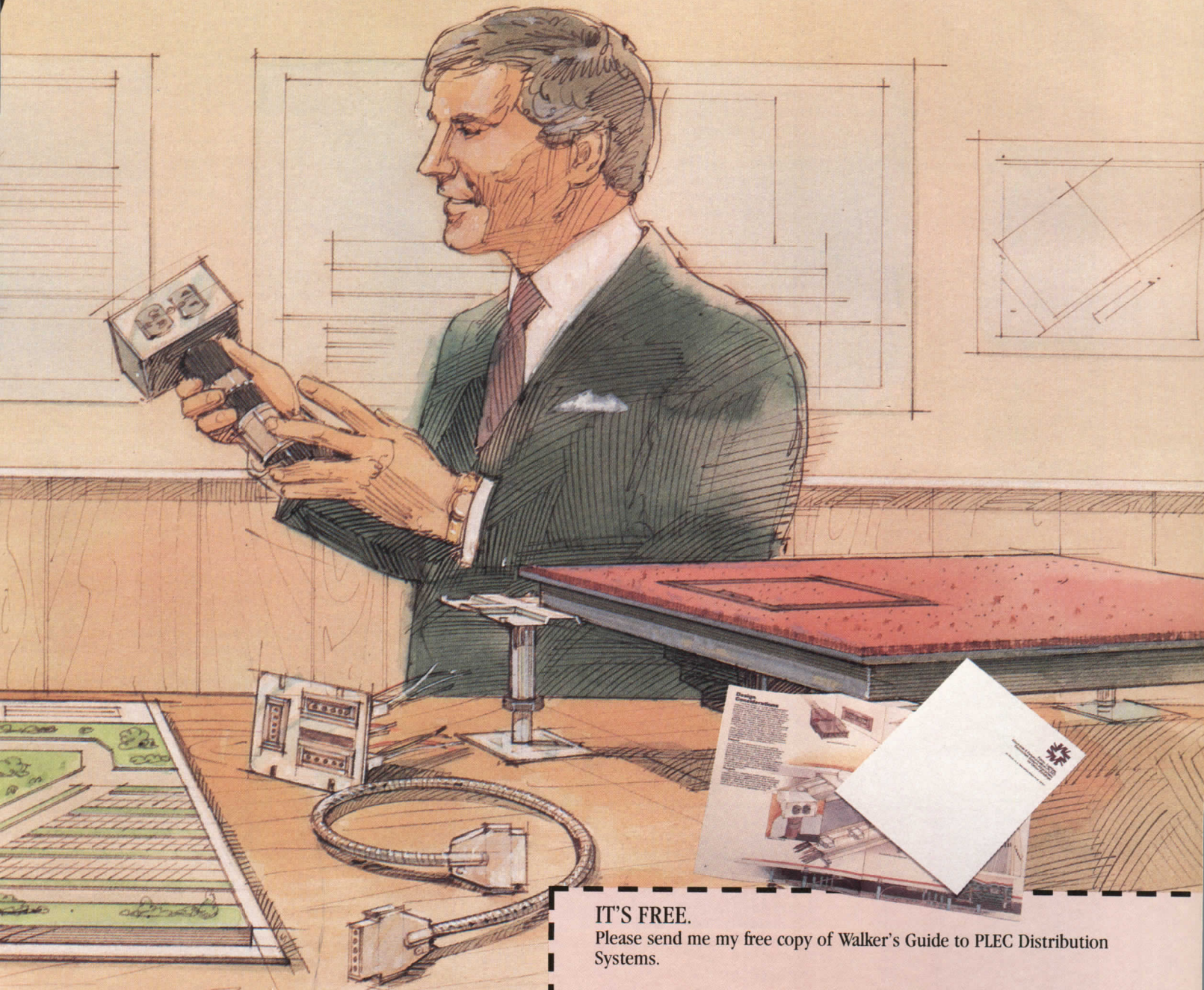
Several fittings have been added to this maker's 800 Series plastic raceway for the distribution of 15A, 125V electric power in interior areas. All are offered in a textured ivory finish.

Shown at left are an in-line single pole switch and a low-profile duplex receptacle with color-coded wire paths. The insulation-piercing receptacle contacts allow for installation without stripping wires. Shown at the right is an entrance fitting to connect the 800 raceway with 1/2-in. conduit and armored cable, and a blank end fitting to close the open end of the raceway. An end-reducing connector allows a transition between the 800 raceway and the manufacturer's 500 steel raceway. The Wiremold Co., West Hartford, Conn.

Circle 303 on reader service card
More products on page 160



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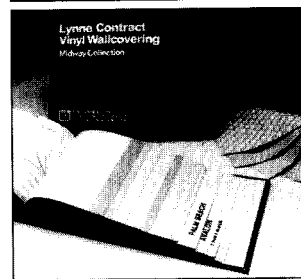
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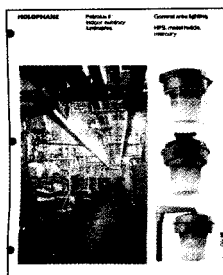
A DIVISION OF BUTLER MANUFACTURING COMPANY



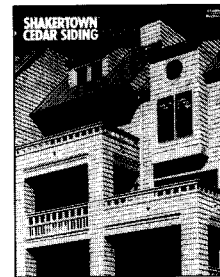
Cement wall support boards
Technical catalog introduces three cement-based wall systems for use on wood or steel-framed buildings up to 4 stories high. Fire-resistant *Durock* comes in 4- by 8-ft boards, and works as a base for three types of exterior finishes: ceramic and thin stone tile; thin brick; and epoxy matrix stone aggregate. United States Gypsum Co., Chicago.
Circle 412 on reader service card



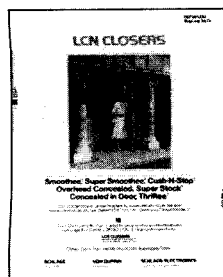
Vinyl wallcoverings
Two lines of multicolored wallcoverings for restaurant, hotel and other hospitality applications are shown in sample books. Both *Midway* and *Rockport* patterned vinyls are Class A flame rated and washable. J. M. Lynne Co., Inc., Smithtown, N. Y.
Circle 418 on reader service card



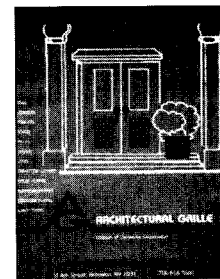
General area lighting
A 12-page bulletin explains how *Petrolux II* refractor and reflector indoor/outdoor luminaires deliver more light per unit, lowering power use and the number of lights required. Photometric, lamping and installation data are included. Holophane, Denver.
Circle 413 on reader service card



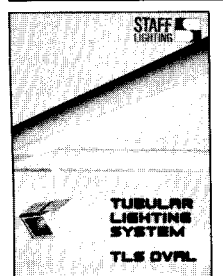
Cedar siding
Recent product extensions and on-site applications are shown in *Shakertown's* 1987 panelized cedar siding brochure. Color photos illustrate siding and *Fancy Cuts* shingle products used on residential, multifamily and light-commercial buildings. Shakertown Corp., Winlock, Wash.
Circle 419 on reader service card



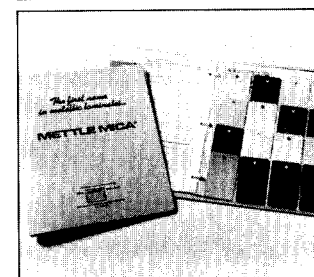
Openers and closers
A full line of door closers and automatic door operating devices is presented in an 8-page specification catalog. Literature includes product illustrations and features, dimensions and installation requirements. LCN Closers, Princeton, Ill.
Circle 414 on reader service card



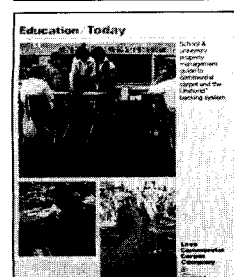
Architectural grilles
A four-page capabilities brochure suggests the range of architectural grille, louver, enclosure and other stock and custom products offered in brass, aluminum, stainless steel, and bronze. Giumenta Corp., Brooklyn, N. Y.
Circle 420 on reader service card



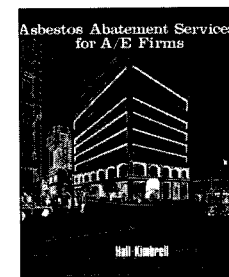
Tubular lighting
Color catalog introduces the *TLS Oval*, offered in three identically-sized styles: fluorescent, track, and blank, which can be combined in the same installation. Same-size couplers allow horizontal, vertical, and rotating connection of tubular modules. Staff Lighting, Highland, N. Y.
Circle 415 on reader service card



Metallic laminates
A binder available to professionals contains samples of *Mettle Mica* laminate products: solid aluminum sheets offered in clear, brass, bronze and copper anodized finishes. The October Co., Easthampton, Mass.
Circle 421 on reader service card



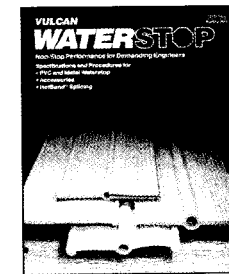
School carpeting
Color selection guide describes a line of *Lees* commercial carpeting developed specifically for school and university requirements. Life safety and wear test methods and results are included. Lees Commercial Carpet Co., King of Prussia, Pa.
Circle 416 on reader service card



Asbestos abatement
A capabilities brochure outlines the environmental consulting services available nationwide to architects and engineers dealing with asbestos-related hazards. Assessment, management and training programs are described. Hall-Kimbrell Environmental Services, Lawrence, Kansas
Circle 422 on reader service card



Acoustical wall panels
Fabric-faced noise-control panels for both new and retrofit applications are shown in a 4-page catalog on *Design Series 90*. Complete performance characteristics are given for the panels, which are upholstered in heather-toned polyester. Peabody Noise Control, Dublin, Ohio.
Circle 417 on reader service card



Waterstops
PVC and metal products for expansion joints in cast-in-place concrete construction are covered in a specifications and procedures brochure. The advantages of in-field splicing of PVC waterstops are listed. Vulcan Metal Products, Inc., Birmingham, Ala.
Circle 423 on reader service card



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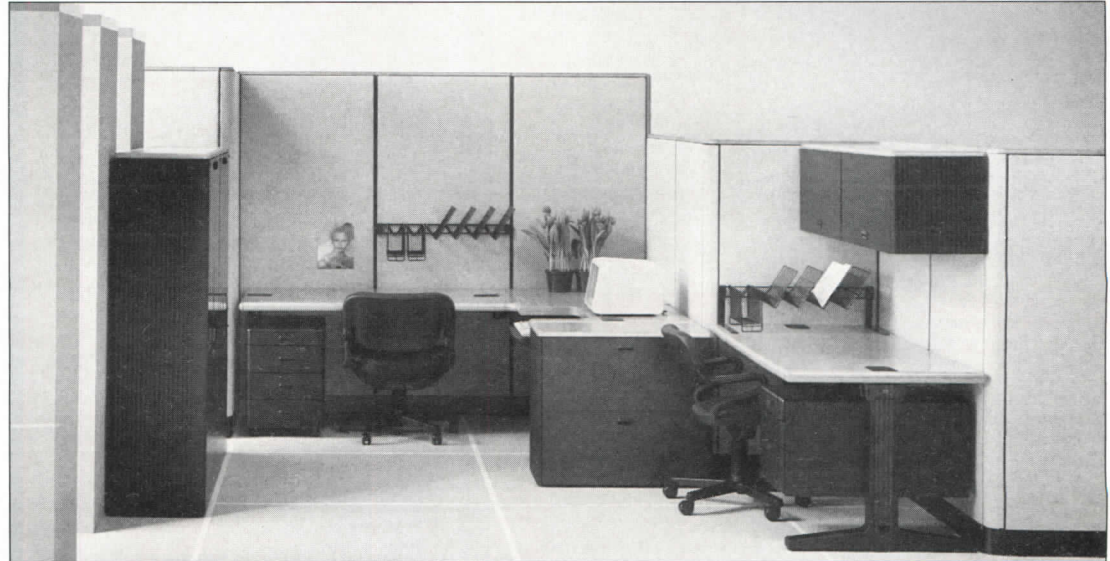
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Circle 73 on inquiry card

1. Panel-mounted storage

An extension of the manufacturer's *Com Office System* adds overhead storage shelves, hang-on cabinets, and paper-management accessories to the freestanding panel components. Worksurfaces are beam-supported, providing space for file units. Acoustical panels share the wire-management capabilities of the standard panels, with large raceways to carry telephone, data, and power cables. The *COM System* was designed by F. Frascaroli and C. Biondi. Krueger, Inc., Green Bay, Wis. *Circle 304 on reader service card*



2. Drafting chair

Part of the *Series One* line of ergonomic office seating, this *Technical* chair is said to supply long-term functional comfort to those who work at an elevated desk, or who alternate between surfaces of different heights. The seat height adjusts easily from 38 3/4- to 45 1/4-ins. A self-activated swivel with forward tilt aligns the posture for worktable tasks. Panel Concepts, Inc., Santa Ana, Calif. *Circle 305 on reader service card*



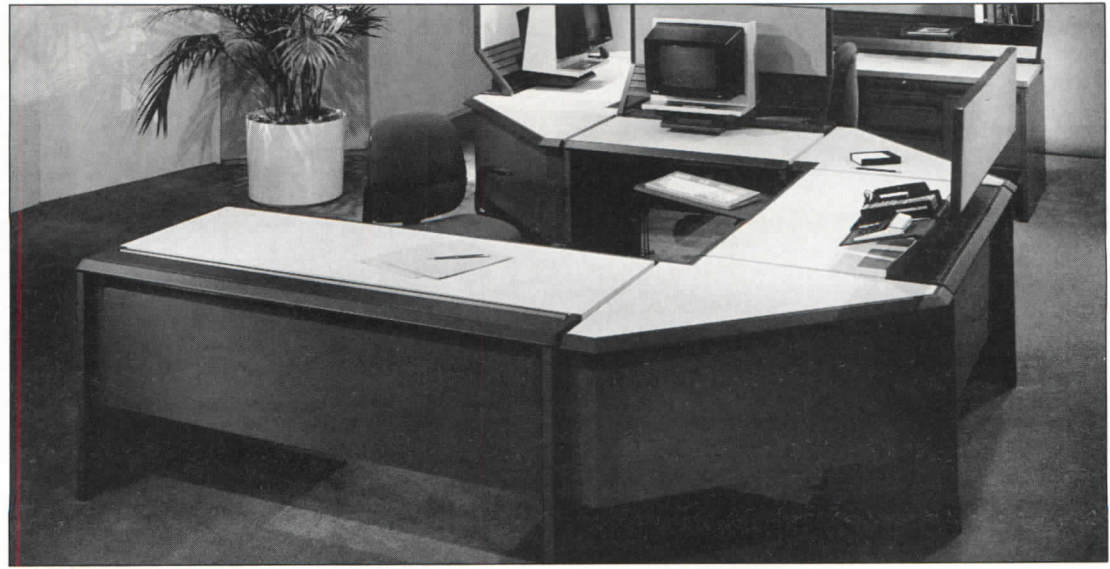
3. Wood office system

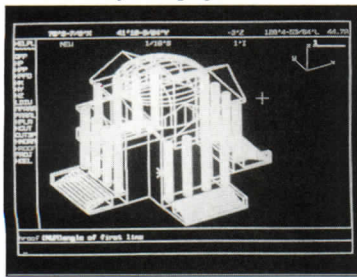
More than 100 different desks, credenzas, workstations, files, storage and support units are offered in the transitionally styled *Axiom* furniture line for middle-management and executive offices. Customizing options available include articulating keyboards, power-management systems, task lighting, and a number of panel system components. Several shades of mahogany on walnut, natural walnut, and oak veneers work with brass and marble trim details in the *Axiom* series. Executive Office Concepts, Compton, Calif. *Circle 306 on reader service card*



4. Open-plan office

Wire-management and computer-support features are integral to the *Syntrax* office system. Shown here is a CRT carriage, which allows the user the full range of the worksurface to reposition the monitor for viewing or out-of-the-way storage, and an articulating keyboard arm that stores under the worksurface. A trough for 2- or 3-circuit wiring brings power and communications cable to office equipment. Allsteel Inc., Aurora, Ill. *Circle 307 on reader service card*
More products on page 163





True 3D design software

Solid Vision runs on the IBM PC/AT, PC/XT, and full compatibles to allow architects and engineers to design in three dimensions, revising as often as necessary. The program lets the user see a design in plan, elevation, section, or perspective, and then produce drawings, model design, and presentation images, all from one model. Program features include automatic hidden-line removal, 256 color-shaded images, and real-time "walk arounds." *Solid Vision* is available bundled with *Cadadvance 2 1/2 D* design and drafting software for \$4,995, or as a stand-alone package for \$3,500. CalComp, Anaheim, Calif.

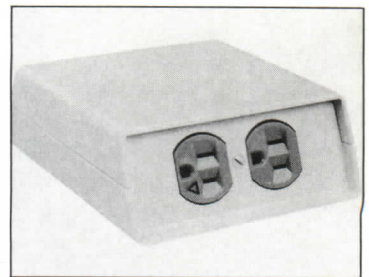
Circle 308 on reader service card



Athletic flooring

No connections are visible in the *Hide-N-Lok* rubber-floor system. Each 24- by 24-in. tile is 1/2-in.-thick and can take several hundred pounds of impact, making this athletic floor surface especially suitable for use under weight machines in health clubs. There are seven standard colors, permitting an unlimited layout in stripes, borders, etc. Pawling Corp., Pawling, N.Y.

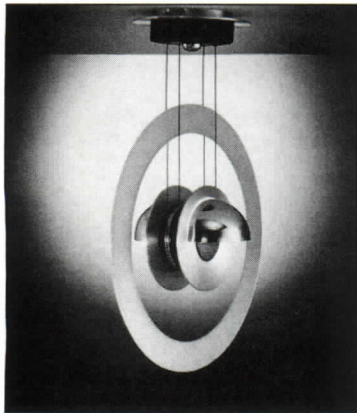
Circle 311 on reader service card



Isolated ground receptacles

An addition to the *System PDC* undercarpet wiring line, isolated ground receptacles in floor pedestals protect computers, data printers, phones, and other sensitive equipment against electromagnetic interference caused by transient ground currents. Hubbell Inc., Bridgeport, Conn.

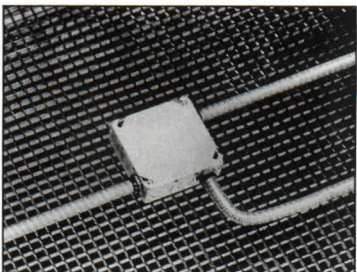
Circle 312 on reader service card
Continued on page 165



Pendant fixture

The *Luna* pendant, designed by Kevin von Kluck, is a kinetic suspension said to resemble Saturn with its outer ring of sand-etched glass. The lamp's rotational mobility allows light to be redirected a full 360 deg. The unit is available in polished brass, chrome, gloss cranberry red, or gloss peacock blue. Boyd Lighting Co., San Francisco.

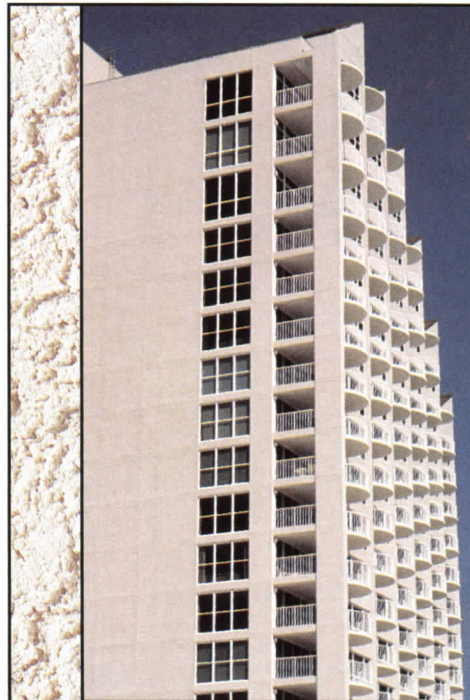
Circle 309 on reader service card



Plenum wiring conduit

A nonjacketed, flexible metallic tubing, UL-listed *Plen-Flex* conduit meets NEC 349 standards for use in air-handling spaces, suspended ceilings, and plenums. *Plen-Flex* is said to contain the smoke and vapors of a fire yet remain waterproof. Electri-Flex Co., Roselle, Ill.

Circle 310 on reader service card



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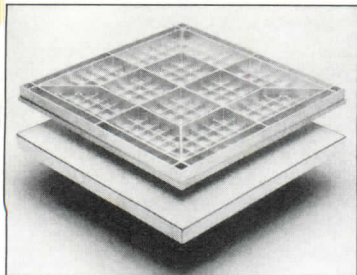
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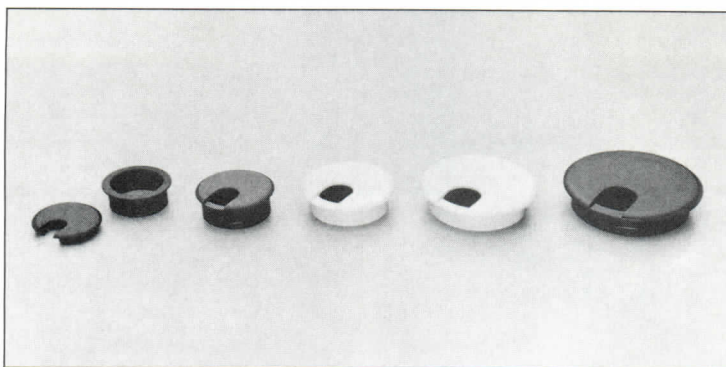




Aluminum access floor

Designed for such specialized applications as clean rooms and computer equipment areas, access floor components are made entirely of aluminum to provide strength and superior static dissipation. Panels have been rated for concentrated loads of 1,000 lb and a 850-lb rolling load. Conductive vinyl tile and laminates can be used as floor coverings. Tate Access Floors, Inc., Jessup, Md.

Circle 313 on reader service card

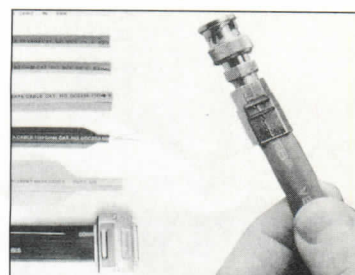


Cord-access grommets

Five sizes of round plastic liners and removable caps are offered for the cord-access holes of desks and other work surfaces. Made of ABS

plastic, the grommets range in size to fit openings of from 1 1/2-in. to 3-in. in diameter. Doug Mockett & Co., Inc., Manhattan Beach, Calif.

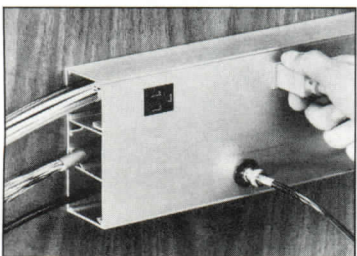
Circle 316 on reader service card



Undercarpet wiring

Said to provide a convenient means of interconnecting terminals with host computers, Versa-Trak undercarpet cables and connectors for data, LAN, and fiber-optic systems can be installed in the field without special tools. Thomas & Betts Corp., Raritan, N. J.

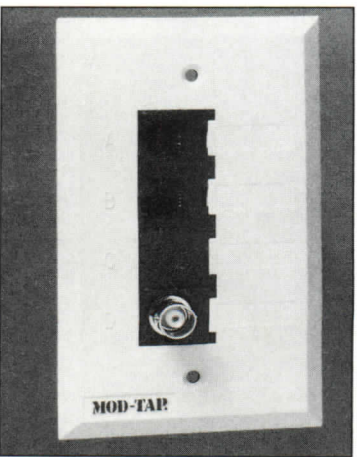
Circle 317 on reader service card



Wiring raceway

The Tri-Way surface-mount wiring system has snap-in dividers to provide separate, adjustable sections for power, data, and communications wiring. The extruded-aluminum raceway features a snap-on cover, which permits installation without any wire pulling. Standard flush switches, devices, and plug receptacles to 30 amp rating can be used; the power section can also be ordered pre-wired. Airey-Thompson Co., Los Angeles.

Circle 314 on reader service card



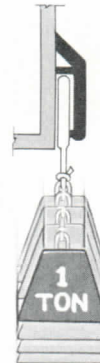
Voice/data wallplate

The MOD-Barrel high-density wallplate combines voice, data, and either high-speed or graphics data into a single gang. Described as an unbiased solution, the plate works with MOD-TAP modular jacks and is guaranteed to interconnect any compatible equipment using standard twisted pair wiring. MOD-TAP System, Harvard, Mass.

Circle 315 on reader service card

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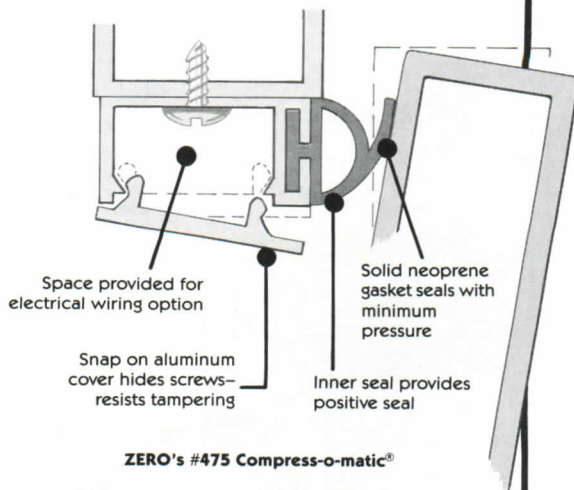
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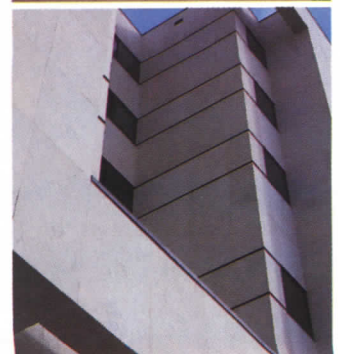
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Manufacturer sources

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 96-99

Erickson Alumni Center
West Virginia University
Morgantown, West Virginia
Michael Graves Associates
Architects

Pages 96-98—Shingle roofing:
Owens-Corning Fiberglas.

Windows: Marvin Windows.
Downlights: custom by architects.
Exterior wall finish: Ispo, U. S. A.,
Inc. (R-Wall). Entrance doors:
Karona. Locksets: Schlage.

Page 99—Suspended light fixtures:
"Type A Dish" by Michael Graves
for Baldinger.

Pages 100-105

Feinberg Hall
Woodrow Wilson College
Princeton University
Princeton, New Jersey
Tod Williams and Associates
Architects

Pages 100-104—Steel-framed
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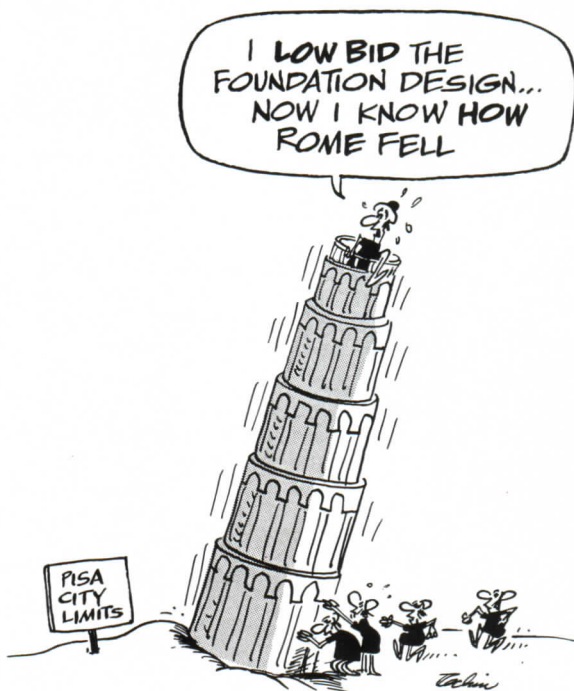
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custom by Edison Price. Alarm
system: Firecraft, Inc. Sprinklers:
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lawyer from the outside who will know what is going on."

Sapers went on to point out the desirability of having a lawyer on some basis at an early stage. "A good number of liability problems could be ameliorated," he said. "And then there is the phase in which something goes wrong on the job. The owner has called up and said to give him a certificate he can use to terminate the contractor on a major office building. Then, if you finally get to the last stage in which there is a dispute that has to be resolved by either the courts or arbitration, it's at that point most architects in the United States first see a lawyer. They have gone through the preliminary negotiation. They have gone through trouble on the job and they have never seen a lawyer and then they typically get the lawyer that the insurance company assigns to them. And that's the only lawyer they have. I am troubled by that." Sapers expanded on the obvious possibility of an assigned lawyer's confused responsibilities.

"What typically can happen, though," said Kornblut, "is that once a firm has had a problem, it learns the value of an attorney, learns his bill isn't something that completely mortifies, and is more willing in the future to call him." He pointed out that an attorney's quick answers on problems a firm sees developing with a client, or little difficulties with the building department, could save intensive legal services that are needed when a real problem arises.

How will our responsibilities and our practices change in the future?

Steinberg had argued for the profession's taking hold of information-management techniques before it loses the driver's seat. What changes in the profession did the other panelists anticipate? "The market is absolutely demanding specialization," said Thomsen. "Design is being unbundled by our clients." By this, he referred to the growing practice of developers who take over part of the design process, the construction documents, or construction. "There are going to be more variations on project delivery," he said.

"Our studies," said Smith, "have shown there will be boutique firms—1 to 7, maybe 10 to 18 people. After that there will be a big, big void and then there will be the big firms. We just aren't going to be having the same practices as we see them today."

"I am practicing differently now than I did a year ago," said architect Barry Moore, "so I think it's fair to say, yes, everybody is going to be doing it."



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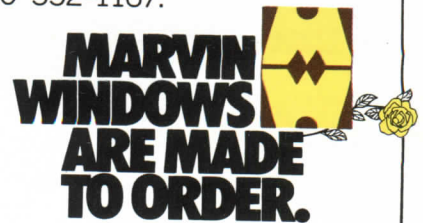
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Interpane Coatings, 36; 34 [G-E]
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U.S. Mineral Products Co., 18; 15 [G-E]
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- Z**
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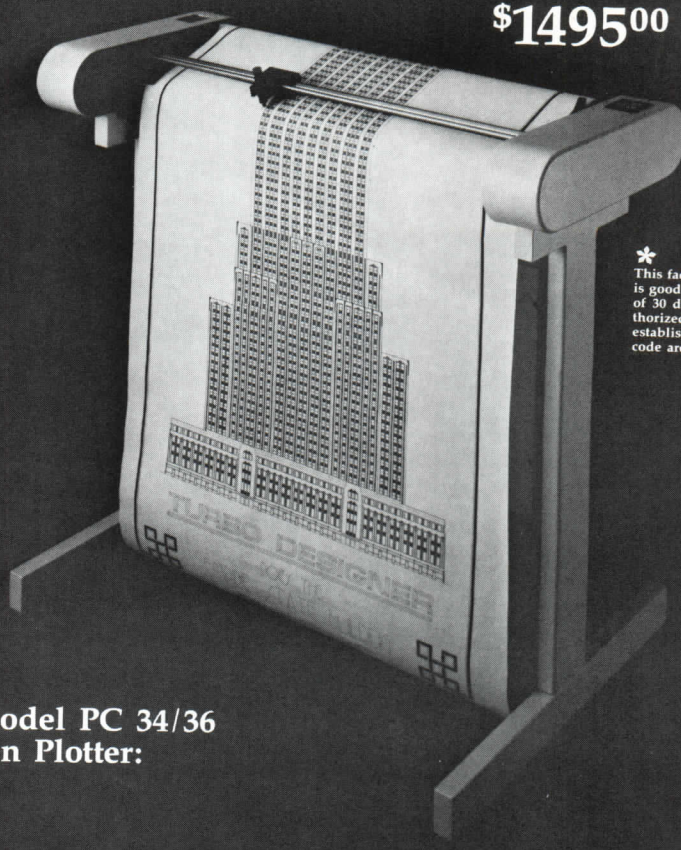
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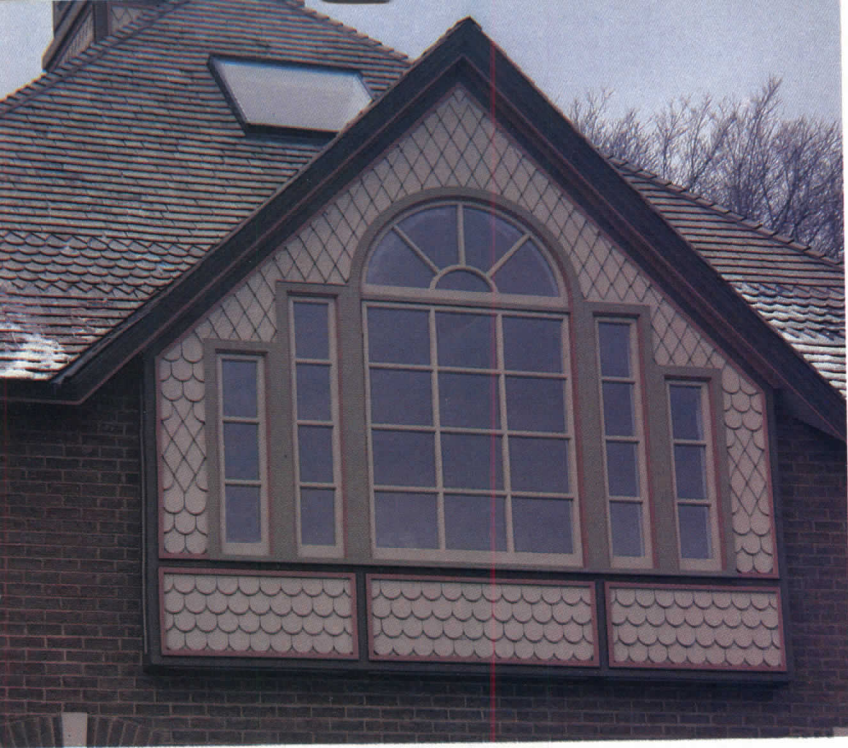
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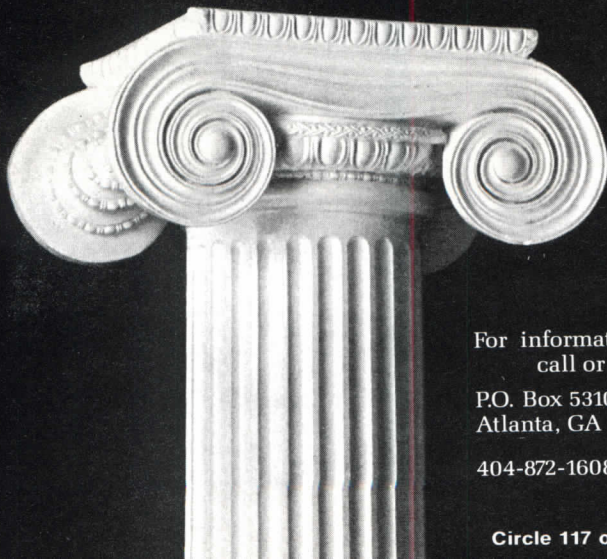
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4. When the recording says, "Enter your subscriber number..." enter your STAC number by pushing the numbers and symbols (# or *) on your telephone keypad. Ignore blank boxes. Enter:

#

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 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"/>	#	#
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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 Inquiry Selection Numbers the recording prompts, "Enter next inquiry number," End call by entering:

9 1 # #

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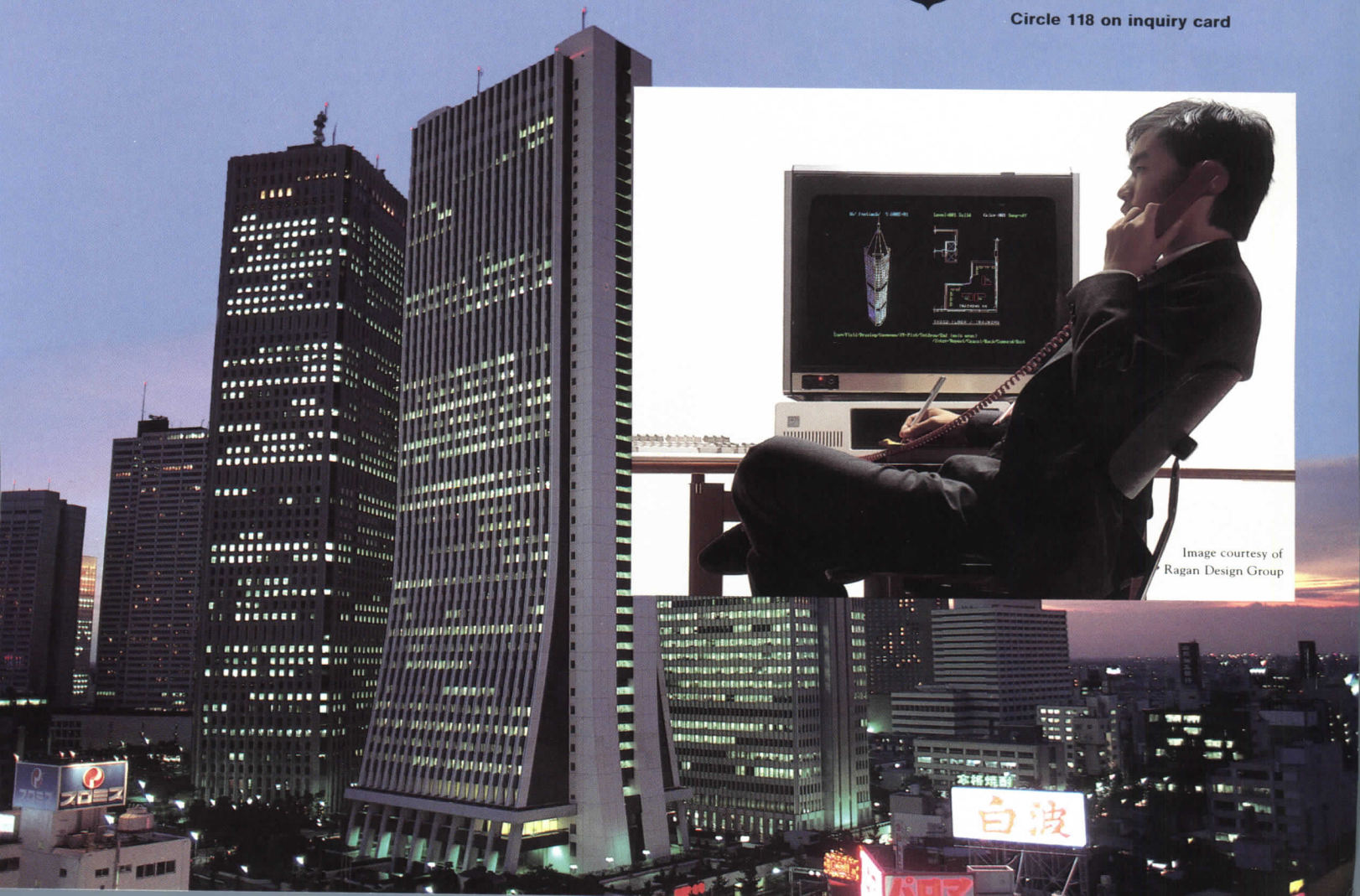


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Think 23 times before you specify a non-Sloan flush valve.

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Field Report on Performance of Non-Sloan Flush Valves

- 1 Philadelphia—valves malfunctioned.
- 2 Allentown—valves would not adjust; numerous service call-backs.
- 3 Bedford—valves have performance problems.
- 4 Tampa—valves in need of repeated servicing.
- 5 Boston—valves would not shut off.
- 6 Memphis—valves separated at stop; leaked at main seal.
- 7 Williamsville—valves malfunctioned before job was complete.
- 8 Portsmouth—valves overflowed.
- 9 St. Petersburg—valves leaked at stop coupling.
- 10 Detroit—valves pulled loose from stop and caused a flood.
- 11 Century City—valves wouldn't shut off; too noisy.
- 12 Baton Rouge—valves repeatedly leaked at stop and main seal.
- 13 Portland—valves have poor handle action.
- 14 Newport—valves would not stay in adjustment.
- 15 Spokane—valves continue to leak, run on after flush... overflows.
- 16 Phoenix—valves would not flush; handles require too much force to operate.
- 17 Evansville—valves leak at handle.
- 18 Costa Mesa—valves became inoperative.
- 19 Camp Pendleton—valves impossible to regulate.
- 20 Wichita—valves subject to wide water use variation when line pressures vary.
- 21 Honolulu—valves erratic, will not function.
- 22 Denver—valves cost more to install, too many call-backs for service.
- 23 Chilliwack—valves have high replacement and maintenance costs.

*Henry: make sure
 we're specifying Sloan
 flush valves!
 Pete*

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A. The general provision including General Co. Division 1 - General specification, apply this section.

B. Related Work Under

1. 15400 - General Mec
2. 15410 - Pl a
3. 15420 -
4. 15430
5. 15440

1.02 DESCRIPTION

A. The existing indicate requi

B. The pro fo!

Specifying a non-Sloan flush valve is risky business. And specifiers across the country are discovering why. Look-alike products mean constant call-backs.

To investigate problems. To recommend solutions. To salvage your reputation. And finally, to do what should have been done the first time: specify Sloan.

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