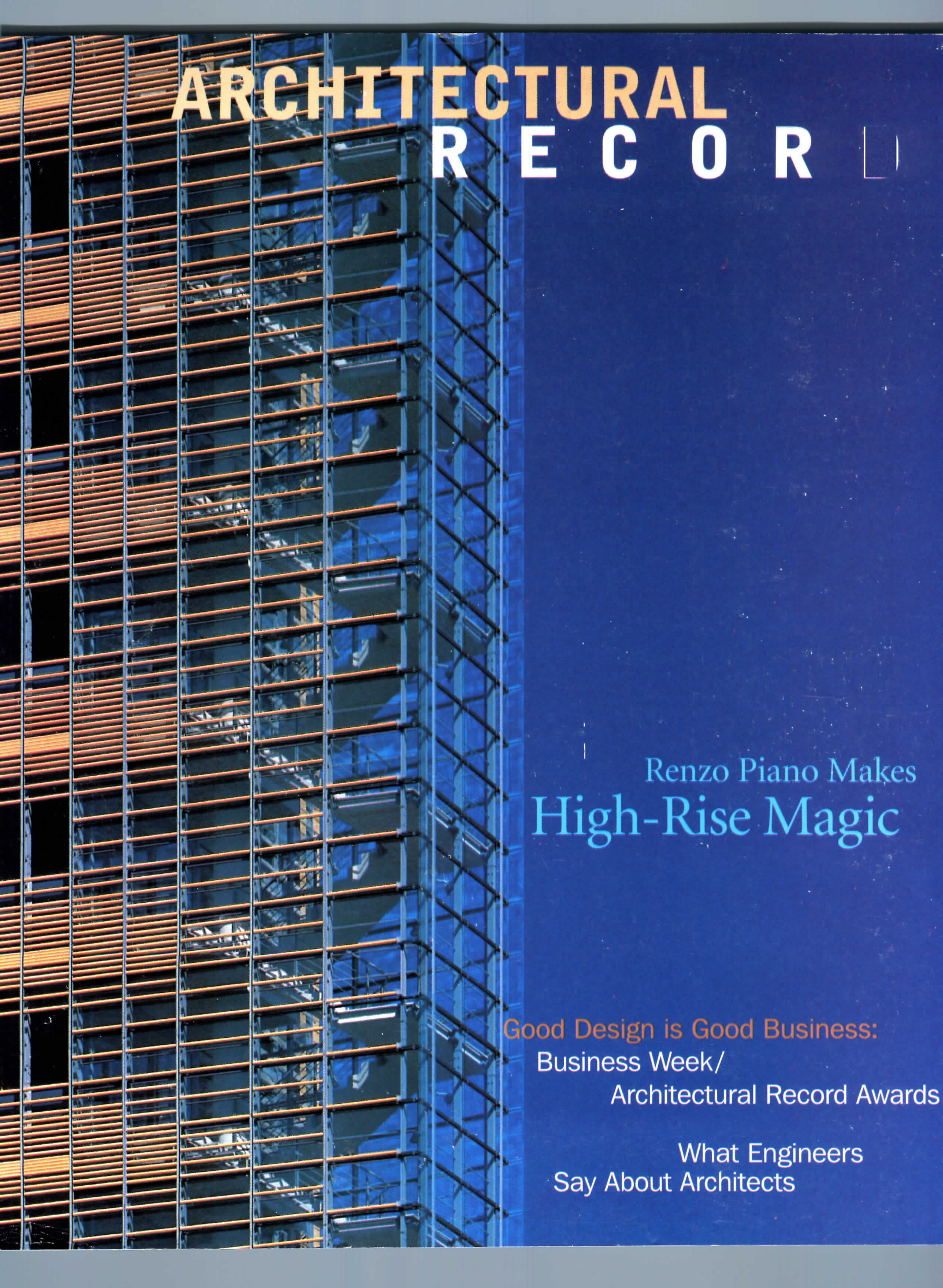
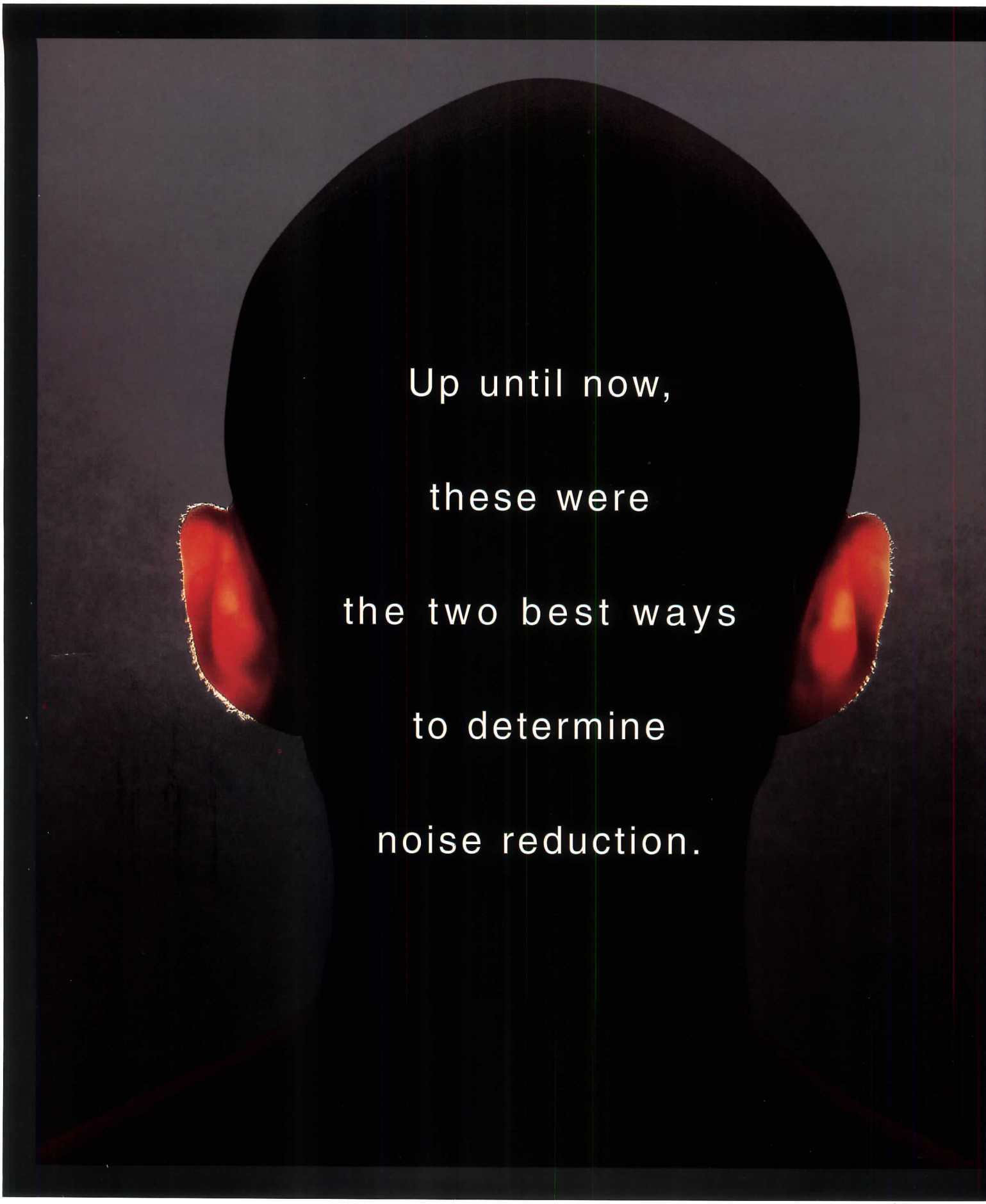


ARCHITECTURAL RECORD

Renzo Piano Makes High-Rise Magic

Good Design is Good Business:
Business Week/
Architectural Record Awards

What Engineers
Say About Architects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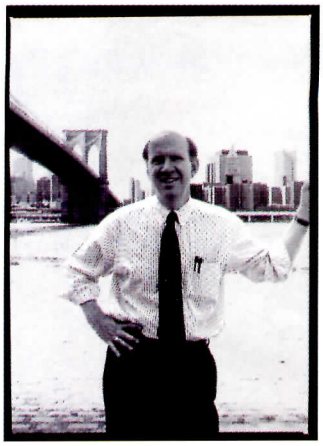


PHOTOGRAPHY: © CHARLES LINN

EDITORIAL

Not To Be Ignored

BY ROBERT IVY, FAIA

It is a subject we try to avoid, one we shy away from discussing. Many architects neither understand nor want to understand design-build: preconceptions and lack of knowledge about this project delivery method abound. Some say that it works best for repetitive, "dumb" projects like parking garages, or that quality invariably suffers in the face of time or money constraints. Architects often lament ceding their traditional, central role in planning and design to someone else, a nebulous "design-build entity" that employs the architect and horns in on what had been the design professional's turf. Some architects fear losing money; others fear the unknown.

No one, however, can afford to ignore design-build today. Statistics show that construction volume employing design-build is rising consistently and, according to the Design-Build Institute, is expected to surpass 50 percent of all building by 2010. Even though their data sound optimistic, we still must wonder what is attracting clients to design-build.

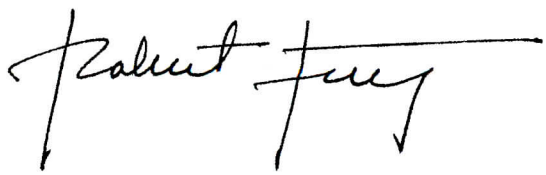
Simplicity is one obvious draw. A single contract with an early fixed cost can be seductive to clients who are tired of legal wrangles, change orders, and bid conflicts. Those paying the bills read the new relationship as offering "less lawyers, less money, less time." A 1997 study by Pennsylvania State University found that design-build is a quicker project delivery method—an amazing 33 percent faster than traditional design-bid-build, according to their research. Design-build also saved money in the study, though savings in money were less dramatic than those in time. And measuring quality remains problematic.

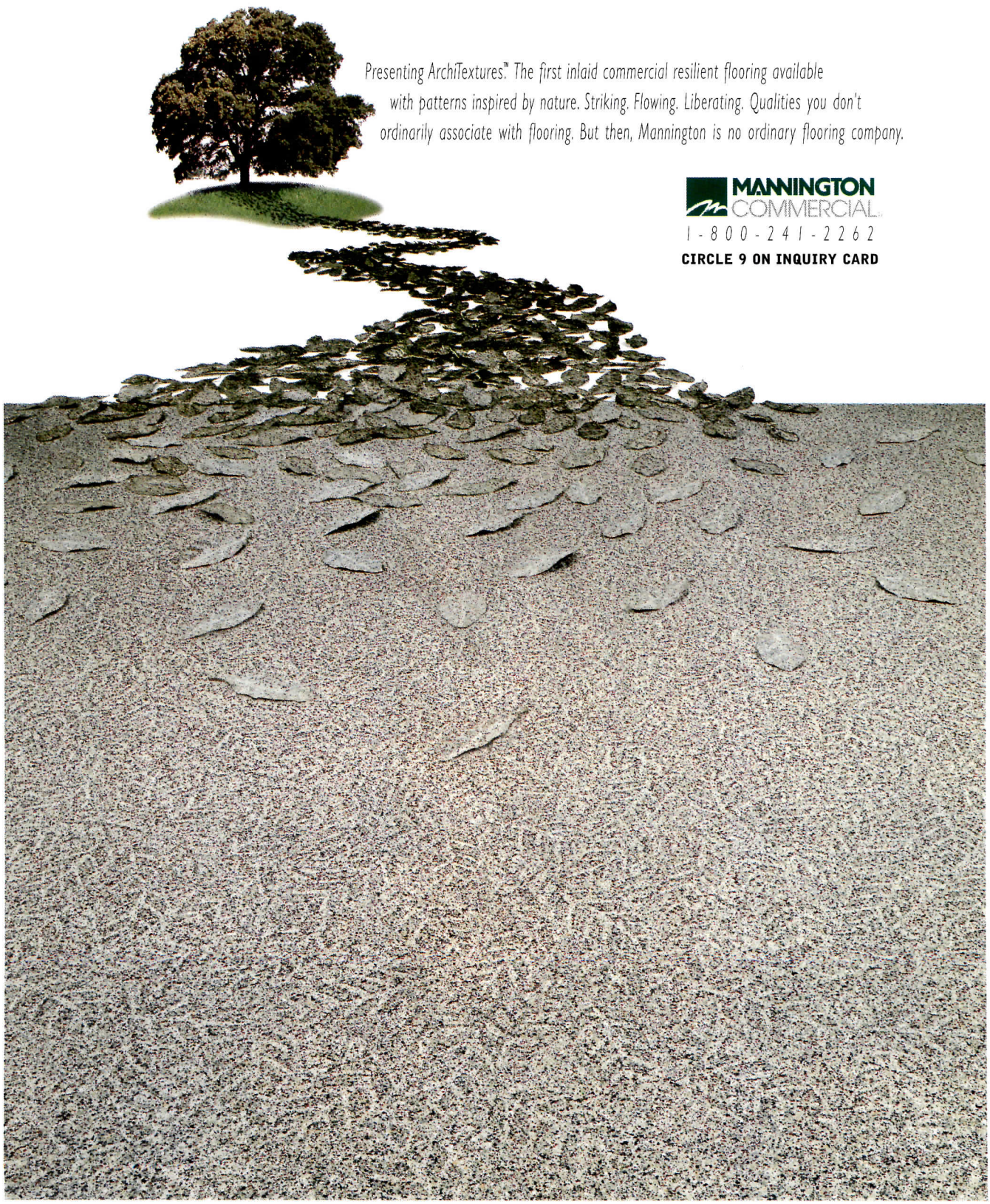
If design-build is attractive to our clients, the critical question for architects is how to benefit from it. One answer is to promote the architect as leader of the design-build team. Many architects, as comfortable on muddy job sites as in corporate boardrooms, already share a strong interest in the craft of building. Those who would like a more hands-on relationship with construction are likely candidates to lead design-build ventures.

Architects with specialties in a particular subject matter make another group of strong candidates to lead design-build teams. The company called IDEA, which programs, designs, and constructs buildings, grew out of the experience of Cambridge Seven Associates, authorities in aquarium design. Their success in one building type, which led to a separate design-build-management enterprise, provides an example for design professionals schooled in other specialized building types, including laboratories, hospitals, sports facilities, and theaters.

Financial rewards for outstanding performance may follow the leader, but greater control of a project's outcome, in terms of cost or completion time, can also mean greater liability if, for example, interest rates should rise or material costs skyrocket. Because compromises in quality may ensue, the right team is critical for a successful job: responsible clients, who know what they want and will make trustworthy partners; contractors familiar with other team members and experienced in the project type; and architects with education or training in business and a taste for risk.

Design-build is not for everyone, as team member or leader. Most architects are generalists by nature and training, capable of picking up new problems and applying a critical method, with results tailored for individuals and communities. However, for those architects who love the role of architect as builder, who seek more control of the entire design and construction process, architect-led design-build may be the path to greater satisfaction and, perhaps, higher compensation. Rather than ignore this new opportunity, let's learn about it, prepare for it, change it if we have to, and employ design-build when it is to our benefit. That would be designing, and building, success.





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CIRCLE 12 ON INQUIRY CARD

LETTERS

Lewin House overwhelmed?

The following rational and intuitive design decisions made on the addition to Richard Neutra's 1938 Lewin House will explain why my clients and I chose not to adhere to the preservationist philosophy championed by Thomas Hines in his criticism [August, page 74].

The current owners of eight years purchased the vacant lot next door to prevent construction of a large new home five feet from their property line and to add program necessities.

Parking at the beach is a scarce amenity. The Lewin House addition provided eight new parking spaces (three garaged) and storage with housekeeper's quarters above. These elements, on the street side of the existing house, formed an L-shaped addition that blocks out the constant roar of the adjacent highway and defines a tranquil courtyard.

The clients wanted a large entertainment area. The solution, a minimal pavilion with "disappearing glass," fuses into the courtyard. The pavilion's roof curve in section relates to the Lewin's half-round living room plan. The steel "spiderlegs" are a quote of and a respectful gesture toward a later period of Neutra's career.

I wanted to honor the essence of a landmark, meet my clients' needs, and take this home to the edge of the Pacific Century. Many technological advancements since 1938 have allowed us to carry out Neutra's vision of integrating the home into the landscape. I believe Neutra would be proud that we respected and reinvigorated his wonderful work, and were influenced by his ideas without resorting to mimicry.

—Steven Ehrlich, FAIA
Culver City, Calif.

The "liberty of a blank page" that Robert Ivy discusses in his August editorial [page 13] is sullied by what I consider to be an irresponsible and prejudiced commentary on a brilliant achievement by Steven Ehrlich.

I call Thomas Hines's attention to [Julius Shulman and David Glomb's] photograph at the top of page 76. How could Hines call this addition "overwhelming"? Hines did not evaluate Ehrlich's effort to diminish the horrible volume of traffic noise by dampening the sounds. Seismic activity is a prevailing concern as well, and the reinforced-concrete segments that Hines criticizes serve as anchors. And the "spiderleg outriggings"? The roof required support that would not be too imposing. So what if Neutra didn't use the spiderleg until later in his career? If Ehrlich realized that the design would function well, so be it!

As for the "public losing its encounter with this significant example of Southern California Modernism," I respond, "Where have you been?" The public roars past the house at 70 mph. Even in its early years, the house did not attract the public.

—Julius Shulman, Hon. AIA
Los Angeles

I drive by the Lewin residence every day, always looking for its facade in the jumble of jam-packed beach residences. Unfortunately, there are no views for passing pedestrians, except from the bluff above. Ehrlich, with the complementary assistance of his client, has managed to add to the street facade's presence with a strong element that now identifies it along the street, as well as screening it from the dirt and noise of the Pacific Coast Highway.

Every restoration architect is ultimately faced with the issue of adaptive reuse and preservation and must decide how to best bring older works into the 21st century. With the Lewin House, Ehrlich has done just that with a great deal of creativity, restraint, sensitivity, and craft.

—David L. Gray, FAIA
Santa Monica

Accessing Barragán

In your "Foreign Press Roundup" for August [page 46], Fernando González Gortázar equates the Vitra Design Museum's (VDM) purchase of Luis Barragán's professional archives with "looting." Given that the widow of Barragán's ex-partner openly sold these materials to a well-known and well-respected art dealer only after she was unable to find a buyer in Mexico (the dealer later sold the collection to VDM), this seems an oddly incendiary claim.

Judging from my knowledge and experience, the Barragán Foundation—now independent of VDM—has hardly "hindered the dissemination of what [Barragán] was" or "inhibited studies of his work"; the profusion of recent books and articles on the architect, whatever their quality, is enough to refute these claims. In fact, it is through the foundation's efforts that the first serious, archive-based studies of Barragán's work are now possible. The Barragán Foundation (whose staff of two has provided understandably limited access during the initial cataloging and conservation of the collection) deserves credit for its devotion to the paper legacy of an architect whose built legacy was so long neglected at home.

—Keith Eggner
University of Nevada, Las Vegas
Las Vegas

Warnecke's Federal Triangle

The "saga" you recount ["Project Diary: The Ronald Reagan Building," July, page 58] starts in 1920 and continues to the 1930s, but then leaps to 1986. What about 1967, when President Johnson proposed that the General Services Administration (GSA) retain John Carl Warnecke to complete the Federal Triangle? In contrast to Freed's design, Warnecke proposed a Modern exterior that worked in the context of Classical neighbors. This design was approved by both the GSA and the Fine Arts Commission.

Soon after being elected, Richard Nixon, acting through his young new cultural advisor, Daniel Patrick Moynihan, took Warnecke's design, which had been approved by the GSA, and gave it to other architects with closer ties to the administration for the completion of construction documents. The reason: Warnecke had been too close to the Kennedys and to LBJ. In any case, the scheme was never constructed.

—Warren A. Megrian, AIA
Warnecke Institute of Design, Art and Architecture
San Francisco

Three-headed monster

Your piece on the Ronald Reagan Building was just and fair in its summary of this complex project. We were the prime contractor for both the concrete frame and the stone skin of the project. Both were large trade packages of tremendously challenging scope and complexity. We believe mandating a single entity to control the project (rather than a three-headed entity) would have greatly enhanced the efficiencies of the project.

But hindsight is always 20/20. We take pride in having participated in this grand project. We can also vouch for the fact that the highest level of quality has gone into its finished fabric. This superior quality is due to the combined efforts of all the participating parties, from architects and engineers to the smallest subcontractor. This is a building that will stand in good service through the next century.

—Raphael (Rocky) Semmes
Business Development Manager
Tompkins Builders
Washington, D.C.

Craig Roeder tribute

I was very pleased to see the sensitive way in which your editorial in the Record Lighting section of the August issue commented on the passing of Craig Roeder [page 143]. Craig came to work with Jim Nuckolls and myself at Design Decisions, and I knew Craig during his entire professional career. He was a fine human being as well as

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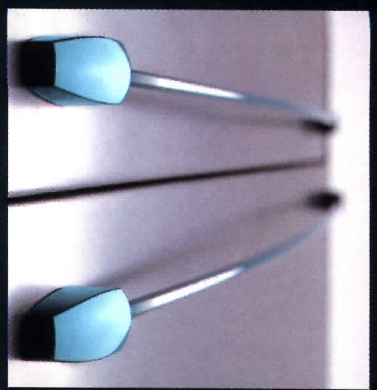

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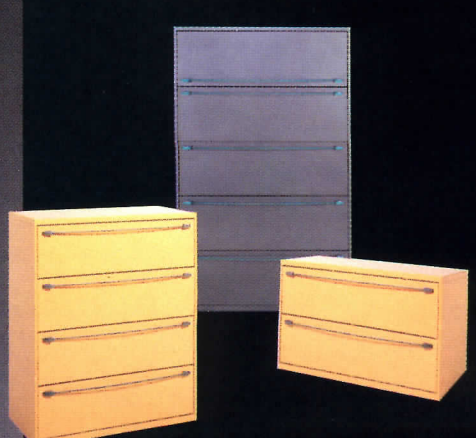

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CIRCLE 13 ON INQUIRY CARD

a creative and innovative lighting designer. He will be sorely missed.
—Jeffrey A. Milham, LC, FIALD, IES
New York City

Those who wish to honor Craig Roeder's memory may do so by making a donation to the Nuckolls Fund for Lighting Education, 212/420-0377.

A/E collaboration

I read with interest C. Herbert Wheeler's article on the need for architects and engineers to be educated together [Speak Out, June, page 20]. It may be difficult to accomplish this admirable goal in the traditional college curriculum, with its competing demands on limited time. There is no reason, however, why such educational collaboration cannot take place in the continuing education environment.

In the early 1980s, I participated in a symposium which the Chicago chapter of the AIA cosponsored with the Structural Engineers Association of Illinois. Several hundred architects and structural engineers attended. I am not aware that such a joint program has ever been repeated.
—Paul M. Lurie
Schiff Hardin & Waite
Construction Law Group
Chicago

The educated architect

I believe Robert Ivy's praise of Clemson University's "ambitious experiment" will only serve to frustrate young architecture students as well as older practitioners [Editorial, July, page 7].

Architects are already burdened by being stereotyped as overeducated, artsy designers who know nothing of construction and building technology. Placing students in a College of Architecture, Art, and Humanities, as educators have done at Clemson, will only make students less like architects and more like the stereotype.

In the last few years NCARB and all the state boards increased the prerequisite for licensing to a four-year degree, then a five-year degree, then added the IDP program. Now you are suggesting that we go to a master's degree—and still we have graduates who cannot do what architects get paid to do: draft drawings of affordable buildings that conform to code.

When architects had a lot of influence compared to contractors, they did not need a college degree to take their state board exams. Changing the educational degree requirements does not seem to improve our status.
—Michael Regan
Columbus, Ohio

Robert Ivy's July editorial provided insight into the subtle struggle faced by architects. As an employee in the marketing and communications department of a technology company, I see similar communication deficiencies across myriad industries. I doubt you can find an organization, or an individual, who wouldn't benefit from broadened skills in the basics of communication.
—Christine Gillies
SMART Technologies
Calgary, Alb.

Credits/corrections

The photograph on the cover of the September issue should have been credited to Marco Lorenzetti of Hedrich Blessing.

In the August issue (page 51), ties designed by Civitas were described as being printed with roadmaps; they are actually printed with urban plans of various cities.

Steven Rooney and Natalie David were design assistants on the Coleman Pavilion (June, page 114). ■

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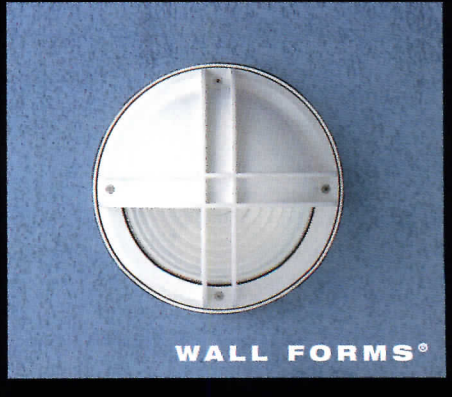

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CIRCLE 15 ON INQUIRY CARD

SPEAK OUT An architect proposes 10 ways to get more involved with education and help produce better-prepared employees.

JUDSON KLINE, AIA

Judson Kline, AIA, is vice president and a partner at G. Herschman Architects in Cleveland. The firm recently helped implement an Introduction to Architecture program for middle school and high school students at the Cleveland School for the Arts.

Whenever architects get together, it seems the conversation always turns in some way to education—especially to employee development and a talent pool sorely lacking in well-prepared potential designers. Often, the conclusion they reach is that schools do not prepare students well enough to enter the field of architecture with skill and competency.

Many architects are concerned about an apparent disconnection between practice and education. But we architects cannot expect the schools to evolve without input; if we are concerned, we must take responsibility and get involved in the process. We must be proactive in promoting, supporting, and encouraging a more adequate preparation of potential architects.

Furthermore, the existing pool of architectural talent needs to be expanded if we want creative and fruitful competition to occur. There are a wide variety of opportunities to participate in working toward the goal of larger numbers of prepared graduates. A proactive approach to cultivating a connection between education and practice need not be limited to obvious or overly time-consuming tasks, such as teaching. Instead, I would propose the following 10 strategies for architects to get involved with the educational process:

1. Contact a local university's school of architecture and offer to participate as a juror for student projects. This can be done through the office of the dean or the chairman of the department.

2. Offer to be a "visiting resource" for a particular project being done in a school of architecture. In this role, an architect works with the students, providing input and criticism during development of a project, in much the same way that a design consultant works with the team in a project process.

3. Offer to be a visiting lecturer at the university. This provides an opportunity to illuminate the specific tasks and responsibilities that architects deal with in the process of managing a practice and producing projects.

4. Promote the *business* of architecture as an important component of any educational program. Practicing architects know that the profession is also a business, and they should convey that message at the academic level. That way, students will consider including business courses in their studies.

5. Participate in a curriculum group that will help develop courses of study that focus on business, codes, technology, or any other topics you may deem relevant but insufficiently covered.

6. If there's no university with an architectural curriculum in your area, consider working with a local community college. Often, these institutions have courses in architectural technology, computer-aided design, construction technology, and other related areas of study where a practitioner can actively participate and offer experienced guidance.

7. Develop a mentoring, "shadowing," or externship program for your firm or yourself. These types of programs can provide invaluable practical experience in the field. They are also a great way to identify prospective future employees.

8. Aim younger: promote interest at the high school level. This is key to increasing the number of committed, talented architecture students. Contact local schools to participate in career days. Talk to guidance counselors and become a resource for students looking to discuss requirements and direction in pursuing a career in architecture.

9. Magnet schools specializing in the arts provide a unique opportunity for architects to be a resource and facilitator for an architecture program. A firm can provide technological support or other advice, donate software, or arrange for relevant field trips.

10. If you know of a university, a school for the arts, or a community college without an architecture program, get involved in helping to create one.

Developing an association with a local university, promoting interest at the high school level, and cultivating links with other institutions will all help to advance the talent and quality of future architects. ■

Contributions: *If you would like to express your opinion in this column, please send submissions by mail (with a disk) to Speak Out, Architectural Record, Two Penn Plaza, New York, N.Y. 10121; by fax to 212/904-4256; or by E-mail by visiting www.archrecord.com and clicking on News/Features/Dialogue. Essays must not exceed 700 words. The editors reserve the right to edit for space and clarity. Where substantial editing occurs, the author will receive text approval.*

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MENTORS In a world where big firms keep swallowing up smaller ones, be prepared for an acquisition or a merger.

JAMES W. COLE

James W. Cole is president of Systems Research Group, a Cincinnati, Ohio, firm that specializes in assisting architectural and engineering firms with mergers and acquisitions as well as with executive recruitment.

Architecture, like many industries, has recently been experiencing rampant consolidation. If your firm is on the small side, the opportunity to become part of a major firm may soon present itself. Older partners may be looking for suitors so they can bow out without having to worry about succession. But before plunging headlong into a merger or acquisition, you should know a few basics that will explain the steps involved and help determine whether you should enter the process at all.

Though an acquisition offer may be tempting, you must first explore whether it is the best avenue for your firm. As an alternative, an internal ownership transition can enable an owner to cash in equity over time and help minimize problems with capital-gains taxes. It also allows a firm to keep its culture and vision intact, avoiding outside influences that might get in the way of achieving the firm's objectives.

Internal transition is also a great way to hold on to key designers and future stars in a fiercely competitive employment marketplace. The success of this method, however, is dependent on having the in-house talent to provide the leadership once the current owner leaves the firm.

If you do decide that acquisition by or merger with another firm has merit, other considerations come into play. How do the corporate culture, design philosophy, and vision of the acquiring firm compare to those of your firm? Does your firm work in a particular niche that fits well with the other's existing practice? Will the change result in significant employee turnover? Key members of the firm have to be sold on the concept in order to minimize these potential conflicts.

If one firm has expressed an interest in acquiring your firm, it's possible that others are also interested. The problem is that you haven't heard from them. Running a blind ad in a professional trade magazine may help to solicit other potential buyers.

There are several management consultants who specialize in mergers and acquisitions within the A/E industry; they can be useful at all steps of the process. But test their knowledge and check their references and fee structures carefully. Also, be sure to execute a confidentiality agreement with any third party.

If your firm is considering a merger, one safe way for two companies to check each other out is to work together on a project. A joint venture is an excellent method for companies to check for compatibility of corporate philosophy and style. If, after completing the project, both companies are still interested, they should draft and sign a confidentiality agreement to protect financial information and trade secrets. Owners and principals can then meet, share information, tour one another's offices, and view financial records.

If you are in this position, bring in your accountant or a consultant with experience in valuating architectural firms, or at least professional service companies. Contact organizations such as the AIA or the Professional Services Management Association for the names of qualified consultants.

If you are an owner and you're looking to retire soon, you may want to consider how long the acquiring firm will want you to work on a daily basis, and in what capacity. Many firms are considered attractive targets solely because of the owner's name and good reputation. Their perceived value lessens dramatically without the owner's daily involvement.

A decision to sell will be determined, in large part, by the price offered and the ensuing negotiations. Is the agreed-on price payable at closing, or is it tied to future profit goals? It is not unusual for the due diligence and negotiating processes to take up to a year. Are you and your staff prepared to enter into such a long process? And would you be willing to sign a noncompete agreement upon your leaving if the acquiring firm asks you to?

Each merger and acquisition has its own nuances, but knowing the overall pattern and some of the potential conflicts can help you make the best decision for you and your firm if another growth-oriented company comes knocking. ■

Questions: *If you have a question about your career, professional ethics, the law, or any other facet of architecture, design, and construction, please send submissions by mail to Mentors, Architectural Record, Two Penn Plaza, New York, N.Y. 10121; by fax to 212/904-4256; or by E-mail by visiting www.archrecord.com and clicking on News/Features/Dialogue. Submissions may be edited for space and clarity.*

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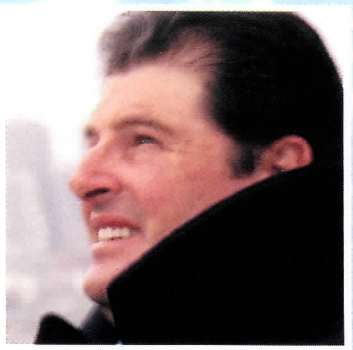
"Imagine putting a roof over the ocean."



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CIRCLE 16 ON INQUIRY CARD

JOHNS MANVILLE

PULSE RECORD readers were asked: Are ADA requirements difficult to understand and put into practice?

Yes: What we have to do better is incorporate the requirements at the beginning of the design process, not during the construction document process. We must be cognizant of what is required and allow for it and also better inform our clients of the potential impact on the design and the budget of the building. This practice should be second nature, not a process of discovery during construction documents. Worse yet would be for the disabled to discover our failures in design after construction.
—Thomas Snearey, AIA
Senior Associate
Karlsberger Architecture, Inc.
Columbus, Ohio

No: Spend a day in a wheelchair and try to get around. Then you'll have a greater appreciation for what the disabled have to go through, and it won't seem like such an issue to meet the guidelines. Just do some research. There are plenty of publications out there to walk you through the guidelines. If you're a good designer, compliance with ADA is a breeze.
—Thomas Lonardo, AIA
Thomas Lonardo & Associates
Cranston, R.I.

Yes: The ADA is the most well intentioned, poorly executed piece of legislation in a generation. To knowingly draft a law that requires the courts to define that law is the height of irresponsibility.
—Douglas R. Campbell, AIA
ENG/GA
Asheville, N.C.

No: I think it makes things more complicated to take the ADA guidelines into consideration, and the design process would be a lot easier if we didn't have to. But as long as you take them into consideration from the start, it's not really a problem. We work with code consultants who handle matters of interpretation; when you have those guys in from the beginning, there are no surprises.
—Jonathan Cole
HNTB
Kansas City, Mo.

Yes: The ADA is a set of laws that were designed to accommodate the disabled. It is interpreted by various people—politicians, lawyers, judges, defendants, and plaintiffs among them—all with different ideas and notions of how to best make it work. As one of those interpreters, the architect has an extremely difficult time understanding a law that, due to changing technology, is in constant flux. The ADA is a feeble skeleton on which to found a design decision.
—Venkatesan Cadambi
WLC Architects
Rancho Cucamonga, Calif.

No: There are many guidelines, too many to commit to memory just by putting them into practice. But the guidelines are not difficult to find and not difficult to use.
—Michael Brush, AIA
Kahler Slater Architects
Milwaukee, Wisc.

No: I've been working with the ADA guidelines for some time now, and I've never had any problem interpreting them or understanding their intent.
—Oliver Purcell, AIA
Fisher Hecken Imbimbo, Inc.
San Antonio, Tex.

This Month's Question

Are competitions a fair, effective way to hire architects?

Clients are increasingly using competitions as a method of selecting architects for important projects—public and private. However, controversy often surrounds competitions. Architects complain that competition fees do not cover their costs, and initial schemes are often abandoned after the architect is selected. Critics fault the superficial nature of the selection process. What do you think?

Are competitions a fair, effective way to hire architects? ☐ Yes ☐ No

Copy and fax this form to 212/904-4256; or, to respond by E-mail, visit www.archrecord.com and click on News/Features/Dialogue to voice your opinion.

Note: Pulse reflects individual responses to each month's question and is not meant to be construed as formal research.

Let us know your opinion:

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BOOKS Debunking the highfalutin, designing the outdoors, and improving the home: a trio of reviews.

Norman Weinstein writes about technology and the arts for Wired *and the* Christian Science Monitor.

Jonathan Hale is an architect and writer in Watertown, Massachusetts.

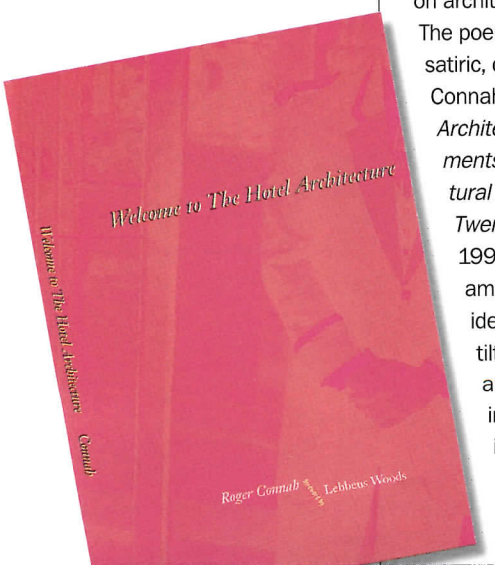
Christine Liotta Sheridan writes about architecture and design.

Welcome to The Hotel Architecture, *by Roger Connah. Cambridge, Mass.: MIT Press, 1998, 162 pages, $18.*

An epic poem about the history of ideas in modern architecture? As unlikely as such a project might appear at first glance, architecture critic Roger Connah offers just such an original creation, and in a highly entertaining and provocative fashion. Utilizing a broad variety of poetic styles (from rhyming couplets to blank verse, with a parody of a Bob Dylan song added for good measure), Connah playfully casts a critical eye largely on various linguistic and philosophical theories and their impact (real or imagined) on architectural practice.

The poem's overwhelming tone is satiric, debunking. Readers of Connah's earlier book, *Writing Architecture: Fantoms, Fragments, Fictions, An Architectural Journey Through the Twentieth Century* (MIT Press, 1990), will discover some amplifications of earlier ideas. The author's tastes tilt toward the Finnish architect Reima Pietila's impressionistic Modernism. He also has the bias one might expect from an architecture critic with a degree in literary criticism: he's suspicious of architectural theories of any school full of trendy buzzwords and imprecise phrases. As Connah wryly puts it in verse: "Jargon gets but one, and one chance only/Before inauthenticity, sad and lonely/Out on the cynical highway, ceases killing us."

The gulf between theory and practice catches Connah's attention constantly, and this "anti-epic" poem serves to raise nagging questions about how to bring the two harmoniously together. Readers in search of logically developed critiques of architectural theories should seek edification elsewhere. But anyone hungry for a poetic game of free-association through networks of linguistic and philosophical ideas affecting the profession will find much to savor. This is an enticing invitation, in Connah's words, "to leapfrog/Instead of hitchhiking onto the ideas of this century." *Norman Weinstein*



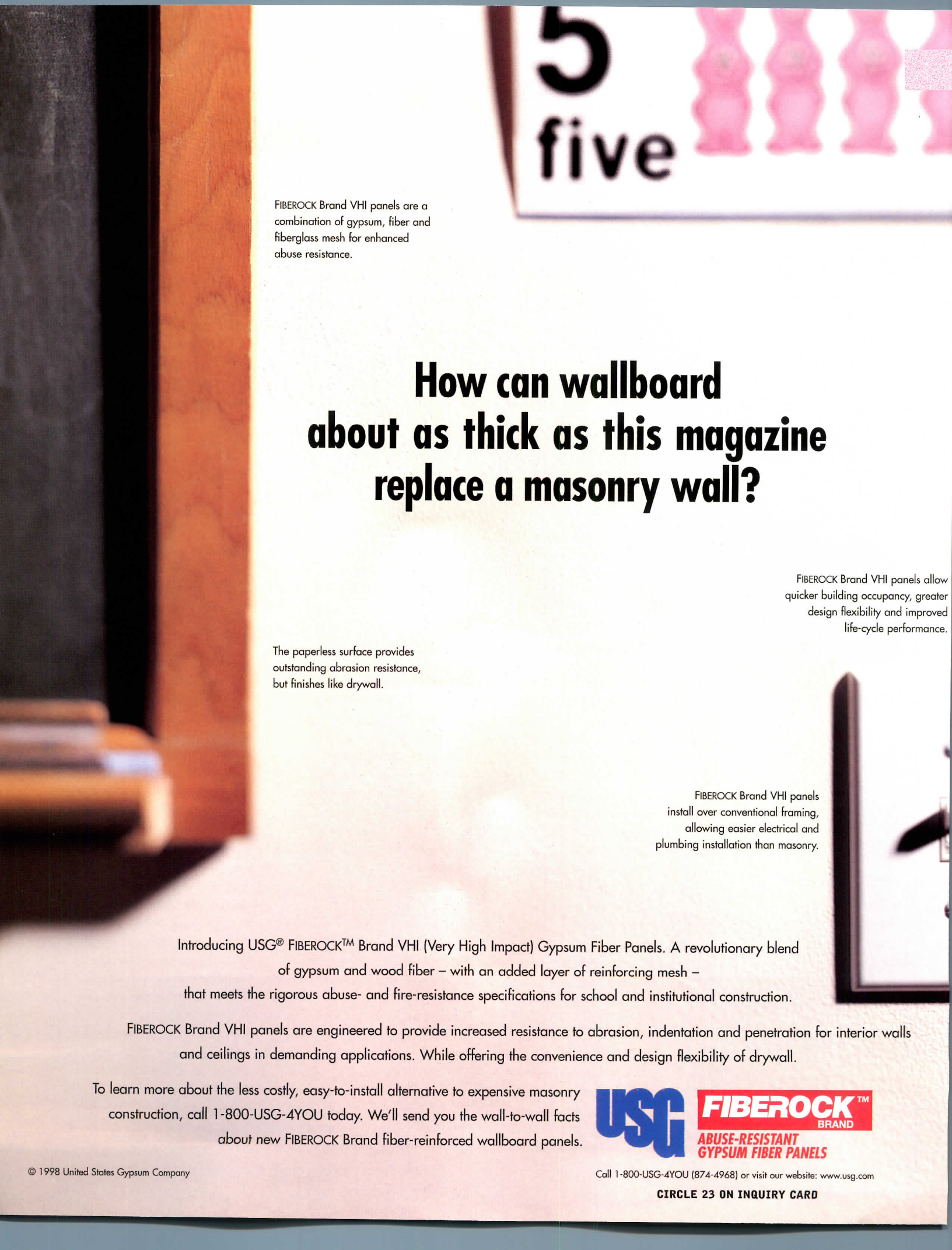
Connah's anti-epic poem (top) pokes fun at intellectual trends. A garden for Deere & Co. designed by Sasaki Associates (bottom) appears in Ward's book.

American Designed Landscapes, *by Alan Ward. Washington, D.C.: Spacemaker Press, 1998, 128 pages, $50.*

Part of the splendor of Alan Ward's *American Designed Landscapes* comes from the subjects: one great outdoor space after another. Part comes from Ward's photos themselves, which are full of surprises. Famous buildings, for example, here embellish, rather than are embellished by, their landscaping. And these largely unpeopled scenes are filled with intense visual movement. As Gary Hilderbrand points out in his introduction, Ward conveys a strong sense of reality in these artificial places through the high artifice of black-and-white photography. It is not incidental that the book is beautifully designed and produced. It's good to hear that this is the first of a series; Ward's next, on Dan Kiley's famous Miller Garden, in Columbus, Indiana, appears later this year. *Jonathan Hale*

Do It Yourself: Home Improvement in 20th-Century America, *by Carolyn M. Goldstein. New York: Princeton Architectural Press, 1998, 110 pages, $18.*

Taking as its subject the strange terrain where design, technology, domestic life, and consumer culture intersect, this witty book chronicles the growing preoccupation (read obsession) with home improvement in modern America. This movement received a shot in the arm after World War II when government loan programs and growing affluence made home ownership a reality for many American families. But the real focus of this book is the development of a cultural phenomenon currently embodied by Martha Stewart and celebrated on such television shows as "This Old House." Illustrated with kitschy visuals like period photographs and advertisements, the text explores the role of manufacturers, retailers, and magazines in fostering the cult of do-it-yourself determination. All of which may help explain why droves of us flock to The Home Depot on our days off. *Christine Liotta Sheridan*



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CIRCLE 23 ON INQUIRY CARD

EXHIBITIONS An installation on American lawns skillfully skewers backyard economics while overlooking the finer aspects of grass.

BY SUSAN DOUBILET

The American Lawn: Surface of Everyday Life. Canadian Centre for Architecture, Montreal, Quebec. *Through November 8.* Contemporary Arts Center, Cincinnati, Ohio. *April 4–June 7, 1999.*

If you think a lawn is simply grass and nothing more, the current exhibition at Montreal's Canadian Centre for Architecture could be an eye opener. Equal parts brilliant and infuriating, and not only in the ways intended by its curators, "The American Lawn: Surface of Everyday Life" takes an urbane and unsentimental—but slanted—view of its subject.

The exhibition, on view through November 8 in Montreal before moving to Cincinnati in April, portrays the lawn not as the natural field it once was but as the commodity it has become. As such, it is a fitting conclusion to the CCA's five-year, five-exhibition series, "The American Century." (For a related story on the CCA, see page 54.)

By the late 19th century, the innocent, functional clearing in the American wilderness had become a tool with which to vie, through size and lushness, for social status. This focus has only intensified during the 20th century, as the exhibition explores in dazzling detail.

Attempting to probe the very soul of the lawn, that ever-present green backdrop to outdoor American life, the organizers put forth a great effort to provide an installation of impeccable professionalism and style. However, while deliberately

and appropriately provocative—pointing out that in the pursuit of "nature perfected" we have lost sight of the idea of the natural, and are harming the planet in the process—the exhibition gets carried away by its own cleverness.

As a result, it often comes across as snobbish, prejudiced, and, like the commodity-making it scorns, a remote and incomplete reflection of its subject. It never gives credit to grass, a material that can be quite useful, or to lovers of grass, who get real, legitimate pleasure from its sensuality.

The exhibition does skillfully explain how landscape maintenance—a multibillion-dollar business—involves manipulation on every level. Suburbanites are always looking for new ways to keep up with the Joneses' lawns. Corporations control every manicured blade visible from their immaculate headquarters. Television networks insist on the most blemish-free, perfectly colored playing fields in order to increase the appeal of lucrative sports coverage. Politicians want to be photographed against a green background, in order to be associated with that American-as-apple-pie environment.

As "The American Lawn" explores the dark side of this no-longer-innocent construct, it becomes as manipulative as the theme it examines. Viewers are

Green patriotism in Kevin Foster's photograph *100 Years of Keeping America Green* (above); Robert Sansone's stereopticon images of College Station, Texas (right).

Susan Doubilet is coauthor of American House Now *(Universe) and the upcoming* Private Architecture *(Monacelli Press). She lives in suburban New Jersey and mows her half-acre lot.*

Weyerhauser's corporate headquarters, as pictured in the exhibition.

invited to disapprove of the environmental folly of irrigating a desert golf course, and we do. We are asked to shake our heads at the pettiness of lawsuits initiated by homeowners frustrated by a neighbor's lawn adornments, and we do. We are asked to smirk at the banality of dull suburban developments and to see lawn care as a sedative of the masses, pushed by community leaders—and, well, we do.

Finally, we are led to be suspicious of the suburban lawn's obsessively neat surface. Because suburbs, the exhibition conveys, are fertile territory for racial and class prejudices, and since a lawn's wholesome image provides the perfect cover-up, then it follows (or so the reasoning goes) that lawns, the emblem of suburbs, also symbolize discrimination and hidden crime.

It is no wonder we are easily guided through these arguments. The installation, by architects Diller + Scofidio, employs a compelling matrix of displays: videos, including one overhead that engages the viewer in the sprinkling of a lawn; stereopticons mounted on cables to provide comical 3D views down suburban property lines; historical books with sections highlighted by magnifying glasses; stunning photographs of minimalist corporate architecture; athletic shoes developed for gripping grassy fields.

The form, like the content of the exhibition, displays great creativity. But the shortcomings are serious. The show appears to be a survey and it has, in places, an almost scientific look, with photos of lawn diseases and patents for new grass species. Yet these are shown for purposes of derision, while the advantages of grass—its resistance to erosion and drought, for instance—are overlooked. The show expresses dismay at the environmentally disastrous effects of some lawn tending but doesn't point out the recent growth of the organic lawn business, nor the landscaping alternatives developed since the Green movement surfaced. Most significantly, it never connects viscerally to its subject: nowhere does one get a sense of the pleasure provided by the smell and feel of a lawn—which inspired the obsession in the first place.

Over the years, the CCA has upped the ante for architectural exhibitions. Its most recent installation can be ingenious, but while clever, it is not deep. The show takes easily grasped aspects of its subject and makes hay, rounding up the usual suspects—insipid suburbanites, controlling corporations, corny bureaucrats. While avoiding the most sentimental traits of its subject, it nonetheless makes a caricature of the lawn by cashing in on urban cachet and urban smirk. ■

PHOTOGRAPHY: © EZRA STOLLER/ESTO

RECORD NEWS

NBBJ CREATING COMPLEX PLAN FOR LARGEST OFFICES IN SCANDINAVIA

On a huge, scenic site overlooking the Oslofjord in Oslo, Norway, NBBJ is designing what will be the largest office complex in Scandinavia when it is completed sometime soon after the turn of the millennium.

The new headquarters of telecommunications giant Telenor will encompass 2.75 million square feet of offices, boulevards, and public pavilions, and will house 6,000 employees after the consolidation of 40 existing offices.

Telenor was able to secure the current location of the Oslo International Airport for its offices (the airport is closing this month and moving to a new site) and plans to begin construction in the third quarter of 1999. The cost of the first phase alone is estimated at $250 million.

NBBJ's team—led by design principal Peter Pran, AIA, who was born in Norway, and senior project designers Joey Myers and Jonathan Ward—worked on a module requested by Telenor of 30 people per office unit. The workstations and meeting rooms emphasize flexibility and openness.

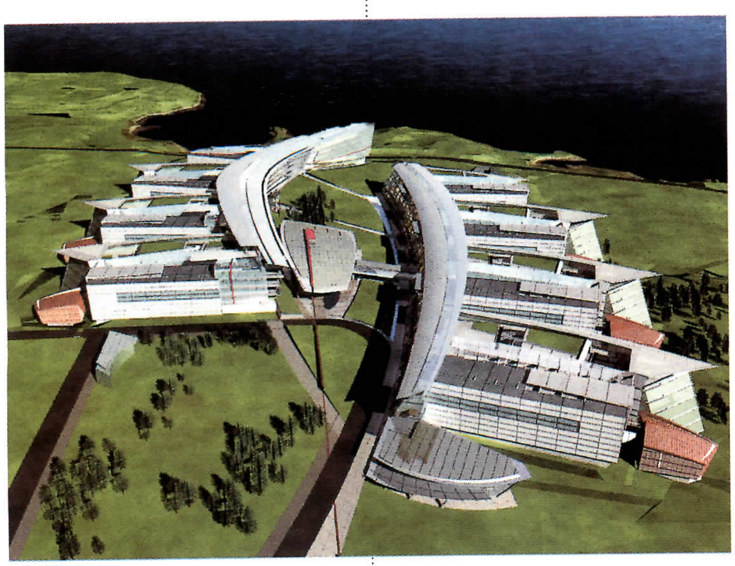
In an attempt to harmonize with the low-lying, waterfront site, the complex is set on the axis of the airport runway. At the center, two huge, curved glass wings run alongside one another toward the fjord. The offices fan out to the sides of these central wings, which will serve as circulation boulevards for workers and visitors traveling to the various outlying clusters.

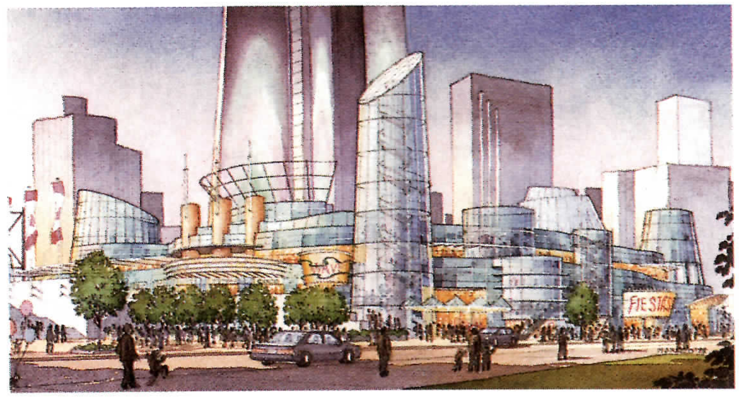
Pran says the glass boulevards will create a feeling of free movement and democracy among the Telenor staff, as the spaces invite communication and interactivity.

A large arrival hall at the complex's western end leads to an auditorium, exhibition space, cafeterias, and an expo center.

The basic office units are connected to the glass arms by bridges and recreational areas. Variety in the number of floors, the axial direction, and the views is meant to give unique identities to the different workstations.

At the eastern end of the new headquarters will sit Telenor's cultural center, which will include an art museum, a library, a theater, and other facilities. The center is intended for employees and guests, but for selected events the public will be able to use it—and enjoy excellent vistas of the fjord and downtown Oslo. *Soren Larson*





LOFTY CN TOWER PUTS FOCUS ON ACTIVITY AROUND ITS BASE

After aging ungracefully for 22 years, Toronto's CN Tower—the world's tallest freestanding structure—is in the midst of an $80 million, 375,000-square-foot renovation and expansion.

The recently completed, $17 million first phase, featuring 75,000 square feet of renovated and new entertainment, restaurant, and retail space, mainly around the base of the 1,815-foot tower, has replaced a tired-looking 1970s aesthetic with up-to-the-moment technology and design.

The developer, Toronto's TrizecHahn Corp., which leases the tower from the federal government, plans to proceed with the concluding phase next year. Details aren't yet determined, but the plans will likely revolve around a massive two- or three-story structure to welcome visitors and house entertainment facilities.

The 400-seat revolving restaurant near the top of the tower was refurbished a few years ago and a full-length staircase was replaced with an elevator. The developer then initiated the first phase of renovation, which centered on the construction of a landscaped courtyard with 20 ticket booths around the exterior, facing nearby Lake Ontario and adjacent to the SkyDome stadium. Inside are theaters and rides, a 12,500-square-foot shopping area with a duty-free shop, and a 300-seat restaurant.

Bregman+Hamann Architects (B+H) of Toronto designed the first phase and is working on the second; Ehrenkrantz, Eckstut & Kuhn Design Architects, of New York City, did the initial concept and master planning (Stan Eckstut and a former partner also did the master plan for Battery Park City and the World Financial Center in lower Manhattan.)

William P. Nankivell, a partner at B+H and the project architect, described the second phase as having "structural and sculptural elements using a lot of lighting and multimedia signage. There will be more of a focus on restaurants and entertainment than retail stores—[it] won't resemble a traditional shopping center." Part of the new complex will be underground.

Eckstut says the two phases represent an attempt to make the CN Tower "part of the city. . .to create more of an experience of city streets and sidewalks. You can work your way on foot through a variety of spatial and educational experiences before you take the ride up [to the observation deck]."

Bud Purves, TrizecHahn's senior vice president of development, says the revitalized tower will tie the city's major convention center, the SkyDome, and the downtown core together, particularly with an extension of a climate-controlled skywalk through various neighborhood properties and the building of a 500-car underground parking garage. "We have to make the CN Tower more of a living part of the city," Purves says. *Al Warson*

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CIRCLE 32 ON INQUIRY CARD

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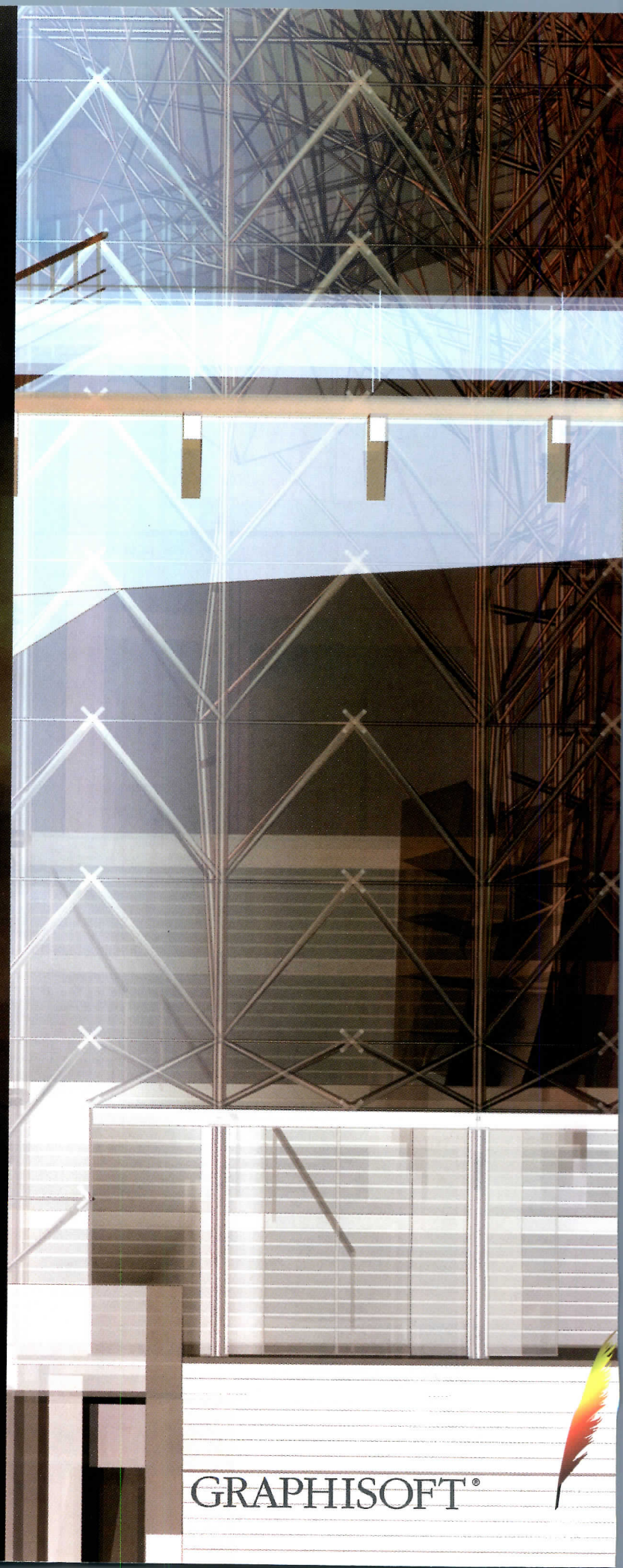


RECREATIONAL DESIGN APPROVED FOR CANARY ISLAND PORT PROJECT

Jacques Herzog and Pierre de Meuron of Basel, Switzerland, have won a limited competition to revitalize the port of Santa Cruz, on the Canary Island of Tenerife.

Santa Cruz, capital of the Spanish province Santa Cruz de Tenerife, is cut off from its waterfront by a fenced, six-mile-long port precinct. The aim of the project is to bridge this area at its center, where a long pier called the link quay connects the city's Plaza de España to two long breakwater docks, and to redevelop the zone for recreational uses.

Santa Cruz de Tenerife seems intent on keeping its busy port in operation for the time being, especially the hectic passenger traffic from cruise ships and the port's connections to the other Canary Islands. But since the old port is located within the city's historic core, the shift to more urban-friendly activities is a natural development.

The competition, organized by the Tenerife Port Authority, follows the recent conversion of Barcelona's historic port to recreational and commercial uses. Similar redevelopment plans are under way for several other Spanish ports.

On Tenerife, Herzog and de Meuron's proposal (below) is arranged as a ring around a recreational marina. Low buildings for nautical clubs, restaurants, and marine services are linked at their rooflines to form a continuous, circular pedestrian promenade. Palms on lower platforms will produce the image of a garden when seen from approaching boats.

Among the other submissions, the London-based couple Alejandro Zaera and Farshid Moussavi proposed a multilevel construction in which the manipulation of horizontal or sloping "ground" planes was the main compositional device. Seville-based architects Antonio Cruz and Antonio Ortiz offered a group of buildings overlooking the marina, a design in which deftly defined public spaces occupy the background.

Finally, Rem Koolhaas suggested converting the link quay into a seaside entertainment pier and transforming the Plaza de España into a multilevel transport interchange. *David Cohn*

FRANCE TO OPEN ITS FIRST JEWISH MUSEUM A museum of Jewish art and history, the first in France, will open in November in the heart of the trendy Marais district in Paris. The collection of the Musée d'Art et d'Histoire du Judaisme, which will cover the cultural and religious histories of Jewish people in Europe and North Africa, will be housed in a newly restored building that was once the Hôtel Saint-Aignan.

The project was divided into two parts. The first, a renovation of the building's facades, grand staircase, and classical garden, was assigned to Bernard Fonquernie, an architect from the Office of Historic Monuments.

A major part of his effort was to revert the large rear garden, part of which was created by André Le Nôtre (designer of the Versailles gardens), back to its initial design and open it to the public.

The original residence, built in 1650 but extensively renovated in the 18th century, included one of the first known private dining rooms, which will be used as the museum café.

The second phase—the design of the museum itself, by architects François Pin and Catherine Bizouard—includes a main entry, galleries, a gift shop, offices, and an underground theater.

To present the museum's great diversity of rare objects, textiles, and manuscripts, the design features pristine oak and glass display cases, which take the form of partitions, tables, or even windowlike inserts in the timbered-roof structure.

Security obligations are most obvious at the entry. Visitors to the museum are brought in through a narrow checkpoint, circumventing the axial entry to the inner courtyard, whose dramatic, arched entry is infilled with two 14-foot-high panels of inch-thick security glass. ***Claire Downey***

YALE'S APPOINTMENT OF STERN CAUSES OPTIMISM AND CONTROVERSY

Last month, just as classes were beginning, Yale University named New York architect Robert A.M. Stern, FAIA, as dean of its School of Architecture.

For students and faculty concerned that the school had suffered recently from declining stature and a lack of leadership, the appointment provided at least some comfort. After not making an announcement over the summer even though it had a short list of four candidates (a group that did not include Stern), Yale seemed to have lost interest in immediately replacing Fred Koetter, a Boston-based architect who had announced over a year ago that he would be stepping down as dean.

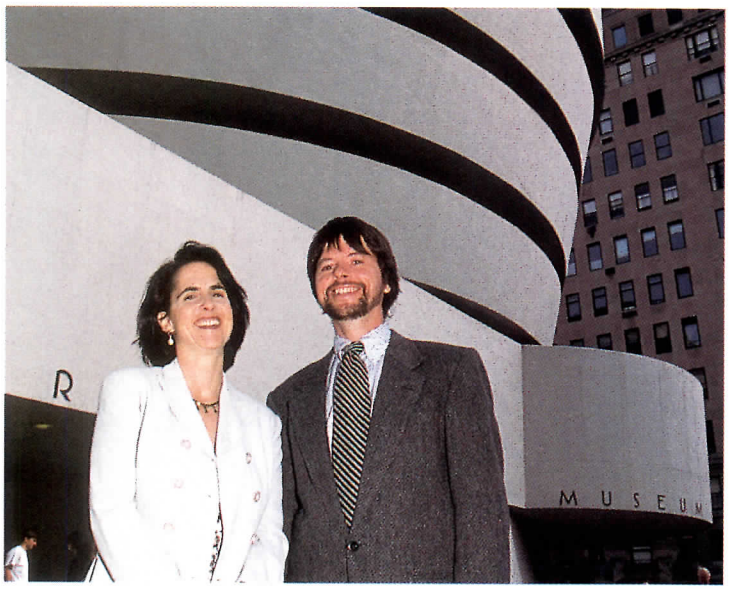
Stern's status as a well-known and well-connected practicing architect more closely matches Yale's choice of deans in the past—including Paul Rudolph and Charles Moore—than did the four short-listed candidates, or even Koetter. None of the candidates, culled from both practice and academia, had inspired much enthusiasm when they were introduced in the spring, according to faculty and students.

Many expect Stern will attract the funds necessary to carry out a vital upgrade of computer facilities and the long-planned renovation of Paul Rudolph's Art and Architecture Building. "What Yale needed more than anything was a charismatic leader," says Oliver Freundlich, a second-year architecture student. "The second most important thing is money."

Because Stern is a famous traditionalist and a board member of a huge corporation, the Walt Disney Co., his appointment also inspired some protest among students who felt he would damage Yale's theory- and experiment-focused education, independent of any one style. Students were also angry they had no input in the decision; about 10 walked out during Stern's speech as the newly introduced dean.

"They might have supposed that I'm a white-haired guy, that I stand for some things strongly and would try to make the school in my image," says Stern. "They need not worry. Yale will be more open than ever under my watch." *David Simon Morton*

FROM SUBLIME TO SCANDALOUS: KEN BURNS EXPLORES WRIGHT



Ken Burns at the Guggenheim with his collaborator Lynn Novick, who codirected "Frank Lloyd Wright."

The office of filmmaker Ken Burns, located in a converted barn behind his house in New Hampshire, is festooned with mementos from his documentaries: autographed balls from "Baseball," flags and a bust of Lincoln from "The Civil War," various antique posters. Lately he's been adding architectural keepsakes while doggedly pursuing the controversial and complex subject of his newest piece: Frank Lloyd Wright.

For Burns—who throws himself into his subjects with insatiable curiosity and undeniable enthusiasm—Wright stands alone as the towering genius of American architecture. But the director continues to struggle with the question of whether the architect's personal shortcomings can be justified by his lasting accomplishments. Burns discusses reconciling the artist with the arrogance in the following interview. ("Frank Lloyd Wright" will air on PBS November 10 and 11.)

RECORD: What drew you to the subject matter?

Burns: I wanted to deal with the personality as much as with the art. I had seen a film in 1983 on PBS, a British film, which is probably the best to date on Wright. But it only alluded to his off-screen life. I was curious about [Wright's] overweening arrogance, abandoning his family, the scandals, the tragedies. And I was curious about who this man was who made these remarkable buildings—he's unquestionably the greatest American architect.

RECORD: How did you approach the subject of his flaws?

Burns: The challenge is to maintain a dual interest in the personal life and the work that's created. How do you honor the architectural genius, the novelty and the discovery, and place it in the context of the times and his personal life? On top of it all is a guy who's not afraid to say he's the greatest architect that's ever lived.

You have to come to some decisions as to what the contribution was. If he's not a great man, then everyone would hate him and he's a schmuck. He'd never get away with it. But because he is a great man, it's as if [the transgressions] become an ingredient of the greatness. I still have the question—and the answer is for the viewer to determine—as to whether that behavior was necessary.

Brendan Gill suggests early [in the documentary] that Wright needs to live on the edge, that that's where he found a certain creative fulfillment. At the same time, I'm not sure if the edge has to extend to every kind of aberrant behavior.

RECORD: How did his work come to affect you?

Burns: In every Wright building, every space, you're bombarded with the fact that he breathes life into every gesture, every moment. I could never live in a Wright house—it would be too tiring. He's there. The thing that strikes me is the intentionality of every moment.

A great Wright space is a strange, wonderful combination of intimacy and monumentality. The Guggenheim [Museum in New York] is smaller than you think it will be—it's an intimate space. But then once you're inside this intimate space it feels big. Wright wanted people to be transformed, to be awakened by buildings.

RECORD: How did you go about capturing the feel of Wright's buildings?

Burns: We take time throughout the film to do what I think are exhilarating takes on Johnson Wax, on Fallingwater, and others, so that a layperson can come away from this and say, "My goodness, this is great stuff, it's different from what I [normally] see."

A lot of the impact comes from music. Early on, we realized that, purely coincidentally, a lot of the people we talked to made references to Beethoven. Someone would say, "Well, this building is [Wright's] Ninth Symphony." We even came across a Wright quote about his father telling him that a symphony is an edifice of sound, and that a composer is an architect.

So, we had the idea to use a great deal of Beethoven's work as the soundtrack, and I think a lot of the mood we're able to create—the ability to get inside an image, inside a building—comes from that. Of course, we had a great composer.

RECORD: Who was the bigger jerk, Wright or [infamous baseball player] Ty Cobb?

Burns: That's a good one. I guess Cobb, because it came with a racism as well as an arrogance. It was virulent, and I don't think Wright was. He was a snob, he was an elitist, and he believed his own p.r.

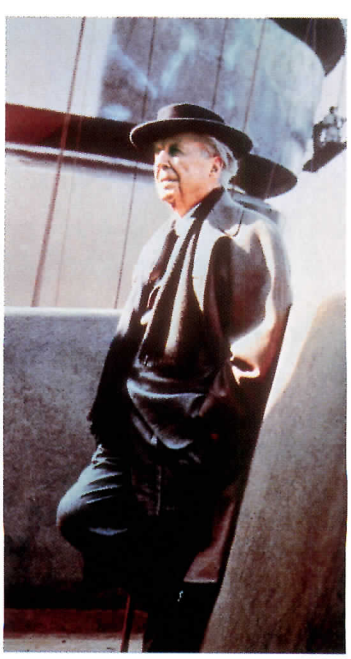
And Wright is not like Picasso—he's not a misogynist. He's a serial monogamist. He abandoned his wife for a woman that he loved—it's not uncommon in history. He was following passion. But let's not forget the damage left in his wake—he did abandon six children, all of whom carried the scars to the grave. His genius goes in one direction [away from his family], and that has terrible consequences.

RECORD: It sounds like you think the misbehavior was worth it in order to have the buildings.

Burns: With anybody who's worth our attention, in the end we're left with the very adult sensibility of needing to tolerate controversy. Did he have to be this way in order to create what he did? That's the question we're left with.

The people that we love the most are not perfect. The Greeks told us that a hero is in fact a flawed individual. When we attempt to find black and white in everything, we're tripped up. When we attempt to tolerate complexity, to welcome undertones, then we're rewarded. That's the great gift of art.

Soren Larson



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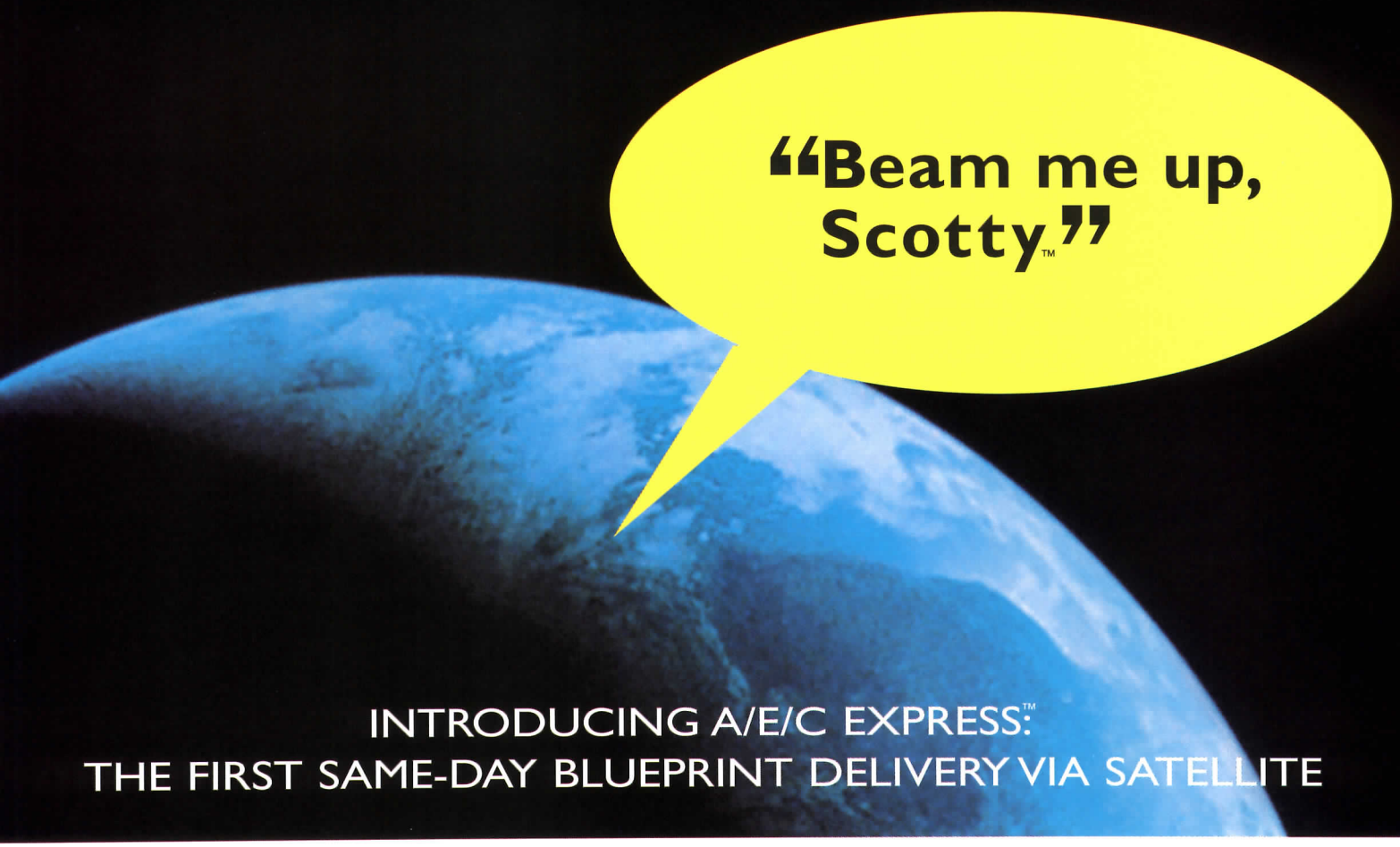

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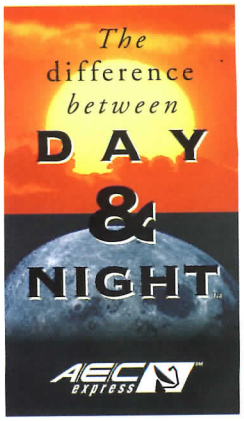

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CIRCLE 33 ON INQUIRY CARD

HOUSTON'S FIRST HIGH-RISE IN YEARS GRABS A SPOT ON MAIN STREET

The 1000 block of Main Street, the physical center of downtown Houston, has been a parking lot since the demolition of the historic Lamar Hotel in 1985. Now, in response to the city's economic rebound and to office occupancy rates that are pushing 100 percent, Century Development has announced plans for a 25-story speculative office tower at this prime location. The building, which will be the first new high-rise in the city center since the mid-1980s, is being designed by Gensler's Houston office.

Century CEO Richard Everett, FAIA, believes the downtown area is ready for a multitenant building with all the latest high-tech amenities, including increased electrical capacity, data prewiring, and flexible air-conditioning systems.

Oversize floor plates of 28,000 square feet are planned for the new high-rise in order to attract larger tenants. Parking for 1,400 cars will be accommodated on the first nine floors above ground level.

The tower will occupy the northern half of the site, with an attached 10-story structure on the south. This organization not only emulates New York's famous Lever House by Skidmore, Owings & Merrill but also mirrors SOM's First City National Bank—built in Houston in 1960—which sits just across the street.

According to Gensler designer Norman Hoover, FAIA, the project "makes a commitment to a pedestrian-friendly urban environment on Main Street," something of an anomaly for Houston, but a much-needed addition.

The base of the building, in fact, will be given over entirely to pedestrian activities, including a major hub of the tunnel system that connects most downtown buildings with shopping and eating facilities; a bus stop; and retail/restaurant lease space.

Offsets in the design create a graceful vertical emphasis, says Hoover, and diminish the mass resulting from the large floor plates.

While it won't be the tallest building downtown, the new tower will benefit from its location in a pocket of older, lower buildings, where it can establish an identity without having to dominate the skyline like the corporate symbols of the past. *Gerald Moorhead, FAIA*

TRANSFORMING AN ICON **Sometimes the slightest change in appearance can dramatically alter the experience of a landmark building. The Pompidou Center in Paris closed for major reconstruction this spring; the $88 million renovation involves circulation spaces, theaters, and the large entry hall, along with the museum and gallery spaces and the library. Meanwhile, passersby are seeing the site in a new way by following the bright yellow wall that snakes around it.** ***S.L.***

PHOTOGRAPHY: © GENSLER (HOUSTON); GIUSEPPE BOVO PHOTOGRAPHY (POMPIDOU)

CCA FOUNDER TO LOOSEN REINS; FORSTER NAMED NEW DIRECTOR

Two decades after she conceived it, Phyllis Lambert is loosening her grip on the Canadian Centre for Architecture, the Montreal museum, library, archive, and study center. However, in a move characteristic of her foresight and unwavering control, the 71-year-old Lambert is "establishing the CCA's future trajectory," as she puts it, by appointing scholar Kurt Forster to succeed her as director (effective March 1, 1999) while retaining her position as chair of the board of trustees.

Over the years, Lambert built up the CCA collection to include about 160,000 volumes and tens of thousands of drawings and photographs related to architecture; helped design a new 130,000-square-foot building, which opened in 1989; organized scores of imaginative, generously funded exhibitions and programs; and put in place the scholars' program, the last piece of her original plan.

The CCA has upped the ante for high-quality architectural exhibitions, with shows that display creative scholarship (such as the 1996 reconstruction of five unbuilt projects by Frank Lloyd Wright) and inspire passionate debate (the Peter Eisenman exhibition in 1994, for instance).

Now Lambert is ready for a new phase. In Kurt Forster, she has found a scholar, writer, and educator who is knowledgeable in both architectural history (notably the Renaissance) and contemporary design. Until recently founding director of the Getty Center for the History of Art and the Humanities in Los Angeles, he is now chair of the Department of Art and Architecture at the Federal Institute of Technology in Zurich and head of its Institute of History and Theory.

According to Philip Johnson, who has been close to Lambert, "Lambert's a populist, Forster's an academic perfectionist."

Says Forster, "Architecture is fundamental to our notion of civilization. Interest must be rekindled." He and Lambert believe the key lies in training young people, and both appreciate the cosmopolitan nature of Montreal, as well as its scholarly tranquility. Among Forster's plans: "An exhibition examining how specific works of architecture—historical, recent, and current—result from a set of decisions."

Do Lambert and Forster worry about jousting with a strong-willed counterpart? To the contrary, their excitement is palpable. *Susan Doubilet*

A SERIES OF MAJOR PROJECTS GIVES THE HAGUE AN UPGRADE

It's the seat of the Dutch government, a royal residence, a major center of international diplomacy, and home to 445,000 people, but compared to nearby Amsterdam and Rotterdam, The Hague has long had a reputation as a provincial backwater.

The $2.5 billion Den Haag Nieuw Centrum (The Hague New Center) project is supposed to change that, giving The Hague big-city allure to match its importance in politics, and attracting business back to its center.

Willem van de Ven, the New Center's overall project manager, also sees it as an opportunity to upgrade The Hague's transportation infrastructure and "to repair the city in areas where nothing has happened in the last 10 or 20 years, or where the wrong things happened." Three buildings have already been built above a freeway that slices through the city center, at least two more are planned, and a portion of a misguided, six-lane viaduct has been demolished.

The project brings together the most prestigious collection of architects ever assembled in the Netherlands, and when completed it will encompass more than 8.5 million square feet of office space, 850,000 square feet of retail space, hundreds of residential units, and new public spaces. At its core is the gleaming white $175 million civic center, designed by Richard Meier & Partners and opened in 1995.

Another major project now rising is De Resident, a $250 million complex of offices, government buildings, retail outlets, and residences. The first two pieces of the development, Michael Graves's Castalia building (below) and Dutchman Sjoerd Soeters' Helicon, were unveiled in July.

The steeply sloping roofs of Castalia's twin 340-foot red-brick towers recall traditional Dutch houses, while Helicon's three identical, 187-foot terraced red-brick blocks pay homage to New York Art Deco. Just a few feet from Castalia, Cesar Pelli's hexagonal 289-foot Zurich tower is going up, capped by a distinctive cupola. *Jim Wake*

PHOTOGRAPHY: © OERLEMANS VAN REEKEN STUDIO

FOREIGN PRESS ROUNDUP

LET'S MAKE A DEAL

In a group interview in the July issue of *Architecture + Urbanism* (Tokyo), Austrian architect Wolf Prix of Coop Himmelblau speaks of the experience of those, like himself, who were once considered "paper architects." Prix, whose deconstructivist architecture was long considered unbuildable, has determined that in order to implement radical ideas an architect must not waste all his or her energy in resisting conservative building codes and developers' programs. "You have to do some compromise in order to get through your ideas.... Compromising the concept is not a good way to do buildings, but you have to make a deal sometimes."

MINING FOR IDEAS

The June issue of *L'Architecture d'aujourd'hui* (Paris) chronicles the ecological devastation wreaked by 60 years of giant-scale open-cut mining and air pollution in what has become known as the Black Triangle, a region rich in coal and lignite that lies between Leipzig in Germany, Bohemia in the Czech Republic, and Southwestern Poland. Among several recommendations offered by architects and planners to make the lunar landscape inhabitable again, Michael Sorkin and Andrei Vovk suggest flooding the mines with water to make tourist-friendly villages among a chain of lakes. Meanwhile, mining continues.

LITHUANIAN DEFENSE

In regard to developing a new Lithuanian architecture, Jonas Mikevicius writes in *Arkitektas* (Kaunas) that "having rid ourselves of the illegal Soviet presence in our country...we should guard ourselves against adopting unwanted foreign tendencies." Foreign architects have been grabbing the most visible, in-demand, and lucrative commissions in Lithuania: churches and banks. Meanwhile, Lithuanian architects—who logged no experience designing churches and banks during a half century of Communism—are relegated to designing lower-profile homes and shops.

BON APPETIT

The July/August issue of *Domus* (Milan) featured British artist Damien Hirst's restaurant, Pharmacy, designed by Hirst and Rundell & Associates. With its clinical atmosphere—medicine cabinets line the walls and the stool tops are giant aspirin tablets—Pharmacy has been billed as the shining achievement of the new pop wave and a hip place to eat. Hirst came to fame placing bisected farm animals on display in art galleries.

CONSIDERING STATEHOOD?

In a blurb about an exhibition of Austrian architecture in its August issue, the British monthly *Architectural Review* takes an unpatriotic swipe at its home country. "Austrian culture is, like England's, post-imperial, but perhaps because of its smaller size and population, or perhaps simply because it has long been a potpourri of different civilizations, artistic life in central Europe seems a lot more vibrant than it does in this offshore dependency of the U.S." Among the dozen projects profiled in the issue there is only one by a British architect.

—compiled by David Simon Morton

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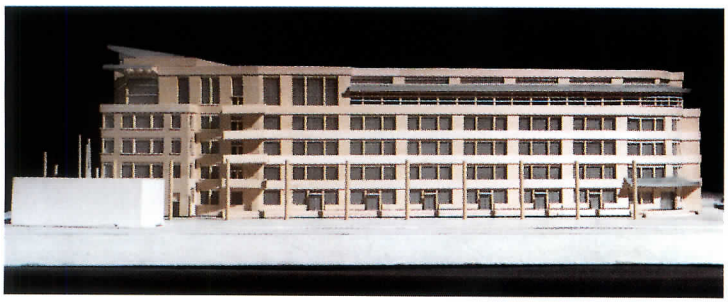


ARTISTS CATCH A BREAK IN BOSTON WITH SUBSIDIZED LOFT SPACES

Live/work space remains scarce in New England, but a single new building on Washington Street in Boston's scrappy South End will add 99 condo lofts to that city's stock.

Project designer David Hacin, AIA, of Hacin & Associates teamed with Conyngham Associates Architects on the Laconia Lofts, an $18 million, 180,000-square-foot, mixed-use structure with 75 underground parking spaces. "What you don't get in Boston," Hacin says, "is big, open interiors and big windows." By contrast, Laconia Lofts units will be delivered without partitions—although utility kitchens and bathrooms are included.

Seven-foot aluminum windows stud the brick exterior facades, and a zinc-roofed tower, which is characteristic of adjacent factories, marks the residential entrance and distinguishes it from the storefronts on Washington Street.

Gentrification in the nearby historic district of bow-front, brick row houses created a need for the project. Would-be residents seeking housing alternatives in the South End have inflated rents in the converted industrial buildings behind the Laconia Lofts site, pushing the artists who colonized those buildings out of their studios.

In response, a private developer, Jack McLaughlin, proposed these partly subsidized lofts to replace a boarded-up gas station on city-owned land at the intersection of Washington and Laconia Streets—which has been renamed Laconia Way and turned into a pedestrian conduit that runs alongside the new lofts.

Just under half of the Laconia Lofts units have been subsidized for low-income artists. Hacin said he plans to weave residents' artwork into the fabric of the building and that a 1,000-square-foot gallery will be available for their use.

The developer has benefited from the relationship as well, Hacin claims. Having artists in the building gives a "sense of hipness" rare in subsidized housing, he says. Also, the developer is getting "nearly market-rate prices for unfinished units with concrete floors." *Craig Kellogg*

LACK OF FUNDING LAMENTED AT COURTHOUSE DESIGN CONFERENCE

The government's reluctance to replace malfunctioning and bland-looking courthouses dominated discussion at the Third International Conference on Courthouse Design, held in Toronto in September.

The three-day conference, organized by the AIA and Public Works and Government Services Canada, attracted some 700 registrants.

Several panelists suggested that a classical, pre-1920s style of courthouse architecture captured the majesty and dignity of the justice system more enduringly than the streamlined but often inefficient courthouses that followed several decades ago.

The Honorable Wayne L. Peterson, assistant presiding judge of California's Superior Court in San Diego County, described a 1960s-era, three-story-high, three-block-long courthouse in his district as "a long breadbox on its side, nonfunctional, with HVAC problems and full of asbestos...an architectural disaster."

Panelists complained that governments are often reluctant to replace obsolete courthouses like this one for fear of taxpayer backlash and because of an entrenched public works mentality that disdains fresh architectural style.

But there was some optimism. Ontario's Attorney General, Charles A. Harnick, described a $100 million, four-year-long partnership with SHL Systemhouse, Toronto, that will link all the players—from police to courts to correctional institutions—with relevant information on-line. The infrastructure is incorporated in the design of 11 new and renovated court facilities under construction in Ontario, at a cost of $160 million. Attendees applauded this attention to modern technology. *Al Warson*

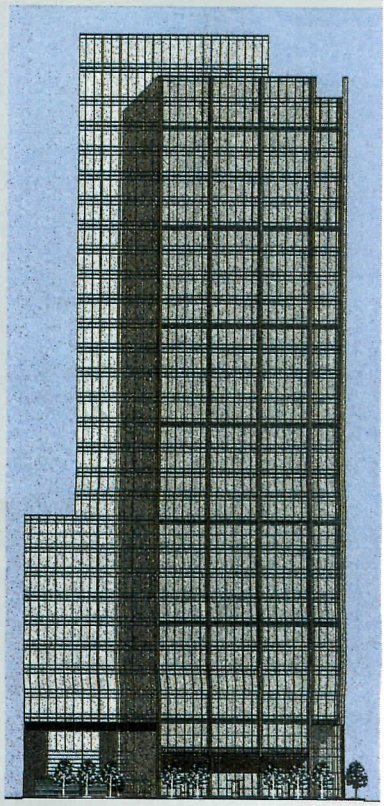
NO SHORTAGE OF PROPOSALS IN CHICAGO **Over the past year, a number of Chicago developers and architects have announced plans for high-rise construction—big news in a town that hasn't seen much office tower development since the mid-1980s.**

But the ballyhoo is somewhat premature. Of the several proposals, none have begun construction. And with a total of 10 million square feet projected, the schemes exceed the demands of the marketplace, making it likely that as few as two or three will actually be erected.

Among the proposed projects are a 70-story structure on Wacker Drive designed by James Goettsch of Lohan Associates for the John Buck Co., and towers for Wacker Drive and South Dearborn Street by Skidmore, Owings & Merrill. DeStefano and Partners has been tapped to work up plans for several projects, including a 50-story building at 300 North LaSalle Street for the Prime Realty Group Trust (with Ricardo Bofill as design consultant), and the 35-story Dearborn Center (right), a venture of the J. Paul Beitler Development Co. and the Prime Group Realty Trust. The latter, which would offer 100,000 square feet of retail space and 900,000 square feet of office space, seems among the more likely to be constructed (see related story, page 174).

The roster may be illustrative of a bit of wishful thinking on the part of Chicago developers. Notes SOM's Adrian Smith, "Most things I know of, whether we're doing them or other people are doing them, are still in the process of trying to find a tenant." Nevertheless, Don Shapiro, senior vice president at J. Paul Beitler, is optimistic that ground will be broken for Dearborn Center in the first quarter of 1999.

Others may be equally confident, but as Chris Slattery, a deputy commissioner in the Chicago Department of Planning and Development, observes, "the proof will be when the steel actually shows up and the caissons start going in." ***Thomas Connors***



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NEWS BRIEFS

The suit fits Another A/E firm has been nailed for wrongful use of design software. Engineering Design Group (EDG), based in Washington, D.C., has agreed to pay $324,000 to settle a lawsuit filed by the Business Software Alliance. The BSA had shown up at EDG's door in the company of U.S. Marshals to conduct a court-approved audit; what they found were unlicensed copies of software programs published by Autodesk and Microsoft, both BSA members. Earlier this year, New York's Milo Kleinberg Design Associates paid the BSA $150,000 to avoid litigation after similar accusations.

Joining the service The Federation Employment and Guidance Service, a voluntary, not-for-profit human services organization, has tapped Montroy Andersen Design Group to design its new location on Hudson Street in Manhattan. To address the unusual needs of FEGS clientele, many of whom are troubled individuals seeking employment guidance, Montroy will use various colors and materials as design elements to distinguish the building's different services and create a welcoming ambiance. The design firm is also using its unique project management Web site, in which project teams and clients—who have been assigned their own accounts and passwords—can monitor the project 24 hours a day. Schedules and documents can be updated from remote locations.

Helpern is designing the first major extended-stay housing in New York.

Going green The Naval Facilities Engineering Command (NAVFAC) has become the first federal agency to adopt sustainable design principles for its facilities and infrastructure. In all future design and construction, the NAVFAC expects to adopt the Green Building Rating System under development by the Energy Department.

New for New York Extended-stay housing, which mainly serves business travelers staying five or more nights, is unheard of in New York City. But now Helpern Architects is designing two facilities in Manhattan for Homestead Village, an Atlanta developer that operates extended-stay lodgings around the country. The new projects, both in Midtown, will contain in-room kitchens, workstations, full-size closets, and up-to-date electronic capabilities. Developers are also betting on extended-stay in the New York suburbs. In New Rochelle, Sullivan Architecture has designed a 115,000-square-foot, 123-room facility due to open late next year.

Learning curve More than 100 forums were held across the country on September 8—including 11 events led by AIA members—to call attention to the need for school modernization and new school construction. According to the Department of Education, new records have been set for three straight years in terms of the numbers of children attending U.S. schools.

Sprint for home Communications giant Sprint is undertaking what it

PHOTOGRAPHY: © HELPERN ARCHITECTS

calls the largest ongoing construction project in the U.S. Once it is completed, the Sprint World Headquarters Campus in Overland Park, Kansas, will comprise 3.9 million square feet and accommodate 14,500 employees in 18 office buildings. Five architectural and four engineering firms, all based in Kansas City, are collaborating on the project, which features a neoclassical design with traditional brick exteriors. All the buildings are low-rise—with a maximum of five stories—and about 60 percent of the site will be green space, including a seven-acre lake.

Le Corbusier Nouveau The Maison Radieuse, a groundbreaking public housing project designed by Le Corbusier and built in 1955 near Nantes, France, has been showing dangerous signs of decay. As a result, the building's administrators, Loire Atlantique Habitations, have embarked on a restoration plan—a complicated one, because of the difficulties involved in replacing worn-out or damaged concrete. It is hoped that the techniques developed in this project will be beneficial in restoring other concrete Le Corbusier works.

Saintly designs The Archbishop of Barcelona has proposed the beatification of Antonio Gaudí, the Spanish architect best known for the vast (and unfinished) Sagrada Familia Cathedral in Barcelona. Gaudí spent the last 40 years of his life working on the cathedral; he died in an accident in 1926. The Archbishop cited his "intimate and spiritual life."

Art matters Antoine Predock has been retained to design an arts complex on the Colorado College campus. The $16 million, 60,000-square-foot center is slated to house a theater, the school's film and video programs, a recital hall, gallery space, faculty offices, and high-tech classrooms. In other arts news, Richard Gluckman has won a competition to design the Austin Museum of Art. Robert Venturi had won the commission in the 1980s, but the project never went forward. When it was revived recently, the process started all over with a new competition. In California, the Stanford University Museum of Art's renovation and expansion, designed by Polshek and Partners, is nearing completion. The redone original building, new gallery wing, and new sculpture galleries will open in January.

Work is being done on the facade of Le Corbusier's Maison Radieuse.

Sky high On October 1, after a period of homelessness, the Skyscraper Museum opened its new quarters at 16 Wall Street in New York with an exhibition called "Building the Empire State." The exhibition chronicles how the Empire State Building was designed and constructed in just 20 months.

Next act Dutch architect Erick Van Egeraat has been chosen by England's Royal Shakespeare Company to design its new home in Stratford-on-Avon. Plans aren't finalized, but the company would like a new building—if it can secure $80 million in grants related to national lottery profits and an additional $50 million or so in private donations. ■

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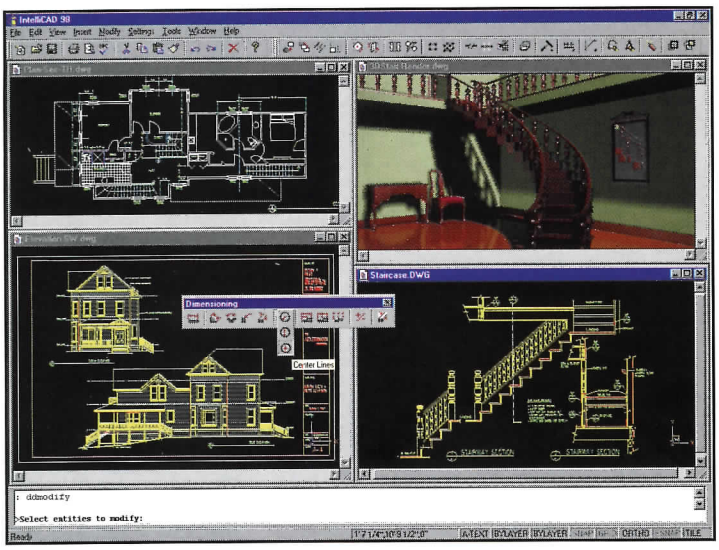
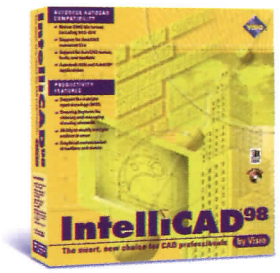
When IntelliCAD® 98 by Visio was introduced in April, *Cadence* magazine wrote, "IntelliCAD represents a major victory for the CAD consumer by raising the bar of CAD software value." Since then, industry leaders have applauded the product's Autodesk AutoCAD compatibility, productivity features and affordability. It's easy to understand why. IntelliCAD 98 uses DWG as its native file format, just like AutoCAD. It can run in tandem with AutoCAD, and open AutoCAD files through version R14.01 without conversion or data loss. IntelliCAD 98 also provides support for AutoCAD commands, Autodesk AutoLISP programs, menus, dialogs and other legacy tools. Plus, it already runs over 100 AutoCAD applications from third-party developers, such as Eagle Point Software, Intergraph Corporation and Ketiv Technologies. So don't confuse IntelliCAD 98 with a non-customizable, scaled-down version like Autodesk's AutoCAD LT. In fact, IntelliCAD 98 offers features not available in full-blown AutoCAD—like the ability to have multiple drawings open simultaneously, and cut and paste between them. There's also complete Microsoft ActiveX support for in-place editing within popular applications, such as Microsoft Word, Microsoft Excel and Visio® Technical. And just how affordable is IntelliCAD 98? How's $349 sound? Basically, think of IntelliCAD 98 as offering outstanding CAD functionality at a price much lower than even AutoCAD LT. Pick up a copy at your nearest retailer and discover for yourself what all the talk is about. For more information call 1-800-24-VISIO, reference A449. Or see it in action at **www.visio.com/tryit.**





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CIRCLE 41 ON INQUIRY CARD

DATESEVENTS

Calendar

Fountains: Splash and Spectacle
New York City
Through October 11
This exhibition elucidates the role of fountains—and water as a design force—in defining urban space in Europe and America, with examples ranging from the Renaissance to the present. Cooper-Hewitt National Design Museum. 212/849-8300.

Frank Lloyd Wright and the Living City
Weil am Rhein, Germany
Through October 11
The most comprehensive exhibition in Europe of Wright's work to date focuses on the architect's schemes for Broadacre City, which attempted to erase the dichotomy between city and country. Vitra Design Museum. 011/49/7621/702-33-51 or visit www.design-museum.de.

Walker Evans: New York Los Angeles
Through October 11
While Evans is best known for his Depression-era photographs of the American South, this exhibition reveals the full range of his work as a New York street photographer, including some of his earliest and most abstract compositions. J. Paul Getty Museum. 310/440-7360.

Do Normal: Recent Dutch Design
San Francisco
Through October 20
This exhibition of works by Dutch designers focuses on the centuries-old design consciousness that pervades every aspect of the country's culture. San Francisco Museum of Modern Art. 415/357-4000.

Architectural Fragments: The Work of Lisa Bennett
Washington, D.C.
Through October 23
On display are 31 enigmatic drawings and paintings that focus on space and form. AIA Headquarters Gallery. 202/638-3105.

The Design and Building of Girard College
Philadelphia
Through October 23
Surviving entries in the 1832 design competition for the college, the first architecture competition to attract nationwide attention, are on display, as well as drawings of the construction of the winning entry, completed in 1848. Founder's Hall. 215/787-2601.

Martin Lewis's World: Cityscapes on Paper
New York City
Through October 25
An exhibition of the artist's prints depicting New York City from 1916 to 1947. Brooklyn Museum of Art. 718/638-5000.

Manchester: A Neighborhood Sketchbook
Pittsburgh
Through October 25
This exhibition of photographs, maps, and architectural drawings inaugurates the Pittsburgh Neighborhoods Project, an exploration of the city's rich diversity. Heinz Architectural Center, Carnegie Museum of Art. 412/622-3131.

Under the Sun: An Outdoor Exhibition of Light
New York City
Through October 25
An exhibition of solar-powered installations, including commercial products, experimental prototypes, and commissioned designs. Cooper-Hewitt National Design Museum. 212/849-8300.

Architecture for Children
Chicago
Through October 30
An exhibition of projects for children—schools, day-care centers, gymnasiums, and museums—by Chicago architects. Art Institute of Chicago. 312/443-3600.

The Havana Project: Architecture Again
Vienna, Austria
Through October 31
Visions of a future Havana are featured in this exhibition, with projects by Coop Himmelblau, Thom Mayne, Eric Owen Moss, Carme Pinós, Lebbeus Woods, and C.P.P.N. Austrian Museum of Applied Arts. 011/43/711/36-233.

Reconstructing the Aluminaire House
New York City
Through October 31
An exhibition celebrating Lawrence Kocher and Albert Frey's innovative 1931 structure, which is being restored and relocated to New York Institute of Technology's Central Islip campus. Architectural League of New York. 212/753-1722.

The Triumph of Grand Central Terminal
New York City
Through November 11
A multimedia exhibition that includes photographs documenting the soon-to-be-completed restoration of Grand Central; historic photographs and news clippings; a video installation of views from the terminal's "celestial ceiling"; and time-lapse photography. Municipal Art Society. 212/935-3960.

Sculptors Engaging 20th-Century Building
New York City
Through November 14
Sculptures that explore architectural themes by such artists as Peter Boyton, Jean-Marc Bustamante, Peter Dudek, and Rita McBride. Times Square Galleries of Hunter College. 212/772-4991.

Living-Reading: Rem Koolhaas and Bruce Mau
Vienna, Austria
Through November 16
A two-part exhibition centering on the creators of the 1995 publication *S, M, L, XL* features works by Dutch architect Rem Koolhaas and his firm, the Office for Metropolitan Architecture, and by graphic designer Bruce Mau. Architektur Zentrum Wien. 011/43/1/522-3115.

Equal Partners
Northampton, Mass.
Through December 13
A celebration of male/female professional collaborations, featuring the work of 15 American firms founded and run jointly by men and women, including Arquitectonica, Asymptote, Hodgetts + Fung, and Tod Williams Billie Tsien Associates. Smith College Museum of Art. 413/585-2760.

New Ways of Revitalizing the American City
Washington, D.C.
Through January 3, 1999
An exhibition illustrating how new cultural facilities have enlivened tired downtowns in Phoenix; Cincinnati; Fort Worth; Newark, New Jersey; San Jose, California; and Kansas City, Missouri. National Building Museum. 202/272-2448.

La Presence des Objets: Gaetano Pesce
Montreal
Through January 3, 1999
Furniture, objects, and models and plans of recent projects by the architect and industrial designer. Musée des Arts Décoratifs de Montréal. 514/284-1252.

Robert Adam: The Creative Mind
Washington, D.C.
Through January 3, 1999
An exhibition of work by the 18th-century Scottish architect, demonstrating his process of design from conception to final presentation. The Octagon. 202/638-3105.

Bechtel's First Century
Washington, D.C.
Through January 4, 1999
A portfolio of projects by the San Francisco–based Bechtel Group, one of the world's largest engineering and construction firms. High-

lighted "megaprojects" include the Hoover Dam, San Francisco's rapid transit system, and the Channel Tunnel. National Building Museum. 202/272-2448.

Tensions in Architecture
New York City
Through January 5, 1999
An examination of the extraordinary developments in the materials and technology of tensile structures. Material ConneXion Gallery. 212/445-8825.

Designing the Disney Theme Parks
New York City
Through January 10, 1999
"The Architecture of Reassurance" examines how Disney attractions are conceived, planned, and built. On display are 200 plans, drawings, paintings, and models from Disney archives, many of which have never been publicly displayed. Cooper-Hewitt National Design Museum. 212/849-8300.

All Wright: The Dana-Thomas House
Chicago
Through January 31, 1999
An exhibition showcasing the most complete and best-preserved example of Frank Lloyd Wright's early Prairie houses. Chicago Architecture Foundation. Call 312/922-3432 or fax 312/922-0481.

Louis Comfort Tiffany at the Metropolitan Museum of Art
New York City
Through January 31, 1999
Nearly 100 Tiffany works from the museum's collection, including windows, lighting fixtures, and objects, are featured. The full-scale entrance loggia from Tiffany's Long Island estate is also on view. Metropolitan Museum of Art. 212/570-3951.

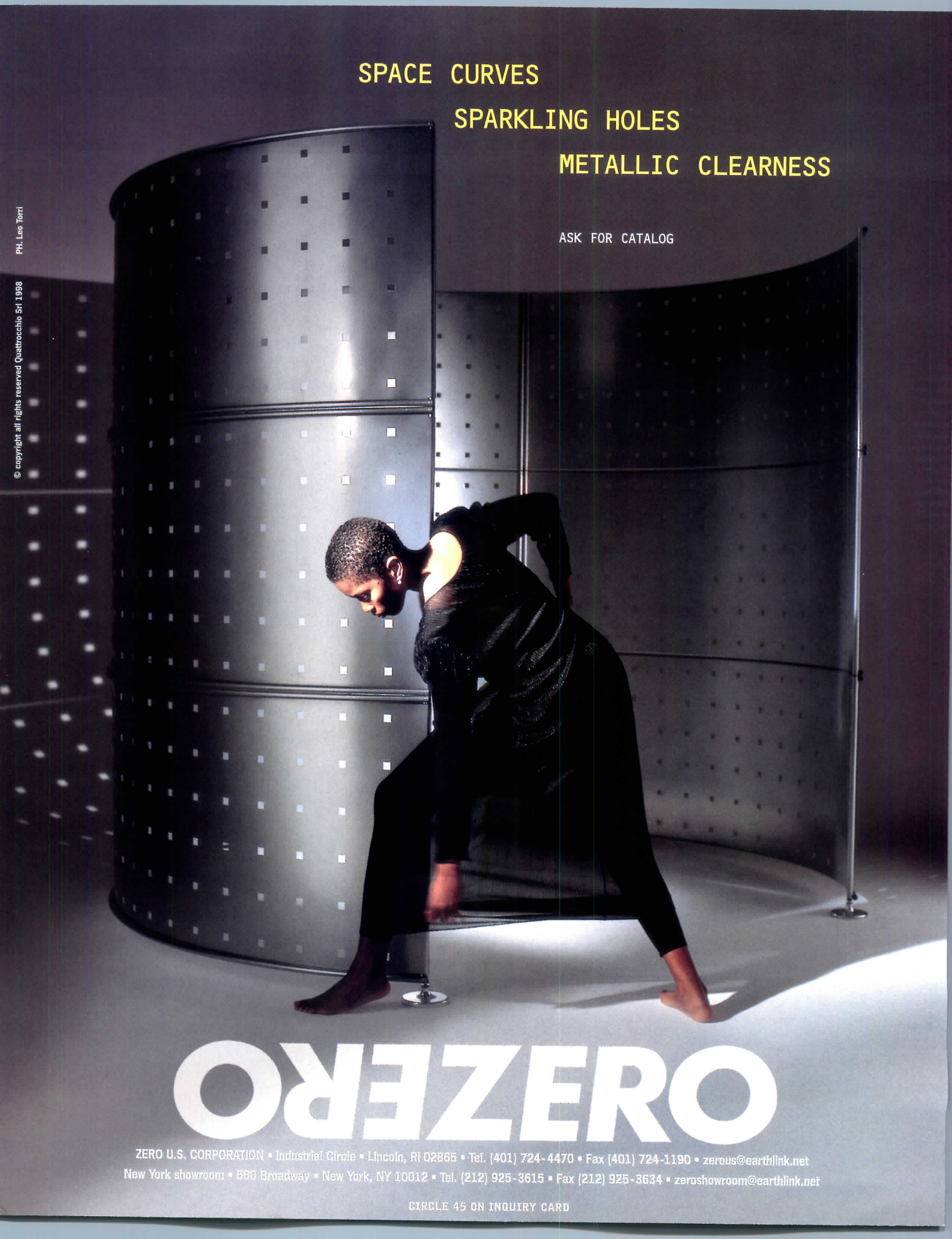
Marion Mahony and Walter Burley Griffin
Sydney, Australia
Through May 2, 1999
An exploration of the professional and spiritual journey of Mahony and Griffin, from their years in Wright's office at the turn of the century through their work in Australia and India in the 1920s–30s. Powerhouse Museum. 011/61/02/217-0111.

Chicago Design Show
Chicago
October 9–11
This year's contemporary furnishings exhibition and sale features Designer on Call, a complimentary service for consumers seeking advice from interior designers. Merchandise Mart. 312/527-4141.

George B. Post: Great American Architect
New York City
October 13–January 10, 1999
Among the works featured in this exhibition of the late-19th- and early-20th-century architect are renderings of the long-demolished Equitable Life Assurance Society (the first building to use elevators) and the Western Union Building (the first to reach 10 stories). New-York Historical Society. 212/873-0509.

Premises: Invested Spaces from France, 1958–98
New York City
October 13–January 11, 1999
An exhibition of visual arts, architecture, and design that underlines the relationship between the artist/architect and the constructed environment. Included are works by Yves Klein, Jean Dubuffet, Daniel Buren, Le Corbusier, and Jean Nouvel, among others. Guggenheim Museum SoHo. 212/423-3500.

1998 Professional Design-Build Conference
Chicago
October 14–16
This year's conference, cosponsored by the AIA and the Design-Build Institute of America, will also feature the Integrated Products and Services Show and the announcement of winners of the National Design-Build Awards Competition. Palmer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The American Dream by Mail Order
Chicago
October 15–December 31
An exhibition exploring the history of Sears, Roebuck & Co. catalog houses built between 1908 and 1940. Chicago Architecture Foundation. 312/922-3432.

City Satire: The Cartoons of Roger K. Lewis
Washington, D.C.
October 15–February 28
More than 100 cartoons satirizing the state of architecture and urban design, originally published in the *Washington Post.* National Building Museum. 202/272-2448.

Speaking of Architecture: A World View
Northampton, Mass.
October 17
A symposium that explores how architecture serves, both culturally and aesthetically, to enhance the lives of individuals and communities. Speakers include Vincent Scully, Samuel Mockbee, and Helen Searing. Smith College Museum of Art. 413/585-2760.

Japan 2000: Kisho Kurokawa
Chicago
October 17–January 3, 1999
A major retrospective of the work of Japanese architect Kisho Kurokawa, from his early Metabolist projects to his current addition to the Van Gogh Museum in Amsterdam. Art Institute of Chicago. 312/443-3600.

Architecture Principe: The Oblique Function
Santa Monica, Calif.
October 17–January 10, 1999
A survey of work by Groupe Architecture Principe, formed in 1963 by Claude Parent and Pail Virilio, who opposed the concept of Euclidean space. Form Zero Architectural Gallery. 310/450-0222.

Annual Conference on Contaminated Soils
Amherst, Mass.
October 19–22
Representatives from government agencies, the military, industry, and the environmental community attend this annual conference on soil clean-up. University of Massachusetts at Amherst. Contact Denise Leonard at 413/545-1239 for more information.

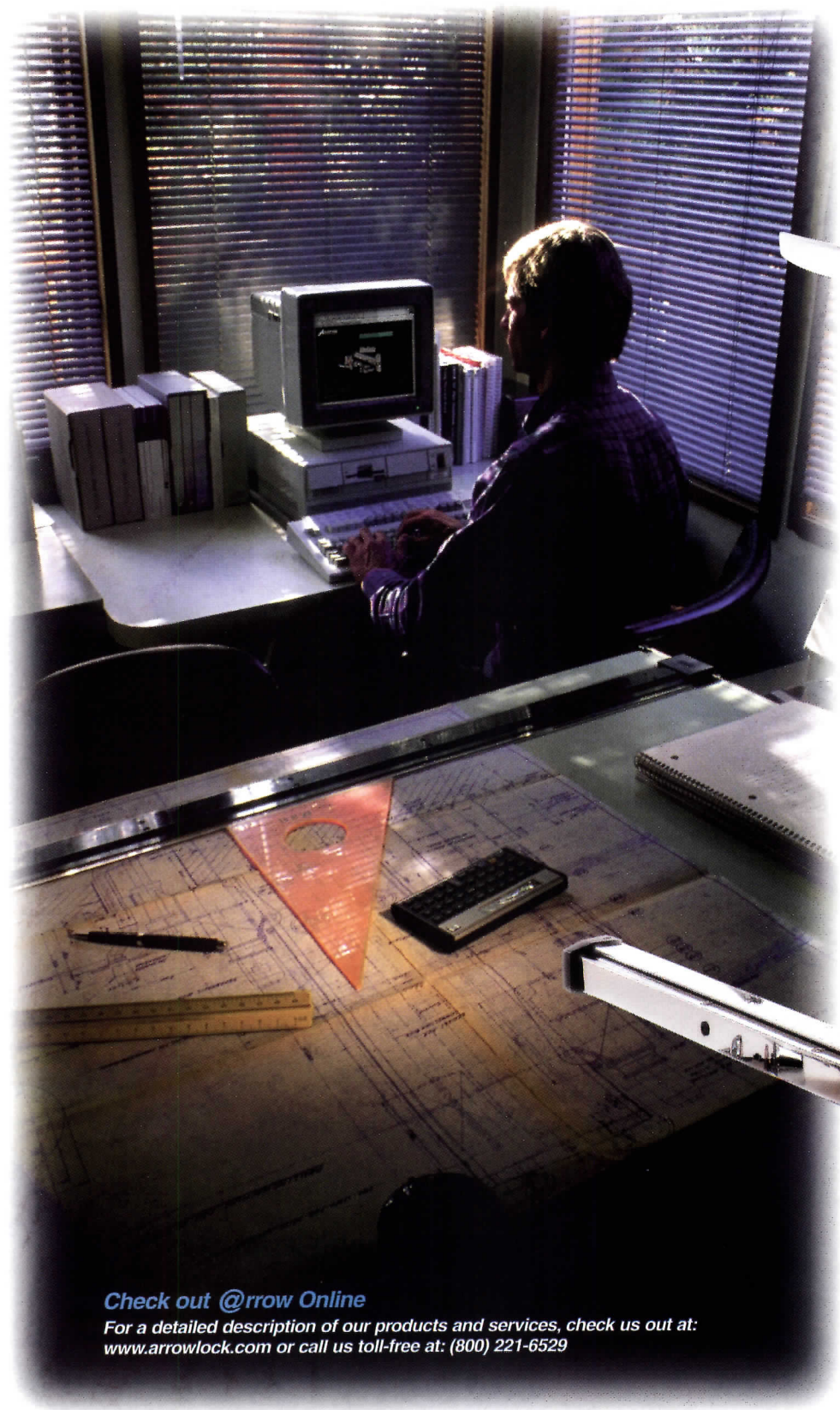
Metalcon '98
San Diego
October 20–22
The annual convention of the metal construction industry highlights the latest products and services. San Diego Convention Center. Call 617/965-0055 or visit www.metalcon.com for information.

FEDCON/North American Construction Forecast Conference
Washington, D.C.
October 22–23
At FEDCON, government agencies present their 1999 construction budgets and plans and provide updates on new regulations. At the North American Construction Forecast conference, leading economists and analysts present their forecasts for the construction industry. Ronald Reagan Building and International Trade Center. Contact Lori Riegert, CMD Group, 800/283-4699, for more information.

ASHRAE Indoor Air Quality and Energy Conference '98
New Orleans
October 24–27
Sponsored by the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), this conference is meant to help commercial building designers, contractors, and building owners achieve acceptable indoor air quality and energy efficiency through proper application of ASHRAE standards. Radisson Hotel. Call 404/636-8400 to register.

(continued on page 212)

When designing a landmark, make a landmark decision.



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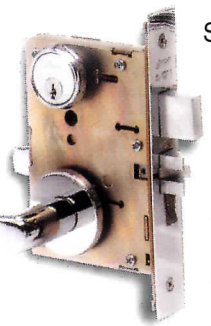

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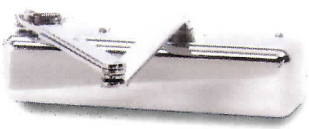

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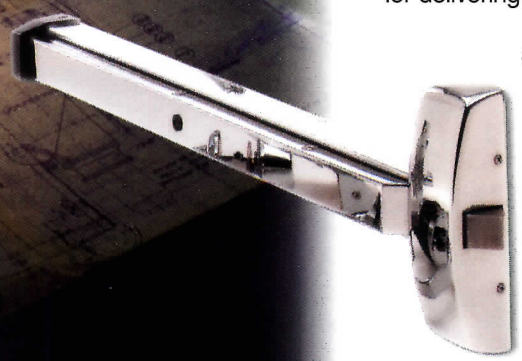

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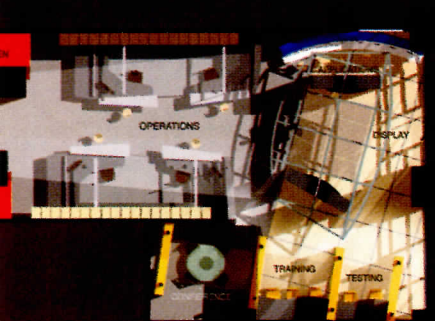
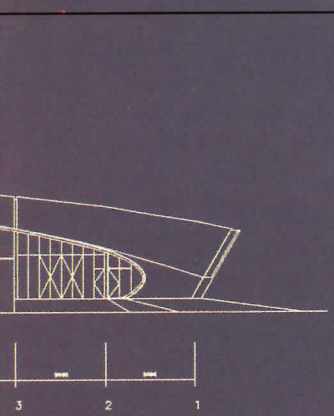
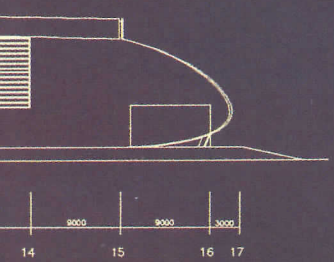
GOOD DESIGN IS GOOD BUSINESS:

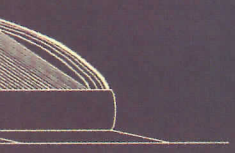
Second Annual Business Week/Architectural Record Awards

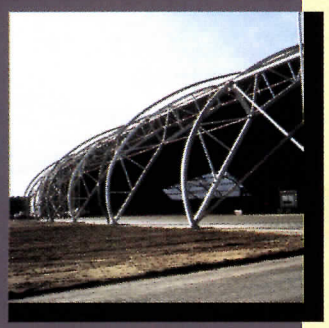
Using Architecture to find Solutions for Business











by James S. Russell, AIA

It is conventional wisdom that architecture is a frill, something to be added if there's someone to impress. The second annual Business Week/Architectural Record Awards put the lie to that notion in intriguing ways. Among the winners there is little that is spectacular or even overtly stylistic. Instead, although some projects display assertive designs, there is much that is inventively prosaic among the winners. All show how architectural creativity can be applied to pragmatic needs.

What was the common thread among such a disparate group of winners? "There was an appropriateness," responds architect Rodolfo Machado, of Boston-based Machado and Silvetti Associates, one of the jurors. In this he sums up opinions offered by others. "The winners were remarkably well tailored to their purpose," he continues. "All the architects showed a deep understanding of the image needs and the requirements for the budget." These successful projects also offer a variety of other benefits, including employee retention and promotion of cultural and environmental values.

Competing for people

What could be more timely, in this era of labor shortages, than retaining and attracting valued people? In the competitive world of fashion, Gap Inc. recognized that its new building in San Bruno, California, could help keep competitors from plundering valued staff. The facility provides an impressive number of amenities: a fitness center with lap pool, a café opening onto a terrace, a jogging path, windows that open. But the spaciousness (floor-to-floor heights are a generous 15½ or 20-plus feet) and the omnipresence of daylight suggest an informal atelier, a place where colleagues can readily find each other to launch an idea or hash out a dispute.

The New York Times Company had a tougher challenge: building a new, more automated plant meant laying off a considerable number of long-time employees. How to retain the best people while developing a less contentious long-term relationship with unions? Build a workplace that staff would be proud to work in, and close a decades-old printing facility where ancient presses clattered in the depths of cramped subbasements. "There's such a palpable difference at College Point," says David Thurm, executive director of project development. Not only is the project aesthetically pleasing and flooded with daylight, but electronic scoreboards throughout the facility keep everyone abreast of the current status of production. "To me, a large part of what it represents is the physical manifestation of a new relationship," adds Thurm.

Futures By Temps, which finds the talented people that businesses seek, took the unusual step of locating its facility in a high-traffic shopping mall. The company recognized that moving a bunch of desks and tables into a storefront was not enough. It needed to do something to lure the best people. That's when the company turned to Adamstein & Demetriou Architects. Since Futures By Temps didn't have a "product" to display, the architect used appealing design to sell the idea of "opportunity."

Conveying values, not just image

This year's winning buildings helped their companies convey identity. In the old days, high-design corporate facilities were intended to impress or to convey solidity and longevity. Now buildings advertise a company's values. The serene minimalism of Osho International's offices in New York City convey the Zen spiritual ideals of the book, audio, video, and multimedia projects the company undertakes. "The space represents who we are," says Klaus Steeg, Osho's president. "It supports the idea of the business and communicates it to [customers]." Indeed, he continues, the

company's clients are so taken with the space that they often ask to meet at Osho's offices rather than their own.

Tilt-up concrete slabs and their metal supports leave little doubt what business the K. J. McNitt Construction Company is in. The contractor calls Oklahoma City architect Rand Elliott's design "a living illustration of the precast-concrete construction process."

Architects Polshek and Partners shaped the New York Times Printing Plant to create a sculptural billboard readable from an adjacent highway, conveying the once-novel idea that production is something the company is proud of and wants to show off.

Residents of River Falls, Wisconsin, were pleased when QMR Plastics chose to locate in their town, helping to diversify the local economy. They were also pleased by Julie Snow's design for the factory, which does more than present a distinctive and attractive face to cars passing on the nearby highway. By including native prairie grasses and flowers and creating a retaining pond on site, the design reduces the facility's impact on the local environment.

Some of this year's Business Week/Architectural Record Award winners used the design process to make facilities that would, in some important way, help them "walk their talk." Osho's facility is remarkable in part because its tranquility is in such dramatic contrast to the noisy hustle of midtown Manhattan. Unions and management have been famously contentious at the New York Times. The design of their new plant is as much a statement about a consultative process (over 300 people were involved in the design at one point or another) as it is a container for printing presses. Seemingly trivial process questions were posed, then answered with often startlingly improved efficiencies. For example, a special mezzanine was built to hold a device that temporarily stores early-printed newspaper sections. It's rare to even consider placing any process above the ground floor, says the Times's Thurm. But it saved several thousand linear feet of expensive, high-maintenance conveyor belts.

IN THE OLD DAYS, CORPORATE FACILITIES WERE DESIGNED TO IMPRESS OR CONVEY SOLIDITY. NOW BUILDINGS ADVERTISE A COMPANY'S VALUES.

Whither the "alternative" workplace?

Projects in which the facility was designed to support some fundamentally new way of working were fewer this year. The most transformative project proved to be, of all things, a waste transfer station in Holland. Not only do its sensuous curves make the sorting of trash an almost appealing notion, the building itself is intended to be literally transformed once the landfill it serves is full. The structure's long spans can adapt to a community recreation center or an auditorium. As in America, few communities want such a facility in their backyard, and the appealing design went a long way in winning community acceptance.

The awards jury focused on a few projects where the clients were less concerned with creating new or alternative workplaces. In these, the companies used design to make very straightforward, publicly understandable statements about themselves. Little money was spent at Praxair, at QMR, or at K. J. McNitt. At Praxair, though, the detailing of the translucent ceiling and exposed ductwork conveys a palpable concern with quality. Juror Charles Gwathmey especially appreciated such low-budget exercises: "They weren't automatic. They were much more inventive and interesting than many of the large projects we saw."

It is notable that the Dutch waste transfer facility was one of three industrial projects chosen as winners. If this year's awards program proves indicative, industrial building design may be entering a new golden age. There are similarities today to the early decades of the century, when Albert Kahn helped carmakers find suitable architectural expression for fast-evolving mass-production systems [see also Building Types Study 761, May 1998, page 199]. Not only are industrial processes changing rapidly, but more companies are recognizing that careful attention to design pays off.

The winners challenged conventional wisdom in other ways. Businesses can supposedly locate anywhere these days, but a number of winners thought long and hard about where they wanted to be. Futures By Temps was so convinced of the rightness of its idea that it overcame the reluctance of mall management to rent to a "nonretail" tenant.

Osho might have chosen a tranquil exurban locale, but Steeg says it was important to be in the midst of the major publishers with which Osho deals, so it made more sense to set up shop in midtown Manhattan. Osho is in one of New York's grand 1920s towers, which, with their slim shafts and small floor plates, are aesthetically admired but often thought romantically passé in this era of bulky, deep-floor skyscrapers. Steeg liked the space because, with windows on three sides, it offered a quality of light he couldn't obtain in newer, thicker buildings.

Let the sun shine in

Although in the past, windows may have been seen as just a nicety—not doing anything useful—inventive use of daylight was common among the winners. It's hard to imagine Praxair without that big wedge-shaped skylight. Sunlight permeates the manufacturing floor at the QMR Plastics facility as well. The appealing light and views are key to drawing and retaining valued staff, who might otherwise prefer a more urban setting. Daylight at the New York Times Printing Plant helps press operators evaluate the quality of the printed product, while skylights bathe a cafeteria and break areas with filtered sun. At Gap Inc., the ubiquity of sunlight, along with high ceilings, creates an appealing environment even for those who do not get windowed private offices.

Environmental design strategies are often seen as statements about corporate citizenship rather than as methods that by themselves can enhance the way business is done. The garbage transfer station in the Netherlands actually reconceives the idea of a trash dump, making its processes visible to the community while at the same time screening and treating its noxious aspects. (It includes systems for recycling and processing the gases and water emitted by the landfill rather than just containing them.) In incorporating environmentally benign materials, daylight, and natural ventilation, Gap Inc.'s design reinforces the corporation's support for healthy living and offers a more thermally and visually comfortable work environment, which has a positive impact on productivity.

While recognizing excellence in design for business, the awards program tries to pass along the winners' experience to others. Even the jurors say they learned a great deal. "Sitting around a table with other businesspeople, I heard much that I hadn't thought of," comments Michael Basserman, chairman of Mercedes-Benz of North America. "We, ourselves, are thinking about a new home-office building in the U.S. [The awards program] confirmed what we were thinking, that you can't build a building for a single purpose. Markets and companies and purposes change, and you need adaptable environments." Indeed, adapting to rapid change ought to keep things interesting over the coming years. ■

JURORS

Michael Basserman *Chairman and CEO, Mercedes-Benz of North America*
Wendy Evans-Joseph *Wendy Evans-Joseph Architect*
Sherri Geldin *Director, Wexner Center for the Arts*
Charles Gwathmey *Gwathmey Siegel & Associates Architects*
Rodolfo Machado *Machado and Silvetti Associates*
John O. Norquist *Mayor, City of Milwaukee*
Olli Pekka-Kallasvuo *Executive Vice President, Nokia Telecommunications, Inc.*
Charles Rose *Thompson & Rose Architects*
Ian Schrager *Principal, Ian Schrager Hotels, Inc.*
Laurinda Spear and Bernardo Fort-Brescia *Arquitectonica International*
Gerald Taylor *CEO, MCI Communications*

COMMENTS

"[It's an example] where the client went to the architect for a solution. The designers were real partners in demonstrating a business plan and [turning] a mission statement into the physical embodiment of what they were trying to accomplish." **Sherri Geldin**, *on Futures By Temps' prototype store*

"The newspaper had a choice of where to be located. And instead of being in an office park, away from the customer, they chose to be on a busy highway and make the building a billboard about the newspaper and its commitment to architecture." **Bernardo Fort-Brescia**, *on the New York Times Printing Plant*

"It merges the design with the narrative of the client." **Charles Rose**, *on the McNitt Building*

THE PROGRAM

Good architects have always understood the powerful role design can play in making businesses more successful. From helping a client with its strategic vision and master planning its facility needs to creating individual workstations that help employees be more productive, architects can directly affect a company's position in the marketplace, its ability to attract and retain the best talent, even its bottom line. Getting the word out, though, has never been easy. While architects can always blow their own horns, such talk is usually perceived as self-serving and less than totally reliable. The Business Week/Architectural Record Awards program, presented in conjunction with the American Institute of Architects, offers architects and their clients a more authoritative venue for showcasing the effectiveness of their collaborations. Juried by business leaders, designers, public officials, and people involved in the building process, the program is anything but a beauty contest. Entrants must submit a project mission statement and business plan, and explain how the project fits into the organization's overall plans. Additionally, entrants must provide detailed descriptions of measurable results.

In evaluating projects, jurors ask a series of questions. What did the client want? How did the architect provide it? How did the architectural solution enhance a company or institution's stated goals? In just its second year, the awards program attracted more than 210 entries, up from last year's 153 submissions. Projects come from both the public and private sectors and from around the world. They are large building complexes and small office spaces. They are new construction and imaginative renovations. The only requirement is that they be completed no more than three years ago. Unlike many other competitions, the Business Week/Architectural Record Awards program does not expect its jury to do its work in one day. Indeed, the jury meets on at least three different occasions—discussing the goals of the program, evaluating entries, then narrowing the field down to a small group of projects, each of which is visited by at least one juror. Only after site visits and interviews with clients and end users do the jurors report back to the full jury and vote on the final winners. It is an exhaustive process.

An important result of this process is credibility. When top executives of some of the most important corporations in the world, along with elected officials and leading architects, agree that a project is an example of good design being good business, you can be sure they're not just picking pretty faces.

Winners are published here and in the November 2 issue of *Business Week*. Because each magazine develops its own coverage of the material, we encourage you to read about this year's winners in both publications. After all, the most important message of the program is the need to look at design through different sets of eyes—client, user, shareholder, architect, neighbor, concerned citizen. *Clifford A. Pearson*

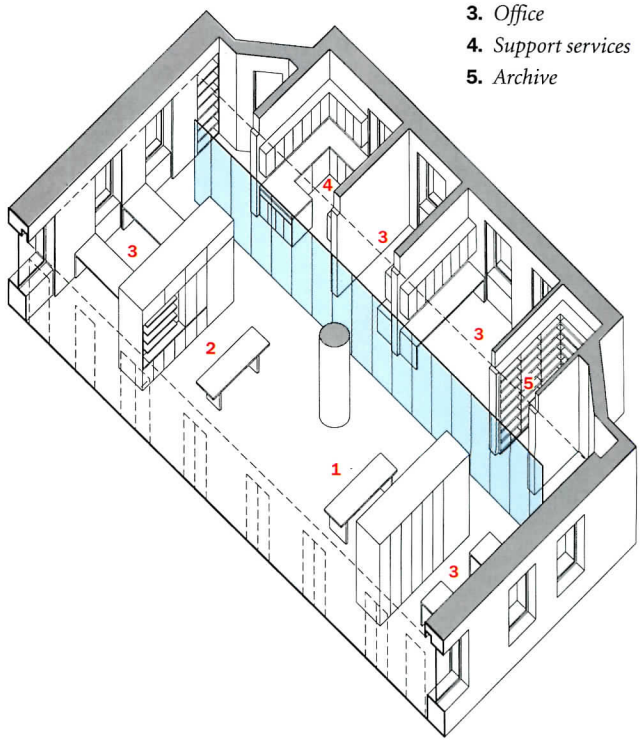
NEW OFFICES FOR OSHO INTERNATIONAL KEEP CLIENTS COMING BACK FOR MORE.

The design challenge was "to create a sense of spaciousness and silence that says what our product is," explains Klaus Steeg, president of Osho International, a company that produces books, videos, and tapes based on the teachings of an Indian philosopher and mystic who called himself Osho. Rising to the challenge, architect Dan Rowen designed a 2,500-square-foot office that captures the meditative spirit of the client's products. Extensive discussions with the key decision makers on the client's staff and close collaboration during the design process allowed the architect to explore alternative ways of organizing the office. As a result, the conference table and reception desk share a common central space that serves as the serene hub of the plan, leaving the line between public and private areas purposely vague.

"The client wanted a place that felt like a beautiful loft, not an office," says Rowen. So the architect brought daylight into the central space, used uninterrupted vertical surfaces, and hid file drawers and records behind elegant cabinets. The most dramatic feature in the office is a wall of 9-by-3-foot glass panels that are acid-etched on one side and clear on the other. A film between the two layers of glass makes the clear side reflective and gives the other side a diaphanous, translucent look.

Having moved to New York City to increase its profile in international publishing, Osho wanted its offices to project the image of a company that is both contemplative and dynamic. Rowen's use of clean lines and modern materials has accomplished the task, says Steeg. In fact, Osho's clients like the space so much they often request that meetings take place there rather than in their own offices. The budget for the project (including fees and furnishings) was less than $750,000. *C.A.P*

1. *Reception*
2. *Conference*
3. *Office*
4. *Support services*
5. *Archive*



Project: *Osho International Offices, New York City*
Client: *Osho International*
Building type: *Corporate offices*
Award category: *Private sector, under $1 million*
Key players: *Osho International—Klaus Steeg, president; Daniel Rowen Architects—Daniel Rowen, AIA; Ambrosino DePinto & Schmieder (engineers); Fisher Marantz Renfro Stone (lighting); Sweeney Construction (general contractor)*

"It's a wonderful space. It's very, very minimalist, and the philosophy of the company and many of the employees is reflected in and enhanced by the architecture.... [The central reception/conference room] is a luminous void within the project."
Juror Charles Rose

PHOTOGRAPHY: © MICHAEL MORAN

"The collaboration between architects and client was very strong and constant. The CEO was directly involved in selecting the architects and in overseeing the process. He met with them once a month and participated in the decision making."
Juror Rodolfo Machado

BUILDING IT GREEN, GAP INC. CREATES AN ATTRACTIVE, HEALTHY PLACE TO WORK.

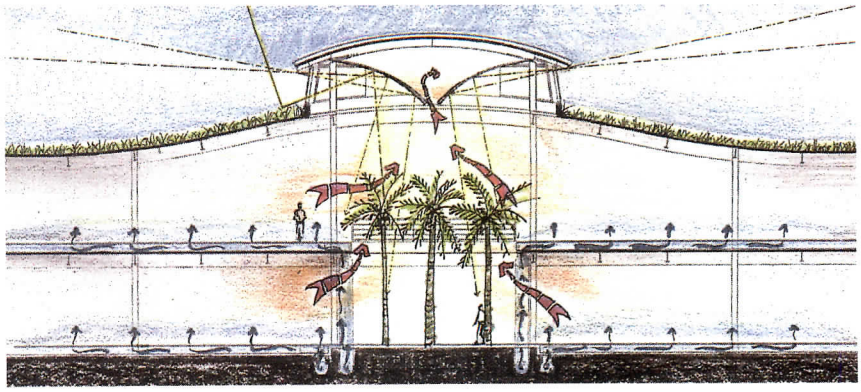
The first office complex that Gap Inc. commissioned and built for itself, at 901 Cherry Street in San Bruno, California, embodies many of the values that the fast-growing apparel company tries to project—including a commitment to its employees and to the environment. "We were looking to create a great place to work," explains Maria Moyer-Angus, senior director of environmental affairs and energy management at Gap Inc. The company also wanted to apply some of what it had learned from its stores in terms of using environmentally sensitive building products and systems, says Moyer-Angus.

The 195,000-square-foot building offers the 600 employees who use it workstations that are never more than 30 feet from daylight, as well as amenities such as a cafeteria and a full-service fitness center with lap pool. The building's large footprint is broken down into three sections, each organized around a skylighted atrium. Designed in collaboration by William McDonough + Partners, Gensler, and Gap's own design team, the building incorporates a number of environmentally sensitive elements including roofs planted with native grasses, wood veneer harvested from ecologically managed forests, low-toxicity paints and adhesives, and formaldehyde-free particle board.

The building was also designed to be 30 percent more energy efficient than is required by state law. Grass-covered roofs that are thermal buffers, double-paned windows with performance coatings, atria that bring daylight deep into the building, and cool night air flushed through the HVAC system to reduce air conditioning all lessen energy usage. An under-floor plenum supplies air closer to employees than traditional overhead vents and provides space for wiring and cabling, allowing great flexibility in office layouts. Gap anticipates that savings on energy and maintenance will pay for higher first costs within four to six years, faster than the original estimate of eight years. *C.A.P.*

PHOTOGRAPHY © MARK LUTHRINGER

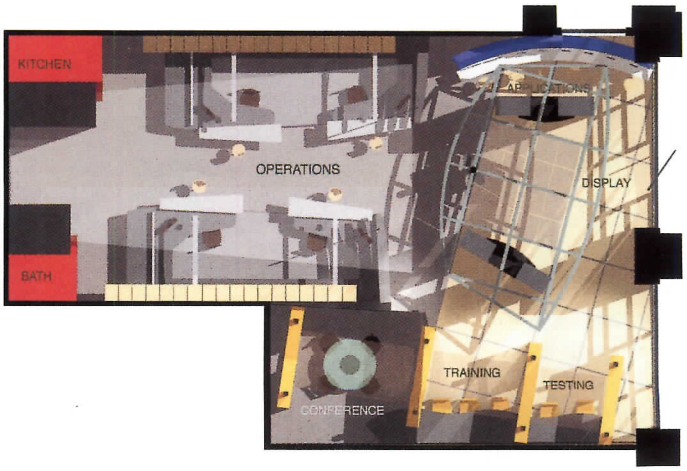
Project: *901 Cherry Office Building, San Bruno, California*
Client: *Gap Inc.*
Building type: *Office building*
Award category: *Private sector, over $25 million*
Key players: *Gap Inc.—Maria Moyer-Angus; William McDonough + Partners (architect)—William McDonough, FAIA, Christopher Hays, AIA, Russell Perry, AIA, Kevin Burke, AIA; Gensler (architect)—M. Arthur Gensler Jr., FAIA, Charlie Kridler, AIA, Kevin Schaeffer, AIA; Swinerton & Walberg (general contractor, building shell and core); Fisher Development (general contractor, interiors)*



GOING RETAIL, FUTURES BY TEMPS USES ARCHITECTURE TO TELL ITS STORY.

Taking an employment agency out of an office setting and bringing it into the world of retail required an entirely new design approach for Futures By Temps. "We wanted to reorient our business," says Steven Ettridge, president and CEO of Futures By Temps & Co. "Instead of waiting for the applicants to come to us, we decided to go to them." The company scouted locations in shopping malls and hired an architect with experience in restaurant and hospitality design. The first fruit of the new approach is a 1,500-square-foot prototype "store" where job applicants are the customers, employers are the suppliers, and employment opportunity is the product.

Because the company finds jobs mostly for computer-savvy college graduates, Adamstein & Demetriou Architects designed the store as a three-dimensional Web site, with high-tech materials, overscaled photographic images, and words floating overhead on angled panels. Following the retail model, the architects made the entry a pivotal point in their design, grabbing people's attention with bold graphics and offering forced perspectives through the entire store. "There's no tangible product, so we had to use architecture to emphasize the message—of opportunity," explains architect Olivia Demetriou. The designers also broke down the space into individual zones, using different colors and materials to give each its own identity. The applications area is designed as a café with blue as the dominant color; the testing and training area is reminiscent of market stalls with curved metal canopies and lots of yellow. *C.A.P.*



Project: *Futures By Temps, Reston, Virginia*
Client: *Futures By Temps & Co.*
Building type: *Retail*
Award category: *Private sector, under $1 million*

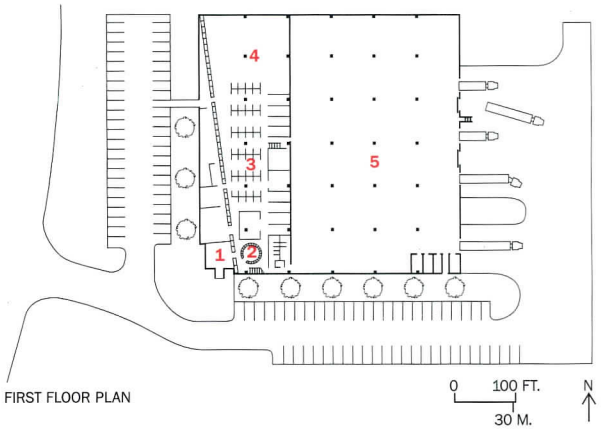
Key players: *Futures By Temps & Co.—Steven Ettridge, president and CEO, Celia Romaine , project manager; Adamstein & Demetriou Architects—Theodore Adamstein, AIA, Olvia Demetriou, AIA; Malin Construction, Inc. (general contractor)*

PHOTOGRAPHY: © THEODORE ADAMSTEIN

A NEW HOME FOR PRAXAIR DISTRIBUTION FITS INSIDE AN OLD WAREHOUSE.

Converting a 58,000-square-foot warehouse into a facility that combines distribution, processing, and office spaces, the project team for the Praxair Distribution Center in Ankeny, Iowa, worked with the building's existing industrial vocabulary to create a workplace with an entirely new character. Instead of fighting the project's very tight construction budget (about $50 per square foot), the architects "used it as a positive force," says Calvin Lewis, FAIA. By exposing the building's structural members and mechanical systems and using industrial materials like perforated metal and corrugated fiberglass, the architects kept costs down while at the same time creating a more daring aesthetic. The most important contributions by the architects, however, came at the beginning of the process, when strategic decisions about future needs were made, says Lewis. For example, by providing space for office growth, the project team saved the company money in the long run.

Since windows couldn't be cut into the warehouse's building shell, the designers brought daylight inside by way of a long skylight slicing through the structure. Underneath the skylight spine is a 28-foot-high metal-stud wall clad with translucent corrugated fiberglass, which spills daylight from one side of the building to the other. *C.A.P.*



Project: *Praxair Distribution Center, Ankeny, Iowa*
Client: *Praxair Distribution*
Building type: *Distribution and processing center*
Award category: *Private sector, under $1 million*
Key players: *Praxair Distribution—Rich Matthes; Herbert Lewis Kruse Blunck Architecture—Calvin Lewis, FAIA, Stephen Knowles, FAIA; Charles Saul Engineering (structural); Stroh Corp. (electrical and mechanical); Neumann Brothers Construction (general contractor)*

1. *Reception*
2. *Conference*
3. *Offices*
4. *Expansion*
5. *Distribution*

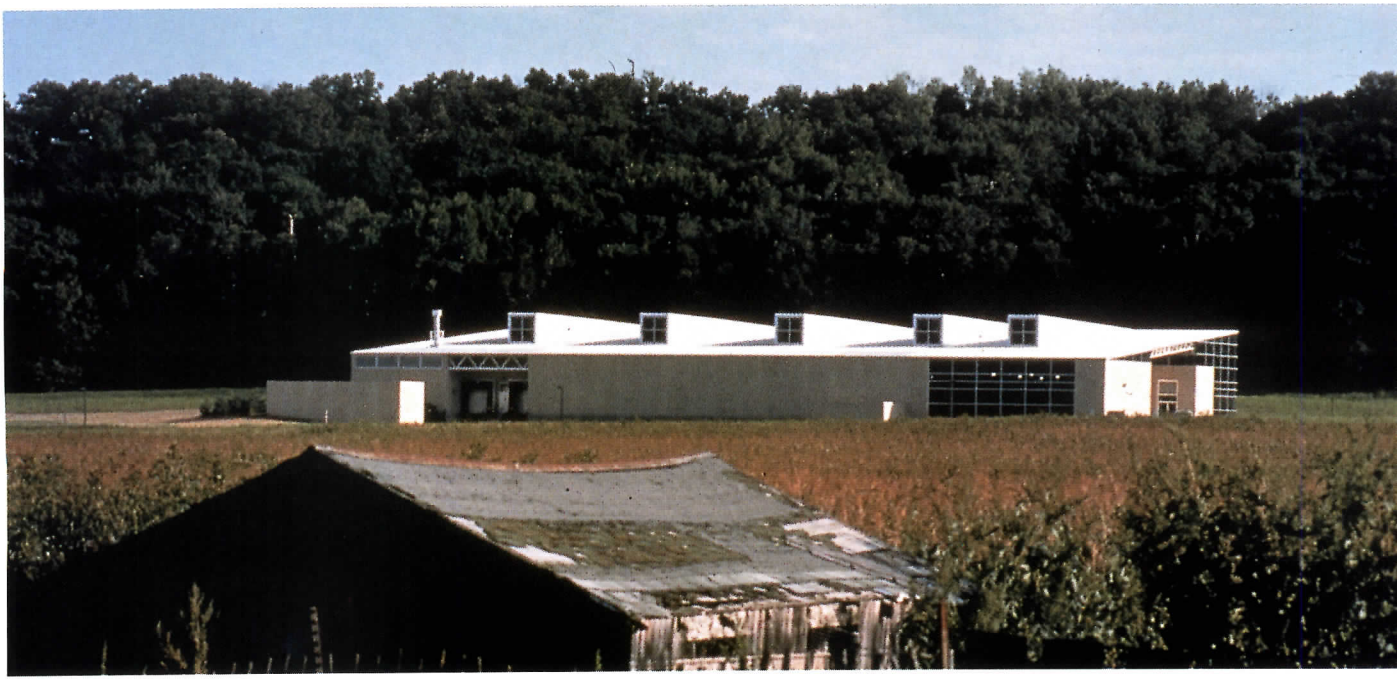
Project: *QMR Plastics Division, River Falls, Wisconsin*
Client: *Quadion Corp.*
Building type: *Manufacturing/office*
Award category: *Private sector, under $25 million*
Key players: *Quadion Corp.—Jim Lande, CEO; James/Snow Architects—Julie Snow, AIA; Coen & Stumpf (landscape architect)*

A FACTORY FOR QMR PLASTICS PUTS WORKERS AND MANAGERS UNDER ONE ROOF.

Conceived as a calling card for the company's entire manufacturing business, this new plastics injection molding plant serves as a showcase of QMR's corporate values—bringing white-collar and blue-collar workers together, establishing an attractive work environment, and manufacturing high-quality products. While QMR wanted its plastics division to have its own identity and home, the facility has also been an effective tool in promoting the company as a whole.

The architecture reinforces the company's values by bringing management, engineering, and production workers under one roof, with only a clear glass wall separating manufacturing from offices. "Visual and physical connections with the people you work with are important here," explains Julie Snow, AIA. The building's 20-foot-high interior space and 90-foot-long clear spans emphasize the sense that "we're all in this together," says Snow. "This isn't a little box for management attached to a big box for workers." The large open space is complemented by a system of under-floor tunnels that provide all power and services and allow great flexibility and efficiency in setting up production operations.

Daylight is another element creating a more productive and desirable place to work. North-facing dormers and a south-facing curtain wall flood the manufacturing floor with daylight. By tipping the steel-trussed roof up toward the view of a wooded ridge to the south, the architects brought even more sunlight into the workspace and established a strong relationship between indoors and out. Much of the 11-acre site has been restored to its native prairie grasses, helping to develop good relations with the community of River Falls. "We set a machine in a garden, with the building as mediator," says Snow. *C.A.P.*



PHOTOGRAPHS: © DON F. WONG (THIS PAGE); FARSHID ASSASSI (OPPOSITE)

THE NY TIMES BREAKS OUT OF THE INDUSTRIAL BOX WITH A NEW PRINTING PLANT.

As it was reinventing its daily newspaper—adding new sections and color—the New York Times also rethought the way it manufactured its product. At the beginning of the design process for an entirely new printing facility, the company brought together key players (architects, engineers, consultants, construction manager, and client representatives) and encouraged everyone to question all aspects of the project. "We wanted to show that architecture makes a difference and that great architecture needn't cost a lot of money," states David Thurm, executive director of project development for the New York Times.

The 515,000-square-foot building near La Guardia Airport in Queens sends a strong message to two important audiences: the public and the company's heavily unionized employees. By breaking down the mass of the building into variously colored blocks housing different parts of the manufacturing process, showcasing printing presses behind a giant window of curtain wall, and wrapping the company's logo around two facades, the architects turned an industrial building into an advertisement. And by bringing daylight inside and using raised walkways with views of the presses (instead of dark corridors), the designers created an attractive place to work. Staying under a tight $350 million budget, the architects gave inexpensive industrial materials colorful twists by using them in unconventional ways. As design partner Richard Olcott explains, "They wanted creative solutions that were really cheap, to show you can do a lot with a little." *C.A.P.*

Project: *The New York Times Printing Plant, College Point, New York*
Client: *The New York Times*
Building type: *Printing plant*
Award category: *Private sector, more than $25 million*
Key players: *The New York Times—David Thurm; Polshek and Partners Architects (architect)—Richard Olcott, FAIA; Parsons Main (architect of record)—Nicholas Mariani; di Domenico + Partners (landscape architect); Lehrer McGovern Bovis (general contractor)*

Project: *McNitt Building, Oklahoma City, Oklahoma*
Client: *K. J. McNitt Construction Company*
Building type: *Office building*
Award category: *Private sector, under $1 million*
Key players: *K. J. McNitt Construction (client and contractor); Elliott + Associates Architects—Rand Elliott, FAIA*

DESIGN AS MARKETING: THE MCNITT BUILDING SHOWS ARCHITECTURE CAN SELL.

With the McNitt Construction Company building, what you see is what you'll get, if you hire the company: tilt-up concrete-panel construction. "The building is so direct—it tells the story of the construction process—that it has captured a lot of attention," says architect Rand Elliott. Using concrete panels with different finishes and exposing their joints, bracing, and thinness, Elliott turned the building into a demonstration of the expressive possibilities of a mundane construction method. As a result, the building has become a company signature, a valuable marketing tool, says the architect. The client has already received several new projects, thanks in part to the impact of the building.

The efficiency of the structural concrete panels made possible the addition of a second-level loft, which has provided flexible space that the company can use as storage or as offices for its expanding business. An open area in the middle of the offices has enhanced the company's team approach to work, says the client, and has encouraged greater communication among employees.

Working within a budget of just $50 per square foot, the architect left exposed roof joists and decks and used construction materials as expressive elements in interior spaces. One of the lessons that other clients can learn from this project, says Elliott, is to "see architecture as an investment and not just an expense." *C.A.P.*

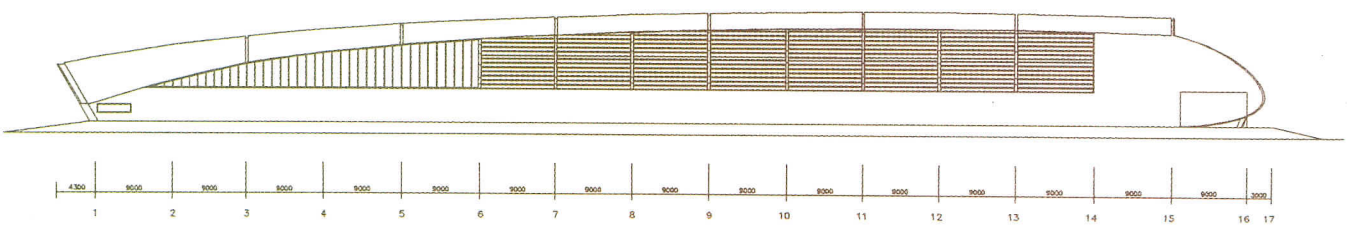
"It's very soft and could be sort of an accident in the flat landscape of Holland. Then you come close and it has detailing and pieces that make it this machine. It manages to bridge the organic and the technological. And that is really special: not many projects do both." *Juror Bernardo Fort-Brescia*

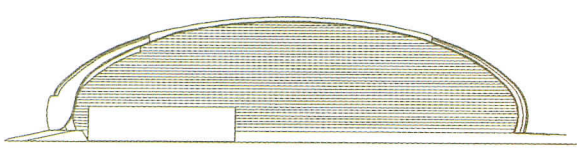
A DUTCH WASTE TRANSFER STATION USES ARCHITECTURE TO BE A GOOD NEIGHBOR.

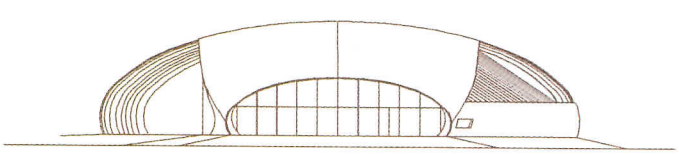
Waste transfer stations are rarely places that inspire much pride. But the new facility in Zenderen, the Netherlands, makes a powerful statement that architecture can help a needed but unwanted project make peace with its neighbors. The graceful curves of the 469-foot-long structure visually reduce its bulk and give it a friendly appearance. And because the building was designed to be converted into a sports or cultural facility when its adjacent landfill reaches capacity in 15 years, even its function will eventually become more benign.

The building serves as a place where garbage is deposited by trucks, sorted into several different categories, and then transferred to a landfill. Water and gasses from the landfill are piped back to the building, where they are treated in a plant in the rear of the facility. "The building rests on the landscape like a large organism," says architect Kas Oosterhuis. Indeed, the building has a "head" where offices and computers are located, a "trunk" for garbage sorting, and a "tail" for water and gas treatment. On its public side, facing the road, the transfer station screens views of its operations and offers few clues to its function. On the opposite side, the building is open so trucks can shuttle back and forth from the sorting hall to the landfill.

The steel-frame building is clad in aluminum and has a large, irregularly shaped skylight on one side of the roof which brings daylight into the interior. Curving in two directions, the building has sections of varying dimensions. But computerized engineering and fabrication made it no more expensive to build such a design than one with standard dimensions, notes the architect. When the landfill is topped off in the future, the open side of the transfer station can be enclosed and the large column-free sorting space easily converted to another use. *C.A.P.*

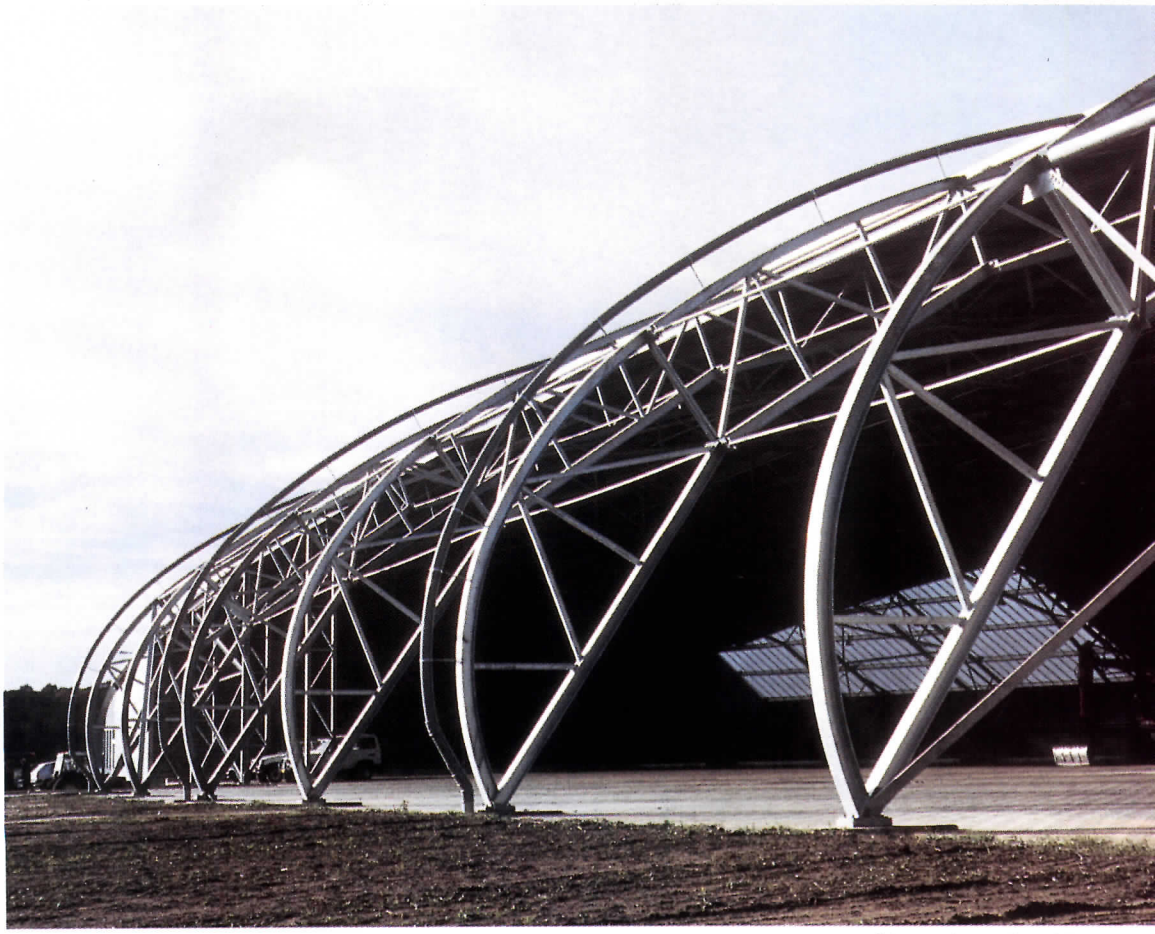






PHOTOGRAPHY: © PHOTO HOLLAND (THIS PAGE TOP); REGIO TWENTE (THIS PAGE MIDDLE); HOTIC PICTURES (OPPOSITE)

Project: *Waste Transfer Station, Zenderen, the Netherlands*
Client: *Regio Twente*
Building type: *Waste-treatment facility*
Award category: *Public sector, under $5 million*
Key players: *Regio Twente—Cep Van Der Steen; Oosterhuis Associates (architect)—Kas Oosterhuis; BDG Raadgevend Ingenieurs (engineer); Heijmans Industries Steel (steel contractor); Nelissen Van Egteren Bouw (general contractor)*



No one ever said, "Today's another opportunity to be average."

But reaching that next rung on the ladder becomes a little more challenging when the rung isn't there.

Herman Miller congratulates those who build the ladders. The innovators. The risk takers. The dreamers. The problem solvers.

We salute the winners of this year's Business Week/Architectural Record Awards. And all those who apply their creativity to find answers to real world questions.

We stand in awe of the heights you've climbed.

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LISTENING TO: ENGINEERS

IN THEIR STRUGGLE FOR RESPECT, THEY ARE OFTEN PITTED AGAINST OR ALLIED WITH ARCHITECTS.

by Barbara A. Nadel, AIA

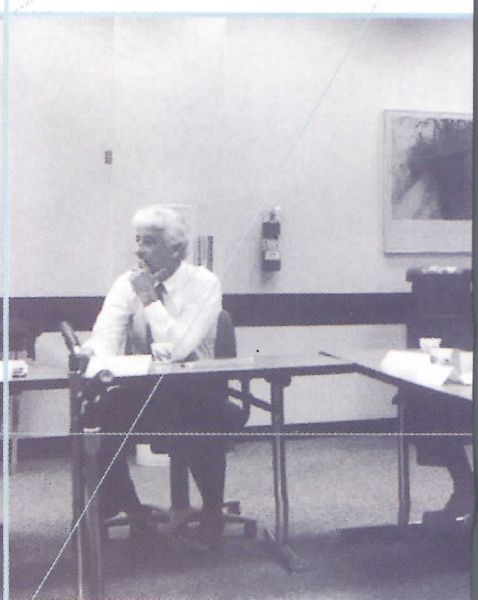
This summer, RECORD's editor in chief, Robert Ivy, FAIA, convened a panel of 10 prominent engineers to explore how market-driven changes are affecting architecture and engineering. When the three-hour session was over, the participants had shed light, heat, and form on everything from contractual relationships to mutual respect. While the fundamental differences in the way architects and engineers view their work are explicit, it is also clear that the two professions must focus on common goals—if only to protect themselves from those seeking to usurp project management responsibilities.

The engineering firms represented are large, but the discussions covered issues equally relevant to smaller companies. Mechanical/electrical engineers included John Hennessy, PE, chairman and CEO of Syska & Hennessy, a 475-person New York City mechanical/electrical engineering firm with nine offices; George P. Karidis, PE, vice president of SHG Inc. in Detroit, a 340-person architectural/engineering firm with eight American and two Asian offices; Norman D. Kurtz, PE, principal, Flack & Kurtz Consulting Engineers, a 275-person New York City mechanical/electrical firm with two American and three international offices; and Marvin A. Mass, PE, a partner at Cosentini Associates LLP Consulting Engineers in New York City, a 400-person firm with five American offices and 20 European affiliates.

Structural engineers included Kimball J. Beasley, PE, a senior consultant with Wiss, Janney, Elstner Associates Inc. in Princeton, New Jersey, a 13-office, 250-person firm specializing in investigative engineering and remedial design; Jon D. Magnusson, PE, chairman and CEO of Skilling Ward Magnusson Barkshire Consulting Structural and Civil Engineers, a 120-person Seattle firm; Frouma Narov, PE, principal, Urbitran Associates, a 165-person New York City structural, civil, and transportation engineering firm with offices in the United States and Israel; Guy J. P. Nordenson, principal, Guy Nordenson and Associates, a New York City structural engineering firm, and associate professor of the School of Architecture at Princeton University; Leslie E. Robertson, PE, director of design for Leslie E. Robertson Associates and Consulting Structural Engineers, a 50-person New York City firm; and Richard L. Tomasetti, PE, principal, Thornton-Tomasetti Engineers, a 350-person New York City firm with six American offices.

Barbara A. Nadel, AIA, is principal of Barbara Nadel Architect in New York City, specializing in health, criminal justice, and institutional planning and design.

PHOTOGRAPHY: © DOROTHY ALEXANDER



By now, architects and engineers recognize that good personal and business relationships among all construction team members are the foundation of a successful project. But creating that relationship—through contractual arrangements, team leadership, communication, and mutual respect—is not so easy. That's especially true in light of the increasing emphasis on technology, greater competition, and new business relationships that are evolving as a result of current market conditions. How will design professionals work together in the future? What changes do engineers seek from architects? Are design professionals maximizing opportunities for collaboration?

Forty years ago, architects and owners got together and hired the engineers once the design process was under way. But over the past two decades, as various contractual arrangements, including design-build, have developed, the leadership scenario has changed. Engineers now have an even greater stake in the success, profitability, and risk of a project. As a result, engineers also want to be called in at the start of the design process so they can understand and contribute to project goals and budgets.

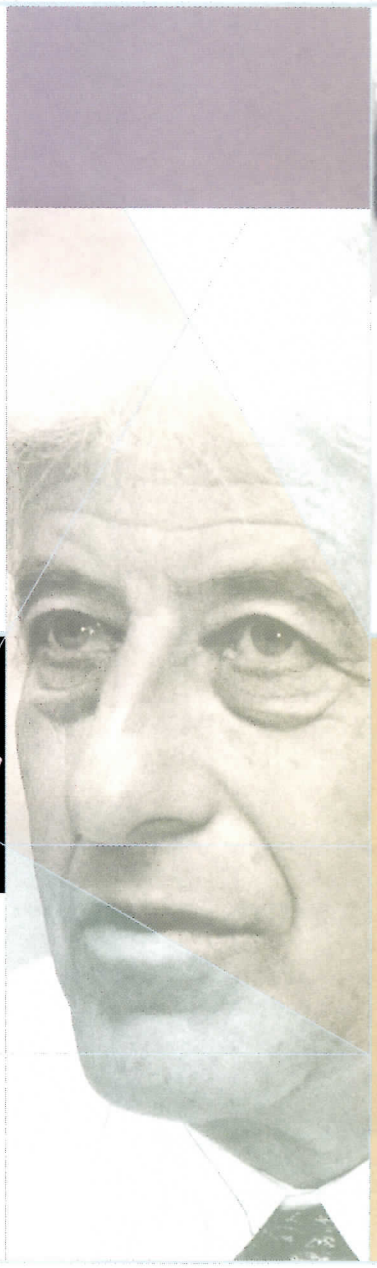
Too often engineers are treated as a commodity, said Norman D. Kurtz. It is up to architects to encourage owners and project managers to base their decision of which engineers to hire for a project on professional abilities and the quality of the relationship, rather than on the lowest fee. "We should be collaborators helping architects, and ultimately owners, achieve their goals professionally and commercially, not subcontractors to be bought and sold for convenience," he said. Strong words, but other panelists agreed that these days price, more than any other ingredient, seems to determine who gets hired.

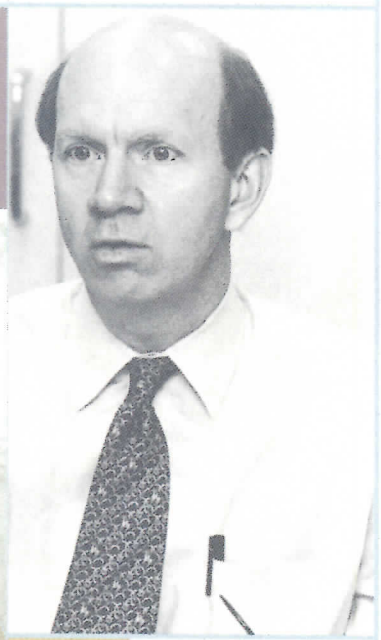
Part of the problem may be that engineers, unlike architects, have no single trade organization looking out for their interests. Engineering professional societies are numerous and fragmented, representing a multitude of disciplines and special interests. This lack of a single, strong voice has not helped those in the building trades to achieve greater respect from the public and other professionals.

"We should stop talking to ourselves and start communicating with architects, lobbying for the same things [they get], and addressing the public about our skills. That's the key to getting ourselves recognized and making a difference" in the way we are perceived, said Frouma Narov.

Engineers are not perceived as important people in America, though they are highly regarded in other countries, Marvin A. Mass said.

DEVELOPING A GOOD TEAM RELATIONSHIP IS THE BASIS OF A SUCCESSFUL PROJECT.





Left to right: Frouma Narov, Guy J. P. Nordenson, Jon D. Magnusson, Marvin A. Mass, John Hennessy, Richard L. Tomasetti, Leslie E. Robertson, Frouma Narov, George P. Karidis, Norman D. Kurtz, Robert Ivy.

Opposite: Kimball J. Beasley (left); Guy J. P. Nordenson, author Barbara A. Nadel, and Robert Ivy.

"Most of us wouldn't dream of hiring the people the managers bring to meetings, yet it is they who orchestrate the process," Kurtz said. "First they separate the team, interview the architects, beat them up on fees, and then do the same to the engineers. We all march to it. These people charge the owner a substantial fee and justify it by lowering our fees. Projects suffer because the project manager becomes the intermediary between the client and the design professionals, filtering advice, communication, and technical knowledge. These people are unnecessary and don't help the process."

How did this change in leadership happen? According to Narov, architects and engineers are both at fault. "We should have all been more businesslike," she said. "During the 1970s, when construction management emerged, contractors jumped in and architects and engineers relinquished that part of the business. We're doing the same thing now with design-build."

Increasingly, George P. Karidis said, "consultants like Arthur Andersen & Company want to manage all client needs, treating architecture and engineering as sidelines. We bring leadership and synergy to projects," but have not been proactive about promoting these skills.

"The pride and satisfaction of doing a terrific job overshadows everything else for the engineer; that's part of our problem. That's why we take second place and why the Arthur Andersens become the consultants to owners," Narov said. "These people have no technical ability, no knowledge of owner needs, but they know the importance of taking a leadership role. They go out and get an engineer—who works in the back room—while they have the glory and the limelight," Narov said.

Added Tomasetti: "We can blame the attorneys," who may have advised design professionals to go along with the owner's demands so they could keep the work. "But we're the ones who listened to them."

James E. Frankel, an attorney for several of the panelists and chairman of the Construction Industry Practice Group at the law firm of Baer Marks & Upham, was interviewed on this subject after the panel discussion. He agreed that members of the design community are not paid properly for the services they provide, but he pins blame on the shifting demands of the market. "In a competitive market, roles change and fees are whittled down. The design community's abdication of leadership roles corresponds to owner demands for reduced design fees. As a result, the design community reduced its scope of work," Frankel said.

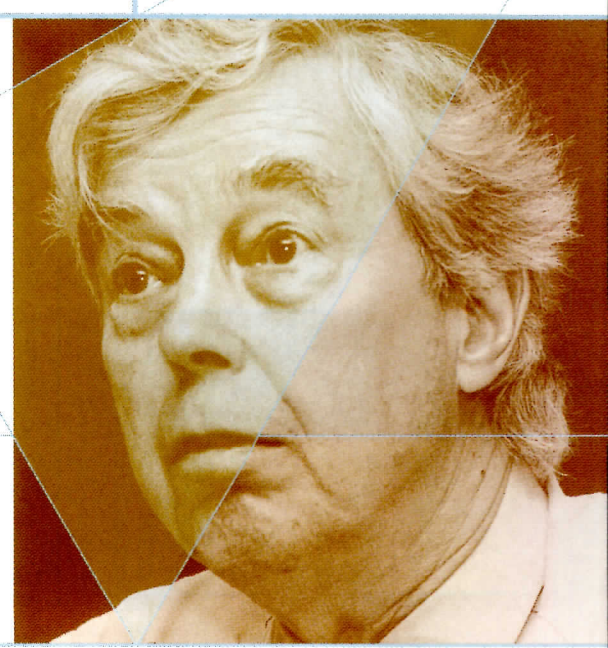
Last May, the *Economist* reported in its piece "Engineering: In Need of Heroes" that the public cannot name any famous engineers, while many architects, such as Frank Lloyd Wright and Richard Meier, are household names.

"We're intimidating, mysterious to architects, and definitely not kindred spirits. We don't have any stature in the architectural community," Mass added. That is particularly true of mechanical engineers, who have less stature than structural engineers, whose work is more comprehensible to architects and the public in general.

However, as Richard L. Tomasetti pointed out, "Respect cannot be demanded, but must be commanded and earned. If engineers are not getting respect, we must ask ourselves why."

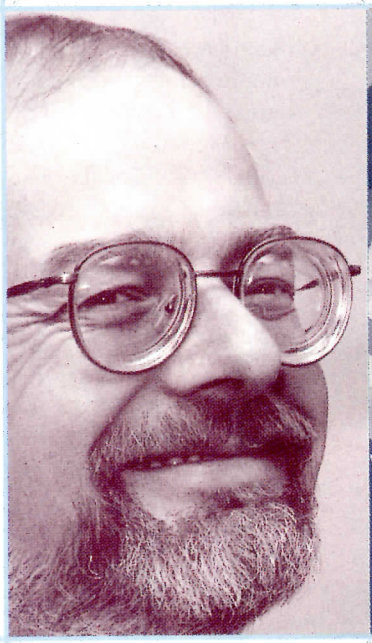
New relationships

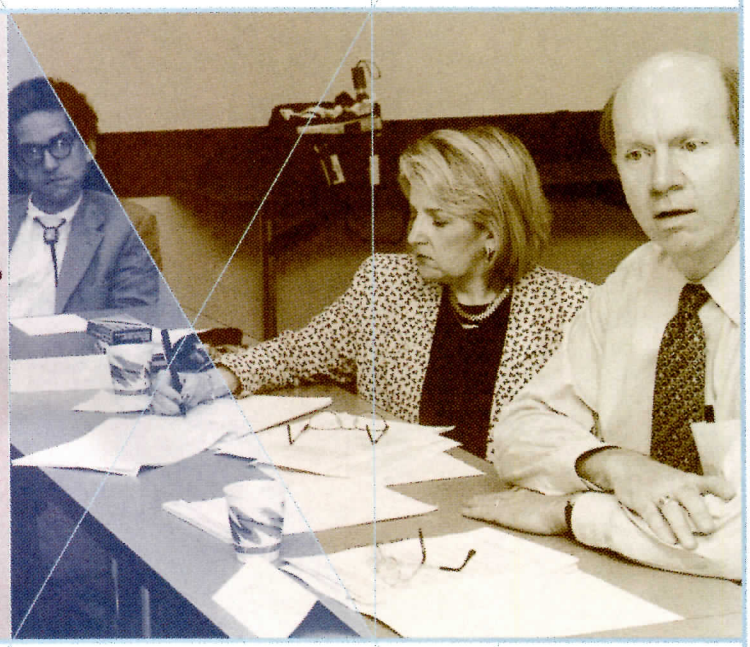
Perhaps the biggest change in working relationships within the design and construction field has been the emergence of the project manager as team leader, a role held in the past by architects. The resulting erosion of the architect's role has had repercussions for engineers.



ENGINEERS AND ARCHITECTS ARE FINDING WAYS TO EXPAND THEIR ROLE IN CONSTRUCTION.

A shifting market also means new opportunities. Some engineers and architects are now finding ways to expand their role in the built environment by acting as project managers or owner's representatives, Frankel added. It's not a job for everyone, however. Added responsibilities mean greater compensation, but they also mean greater risk. "Theoretically, serving as project manager means you have greater control over the project. But that's questionable when parts of the team are located across town or in another building. In other words, you can't control every person involved in the project," he said.





Design-build

The second major change in the way business is done has been the advent of design-build, which is the fastest-growing method of project delivery, according to the Building Futures Council. Though engineers and architects are becoming increasingly savvy in these relationships, design-build has greatly altered how leadership roles are structured. "Design-build doesn't mean the designer is out of the picture," Narov contended, "but there should be a way for the designer to assume a place in the process."

The panelists discussed numerous design-build arrangements. One common approach is when a team of architects, engineers, and contractors is assembled, perhaps for a competition, and bids on a project. Another approach is when an owner selects an A/E team, which, in turn, develops a building program, preliminary design, and rough cost estimate. This package may go to the selected design-builder or out for competitive bidding among several design-build teams. Generally the design-builder will also have its own A/E team, whether in-house or as consultants by contractual arrangement. Owners may also want their original A/E team to be available to ensure that the intent of the initial design concept is carried out.

As traditional contracting methods change, engineers want a bigger share of the profits, a more prominent role, and greater responsibility for the overall project. Narov claimed that her most successful design-build projects have been those in which she invested money and became personally involved. She urged architects and engineers to take more risks and demand project equity. Sharing in the profits of an ongoing commercial project could include management and leasing roles, since developers routinely pay leasing agents a percentage of money they bring in.

In the design-build process, the biggest risk comes at the front of the project, when the teams are assembled and pricing is assessed, based on the design. "How often do we get a fee for our design work? We don't get a piece of the action even when we collaborate with the contractor," Narov said. "We want to share in the profits—more than just 25 cents per square foot for the design."

Charging hourly fees instead of getting paid on the basis of value added to a project limits compensation. "Profitable law firms don't succeed by charging $500 an hour but by taking a percentage of the deal, regardless of how many hours they put in," John Hennessy said.

Another alternative is to have design team members receive a share of the profits once the building is sold, Nordenson suggested. If an owner sells a commercial building for twice the construction cost three years after it is completed, for instance, designers should get a proportionate percentage of the profits. This scenario could occur only if everyone involved agreed in advance, Hennessy said. But the prospect of greater profits would go a long way in motivating the individuals involved in the project.

Contractual relationships

Changing leadership roles have an impact on contractual relationships as well. "Engineers must know who holds the contract," Narov said, referring to the often confusing contractual relationships among members of the design and construction team. The engineer may be working for the owner, the architect, the construction manager, a design-build entity, or other individuals or companies. That relationship drives how work is done and who leads the project. And leadership styles must fit the needs of the project. For example, a laboratory may need more coordination than projects where client management takes precedence.

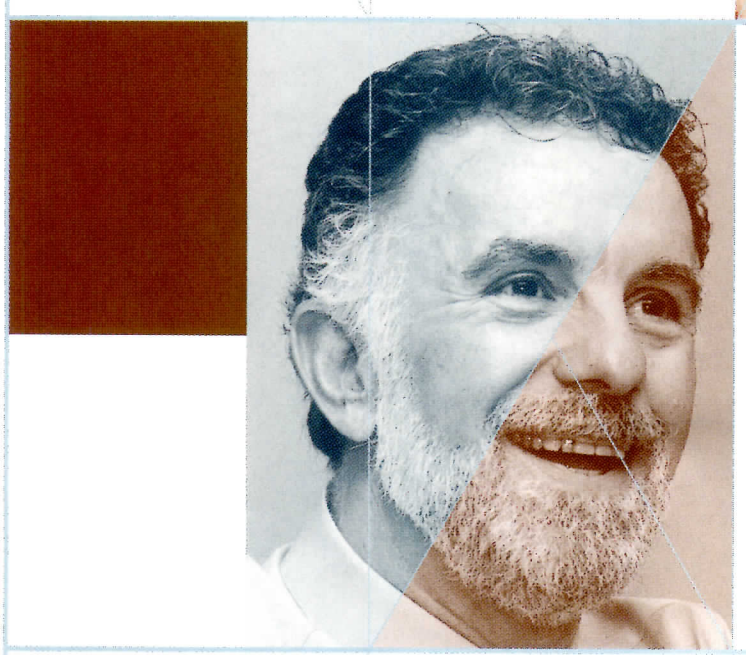
On large, sophisticated projects, consultants often cannot do preliminary work because funding is not available until the design-build contract is signed. That slows work progress. Public projects pose more difficulties, because, panelists agreed, most federal agencies prefer A/E firms over independent consultants. Agencies want a single point of contact and a successful project-delivery track record. "People don't build buildings to keep us employed. They want a less cumbersome process," Hennessy said.

The contractual relationship affects communication channels as

well. Forensic specialist Kimball J. Beasley troubleshoots conflicts resulting from poor communication among owners, engineers, and architects. "Owners don't understand complex technology—cladding and wall systems, waterproofing techniques, routine maintenance needs," he said. "Lack of information and overlapping responsibilities contribute to problems." The result is uninformed clients and a frustrated design team.

By comparison, Jon D. Magnusson cited a project in which the owner contracted directly with him, the architect, and other major consulting entities as full partners. As a result, Magnusson was at the table when key decisions were made about whether to use concrete or steel, for example, or what type of roof would hold up best. As a result, decisions were based on project needs, not just design goals or money concerns.

Engineers have another practical reason for wanting to contract directly with owners: they get paid faster. "Architects think of the engineers as a bank: they'll hold our money for 30 to 90 days. Mechanical engineers are the lowest guys on the food chain," Kurtz said.



Hennessy agreed: "I'd love to have contracts with the owner. That way, I avoid problems if the owner is mad at the architect for whatever reason. I've seen the architect simply add three floors to a project without asking for any additional fee just to smooth over the relationship." Engineers, understandably, don't want to pay for the blunders of other members of a team. "Clients have become pretty savvy," he added. "All they have to do is yell at the architect and they get something free," though often at the expense of others on the project.

Business management

Despite the strong economy, bigger workloads have not necessarily translated to higher fees and greater profits. Salaries are rising fast, as are expenditures, particularly on computer technology. The disparity of low fees in an active marketplace is even more pronounced for public sector clients, especially those relying on fee schedules developed during the 1980s, when work was scarce and clients negotiated fees below published schedules.

Computer technology is also affecting how engineering businesses are managed. Electronic capabilities are creating greater expectations among clients, requiring architects and engineers to produce more detailed drawings than ever before and to be more thorough. Schematics contain much more analysis than they did 20 years ago, panelists agreed.

However, communication is much improved among all team members. "We E-mail drawings to Shanghai, and our answer is there the next morning," Kurtz added. But the price, in terms of investment in workstations, software, and field communication, is substantial. Faster output on tight deadlines may meet client expectations, but hastily prepared documents and specifications often miss critical details, Beasley observed. Employees no longer have time to sit, hold a pencil over a document and think. "Design work requires time, and that's being compressed," he said.

Lawsuits occur as a result of missing or improperly detailed connections, incorrect product specifications, and a lack of familiarity with project specifications—all because work is being done too quickly. Complex, computer-generated documents can confuse contractors, causing more problems. "There's no time to think," Kurtz lamented. "You get the drawings, and 24 hours later they want the answer."

Going global

Almost all of the panelists have maintained some international presence for the past 20 years. Client globalization—through corporate mergers, consolidations, and business expansion—has resulted in more international work, even for mid-sized firms, Karidis noted. For example, one of his firm's domestic clients is Chrysler, which is now German-based

ELECTRONIC TECHNOLOGY HAS IMPROVED COMMUNICATION AMONG PROJECT TEAM MEMBERS.

Daimler-Chrysler. Servicing existing clients with expanding domestic and international needs prompted the Smith Group (parent company of Karidis's SHG) to establish offices in Malaysia and Manila.

"The boom came when the American market contracted between 1991 and 1992," Kurtz said. "The 'rock star' architects and engineers parachuted into Asia for the same reason: we knew how to do high-rise buildings and that's what the Asians wanted [before the economic crisis]. Since then, international work has increased all over."

Some of the panelists fear that American engineers are making themselves obsolete by sharing their expertise with other countries. "We've taught engineers in Europe, Japan, and Jakarta and now they do their projects themselves, without us," Mass said. However, Asians and others have much to learn from American management and communication systems, he added.

A/E firms vs. engineering consultants

What are the benefits of working with multidisciplinary engineers in one shop versus an A/E team in a single office? Karidis, the only engineer representing an A/E firm, said that clients seek synergy in consulting teams. Team organization rewards and shapes behavior. "If you have common interests without competing financial obligations on the same team, you're aligned," he explained. Communication is the main advantage because team members already know each other. "Engineers can study fenestration, overhangs, and building massing while architects can work with engineering issues that might otherwise get dropped if they were just an appliqué to the overall design. Without synergy, design decisions miss important technical issues."

Multidisciplinary firms rarely produce design excellence within all divisions, prompting savvy owners to "cherry-pick" the strongest departments from among several engineering firms for a project. Excellence is not consistently found in one firm because people who excel at their trade often leave to start their own shops and be their own boss, Hennessy said. "Architects and engineers are fiercely independent. Finding design excellence—in architectural and all engineering disciplines—in one firm is unimaginable."

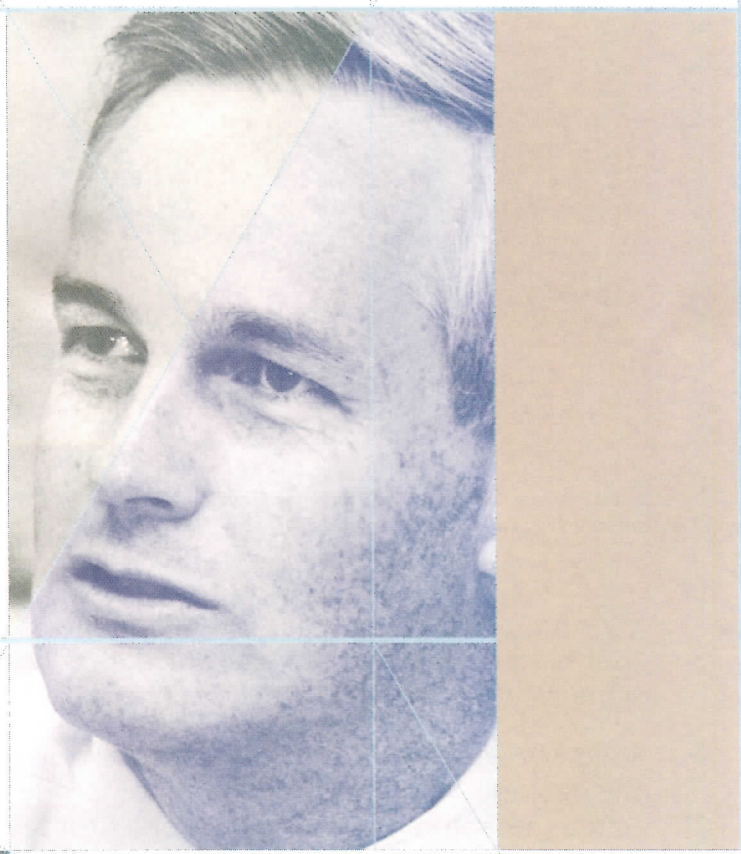
Yet A/E firms are not precluded from hiring top talent and offering excellence in different areas. "A/Es are well suited for large, complex projects requiring good coordination, such as research labs, where integration is the heart of the problem," Karidis emphasized. Decisions to hire an A/E firm, rather than several consultants, often depend on the project, the region, and the client.

What's ahead

Engineers and architects face important technology issues in the next decade. Indoor air quality, which is affected by everything from exterior wall systems to finish materials, is a growing concern. Seismic and wind design technology will continue to be an issue, as will energy conservation and sustainability. More research in areas of mechanical engineering is needed, Mass said. "Cooling towers are the same as they were 50 years ago," he explained. Panelists agreed that there is too little research and innovation.

On the business front, compatible software platforms facilitating greater communication and coordinated drawings would benefit architects and engineers. Design-build will continue to grow and be refined, though many of these relationships are likely to be defined in court rather than in the field.

But most important, architects and engineers must remain united against external pressures applied to the design field. "We must look to each other for broad design and business solutions, rather than limiting our relationship to how buildings work," Robertson said. Narov agreed and urged architects and engineers to become politically active. "We can accomplish more by working together, identifying causes and candidates that will give us a better profession and a better quality of life." ■



Jon Magnusson (above) said engineers are motivated to do better work when architects show an interest in technology and provide drawings with technical details.

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CIRCLE 57 ON INQUIRY CARD

The Debis Tower's profile was made as an act of pulling apart. It is an assemblage in which each element—stair tower (opposite), elevator core, office space—is separately articulated.

CRITICISM A striking presence on the Berlin skyline, the DEBIS TOWER, by the Renzo Piano Building Workshop, revives the skyscraper.

by James S. Russell, AIA

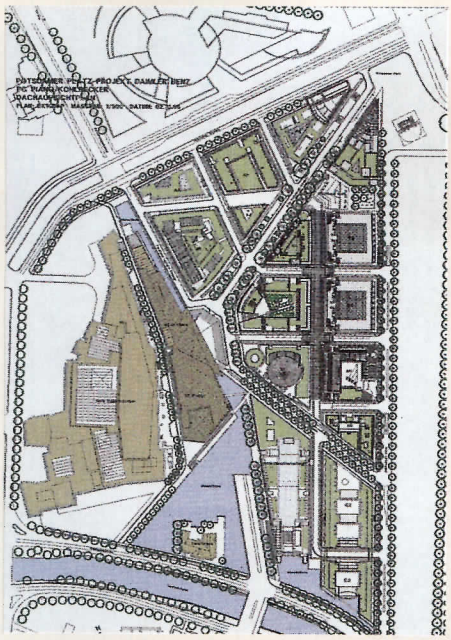
The extended hangover of commercial overbuilding in the United States and the implosion of Asia's building boom might suggest that there's not much reason to build tall office buildings anymore. But a trip to Berlin can be bracing. Take the U-Bahn to the Gleisdreieck stop, then stroll west along the Reichpietschufer, which follows one of the city's canals. As you round a curve, a crystalline sliver, some 20 stories high, appears with a delicate zigzag ascending it. This proves to be an exit-stair enclosure at the southernmost extremity of Renzo Piano's Debis Tower, a landmark within the Potsdamer Platz redevelopment, one of the largest commercial-building projects recently undertaken in the world.

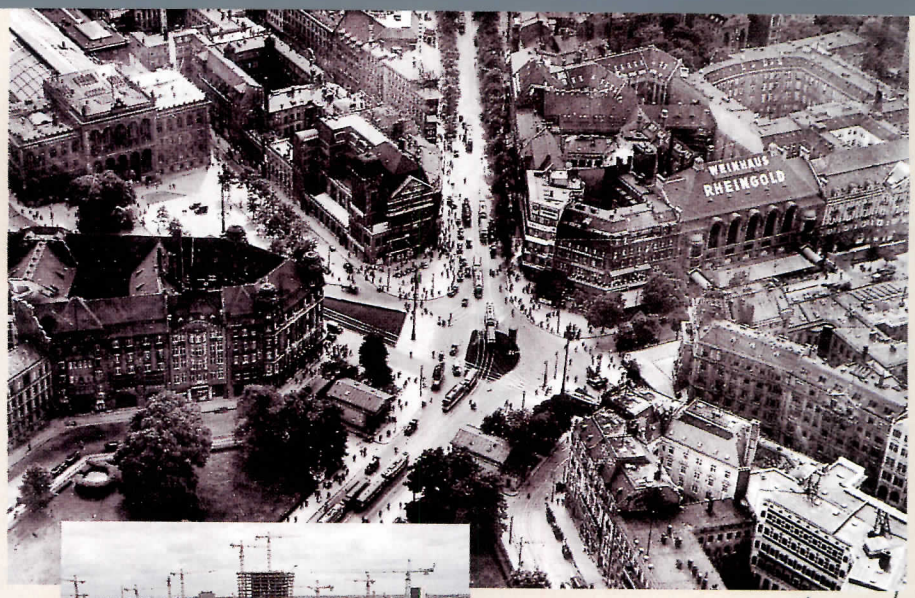
Translating the mundane need for egress into an object of such athletic elegance is just one way in which the new Debis Tower transforms the office-building type. Debis looks not like one tower but several. The architect has carved the typical office-building box into a grouping of bundled slabs, alternating sheer glass elevations with ones clad in ocher terra-cotta panels and rods.

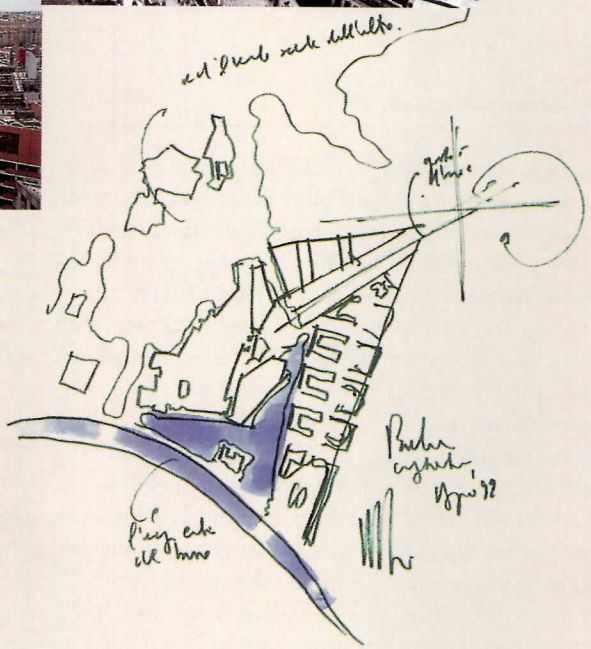
Piano's accomplishment here lies not only in the creation of an urbanistically sophisticated, environmentally progressive, and technologically advanced workplace. He and his firm, the Renzo Piano Building Workshop, which is based in Genoa, Italy, and has a satellite in Paris, may have single-handedly recaptured the long-lost romance of the skyscraper.

Such an outcome could not have occurred without an extraordinarily committed client and a well-considered site master plan, also designed by the Piano office. But it is also the progeny of monumental political change. Flash back to November 1989, when the Berlin Wall came crashing down. Not long after, East and West Germany were united. In the ensuing jubilation, Berlin was seen as the gateway to the entire former Eastern bloc, a half-continent expected to grow rapidly as capital flowed in to bring East into economic parity with West. A 728,000-square-foot, mostly empty chunk of former barbed-wire-entangled no-man's-land went on the block. The wedge-shaped acreage was tanta-

Project: *Debis Tower, Berlin, Germany*
Architect: *Renzo Piano Building Workshop—Renzo Piano, B. Plattner, C. Kohlbecker, R. Baumgarten, P. Charles, A. Chaaya, G. Ducci, J. Ruoff, J. Moolhuijzen, F. Pagliani, J. B. Mothes, S. Baggs, M. van der Staay, N. Mecattaf, L. Penission, C. Hight, M. Kramer, D. Putz, G. Oug, A. Giordano, S. Ishida, G. G. Bianchi, O. De Nooyer, E. Piano, E. Baglietto, J. Fujita, D. Guerrisi, R. Sala, S. Schaefer, K. Shannon, R. V. Truffelli, F. Wenz, H. Yamaguchi, J. Barnbrook, H. Falk, A. Hocher, R. Jatzke (design team)*
Engineer: *Boll & Partners, IBF (structural); Ove Arup & Partners (structural, mechanical, electrical)*
Consultants: *Drees & Sommer (environmental site management)*







City within a city Most of the Daimler-Benz Potsdamer Platz development is just now opening. It will test whether Berlin's commitment to a limited reinvention of its prewar tradition of flush-to-the-street buildings surrounding rich networks of leafy internal courtyards (original Potsdamer Platz, top right) can be translated to 21st-century conditions. Piano's master plan (early sketch right, plan above) hopes to draw the crowds the old Potsdamer Platz did by deploying numerous attractions throughout the complex, including an IMAX theater, a covered shopping street, and a piazza (named for Marlene Dietrich) embraced by a musical theater complex and a casino. As it emerges from scaffolding and dust, there is no doubt that this is a contemporary place. From the south, the Debis Tower is like a prow for the entire ensemble, slicing through a network of reflecting pools that Piano extended from the adjacent canal. *J.S.R.*

lizingly located, hugging what once had been Potsdamer Platz, one of Berlin's liveliest intersections before World War II. Daimler-Benz, parent of the famous Stuttgart-based carmaker Mercedes-Benz, purchased the land. The chance to rebuild one of the key sites in the city was close to the heart of Edzard Reuter, head of the company, who was the son of the city's first mayor after the war.

Before the site could be developed, Berlin's Building Senate held an urban design competition for it, which was won by the Berlin architects Hilmer and Sattler. They redrew the axial boulevards that had once met at Potsdamer Platz, divided the site into parcels, and determined a street-wall height of 35 meters (about 115 feet) pursuant to the "critical reconstruction" tenets that have guided the reuniting of Berlin. The idea was that the new Berlin would have an urbanistic continuity with what remained of the prewar, pre-Wall city.

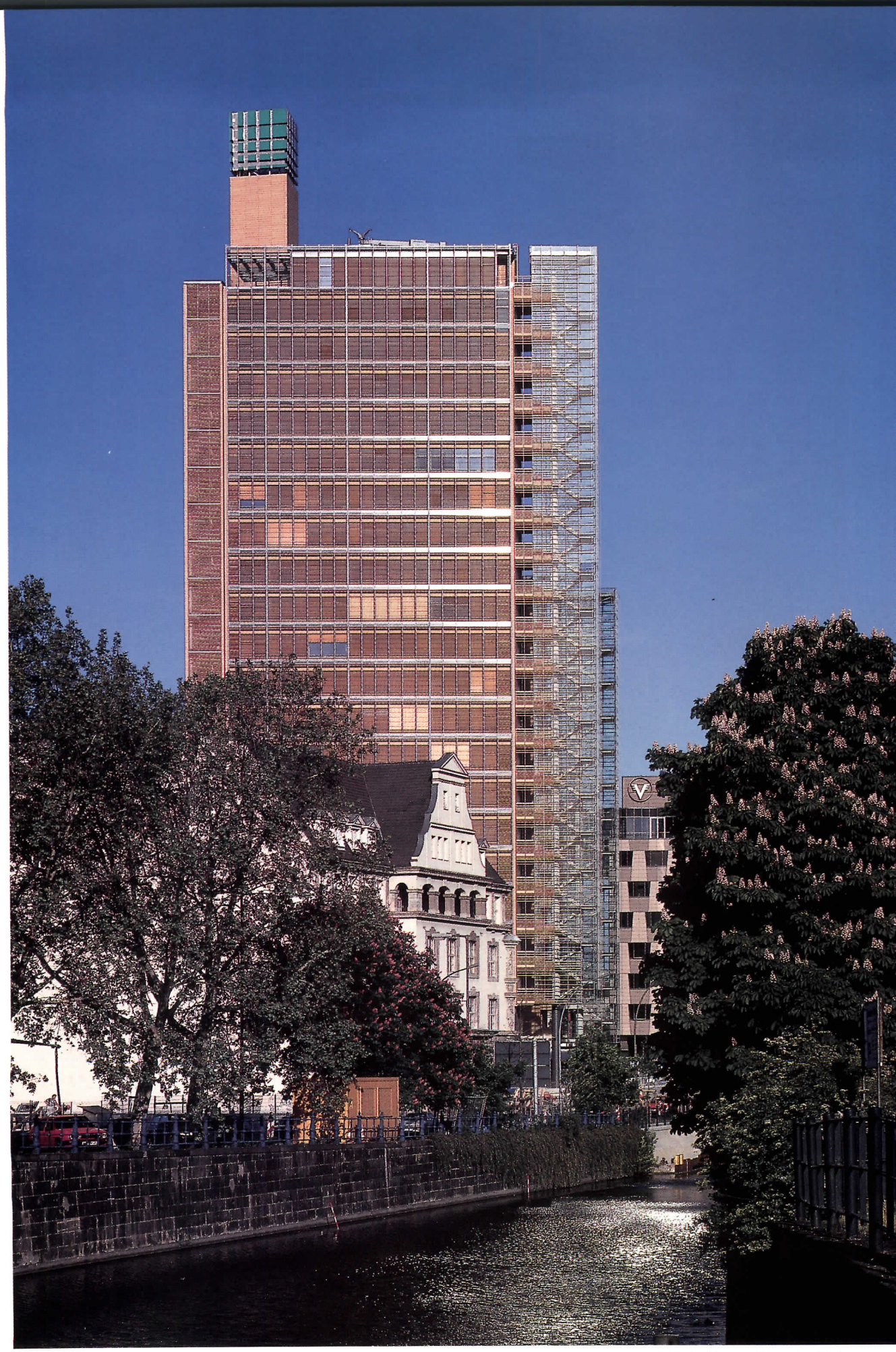
Daimler-Benz then held a competition for an architect to take the scheme to a more detailed level, which Piano's office won with Christoph Kohlbecker. At the unveiling of the scheme, Piano said that it "draws out the past for its foundations, while keeping its modernity through discipline in the use of materials and of all the technology at our disposal." An international roster of architects was hired to design buildings for all 19 parcels, including Jose Rafael Moneo, Richard Rogers, Arata Isozaki, Lauber + Wöhr, and Hans Kollhoff. Some of the key parcels were assigned to Piano, including the largest and southernmost, on which grew the tower for Debis, a Daimler-Benz subsidiary created in 1990 to handle real estate development and management, financial services, insurance, information technology, telecommunications, and media services.

Out of this plan came a project that was as much a symbol as a building. It was an emblem of Daimler-Benz's commitment to a united Germany and a rebuilt Berlin. Under such circumstances, no bland, American-style developer's hulk would do. But Piano's own master plan did not make designing the building too easy. The parcel is a long rectangle, with its northwestern corner stretched into a wedge. Its planned density would have been high for Berlin, but floor-area limitations meant that the envisioned tower—a kind of exclamation point for the whole development—could not be bulky.

REBUILDING ONE OF THE KEY SITES IN THE CITY WAS A PERSONAL GOAL OF DAIMLER-BENZ'S LEADER.

Reconciling the massing of the 482,000-square- *(text continues)*

The west elevation is clad in an outer layer of operable, sensor-driven glass panels. They reflect light differently according to the angle at which they are pivoted. External blinds, also operable, change the visual texture of the wall. Depending on the sun's angle, parts of the facade may be open and parts closed simultaneously.



PHOTOGRAPHY: © LANDE BLISTELLE (OPPOSITE TOP); JAMES S. RUSSELL (OPPOSITE BOTTOM)

A crystalline scrim At the east, south, and west elevations of the tower, which have the highest solar heat-gain exposures, the architect placed a sheer layer of glass panels 27 inches outside an inner wall of operable glass windows. Fabricated by Götz, the outer glass panels pivot open up to 70 degrees for warm-weather ventilation. Controlled by sensors, the panels open enough to allow ventilation while buffering the high winds that can occur. Closed, they create a winter insulating layer.

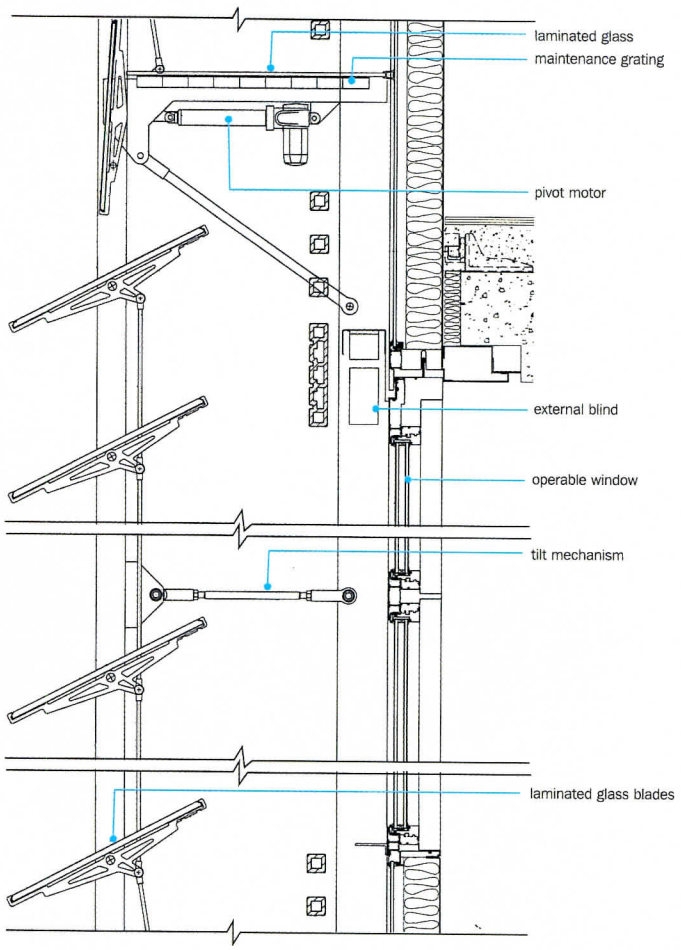
Occupants are protected from glare by external blinds, which they can lower from inside. They can also tilt or swivel open both the upper and lower panes of insulated glass lights on the inner wall for ventilation. The upper light opens automatically at night when the weather is warm to vent heat accumulated during the day.

Maintenance platforms, set between the glass layers, act as horizontal sunshades and are topped by laminated safety glass to stop the spread of fire and smoke.

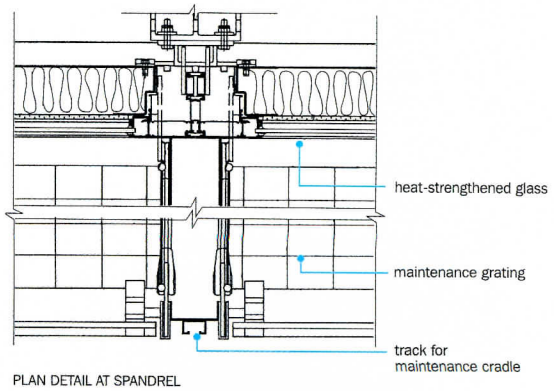
Compared to a conventional sealed building, this is a very elaborate and maintenance-intensive curtain wall. But it offers considerable advantages in terms of energy conservation, daylighting, user comfort, and user control. It is arguably more complex than earlier structures that pioneered these curtain walls, such as RWE, in Essen, Germany [RECORD, January 1997, page 144], and Commerzbank, in Frankfurt [RECORD, June 1998, page 68].

Could it be done in America? The energy-conservation and glare-control aspects of such a system would be even more advantageous in most of America, which is warmer and sunnier than northern Europe. But high humidity in much of the United States limits the value of natural ventilation. As for cost, tall buildings are generally far less expensive to build in America, but heavily customized curtain walls are more common in Europe, so the premium for such specialized technology in the United States would likely be far higher. *J.S.R.*

Götz, the curtain-wall fabricator, built the inner window wall, the outer skin's supporting structure (below), and the motorized pivoting devices for the operable glazing (details).



SECTION THROUGH CURTAIN WALL



PLAN DETAIL AT SPANDREL

At the southern end of the building, Piano peels away the successive layers of the curtain wall, revealing outer pivoting glazing, the outer-wall support structure, terra-cotta rods, and inner glazing. It is the singular accomplishment of the tower to aestheticize such a complex functional system.

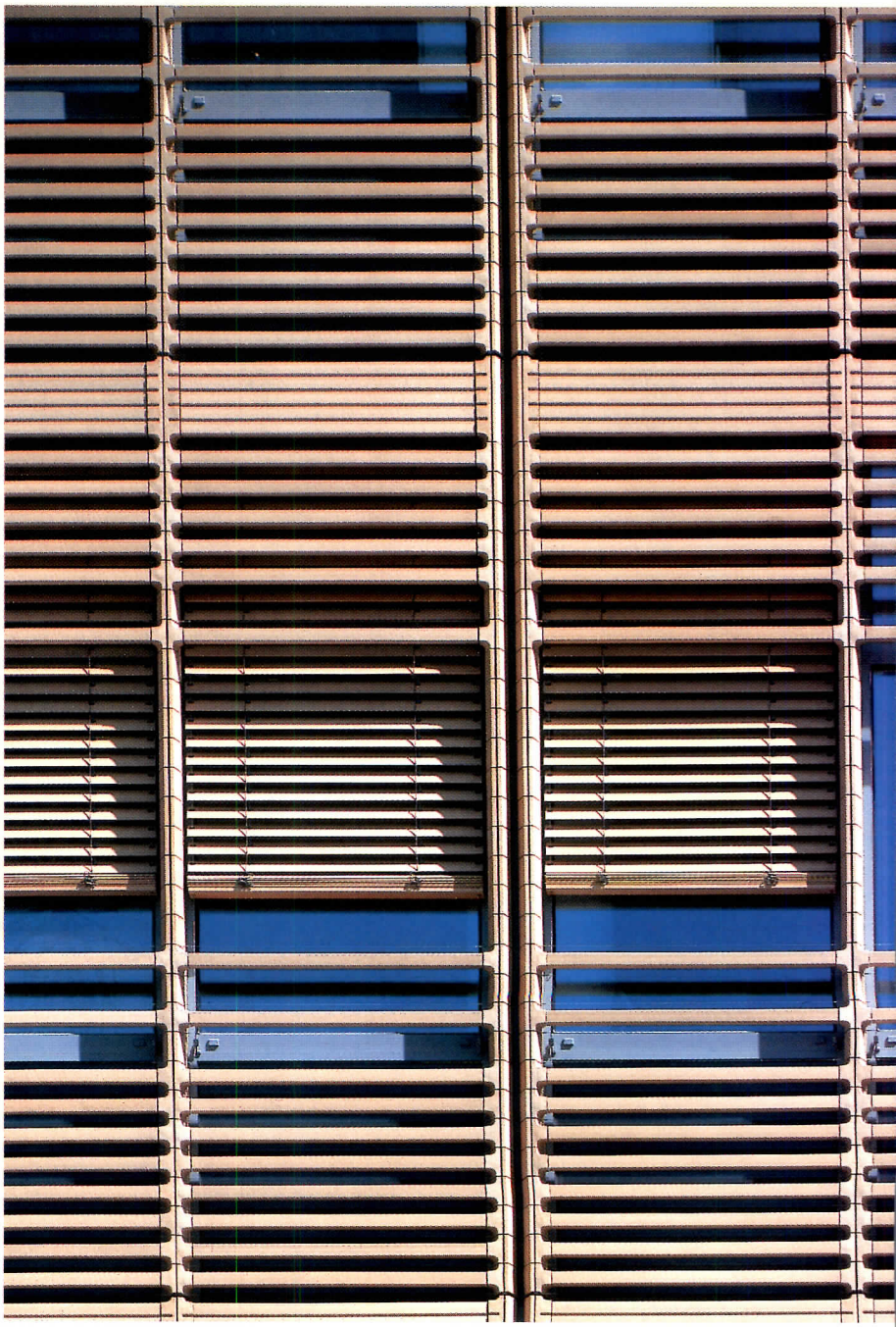
Casting shadows At the lower, six- and seven-story parts of the Debis Tower, the Piano office designed a double curtain wall with terra-cotta cladding. The inner wall is insulated and waterproofed. The outer wall is a protective layer of specially fabricated ocher terra cotta, separated from the inner wall by an air space. Piano's office has been working with terra cotta through several projects, beginning with the Rue de Meaux Housing [RECORD, July 1993, page 92]. This is not the same glazed terra cotta that decorates Art Deco office towers and monumental train stations in America—it is unglazed and made of carefully selected clays of higher density and greater strength than the traditional material. The rodlike sunshade elements, called "baguettes" by the building team, fasten into receptors cast into the vertical mullions. Galvanized-metal fittings attach the cladding to the substructure.

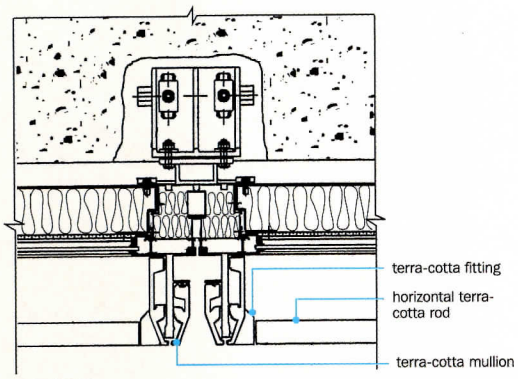
In what appear from a distance to be solid-wall areas, the panel edges are actually unsealed, which permits ventilation of the space between the two layers. Outside the spandrels and vision-glass areas, Piano and his team have installed terra-cotta rods as sunscreens. Although they are fixed, the rods appear to be the movable blades of partially closed shutters.

The setback of the inner wall is visible at vision-glass areas, adding visual richness to the elevation.

As part of the larger guidelines for the whole Potsdamer Platz site, Piano mandated the use of terra cotta as cladding on all of the buildings, though the details and the color choice were left to the individual architects. Many have used the material the way Piano did, with rods as screens and horizontal panels as solid cladding. The colors run from grayish red to sunny yellow, adding to the Mediterranean flavor of the urban enclave Piano has designed, with its comfortably tight streets opening to sun-splashed open spaces—the hallmarks of traditional European urbanism reinvented with the sculptural drama of expressive Modernism. *J.S.R.*

The shading terra-cotta rods close-up (below) and on the long west elevation (opposite). The material is used throughout the Potsdamer Platz site (below left).





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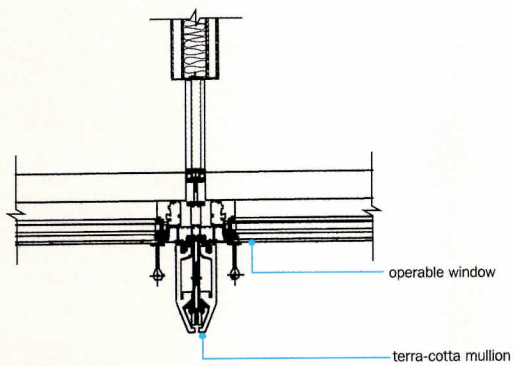

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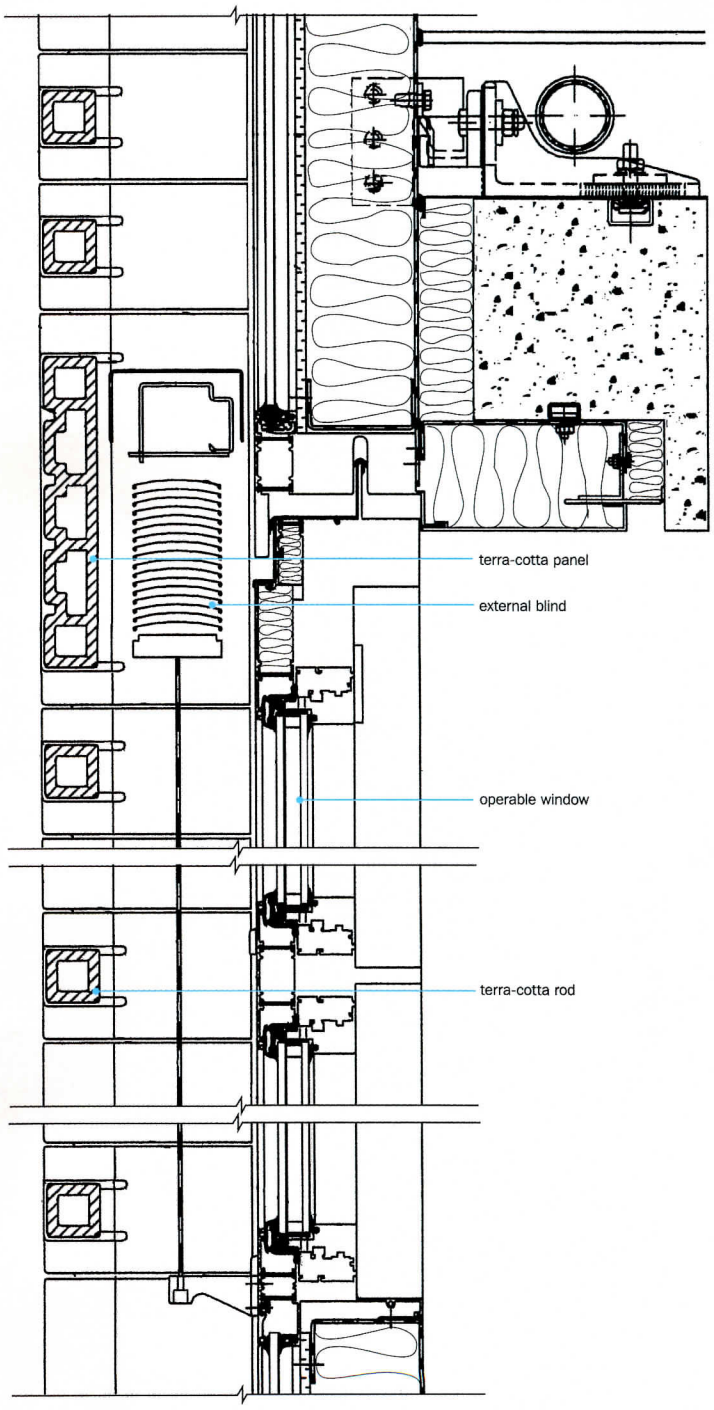
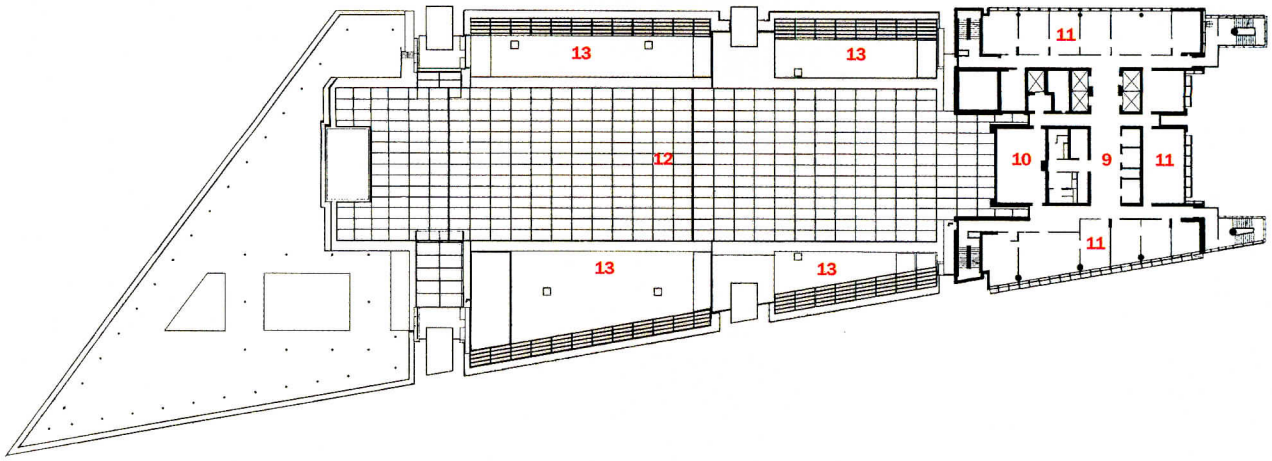


SECTION THROUGH TERRA-COTTA WALL

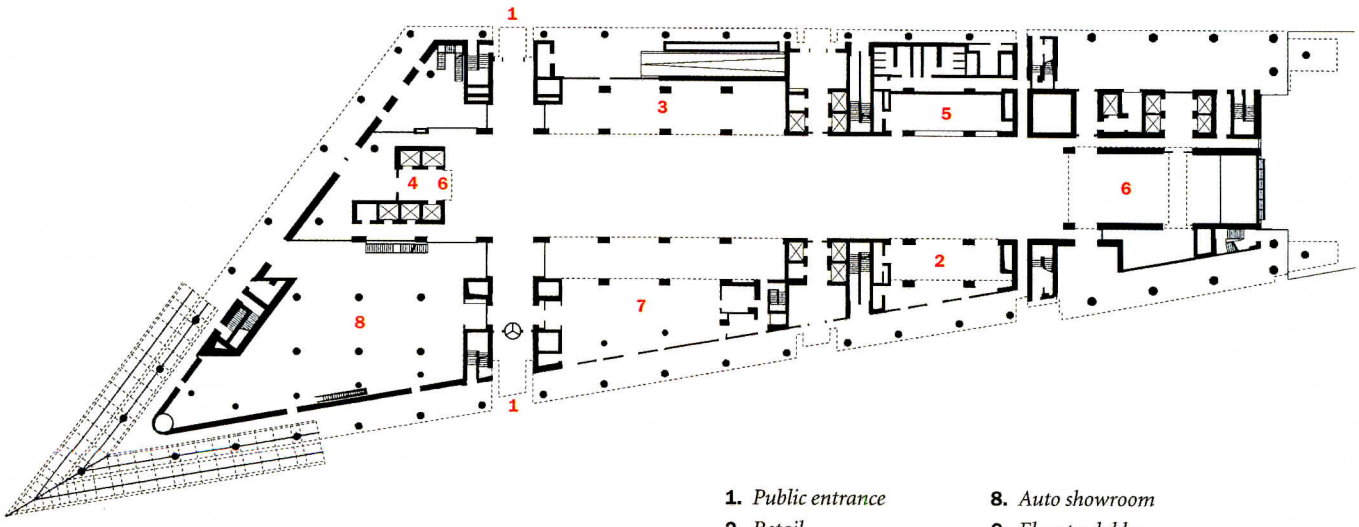
Horizontal rods and panels of terra cotta offer sunshading at vision-glass areas. External blinds add more glare control when sun angles are lower. The blinds and windows are both electrically operated by occupants from inside the building.

PHOTOGRAPHY: © JAMES S. RUSSELL (OPPOSITE LEFT); MICHAEL BARTELME (THIS PAGE)



13TH FLOOR

THIRD FLOOR



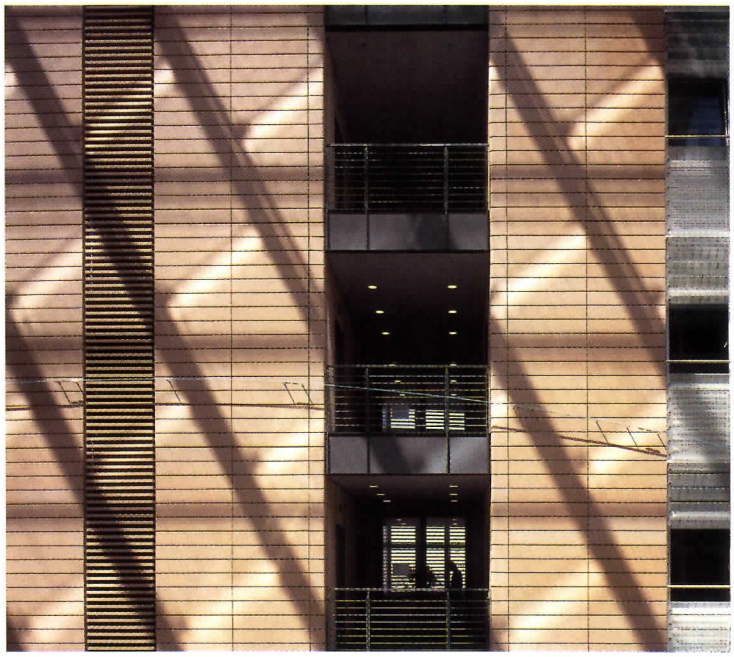
GROUND FLOOR

0 50 FT.
15 M.

1. *Public entrance*
2. *Retail*
3. *Coffee shop*
4. *Staff entrance*
5. *Exhibition*
6. *Visitor entrance*
7. *Cafeteria*
8. *Auto showroom*
9. *Elevator lobby*
10. *Meeting room*
11. *Office*
12. *Skylight roof*
13. *Sodded roof*

Plans (opposite) show how nearly every building element has been carved away to reveal itself on the exterior. Following German building regulations, the majority of work spaces include an operable window.

Sunlight from the atrium's all-glass roof is diffused through milky glass panels fixed at an angle (left). Additional fins are mounted at the office windows that face the atrium. The solid cladding is terra cotta.



foot building to the urban scale of Berlin was the chief problem posed by the site, explains Bernard Plattner, who was the architect-in-charge for the tower. The urban-design criteria mandated a street wall along the 600-foot western edge of the site. To break down the scale of this unappealingly long block, Piano carved recesses into the facade, dividing the elevation into four elements that almost appear to be separate buildings. (The tallest shaft is actually a ventilator for the vast underground area of the Potsdamer Platz development.) The architect scooped a monumental atrium out of the deep center of the block to satisfy German building regulations that limit the depth of the floor plate by mandating how far most workers can be from a window (about 25 feet).

Piano saw each element of the tower—elevator core, stair towers, the ranges of offices facing east, south, and west—as a potentially expressive element. He pulled them apart, with the recesses acting as visual membranes. The overall impression is of lapped slabs of solids and glassy membranes—a kind of contemporary San Gimignano of towerlike elements.

The design of Debis is not all bravura. Building on experience gained on a number of past projects, Piano's office used glass and terra cotta to make what is among the world's most sophisticated curtain walls. Like an increasing number of technically advanced German buildings, Debis has a double-wall curtain wall.

The combination of shading, the double wall, and operable windows reduces external warm-weather heat loads, winter cooling loads, and internal heat loads. The concrete floor slab is exposed at the outer edges of the floors, which enhances energy conservation by absorbing excess heat from below in the daytime and radiating it at night.

For the building as a whole, this means that air conditioning is

AIR CONDITIONING IS SUPPLEMENTARY, NOT MANDATORY; OCCUPANTS CONTROL THEIR OWN ENVIRONMENTS.

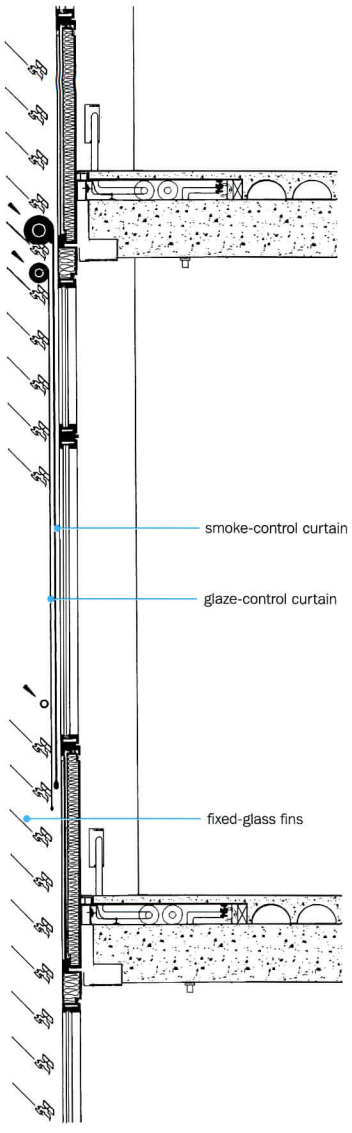
supplementary, not mandatory. Yet office occupants can control their own environments more than those who work in sealed, constantly air-conditioned buildings. At Debis, most people sit next to windows that can be opened. External blinds can be lowered to reduce glare.

In other respects, the interiors are conventional. Most of the staff is housed in one- or two-person white-painted private offices. The building recesses along the exterior signify sub-lobbies inside, which help people orient themselves in what otherwise could be a confusing racetrack of hallways.

The atrium is monumental in the time-honored corporate style, even though it invites public use through the provision of changing art exhibitions, an auto showroom, a coffee shop, and a cafeteria open to the public. Piano softens the effect by mounting angled, milk-tinted

PHOTOGRAPHY: © G. B. GARDIN (OPPOSITE)

Though the atrium is vast (looking south this page, north opposite page), the diaphanous quality of the skylight system and the solar-protection fins (right) visually dissolves the space's borders.



WALL SECTION

glass panels below skylights to gently diffuse sunlight into the six-story-high atrium space.

Piano often speaks of what he does as marrying construction technique with an overarching design idea. At Debis, the close-up experience of the building is unusually tactile, rooted in the materials and the way they are put together. At some times of the day, the sun sparkles from the beveled bottom edge of the pivoting glass panels; at others, it picks out elements between the glass walls: the vertical glass returns, the metal facade-support structure, or the maintenance platforms. The terra-cotta elements don't move, but their raw-clay finish invites touch. The rhythm of open and closed cladding along with deepening and lightening shadows as the light changes through the day have their own sensuous appeal.

Debis, as manager of the 19-building site, saw its own tower as a prototype for future corporate real estate endeavors. The company used the building to test innovations in energy-conserving building design and in environmentally sustainable techniques. In cooperation with BEWAG, the local electric utility, a new power plant is being built for the entire Potsdamer Platz site. Its waste heat will be distributed by pipe to heat or cool the buildings by the absorption method. A graywater system routes rainwater to sodded roofs over the Debis building's low-rise section. The excess fills the pond that surrounds the building. Building ecology experts Drees & Sommer advised on the use of lower-toxin products and construction materials.

The gigantic scope of the overall development also imposed limitations. To avoid overburdening local streets, most material was delivered to and waste removed via an adjacent staging area constructed for the purpose, served by freight rail and barges.

At the building's topping-out ceremony in 1996, the company celebrated by bringing in an orchestra and the conductor Daniel Barenboim. As the musicians played, 20 tower-crane operators around the 17-acre Daimler-Benz site moved their massive charges in time to the music. Since cranes have become the hallmark of Berlin's skyline over the years since the Wall crumbled, such a ballet of 150-foot-high mechanical storks was strangely fitting. The Daimler-Benz complex, if the Debis Tower is any indication, may offer this rebuilding city much to celebrate. ■

Sources
Curtain wall: *Götz*
Curtain-wall operating system and sensors: *Colt*
Terra-cotta cladding: *NBK*
Extra clear glass (ceramic-fritted in atrium): *Sanco, Varema*
Exterior blinds: *Varema*
Granite floor: *Hoffman*
Lighting: *Sill (roof lighting, atrium); AEG (uplights in offices); Erco*
Concrete: *Alpina*

The west entry facade of the new building at St.-Benoit is almost a caricature of a traditional church.

A church added to Quebec's ST.-BENOIT-DU-LAC ABBEY is a modern take on traditional, austere Benedictine design.

by Beth Kapusta

Long before urbane Montrealers colonized Quebec's Eastern Townships as a recreational playground, a small group of French Benedictine monks recognized the exceptional beauty of the landscape. In 1912 they established the St.-Benoît-du-Lac Abbey in a remote spot among the worn mountains, with a view overlooking the jewel-like Lake Memphramagog. Following a series of projects—some completed, some unrealized—over the ensuing decades, a new church designed by Montreal-based architect Dan S. Hanganu has added a contemporary layer to the meditative retreat.

The Benedictine tradition goes back to the sixth century and has long been one of the most hermetic and contemplative of the monastic orders. In the 12th century, the austerity of the Benedictine order became a defining aspect of monastic buildings, leading to two distinct traditions—one, a very sparse variation on the Romanesque, and the second, a Gothic that emphasized the dematerialization of substance—in protest against what the monks deemed excessively decorative and materialistic architecture.

Beth Kapusta, who graduated from the University of Waterloo School of Architecture in 1991, teaches at the University of Toronto School of Architecture and is working on a book about the National Archives of Canada. She lives in Toronto.

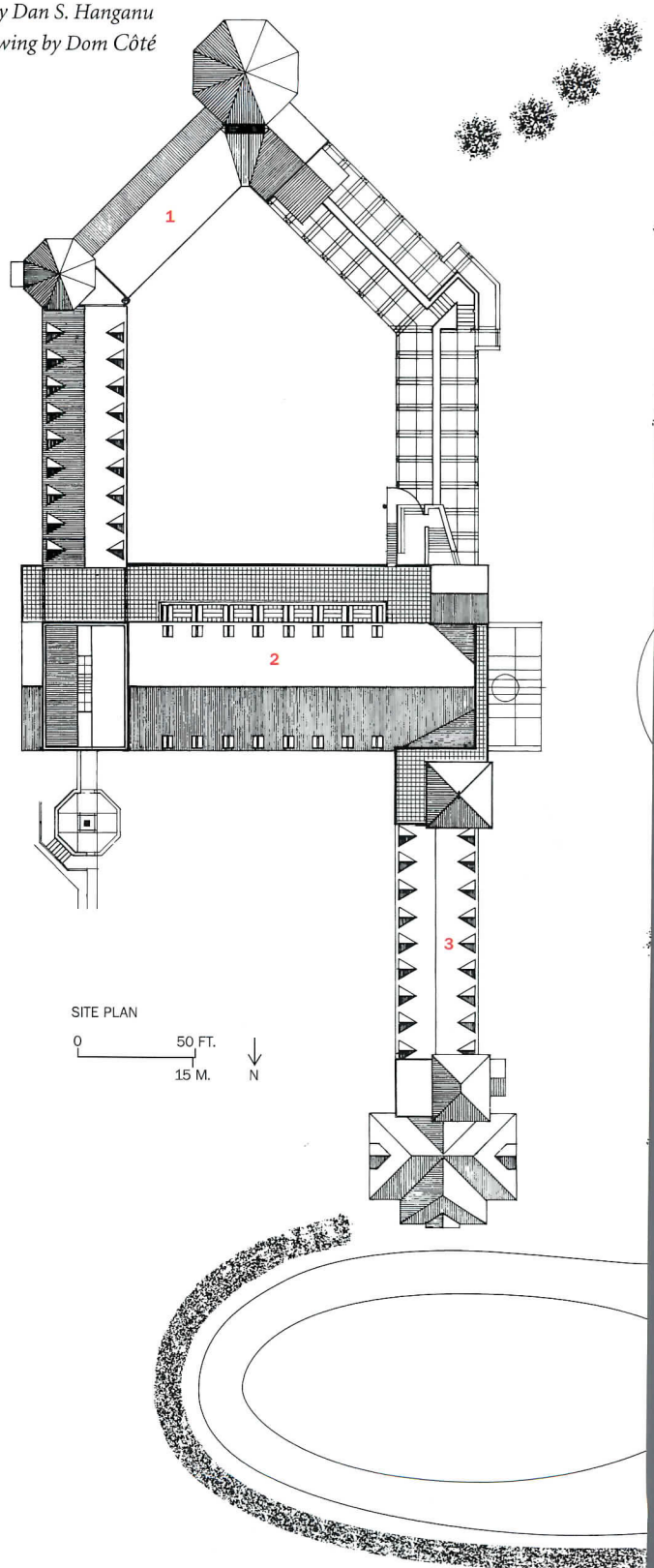
Monastic architecture still has a tenuous continuity in Quebec, where Roman Catholicism is the predominant religion among the French-speaking population. The St.-Benoît abbey has an interesting history, as documented by the monk/architects who left their mark in succession.

The first permanent buildings at St.-Benoît were designed by Dom Bellot, a talented French monk/architect who also designed St. Joseph's Oratory in Montreal and several notable religious buildings in France. The plans he generated for the abbey in 1938 (the monks had been in temporary lodgings since its inception) were only partially completed, but what did get built creates an exuberant polychromatic

Project: *Church at St.-Benoît-du-Lac Abbey, St.-Benoît, Quebec*
Architect: *Dan S. Hanganu Architectes—Dan Hanganu, partner in charge; Thomas Schweitzer, Guillaume de Lorimier, associate architects; Gilles Prudhomme, Esther Varkay, Alex Touikan, Viorel Indries, Ilena Neich, Gabriel Sydenham, Todd Richards, François Poirier, Guy Pageau, Anthony Fieldman, Charles Garant, project team*
Engineers: *Shector Barbacki Shemie + Associates (structural); CIMA-LNR (mechanical and electrical)*
Consultants: *Ari Alavanthian (lighting); MESAR Consultants (acoustics)*
General Contractor: *Phase I*

PHOTOGRAPHY: © ALAIN KARCHMER

1. *Cloister by Dom Bellot*
2. *Church by Dan S. Hanganu*
3. *Hostelry wing by Dom Côté*



A view from the rear of the church toward the west (top); the main entrance, with its abstractly rendered rose window (bottom).

Beyond the new church to the north stands the tower of the hostelry wing, designed by Dom Côté.

symphony. Bellot's disciple, Dom Côté, continued work on the abbey in the 1950s with an even more outrageous palette inspired by a rather unsettling combination of styles: a little French château, some vaguely Moroccan influences, and a healthy portion of 1950s Modern thrown in for good measure.

Dom Côté never finished his part of the project either. Construction periodically ground to a halt as funds ran out, and in the late 1950s a partially completed foundation for a new church, which would have closed the courtyard of the U-shaped Bellot cloister and joined it to a new wing by Côté, was abandoned.

DECORATION IN THE FORM OF FIGURATIVE ART IS ABSENT, WITH THE EXCEPTION OF STAINED GLASS.

That's where Hanganu came in. His firm, Dan S. Hanganu Architectes, was selected through a limited competition in 1989 to complete the unfinished church. He proposed staying close to the unbuilt design from Côté's 1950s plan, working with its rhythms and proportions but applying his own palette and sensibility.

Hanganu ended up with both Romanesque weight and Gothic dematerialization in his design, inside and out, although the scales appear to tip in favor of the former. The west entry facade of the church is almost a caricature of a traditional church. The outline of the main section is matched by the shape of the front elevation, with the stone dematerializing into vertical piers. Behind, a tenuous galvanized-steel monastic promenade leads between the old tower and Hanganu's new one.

The cool exterior elevations provide the Romanesque weight, an effect solidified by the gray local granite. The rather heavy steel diagonals that run through the abstractly rendered rose window give little indication of the more delicate sensibilities within.

The new church was built directly on the base of the earlier, unfinished structure. While the organizational principles are largely rooted in a simple Romanesque basilica hall plan, with a short tower over the altar, an exercise in dematerialization unfolds inside. For Hanganu, a reductive treatment of surface became an alternative to decoration. "Every time there was a need for decoration, I removed material rather than adding it," he says. For example, Hanganu used depletion to establish motifs in the brickwork along the piers in the chapel. The corners undergo an orderly, codified erosion that distinguishes those in the triforium from the corners in the nave.

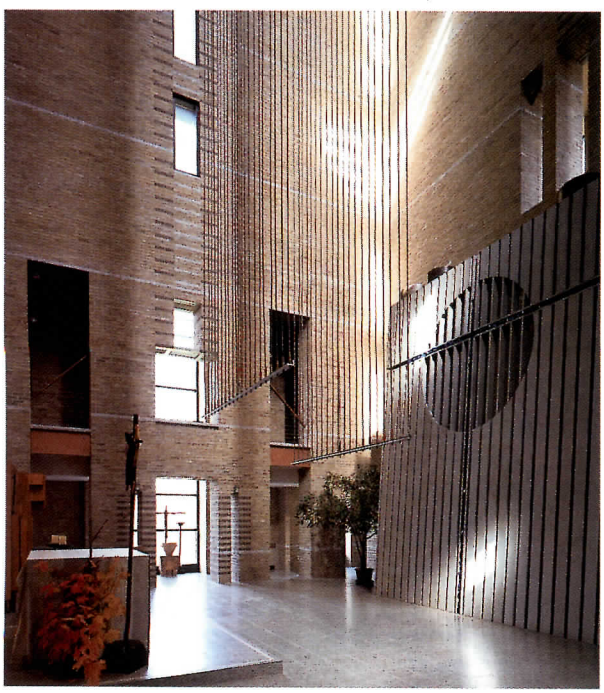
A preoccupation with transparency is rendered not in expanses of glazing but in narrow slices of cut-away material, which allow secretive connections between adjacent places. Between the atrium (the foyer at the "public" end of the hall) and the church, for instance, the heavy wood doors are parted by a slight gap, so the interior is always visually accessible even when the church is locked. Hanganu explains: "Faith is about seeing beyond."

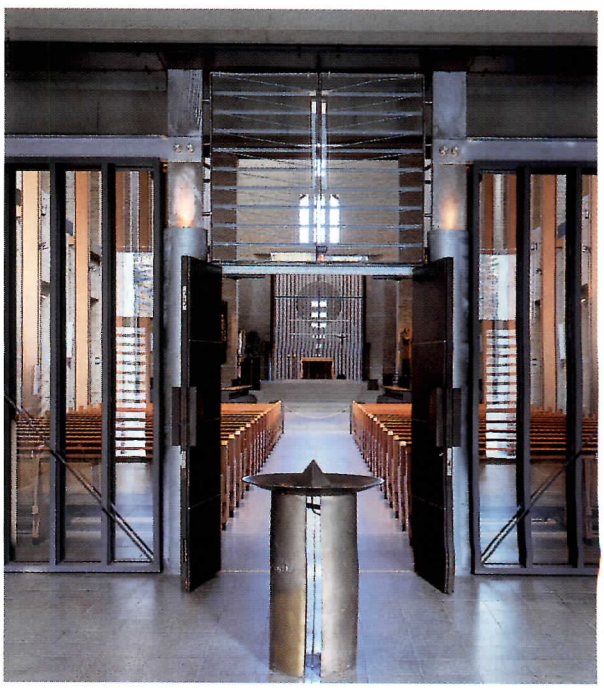
Hanganu's austere strategy provides a successful contrast to the visual overload of Dom Côté's addition. Decoration in the form of figurative art or applied ornament is absent, with the exception of stained glass—a gift from the French government—which has been virtually entombed in a glass box surrounded by the tower stair.

Leaving exposed the shaped concrete piers begun by Côté, Hanganu added two subsequent layers of structure in the chapel: buff brick piers that build on the existing concrete, and—as if to separate the burden of the roof (or perhaps the heavens) from the simple compression of the earthly walls—an internal buttressing network fashioned from steel, supporting a simple peaked roof. The pageantry of the liturgical ritual is celebrated in an almost theatrical gesture: a large opening in the brick screen between nave and sanctuary has the unmistakable quality of a proscenium.

Even in the increasingly secular world of the late 20th century, religious architecture can still elicit a strong emotional response. Sacred spaces have a sensory dimension that transcends the merely visual, with the smell of incense, the echoes of footsteps and voices, the coldness of the lofty spaces, the rituals of touch. At St.-Benoît, these various sensory experiences play an important role in setting the tone of the space. The

Light streams in from the tower over the altar (right). The interior is meant to be easily visible from the atrium (far right).





EXPRESSING THE BENEDICTINE IDEAL THROUGH A UNIQUE ARCHITECTURE

Père Jacques Bolduc, a Benedictine monk who was in charge of raising the funds to make the most recent addition possible, describes living in St.-Benoît's monastic order as simply "a life of prayer and work."

The rhythms of life revolve around these activities, beginning very early in the morning with prayer and continuing throughout the day with work on the surrounding farm, where the 55 resident monks make cheese and apple cider. They also run two guest houses.

The Benedictine order first found its way to the Eastern Townships in 1912 (the countryside bears a strong similarity to the area in France from which the monks came). "At that time, the [French] government was extremely anticlerical, so the Benedictines decided to come to Canada," says Père Bolduc.

Construction proceeded very slowly: work began on Dom Bellot's first building in 1941, and the second increment by Dom Côté was built between 1955 and 1962.

"Dom Bellot thought the Arabs our masters. He looked for inspiration in such buildings as the Alhambra," Père Bolduc says. "His sense of the mathematical was very acute." Dom Côté too was impressed with Arabic architecture; the floor of his entry hall was inspired by the mosque at Ispahan.

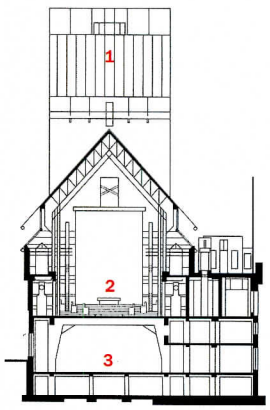
When it comes to Dom Côté's subsequent work, Père Bolduc, like many of the monks, is less enthusiastic, as the unbridled decorative excess of much of the design seems to go against the grain of the Benedictine dictum of austerity. "Dom Côté was very audacious—maybe too much so," he says.

Though he is not a Catholic, Dan Hanganu added to the monastery in a way that has deeply impressed the monks who live there and considerably increased the patronage of the church. Interestingly enough, Hanganu was selected by the highly communal order on the basis of the strength and individuality of his personal style.

"Hanganu is a man of great culture and artistic talent, who speaks many languages and knows well the history of architecture," says Père Bolduc, noting that the resident monks worked closely with the architect through a laborious five-year design and construction period.

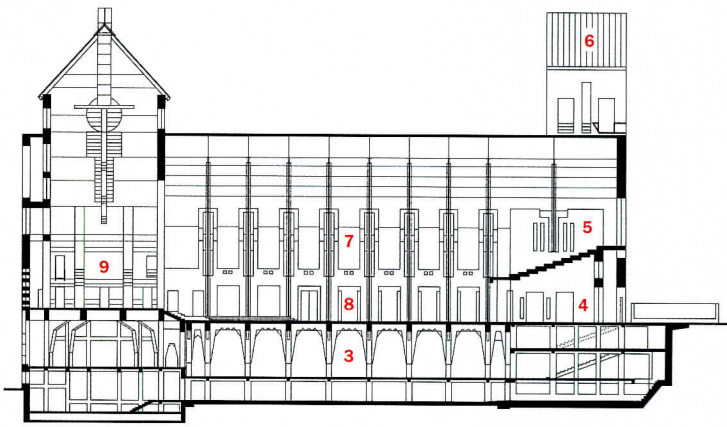
"During construction, everybody had an idea. But ultimately Hanganu made the soup—and he was appreciated for that. His understanding of the complicated procession, ceremony, and liturgy of the Catholic Church is well represented in the architecture." *B.K.*

What a strolling monk might see, down the row of arches that runs above the nave.

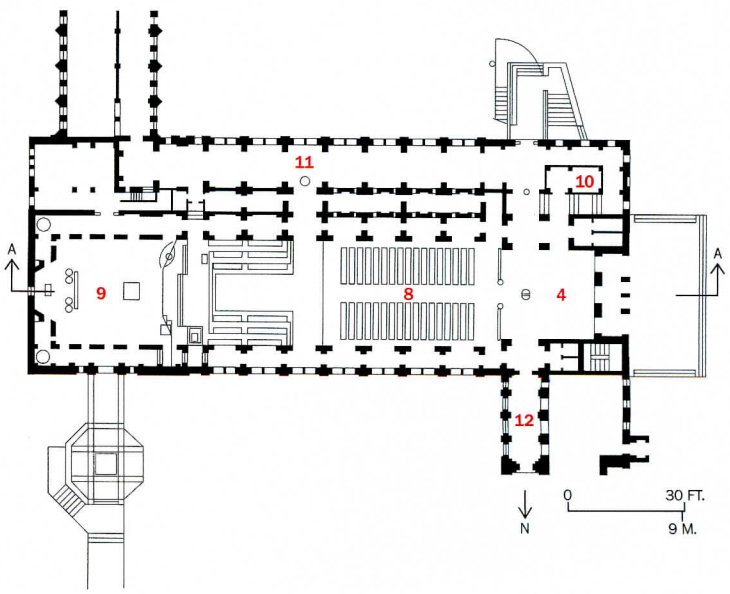


SECTION THROUGH SANCTUARY

1. *Sanctuary tower*
2. *Altar*
3. *Existing substructure*
4. *Atrium*
5. *Tribune*
6. *South tower*
7. *Triforium*
8. *Nave*
9. *Sanctuary*
10. *Chapel*
11. *Cloister*
12. *Hostelry wing*



SECTION A-A



FLOOR PLAN

The church features an internal buttressing network fashioned from steel, supporting a simple peaked roof.

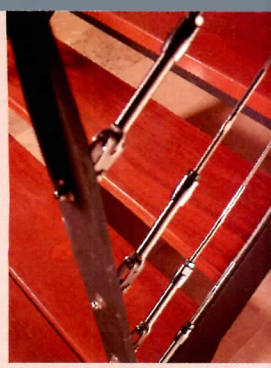
precise appearance of the wood handles belies the tactility of a carved imprint of hands where a visitor opens the door. Light is made palpable as the rising smoke of incense curls around the cables suspended in the sanctuary tower. The crispness of the interior details—such as the flush brick joints that create smooth, hard surfaces—contributes to a rich acoustic environment. The materials themselves are imbued with symbolic significance. The gold mosaic tiles at every threshold are charged with the task of separating sacred space from the outside world.

The contemporary addition to the old monastic promenade begins with a ring of open galvanized-steel risers winding up the new east tower, leading to a spectacular view of the surroundings and continuing across a galvanized-steel bridge leading to the Dom Côté tower and a series of outdoor terraces.

The St.-Benoît-du-Lac Abbey exhibits an acute intuition about how to carry the spirit of the past into the present. Hanganu's strongest work shares this quality; most notably, his archaeological museum at Pointe-à-Callière in Montreal, a modern design atop an archaeological site, attests to his dexterity in historical superimposition. It is humbling to think that the profound questions of architectural metaphysics posed by this modern sacred space have changed very little in the course of several hundred years—and heartening that they still prove so challenging and so evocative. ■

Sources

Steel structural system, steel and glass entrance doors: *Aciers Yameska*
Granite masonry: *Beebe Quarry*
Curtain wall, aluminum window frames, sliding doors: *Kawneer*
Elastomeric roofing: *Soprema*
Roofer: *Couverture Montreal-Nord*
Metal and oak doors: *Bumeda*
Glass glazing and skylights: *Thermalite*
Clay brick interior of nave: *Brigereterie St. Laurent*
Interior and task lighting, downlights: *Novus Lighting*
Exterior lighting: *Louis Poulsen*
Granite floor: *RAMCA*



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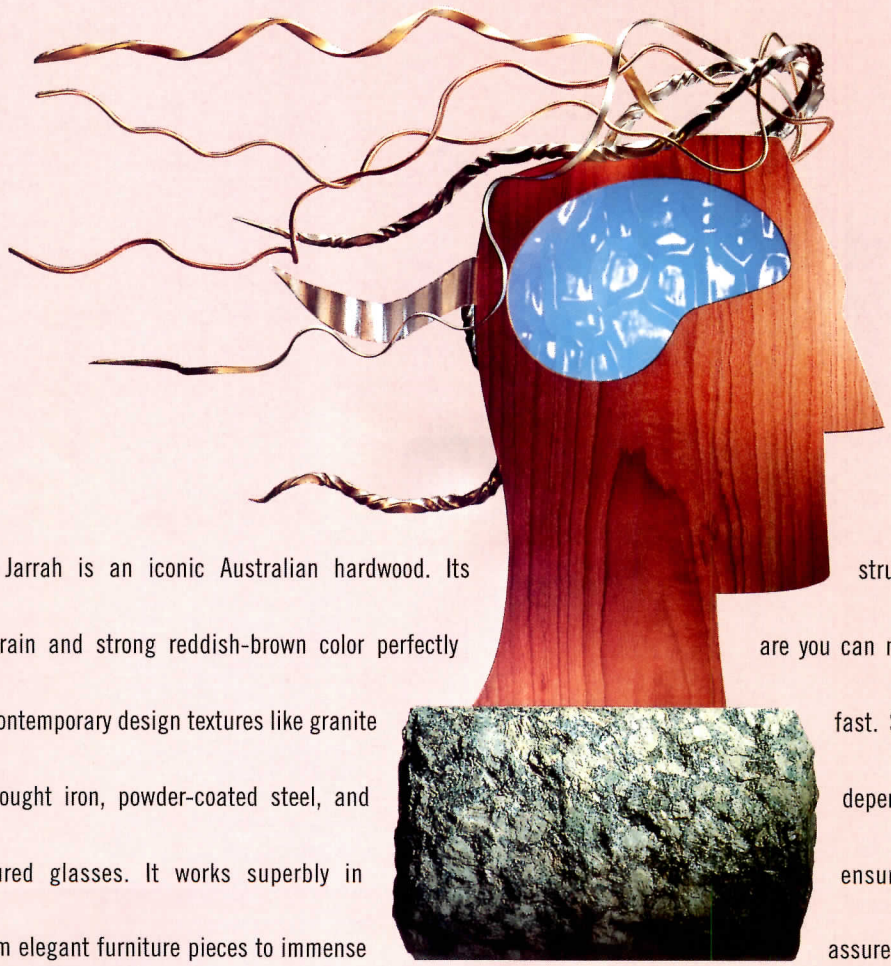

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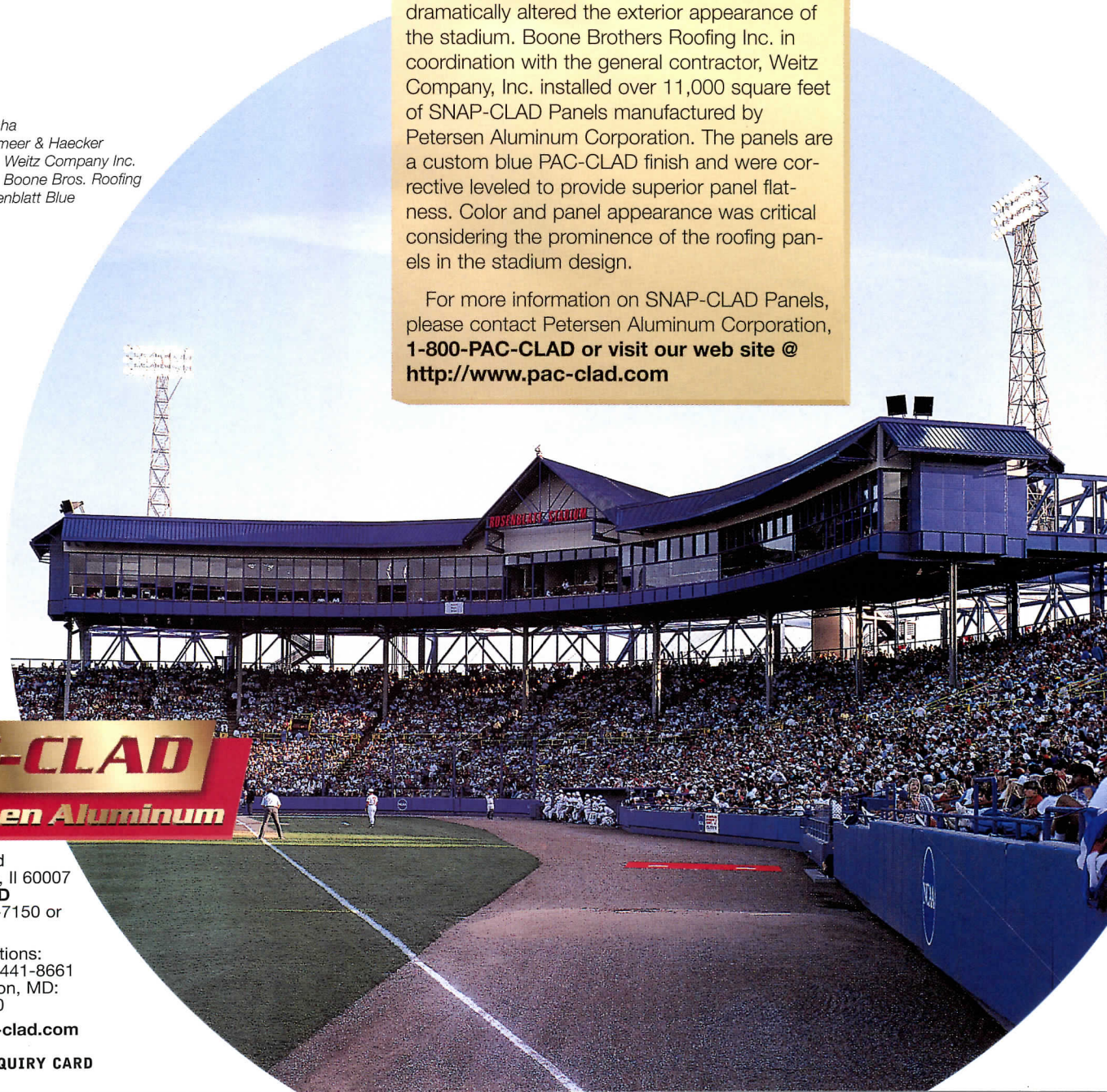

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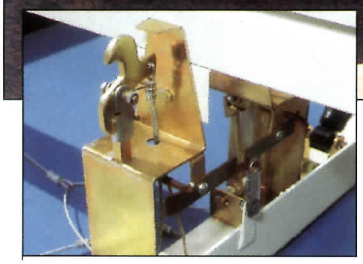

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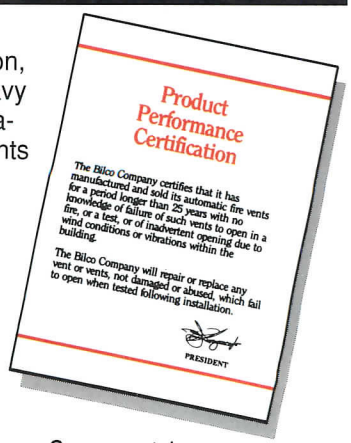

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ACADEMIC BUILDINGS

Reeducating the Masses

NEW AND RENOVATED BUILDINGS ON FIVE COLLEGE CAMPUSES FULFILL COMPLICATED PROGRAMMATIC REQUIREMENTS WHILE BRINGING HARMONY TO THEIR SURROUNDINGS.

by Charles Linn, AIA

1

Princeton University

McDonnell Hall, a physics laboratory, solves problems of scale, linkage, and circulation on a difficult site in the university's science complex.

2

University of Connecticut, Stamford

An entire campus is relocated to a remodeled Bloomingdale's, where the community and nearby corporations, as well as students, benefit from the move.

3

Bowdoin College

A new science building, Druckenmiller Hall, wraps around a lab building, preserving an existing quadrangle and presenting a new face to the public.

4

Emory University

The Center for Library and Information Resources mediates between Emory's traditional design vocabulary and an overpowering Modernist tower.

5

Southampton College

Chancellors Hall, a science building addition, is part of the first phase of a master plan that will impose order on a hodgepodge of roads and buildings.

Walk around almost any college campus that mixes buildings of various ages, and there will be two kinds of structures: those that go almost unnoticed because they fit in so well, and those that leap out because they ignore everything around them—massing, design vocabulary, scale, orientation.

One theme emerged from the work submitted for this Building Types Study: most of the prime building sites on campuses are gone. Some of the buildings that already exist next to "make-do" building sites don't work anymore. Some of them never did. To make the most of what is there, architects must approach the design of new structures warily, with the vision of master planners, ready to alter existing conditions that don't work and make the most of those that do.

At Princeton, Jadwin Hall, a physics building, was separated from Fine Hall, a math building, by a plaza that functioned somewhat like a vacant lot. College Walk seemed to dead-end there at two austere buildings. Gwathmey Siegel's new physics building, McDonnell Hall, with its refreshing palette of materials, encloses the plaza and provides a physical link between Jadwin and Fine Halls. The plaza now functions more like an enclosed courtyard, a destination point for College Walk.

Perkins Eastman's design for the University of Connecticut's Stamford facility had the most unusual program: to move an entire campus from the suburbs to the city center, where it would be closer to the students. Master planning here was crucial to assess the impact that moving the campus would have on the business district, and to assure that the results would be beneficial to the students and the community.

Druckenmiller Hall at Bowdoin College, in Brunswick, Maine, designed by Ellenzweig Associates, and the Center for Library and Information Resources at Emory University in Atlanta, by Shepley Bulfinch Richardson and Abbott, solve similar problems. They both build bridges, literally, to other buildings. The structure at Bowdoin respects the existing mix of styles; the one at Emory reestablishes the university's strong building vocabulary. Both preserve quadrangles by occupying unlikely sites.

Mitchell/Giurgola's new master plan for Southampton College, in Southampton, New York, is the most comprehensive of all. Old buildings will be remodeled, new ones will be added, and roads will tie together a campus that experienced a haphazard evolution.

Campus buildings should be like the courses that make up a curriculum. Each may be valuable on its own, but they must also work together to create a larger vision. ■

1 James S. McDonnell Hall Princeton University

A NEW BUILDING IN THE UNIVERSITY'S SCIENCE COMPLEX ATTACKS AWKWARD SITE, SCALE, AND CIRCULATION PROBLEMS.

by Kira L. Gould

Project: *James S. McDonnell Hall, Princeton University, Princeton, New Jersey*
Architect: *Gwathmey Siegel & Associates Architects—Charles Gwathmey and Robert Siegel, principals; Nancy Clayton, associate-in-charge; Richard Klibschon, project architect; Peter Brooks, Kang Chang, Bruce Donnally, Lance Hosey, Peter Juang, Christine Marriott, David Yum, project team*
Construction Manager: *Sordoni Skanska Construction Corp.*
Engineers: *Severud Associates (structural); Cosentini Associates (mechanical); Van Note–Harvey Associates (civil)*
Consultants: *Cosentini Lighting Design (lighting); Shen Milsom & Wilke (acoustical and audio-visual)*

Cost: *$10.4 million*

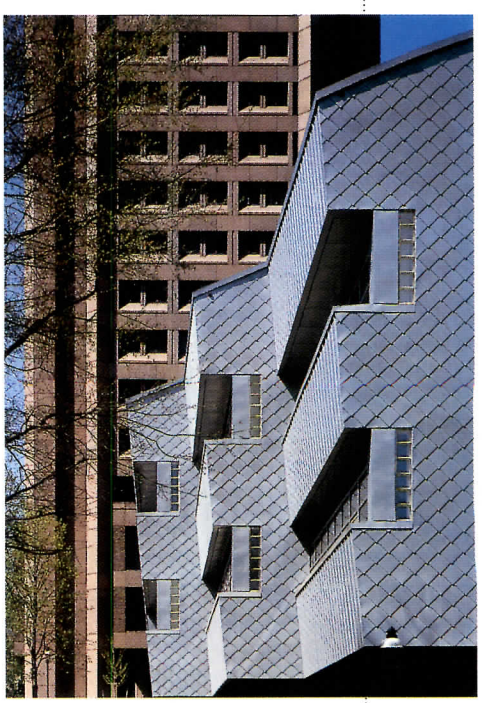
Sources
Brick: *Endicott, Taylor*
Modular cast stone: *Arriscraft*
Metal siding, shingles: *Rheinzink*
EIFS: *Dryvit*
Aluminum windows, doors: *Kawneer*
Glass: *Viracon*
Glass block: *Pittsburgh Plate Glass*
Wood doors: *Weyerhauser*
Lecture hall turntable stage: *Macton*
Rear-projection screens: *Da-Lite*
Acoustic ceiling and resilient flooring: *Armstrong*
Paints and stains: *Sherwin-Williams*
Lighting: *Louis Poulsen, Lightolier, Bega*
Hardware: *Best, Stanley, LCN, Von Duprin*

Princeton University's campus is lush, elegantly proportioned, and studded with signature buildings. It is not, however, without some physical discontinuity. For example, College Walk, a key pedestrian thoroughfare, had long crossed Washington Road, run between Jadwin Hall and Fine Hall, which made up Princeton's physics and math complex, and seemed to terminate rather unceremoniously in an underused plaza. This corner of the campus also featured differences in scale, materials, and orientation between the two buildings that called out for resolution.

Architects Charles Gwathmey, FAIA, of Gwathmey Siegel Architects, and associate-in-charge Nancy Clayton, AIA, understood immediately that the addition of the new James S. McDonnell Hall, a 42,000-square-foot classroom and laboratory facility that would complete the physics and math complex, was a chance to mitigate some of these problems. They also saw that the plaza could be used as an important gateway, especially given the proximity of Rafael Viñoly's new stadium, which stands just east of the plaza. "When you add a new building to an existing complex, the context must be engaged," says Gwathmey.

The building needed to contain classrooms, fully outfitted teaching theaters, and laboratories. Circulation spaces would also be very important; there are often up to 700 students in the complex at one time. This confluence of students points up one of the new structure's most significant roles: to be both a literal and a figurative conduit between two existing buildings.

Being the third building in a trio presents difficult problems of scale, and Gwathmey felt that the best complement to the looming red-brick Fine Hall tower and the horizontally oriented, four-story brown-brick Jadwin Hall would be a relatively low structure, which meant that something would have to go underground. Sinking the two teaching theaters nearly two levels below grade, the designers created a base, clad in light-and-dark alternating bands, on which other "objects" sit. A volume clad in cast stone contains five classrooms and service areas. The segment of the building that reads as most prominent contains the labs; it is rotated on-axis with College Walk and clad in standing-seam zinc panels and zinc shingles.



The most prominent portion of McDonnell Hall, containing the laboratories, is clad in zinc shingles. The Fine Hall tower is in the background.

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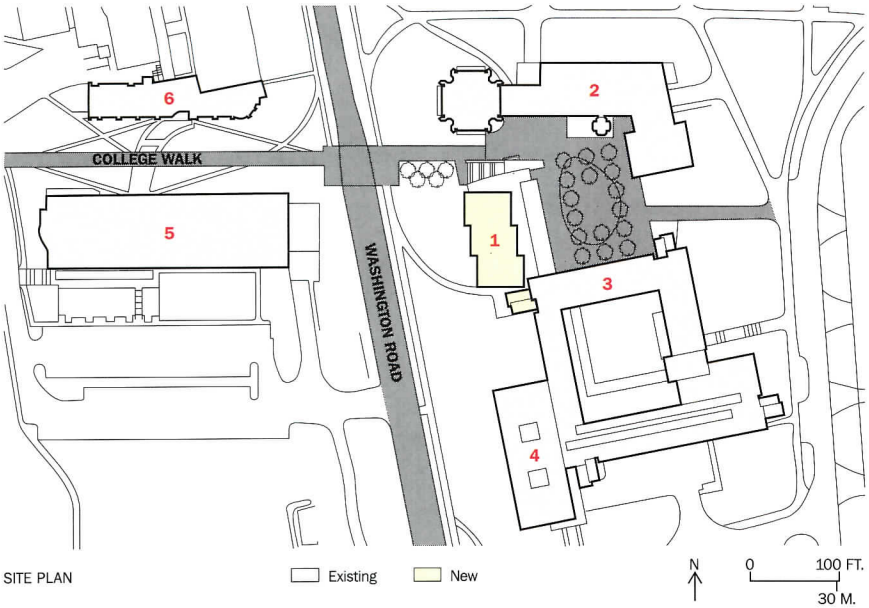
Kira L. Gould is a freelance writer living in New York City.



1. *McDonnell Hall*
2. *Fine Hall*
3. *Jadwin Hall*
4. *Cyclotron*
5. *Lewis Thomas Laboratory*
6. *Schultz Laboratory*

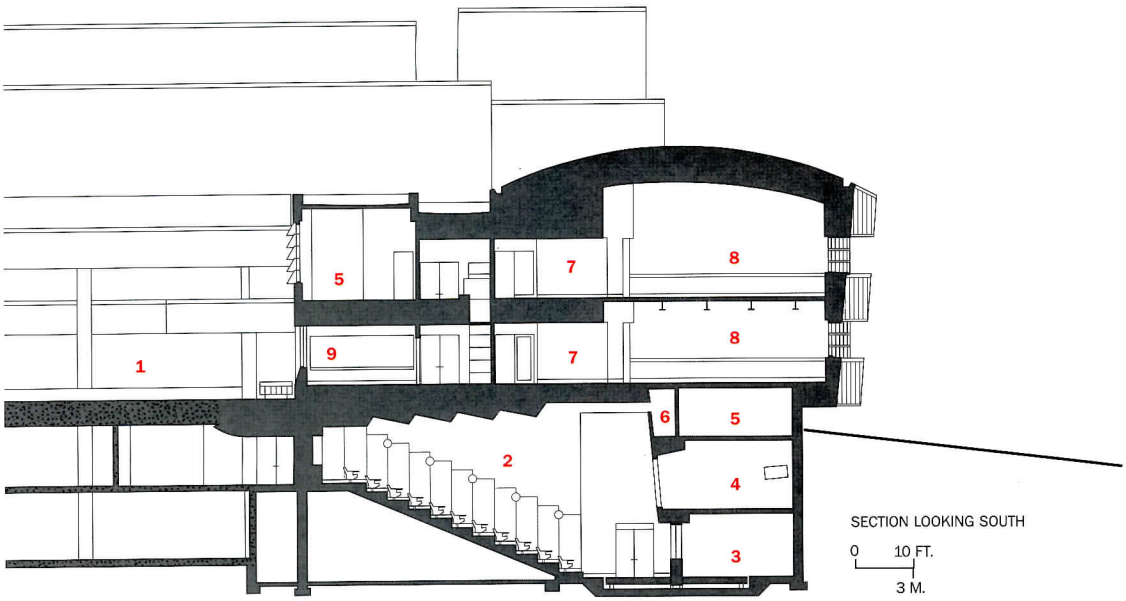
The teaching theaters reach two stories below grade. Above grade, they form a base clad in alternating bands of light brick and dark clay tile (below). McDonnell Hall creates a link between Fine Hall (left in photo) and Jadwin Hall (right).

Physics demonstrations are set up on a turntable (right), which rotates 180 degrees at the push of a button. This allows one demonstration to be prepared while another is being performed. Bands of brick and tile wrap the north elevation (below), which abuts the cast-stone-clad classroom block. A bright blue steel column supports the entry canopy (bottom).

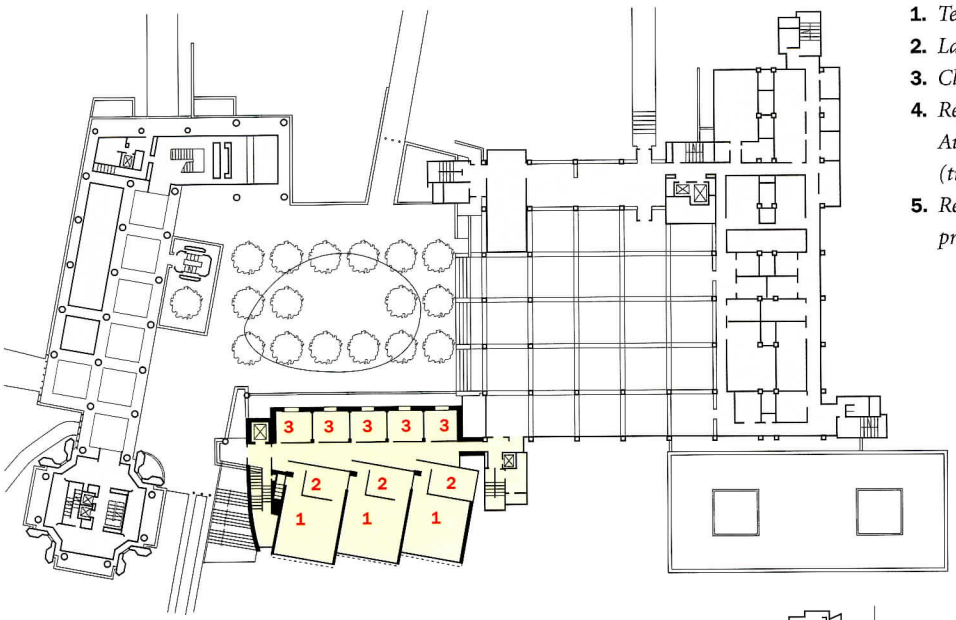
A canopy signals the entrance to an atrium that affords access to classrooms and laboratories and connects the new structure to Jadwin Hall. An exterior stair leads to a below-grade secondary entrance; here a 6,000-square-foot gallery serves as a surprisingly light lobby area for the two new lecture theaters.

The committee of physics department representatives that reviewed the design throughout the project became fascinated by the architectural process. "It's one of the reasons we love university projects," Gwathmey says. "People who are very committed to their own disciplines typically appreciate ours, our commitment to it, and the process it yields—even when it's not a linear one. We explain the process, rather than rationalizing its results."

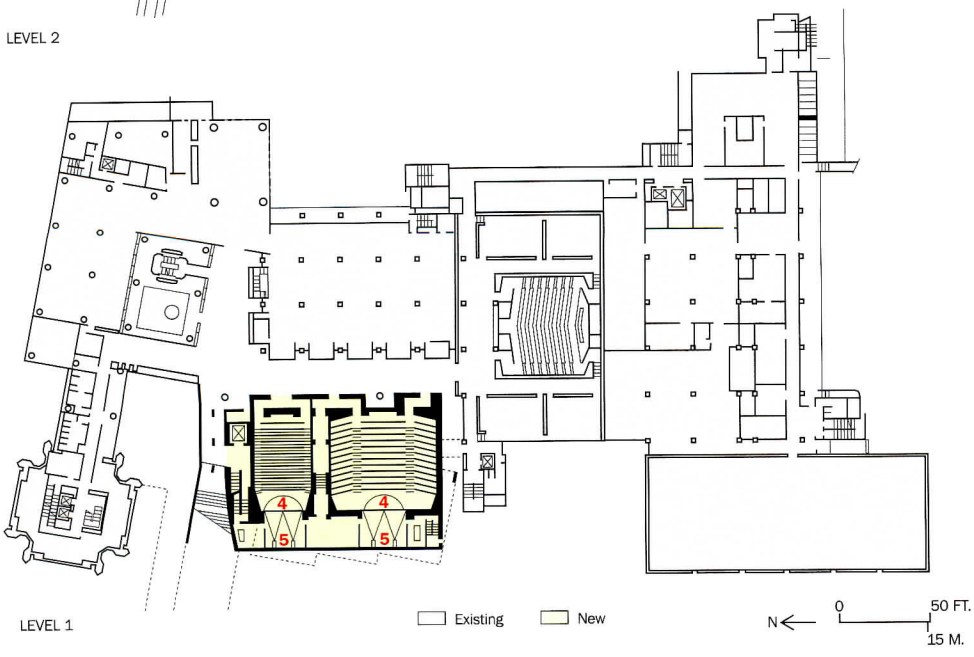
The architects and the committee investigated the program requirements together. A visit to Johns Hopkins University convinced the committee that turntable stages could revolutionize class scheduling; the elaborate preparation for one class can take place while another is under way. At the push of a button, the circular platform that's flush with the stage rotates 180 degrees. In the more intimate, loftlike laboratories, a barrel-vaulted ceiling allows experiments that involve light and accentuates the airy quality of these



1. *Plaza*
2. *Reynoldo Auditorium*
3. *Lecture prep*
4. *Rear-screen projector room*
5. *Mechanical*
6. *Catwalk*
7. *Vestibule*
8. *Corridor*
9. *Classroom*



1. *Teaching labs*
2. *Lab classrooms*
3. *Classrooms*
4. *Reynoldo Auditorium (turntable in floor)*
5. *Rear-screen projector room*



rooms; daylight can be softened or eliminated by lowering a double-layer shading device on the west-facing windows.

Throughout the building, the connection with what's outside is refreshing. But it's precisely because the brick wall of Jadwin is visible from the hallways leading to the labs that the visitor feels the relationship of structure to site. Each element seems to support what comes next; there is a sense of discovery and memory at work as one walks through the building.

This new building, while connecting Fine and Jadwin Halls, might have proven a further barrier to College Walk had its designers not taken care to make the entry to the courtyard commodious. More important still is the blue column that supports the entry canopy: it serves as a quiet rather than brash beacon from within the court area.

But whether College Walk will ever really land in a friendly place before feeding onto its next leg to the stadium is not yet known. A graceful and assertive Calder stabile anchors the courtyard, and Gwathmey's team drew on its aesthetic to design a soft, irregular oval shape for the lawn. Work will begin next year on the landscaping, and McDonnell's stone-clad wall will one day be covered with ivy. For now, the restorative power of this structure is only a promise. ■

2 Stamford Campus of the University of Connecticut

MOVING A SUBURBAN CAMPUS DOWNTOWN SERVES EDUCATIONAL NEEDS WHILE BRINGING NEW LIFE TO THE COMMUNITY.

by Philip Langdon

Project: *Stamford Campus of the University of Connecticut*
Architect: *Perkins Eastman Architects—Bradford Perkins, FAIA, and Aaron B. Schwarz, AIA, principals; Nicholas Leahy, senior associate; Joel Brown, Neville Epstein, Charles Williams, associates; Victor Tesler, Tony Beaumont, Nick Leko, Stephen Matkovits, Joseph Bula, Quincy Nixon, Salvador Pena, Carlo Panfilo, Cono Dizeo, Kathryn Atti, Chris Yoon, Sari Kronish, Daniel Russell, Ekkehard Schmid, Jonathan Neil, project team*
Associate Architect: *Dubose Associates*
Engineers: *Cosentini Associates (mechanical); Purcell Associates (structural); Allan Davis Associates (civil)*
Consultants: *Advanced Structures Inc. (structural glazing); Scott B. Page (program); Jack Curtis & Associates (landscape); Chermayeff & Geismar (graphics); Donegan & Associates (consulting architect); Ann Kale Associates (lighting)*

Cost: *$40 million*

Sources
Uninsulated metal panel: *Alply*
Insulated metal panel: *Criterion*
Glass curtain wall: *Pilkington*
Aluminum windows: *Vistawall, Pilkington*
Insulated glass: *Pilkington, Viracon*
Skylights: *Architectural Skylight*
Glass entrance doors: *Blumcraft*
Cherry veneer doors: *Weyerhauser*
Lighting: *Zumtobel, Bega*

What can a city do to bring a university closer to the community it serves? For nearly a decade, a coalition of business executives, political leaders, nonprofit groups, lawyers, faculty members, and citizens had prodded the University of Connecticut to move its Stamford branch from an outlying, mostly residential area into the city's downtown, the home of the largest concentration of corporate offices in Connecticut. A downtown campus, they reasoned, could both accommodate the spatial needs of the school and serve as a conference center for the city's corporations.

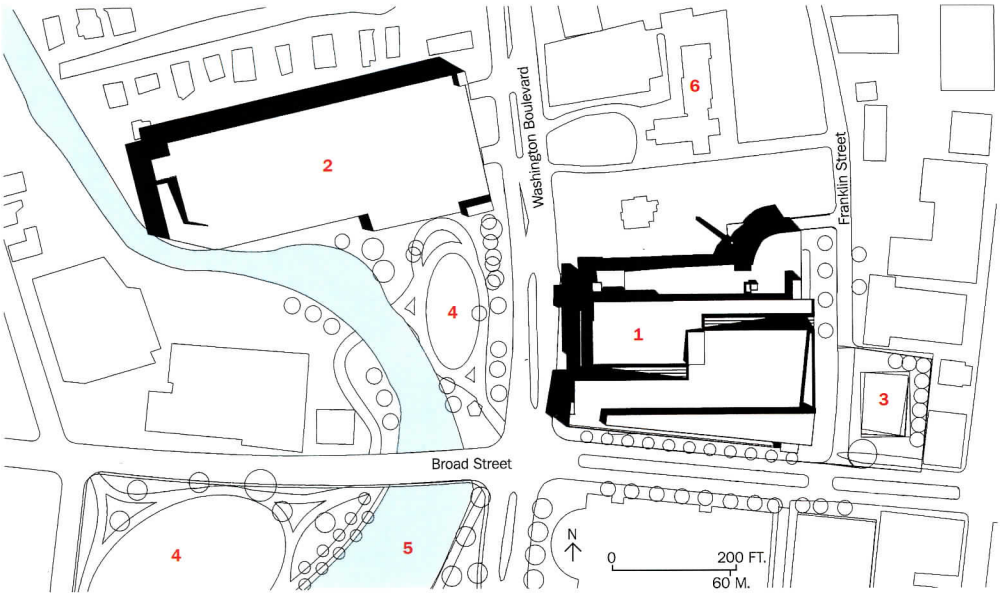
The logical spot for the new campus, the coalition and the university eventually agreed, was at a busy intersection on the western edge of downtown, where a 1953-vintage Bloomingdale's store, which had stood vacant since the late 1980s, looked ripe for renovation. Aaron B. Schwarz, AIA, a principal at Perkins Eastman Architects, explains that one of the attractive aspects of the site was that the structural frame of the old department store could become a modern educational facility in a very short time. In addition, the store's original parking garage, located nearby, could be reused.

New Haven writer Philip Langdon's most recent book is A Better Place to Live: Reshaping the American Suburb.

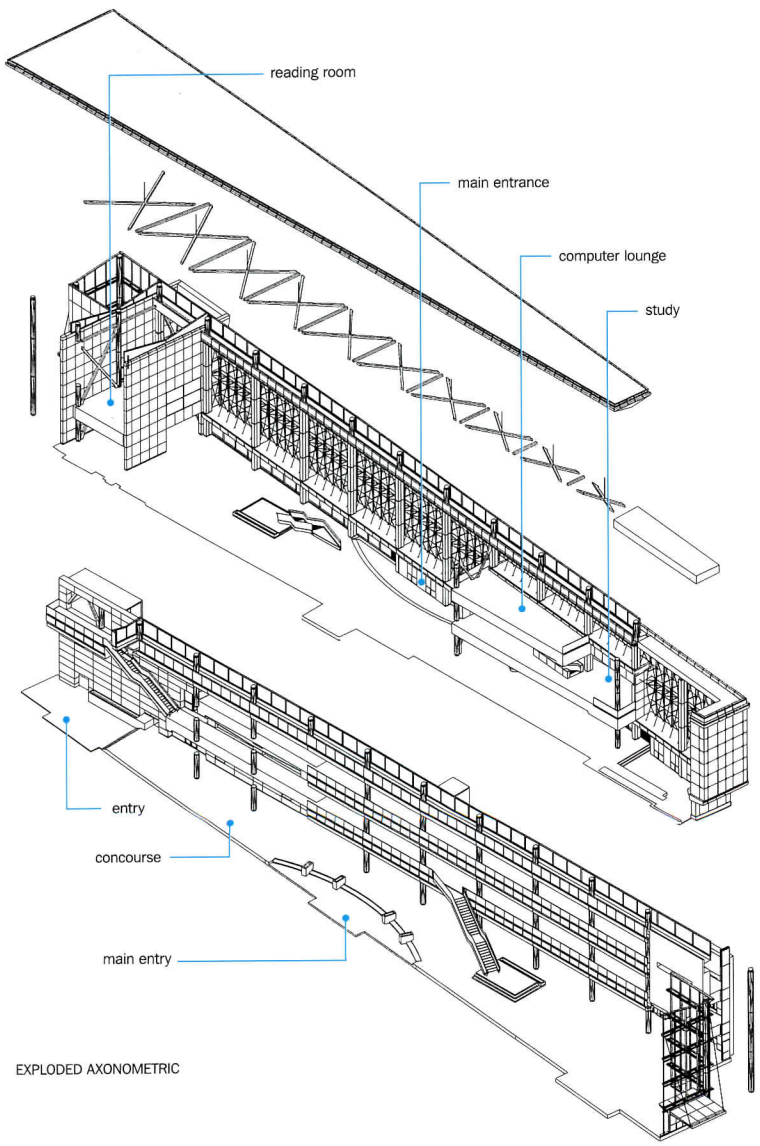
"We stripped the department store to its concrete frame," says Schwarz. "The brick skin of the building was peeled off. All that was saved was the structure and floor slabs." The decision to salvage the building's frame and foundation was based more on saving time than on saving money. Retaining some of the original structure enabled the project to be classified as a renovation, thereby avoiding a complicated regulatory process that would have added months to a tight design and construction schedule. The 20-foot grid of the former department store now accommodates a large range of new educational facilities—a library, auditoriums, classrooms, science labs, computer labs, a fitness center, an art studio,

The academic concourse occupies the glazed space at the front of the building (below). Offices and classrooms occupy the rear (bottom).

PHOTOGRAPHY: © CHUCK CHOI



1. *Stamford Campus building*
2. *Parking garage*
3. *Franklin Plaza*
4. *C. L. "Whitey" Heist Park*
5. *Rippowam River*
6. *St. Andrew's Church*



EXPLODED AXONOMETRIC

Light spines are covered with sloped glass (left in photo); the concourse is a new public space (right in photo).

a conference center, food service areas, and administrative offices—all in one three-level, 253,000-square-foot building, and all on a $40 million budget.

Reusing the structural system allowed work to proceed quickly. A master plan that analyzed the effects of moving the campus downtown was begun in January 1995, design began three months later, demolition started that summer, approval for the start of construction was granted in the fall of 1996, and staff started moving into the building in January 1998 when it was 75 percent complete. In August workers were still taking care of final touches, such as installing metal enclosures on some of the columns.

One of the most interesting challenges of the project was figuring out how to dramatize the school's presence in downtown Stamford. While it's true that the city no longer treats pedestrians as haughtily as it did in the 1970s, when it allowed companies to build headquarters buildings that featured better connections to parking garages than to public sidewalks, the image-conscious corporate culture of this city of 111,000 still craved a sleek, impressive exterior for the university.

Perkins Eastman satisfied the potentially conflicting desires for a glossy corporate-style image and a

The academic concourse can function as a space for large public gatherings or a relaxing study spot.

1. *Entrance*
2. *Concourse*
3. *Library*
4. *Bookstore*
5. *Conference center entrance*
6. *Light spine*
7. *Auditorium*
8. *Classroom*
9. *Multiuse area*
10. *Mechanical*

FIRST FLOOR

pedestrian-friendly setting by inserting a spacious new public area—called the "academic concourse"—along the entire 400-foot-long front of the building, immediately adjacent to the sidewalk.

The concourse, which features angled stairways leading to seating areas at various locations along the upper levels, is envisioned as a setting for public functions and a place where students at the commuter college may choose to linger. "After class, you don't have to run to your car," Schwarz says. "You can stay, read a book. I hope it will become more of a place for the community."

The building's face is essentially a wall of glass punctuated by the metal-paneled volume of the student services area and by an angled wall of translucent white windows at the southeast corner, diffusing light into the reading rooms. "We wanted to turn the building inside out," explains Schwarz, "to get a lot more transparency, to get more views into the building. The idea was that this is not an ivory tower." The green-tinted glass system manufactured in England by Pilkington is 60 feet high and is supported by a stainless-steel catenary-curve truss, which eliminated the need for mullions between the panes.

In contrast to the bright expansiveness of the concourse, the

Study lounges (left) are located beneath one of the building's two light spines. A stainless-steel catenary-curve truss supports the exterior glass wall of the concourse, eliminating the need for mullions (far left and below).

areas holding classrooms and offices are somewhat mazelike. To counteract the confusion that such large, subdivided interiors often cause, Perkins Eastman used daylight as an orientation device. They carved two skylit alleys—each one column bay wide—out of the building's structure. Both narrow atria, covered by sloping glass roofs, run parallel to the front concourse and extend half the length of the building. One of these "light spines" starts at the west end of the building and the other at the east end. They are set apart from each other by two column bays.

Adjoining the building is the new C. L. "Whitey" Heist Park, which was built as part of the master plan to be an amenity not only for students but for the city as a whole. Dr. Curtiss Porter, the campus's interim director, credits the building, and the organizational work that preceded it, with stimulating valuable partnerships and relationships between the university and the city's corporate sector. In addition to the state's contribution, $10 million was raised from corporate and private sources. Enrollment could jump from the equivalent of about 825 full-time students at the old campus in 1994 to 1,331 at the new campus by 2005. Eventually, the university may have to obtain more space. But for now, says Schwarz, "it's a universe in a building." ■

3 Druckenmiller Hall Bowdoin College

A NEW SCIENCE BUILDING WRAPS AROUND AN EXISTING ONE TO PRESERVE A VITAL GREEN SPACE AND TO ENCOURAGE INTERDISCIPLINARY LEARNING.

by Elizabeth Kubany

Project: *Stanley F. Druckenmiller Hall, Bowdoin College, Brunswick, Maine*
Architect: *Ellenzweig Associates, Inc.—Harry Ellenzweig, AIA, design principal; Michael Reagan, AIA, principal-in-charge; Charles Kirby, AIA, Peter Sugar, project managers; Tom Kahmann, assistant project manager; Yahya Jan, project architect*
Consultants: *LeMessurier Consultants (structural); BR+A/Sullivan Partnership (mechanical/electrical); Nancy Hackett (interior design); Jerry Kugler Associates (lighting); R. W. Sullivan (plumbing, fire protection); Carol R. Johnson Associates (landscape)*
General Contractor: *Suffolk Construction Company*

Cost: *$11.8 million (new construction); $4 million (renovation)*

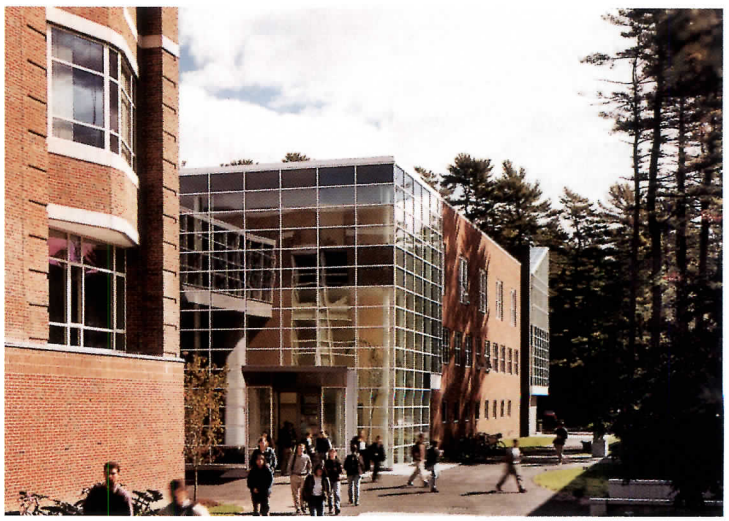
Sources
Masonry: *Glen-Gery*
Curtain wall, aluminum doors and windows, skylights: *EFCO*
Roofing: *Carlisle*
Fire-control doors: *Won-Door*
Hardware: *Schlage, Von Duprin*
Acoustic ceilings: *Armstrong*
Suspension grid: *Chicago Metallic*
Paints and stains: *Benjamin Moore*
Plastic laminate: *WilsonArt*
Solid surfacing: *Fountainhead*
Floor tile: *Dal-Tile*
Resilient flooring: *Armstrong*
Carpet: *Lees*
Furniture: *Nienkämper, Johnson Tables*
Fixed seating: *Kreugar International*

In the words of Harry Ellenzweig, principal of Cambridge-based Ellenzweig Associates, the campus of Bowdoin College, a four-year liberal arts college, is "gentle" and its architecture is a "mosaic of styles." Bowdoin's president, Robert Edwards, echoes Ellenzweig's sentiment when he calls the campus "ancient and beautiful" and its mostly low-scale array of buildings "delicate."

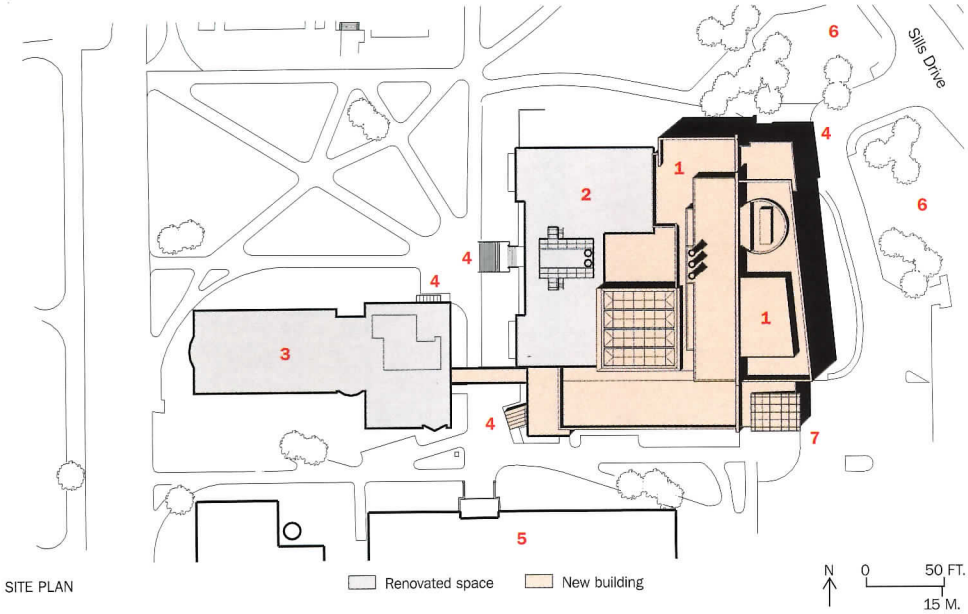
In 1802, eight years after the college was chartered, the Federal-style Massachusetts Hall, designed by Aaron and Samuel Melcher III, opened as the school's first building, which then had 29 students. Today, with the student body numbering approximately 1,500, the buildings on campus represent a wide variety of eras and styles: German Romanesque (by Richard Upjohn), Colonial (by Allen and Collens), Medieval and Gothic Revival (by Henry Vaughan), and modern (by Edward Larrabee Barnes and Hugh Stubbins), as well as neoclassical, neo-Georgian, and even postmodern.

Edwards describes the mandate Ellenzweig was given—to design a large new science center without destroying the subtle unity of the campus—as a "very difficult architectural brief." The location

New York City writer Elizabeth Kubany is an occasional contributor to ARCHITECTURAL RECORD.



Druckenmiller Hall's main entrance (top) has replaced a loading dock as the public face the science complex presents to Sills Drive and the surrounding community. The architects used large expanses of glass at the corners of the addition to diminish its apparent size and impact (above and opposite).

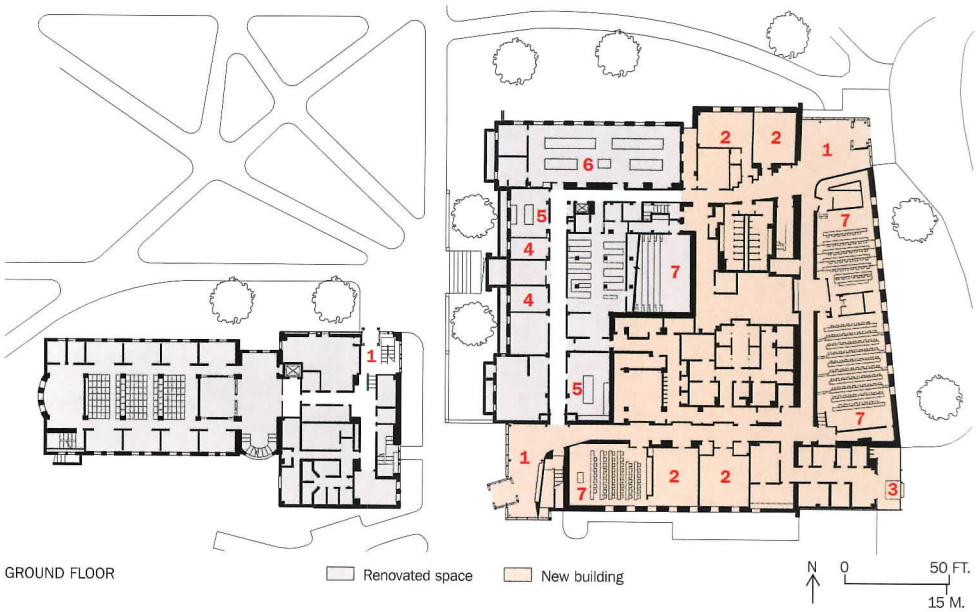


1. *Druckenmiller Hall*
2. *Cleaveland Hall*
3. *Hatch Science Library*
4. *Entry*
5. *Gymnasium*
6. *Bowdoin pines*
7. *Service entry*

A glazed bridge connects Druckenmiller Hall (right in photo) with the existing Hatch Science Library.

The building's new service entry has a less public location (below). Cleaveland Hall's main facade as well as the quad in front of it (bottom) would have been covered up by an earlier scheme for a new building.

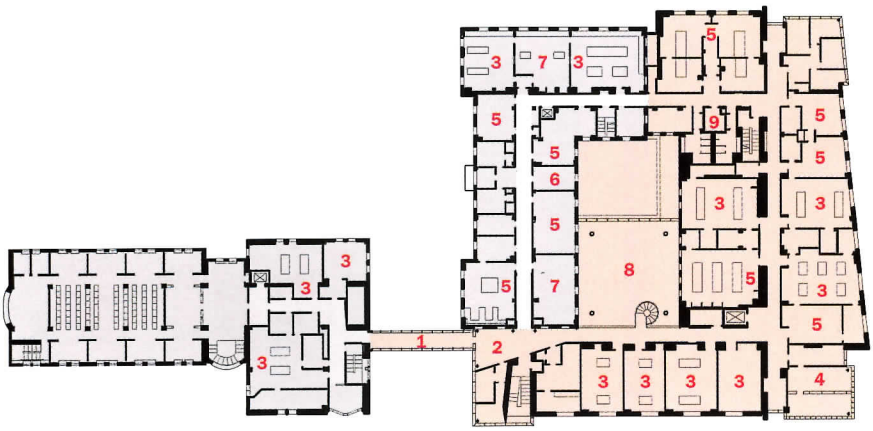
1. *Lobby/display*
2. *Classroom*
3. *Loading dock*
4. *Faculty office*
5. *Research laboratory*
6. *Teaching laboratory*
7. *Lecture hall*



chosen for this new center was the northeastern corner of the campus, where a U-shaped quadrangle is surrounded by a grove of Bowdoin pines. One of the larger open green spaces on the campus, the quad is bounded on the north by Sills Hall and Smith Auditorium, both designed by McKim, Mead & White in 1950; on the east by Cleaveland Hall, also designed by McKim, Mead & White, in 1951; and on the south by the Hatch Science Library, a 1991 building by Shepley Bulfinch Richardson and Abbott. Opening to the west, the quad provides access to Bowdoin's main quadrangle and the remainder of the campus and helps to set the campus's edge.

The original design for Druckenmiller Hall—scrapped because of an unrealistic price tag—was a large rectangular building to the west of Cleaveland Hall. It would have occupied more than half of the quadrangle, walling off this portion of the campus and presenting an unfriendly face to the college's surrounding community.

Ellenzweig's design saves the quadrangle, a vital open space, by making Druckenmiller Hall, in effect, an addition to Cleaveland Hall. Wrapping around the east and south sides of Cleaveland, which was renovated as part of the project, Druckenmiller also provides a connection to the Hatch Science



1. *Bridge*
2. *Study area*
3. *Teaching laboratory*
4. *Greenhouse*
5. *Research laboratory*
6. *Animal facility*
7. *Instrument laboratory*
8. *Atrium (below)*
9. *Cold room*

An atrium serves as a study lounge (below left). A greenhouse (below right) occupies one corner of the addition's top floor.

Library via a glazed, third-level bridge.

As a welcoming gesture to Sills Drive and the neighboring community, Druckenmiller's main entrance is located along the east facade, an area that was previously dominated by a parking lot and service entries. Like other buildings at Bowdoin, the hall is clad predominantly in red brick. But because a 76,000-square-foot building clad entirely in masonry would have overwhelmed the rest of the campus, the architect mitigated the structure's impact by providing generous glazing at each corner. The use of glass gives the building a warmer, more inviting look.

Glazing also helps to integrate the new building with the surrounding structures; the new glass corner entrance and bridge that project from the east side of Cleaveland Hall do not distort the older building's neoclassical symmetry. Different glazing applications distinguish the entrances, greenhouse, offices, lounges, and conference rooms from the classroom/laboratory blocks, which are expressed on the exterior in brick. Throughout the day, the glazing reflects the pine trees, while at night, when the building is illuminated from within, it helps to make Druckenmiller a beacon on the campus.

Besides the difficult site issues it resolves, the building also enhances the school's innovative approach to the teaching of science. Recognizing that successful scientific research often occurs across the boundaries of traditional disciplines such as chemistry and biology, an advisory committee, made up of Bowdoin faculty, decided that Druckenmiller Hall's program should follow suit by breaking down traditional departmental barriers. The building promotes interdisciplinary learning through interaction and collaboration among researchers and students and provides the flexibility to reconfigure spaces and to centralize shared spaces.

Although each individual department occupies its own area of the building—biology along the east side; chemistry on the west side, in the renovated Cleaveland Hall; and geology/environmental studies on the south—"the building is designed so that we all walk past each other all the time," according to Tom Settlemire, associate professor of biology and chemistry. The L-shaped configuration of Druckenmiller Hall, wrapped around the existing Cleaveland Hall, forms a skylit, two-story atrium, where people can meet to socialize and study. Strategically located informal meeting places encourage happenstance gatherings and discussions.

Research labs, with movable partitions for flexibility, have been designed as open, double modules to facilitate interaction among research teams, both within the same department and between different departments, and to allow interchangeable biology or chemistry instruction.

Overall, Ellenzweig's Druckenmiller Hall takes an open and airy approach that makes the campus more welcoming and the sciences more friendly. There has already been at least one happy side effect: biology has become the college's second most popular major. ■

4 Center for Library and Information Resources Emory University

A LIBRARY BUILT FOR THE INFORMATION AGE BRIDGES A CAMPUS'S DESIGN TRADITION, A RAVINE, AND A TALL CONCRETE NEIGHBOR.

by Mia Keilor

Project: *Center for Library and Information Resources, Emory University, Atlanta, Georgia*
Architect: *Shepley Bulfinch Richardson and Abbott—H. Jan Heespelink, principal-in-charge; Geoffrey T. Freeman, principal, library planning and design; Ralph T. Jackson, principal/project designer; Wendell E. Wickerham, library planner/project manager; Tang-Xian Xu, project architect; Kelly Jerome Monnahan, project designer, interiors*
Associate Architect: *Tippett Clepper Associates—Rohit Saxena, principal-in-charge*
Engineers: *Newcomb and Boyd (mechanical, electrical, plumbing); Jack Lynch & Associates (structural); LRE Engineering (civil)*
Consultants: *Hughes Good O'Leary and Ryan (landscape)*
General Contractor: *Beers Construction, Inc.*

Cost: *$10.2 million (new construction)*

Sources
Aluminum curtain wall: *YKK*
Built-up roofing: *Firestone*
Copper roofing: *RTS, Inc.*
Low-e glass: *Viracon*
Acoustical ceilings: *U.S. Gypsum*
Elevators: *Schindler*
Lighting: *Staff, Litecontrol, Visa, Louis Poulsen*
Plumbing fixtures: *American Standard*
Hardware: *Russwin, Corbin, Hager, LCN, Von Duprin*
Lighting controls: *Lutron*

Most of the buildings on the Emory University campus follow a relatively simple formula. They are rectangular in massing, three stories tall, and their structure is characterized by straightforward load-bearing walls. Full-height arched windows are repeated as a theme throughout the buildings, and broad overhanging eaves support red clay-tile roofs. Exterior walls are local pink and white marbles laid up in orderly courses, although the stone's wild veining gives each row its own unique patchwork pattern.

The university gave Shepley Bulfinch Richardson and Abbott (SBRA) the task of integrating the functions of the Candler Library, among the earliest buildings on Emory's original 1919 quadrangle, with the Brutalist 10-story Woodruff Library, designed in 1969 by Warner Burns Toan Lunde. The new building needed to physically mitigate this difference of seven stories in scale, bridge a deep gorge, and redirect attention into the original quadrangle, as well as consolidate Emory's academic computing, media, and traditional library functions into a single library complex.

SBRA's new building, the Center for Library and Information Resources (CLAIR), unlike the other quad buildings, is not freestanding. Instead, it is connected on its north side by a bridge to Candler Library, and at ground level to Woodruff Library on the south. SBRA deferred to Emory's traditional vocabulary of forms and materials in the design of the center, and the building seems as if it has always been there. CLAIR matches the massing of other buildings on the quad, and its skin is detailed with the same pink and white marbles.

CLAIR's plan is figured as a chamfered drum; its north-south axis is aligned with a central axis that runs through both Candler and Woodruff. To the east, the building is set back from Asbury Circle, a campus drive, and to the south it is set back from the original quad. This leaves a space for gardens on both the north and south sides of the building; designed by landscape architects Hughes Good O'Leary and Ryan, their main feature is a deep ravine formed by Peavine Creek. The creek flows beneath the east side of the center and emerges on the west from beneath a stone arch built into the rusticated base. A balcony overlooks the garden, which has been planted

The Center for Library and Information Resources (center in photo below) joins the traditional Candler Library (foreground) with the Brutalist Woodruff Library (background), and bridges a deep ravine (opposite, right). Major library functions are grouped around a two-story lobby (opposite, left).

Mia Keilor is a freelance writer living in Atlanta.

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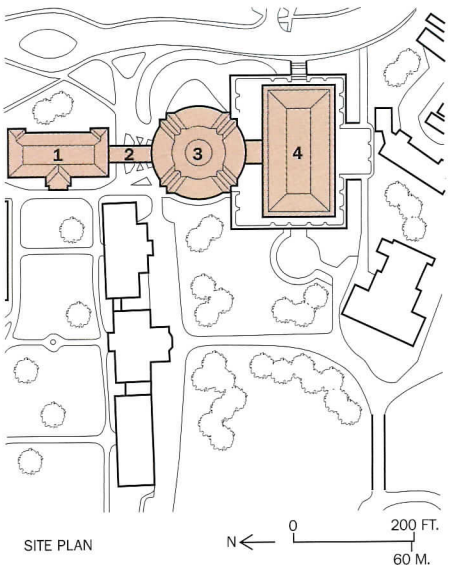
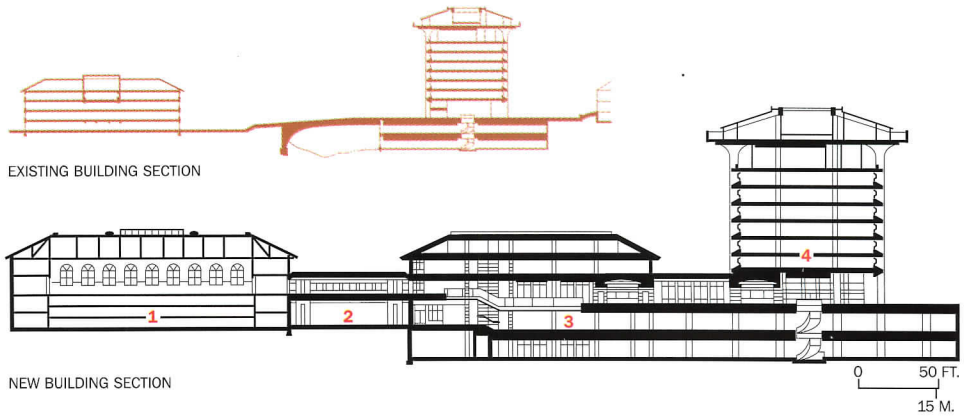


1. *Candler Library*
2. *Bridge*
3. *Center for Library and Information Resources*
4. *Woodruff Library*

The section (below) shows the relationship between the existing libraries and the ravine that divided them. The new center (bottom) bridges the gap between the buildings.



informally with native trees and shrubs.

Students enter the new facility from under a pair of canopies, one on each side of the bridge between Candler and CLAIR, into a two-story lobby. The center's departments are zoned rather than compartmentalized, creating a functional openness: periodicals and technical services are located on the ground floor; the reference and business libraries are located on the second level; and circulation, new books, and the reserved reading room are located on the third level. A new computer network is accessible throughout the building and is flexible enough to evolve over time with a minimal number of disruptions.

SBRA's Center for Library and Information Resources solves a number of site and programmatic problems by linking a new building with two older ones. The result is a solution that extends itself to a distinguished campus on many levels, not a single idea isolated inside a cube. ■

5 Master Plan and Chancellors Hall Southampton College

A CAMPUS MAKEOVER WILL CONSIST OF A NEW SYSTEM OF ROADS, A SPRINKLING OF NEW BUILDINGS, AND A SERIES OF BUILDING RENOVATIONS.

by Charles Linn, AIA

Project: *Master Plan and Chancellors Hall, Southampton College, Long Island University, Southampton, New York*
Owner: *Long Island University*
Architect: *Mitchell/Giurgola Architects—Paul Broches, FAIA, principal-in-charge; John Kurtz, AIA, project principal; Virginia Kindred, project architect; Miguel Rivera, AIA, project manager; James Braddock, AIA, lab planner/designer; Stuart Crawford, AIA, Tilman Globig, Carl Gruswitz, project team*
Engineers: *Atkinson Koven Feinberg Engineers (mechanical, electrical, plumbing); Severud Associates (structural); S. L. Maresca & Associates (civil); Sear-Brown Group (site, civil)*
Consultants: *George C. Lynch (landscape); Acoustilog (acoustical); Inter-Science Research Associates (environmental); Macro-Gorton Associates (owner's representative)*
General Contractor: *Racanelli Construction Company*

Cost: *$6.5 million*

Sources
Custom copper shingles: *Superior Sheet Metal & Siding*
Built-up roofing: *Schuller*
Metal roofing: *ARS*
Aluminum curtain wall, doors, windows: *Kawneer*
Low-e glass: *Solex*
Wood doors: *Weyerhauser*

Southhampton College, in Southampton, New York, is part of the Long Island University (LIU) system, the second largest independent, not-for-profit university in the state. In addition to Southampton, LIU has two other campuses—one in Brooklyn and one in Brookville (the C. W. Post Campus)—and operates several smaller academic centers.

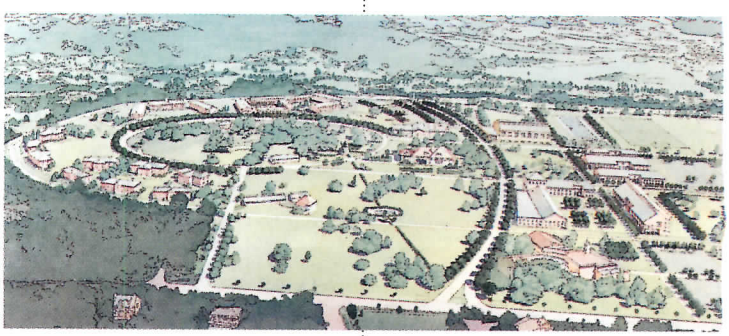
Southampton was founded in 1963 on the site of the Claflin estate, whose former main residence is still used as the college's administration building. The site is bucolic, occupying one of the larger open areas in what has become among the wealthiest and most popular vacation enclaves in the New York City region.

Since 1975 Southampton College has produced 28 Fulbright scholars; its Friends of the World Program for education and social change operates academic centers in seven locations around the world. And the college's proximity to the ocean provides rich potential for its marine biology program.

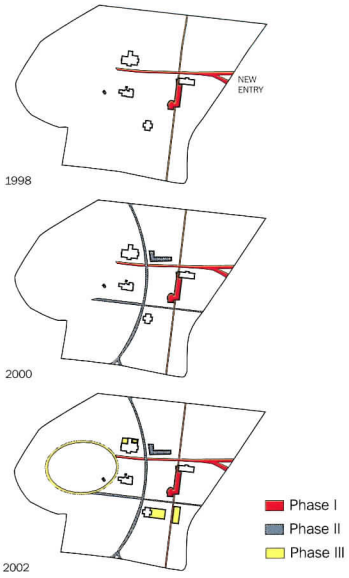
Few visitors would guess the extent of this small college's achievements by casually looking the place over. The campus's buildings look like they were dropped from an airplane passing overhead, and the roads built around them. Vehicle access to the residence halls seems to have been planned more for the movement of trash trucks than for students with cars. The existing buildings have a certain charm but look worn. Working in Southampton's favor, however, are its well-manicured lawns and mature stands of trees.

Chancellors Hall includes an academic wing (left in photo above) and a radio station (right in photo). An aerial perspective (below) shows how proposed roads would impose a sense of order on the campus.

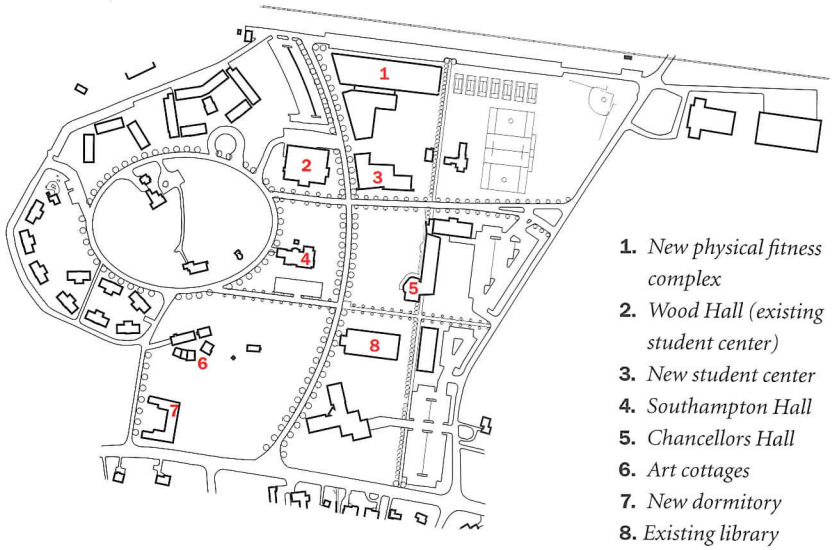
"Unfortunately, it hasn't been a place where a high school senior might drive around with his or her parents, and say, 'Yes, this is where I want to spend the next four years,'" says Paul Broches, FAIA, of Mitchell/Giurgola Architects, the firm's partner-in-charge of a new master plan for Southampton College. Mitchell/Giurgola is also the architect for the Long Island



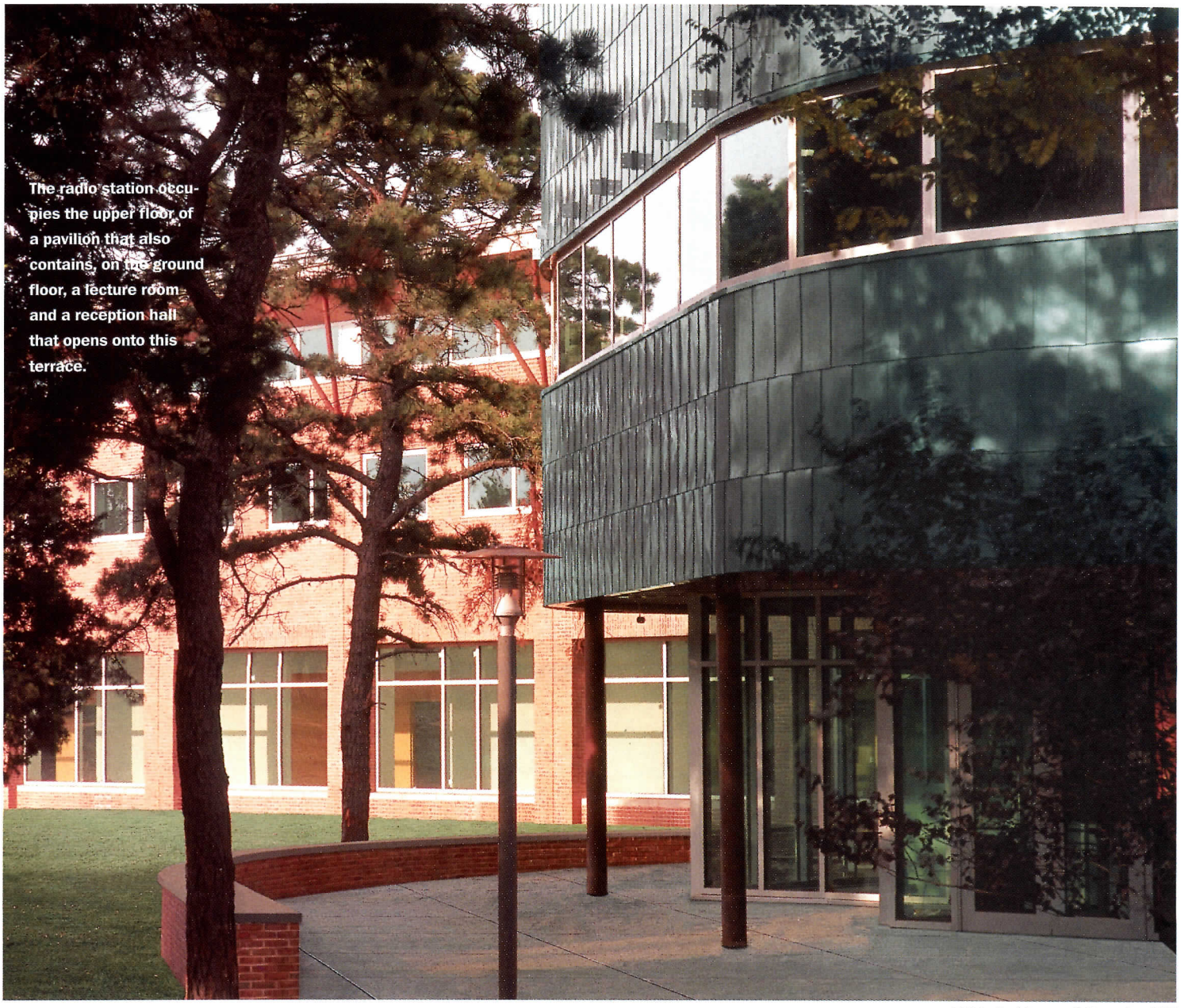
PHOTOGRAPHY: © JEFF GOLDBERG/ESTO; RENDERING: JIM AKERS



Chancellors Hall, the first phase of the project, is complete. In the second phase a new student center will be built and Southampton Hall, the administration building, will be renovated. In the third phase the student center will be enlarged and made into a library, the existing library will be converted into art studios, and the new dorms and fitness complex will be built.

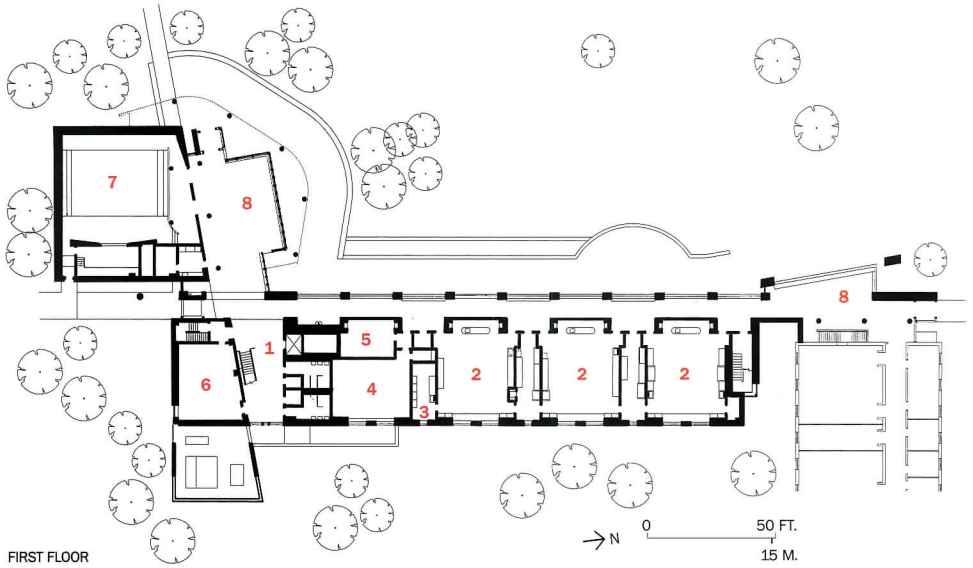


1. *New physical fitness complex*
2. *Wood Hall (existing student center)*
3. *New student center*
4. *Southampton Hall*
5. *Chancellors Hall*
6. *Art cottages*
7. *New dormitory*
8. *Existing library*



The radio station occupies the upper floor of a pavilion that also contains, on the ground floor, a lecture room and a reception hall that opens onto this terrace.

1. *Lobby*
2. *Laboratory*
3. *Lab prep*
4. *Computer lab*
5. *Seminar*
6. *Classroom*
7. *Auditorium*
8. *Reception hall*



FIRST FLOOR

Large windows, west-facing clerestories, and sloping ceilings provide classrooms with a generous amount of daylight (below).

University campuses in Brooklyn and Brookville.

Dr. David Steinberg, president of LIU, explains that it has not been a lack of appreciation for what Southampton could be that kept the campus from getting its share of attention and funding. Rather, over the last twenty years the university chose to spend more of the available money on its two other campuses, where competition for students was higher.

That imbalance is in the process of changing. Mitchell/Giurgola's master plan for Southampton, to be executed in phases, imposes a new system of roads around and between the existing buildings, which will give the site a sense of order. An elliptical drive will define a residential precinct and unify the dormitories, providing access to the front of the buildings. A gently curving north-south entry road will define the west end of the academic precinct, and parallel east-west roads will be used to form an academic quadrangle. A new student center and the renovated administration building will occupy what Broches describes as "the village green," an area between the residential precinct and the academic quad.

Existing parking lots will be broken up into smaller lots and divided by trees and plants to lessen their impact, and other landscape improvements that reflect the spirit of the master plan will be made throughout the various phases.

The plans make good use of Southampton's existing building stock. Some of the work involves moving the functions of certain buildings to other locations and then renovating or adding on to those buildings. The existing student center, for instance, will be converted into the library, and the library will become art studios. Related roadwork will be accomplished simultaneously with each building project. A new residence hall and an athletic center are also planned.

The first phase of the campus's makeover, the construction of the 38,000-square-foot Chancellors Hall and the northernmost of the campus's new system of roads, which defines the east-west side of the new campus quad, was completed this summer. The first floor of the building includes a 150-seat lecture room, a reception hall, several teaching laboratories, and a computer lab. On the second floor are offices for faculty members, the dean's suite, and broadcast facilities for the campus's National Public Radio station. "It is something like an entire campus in one building," says Broches.

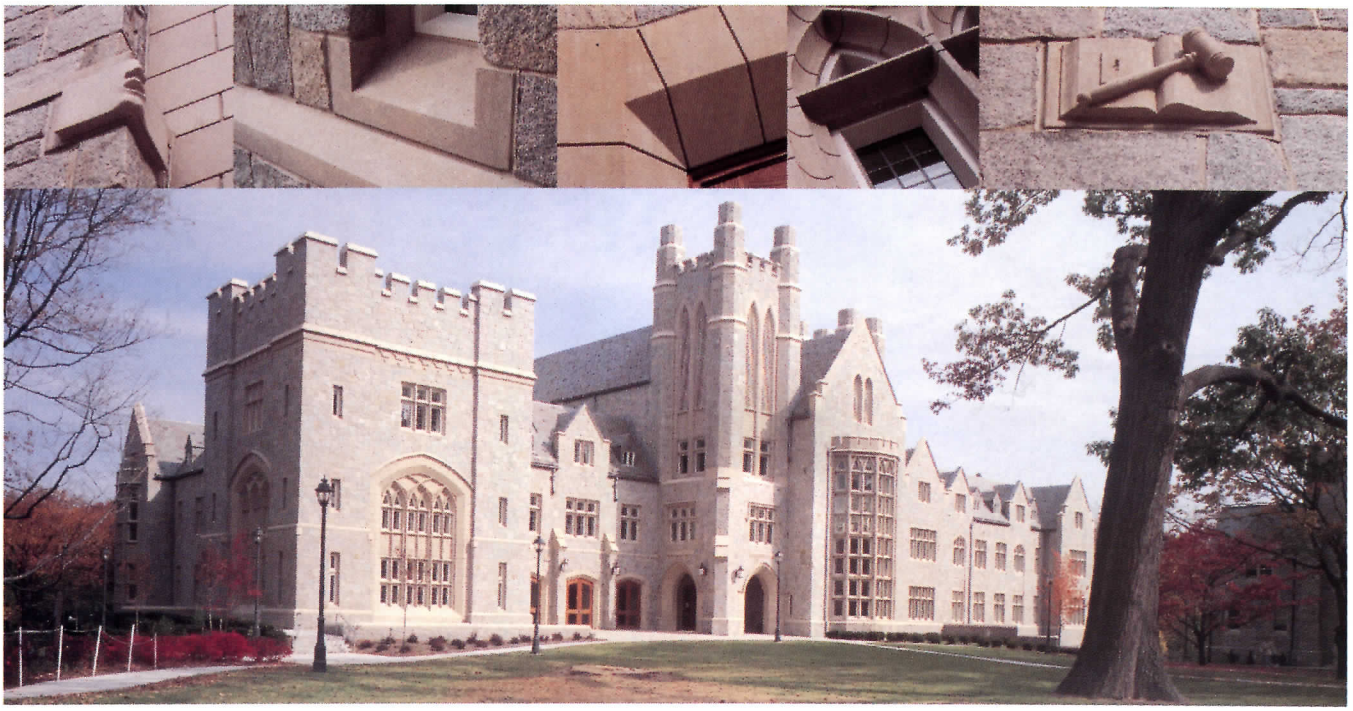
The new facility is oriented to the north and south and connects at a right angle at its north end to an existing science building. The academic portion of the building—classrooms, labs, and offices—are arranged in a linear configuration that is generously daylit from the west by large windows and clerestories. A shed roof and generous overhangs to shade the windows, cedar soffits, and hand-molded red brick all help the building blend with neighboring structures.

At the south end of Chancellors Hall, the lecture room, reception hall, and radio station are grouped into a separate pavilion. Breaking up the massing of the building helps reduce the scale of what is by far the largest building on campus, but without diluting its presence as an anchor for the east end of the academic quadrangle. The pavilion, nestled in a stand of mature trees, is clad in solid copper shingles, hand-patinaed using a proprietary process after installation. The mint-green copper works beautifully with the lush surrounding vegetation.

On the lawn, next to the academic wing of the building, a pair of short brick retaining walls were set into the ground to create a pair of grass-covered platforms that can be used for outdoor ceremonies, such as commencement exercises.

LIU's commitment to making the most of this campus is clear. When the project is completed—including site work and deferred maintenance—$35 to $40 million will have been spent. True, some large universities may spend this much on a single building. But for Southhampton College, the sum is considerable: last year's fall enrollment was only 1,900 students. ■

WE PUT THE CLASS IN CLASSROOM



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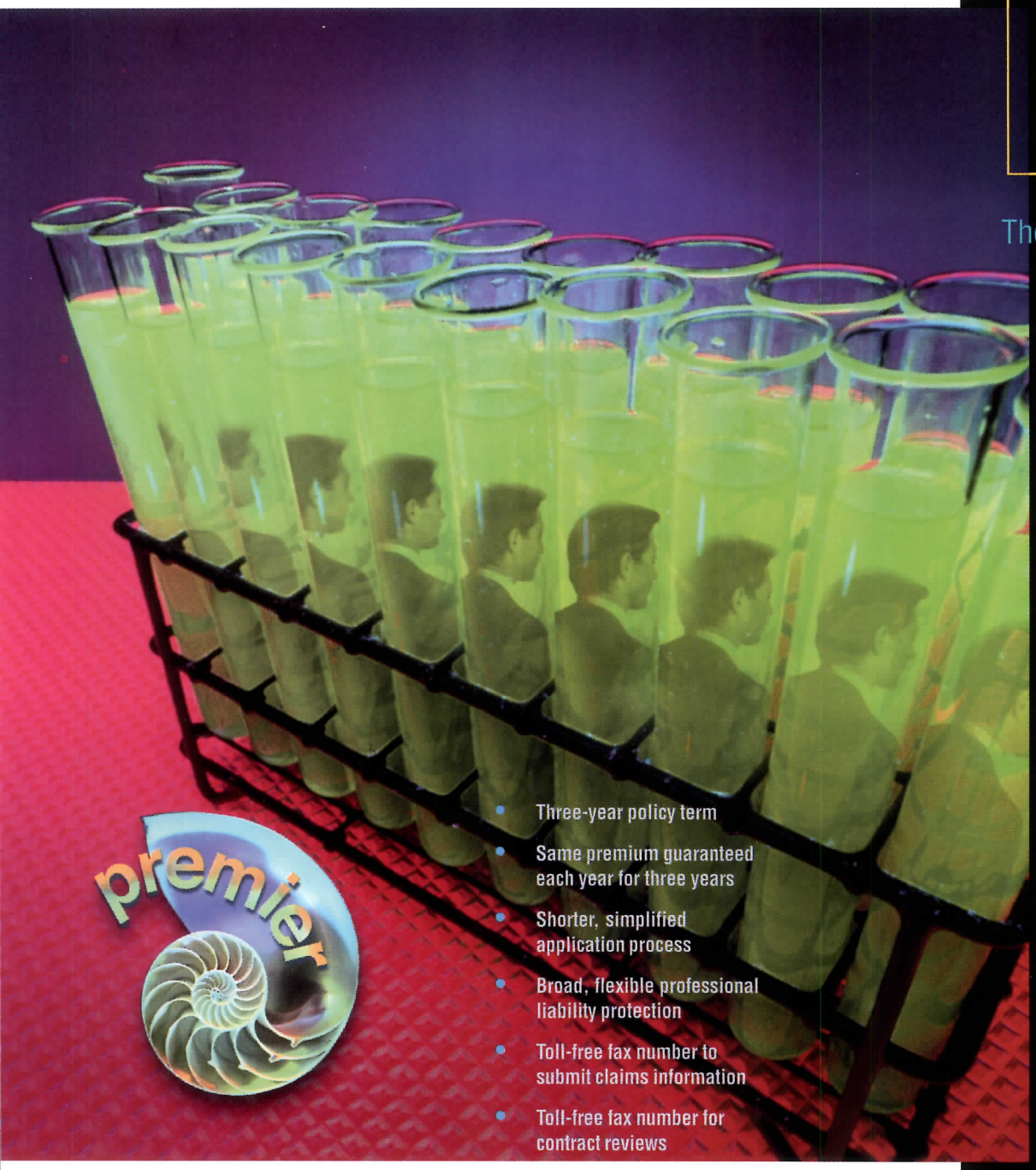

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CNA PRO

CIRCLE 63 ON INQUIRY CARD

Living and Working within the Code

UNDERSTANDING AND COMPLYING WITH THE CODE PROCESS AND CODE OFFICIALS ARE VITAL TO SEEING A PROJECT THROUGH COMPLETION WITHOUT SUBSTANTIAL CHANGES OR CONFLICTS.

Codes establish minimum safety and design guidelines for structures like the Mecklenburg County Jail Central in Charlotte, North Carolina, designed by Hellmuth, Obata + Kassabaum.

by Virginia Kent Dorris

A four-story atrium was to be the most striking feature of a new 150,000-square-foot bank building in suburban Chicago. The all-glass space would have introduced views and sunlight to interior offices and the elevator core and created an appealing entry. But the atrium could not be built, according to local code officials, unless the architects installed fire-rated glazing, doors, and walls at the entries to the elevator banks. The changes would have upped the cost of the building and negated the benefits of the glass atrium. So the architects instead divided the four-story space into two separate two-story atria. "Still nice, but nowhere near the same effect," says Avram Lothan, AIA, of DeStefano and Partners, who designed the building.

Architects are regularly asked to redesign, reengineer, or add expensive and often extreme health and safety features to a building in order to make it pass code. "Restrictions just get tighter and tighter, never more lax. They seem to pervade every aspect of the building. It's as if design freedom were slowly being choked off," Lothan says.

Bob Fowler, FAIA, acting director of planning and permitting in Pasadena, California, agrees. "The codes are written from the enforcer's standpoint in a fashion that is not friendly to architects," he says. "They are complicated documents that are intended to restrict what architects can do."

If codes are a frequent hindrance to design, communicating with code officials is, in some cases, an even bigger problem and something many design professionals would rather avoid altogether. Often it seems architects and code officials are operating at cross purposes. "Sometimes I get the feeling that the code officers are doing all they can to make sure a project doesn't get built," said one architect.

But the secret to operating successfully within the code structure is to embrace it, not condemn it or shun it. Architects who educate themselves about code provisions, think about code ramifications early in the design process, and keep up communications with code officials during a project report that their work survives the process with less conflict and fewer changes.

At their most basic level, building codes are a product of the collective experience of builders and designers, both their accomplishments and their mistakes, over hundreds of years. They are continuously created and revised in response to specific catastrophes: the first building code in the United States was published in Chicago in 1875, two years after the great fire. Building codes are created by professional model code organizations; their members are drawn from the construction and design community. They are written by consensus—members and various trade groups submit their proposals, which are voted on at yearly conferences. The resulting codes, once adopted by various localities, are enforced by law in order to prevent the construction of buildings that are dangerous.

There is a wealth of helpful information contained within the codes. It would be possible, for example, to build a safe stairway by simply following the tenets laid out by code. But the minimums of health, safety, and welfare established by the codes help architects go beyond meeting basic needs, enabling them to concentrate on more sophisticated design goals. "Codes and standards are a tremendous benefit to architects because they allow us to start at a much higher plane when designing

CODES PUBLISHED BY THE INTERNATIONAL CODE COUNCIL

1998: International Mechanical; International Energy Conservation; International Zoning; International Property Maintenance; International Fuel Gas; International One and Two Family Dwelling

2000: International Fire Prevention; International Residential; International Building; International Plumbing; International Private Sewage Disposal; International Mechanical; CABO One and Two Family Dwelling; CABO Model Energy; International Fire; International Zoning; International Property Maintenance; International Gas

Continuing Education *Use the following learning objectives to focus your study while reading this month's ARCHITECTURAL RECORD/AIA Continuing Education article. To receive credit, turn to page 208 and follow the instructions.*

Learning Objectives *After reading this article, you should be able to:*

1. *Explain why building codes originated and why they're still used.*
2. *Outline a process of code checks for a building project.*
3. *List the benefits of the new codes proposed for 2000.*
4. *Describe the difference between prescriptive and performance codes.*

Virginia Kent Dorris is a freelance writer specializing in architecture. She lives in Brooklyn, New York.

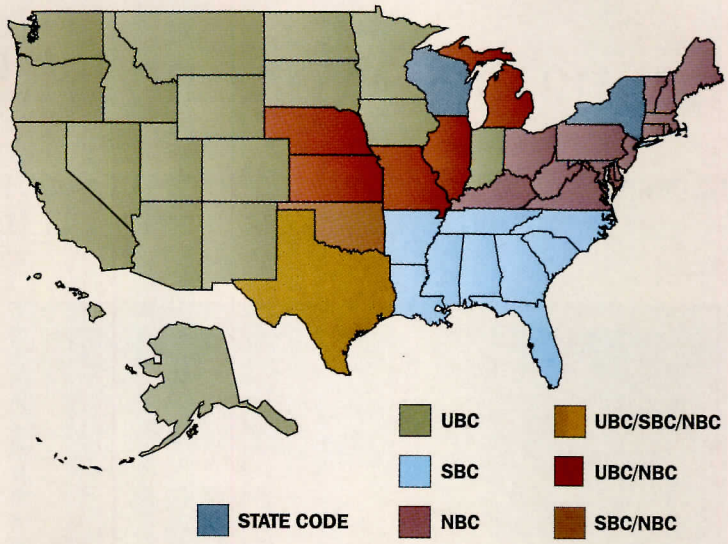
SINGLE INTERNATIONAL BUILDING CODE TO SIMPLIFY THE CODE PROCESS

The local codes that architects must comply with during the design and construction process are usually based on one of the three major model codes. Various localities often amend these codes to suit their particular conditions. The upshot is that architects must familiarize themselves with the special restrictions of each city, county, or state in which they work. To make matters more confusing, some cities, such as New York, Denver, Chicago, and Phoenix, have written their own building codes.

Now a single code, providing one set of rules to govern design and construction in the United States and the other countries that adopt it, is expected to be published in 2000. Known as the International Building Code, it is a distillation of the three major codes. It is being drafted by the International Code Council (ICC), a group comprising members of the three code organizations.

The development of a single national code has long been advocated by the AIA because of its obvious convenience for architects, says David C. Bullen, AIA, director of the AIA Center for Building Performance. Adoption of the single code will improve architectural education, which has traditionally focused little attention on codes. "Schools of architecture will be more receptive to teaching the fundamentals of health, safety, and welfare because of the common basis of the code," he says.

There are problems, however. Not every municipality will adopt the



CODE ORGANIZATION	CODE IN USE
INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS (ICBO)	UNIFORM BUILDING CODE (UBC)
BUILDING OFFICIALS AND CODE ADMINISTRATORS INTERNATIONAL (BOCA)	NATIONAL BUILDING CODE (NBC)
SOUTHERN BUILDING CODE CONGRESS INTERNATIONAL (SBCCI)	STANDARD BUILDING CODE (SBC)

ILLUSTRATION: INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS

a building," explains James Kessler, AIA, senior project architect in the criminal justice focus group at Hellmuth, Obata + Kassabaum. For example, codes and standards for detention facilities provide an objective authority that determines what the design must include. Working within these givens, Kessler does not have to rethink security basics each time he works on a new facility. In this sense, codes also help limit the architect's liability.

Start with schematics

Probably the first step to ensuring the success of a project is to meet with code officials early—before designs are approved by the client. The relationship should be continued throughout the design process, especially if there is something unusual about the building. Tom Thompson, a building official in Broomfield, Colorado, is an advocate of early and frequent communication with architects. He makes himself personally available during planning board deliberations and encourages architects who call and ask about permits to make an appointment to meet him. "I can work off very sketchy plans, elevations, and a site plan, and probably resolve 60 percent of the problems right then," Thompson says.

While building officials can help solve various dilemmas, architects should, whenever possible, come prepared with their own set of alternative solutions, says Herbert Eisenberg, AIA, a code consultant with Sullivan Code Group in Boston. He knows of architects who have walked into building departments and thrown up their hands, asking the building officials to tell them what to do. Aside from showing "extremely bad form," these architects wind up sacrificing design approaches that may have worked better for their clients. Once officials are given responsibility for formulating a solution, they may not be willing to consider alternatives.

Mike Daley, an architect with the Neenan Company, a design-build firm in Fort Collins, Colorado, worked closely with Thompson during design and construction of a multibuilding complex in Broomfield for Hunter Douglas Inc., a window shade manufacturer. Daley went to Thompson's office with conceptual plans for the most recent building in the complex, a 130,000-square-foot warehouse and office structure. Daley knew from the start that the plan would not satisfy the existing local fire code, which limits buildings without a two-hour fire-wall partition to 50,000 square feet. A building of the size that Daley was planning would need to be split into three sections. However, the client wanted one huge, flexible space.

Working closely with Thompson, Daley designed the building around an "early suppression fast response" (ESFR) sprinkler system that could quickly dump huge volumes of water on a fire to protect large floor areas. Though the ESFR system was included in the latest version of the Uniform Fire Code, Broomfield was still working with an earlier edition of the code. In addition, to make the ESFR system work properly, Daley needed to eliminate the code-required curtain boards—noncombustible partitions suspended from the ceiling to keep smoke from spreading. After submitting engineering data and a video of the ESFR from Factory Mutual, an insurance company that produces fire protection standards, the Neenan Company's project was approved.

This kind of helpfulness on the part of the code official, and a willingness on the part of the architect to make that official part of the building team, goes a long way toward calming the sometimes stormy relationship between the two. It also helps if the code official is trained as an engineer, building contractor, or, especially, an architect. "Qualifications of code officials vary. If they come from a design or construction background, they will generally look at things more creatively," says Jon Traw, president of the International Conference of Building Officials. In general, more experienced officials are easier to work with—they're not so nervous about adapting the code to meet special considerations and they understand the repercussions of their decisions. "Some code officials are looking to police you, but the best ones make themselves part of the project development team," he adds.

new code. For example, Perry C. Tyree, a building official in Colorado who has been active in the code-writing effort for decades, warns that the three model codes were merged too quickly and that problems will result. The localities in his jurisdiction are likely to adopt the most recent version of the Uniform Building Code instead, even after the International Building Code is published, and will wait and see how the new code fares. "Other building officials may have time to work out the bugs, but I don't," Tyree says.

Though a major goal of the International Building Code is to simplify the regulation of building design and construction, it seems that nothing in the complex world of building codes is simple. In fact, while the ICC struggles to merge the three existing model codes to create one document, a subgroup of code writers has begun a second international code, known as the International Code Council Performance Code.

The difference between the two codes lies in their approach, explains Richard W. Bukowski, a senior research engineer at the Building and Fire Research Laboratory at the National Institute of Standards and Technology, a member of the Performance Code writing group. The new International Building Code is a conventional, prescriptive document that often details exactly how a building component or system must be designed. The Performance Code, on the other hand, explains the intent of the code in a specific situation and lets the designer figure out how to meet that objective. For the design of a wood-frame commercial building, for example, the International Building Code contains tables and charts detailing exactly what sizes of wood members are required. The Performance Code states the code's intent—that the structure should withstand specific wind, snow, and seismic loads, which depend on the building's performance requirements. The architect would size the members to satisfy that goal.

The Performance Code will also be published in 2000 and will likely be adopted locally as a companion to the International Building Code. Building plans could be evaluated under either code or both codes, as the situation requires. The authors of the Performance Code anticipate that it will be applied to only 5 to 10 percent of all new projects, and will have the most impact on unique buildings—those that do not fit easily into the prescriptive code structure. When designers use the Performance Code, it will be up to them to conduct tests and provide building officials with documents that prove that the design solution satisfies the intent of the code.

To further complicate the picture, a separate, new fire code has been developed, the International Fire Code. This will accompany the new International Building Code. The first draft was published in October 1997; the final version is expected in 2000. A second, performance-based version of the fire code has been written to complement the Performance Code. The National Fire Protection Association, which, until February, worked with the ICC on its International Fire Code, says it plans to continue to publish its own separate fire codes, NFPA 1, the Fire Prevention Code, and NFPA 101, the Life Safety Code.

The International Building Code and the International Fire Code are at the top of a list of consolidated codes already published by the ICC (see box, page 171). *V.K.D.*

Keeping up on codes

Seeing a project through the code process successfully also means being aware of current regulations and understanding how they will affect design. That's not so easy; code supplements make for tedious reading, and the portions actually adopted by different cities and states vary widely. Since most architects work in many different locations, brushing up on local codes could become a full-time endeavor.

Some local code enforcement agencies and building departments offer regular meetings and seminars for design professionals to help them keep up on code changes. William E. Cullen, AIA, of Mill Valley, California, attends monthly lunch meetings sponsored by the Marin County Code Advisory Board. "I can ask questions, get advice, and get to know the officials personally, which is very helpful," Cullen says.

Another option is to become a professional member of a code organization. That enables an architect to receive information on code changes as they are enacted and to gain access to the organization's technical staff. It also offers access to the code-creation process.

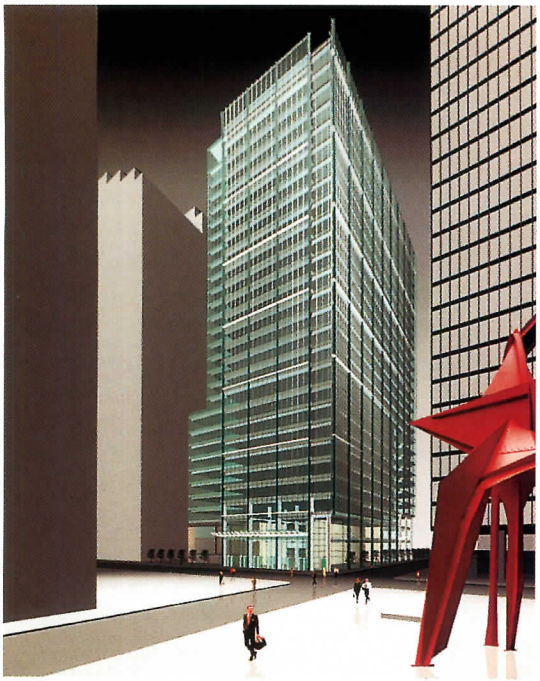
Hunter Douglas wanted an open warehouse, but fire codes forbade it. The architect worked with code officials to create an alternative means to satisfy code.

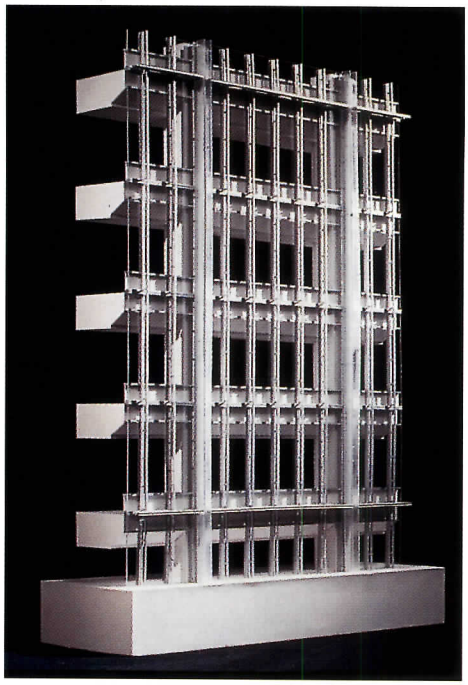
Calling on consultants

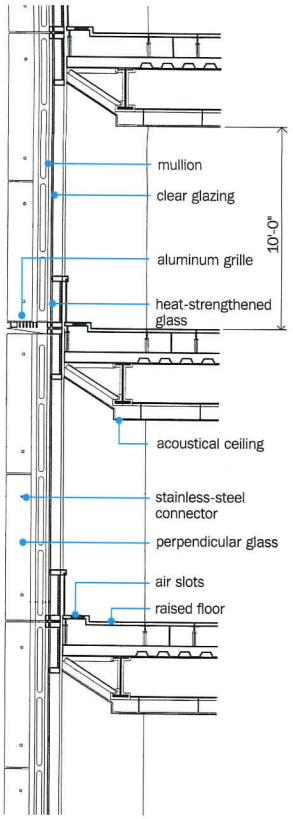
Architects commonly hire consultants, local architects, or engineering firms that specialize in code compliance to advise them—particularly for projects that attempt to satisfy code requirements by "alternate means." Such projects almost always require data from engineering tests and analysis to show that an alternative is equal to what is prescribed by code.

Engineering consultants provided essential expertise during code deliberations over the Federal Building and United States Courthouse in Phoenix, Arizona. The building, designed by Richard Meier & Partners, is organized around an enormous, glass-walled atrium that uses a type of evaporative cooling system. A fine mist of water is sprayed into the air near the top of the atrium. The cooled air drifts down through the 100-foot-high atrium and into the occupied space below, while hot air rises and is exhausted through ceiling louvers.

There are no mechanical exhaust fans at the top of the atrium to vent smoke in case of fire; the system is totally passive. This concerned code officials. "The code is very clear that when you have a large atrium, you are required to have mechanical smoke exhaust," says Gary Rose, a fire protection engineer with the General Services Administration. However, Rose allowed the project engineer, Ove Arup & Partners, to submit a report in support of the new system. That report, based on the results of a computer model, was too far out of Rose's experience for him to judge comfortably. So he turned to John H. Klote, a consultant in McLean,







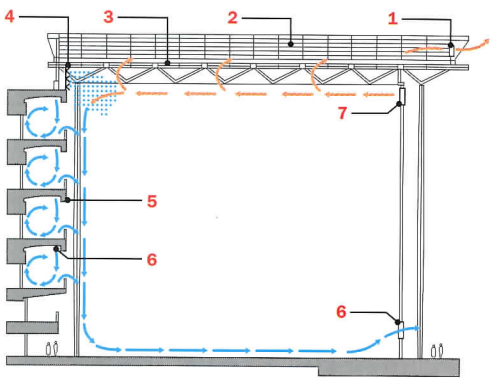
PARTIAL WALL SECTION

DeStefano and Partners' 35-story speculative office building uses new technology that challenges code. Air is distributed through pressurized under-floor plenums instead of conventional ductwork. Wiring, not encased in conduit, shares the plenum. Officials have approved the air system, but not the wiring.

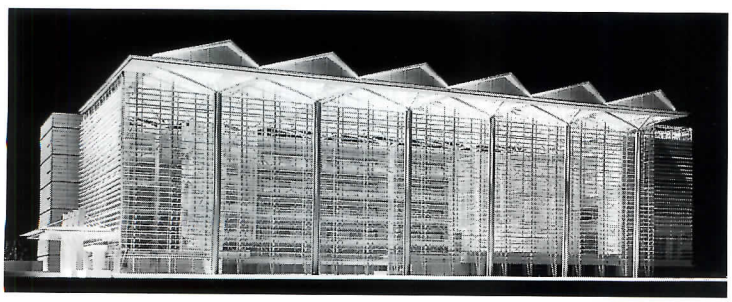
Virginia, and an expert in smoke dynamics and the physics of building fires. Based on the report, Klote concluded that the passive system would function in the event of fire. Rose then granted the building permit.

A fire safety engineer also consulted with Steven H. Ruiz, AIA, of Beery Rio & Associates, on finding ways to turn the Shenandoah, a 1906 National Historic Landmark apartment building in Richmond, Virginia, into an assisted-living facility for the elderly. The building's brick and wood construction did not conform to the National Building Code (NBC), used in Richmond. So the architects took advantage of a little-known state provision that permits use of an alternate building code in special instances. Instead of NBC, Beery Rio worked with the National Fire Protection Association's Life Safety Code, which was better suited to the rehabilitation project and allowed the architect to include sprinklers throughout the building, even in nonpublic spaces.

1. *Hot air vent*
2. *Hot air zone*
3. *Shading device*
4. *Water spray nozzles*
5. *Bulkhead*
6. *Air outlet*
7. *Air inlet*



Richard Meier's Federal Building and U.S. Courthouse uses a cooling system that challenged local codes.



Challenging conventional wisdom

Sometimes new technology challenges existing codes. As part of the design of a 35-story speculative tower in Chicago, DeStefano and Partners designed a 12-inch-deep, pressurized under-floor air plenum to deliver conditioned air through floor grilles instead of ductwork. Low-voltage, plenum-rated electrical wires, not encased in conduit, would also run within the space. The plenum system increases the flexibility of the building's open-plan office space; partitions and desks can be moved as needed without regard to ductwork and wires. "When there is a 'churn' of tenants there will be no need to call in an electrician," Avram Lothan says. "Just open up the floor and move the wires as needed."

Both the pressurized plenum and the wiring proposals conflict with Chicago's mechanical and electrical code. DeStefano and Partners filed an application with the building department asking for approval of the raised-floor pressurized plenum system on the grounds that it "meets or exceeds all performance characteristics for structural integrity and fire resistance of the specified materials and systems." The proposal was reviewed by the city last summer, and, while no variance was issued for the unsheathed wiring within the plenum, the air-distribution system was approved. Lothan calls the rejection of the wiring aspect "regressive." But the company's efforts have paved the way for other architects considering the under-floor plenum system, which is likely to be included in the next edition of the Chicago code. ■

NEW PRODUCTS

This month, the first two pages of New Products highlight eight projects from around the country that use the latest exterior metal cladding technology. But no matter how high-tech the metal cladding may be, its essential purpose remains the same: to separate a building's interior from the outdoors, maintaining an indoor environment suitable for the building's intended use. This means keeping water and fire out, ventilating the air, and controlling light, radiation, heat, sound, and water vapor—and, if there's a threat of seismic activity, adjusting to movement. Simple, right?
—Elana H. Frankel, Products Editor

MINNEAPOLIS'S FEDERAL RESERVE BANK ADDS SHINE TO RIVERSIDE PROPERTY

Since it was completed last year, Minneapolis's Federal Reserve Bank Building—designed by St. Louis's Hellmuth, Obata & Kassabaum (HOK), with Walsh Bishop Associates of Minneapolis as associate architects—has proved a good urban neighbor. The seven-story office tower, with its curving glass wall and adjacent low-rise operations center that stretches along the Mississippi River, has revitalized a once-tattered (albeit historic) stretch of downtown.

Gyo Obata, HOK's principal in charge of design, says that the design team looked to the site itself for architectural inspiration. They saved several historic buildings along the site, and they pulled the building back to create a public plaza that leads down to the landscaped riverfront.

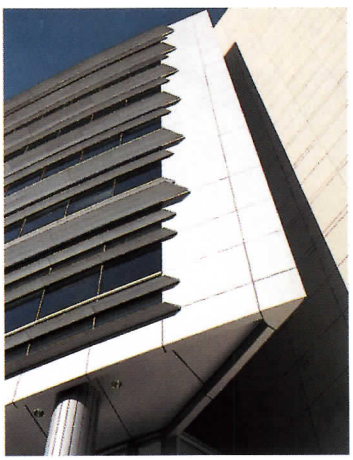
The architects employed a diverse palette of materials: rough-cut limestone, precast concrete, beige brick, and extensive metal detailing. They chose metal as a counterpoint to the stone and precast concrete because "it allows us to achieve an architectural lightness and bring human scale to the street-level facade of a rather large building," says Robert Powers, a senior associate at HOK.

The metal also adds a great deal of visual interest. For such key spots as the entrance portal and arcade, as well as bands that visually frame the curving curtain wall, HOK employed silver-metallic, .125-inch aluminum panels from the UNA-FAB Modified Series 3000 Plate Panels by Copper Sales.

The main entrance was designed as a series of architectural progressions. Visitors first approach the front door under a 32-foot-high entry portal, in which square aluminum panels secured to a stud-framing system are supported by aluminum-clad radius columns atop precast abutments. The aluminum-ceilinged portal, which encircles a glass oculus that peeks at the sky, wings upward, its metallic form seemingly floating above the columns. The portal leads directly to a 105-foot-long entrance arcade, where rectangular aluminum panels are gently curved upward to form a convex aluminum ceiling. Smaller perforated panels line its periphery. The glittering metallic ceiling contrasts with the golden precast columns, creating a tunnel-like passageway that steers visitors' vision toward the front door.

Eric Kudalis is the editor of Architecture Minnesota.

Metal cladding adds visual interest to the Federal Reserve Bank facade.



Details of the curved wall (left) and an interior hallway (above).

While most people will notice the curtain wall's aluminum detailing as they drive over the Hennepin Avenue Bridge into downtown, pedestrians strolling in the building's landscaped plaza will get an up-close look at the contrasting metal, stone, and precast concrete. The curving curtain wall pulls slightly outward from the building's facade, allowing the metal panels to form a smooth blade along the edge.

In a region renowned for its bitter winters, the slick look of silver-aluminum cladding may seem a bit too cool; a warmer material or color may have been more appropriate. Yet the panels add a glittering presence as they reflect both natural and artificial light at a time of year when light is at a premium. "The metal adds highlights of light and a bit of sparkle at the base," says Powers. *Eric Kudalis*

800/426-7737. Copper Sales, Anoka, Minn. CIRCLE 200

WHO'S DOING WHAT WITH METAL CLADDING

This fall, Mitsubishi Chemical will introduce Alpolic Copper 4, a solid copper skin with a 4-millimeter thickness and 36-inch width (a 51-inch width will be introduced soon), and the abrasion-resistant Alpolic ISD, an image transfer system for interior displays. 800/422-7270. Mitsubishi, Chesapeake, Va. **CIRCLE 201**

▼ Bridge design

Architects Lohan Associates of Chicago designed the two AmSouth Bank buildings in Birmingham, Alabama, with a connecting bridge made from custom metal panels by Masonry Arts. The bridge, clad in glass block and curtain wall, has aluminum panels on the top and bottom. 205/428-0780. Masonry Arts, Bessemer, Ala. **CIRCLE 203**

► Metal front and top

Steve Kieke, AIA, used American Buildings Company's (ABC) metal building system on B&B Specialty Metals' retail outlet in Bakersfield, California. The exterior walls of the 60-by-120-foot facility are made of corrugated galvanized steel. The building also has an ABC metal roof system. 334/687-2032. American Buildings Company, Eufaula, Ala. **CIRCLE 202**

▲ Ultra-high pan and batten

Custom Panel Industries' pan and batten system for metal roofing and walls has a concealer fastener panel that uses an ultra-high batten cap in heights of up to 11 inches. 909/829-8618. Custom Panel Industries, of Alta Industries, Rancho Cucamonga, Calif. **CIRCLE 204**

▼ A capital idea

The Capitol Records building in Nashville, Tennessee, used Reynolds' Reynobond aluminum composite panels in a 4-millimeter thickness and champagne metallic finish. Forming options, as illustrated below, include small radius and reverse curves as well as angles and radius corners. 804/281-3706. Reynolds Metal Company, Richmond, Va. **CIRCLE 205**

▲ Airport revival

Forty thousand square feet of Eastern Exterior Wall Systems' (EEWS) prefabricated, Alucobond-composite, Kynar-painted exterior panels and 16-gauge, Kynar-painted interior steel panels were recently installed at the Lehigh Valley (Pa.) International Airport terminal. The panels are lightweight—as light as six pounds per square foot. 800/355-EEWS. EEWS, Lehigh Valley, Pa. **CIRCLE 206**

▲ High-tech cladding

Centria was recently specified for the development of Stage Two operations at Compaq Computer's regional headquarters in Singapore. The three-story office building and two-story manufacturing facility, designed by the architectural firm Team 3, includes more than 70,000 square feet of Centria's Foamwall exterior metal cladding system and support steelwork. Centria was specified because of its properties—it's a lightweight, highly insulated composite panel system for buildings that require long spans and are located in areas with high humidity. Centria has support staff around the world. 412/299-8240. Centria, Moon Township, Pa. **CIRCLE 207**

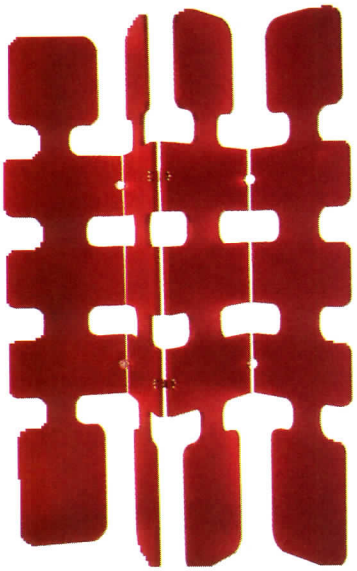
▼ Column covers

The architectural firm Page Southerland Page and the contractor Southern Architectural Systems chose alabaster-colored custom-fabricated metal from MM Systems to cover columns at the Houston Cypress Fairbanks Medical Center. Fabricated to exacting tolerances from .125-inch aluminum, each component was coated with Kynar 500 and Hylar 5000. The alabaster color was selected from MM Systems custom colors to match the window mullions and fascia trim. Seventy-two standard colors are also available. 770/938-7570. MM Systems, Tucker, Ga. **CIRCLE 208**

PRODUCTBRIEFS

▼ New furniture design

Based in Manhattan's Flatiron district, architect/designers David Khouri and Roberto Guzman recently formed the company Comma and debuted their first furniture collection at the International Contemporary Furniture Fair. Screen 2 (below), one of 15 pieces in the new collection, is manufactured from ¾-inch-thick lacquered acrylic and measures 68 by 68 inches. It is available in a variety of other colors. Lighting, tables, and consoles are also part of the collection. 212/929-4866. Comma, New York City. **CIRCLE 209**



▲ Concrete and custom molds

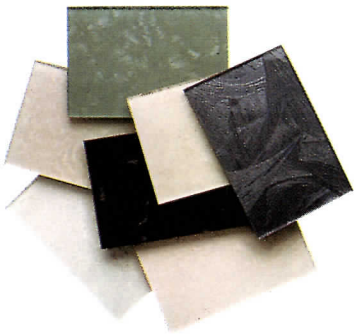
The Scottsdale, Arizona, Pima Freeway sound barrier (above), 60 feet high at its tallest point, has become an eight-mile work of art thanks to Scott Systems' urethane form liners for concrete. Once production of the special molds was perfected, more than 20,000 square feet of urethane liners were used to design various concrete-textured cacti and a 67-foot lizard. 303/341-1400. Scott Systems, Aurora, Colo. **CIRCLE 210**

▲ Bathroom chic

Philippe Starck's latest design venture is Edition 2, a series of bathroom products that includes a one-piece porcelain toilet with an elongated bowl from Duravit. Also part of the collection is a Hoesch bathtub. 888/387-2848. Duravit, Duluth, Ga. **CIRCLE 211**

▼ Decorative acrylics

There are 20 items available in the Vitricor collection of solid-colored and metallic acrylics from Nevamar, including Mist, a low-glare version that meets ADA requirements for reflectivity, and Ice, a random-patterned acrylic reminiscent of crystal formations. Also available is Impressions, a collection of wood-grain patterns. 800/638-4380. Nevamar, Odenton, Md. **CIRCLE 212**

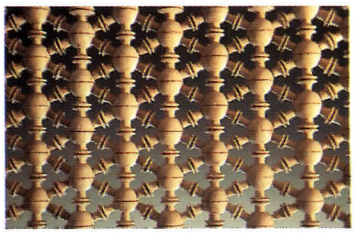


▲ Lateral files

Office Specialty's Arcus filing system is available with four 10½-inch drawers. With an overall height of 45 inches, the cabinet is ADA compliant, with a lock that is wheelchair accessible. 905/836-7676. Office Specialty, Holland Landing, Ont. **CIRCLE 213**

▼ Private office design

Margaret McCurry, a principal in the architecture firm Tigerman McCurry, has created a private office collection for HBF including tables, credenzas, side, lounge, and desk chairs, sofas, loveseats, and coordinating fabrics. Eleven types of tables made of maple with satin-nickel leg ferrules are available. 800/801-8033. HBF, Hickory, N.C. **CIRCLE 214**



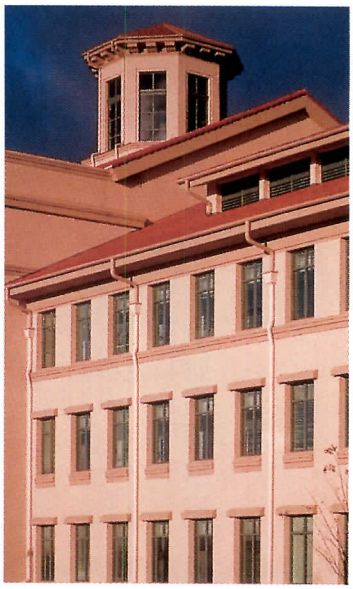
▲ Age-old craftsmanship

Ahmed Elmetwally, principal designer of Darwish Architectural Arts Studio, specializes in Zellij, a type of Moorish mosaic (right); and Mashrabia, Egyptian grillework made of spool-turned beech and mahogany (above). 212/674-5833. Darwish Studio, New York City. **CIRCLE 215**

PRODUCTBRIEFS

◄ Louver line

Greenheck, a company that manufactures ventilation equipment, has added three more louvers to its product line. The new louvers are designed to maximize resistance to wind-blown rain by protecting air-intake and exhaust openings in exterior walls. Commonly used for air-conditioning grilles. 715/359-6171. Greenheck, Schofield, Wisc. **CIRCLE 216**



▲ Exterior protection

Ausimont's Hylar 5000 HP Plus PVDF (polyvinylidene fluoride) resin protects a building's surface coating from heat and cleaning solvents. Hylar 5000 HP Plus can be used on galvanized steel, stainless steel, aluminum, and galvalume for metal roofs, mullions, copings, and columns. 800/221-0553. Ausimont, Thorofare, N.J. **CIRCLE 219**

▼ Building coatings

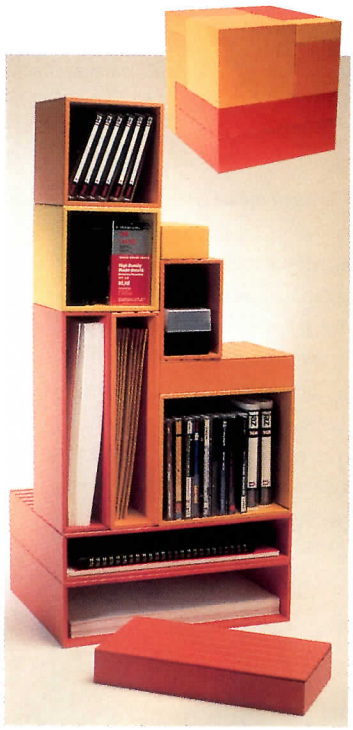
An air-dried version of Megaflon, a 100 percent thermoset (heat-cured) fluoropolymer coating, is now available in a range of building colors. Megaflon can be applied to aluminum, steel, and galvanized-steel surfaces as well as doors, window frames, handrails, and stairs. It can also be sprayed over first-generation coatings. 860/274-6701. Keeler & Long PPG, Watertown, Conn. **CIRCLE 217**

▼ Sliding patio doors

Therma-Tru's new Fiber-Classic sliding patio doors are available with prefinished white exterior panels that match the frame and have a wood-grain texture. Panels can be stained or painted. Clear, low-e, or tempered, insulated glass can be assembled directly into the door panels. 800/THERMA-TRU. Therma-Tru, Maumee, Ohio. **CIRCLE 218**

▼ Floor closer

Ingersoll-Rand's LCN 8100/8200 floor closers are designed for exterior and interior doors up to 54 inches wide and weighing up to 300 pounds. The 8100s are for offset-hung applications; the 8200s are for center-hung, single-acting applications. 800/526-2400. LCN Division, Ingersoll-Rand, Princeton, Ill. **CIRCLE 220**



▲ Design awards on display

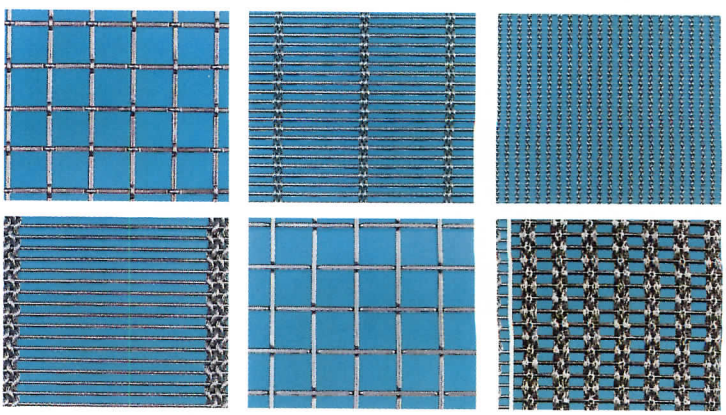
One of the six 1998 Felissimo Design Awards went to Maximilian Burton for Buro, a modular storage unit that folds into a cube. Winners will be on display at the Felissimo store from October 15 to November 14. 800/565-6785. Felissimo, New York City. **CIRCLE 221**

► Small office, home office

Building on the trend toward home offices and the need to provide stylish furniture for them, Kirk Hobbs has formed OFFI & Company. The company's first collection, Cerise, is designed by Brian Kane and Mark Kapka. Made from solid cherry, aluminum, and curved rolled steel legs with a powdercoated finish, the collection includes a desk and storage units. 800/383-OFFI. OFFI & Company, Berkeley, Calif. **CIRCLE 222**

► Architectural mesh

GKD has added three new stainless-steel woven meshes to its collection, for a total of 13. Lago features delicate filigree work and is based on the existing Lamelle and Sambesi meshes (top middle); Congo is a thicker mesh (bottom middle); and Kiwi is finely woven for wall coverings and infill panels for suspended ceilings and partitions (top right). Call 011/49/2421/803-0; fax 011/49/2421/803-227; or E-mail gb3@gkd.de. GKD, Düren, Germany. **CIRCLE 223**



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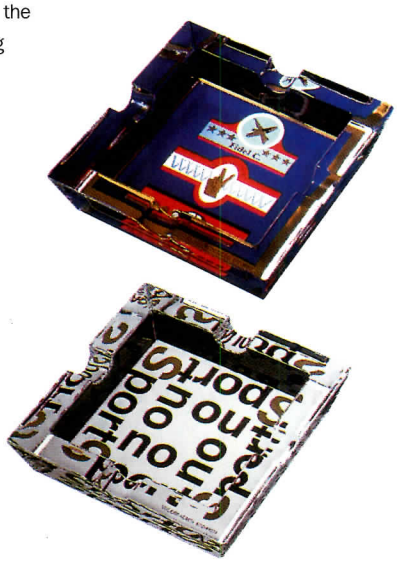
PRODUCTBRIEFS

▼ A thirst for product design

Since 1992, German-based Sieger Design and Ritzenhoff have been dedicated to manufacturing, packaging, and marketing a collection of milk glasses for adults and children based on designs by architects and artists around the world. For 1998, they have introduced five additions to the collection by Dutch cartoonist Dadara, Viennese designer Lo Breier, Viennese architect Davor Markovic, New York–based designer Karim Rashid (below left), and a limited-edition glass from Matthias Bohner in a Japanese comic style. This year, at Tendence, the Frankfurt design show, the team also introduced eight heavy lead crystal ashtrays packaged in cigar boxes for the new Smoking collection, including designs by German architect Volker Albus and by Kunstflug, a group of architects in Düsseldorf that includes Harald Hullmann, Hardy Fischer, and Heiko Bartels (below right). European contact: 011/49/2822/68581. Esther van der Borg GmBH, Emmerich, Germany. U.S. contact: 212/639-9660. Sorelli Imports, New York City. **CIRCLE 224**



▲ Pull up a shade

Vignette window shades from Hunter Douglas are available in three new fabrics—satin stripe, jacquard, and ribbon weave—for a total of seven fabrics and 100 hues. Shown here is a ribbon weave with a chenille-inspired texture. Called Mardi Gras silver, it is one of eight neutrals now available. Vignette protects against 99 percent of UV rays and is made of 100 percent woven polyester fabric that is anti-static as well as dust- and stain-resistant. 800-HD-SHADE. Hunter Douglas, Upper Saddle River, N.J. **CIRCLE 225**

For more information, circle item numbers on Reader Service Card

PRODUCTBRIEFS

▼ Seating trends

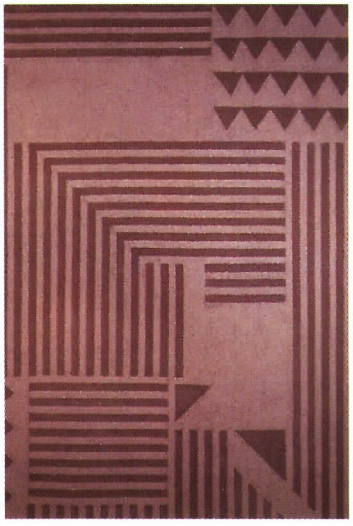
The ICF Group's Miss B indoor/outdoor furniture collection by Italian designer Tito Agnoli includes the chairs shown here. The seats and backs of the tubular metal pieces are available in leather cord and Krilon, a new nylon material that is nontoxic, fire-resistant, and easy to wash. The chairs are available in several finishes, including satin stainless steel, and can be ordered with a swivel base. 212/388-1000. ICF, New York City. **CIRCLE 226**

▼ Environmentally sound board

Isobord, from Isobord Enterprises, is a 4-by-8-foot engineered panel made of chopped wheat straw and a synthetic polymer resin pressed into long strips. Similar to medium-density fiberboard, Isobord is 15 percent lighter than most wood products and does not use formaldehyde in the manufacturing process. It exceeds ANSI-M3 standards and can be used for countertops, cabinets, and furniture. 503/242-7345. Isobord Enterprises, Elie, Man., Canada. **CIRCLE 228**

▼ 1930s glamour

Inspired by the work of Marion V. Dorn, who designed textiles from the 1920s through the 1960s, the Waldorf area rug is available in custom sizes and color palettes. Made from 100 percent virgin wool, this rug is the first of many Dorn designs now being exclusively reproduced by the Edward Fields Design Studio. 212/310-0400. Edward Fields, New York City. **CIRCLE 227**

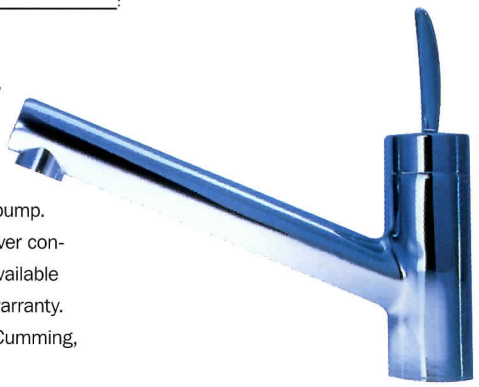


▲ Parlez-vous français?

Fabrice Berrux, a Parisian designer at Dix Heures Dix, has created Piou-Piou, an epoxy-lacquered bird cage that holds CDs. For use in commercial or residential settings, the CD holder is available in two sizes (for 120 or 168 CDs) and two colors. Call 011/33/1/43-40-74-60 or fax 011/33/1/43-40-74-85. Dix Heures Dix, Paris. **CIRCLE 229**

PRODUCTBRIEFS

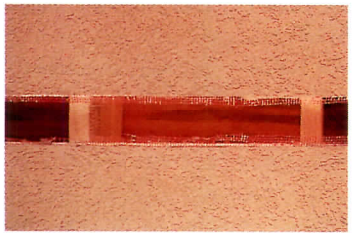
► More Starck

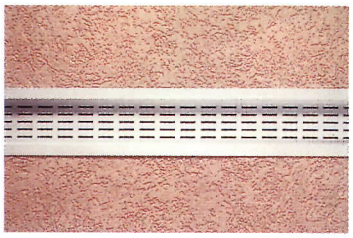


Axor, a division of Hansgrohe, and Philippe Starck have teamed up to create a new faucet that takes its shape from an old-fashioned hand pump. The ADA-compliant, single-lever control, made of solid brass, is available in a chrome finish. Lifetime warranty. 800/719-1000. Hansgrohe, Cumming, Ga. CIRCLE 230

▼ Clean-finish EIFS

Fry Reglet's CleanFinish EIFS soffit vent, made of extruded aluminum, is installed after the EIFS. Because its flanges cover the EIFS terminations, CleanFinish requires no masking or clean-up. Photos below show vent before installation (left) and after (right). Available in clear or anodized paint finishes and vented reveal widths of two, three, and four inches. 800/237-9773. Fry Reglet, Alpharetta, Ga. CIRCLE 232

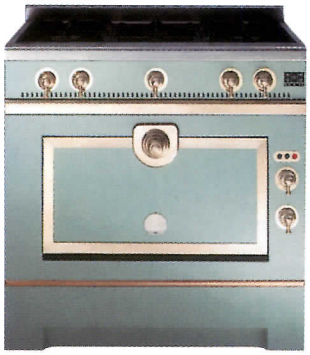




► Express delivery

Since 1997 the Arizona-based company A/E/C Express has provided same-day digital delivery of more than 1,000 large-format drawings and plan-sets. A/E/C Express operates a private satellite service, which is accessed directly or through the Internet by licensed partners. The company has set up a network of more than 50 locations around the United States (in New York, California, Texas, and other states) and plans to add another 50 metropolitan areas here as well as international destinations by early next year. 888/AEC-EXPRESS. A/E/C Express, Scottsdale, Ariz. CIRCLE 231

► Cooking equipment

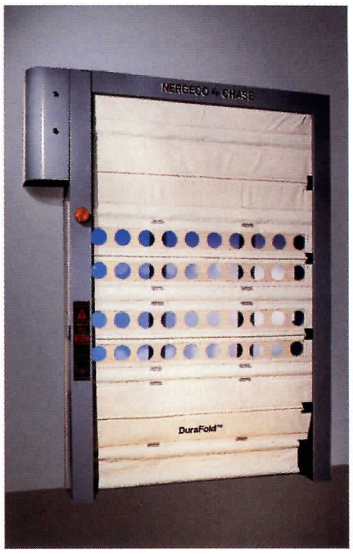


The new line of Le Cornue ranges includes the Grand Maman in a standard 36 by 24 by 26 inches with a vaulted electric oven and five gas burners, one with a blast of 20,000 BTUs. The Grand Maman is available in 12 colors, including black, blue, green, white, and stainless steel with chrome or brushed-brass trim. 800/892-4040. La Cornue, Brisbane, Calif. CIRCLE 233

PRODUCTBRIEFS

▼ Reinventing the fence

Métal-Tech's Omega fencing system is available in eight-foot sections; in heights of four, five, six, or eight feet; and in three standard and eight optional colors. The fence's new square-shaped post is available in two- and three-inch widths with adjustable attachment brackets. The fence can be assembled in less than 24 hours and is flexible enough to follow the contours of uneven terrain. 800/836-6342. Métal-Tech, Montreal. **CIRCLE 234**



▲ Roll and fold

The Nergeco line of high-speed doors from Chase Industries includes DuraRoll (left) and DuraFold (right). DuraRoll doors have a soft-bottom edge for safety; built-in draft resistance; and a door panel designed to release from the side guides. An optional self-diagnostic control panel is also available. The door's standard opening speed is 48 inches per second. DuraFold exterior doors have a bottom-up folding design and self-supporting side frames. The bottom 18 inches of the door panel are flexible and can be impacted and dislodged from the side frames without damaging the door panel. The door's standard opening speed is 32 inches per second. 800/543-4455. Chase, Cincinnati. **CIRCLE 235**

▼ Trim and fascia

Louisiana-Pacific's SmartStart trim and fascia have been developed to complement the company's exterior cladding products. Manufactured in various thicknesses and widths, each panel comes in 16-foot lengths. SmartStart trim and fascia is treated against fungal decay and wood-destroying insects. 800/648-6893. Louisiana-Pacific, Portland, Oreg. **CIRCLE 236**

PRODUCTLITERATURE

Virtual showroom

The Virtual Design Centre CD-ROM provides a comprehensive listing of British furniture outlets. 011/44/171/928-7248. Virtual Design Centre, London. **CIRCLE 237**

Outdoor lighting

A new catalog features Architectural Landscape Lighting's line of outdoor lighting. 714/668-3660. Architectural Landscape Lighting, Santa Ana, Calif. **CIRCLE 238**

Woodworking resource

The National Labor-Management Committee for the Custom Woodworking Industry has a new directory. 202/546-7533. NLMCCWI, Washington, D.C. **CIRCLE 239**

Railing systems

Hollaender's software has data on railing systems for steel structures. 800/772-8800. Hollaender, Berea, Ohio. **CIRCLE 240**

Ambient temperature

AlliedSignal's "Cold Applied Systems" outlines ambient temperature processes in commercial roofing. 800/221-6490. AlliedSignal Roofing, Cary, N.C. **CIRCLE 241**

Garage door specs

Raynor's RaySpec CD includes information on commercial sectional doors. 800/4RAYNOR. Raynor, Dixon, Ill. **CIRCLE 242**

Surface-mounted lighting

Prescolite Moldcast's catalog has information on surface-mounted lighting. 510/562-3500. Prescolite Moldcast, San Leandro, Calif. **CIRCLE 243**

NEW SITES FOR CYBERSURFING

Owens Corning Enhanced Roofing
www.owenscorning.com/owens/around/roofing/Roofhome.asp

Rowmark Sign Materials
www.rowmark.com

Stevens Roofing Systems
www.stevensroofing.com

American Standard
www.us.amstd.com

Raychem heat tracing products
www.raychem.com

Tamko Roofing
www.tamko.com

Formica
www.formica.com

A/E/C Express
www.aecexpress.com

Siemon Cabling System
www.siemon.com

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CALL FOR ENTRIES

The editors of ARCHITECTURAL RECORD announce the 44th annual RECORD HOUSES awards program. This program is open to any registered architect; work previously published in other national design magazines is disqualified. Of particular interest are projects that incorporate innovative programs, building technologies, and use of materials. There is an entry fee of $50 per submission; please make checks payable to ARCHITECTURAL RECORD.

Submissions must also include plan(s), photographs (transparencies, slides, or prints), and a brief project description bound firmly in an 8½-by-11-inch folder, and must be postmarked no later than October 31, 1998. Winning entries will be featured in the 1999 RECORD HOUSES. Other submissions will either be returned or scheduled for a future issue. If you would like your entry returned, please include a self-addressed envelope with appropriate postage.

Submissions should be mailed to: **RECORD HOUSES ◆ ARCHITECTURAL RECORD**
Two Penn Plaza, New York, New York 10121-2298

PRODUCTLITERATURE

Lighting tips

The W.A.C. catalog includes information on low-voltage pendants, linear systems, under-cabinet lighting, track heads, and display lights. 800/526-2588. W.A.C., Garden City, N.Y. CIRCLE 244

Tile source

Ann Sacks Tile & Stone, a new book from Rizzoli, highlights projects that feature unique tile designs. Scheduled for November release. 800/52-BOOKS. Rizzoli, New York City. CIRCLE 245

Modern lifts

Author Roger Howkins and *Elevator World* magazine have teamed up to produce the *Lift Modernisation Design Guide*. 800/730-5093. Elevator World, Mobile, Ala. CIRCLE 246

Windows, doors, and skylights

The seventh edition of the National Fenestration Rating Council (NFRC) certified products directory has U-factor, solar heat-gain coefficient, and visible transmittance ratings for 40,000 windows, doors, and skylights. 301/589-6372. NFRC, Silver Spring, Md. CIRCLE 247

Computer-managed control

Locknetics Security Engineering has released a revised, eight-page color brochure on their Intelligent by Design systems and software. 860/584-9158. Locknetics Security Engineering, Forestville, Conn. CIRCLE 248

Door hardware

Hardware Assistant, PC-based software from Colonial Bronze, displays 10,000 design and finish hardware combinations. 860/489-9233. Colonial Bronze, Torrington, Conn. CIRCLE 249

Building product software

Building for Environmental and Economic Sustainability (BEES) software, from the National Institute of Standards and Technology (NIST) Green Buildings Program, measures the environmental performance of various building products. The software measures product performance by using the environmental life-cycle assessment approach specified in the latest version of ISO 1400 draft standards. 415/543-3001. NIST U.S. Green Building Council, San Francisco. CIRCLE 250

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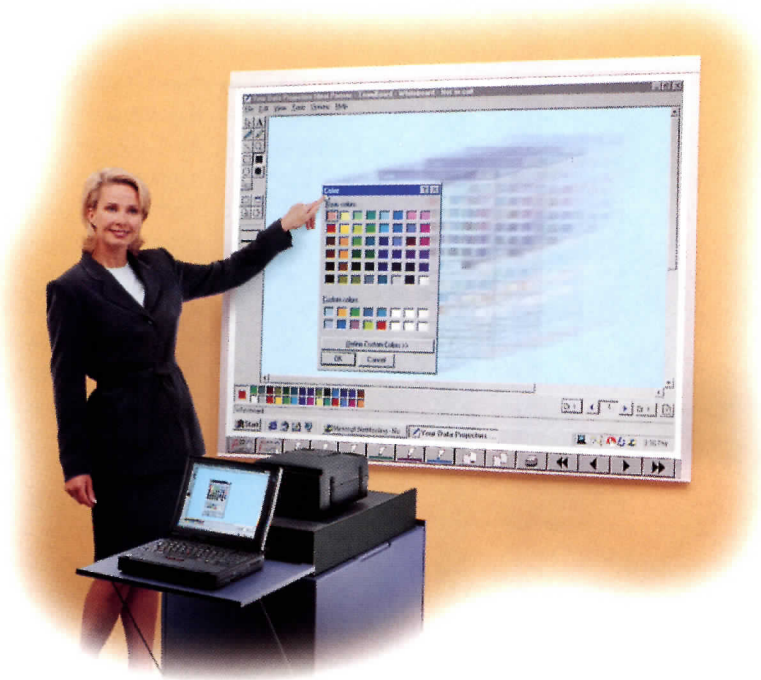

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(continued from page 81)

Ezra Stoller: The Frank House
New Haven, Conn.
October 26–November 13
Stoller's 1941 photographs of Gropius and Breuer's Frank House in Pittsburgh capture this important but relatively unknown residence. Art + Architecture Building, Yale University. For information, call Esto Photographics, 914/698-4060.

design.y.c.
New York City
October 27–30
Four major design events have been merged to create one show: Interplan '98, the East Coast's largest interior planning and design expo; ASID's Design Power, an educational conference oriented toward the design-builder; the Design Show, for residential specifiers; and Batimat Design-Build, featuring exterior and interior products and services for design-builders. Javits Convention Center. Call 800/950-1314 x2331.

AIA Leadership Institute
Chicago
October 29–November 1
Los Angeles
November 19–22
The AIA has teamed with the National Leadership Institute to offer this three-day course in leadership skills for architects. AIA members receive a substantial discount off the normal cost of the program. To register, call Emily Cole, manager of AIA Continuing Education, at 202/626-7445.

Symposium on Healthcare Design
San Francisco
November 19–22
The health-care design industry's premier conference includes three days of plenary sessions, an exhibition of products and services, an awards banquet, and tours of local health-care facilities. Call the Center for Health Design at 800/955-1226 or visit www.hcaredesign.com for details about registering and exhibiting.

Competitions

Accent on Architecture Grants
Submission deadline: October 9
Matching grants of up to $3,000 are offered to local organizations for outreach programs that result in an increased public awareness, appreciation, and understanding of how involvement in the design process can enhance the quality of life in a community. Write American Architectural Foundation, 1735 New York Avenue N.W., Washington, D.C. 20006, call 202/626-7300, or fax 202/626-7420 for information.

Tilt-Up Achievement Awards
Submission deadline: October 15
The Tilt-Up Concrete Association (TCA) announces its sixth annual awards to recognize tilt-up structures that are outstanding in their aesthetic appeal, creativity of design, application of materials, or advancement of the industry. Construction must have been completed by September 1, 1998, and the building team must include at least one member of the TCA. Write TCA, 107 First Street West, P.O. Box 204, Mount Vernon, Iowa 52314, or call 319/895-6911.

Library for the Information Age
Registration deadline: October 15
Submission deadline: January 31, 1999
The first international Web-based architectural design competition, sponsored by the Association for Computer-Aided Design in Architecture, calls for the design of a library that takes full advantage of information technology while still serving the library's roles in culture and society. Proposals may incorporate spatial simulation and/or physical solutions. Open to student and professional designers worldwide. For information, visit www.acadia.org/competition/.

(continued on page 216)

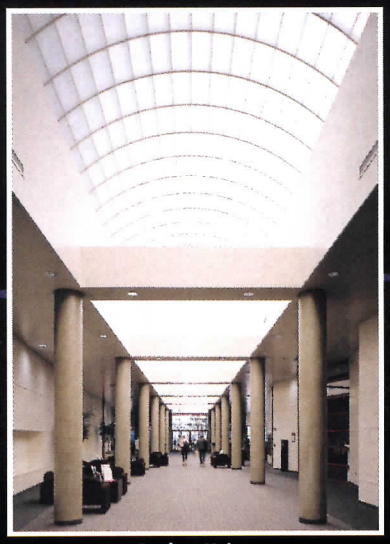
Your Designs Are as Different as Night and Day

CPI translucent daylighting systems enhance your architectural designs by giving you control over the quality of light

Light can have a profound effect on the visual impact and character of a building's design, whether it's a robust ray of sun coming in through a skylight or a soft glow emitted from a translucent panel at night. CPI's innovative daylighting systems provide you with more control over light than you've ever experienced before.

Stevenson High School
Lincolnshire, IL

Camosun College
Victoria, BC, Canada



Student Union
San Diego, CA

Camosun College
Victoria, BC, Canada

CPI translucent systems offer a range of lighting effects that cannot be achieved by any other skylight material. With an assurance of world-class product quality and a comprehensive array of highly-insulating design options, CPI's total daylighting solutions empower your architectural vision to achieve its ultimate potential.

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CIRCLE 89 ON INQUIRY CARD

(continued from page 212)

Houses Designed for Narrow Lots
Registration deadline: October 15
Submission deadline: December 10
This competition is to design a prototype affordable, three-to-four-bedroom house for narrow lots in Minneapolis's Powderhorn Park neighborhood. The winner will be commissioned to design his or her proposal. For registration information, call the Powderhorn Park Neighborhood Association at 612/722-4817 or visit www.mhponline.org/ppna.

Concrete Bridge Awards
Submission deadline: October 23
Concrete bridges completed between October 1996 and October 1998 are eligible for this competition, sponsored by the Portland Cement Association. Call Basile Rabbat at the PCA, 847/966-6200, or E-mail Basile_Rabbat@portcement.org.

Design a Conservatory, Win a Conservatory
Submission deadline: October 26
Sponsored by David C. Bishop and Co., this contest focuses on a garden room theme, including the creative use of furnishings in both the interior and exterior landscape. The winner will receive a freestanding 12-foot octagonal conservatory created for this event. Call the Merchandise Mart at 847/729-9812 or visit www.conservatories.net.

Concept House '99
Submission deadline: October 30
Architects, designers, and product designers are invited to create a scheme for a speculative British terraced urban home, to be located on a brownfield site. The winning project, which must address broad ecological issues, will be constructed for the 1999 Ideal Home Exhibition. Administered by the Royal Institute of British Architects. For more information, call Louise McKinney, 011/44/113/234-1335.

Louis Armstrong High School for the Arts
Registration deadline: October 30
The Acadiana Educational Endowment and software makers auto.des.sys, Inc. are sponsoring a competition to design a high school for the arts in Acadiana, Louisiana. The competition is open to students worldwide and will take place in two stages over the 1998–99 school year. Call 614/488-8838 or E-mail formz@formz.com for details.

DuPont Antron Design Award
Submission deadline: October 31
Professional architects and interior designers are invited to submit projects that show a creative use of DuPont Antron nylon carpet. Entries must be permanent commercial interior projects completed between October 1, 1995, and October 1, 1998, and use Antron carpets only. Contact the Design Award Center at 800/458-4329 for details.

USITT Architecture Awards
Submission deadline: November 9
The United States Institute for Theatre Technology (USITT) gives awards for new theaters or theater renovations completed after January 1, 1989, honoring creative image, contextual resonance, use of new technology, community contribution, and functional operation. For awards criteria and entry information, call USITT at 800/938-7488, E-mail usittno@pppmail.appliedtheory.com, or visit www.usittt.org.

Intern Development Program Outstanding Firm Award
Submission deadline: November 13
Sponsored by the AIA's Intern Development Program, this award honors architecture firms that give outstanding support to interns by providing comprehensive training opportunities, promoting mentorship and participation, and encouraging supplementary education activities. For an entry form, call David Roccosalva at the AIA, 202/626-7325.

(continued on page 218)

The Elements That Go Into Our Window Systems Are Even Stronger Than The Elements Themselves.

YOW 250T Window Systems with MegaTherm® thermal barrier are designed to take on Mother Nature's every fury. With the extra protection of YKK's exclusive Anodized Plus® finish, they offer superior corrosion resistance. Plus superior color and gloss retention and Venetian blind capability. Inside/outside color options provide visual as well as cost advantages. And, they comply with performance requirements set forth in ANSI/AAMA 101-93 and carry an HC-60 rating.

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Innovative Window Systems That Work Over Time.

CIRCLE 91 ON INQUIRY CARD

(continued from page 216)

Steel Joist Institute Design Awards
Submission deadline: November 13
These awards recognize outstanding design in steel joist construction, judged on the basis of flexibility, speed of construction, cost, and aesthetics. Projects must have been built in the United States, Canada, or Mexico in the last three years. Write the Steel Joist Institute, 3127 10th Avenue, North Extension, Myrtle Beach, S.C. 29577, or visit www.steeljoist.org.

Cyborg City: Mechanical Islands for New York
Submission deadline: November 15
The Urban Studies and Architecture Institute is sponsoring this competition, in which entrants design artificial islands for New York's waterways. Those who have earned university degrees in the last 10 years, as well as current students of architecture, landscape architecture, interior design, and urban design, are eligible. For details, call 212/727-2157, fax 212/727-2159, or E-mail Ldusainst@aol.com.

Rome Prize Competition
Application deadline: November 15
Each year the American Academy in Rome offers fellowships that provide a stipend, room and board, and work space at the academy in Rome. Fellowships—available in 18 disciplines including architecture, urban planning, urban design, interior design, historic preservation, and landscape architecture—are given to fund independent projects for periods ranging from six months to two years. Call 212/751-7200 for an application.

Rudy Bruner Award for Urban Excellence
Submission deadline: December 18
This award is given to urban places that demonstrate a successful integration of effective processes and meaningful values into good design. The Gold Medal winner receives $50,000; silver medalists receive $10,000. Call 617/492-8401 or E-mail info@brunerfoundation.com for more information.

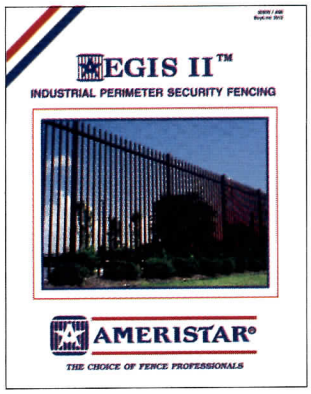
London AIA Excellence in Design Awards
Submission deadline: January 15
The awards program honors excellence in architectural design for work completed between January 1, 1993, and December 31, 1998. Eligible are projects by U.K.-based architects working anywhere in the world; projects in the U.K. by architects from anywhere in the world; and projects in the U.K by U.K.-based students. For more information, write AIA, Kent House, 14–17 Market Place, London W1N 7AJ, or fax 011/44/171/636-1987.

James Beard Foundation/ Interior Design Magazine Awards
Submission deadline: January 29
Established in 1995 to honor excellence in interior and graphic design for restaurants, these awards are for projects in the United States and Canada. For information, write the James Beard Foundation, 6 West 18th Street, 10th floor, New York, N.Y. 10011 or visit www.jamesbeard.org.

Union Internationale des Architectes Student Competition
Submission deadline: January 31
Student entrants are invited to design a housing project for a city in their home country. In addition to cash, the winner will receive the UNESCO Prize for Architecture. Call Liu Kecheng at Xi'an University, Xi'an, China, 011/86/29/220-29-43, fax 011/86/29/552-78-21, or E-mail LiuKCH@pub.online.xa.sn.cn for registration information. ■

Please submit information for events and competitions at least six weeks prior to the magazine's publication date (e.g., November 15 for the January issue).

AEGIS II



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A full color catalog will explain the different Handy-Shield safety covers offered for the new or retrofit projects that need to comply with the American Disabilities Act. The specific use, sample specifications, drawings and color choice are all summarized in this easy to understand catalog. (800) 475-8629.

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These bronze elevator door facings were manufactured by Surface Design + Technology specializing in custom & standard metal graphics. Using sheet metal finishes of a variety never offered before. There is virtually no limit to the types of patterns which can be created by combining multi-directional satin brushing, electroplating of gold, nickel, or copper. For information on custom or standard designs call (800) 537-1127.

Surface Design

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Heat-N-Glo

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Mortar Net Weep Vents

are inexpensive and easily installed in weep holes to insure masonry cavity walls breath, drain and dry quickly. Made from 100% recycled polyester with a 90% open mesh in 2.5" x 4" x .5, they are available in white, tan , almond, gray, and brown. Weep Vents add to the beauty of the wall by duplicating the texture and color of mortar, thus eliminating open holes and dark shadows while restricting entry to insects. Call (800) 664-6638 for more information.

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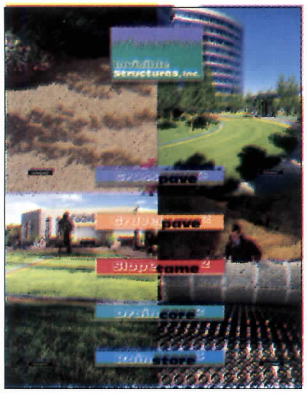
New Invisible Products Roll Out

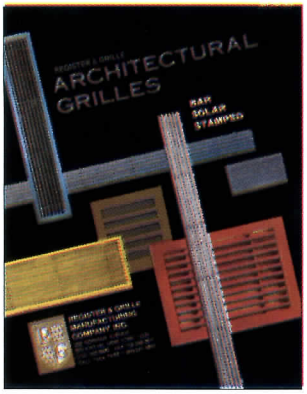


3 new invisible products have been added to the family of Grasspave² & Gravelpave² - Slopetame², Draincore², & Rainstore². For 16 years we have provided grass paving ring structures with 92% void area for root development. Now we're applying this technology to erosion control, drainage, & water storage with easy installation in 9 roll sizes. Call our knowledgeable staff for CADD details, specs, & product specs at (800) 233-1510. Web Site: http//:wwwinvisiblestructures.com

Invisible Structures, Inc.

CIRCLE 158 ON INQUIRY CARD

Decorative Grilles

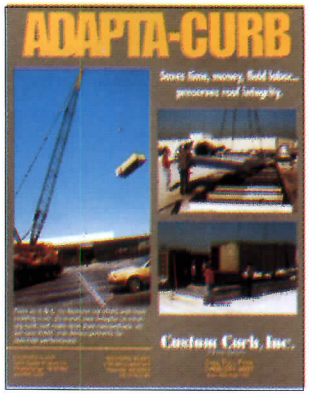


Unusual visual effects emerge when our grilles are designed for area effects. Versatility is the theme. R&G offers architects and interior designers many ways to express the changing forms of metal with the integrity of R&G's architectural grilles. Custom or standard finishes are available plus any grille can be made in matching color to blend with your deco. 202 Norman Ave., Bklyn, NY 11222. 800-521-4895, Fax: 718-349-2611.

Register & Grille Mfg., Co

CIRCLE 159 ON INQUIRY CARD

Sloped Adapter for Retrofit Solutions



Exclusive sloped adapter is designed for positive water run-off & proper load distribution. Informative Adapta-Curb brochure details the many configurations & options available for easy addition or replacement of HVAC units, vents, plumbing stacks, skylights & other rooftop equipment without disturbing the roof or substructure. The system is a solution for retrofit or for new construction where equipment size will be determined later. 1-800-251-3001.

Custom Curb, Inc.

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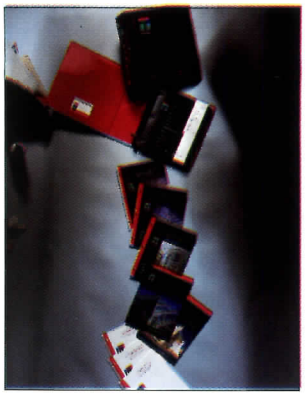
Architectural Specifications Made Easier



Tnemec explores the world of high performance coatings, for exposed steel & masonry in this easy-to-use binder. Complete with brochures, data sheets, systems guides, surface preparation and application guides, and a color selector, this binder is a must have for any architectural firm. For more information, call 1-800-TNEMEC1.

Tnemec Company, Inc.

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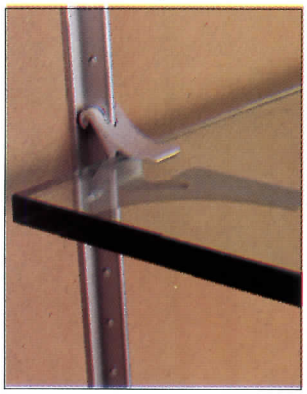
Parallel Design Partnership Limited



"ellen's brackets", and anodized-aluminum shelving system designed by M Ali Tayar, provides an elegant alternative to existing bracket-and-track systems. Cantilevered brackets come in two sizes, for shelves 3/4 or 3/8-in. thick and 10-in. deep. Wall-mounted tracks permit 1 1/2-in. adjustment of wood, glass or plexiglass shelves. For more info phone Parallel Design Tel: 212/989-4959 Fax: 212/989-4977.

Parallel Design

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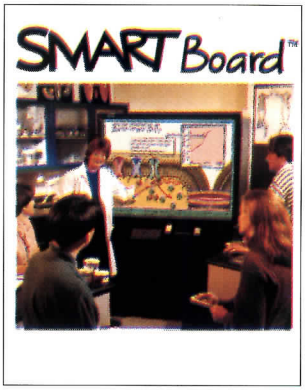
Interactive Whiteboard



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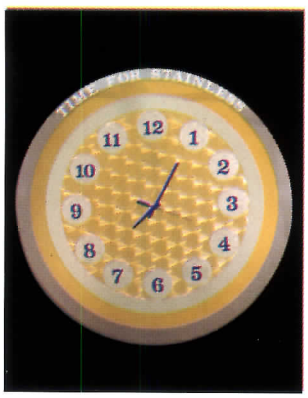
SMART Technologies Inc.

CIRCLE 163 ON INQUIRY CARD

Architectural Stainless



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IWC International

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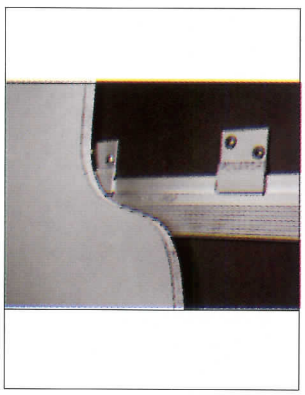
Panel "Z" Clips Efficient, Economical



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Tuflex Rubber Flooring

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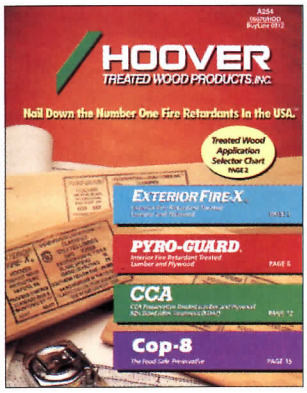

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Hoover, Inc.

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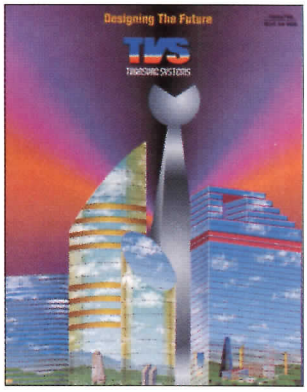

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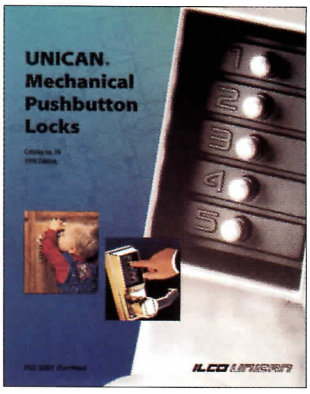

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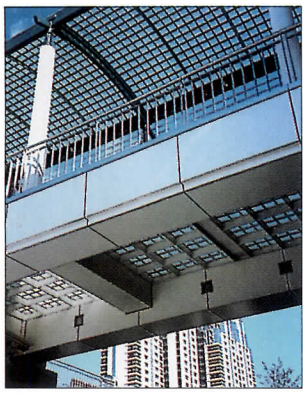

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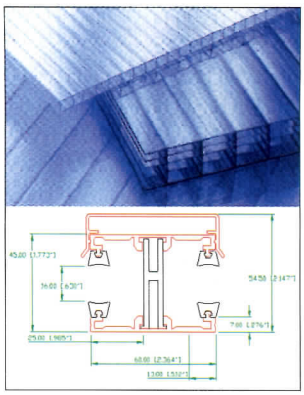
S+P Daylighting System



S&P's systems are the result of the newest developments in plastics industries, providing complete architectural solutions for greenhouses, skylights, covered walkways, pool enclosures, solariums, and any vertical or sloped translucent glazing. Our systems utilize Lexan Thermoclear Polycarbonate with a U-value of 0.27. Available stock sizes 6-25 mm, 4' wide, 40' long.

S+P Architectural

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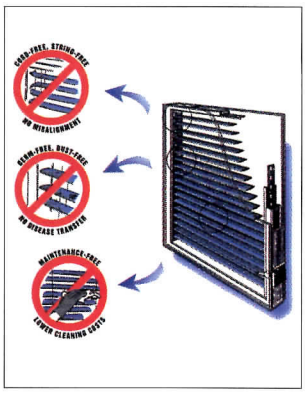

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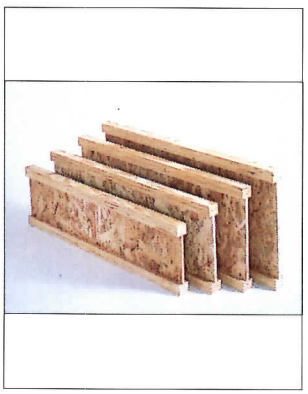

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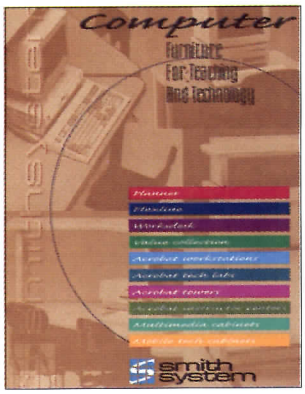

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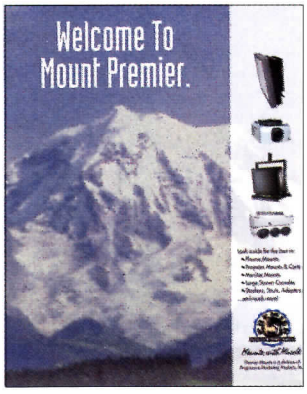

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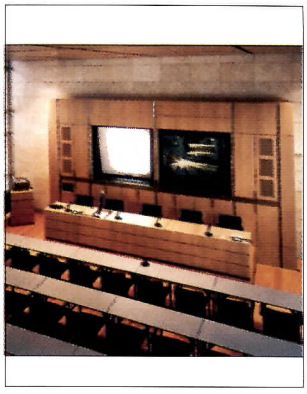

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CIRCLE 99 ON INQUIRY CARD

QAR1098P

THE FUTURE Why are we flushing toilets with water good enough to drink?

BY KIRA L. GOULD

Each year, California sucks 4 million acre-feet more water from the Colorado River than it has rights to. In Texas, development and an archaic "right of capture" water policy have strained the Edwards Aquifer, the booming San Antonio area's sole water source. And southern Florida's 1940s man-made flood-control system destroyed the area's natural hydrological system. Miami architect Dan Williams, an expert on hydrology and land use, estimates that in the last 50 years ill-conceived development has diminished the world's supply of drinkable water by more than a third.

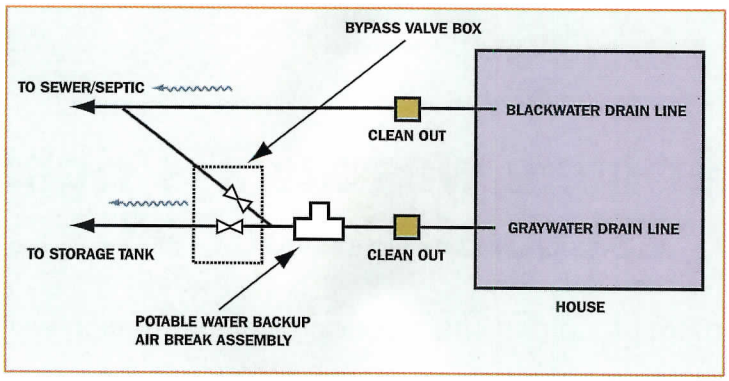
The threat of water overuse and shortages are only beginning to hit the American consciousness. A few communities do have water restrictions and "water police" to enforce them, and for years companies have been marketing water-conservation technologies, such as graywater recycling devices, to homeowners.

"In Florida, we are not going to run out of water, but we are furiously working on aquifer storage recovery, we have desalination plants working overtime, and the cost of water is going to keep rising," says Steven DelleCave, president of Mangrove Companies, a Naples-based maker of home graywater systems. (Graywater is wastewater from baths and showers, clothes washers, and sinks; blackwater is wastewater from toilets and dishwashers.) Plumbing systems can be modified to isolate blackwater and make graywater available for reuse in toilet flushing or irrigation.

In most houses, graywater and blackwater go down the same drain, causing an average family to waste some 41,000 gallons of recyclable water a year. To combat such waste, several thousand home-owners across the country have employed graywater systems, saving money while reducing the drain on local water supplies.

But the vast majority of houses and commercial facilities—especially hotels, with their hundreds of toilets and showers and dozens of laundry machines—are still wasting water. They could save money on water bills by installing graywater systems, savings that will only increase as water costs escalate. Where a homeowner may save hundreds of dollars a year, commercial concerns could save tens of thousands. According to Art Ludwig, author of *Builder's Greywater Guide* and *Create an Oasis with Greywater* (Oasis Design, 1997), "Payback on even the most elaborate, expensive system would come relatively quickly for a hotel that runs a large laundry operation and needs irrigation for its landscaping."

Part of the reason businesses are not adapting to graywater systems is that they are prohibited by most state plumbing codes because of health concerns about irrigating with nonpotable water. Last year California expanded the graywater codes to include some commercial, industrial, and multifamily uses. But designers and environmentalists are disappointed with the new law. "There are a few provisions of the law that pull the rug out from under the economic viability [of conversion to graywater]," Ludwig says. "In addition to requiring a redundant conventional disposal system, the law requires that there be twice as much area to be irrigated as the amount of graywater you anticipate reusing. So for proper irrigation, you also need a redundant freshwater irrigation system. Building two systems is probably not a bad idea, but three is ridiculous."



Nevertheless, some businesses that have tried graywater systems have found success. Larry Callahan, general manager of the Post Ranch Inn in Big Sur, California, installed a graywater system four years ago. "We use sand to filter the water and put it in a fenced field. Recycled tire tubing lies 14 inches underground, forming the drip irrigation system."

Callahan has installed such systems before and is preparing to build a blackwater restoration pond at his resort in Fiji. "Every system I've completed has paid off within a year," he says. "In Big Sur, we need to be able to do laundry and reuse that water; the payback—for not using more water and not traveling to town to do laundry—is immediate. If business owners looked at all aspects of water use, they would understand the financial viability quickly."

Setting up separate plumbing systems in new construction projects now to handle graywater in the future may be the most progressive move possible. "My advice is to make sure that the infrastructure is in place, because retrofits will be very expensive," DelleCave says. For architects, this means collaborating with builders and engineers to make these options available to clients; especially in areas where water is scarce, this is clearly a value-added service. Like many aspects of sustainable design and construction, twin piping systems might seem like a hassle. But tackling this growing environmental challenge now is helping some architects feel more socially and environmentally responsible—and could turn out to be a financial boon. ■

Kira L. Gould is a freelance writer living in New York.

Graywater is used for a drip irrigation system at the Post Ranch Inn (above). Mangrove's home graywater system is diagrammed below.

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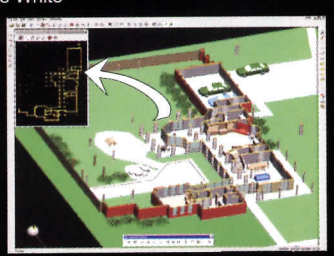

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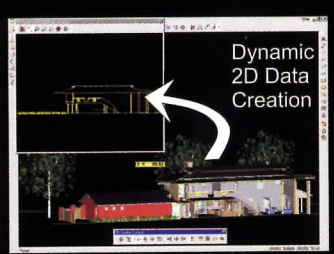

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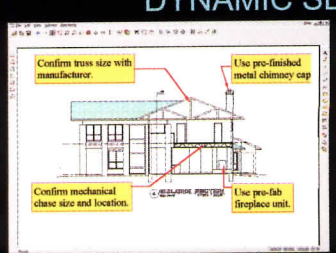

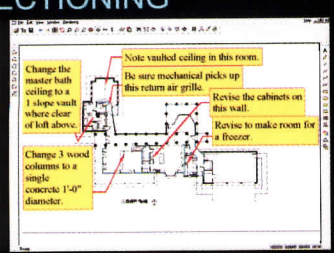

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