

architecture®

October 2002 \$8.95 usa \$11.00 canada


architect

TM

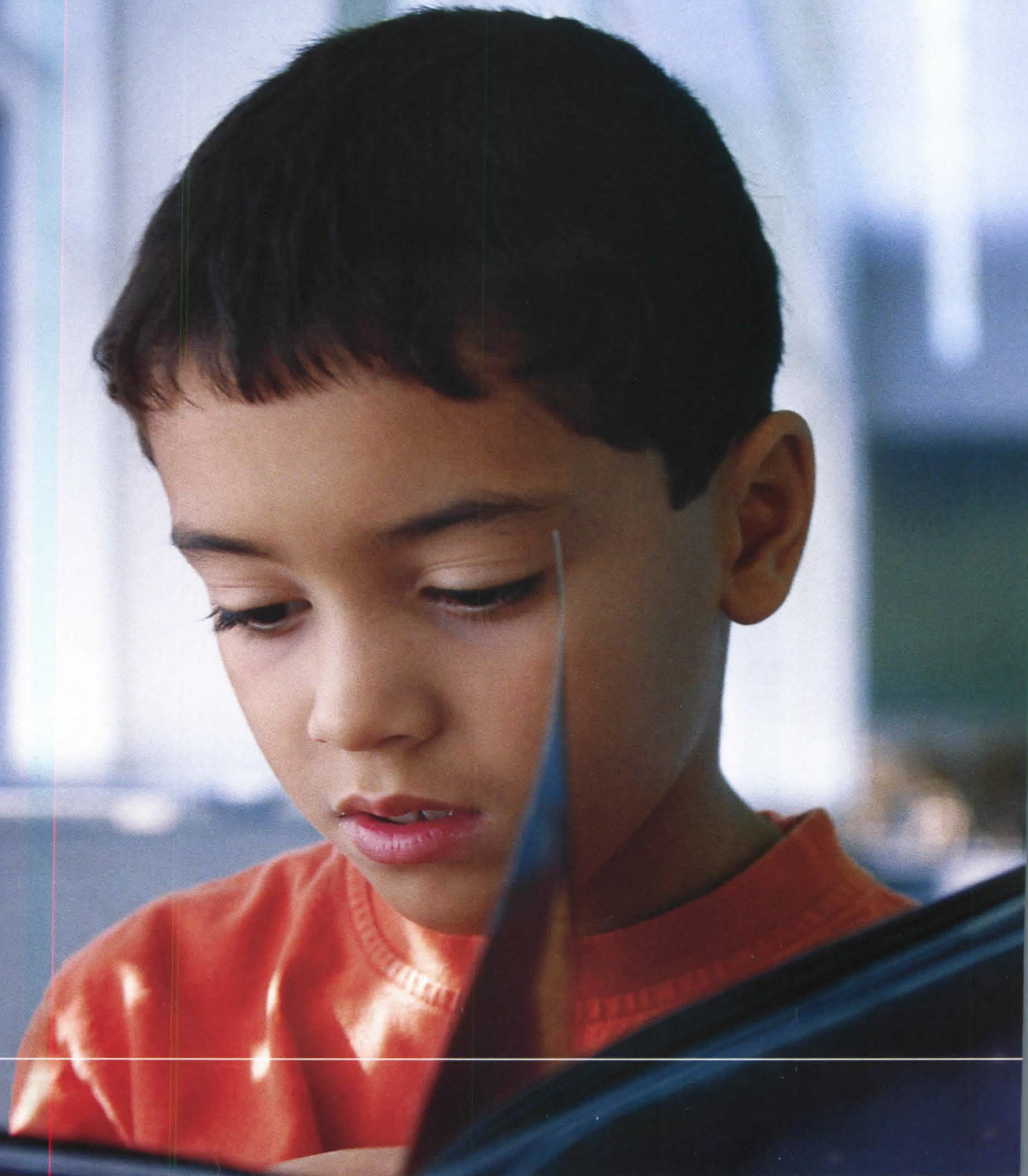
SCHOOL DAYS

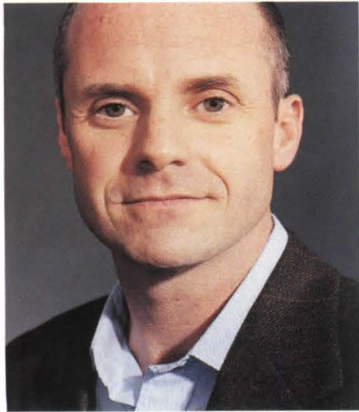
Allmann Sattler Wappner > SPF:a
Frank O. Gehry > Kohn Pedersen Fox

Autodesk Revit happens here.



CONCEPT





BY C.C. SULLIVAN

BUILDING A FANTASY

If you haven't seen them yet, you need to. They're big. They're sophisticated. In terms of sheer form-making, they're daring. The architectural approach behind them is, overall, the most groundbreaking to date.

They're not built. And chances are that they never will be. But the projects—theoretical schemes for transforming southern Manhattan near the World Trade Center site—have focused public attention on good architecture and its power to heal public wounds. And, perhaps, the concepts will influence the chain of decision-making for this important rebuilding project.

The question, however, is whether any of that attention and influence will be for the better.

The projects were born of two “power charrettes” published last month in the pages of the *New York Times Sunday Magazine* and the weekly *New York* magazine. The former involved an elite group of designers led by the critic Herbert Muschamp that proposes building 15 iconic towers on top of a sub-merged West Street, the highway bordering the site. The latter, a smaller but equally pedigreed group invited by another critic, Joseph Giovannini (a contributing editor to *Architecture*), asked each architect to propose an individual rebuilding scheme for the “ground zero” site itself. Muschamp’s approach shows what happens when a pack of renowned architects works together on a single masterplan; Giovannini’s studio method lets us compare and contrast alternative solutions.

At first glance, any one of the proposals may strike us as a dream, an exercise in caprice and whimsy (for a quick peek, see our own news story on page 16 or visit www.nytimes.com and www.nymag.com). Many observers have criticized the teams for parading architectural eye-candy before a devastated public, rather than offering the sustenance of serious urban planning. The dream teams can be temporarily excused of any imprudence, however: Their bold forms inspire us with a distilled vision of future cityscapes, and the concepts offer some reasonable guidance for rebuilding, such as leaving work on a memorial to the people.

In spite of the conflicted reception, I endorse the whole lot, with the following caveats:

Rebuilding demands a strong gesture. Giovannini called on his seven contributors to design “an equal and opposite reaction” to last year’s apocalyptic destruction. While each project is sculpturally evocative, the massings and site plans show how hard it is for a destroyed neighborhood to cohere. Two of the schemes would develop West Street—in one, as a park, and in another, as a “sky promenade”—and others stretch away from the site, acknowledging the need for a broader delineation. By contrast, Muschamp’s plan demonstrates the insufficiency of merely building a row of blocks atop the suppressed highway: Three underdeveloped tower ideas—a transmission needle and twin torqued shafts—appear to be afterthoughts, appended to bring more might to the scheme.

Rebuilding requires a comprehensive organizing principle. The Muschamp team appears more focused on novelty and engineering than on urbanism, making the presumption that their linear scheme is weighty enough to carry a patchwork of new towers. Thus, what was meant as an antidote to developer-led planning backfires as the team parcels out plots to each architect’s self-contained program. In Giovannini’s case, we’re to rely on the strength of an individual designer’s convictions—a good place to start, but the results fixate on pretty profiles and sheer height in lieu of an overarching premise that takes into account the complexity of issues that would affect a real solution.

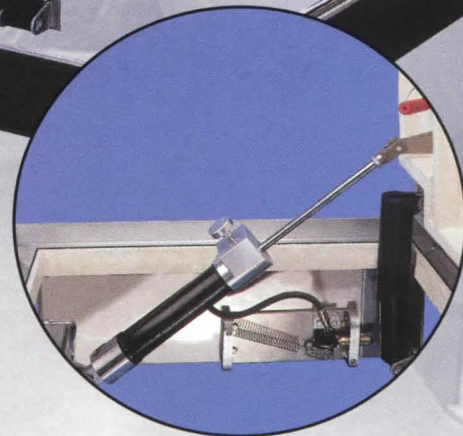
Rebuilding calls for design leadership. Impressively, both charrettes drew together noteworthy contingents that raised the bar and the public’s imagination, perhaps opening the door for truly innovative architecture. Still, the handpicked avant-gardists bring a conceptual prowess that is rarely tempered by popular tastes (thankfully) or hard-dollar realism. Their proposals are as likely to frighten civic leaders and the public as to seduce them. At this pivotal moment, with architecture taking center stage in a public debate, the challenge for our great designers is to balance pragmatism and vision.

A new body of influential ideas is on the table, and the work has been well publicized. Muschamp and Giovannini have brought the discussion of visionary architecture back where it belongs: into the public consciousness. Now, it’s time for the leaders of our profession to think big and act responsibly. ■

**Provide Access and
Two-Hour Fire Protection
Between Building Floors**

The Bilco Fire Rated Floor Door

Bilco's Type FR fire rated floor door allows you to specify convenient access through a 2-hour rated floor without jeopardizing fire code compliance. Tested at UL laboratories in accordance with ASTM E119 (NFPA 251), the FR door contains flames and limits heat transmission to the floors above. The FR door is available with a self-closing mechanism to ensure that the door automatically closes when a fire occurs. As an added benefit, the cover is designed to accept a variety of flooring materials, making its high level of fire protection virtually undetectable.



New self-closing mechanism

- Simplified design takes up less frame area
- Requires lower maintenance
- More cost effective

For more information contact Bilco at
(203) 934-6363
or log-on to www.bilco.com



Log on to www.bilco.com/frdoor to get a free copy of our UL test report and other information on applicable fire protection codes.

circle 216 or www.thru.to/architecture

Bilco[®]

Since 1926



FRAMPTON RESPONDS: CORNELL'S LOSS

This July, Cornell University reversed a decision to use Steven Holl's design for a new architecture building, Milstein Hall, which 14 months earlier had unanimously won a competition organized by the school's architecture faculty and juried by a panel that included myself, Toshiko Mori, Carme Pinós, Terence Riley, Heinz Tesar, and James Stewart Polshek (September 2002, page 22.)

Contrary to the criticisms leveled against Holl's project by the current chairman of architecture at Cornell, Nasrine Seraji—to the effect that the building is unduly assertive within the campus context and that the multistory stacking of its studios is *not conducive to student interaction* between the different years—I believe that Holl's proposal had many advantages. The building was envisaged as a kind of gateway pavilion in relation to the overall structure of the campus, with its salient positioning at a regular point of passage between the student residential area and the principal academic quad. With regard to its contextual compatibility, one notes that in balancing the mass form of I.M. Pei's Herbert F. Johnson Museum of Art across campus, Holl was, in fact, paying his contextual respects to one of the finest modern buildings at Cornell. And in response to

criticisms aimed at the building's circulation, a considerable amount of interaction between one floor and the next would have been encouraged by internal atria cutting through the studio floors.

This is hardly the place to set forth in detail all the other attributes of Holl's brilliant *parti pris*: its deference toward Sibley (the foundation architecture building, to which it would have been ingeniously linked), the sustainable potential of its solar stack walls, and its subtle but precise placement in relation to the adjacent ravine. In my view, the Cornell faculty of architecture has succeeded in squandering an opportunity that would have had the effect of revitalizing not only the school but also the university. It is events like these that lead one to despair over the entropic, self-defeating character of the profession—particularly in its academic mode. In this instance, it must also be said that the indifference of a university administration allowed a branch of its faculty to commit an outrageously perverse folly, not to mention the profligate waste of time, money, and talent.

Kenneth Frampton
Ware Professor of Architecture
Graduate School of Architecture,
Planning, and Preservation
Columbia University
New York City

CORRECTIONS

The editors regret omitting the name of the Museum of Glass's executive architect, Nick Milkovich Architects, from the article "Tacoma's Cone" (August 2002, page 80).

In the article on William Rawn's Amphitheater in Cary, North Carolina, "Steel Pines" (August 2002, page 62), we erroneously credited two photographers; only Robert Benson's photos were shown.



Design professionals tell us they prefer to specify Elevette® residential elevators because of their reliability and **custom features.**

Choose from five car styles, three drive systems and many accessory items to create a truly custom elevator. In-shaft or free-standing.

Call **800-343-9007** Dept. 96

INCLINATOR
COMPANY OF AMERICA

www.inclinotor.com

www.FirstSourceExchange.com
(CSI and AIA formatted specs)

www.sweets.com

2200 Paxton Street, Harrisburg, PA 17105-1557
isales@inclinator.com

The public entity took a risk agreeing to develop the highway.

The investor took a risk buying the bond to finance the highway.

The engineer took a risk designing the highway.

The contractor took a risk building the highway.

And thanks to Marsh solving these risks, Daisy's enjoying the freedom of the open road.



MMC Marsh & McLennan Companies

www.marsh.com

MARSH
The world's #1 risk specialistSM

Marsh is the risk and insurance unit of Marsh & McLennan Companies

circle 68 or www.thru.to/architecture



Sustainable Design Goes Global, with or without U.S.

> ACTIVISM American architectural organizations were noticeably absent from the recent inaugural conference of the Global Alliance for Building Sustainability (GABS), a professional network conceived to promote cooperation and partnership among the different areas of the global building industry. Representatives from international business and professional groups, nonprofits, and governmental organizations met in Johannesburg, South Africa, for the conference, which was organized to accelerate "sustainable development in the sectors of land, property, construction, facilities management, infrastructure, and development." The GABS event took place in late August in conjunction with the World Summit on Sustainable Development (WSSD).

Most of the participating bodies were from the British Commonwealth, with a smattering of representation from Asia and Africa. Only two regional groups from the United States attended, and the AIA did not send a representative. In light of the

U. S. government's unsupportive stance concerning the WSSD, this lack of American presence could be construed as indicative of a general ambivalence regarding global efforts toward sustainability. However, one of the Americans who did attend the conference speculated that most American organizations simply were not aware of GABS.

At the Johannesburg meeting, the participants defined the aims and objectives of GABS and created a "Charter for Action" that stated the alliance's goals and the general actions that participating bodies will take. The next step, according to the group, will be to translate this commitment into built reality. Over the coming months, involved organizations will discuss and publicize GABS at a variety of professional conferences where planning and implementation will begin. Member groups will also participate in drafting a strategy and business plan, scheduled for release in 2003. In the long term,

GABS will also advance its goals by acting as an umbrella organization for the development of international partnerships. Under the auspices of GABS, professionals could work with developing nations to expand their infrastructure using sustainable techniques and systems.

The work of member organizations will largely make or break the new agreement. Involved professional groups will have to work hard to share sustainable technical expertise and advocate for sustainable practice, acknowledges David Fitz-Patrick, executive director of the RICS Foundation, the British sustainability nonprofit overseeing GABS. He is optimistic, though, that "the charter is establishing that people must act. They mustn't just talk about it." If member organizations can slowly integrate sustainability into standard practice, GABS will create lasting change, says Fitz-Patrick: "It won't be a revolution, it will be a wonderfully simple evolution." **JULIA MANDELL**

BUZZ

A panel has been selected to make a short list of candidates from 404 RFQ respondents for a design study of the World Trade Center area: **Toshiko Mori**, architecture chair at Harvard; **Eugenie L. Birch**, city and regional planning chair at the University of Pennsylvania; **Richard N. Swett**, architect and former U.S. congressman; **Kinshasha Holman Conwill**, arts consultant; **Terence Riley**, MoMA chief curator of architecture and design; and **Michael Van Valkenburgh**, landscape architect. Concepts plans will be released by year's end.

The **University of Connecticut** School of Fine Arts will host a competition, funded by the **National Endowment for the Arts**, for its newest building. Twenty designers will be invited; six finalists will create design models.

The United States Olympic Committee has selected New York and San Francisco as finalists to host the **2012 Summer Olympics**. Scheduled to be chosen on November 3, the winner will compete against a group of international cities. The International Olympic Committee will make a final selection in 2005.

Robert A.M. Stern Architects and exhibition designer **Haley Sharpe** have been selected to develop alternatives for the National Center for the American Revolution in Valley Forge, Pennsylvania.

The **AIA** offered support for the International Building Code (IBC) in a recent meeting with the International Code Council, says its CEO, **Bob Heinrich**. The **Defense Department** is on board, too, he adds: The

Lower Manhattan Gets a Makeover in *N.Y. Times*

> **REBUILDING** Ideas for rebuilding the World Trade Center site have been in circulation since shortly after September 11, 2001. From an exhibition of design visions at the Max Protetch Gallery in Chelsea to homemade versions by private citizens, proposals have come from around the globe, including six heavily criticized land-use concepts issued by the Lower Manhattan Development Corporation (LMDC) in July (*Architecture*, August 2002, page 21).

Wading into the fray is the *New York Times Magazine*, which invited a group of high-profile architects to present ideas for a rebuilt downtown in its pages. According to Herbert Muschamp, the newspaper's architecture critic and author of the September 8 cover story, "The Masters' Plan," the group, which initially included architects Richard Meier, Steven Holl, Peter Eisenman, and Charles Gwathmey, and structural engineer Guy Nordenson, first met in June, on their own accord, frustrated by the uninspired real estate-driven model of redevelopment adopted by the LMDC and the Port Authority of New York & New Jersey.



Rafael Viñoly's transit hub (left) and Rem Koolhaas's office towers (right).



With the opportunity to publish a "study project," the group expanded to include 20 well-known firms and assigned parcels to its members on a site comprising both the 16 acres at Ground Zero and a corridor of land riding atop a submerged West Street, the adjacent six-lane highway. (This idea dates back to Westway, the failed 1970s effort to submerge the roadway.)

In their proposal, the Twin Towers' footprints remain open; cultural facilities, a transit hub, and commercial space occupy a portion of the WTC site; and residential and office towers line the highway corridor. The design of a memorial is left for another day.

Local reaction to the article has been trenchant, both for and against.

In an unpublished letter to the newspaper, architect Robert Kupiec, chairman of Van Alen Institute, a nonprofit intent on improving design in the public realm, writes that the collection of brand-name object buildings "insult and marginalize architecture's potential role in reshaping and renewing downtown A meaningful planning process will not be driven by individual buildings, but by a collaborative, interdisciplinary effort ... in which analysis and vision go hand-in-hand."

The next opportunity for urban design and architecture to rise to the occasion is in the hands of the LMDC, which is to release five new proposals in December. The court of public opinion will be in session.

ABBY BUSSEL

Pentagon Memorial Moves Ahead

> **COMPETITIONS** September 11, 2002, was a day of reflection for many, but for dozens of teams of designers it was also an important deadline: the final day to enter the memorial competition for the Pentagon site. Over a thousand teams entered the two-stage competition. The winning entry, according to the competition brief, "will meaningfully interpret the horrific events of September 11, while speaking to the enduring spirit of the families of the victims, the American people, and the global community."

The site is a triangular piece of land immediately adjacent to the Pentagon. Height restrictions limit the profile of any memorial to approximately five stories, the height of the Pentagon itself. "The site suggests that landscape schemes would merit serious consideration," says a competition advisor.

The eleven-person jury includes: Dr. Harold Brown, former secretary of defense; Wendy Chamberlain, family member; Walter Hood, landscape architect; Carlos Jimenez, architect; Mary Margaret Jones, landscape architect; Melvin R. Laird, former secretary of defense; Roger Martin, landscape architect; Mary Miss, artist; Terence Riley, architect and curator; Carolyn Shelton, wife of General Henry H. Shelton, former chairman of the Joint Chiefs of Staff; and Karen Van Lengen, architecture school dean. Finalists will be announced in late October. **ALAN G. BRAKE**

Flood Damage

> PRESERVATION The floods that hit Central Europe in August have left a trail of destruction in their wake, affecting areas in the Czech Republic, Germany, Austria, Slovakia, Russia, and Romania, with roughly \$20 billion worth of damages. The impact on the affected regions' architectural monuments has yet to be quantified, according to Martin Dvorak of the State Institute for the Care of Historical Monuments in Prague. He says, "I don't know when we

will have the final statement [quantifying flood damages]. Nobody knows, because the situation is still developing and changing." Bonnie Burnham, president of the World Monuments Fund, concurs, adding that as yet "no single important building has been identified to us as having been put at risk." However, the Fund's Monuments Watch, which lists the world's 100 most endangered architectural sites, includes one Czech site that has been hit by the floods: the Terezin Fortress, listed for its significance both as a Baroque, Hapsburg-era monument and as a Holocaust memorial. (The fortress functioned as a deportation center during World War II.)

Other flood-damaged sites are listed at www.floods.cz, by the VIA

Foundation, an organization based in Prague that provides grants to nonprofit initiatives. These include a fourteenth-century bridge in Písek, the Old New Synagogue and Pinkas Synagogue in Prague, a Baroque castle in the town of Veltrusy, and the medieval historic center of Cesky Krumlov—all in the Czech Republic. **ANNA HOLTZMAN**



BUZZ

agency adopted the 2000 IBC as "a primary reference" for its *Unified Facilities Criteria*, a building guideline for the armed forces.

World Trade Center leaseholder **Larry Silverstein** faces resistance from his lenders, **Bank of America** and **Blackstone Group**, over plans to trim the size of the new 7 World Trade Center building by 400,000 square feet. Silverstein says his plans respond to a request by city officials to reopen Greenwich Street, which originally ran through the site. The previous structure was destroyed on September 11.



Thousands of new choices. (Collect 'em all!)

Andersen now has even more products to help you create homes people want. You'll find new 400 Series shapes and sizes, a newly expanded 200 Series line, plus custom KML by Andersen™ architectural windows and doors. Call 1-800-426-4261, ref. #4015. Or visit andersenwindows.com. **LONG LIVE THE HOME™**



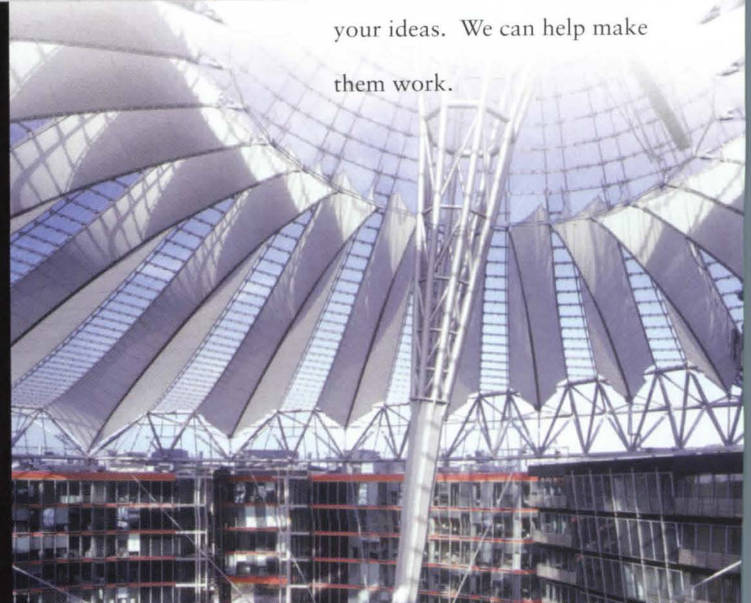


Use Your Imagination

Use Our Technology

...Birdair

Just for a minute, imagine a roof as form and light. Think graceful, luminescent curves or bold angular shapes. Efficient with structure as with energy. It can happen with a lightweight roof system. We've been teaming up with architects and their clients for decades to construct dramatic airport terminals, sports venues, amphitheaters, hotels, malls and convention centers. Tell us about your ideas. We can help make them work.



Single-Source Services for: Pre-Construction,
Design and Engineering Support, Fabrication, Erection.



800.622.2246 • www.birdair.com

716.633.9500 • fax: 716.633.9850

circle 242 or www.thru.to/architecture

Sound Design, Contested

> **CODES** Add acoustics to the list of perceived ills plaguing our public schools: A new standard aimed at improving classroom acoustics may find its way into building codes, although some industry and school groups oppose its adoption. Rather than describing a test method, the unusual ANSI standard—S12.60, "Acoustic Design Requirements and Guidelines for Schools"—sets maximum levels of reverberation and background noise for learning spaces. While the standard would improve students' ability to hear, the requirements are also expected

to increase construction costs. Approved by ANSI in July, the standard has stirred loud debate, mainly pitting marketers of unitary air conditioners and prefabricated classrooms against a loose coalition of school administrators and designers, acousticians, and accessibility advocates. The two lobbies are jockeying for position in anticipation of hearings this month in Fort Worth, Texas, on the standard's adoption into the International Building Code (IBC). (The Access Board, which sets ADA guidelines, asked unsuccessfully last April for the incorporation of S12.60 into the IBC.)

"There's strong evidence that noise does affect the learning process," contends Paul Schomer, an acoustical consultant and stan-

dards director for the Acoustical Society of America. "When you start to look at the societal costs, it's well worth it."

The Air-conditioning and Refrigeration Institute counters that the standard is overkill. "Its description for background noise in a room has been described as the equivalent of a soft whisper," says Ed Dooley, a spokesman. "So it would be hard and expensive for many schools to meet the requirements." Schomer disagrees, noting that the recommended levels are less restrictive than guidelines set by ASHRAE and the World Health Organization.

"If the standard is in place, fewer schools will be built," says Thomas Duffy, a lobbyist who represents school construction and modular

building interests in California, where a \$13 billion bond issue is set for a statewide vote in November. A group Duffy leads, the Coalition for Adequate School Housing, claims that 500 school districts in California oppose the standard.

Proponents contend that industry interests, not schools, are leading the opposition. "The biggest challenge we have is the air-conditioning industry and demountable trailers," says Donna Ellis, a design manager for the District of Columbia Public Schools, which is now building to S12.60. Observers close to the process expect that the Access Board could adopt the classroom-acoustics standard as part of the ADA Accessibility Guidelines if the rule isn't referenced in the IBC soon. **C.C. SULLIVAN**

Choose from custom or standard divided light patterns and profiles.

Available in custom sizes, shapes and styles.

Real wood interiors of pine, oak, mahogany, cherry and more.

Low maintenance exteriors in White, Sandtone, Terratone® or Forest Green, plus custom colors.

Is it any wonder it's called a feature window?

Custom windows, patio doors and entry doors for residential and commercial projects.

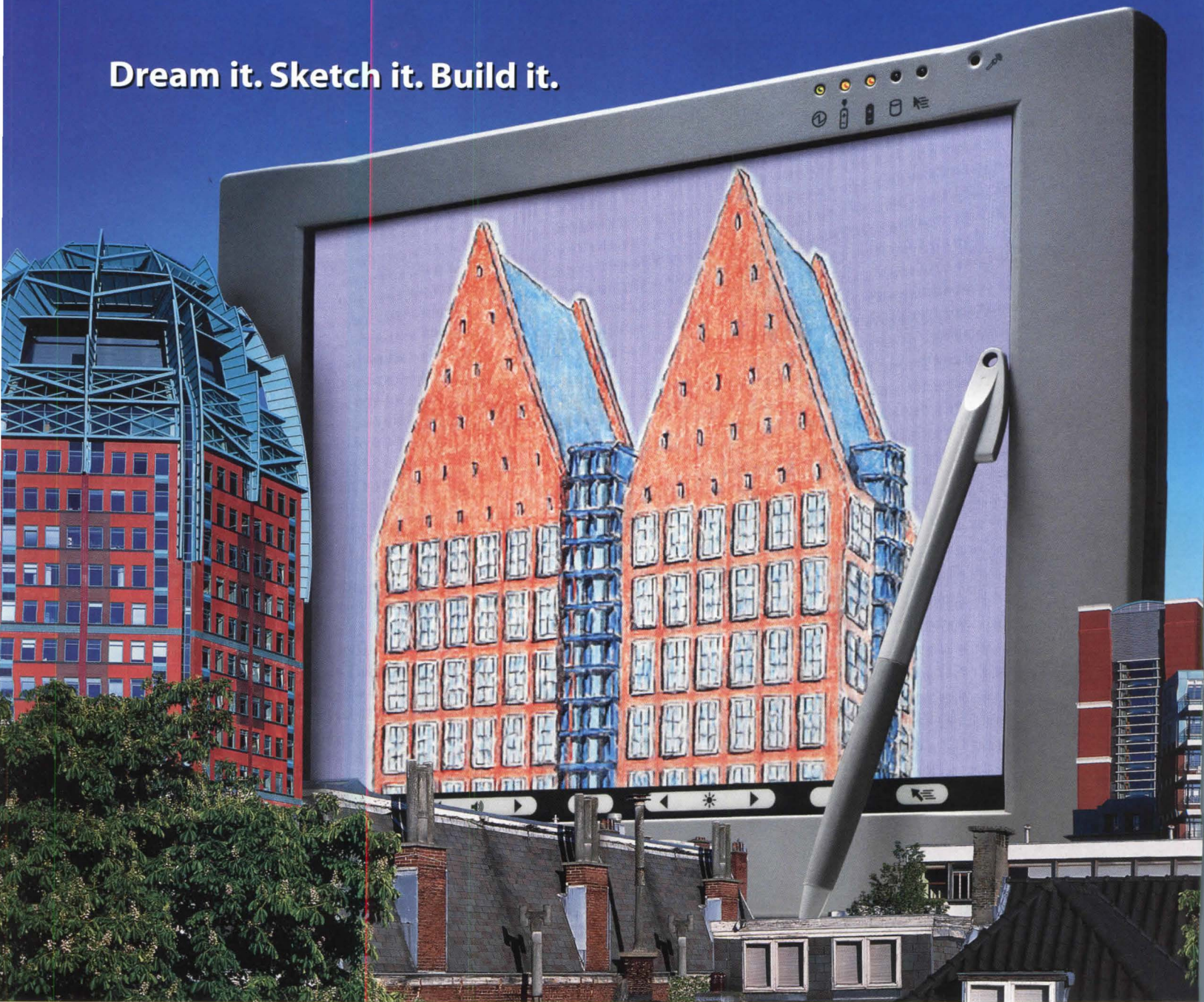
*Backed by a 20/10 year KML by Andersen limited warranty.**

See the exciting new line of KML by Andersen™ architectural windows and doors. Call 1-800-426-4261, ref. #4018. andersenwindows.com. LONG LIVE THE HOME™



2044B. © 2002 Andersen Corporation. All rights reserved. See your Andersen dealer for availability. *See the KML by Andersen limited warranty for details.

Dream it. Sketch it. Build it.



Castalia, The Hague
Michael Graves & Associates

From concept to completion, Autodesk® is there to help make your design dreams a reality. Take the first step in capturing your creative inspirations with the new **Autodesk Architectural Studio**—an exciting and intuitive tool that brings freehand sketches to life in the digital realm right from the beginning. And since it's a part of Autodesk's family of building design solutions, including Autodesk Architectural Desktop, Autodesk Buzzsaw™, and more, you can realize your ideas without losing the inspiration behind them. To find out more visit www.autodesk.com/dream.

autodesk®



Blank Spaces

> EXHIBIT

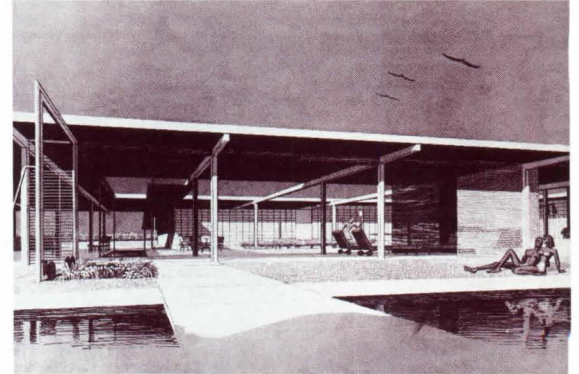
"MOVING PICTURES"
GUGGENHEIM MUSEUM
NEW YORK CITY
THROUGH JANUARY 12

At once bland, beautiful, and disturbing, a series of photos depicting artificially manipulated architectural spaces—at the Guggenheim Museum's *Moving Pictures*, a retrospective of conceptual photography and video art spanning the late 1960s to the present—introduces the viewer to an imaginary world of uniformity and order. In Andreas Gursky's "Library" (1999), the real floor, escalator, and other symmetry-disrupting details of the Stockholm public library's rotunda have been digitally omitted. James Casabere and Thomas Demand photograph artificial spaces created from paper and cardboard. Casabere's "Asylum" (1994) depicts a vacant room with a suffocating lack of detail; Demand's "Archive" (1995) displays symmetrical stacks of unmarked cardboard boxes mitigated only by a metal ladder (above). By stripping these spaces of irregularities—and with them, a sense of identity—the artists illustrate the sometimes dehumanizing effect of contemporary media on our visual environment. Unfortunately, this chilling anonymity is echoed by the impersonal presentation of the exhibition: a chockablock lineup of greatest hits, with no room for contemplation. **ANNA HOLTZMAN**

Rudolph Beach Reading

> BOOK

"PAUL RUDOLPH: THE FLORIDA HOUSES"
BY CHRISTOPHER DOMIN AND JOSEPH KING
PRINCETON ARCHITECTURAL PRESS



For those wimps who still find Brutalism unpalatable, *Paul Rudolph: The Florida Houses* presents an architecture that is luminous and ethereal — kind of a Rudolph-Lite. Spanning his early career (1941-1962), Rudolph's Florida years begin with what at first glance merely seems International Style transplanted to a pristine Florida coast, but, with its louvered windows and elevated building platforms, the work is imbued with a regionalism. By the late 1950s, he increasingly breaks down the modern box and moves away from architecture-as-object to an aesthetic that integrates inside and out. By the 1960s, his style evolves into something completely groovy, using the playful forms we associate with Archigram or the Ballet Style. In turn, his appeal for light construction gives way to his trademark heavy massing.

"Like the villa of Palladio, the bungalows of the brothers Greene, or the prairie houses of Frank Lloyd Wright, these small houses are both typical works of the period and at the same time, brilliant aberrations, highly individual creations unlike almost anything else being built," writes Rudolph biographer Robert Bruegmann. For many, these houses were second homes, follies on the beach away from the uptight Northeast.

The Florida Houses begs a sequel. And it will get two: Skipping the middle years for the moment, *Paul Rudolph: The Late Work* will come out this winter. **BAY BROWN**



Antonio, Mario, and Niki

> DESTINATION

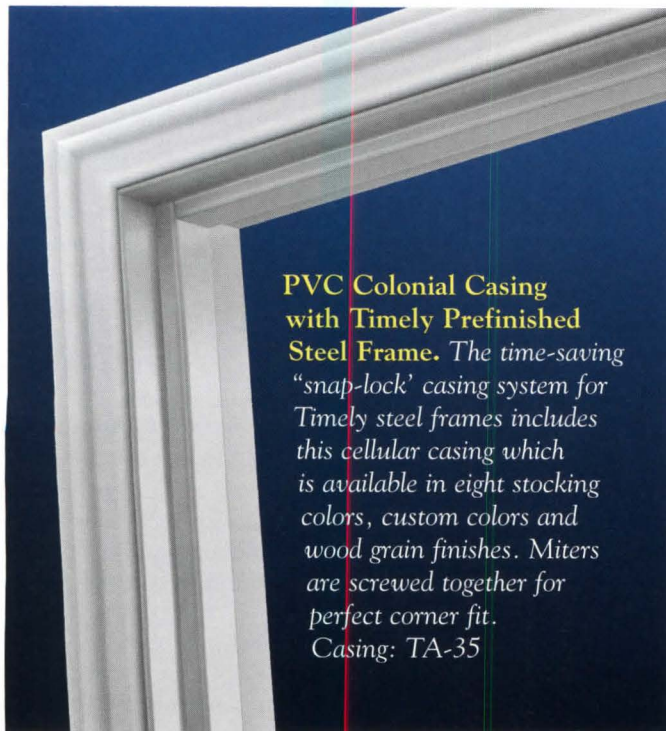
THE TAROT GARDENS, PESCIA
FIORENTINA, ITALY
WWW.NIKIDESAINTPHALLE.COM

To discover the Tarot Gardens in an isolated woods just out of earshot of Italy's Tyrrhenian coast is as gratifying as stumbling upon a trove of porcini mushrooms in the underbrush. Begun in 1979 by the

recently deceased Niki de Saint Phalle, the Tarot Garden was directly inspired by Antonio Gaudí's Parque Güell in Barcelona, and, with fountains and grottoes representing the characters of the Tarot cards, it rivals the great narrative gardens of Renaissance cardinals. The work was officially terminated in 1996 (though the artist continued to refine it until her death) when Saint Phalle's friend Mario Botta framed the garden with a stout gateway—a rationalist masonry wall with a symmetrically placed Chinese moon gate for ticket-taking and services. Inside, gazing at the two dozen ceramic and mirror-clad figures set on the garden's winding paths, one is absorbed by a fantasy world—Circe seems to have passed here, transmuting her loves and hates into colossal forms and water sprites. Botta's contribution

adds a striking contrast to the otherwise nonorthogonal garden, populated with the voluptuously naive "nana" figures, the big swollen women that characterized Saint Phalle's oeuvre. The largest of these served as the artist's residence during the periods of her work on the garden. Although Saint Phalle's sculptures seem assembled from shards of broken dishes and mirrors—recycled pieces of exasperated femininity—each of the ingredients was in fact carefully fabricated for its place in the whole, and the craftsmanship of the work is impeccable. The Tarot Gardens remain as a stunning memorial of Saint Phalle's lifelong pursuit of childlike reverence for the great goddess. **RICHARD INGERSOLL**

Timely will change your frame of mind.



Timely is stronger, prefinished, less costly and meets all fire ratings.

Timely has everything you want and need in a steel door frame system. But its greatest strength comes from attention to detail, design versatility and performance reliability.

Timely's 18-gauge prefinished steel door frames are stronger by design than 18-gauge hollow metal frames. Tests prove it. Timely's unique anchoring system makes the frame itself as strong as the wall, attaining a door-holding capability that equals or surpasses hollow metal frames. A patented, sustained tension clip system holds casing securely to the wall, creating true, tight miters.

Your clients' aesthetic needs are well served, too. Timely provides six stocking and 30 custom prefinished polyester finishes, plus unlimited custom color matching, to complement virtually

any décor. Along with steel and aluminum casings, Timely offers a tested and fire rated PVC colonial casing. Wood casings, provided by others, offer the beauty of wood with the value of steel.

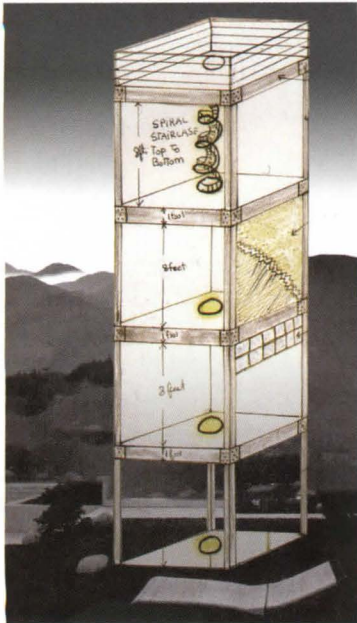


All Timely frame systems retain a full 90-minute positive pressure approved fire rating.

Timely prefinished door frame installations reduce labor and material costs because one man can complete the job within 15 minutes and job-site painting is eliminated.

To this long list of advantages, we proudly add a reminder: Timely prefinished steel door frames enhance many of the most well known and respected buildings in America.

TIMELY
PREFINISHED STEEL DOOR FRAMES
A DIVISION OF S.D.S. INDUSTRIES, INC.



Art and/or Architecture

> EXHIBIT

"TRESPASSING: HOUSES X ARTISTS"
BELLEVUE ART MUSEUM
BELLEVUE, WASHINGTON
THROUGH JANUARY 5, 2003
WWW.BELLEVUEART.ORG

Trespassing: Houses x Artists, a current exhibition at the Bellevue Art Museum, playfully explores new conceptions of house and home by nine artists. Working in collaboration with New York-based architect-

ture firm Open Office, the artists expressed their approaches to domestic design through large models, drawings, sketches, photographs, videos, sound, and life-style tableaux.

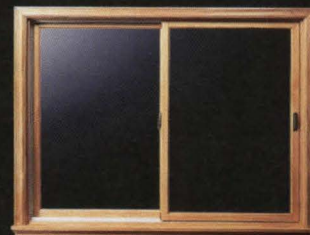
To architects, the work will be both familiar and strange. Jim Isermann's model and drawings of a modular roof form supported by slender columns and creating totally flexible, universal space free of load-bearing walls is textbook Mies. T. Kelly Mason's presentation boards depicting creative uses of prefabricated metal buildings seems straight out of a third-year architecture studio.

One of the cleverest installations is by Chris Burden, who explores an obscure provision of

the Los Angeles building code that allows small structures to escape building permits. His 35-foot-high, four-story, 400-square-foot mini-skyscraper made of aluminum struts, glass, and wood offers an entirely creative approach to backyard buildings (left). Burden plans to erect a full size example in Los Angeles this fall (after the Bellevue, *Trespassing* will travel to the MAK Center in West Hollywood, California, and will be on view through July 2003).

Seattle seems to be awash in art that merges with architecture. Across Lake Washington from Bellevue, the Center on Contemporary Art exhibited installations by a group of local artists and architects that explore the increasingly blurred distinctions between the fields. **MARK HINSHAW**

Now get a feature you've always wanted
 in an affordable window. Confidence.



The Andersen® 200 Series line features more worry-free solutions than ever. In fact, with the new gliding window, there's now an affordable Andersen product for any project.

Call 1-800-426-4261, ref. #4019. andersenwindows.com. **LONG LIVE THE HOME™**



2043B. © 2002 Andersen Corporation. All rights reserved.

green peppers
sun-dried tomatoes
mushrooms
sausage
onions
olives

recessed parabolic
RP-1 low glare
shallow 2 1/2" profile
"Euro" styling
high efficiency
soft perf glow



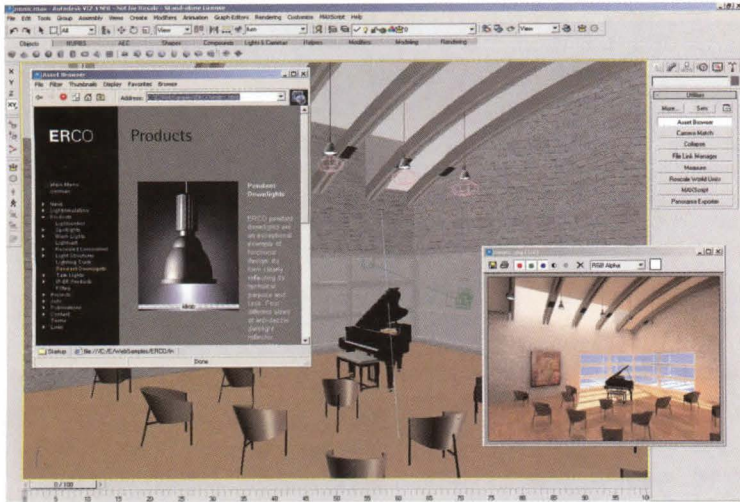
Think Inside the BOX



3808 North Sullivan Road • Spokane, Washington 99216
tel: 509.924.7000 • www.columbialighting.com/brio

circle 47 or www.thru.to/architecture

3D Afterglow



> SOFTWARE

AUTODESK VIZ 4 / WWW.AUTODESK.COM

Adding artificial illumination to 3D renderings makes them lifelike and potent, but it has always involved an additional step for architects—a step often slowed by trial and error. With the latest version of Autodesk's rendering program, Viz 4, "real-world lighting" is easier to simulate. Designers can position lighting fixtures in rooms, for example, and study different effects by specifying photometric units, manufacturer data, or daylight standards. A tool called "i-drop" allows users to drag "virtual lighting fixtures" from manufacturer Web sites by mouse into their renderings. The process is faster and more intuitive than before, and the new features make the add-on module Lightscape unnecessary.

Enhancing the glow of Viz 4 is a set of new tools for radiosity—a method of rendering that allows for soft, gradual shadows. New features include exposure control, which lets users adjust output levels of the rendering, just like film exposure.

A user-friendly program, Viz 4 is a snap to learn. It stands out as an effective tool for the designer who wants brilliant renderings without a major investment. **MICHAEL HORTA**



Works well in really big places.
Like your imagination.

With KML by Andersen™ architectural windows and doors, you can create whatever you have in mind. From entry doors to archtop casements, all are available in a variety of sizes, colors and wood species. Call 1-800-426-4261, ref. #4020. Or visit andersenwindows.com. **LONG LIVE THE HOME™**



2053B. © 2002 Andersen Corporation. All rights reserved. See your Andersen dealer for availability.

EXHIBITIONS

ATLANTA

Ecology, Economy, Equity: The Architecture of William McDonough + Partners an exhibition of the Virginia firm's work with sustainable architecture, at the Atlanta International Museum, through December 20 (404) 688-2467

CHICAGO

Stalking Detroit the unique urban conditions of the "Motor City" are explored through photographs, diagrams, drawings, texts, and architectural and urban design projects, at the Graham Foundation, through November 14 (312) 787-4071



FRANKFURT

Shopping the Schirn and the Tate Liverpool coproduced this investigation of shopping as a modern phenomenon, with works by Duchamp, Warhol, Hirst, Koolhaas, and many others, at the Schirn Kunsthalle Frankfurt, through December 1 (49) 69-299-8820



MONTREAL

Hal Ingberg an interactive installation of space, light, and material by the Montreal architect, at the Canadian Centre for Architecture, through February 16 (514) 939-7026

NEW HAVEN

3D City a multimedia installation, comprising the first comprehensive U.S. exhibition of the work of Rotterdam architecture firm MVRDV, at the Yale School of Architecture, through October 25 (203) 432-2288

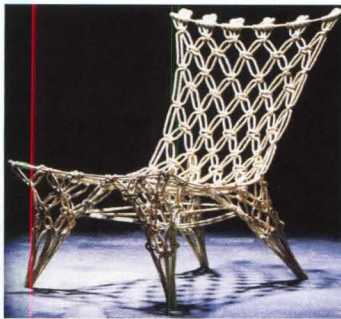
NEW YORK CITY

Sanctuaries: The Last Works of John Hejduk during the last 20 years of his life, the late architect produced lyrical and highly personal works on paper and in sculpture, on view at the Whitney Museum of American Art, through January 5 (212) 570-3633

The Changing of the Avant-Garde: Visionary Architectural Drawings from the Howard Gilman Collection nearly 200 architectural drawings, including works by Archigram, Arata Isozaki, Rem Koolhaas, and Aldo Rossi, at MoMA QNS, opens October 24 (212) 708-9431

PHILADELPHIA

What is Design Today? an interactive exhibition of objects of everyday use, from designs by international firms such as Apple and IKEA, to acclaimed designers including Hella Jongerius, Ingo Maurer, and Karim Rashid, at the Design Center at Philadelphia University, through March 2 (215) 951-2860



ROTTERDAM

Gio Ponti: A World of Design featuring building designs, furniture, ceramics, and fabrics by the late Italian architect and designer, as well as an archive of the Pontedited *Domus* magazine, at the Netherlands Architecture Institute, opens October 19 (31) 10-440-1200

SAN DIEGO

Vital Forms: American Art and Design in the Atomic Age, 1940-1960 an exploration of organic forms in design during and after World War II, at the San Diego Museum of Art, opens October 26 (619) 232-7931

WASHINGTON D.C.

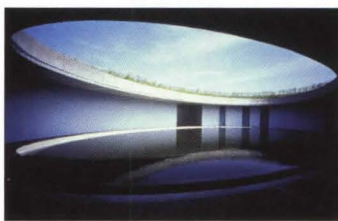
Echoes of Memory: Paintings by Sherry Zvares Sanabria paintings of interiors and façades that explore the mystery of old buildings, at the Octagon Museum, through January 3 (202) 638-3221

Me, Myself, and Infrastructure: Private Lives and Public Works in America

in celebration of the sesquicentennial of the American Society of Civil Engineers, this show examines infrastructure from a consumer's point of view, at the National Building Museum, through February 2 (202) 272-2448

WILLIAMSTOWN, MASSACHUSETTS

Tadao Ando: Architect the Japanese architect, who has recently been selected to design a new building and addition to the Clark Art Institute, displays 15 projects through various media, at the Clark, through April 27 (413) 458-2303



CONFERENCES

International Conference for Universal Design in Japan 2002 focuses on creating products and architecture that are accessible to people from all walks of life, at the International Convention Center and Yokohama Grand InterContinental Hotel, Yokohama, Japan, November 30-December 4 www.ed2002.org

Succeeding Through Change

the 116th annual convention of the National Roofing Contractors Association (NRCA), the largest roofing conference in the U.S., will be held in New Orleans, at the Ernest L. Memorial Convention Center, February 11-14 www.nrca.net

Global Energy Forum attendees will learn about developments in the power industry throughout the world, at the George R. Brown Convention Center, Houston, Texas, March 4-6 www.electricpowerexpo.com

2003 National Green Building Conference

the only national conference targeted to the mainstream residential building industry, at the Marriott Waterfront Hotel, Baltimore, March 30-April 1 www.nahbrc.org

20th Century Exterior Architectural Metals: Design, Preservation, and Care

an intensive conference and training program, sponsored by Technology and Conservation, the MIT Department of Architecture, and the Boston Society of Architects/AIA's Historic Resources Committee, at MIT, Cambridge, Massachusetts, April 4-5 (617) 623-4488

COMPETITIONS

Osaka International Concept Competition, sponsored by the city of Osaka, Japan, is soliciting proposals for the development of the northern area of Osaka station, presently the Umeda Freight Train Station. Registration deadline October 31 www.osakacompe.jp

The Rudy Bruner Award for Urban Excellence is given annually to urban environments that demonstrate a successful integration of social, economic, and contextual values with good design. Deadline December 16 www.brunerfoundation.org

World Habitat Awards established by the Building and Social Housing Foundation in 1985, this awards program seeks out practical and innovative solutions to current housing needs and problems. Deadline June 1 www.mandamus.co.uk

SNAP-CLAD™

Metal Roofing Panels

Braxton's Animal Works is a third-generation family business that has pampered Philadelphia's pets and their owners since 1938. When their growing business required additional space, the Braxtons set out to create a building that was as distinctive as their products and service.

The building's pole and beam frame was erected by Amish barn-raisers. Stone from a local quarry provides heft to the walls. And to top it off, what better than Petersen's SNAP-CLAD Metal Roofing Panels with our standard Aged Copper PAC-CLAD® finish. The Braxton building was designed by John Burzynski Associates. The project was managed by Carroll Contractors of Haverford, PA. DDP Contracting Company installed over 13,000 s.f. of Snap-Clad panels.

For more information regarding our complete line of metal roofing products, please call us at 1-800-PAC-CLAD or visit our website @ www.pac-clad.com. For your pet supplies, check out www.braxtons.com!

PAC-CLAD®
Petersen Aluminum

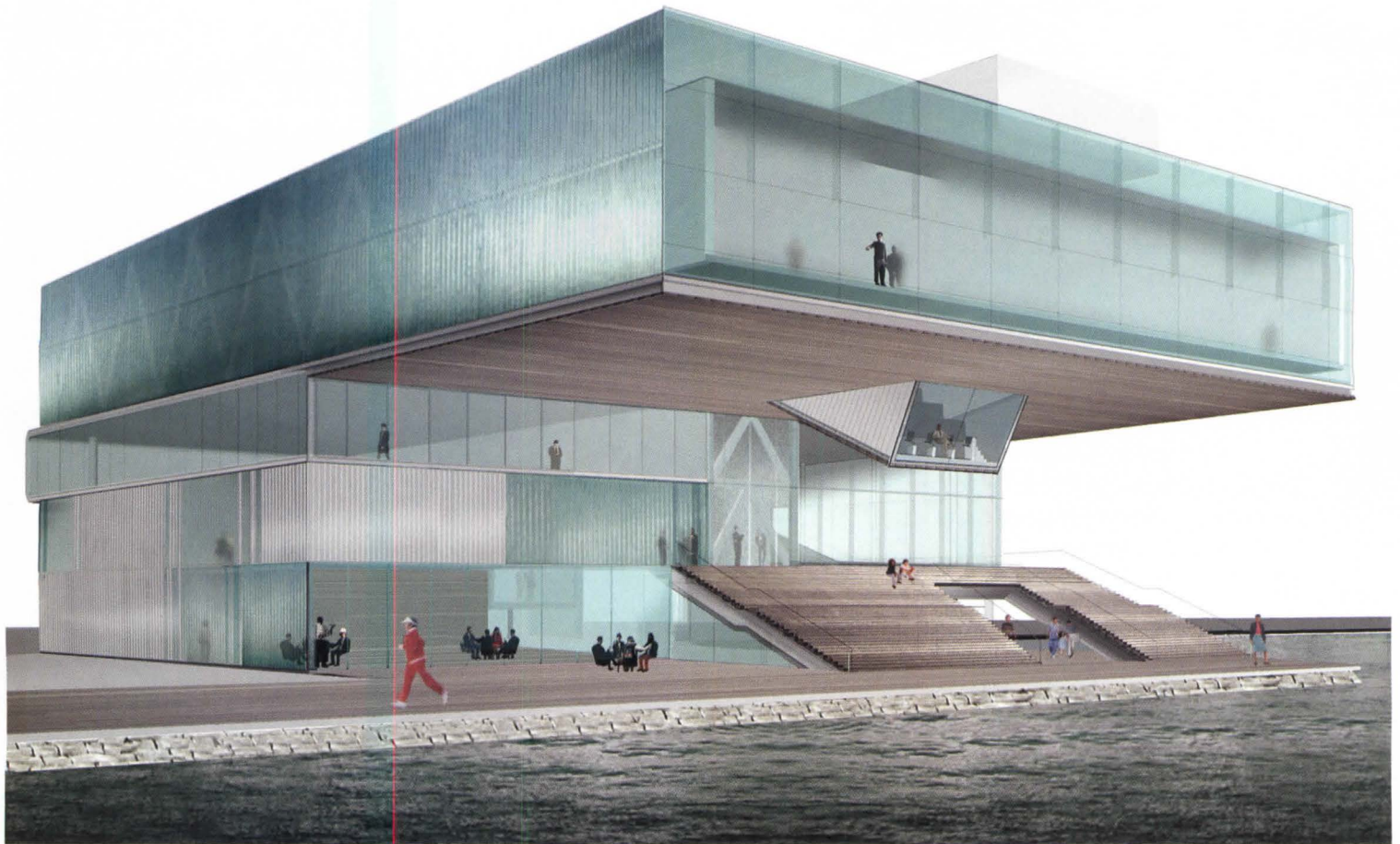


Petersen Aluminum Corporation

1005 Tonne Road • Elk Grove Village, IL 60007
1-800-PAC-CLAD or 1-847-228-7150
Fax: 1-800-722-7150 or 1-847-956-7968
<http://www.pac-clad.com>

Other Plant Locations:
Annapolis Junction, MD: 1-800-344-1400
Tyler, TX: 1-800-441-8661
Kennesaw, GA: 1-800-272-4482

circle 220 or www.thru.to/architecture



> DILLER + SCOFIDIO
INSTITUTE OF CONTEMPORARY ART / BOSTON, MASSACHUSETTS

In spite of its world-renowned academic culture and the presence of a sizable number of progressive designers (many of whom have won P/A awards), Boston has the reputation of being an architecturally conservative town. Postmodernism has proven a difficult affliction to shake here, as in many cities across the United States. Enter Diller + Scofidio. The new Institute for Contemporary Art (ICA), designed by the New York City-based studio, seems poised to become one of the city's most iconic buildings. It is Boston's answer to Gehry in Bilbao, Meier in Los Angeles, and Calatrava in Milwaukee—a building to thrill, to draw large crowds, and perhaps even to generate interest in contemporary art.

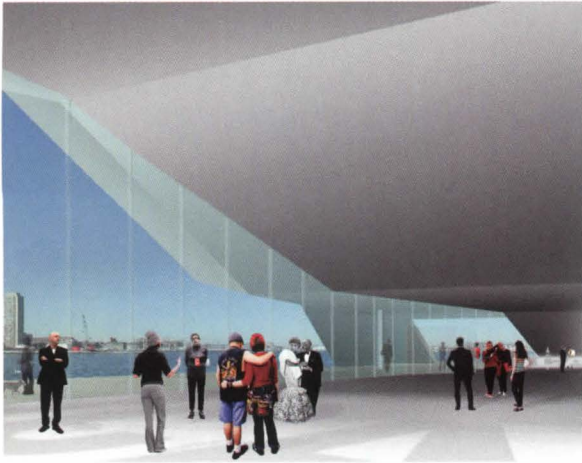
At first glance the building resembles a top-heavy, Breueresque piece of neo-Brutalism. A cantilevered upper gallery reaches out toward the waterfront dominating the façade. But glass and metal skins—no rusticated concrete here—keeps the building from imposing on the visitor. Cladding seamlessly alternates between transparent and translucent glass and opaque metal, blurring the distinction between walls, windows, and doors. The architects conceived the cantilever to preserve as

much open space as possible on the waterfront boardwalk while creating an 18,000-square-foot, column-free gallery space—triple the current ICA exhibition space. The 62,000-square-foot building will also include an education center, restaurant, café, and a performing arts theater, with a transparent glass background offering harbor views behind the performers.

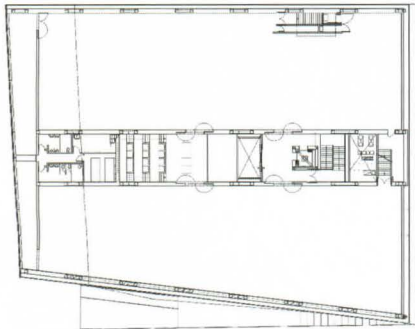
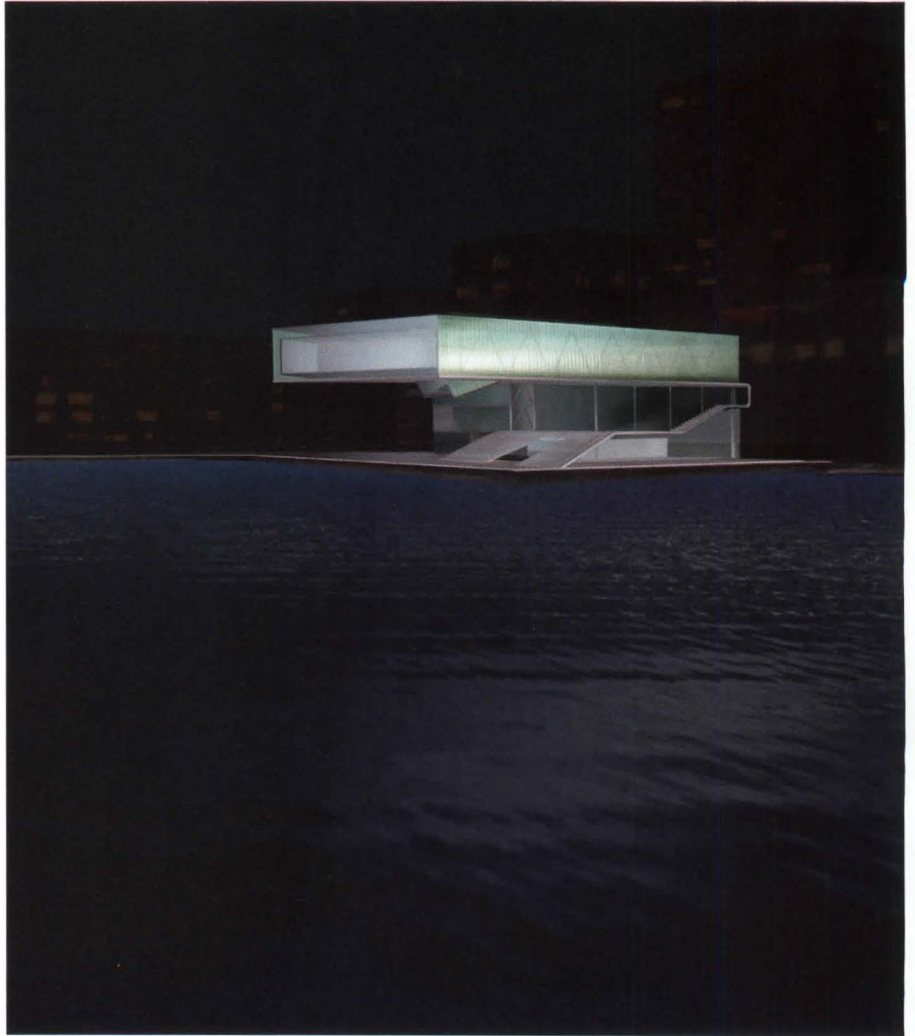
The new ICA will be one of the centerpieces of the planned 43-mile "Harbor Walk" (a new convention center designed by Rafael Viñoly will likely be another trophy). The architects respond to the site in a complex and innovative way. The boardwalk, which paves the entire Harbor Walk, warps up toward the ICA, becoming a stair and informal amphitheater. The boards do not stop when they reach the entrance; they are carried through to the interior of the building and back out again to clad the underside of the cantilever.

Diller + Scofidio's design was chosen over finalists Peter Zumthor, Office dA, and Studio Granada. Ground will be broken at the end of 2003.

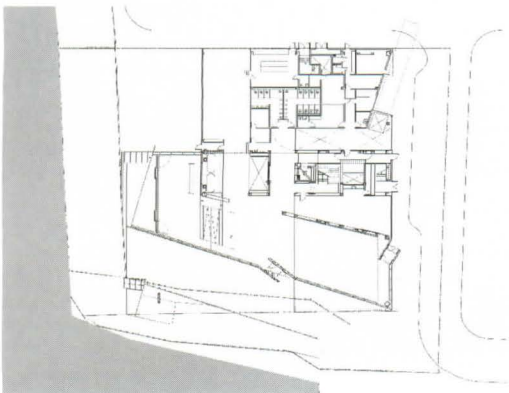
ALAN G. BRAKE



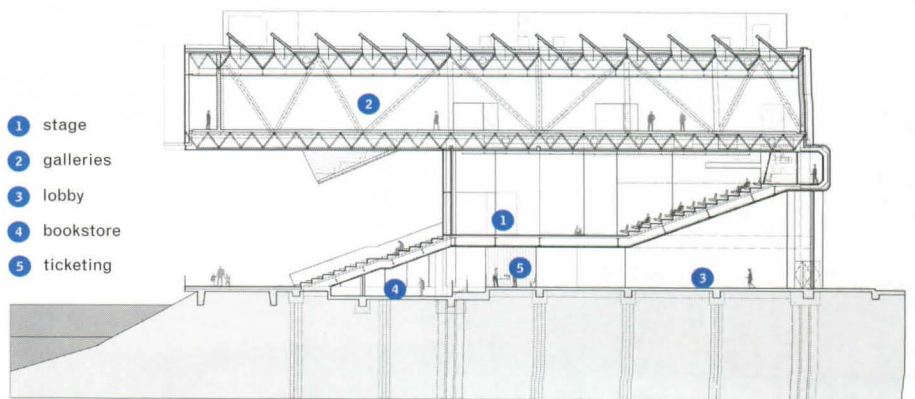
Lobby interior



Fourth-floor plan



First-floor plan 135' <



North-south section 120'

Theirs.



We've broadened your
choice of standard
exterior colors.
*(At no additional charge!)

Ours.*



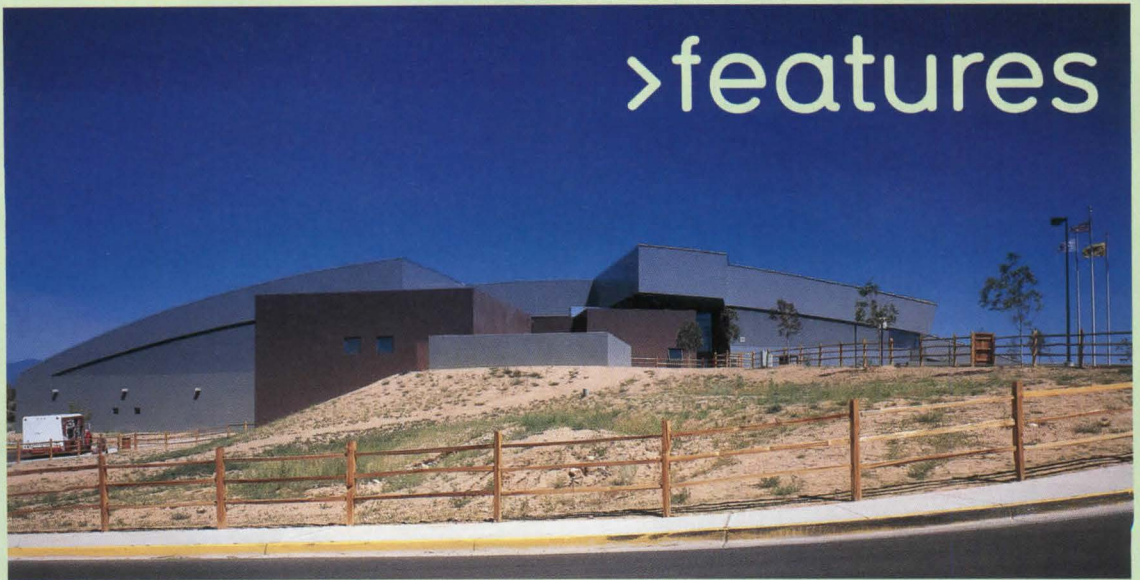
At Eagle®, we now offer **50** standard exterior clad window and door colors—at no extra charge. We can even help you customize colors to meet your specific needs. Think of it as at least 50 new ways to add value and customer satisfaction.

Now you've got more options. And for once, cost *isn't* one of them.

To learn more about this
cost-saving, added value, call:
(800) 453-3633
for your nearest distributor.

Or visit us online:
www.eaglewindow.com
circle 175 or www.thru.to/architecture





Santa Fe Today

In a city that banks on tradition, architects struggle for a contemporary voice.

BY LAWRENCE W. CHEEK

> **CITY** Seemingly liberal, tolerant, nonconformist and proud of it, Santa Fe has long been deeply conservative when confronted with issues of tradition and change. In architecture, it has resolutely looked backwards for inspiration, propagating itself as a theme park of Territorial and "Pueblo-Spanish" style. Apart from a few scattered and well-hidden residences, modernism has all but bypassed Santa Fe.

But the twentieth century occurred in the New Mexico state capital at the 99th hour, spearheaded by a pair of visual arts buildings at the College of Santa Fe by Ricardo Legorreta in 1999. Michael Freeman's functionalist but expressive Fire Station Number Seven also opened for business that year, and in 2000 came the Genevieve Chavez Community Center by Mazria Riskin Odems. A new Legorreta condominium complex is under construction.

None of this is happening in the historic districts, where restrictions

are so rigid that a property owner once was denied permission to raze a chicken coop because the city deemed it historic. Outside the landmarked orbit there is no design review, though by convention most residential and commercial buildings still cling to revival styles.

But Santa Fe is changing. "I've really seen a shift in the last three to five years," says Louis Grachos, director of SITE Santa Fe, a contemporary art museum. "There's more openness to international ideas. It's not just a regional art scene any more. I think these buildings parallel the shift we're seeing in art. They're really important signals that people are willing to take more risks."

HISTORY OF STYLE

Santa Fe is the nation's oldest state capital, founded as a Spanish colonial outpost around 1610. Until 1880, when the railroad rattled in, most Santa Fe buildings were adobe block, low and horizontal and fetch-

ingly uneven, plastered with a film of mud and straw that would almost glow in the afternoon light. After 1880 came the predictable nova of Victoriana. But in 1912, with the town mired in economic doldrums, boosters devised a city plan influenced by regional archaeology and the City Beautiful movement, promoting a "Santa Fe style" to distinguish Santa Fe from every other town in the West. Although the plan had no legal force, it shaped nearly a century of development.

The Pueblo-Spanish revival still rolling today is the bastard of colonial adobe houses, New Mexico's distinctive, square-towered mission churches, and the Indian pueblos, particularly Taos, which preceded the Spanish entrada. Like the "Taco Deco" revival in Arizona, the Pueblo-Spanish style is a grab bag of historicist clichés: vigas (log ceiling beams punched through exterior walls), squared bell towers, sometimes a syncopated massing of boxes recalling Taos Pueblo, and softly rounded corners to feign adobe in frame and stucco. These forms are not abstracted or monkey-keyed with; there is community pressure to execute them literally

The Genevieve Chavez Community Center by Mazria Riskin Odems hugs a hillside outside Santa Fe.

>features

and soberly. Thus, postmodernism missed Santa Fe, too.

Building a city on a foundation of style would seem to be a hollow gesture, a sure path to sterility and stagnation. But Santa Fe has succeeded. The distinctive, low-rise,

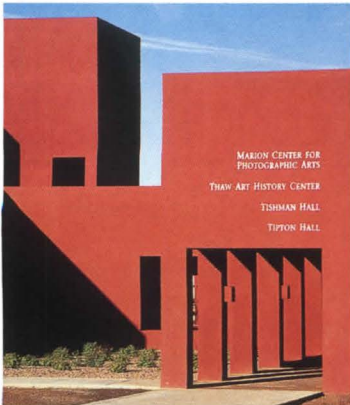
earth-toned city locks into the landscape with a deep sense of connectedness, and it has cemented tourism as an economic foundation. (Ten years ago, Condé Nast *Traveler* readers voted Santa Fe the number one destination in the world.)

But local architects like Michael Freeman, who tried and failed twice to get designs approved in historic Santa Fe before giving up, think revivalism has done Santa Fe no favor. "The authentic work would still be here without the imitations,

absolutely appropriate for when it was built," he says. "But the impact of the authentic is being diluted."

REINTERPRETING CONVENTION

When Legorreta's Santa Fe Art Institute and Visual Arts Center arose



The *sky* is the limit.

No boundaries. No constraints. No preconceived notions.

You want to *explore*
possibilities others
are afraid of.

Follow your instincts.

in 1999, it was like that moment in the movie "Pleasantville" when a few adventurers began having sex and seeing in color. Legorreta defied Santa Fe's soft corners with his usual sharp fins, planes, and pyramids, and launched a polychrome assault on the "brown town" with enchilada red, cobalt blue, electric violet, and peekaboo yellow.

And he still honored New Mexico. The crispness of the high desert light inspired the striking geometry and its potential for expressive shadow-making. The colors are just as fundamentally

Two buildings by Ricardo Legorreta for the College of Santa Fe (facing page, left and center); Michael Freeman's energy-efficient Fire Station Number Seven (facing page, right).

regional: Legorreta's red is like sandstone, wet with rain; the others can occur in any high-intensity New Mexico sunset. If adobe buildings grow from the earth, these were born of the sky.

Certain New Mexican traditions are reinterpreted to interesting effect. Light fixtures peek from niches, like candles in old convents. Enclosed courtyards abound, each orchestrated for mood or effect. One, its walls painted a knockout cobalt blue, virtually melts into the sky. Legorreta, who loves the role of innocent romantic, says none of this is calculated. "It is purely emotional," he says. "We never have an intellectual discussion about color."

In designing the Genoveva Chavez Community Center, Edward

Mazria first had to minimize the scale of the building. With four acres under its roof and a profile peaking at 57 feet, this is one of the city's largest structures. Among Santa Fe's rightfully treasured traditions is its low-rise, humane scale.

The site fortuitously included a 15-foot hill, so Mazria designed the building to fit over and into it, hugging the hill like a C-clamp, and positioned the entrance at the crest so the building's height wouldn't seem so daunting to pedestrians. The gentle arc of the roofline reads as an abstraction of the undulating desert topography surrounding Santa Fe. "Basically, we just created another hill," Mazria says.

There isn't even a vanishing echo of Santa Fe form, style, or color here.

Nor does the quality of natural light inside evoke tradition; the building is remarkably transparent, lavish with skylights, clerestory, and southerly window walls, all impossible in adobe technology. New Mexicans have been raving about their glorious natural light for centuries, and historically they have responded with courtyards and patios, transforming outdoors into living space; this building inverts the formula, bringing the outdoors in.

Freeman's fire station is more extroverted. The flaming red extrusion and garage fascia bellow "fire!" But this colorful exclamation mark was Freeman's only indulgence. He has little use for Santa Fe architectural style. When it becomes ingrained in

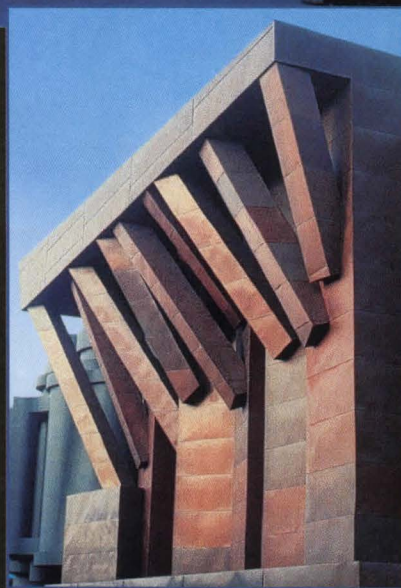
continued on page 46

Extraordinary things can *happen.*

Copper gives you the design freedom to let your imagination take flight. And the Copper Development Association provides the design assistance, information resources and technical specifications to help make your vision a reality.

Discover the limitless possibilities for architectural copper — a truly unique building material. For more information or help on a specific project, call **888-4ARCH11**. And visit us at <http://www.copper.org>.

circle 70 or www.thru.to/architecture



Project: TBWA Chiat/Day, Los Angeles
Architect: Frank O. Gehry & Associates

 **COPPER**

Unique. Beautiful. Enduring.

BELDEN

THE BELDEN BRICK COMPANY

Canton, Ohio / (330) 456-0031
www.beldenbrick.com
An ISO 9001:2000 Registered
Quality Management System

Landmarks in Brick

Since 1885, The Belden Brick Company has been making brick in hundreds of colors, sizes and textures. Throughout these years, Belden has established and sustained a widely recognized reputation for the quality of its products.

Colors

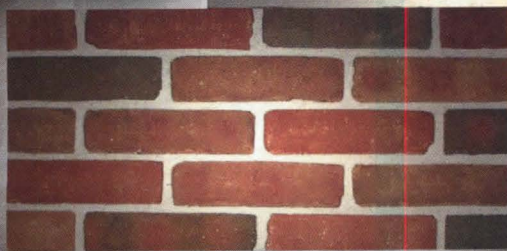
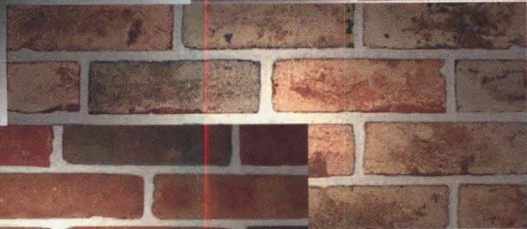
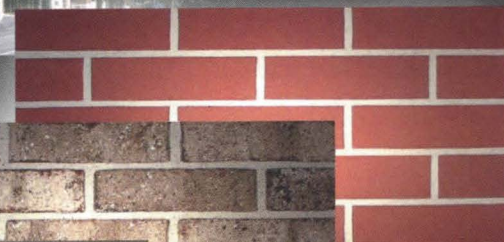
Belden Brick is available in a world of colors including soft whites and creams, golden buffs and dusty tans, delicate pinks and cinnamon reds, chocolate browns, pewter grays and coal blacks. With so many colors to choose from your options are truly endless. Here is a small sample of over 200 color ranges, 13 textures and 16 different sizes.

Sizes & Shapes

More sizes mean lower wall costs. With as many as sixteen different sizes to choose from Belden has the size you need. Plus, Belden has made thousands of special shapes to provide special details for individual projects. Need an "impossible" shape for your project? Then call Belden Brick and learn how the impossible can become reality.

Textures

Belden Brick offers thirteen different textures that range from silky smooth finishes to rugged randomly textured styles. Each texture can make its own distinctive contribution to the visual impact you seek.



Sprawl or Nothing

An increasing number of politicians embrace “smart-growth” principles, but the idea of controlling sprawl has yet to win or lose anybody an election.

BY BRADFORD MCKEE

> **POLITICS** This electoral season, the political buzz phrase “smart growth” resonates louder than ever. Most often it comes from candidates for state and local office who are trying, at least, to sound-check their concern to voters over the massive strains caused by urban sprawl. But is an antisprawl revolution afoot? Hardly. The movement to end freestyle suburban development has gathered force quickly over the past few years as suburbanites tire of traffic and smog, but the November elections may show how fragile the smart-growth movement’s hold on politics really is.

Few voters will favor a straight smart-growth ticket in the first place. “Regardless of what the polls say about people and their

attitudes toward growth management, smart growth is not a decisive issue,” says Larry Morandi, director of environment for the National Conference of State Legislatures in Denver. If we wind up with a new slew of smart-growth activists in office this year, which is unlikely, it will be because they appealed to voters in coincident ways when it came to, say, education, crime, or taxes.

Occasionally growth pressures are so great that the issue becomes a litmus test for candidates, but that scenario is likeliest in local races. In 1999, the voters of Loudoun County, Virginia, replaced eight of nine members of the board of supervisors with “slow-growth” candidates, so acute were the development pressures on the

semi-rural, semi-suburban county at the time.

By now, there are smart-growth-minded public officials operating at every level of American politics. For instance, U.S. Representative Earl Blumenauer, a Democrat from Portland, Oregon, supports fellow smart-growth candidates for the U.S. Congress through his Committee for a Livable Future, a political action organization that has given away more than \$200,000 in the past three years. It does the hearts of smart-growth types good to see a developing solidarity on the issue among federal lawmakers. Like state representatives, however, they are unlikely to be judged on their smart-growth records because voters doubt that any one lawmaker can tip the scales

toward policies that encourage sustainable development. But, in fact, most substantive action to advance smart-growth policies begins with these individual delegates.

“Where the rubber hits the road with smart growth is in the state legislatures,” says Jason Jordan, government affairs manager for the American Planning Association (APA) in Washington, D.C., “but you can’t use those races as barometers on the issue.”

Executive-branch officials—governors and mayors—stand the best chance of defining themselves by their attitude toward development. Maryland’s Governor Parris Glendening, a Democrat, took office in 1995, just as many of his constituents started thinking the entire state was being sub-

In Maryland, two gubernatorial hopefuls vie to inherit the mantle of current Governor Parris Glendening, who spearheaded groundbreaking antisprawl legislation. Both Kathleen Kennedy Townsend, a Democrat (left), and Republican Bob Ehrlich (right), claim they are for smart growth. Voters may reasonably be skeptical.



>features

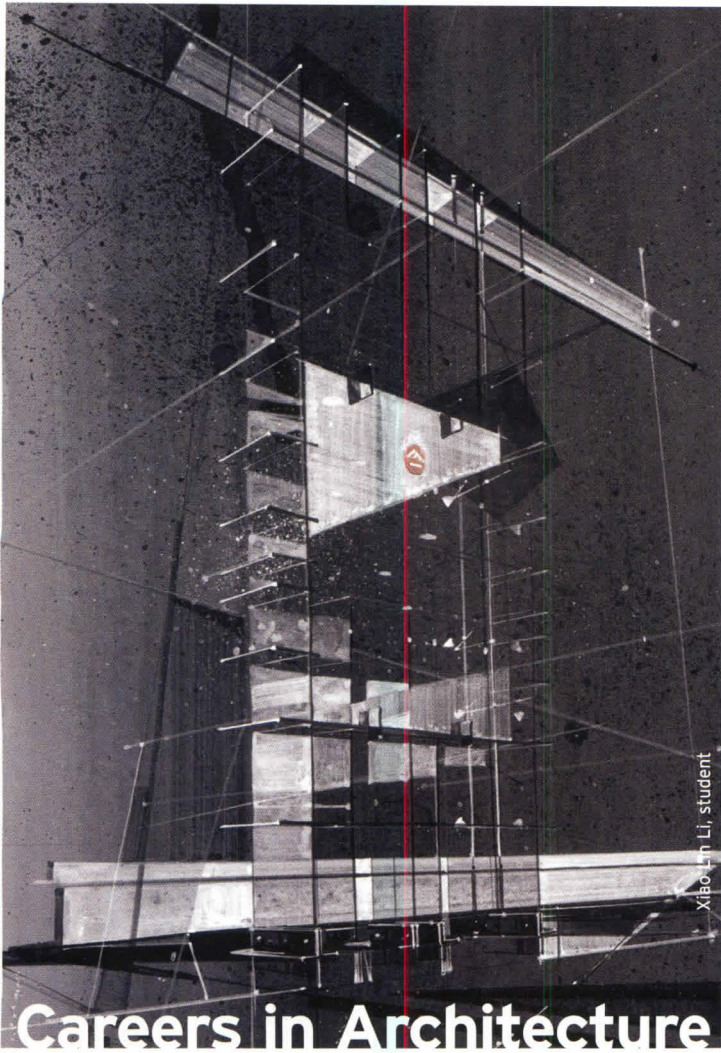
Where the rubber hits the road with smart growth is in the state legislatures, but you can't use those races as barometers on the issue.

sumed by urban sprawl. In 1997, to preserve open space, Glendening pushed through the legislature and signed the Smart Growth Areas Act, which discouraged public and private investment in new large-scale development and provided incentives for reinvestment in older towns, neighborhoods, and even brownfield sites. Glendening has launched several major antisprawl initiatives in the years since to augment the Areas Act, and he has made smart growth the cornerstone of his administration. Now it remains to be seen whether the contenders for his office, the Democrat, Lieutenant Governor Kathleen Kennedy Townsend, and the Republican, Bob Ehrlich, can match Glendening's record on issues that were obviously of great personal importance to him.

Glendening "really has stuck to his guns, which is unusual" on smart-growth matters, says Rose Krasnow, a senior policy analyst with the National Governors Association, in Washington, D.C. "The question now is whether his successor can be so dogged about it." Townsend has said she will be, though some observers believe she is more interested in education and crime. And Ehrlich said early in his campaign that he was a smart-growth proponent. "That was an attempt to take the issue off the table for Democrats," notes the APA's Jordan. Ehrlich has also vowed to build a controversial connector road through the central part of the state. "He won't be the smart-growth poster boy that Glendening was," Jordan says.

Several other states, like Illinois, Oregon, and Pennsylvania, will also see whether new governors assume the antisprawl bully pulpit of their predecessors. Illinois Governor George Ryan, a Republican, is retiring, having taken his state several steps toward more thoughtful growth management. In 2000, Ryan formed the "balanced-growth cabinet," a task force charged with aligning various state operations toward a new smart-growth strategy the governor called Illinois Tomorrow, which aims to cut traffic jams, protect open spaces, and redevelop neglected communities.

Of the two hopefuls in the race to succeed Governor Ryan, Democrat Rod Blagojevich has won an endorsement from the Sierra Club, but of course, he makes no comment on his take on Republican Governor Ryan's smart-growth accomplishments. The Republican gubernatorial candidate, Jim Ryan (no relation to the current Illinois governor) also declines to bring up growth management in his campaign, but does vow to maintain a "pro-business climate" in the state, which usually does not leave much room for a smart-growth mandate. ■



Xiao-hu Li, student

Careers in Architecture

We design the possibilities everyday:

- artistic
- experiential
- social
- environmental
- technical
- professional
- enduring.

MASTER OF FINE ARTS PROGRAM IN ARCHITECTURE



Enroll Now for Fall, Spring
& Summer Semesters

AcademyOfArtCollege
1.800.544.ARTS | www.academyart.edu

79 New Montgomery Street | San Francisco, CA 94105
Nationally Accredited | Established in 1929

circle 230 or www.thru.to/architecture

Architectural Light and Magic

Presentations have more punch, thanks to new software and gadgets.

BY H. EDWARD GOLDBERG

> TECHNOLOGY Clients are increasingly sophisticated and media savvy. Constantly bombarded by digital presentations at work and by special effects on TV and in the movies, the average professional hiring an architect nowadays expects a certain level of technological proficiency. It's no longer sufficient for the architect to present new projects using just two-dimensional imagery, or worse yet, construction documents. The presentation itself must convey a sense of the cutting edge.

Fortunately, software publishers have been working overtime to create new programs that not only add pizzazz to presentations but also productivity throughout the design process. Remarkably, while CAD has fully pervaded the profession, many of these digital solutions have been widely overlooked.

As architects communicate more through digital media, the efficient use of the latest technologies often means the difference between getting the job and getting passed by. And once hired, architects will find that some new presentation tools even assist in making design decisions more quickly and economically.

PRELIMINARY DIGITAL DESIGN

A new genre of hardware and software—call them preliminary digital design tools—is reinventing the basic means for getting a design on paper. For example, new flat-screen “direct-draw” monitors allow users to draw as though with pencil on paper. Cintiq monitors made by

Wacom (www.wacom.com) feature a combination LCD monitor and drawing surface that responds to a pressure-sensitive stylus (1). Once accustomed to the medium, designers often find that the technology helps speed the design process, because it becomes totally digital: the author can draw freehand sketches in a design software such as Autodesk Architectural Studio, and then export the sketches to a CAD program to build construction documents. The monitors also allow architects to mark up presentations digitally. As for cost, a 15-inch Cintiq monitor sells for about \$1,900.

As with Cintiq and the soon-to-be-released “Tablet PCs,” other software and hardware is meant to give the designer freedom of expression along with ease of use. SketchUP (www.sketchup.com), for example, is a powerful but user-friendly software that can quickly model three-dimensional concepts. A built-in palette of textures, shadowing, basic animations, and section tools help ready design studies for presentation (2). The program can also import and export DWG, DXF, and 3DS files, simplifying interactivity with CAD programs. To make the visualizations look hand-drawn, users can click on the “profile-and-jitter” tools. The software runs about \$500.

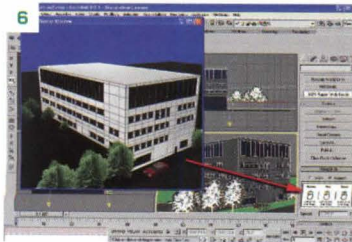
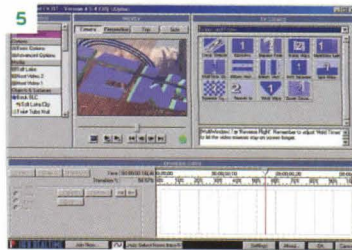
Another reason to use a drawing tablet is Architectural Studio, which allows the architect to illustrate a concept in two or three dimensions. This software is relatively easy to learn, and is intended for use during both the design and presentation phases. The software easily exports

data to AutoCAD and Viz (see below), allowing the architect to send digital designs directly to CAD users. This program comes with a 30-day trial and a free demo (<http://pointa.autodesk.com>).

PRESENTATION TOOLS

A growing group of computer tools is geared toward creating presentations. **Two-dimensional digital editing**, for example, allows invaluable cropping and editing of bitmapped pictures, such as digital photographs or computer renderings, and the creation of photomontages and entire presentation boards. The three-dimensional tools, on the other hand, are most often used for high-quality renderings and animations. Although **fly-by animation** is popular, an **electronic slide show** is often more effective—and much cheaper to create. Educated users of these tools can make three-dimensional models from two-dimensional CAD drawings. The three-dimensional software generally has a high learning curve and requires a fast computer.

Two-dimensional digital picture editing is the most important presentation program an architect can own. PhotoShop 6 by Adobe (www.adobe.com) is available in both PC and Macintosh versions and is ideal for creating digital presentations and photomontages. Advanced functions of the software include creating rendered elevations and 3D-appearing visualizations (3). PhotoShop will also “filter” a rendering to make it look as though it was done in watercolor or another hand-rendered medium. While it's



>features

not an easy program to master, at about \$500, it's a must-have.

A lower-cost option for use on PCs only is Paint Shop Pro by Jasc Software (www.jasc.com). For under \$100, Paint Shop Pro offers a limited palette of 2D picture-editing options.

In the realm of **three-dimensional modeling and animation**, Viz, now in its fourth issue, is very popular and interfaces directly with AutoCAD and Architectural Desktop. The latest version of the program is fitted with a new generation of lighting effects called "Global Illumination," a rendering technology that fairly accurately simulates scene lighting. While Viz is an efficient use of computing power, it is best run on a 2-gigahertz computer with a Pentium 4 microprocessor and 512 megabytes of RAM. Some designers love this program, but it is not easy to learn. Expect to pay approximately \$1,900 for a seat.

Another option for three-dimensional animation and visualization is Form.Z (www.formz.com) by Autodesk, also in its fourth release. Available in both Mac and PC versions, Form.Z has the accuracy of CAD combined with excellent modeling tools and a fast rendering engine (4). At about \$1,500, Form.Z is the basic program for surface and solid modeling; a companion program, RenderZone, adds **photorealistic rendering** and sells with Form.Z for close to \$2,000. Another extension, RadioZity, brings accurate lighting rendition and sells with Form.Z for \$2,400.

SLIDE SHOWS AND MOVIES

For viewing by a large audience or for a paperless presentation, nothing beats a digital slide show, digital animation, or digital movie. Digital movie presentations—animation alone or a combination of animation and camera video—are best edited on the computer with the latest generation of inexpen-

sive "nonlinear" **video-capture and editing systems**. These displays can be shown directly from a standard VHS videotape, from a computer hard drive, or from CDs or DVDs. CD presentations can be shown only through a computer; DVDs made from the latest DVD burners, alternatively, can be shown directly on a TV monitor from a stand-alone DVD player.

Most people are familiar with Microsoft's PowerPoint software—one of the most common business applications—but few have gone beyond the boilerplate templates that come with the program. By using 640-by-480-pixel Photo Shop images, an architect can go outside of the box and create a **digital slide show** with his own imprimatur. The slide shows can also be imported to the **Internet**: the little-known "Web Page" feature brings up a "wizard," or step-by-step instructions, for automatically creating an online version of the presentation. PowerPoint costs about \$300 (www.microsoft.com).

If your firm regularly develops digital presentations of any kind, a **digital projector** might be a good investment. Many of the devices weigh as little as three pounds, so they are easy to carry to the client's office. Make sure that any selected model has a brightness of 1,100 lumens or more and "true XGA" resolution—1,024 pixels by 768 pixels—to ensure visual clarity and compatibility with standard software. There are many effective projectors; at about \$3,100, the LP 130 offered by InFocus (www.infocus.com) is worth a hard look.

While a projector may be optional, a **digital still camera** is indispensable. A three-megapixel camera can deliver superb prints of up to 5 inches by 7 inches, and cameras with capacities of four megapixels and higher yield pro-

fessional-looking results in all standard print sizes. **Digital video** (DV) movie cameras can be very handy for showing a client an engineering operation, the traffic flow at a site, or an interview with the bureaucrats at the permit department. These small cameras can also be used to record and play back digital animations and presentations to a digital projector. The key is IEEE 1394 DV (Firewire) output; Expect to pay about \$1,300 for a good DV camera, such as Canon's 200 MC (www.canondv.com).

Another means to creating world-class presentations is **video editing**. Computers have a hard time showing high-resolution animations, and a suite of editing software and hardware can provide a solution. The Pro One package from Pinnacle Systems (www.pinnaclesys.com) includes a DV capture card, a full copy of Adobe's Premiere editing program, and Impression, a CD and DVD editor (5). All this technology runs about \$900, but deployed properly it will edit and play your animations at 30 frames per second—a respectable professional display. With a dedicated 7,200-rpm IDE drive you can make professional DV movies on your computer for under \$1,000.

Just about everyone has a CD burner today, and **DVD burners** are starting to sell in the \$270 range. A stand-alone Pioneer A04 DVD burner with a standard USB 2 connection can be purchased for around \$350 (visit www.pioneerelectronics.com), but the user will also need recording software, such as RecordNow MAX by Veritas (www.veritas.com), and a DVD authoring software, such as Pinnacle's Impression or DVDIT by Sonic (www.dvdit.com).

INTERACTIVE SOFTWARE

Enough show business: What about good old-fashioned commu-

nication? A new direction available to the architect is the embedding of digital **3D models in e-mails**, Web pages, and digital slide shows. The recipient or user can rotate the building and move through it interactively by merely using a mouse.

A few software packages offer the ability to produce these interactive scenes. Deep Exploration, made by Right Hemisphere (www.righthemisphere.com), can produce **interactive 3D scenes** from most 3D files. Not only will this program convert files from one form to another, it will support changes to the lights and environment in its interactive scenes. The architect can place the scenes on Web pages, in PowerPoint presentations, and even in Microsoft Word documents ready for e-mailing. The software costs about \$300.

Eon Reality Raptor (www.eonreality.com) is a new software designed to work as a plug-in within RecordNow MAX, version 4, or Autodesk's Viz. After making a Viz scene, one activates the Raptor window and an interactive "viewport" is immediately created without any rendering at all (6). The interactive file from this program can also be placed in a Web page, added to a PowerPoint presentation, or e-mailed in Word. It costs about \$500.

For design and presentation work, the basic technologies are available at a reasonable price to greatly enhance and speed up the process. In order for a design practice to survive and thrive in this increasingly competitive environment, the correct implementation of the digital design office is no longer a luxury, but a necessity. ■

H. EDWARD GOLDBERG IS A PRACTICING ARCHITECT AND INDUSTRIAL DESIGNER. HE RECENTLY WROTE THE AUTODESK ARCHITECTURAL DESKTOP 3 BOOK (PRENTICE HALL, 2002).

Oh, the Design Possibilities...



New precast designer's online research and idea library

www.pci.org

Unlimited Free Access



**DESIGNER'S
KNOWLEDGE
BANK**

Register Now!

Go to PCI's home page at www.pci.org and *click* on the **Designer's knowledge Bank** logo. You must complete your registration to qualify for free access.

Created especially for architects, engineer and owners – on demand information for designing, engineering and building precast, prestressed structures...

Now at your finger tips, hundreds of case studies, articles, abstracts, project reports, profiles on leading firms, books, manuals, peer-reviewed technical papers. you'll find the latest industry recommended practices, information on locating precasters and much, much more.

CD offer

Register today and you will receive a free CD* covering precast applications in:

- Housing ■ Commercial buildings ■ Parking structures ■ Industrial facilities
- Stadiums/arenas ■ Hollowcore flooring ■ Bridges

Get Your FREE* CD TODAY!

Register on the Designer's Knowledge Bank at www.pci.org!



209 W. Jackson Boulevard Chicago, IL 60606 ■ Phone: 312.786.0300 ■ Fax: 312.786-0353 ■ e-mail: info@pci.org

*CD offer while supplies last. Must qualify for membership in Designer's Knowledge Bank to receive free CD.

LONWOOD NATURAL, DESERT DAWN (#460), RESILIENT SHEET FLOORING.

At the foot of
inspiration.

LONSEAL
FLOORING

LEAVE AN IMPRESSION

800 832 7111 WWW.LONSEAL.COM

>features

These buildings are really important signals that people are willing to take more risks

continued from page 37

the culture (and municipal code), he says, it crowds out the real issues in the built environment.

Freeman calls the station a "tough, undecorated working facility," but its environmental rationalism takes it beyond mere enclosure. A Trombe wall heats the garage in winter, and southern clerestory lights and helps heat the residential zone. Liberal ventilation obviates air conditioning, so evaporative cooling is adequate.

None of this environment-friendly design could have happened through literal revivalism, which is what most peeves Freeman. He came to Santa Fe from Chicago (and Skidmore, Owings & Merrill) out of a personal commitment to practice energy-efficient architecture; the 7,000-foot elevation supplied mild summers and cold but sunny winters, ideal conditions for sustainable design. In Freeman's view, contemporary buildings that don't address pollution and conservation are reckless.

"The historic ordinance implicitly states that we can't build as well, or express the needs of society as well today as they could in earlier times," he says. "I find that to be a very strange concept."

SANTA FE TODAY AND TOMORROW

Santa Fe hasn't pondered its new generation of buildings in such terms, but people seem to have welcomed them. "They've gone unscathed, as near as I can tell," says Bill Waters, opinion-page editor of the Santa Fe *New Mexican*. Orlando Romero, who built an honest adobe house and likens the experience to "watching your children grow up," says faking it has "become a cliché in Santa Fe." He applauds contemporary architecture "as long as it doesn't insult your intelligence and your eye."

Writer and historian John Pen LaFarge, whose father helped draft Santa Fe's first historic design-review ordinance in the 1950s, goes further: "Either because of [that] ordinance or because of pressure and tradition, Santa Fe architecture of the last generation has been bland, predictable, and uninteresting." But, he adds, two things people always mention when they come here are how different Santa Fe is, and how it blends into the landscape. There should be experimentation, but I also think we should stay with adobe."

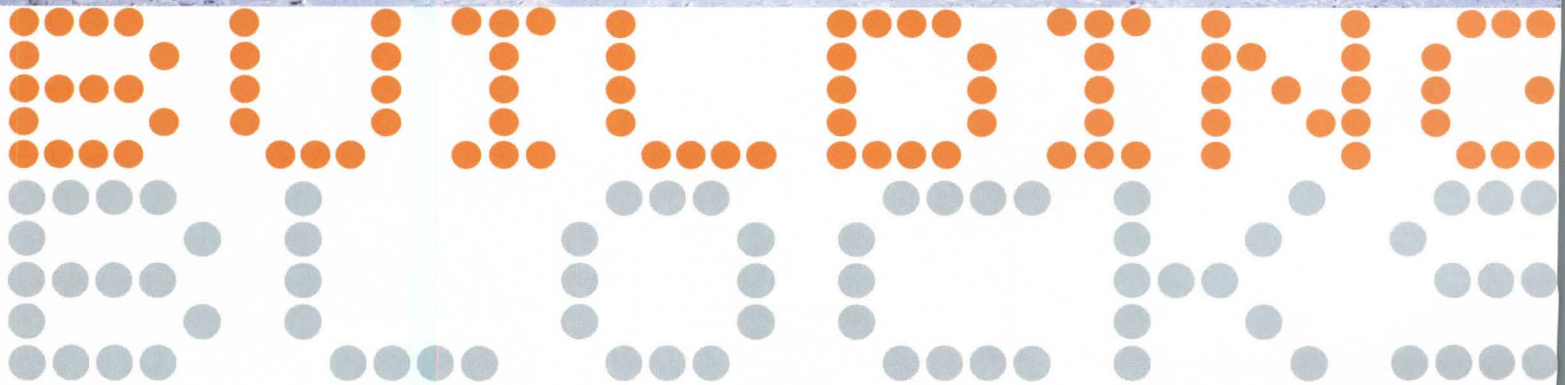
For all its vitality and history, Santa Fe is a troubled twenty-first-century city. Its class divisions are chasmic. The median price of a home this year hovers around \$270,000, but few Santa Fe salaries can manage that. Settlers from California, Texas, or back East import their wealth. This past summer the division was intensified by a severe drought; long-time residents watched their modest gardens wither while a private golf club, exempt from rationing, gulped a million gallons a day.

If buildings shape culture, as Churchill said, Santa Fe's backward-looking architecture has beguiled a city into believing its own mythology and denying its contemporary realities. While the city's finest modern projects don't explode the charade, they've at least set the stage for a more dynamic future. ■



Live and Learn

From grade school through graduate school, learning environments are designed increasingly with spaces for social interaction, three-dimensional means to pedagogical ends. In a small-town grammar school in Germany, Allmann Sattler Wappner loops two levels of classrooms around three communal spaces—a multipurpose hall, a courtyard, and a gymnasium; at the Wildwood School in West Los Angeles, SPFA carves out wide hallways between learning pods for sixth to twelfth graders; in New York City, Baruch College students meet up in common spaces large and small throughout the 11-story atrium that anchors their vertical campus by Kohn Pedersen Fox; MBAs in training are steeped in the asymmetrical mind of Frank Gehry, whose design for the management school at Case Western Reserve University in Cleveland revolves around a multistory lobby. For those who missed geology class, Vulcania, a museum in the Auvergne region of France by Hans Hollein, offers lessons about lava and from whence it flows in an otherworldly complex of plazas, theaters, and exhibition displays. Live and learn.



IN A SMALL GERMAN TOWN, SCHOOL PRIDE TAKES ON NEW DIMENSIONS.
BY CATHY LANG HO



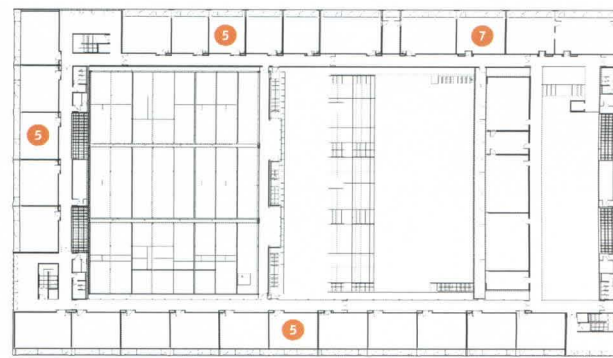
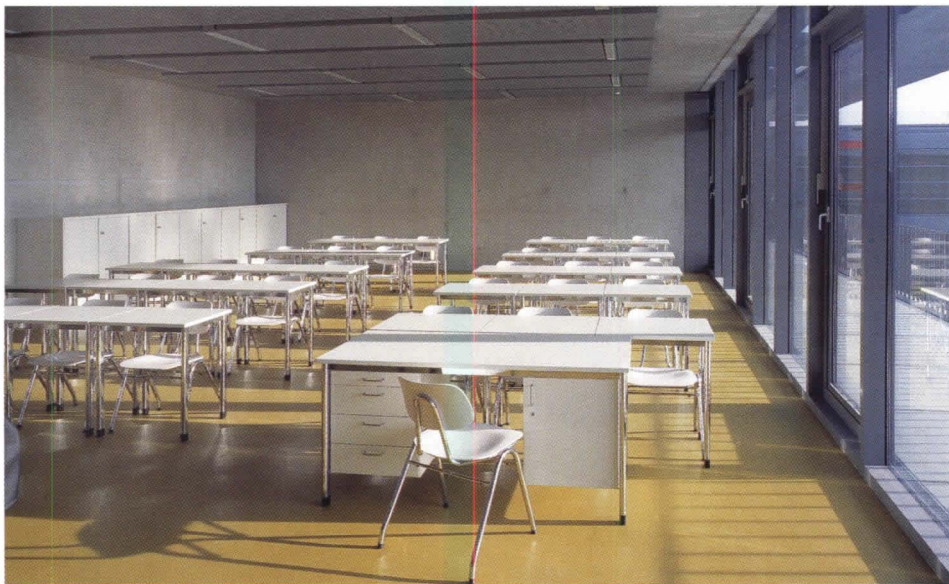
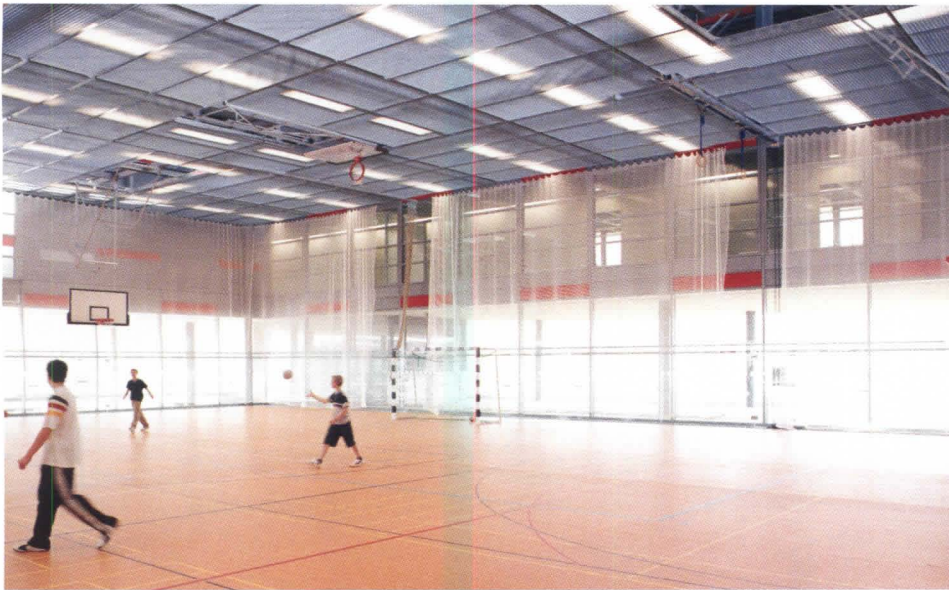
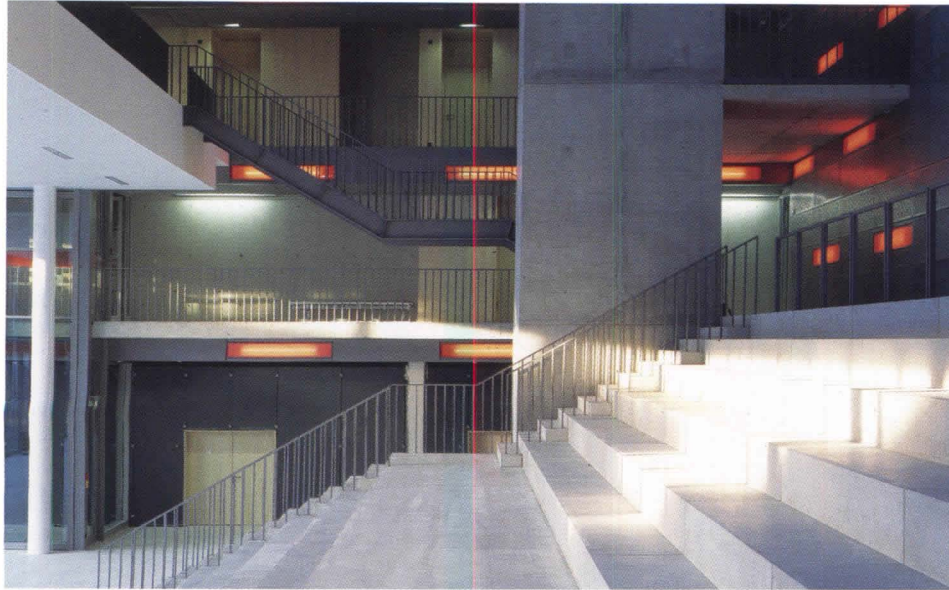
Located on the edge of the town of Markt Indersdorf, the grade school seems to float above its meadow site (facing page), freeing the ground level for play, sports, and socializing. The school's proximity to the flood-prone River Glonn drove the decision to elevate the structure on columns and to use concrete for the ground level, which contains the gymnasium and recreation hall. The architects chose wood cladding for the upper volume (above), in response to the rural surroundings.

According to education specialists, the design of school facilities can be as significant as the design of curricula in influencing student behavior and psychology, as well as physical and academic development. Ideas about what contributes to a healthy learning environment are varied, however, and even seemingly contradictory: For instance, a sense of spatial openness and freedom can feed students' feelings of self-determination and mutual respect. At the same time, it's paramount that learning environments feel safe, reinforcing students' sense of security, trust, and belonging to a particular community. Openness and containment might seem to be antithetical ideas, but Allmann Sattler Wappner Architekten achieves both in its design of a middle school in the small town of Markt Indersdorf, just north of Munich, where the firm is based. Won by competition and part of a government building

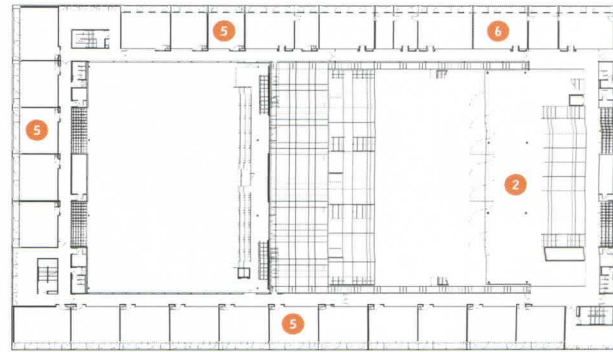
campaign to alleviate overcrowding, the school is a rectangular volume that appears to float above its rural site, engaging the landscape while creating a haven where student life can thrive. Planned for 1,200 students from the fifth to seventh grades, the school has a unified, monolithic exterior. Up close, however, it's evident that the ground level maintains an open relationship with the land. Recessed and slightly sunken on one elevation, the ground floor invites the surrounding landscape to creep into the building's footprint, sliding beneath it and right into the open-air courtyard carved into the core. Walls of neutral concrete and transparent glass further subdue the lower block, which contains the hollow spaces of the gymnasium and multipurpose leisure hall. The building's base effectively disappears, allowing the warm, wood-clad, two-story box above it to be the dominant presence on the site.

The courtyard is meant to be a "central communication space," as project architect Robert Klein explains, aimed at nurturing a sense of community by bringing the school's foot traffic through one common zone. Layers of hallways and stairs spiral around the court, while the building's outer edges are lined with classrooms. Students converge in the open-air core, a place that feels contained and sheltered, yet at the same time, does not feel "locked in," as Klein puts it, thanks to its liberated ground floor. The ground floor extends into the adjacent multipurpose hall, which is fronted with 21-foot-high glass doors that can be opened to create one big indoor-outdoor room. Broad stairs, in both the court and the hall, transform this continuous space into a lively public theater.

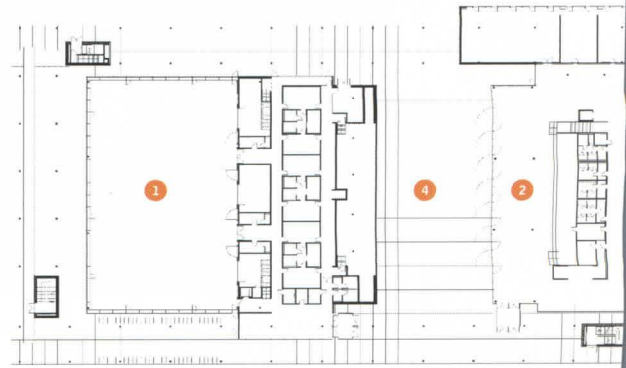
Beyond conceptual ideas, there were practical reasons to elevate the largest portion of the building



Third-fl



Second-fl



Ground-floor plan

- 1 gymnasium
- 2 multipurpose hall
- 3 office
- 4 courtyard
- 5 classroom
- 6 art
- 7 science

GYMNASIUM MARKT INDERSDORF, MARKT INDERSDORF, GERMANY
CLIENT: Landkreis Dachau **ARCHITECT:** Allmann Sattler Wappner Architekten, Munich, Germany—Robert Klein (project architect); Robert Bauer, Birgit Bader, Heidrun Obert (design team); Thomas Schmidt (construction management) **LANDSCAPE ARCHITECT:** Realgrün Landschaftsarchitekten **ENGINEERS:** Tischner H. + Pache K., Ingenieurbüro für Baustatik (structural); TransSolar Energietechnik (energy); Ingenieurbüro Knab, Kipka Haustechnik, and Aschbichler, Planungsbüro (service); Fuchs R + R, Ingenieurbüro für Fassadentechnik (façade); Ingenieurbüro Prof. Waubke + Klessinger (acoustics); Klingsohr Brandschutz (fire prevention) **ARTISTS:** M + M



entral element, both spatially and conceptually, is the school's
ulation zone—a grand staircase (facing page, top) and rings of
ridors—where the students meet and chat. The architects
ended the red panel lights, which appear in the multipurpose hall
ove) and other spaces, to brighten the atmosphere of the school on
umn and winter days when fog floats off the nearby river, but the
dents love them so much, the lights are turned on every day. The
masium (facing page, middle) is on the ground level, along with
er common zones, while classrooms (facing page,
tom) occupy the second and third floors.



The grand stair in the open-air courtyard (above) is directly opposite the multipurpose room stair; the two spaces are separated by a transparent wall of pivoting glass doors (facing page). The enlarged ground level is a sheltered playground that encourages a sense of community. Immediately outside the school are landscaped gardens and a playing field, both visible from the courtyard.

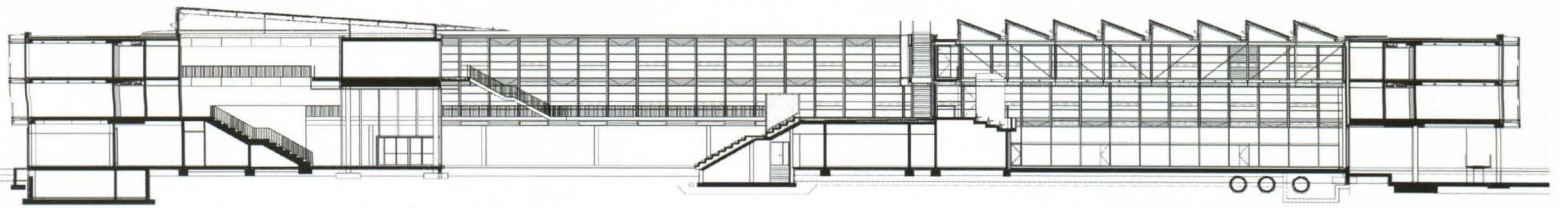
volume: the nearby River Glonn is prone to floods. That threat also drove the architects' material choices. Concrete was used on the ground and basement levels, while wood was reserved for the upper volume. Concrete is also used for most interiors, following the architects' reasoning that painted walls tend to look run-down over time. To counter the rawness of the concrete, the architects introduced refined wood for window frames, glass on exterior and interior perimeters to maximize natural daylight, and gleaming metal for the courtyard façades and some interior surfaces. Illuminated red panels punctuate near-transparent walls, sharpening the personality of individual spaces, including the multipurpose hall.

Allmann Sattler Wappner developed a similar typology for a previous project, a school on stilts

in Flöha, Germany, near the flood-prone River Zschopau. But unlike that project, which metes out the school's diverse program into separate buildings, the Markt Indersdorf school folds its various uses—classrooms, administrative offices, gymnasium, multipurpose hall, caretaker's house, plus a sustainable-energy facility (which burns local wood)—into a single building. The creation of a monolith in an exurban landscape might not seem an act of contextual sensitivity, but it is. The site is surrounded by a mix of buildings: industrial and commercial buildings to the south; residential neighborhoods to the east; farmland and farmhouses to the west; and green meadows and the river to the north. Reluctant to add to the melee, the architects reasoned that a single enclosure would be less disruptive than an assemblage of buildings.

The architects were keenly aware that everything they did throughout the project contained potential lessons. The way the building relates to nature, deals with resources, and nurtures interaction among the school population belies an architectural—and pedagogical—position that is resolutely modern, liberal, and responsible. “We wanted to avoid the stereotypical, anonymous school,” explains Klein, “because we believe that a stronger identification of students and teachers with their school leads to a greater sense of responsibility and a better atmosphere, one that is less destructive and more constructive.” ■

*Cathy Lang Ho is a New York-based writer and the author of *House: American House for the Next Century* (Universe, 2001).*



East-west section



North-south section | 24'



creative density

an urban prep school in west los angeles adapts
a warehouse for learning. by jennifer doublet



The Wildwood School's adaptive reuse of a bow-truss warehouse in medium-density urban Los Angeles is a model for contemporary high-school design. Rather than radically altering the existing structure, architect SPF:a organized small pedagogical components within the large shell and added a new fenestration system and cladding to the exterior.

Like the famed 1926 Petersschule project by the Bauhaus architects Hannes Meyer and Hans Wittwer, the Wildwood School's new campus by SPF:a is an educational vision springing to architectural life through the reality of a local real estate market and an architect's approach to act as a constructive and effective problem-solver. Aside from some programmatic exchanges and an existing parking deck standing in for Petersschule's heroic suspended playground platforms, the design process for Wildwood aims in much the same direction as that for the unbuilt Meyer/Wittwer icon, which renounced monumental formalism in favor of inspired functionality.

The new facility, which serves about 270 students in grades six through 12, opens at a time when Los Angeles is ripe for invigorating new school typologies. The lack of available, affordable, and even remotely appropriate 55,000-plus-square-foot spaces in which to build new public or private schools has driven recent projects by Morphosis in Long Beach, Daly Genik in Koreatown, and Gary Paige Studio downtown. There is clearly a vital, ongoing design dialogue for educational institutions requiring an exploration of space, form, and real estate territories. Traditional visions



of elementary and secondary schools in Los Angeles with rows of low-slung modules, miles of chain link, and the sprawling asphalt yards of Dogtown and Z-boys skateboard films—or, for that matter, the sequestered enclaves of pride and privilege in longstanding private schools—are either no longer possible, or for Wildwood, not desirable.

Previous schemes for Wildwood by other architectural firms proposing formally exciting, yet traditionally grounded, school models neither met the institution's budget constraints nor matched its pedagogical philosophy. It was only after exploring the advantages of a proactive retrofit solution with Los Angeles-based SPF:a that Wildwood itself came to realize what an ideal match it made with their mission to create inquisitive, self-reliant citizens.

"They are incredibly good listeners," says Wildwood's head of school, Hope Boyd. "SPF:a just got us, and their scheme really, really works for the students." She also credits the architects with encouraging and educating the school to understand the larger urban context of their existing structure, the broader landscape of the city, and the advantages of searching for the cleanest and most efficient solution that is least intrusive to the given building. With this in mind, the socially relevant and functional antiformalism of the SPF:a project is an inventive embrace of programming, city context, and thoroughly considered issues of what makes a dynamic urban campus.

Conceptually, SPF:a principals Zoltan Pali and Jeffrey Stenfors treat the existing building structure as a kind of loom upon which to weave the fabric of the Wildwood curriculum. The commercial warehouse, which previously housed television production facilities, features a double bow-string truss roof assembly that divides the overall space of the existing building into symmetrical 20-foot by 70-foot bays. This assembly straddles the original brick envelope from front to back and adjoins a previously added concrete parking deck in the rear.

The diagrammatic engine driving design and the rallying force that kept everyone's eye on the ball through a tight and complex project

schedule is articulated in the architects' physical model. This design scheme provides for a great hall running north to south on either side of the column line supporting the trusses above. The client's and architects' early premium on natural daylighting generates a strategic series of skylights, clerestory windows, and translucent interior ceilings throughout the building. The western half of the building follows the rhythm of structural bays with color-coded academic "pods" for pairs of grades from seven through 12, and a stand-alone pod for grade six. Stairways between alternating pods circulate students to the mezzanine level, which houses a portion of the administrative offices and banks upon banks of flat files for the students' portfolios. (At Wildwood there are no grades and the student work, stored in portfolio format, is up for review on a regular and cumulative basis.) The eastern half of the building expands the structural bay rhythm to allow for the larger double-bay and double-height performance, visual arts, and science lab spaces. The pods serve as an intimate localized home base for given age groups, while the wide interior courtyards invite cross-pollination between the grade divisions and the academic disciplines.

As in the Petersschule project, functionality becomes pedagogy at Wildwood. Easily the most engaging aspect of the campus building, for students with inquiring minds, is the tightly knitted exposed construction. In many ways a cost saver, it not only reveals the success of the original diagrammatic scheme but also the clever solutions to unexpected field conditions. These construction techniques provide a dynamic and textured backdrop that emulates the spirit of the school, which considers its students as "inventor/explorers." The result offers the opportunity for a rich scavenger hunt, in which curious students can seek out how and why, when and where, and by what means their school is put together. ■

Based in Los Angeles, Jennifer Doublet is an architectural designer and writer who has recently been studying for her registration exams.



After entering the high school (opposite, left), circulation—like the curriculum—is organized by interdisciplinary “learning pods” that flank a wide main corridor (opposite, right). Airways between the pods (above) connect learning areas to administrative and study areas on the mezzanine, as well as flat files for the students’ “portfolios,” or coursework.



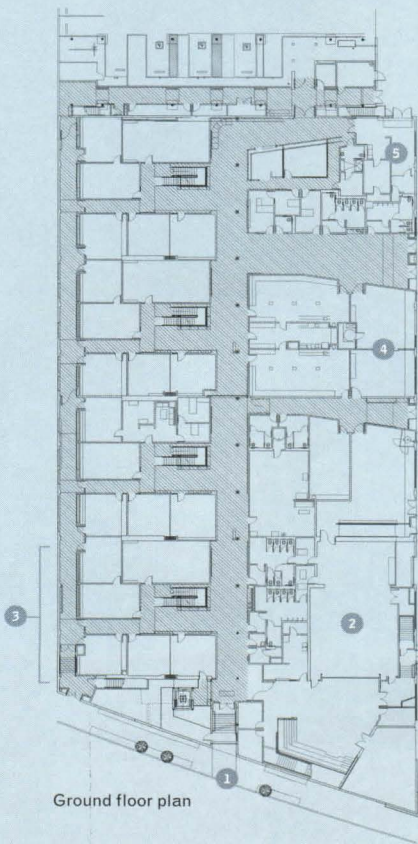
A mezzanine of study spaces and administrative areas are carved into the belly of the bow-string trusses (above), with operable skylights for improved ventilation. Larger double-height spaces include art studios and a music room (opposite, left and middle). The great hall ends with a student gallery and lounge wrapping offices and classrooms with translucent partitions for improved lighting (opposite, right). Throughout the spaces, the exposed construction offers a dynamic and textured backdrop for students.



WILDWOOD SECONDARY CAMPUS, LOS ANGELES, CALIFORNIA
CLIENT: Wildwood Schools **ARCHITECT:** SPFA—Jeffrey Stenfor,
 Stan Pali, Judit Fekete (principals in charge); Dan Benjamin
 (project manager); Siddhartha Majumdar (job captain); Damon
 Farfas, Gregory Fischer, Frank Lopez, Brian Cavanaugh, Derek
 Fisher, Willis Kusuma, Shaheen Seth (project team) **ENGINEERS:**
 Michael Associates (structural); Kerr-Pali Associates (M/E/P);
 W Electrical Engineers **GENERAL CONTRACTOR:** T. Viole
 Construction **CONSTRUCTION MANAGER:** Nancy Epstein **LIGHTING**
DESIGNER: Parviz Electrical **COST:** \$6.3 million **AREA:** 55,000
 square feet **PHOTOGRAPHER:** John Edward Linden

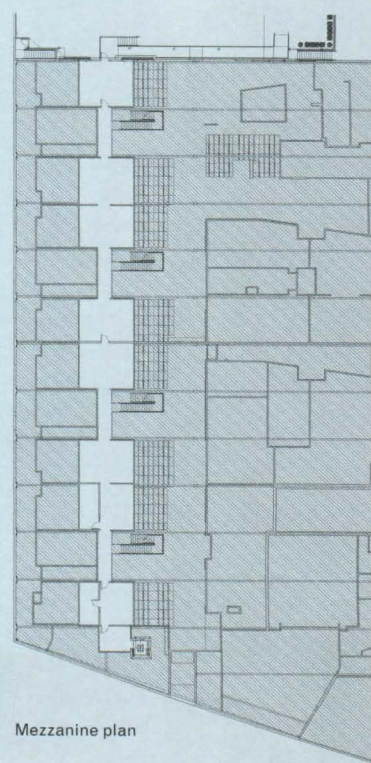
SPECIFICATIONS

CONCRETE: Associated Ready-Mix **TRUSS JOISTS:** Standard
 Structures **POST-TENSIONED GLULAM:** Dywidag **ALUMINUM**
CLADDING: U.S. Aluminum **METALS:** Weiss Sheet Metal **WOOD:**
 Plyklex/Finland Plywood **SLATE:** Dal-Tile **BUILT-UP ROOF:** U.S.
 Gypsum **INSULATION:** Pyrox/Appache **GLASS:** AFG industries **PLAS-**
TIC GLAZING: Lexan, Plexiglas **SKYLIGHTS:** Bristol Fiberlite **METAL**
DOORS: Cookson **WOOD DOORS:** Solid-core birch veneer **DOOR**
LOCKS: Alumatone/Timely **FIRE DOORS:** Won-Door **LOCKSETS:**
 Corbin-Russwin **HINGES:** Cal-Royal **CLOSERS:** Norton
CEILING LIGHTS: Armstrong **INTERIOR PANELS:** Armstrong, USG, Lexan
ADJUSTABLE PARTITIONS: Chasedoor **CABINETRY/MILLWORK:**
 SonArt, Kewaunee **PAINTS/STAINS:** ICI, Frazee, Dunn
CEILING FLOORING: Tarkett **CARPET:** Design Weave **GYM FLOOR-**
ING: L'Air **ACOUSTICAL PANELS:** La-Vigne Muffie **LOCKERS:**
 Public **FURNISHINGS:** Herman Miller, Paoli **INTERIOR AMBIENT**
LIGHTING: Metalux, Focal Point, Paramount **UPLIGHTS:** Corelite
DOWNLIGHTS: Spectrum **TASK LIGHTING:** Focal Point, Ruud **EXTE-**
RIOR LIGHTING: Ruud **SPECIALTY LIGHTING:** LSI, Paulsen **ELEVA-**
TORS/ESCALATORS: TRE **PLUMBING FIXTURES:** Kohler, American
 Standard, Elkay

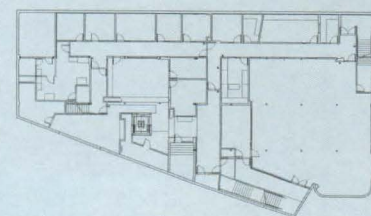


Ground floor plan

- 1 entry
- 2 arts and performance
- 3 typical learning pod
- 4 laboratories
- 5 administrative offices



Mezzanine plan



Basement plan 130' Δ



THE CITY UNIVERSITY OF NEW YORK
BARUCH COLLEGE
55 LEXINGTON AVENUE
NEW YORK, NY 10017

BARUCH COLLEGE

THE CITY UNIVERSITY OF NEW YORK

55 LEXINGTON AVENUE

THE VERTICAL CAMPUS

With deft strokes, Kohn Pedersen Fox builds a collegiate village in an urban tower. By Joseph Giovannini

An anthropologist of urban space, the late William H. Whyte studied the factors that make outdoor spaces in Manhattan tick: sun, food, coffee, benches, plants, and people. But neither Whyte nor any other architectural observer has trained the same critical eye on the interior life of the high-rise. This owes at least in part to the fact that one can count on two fingers, maybe three, the number of tall buildings in New York with a public life that flourishes in the shaft between the bottom of the building and the top. Most towers are stacked like pancakes inside, pierced only by elevators delivering loads of human sardines. The silence in elevators is telling.

New York City, and most cities populated with high-rises, could be packed with internal cliffside villages much like Positano in Italy. Though they don't really know it, people who work in the typical high-rise are living a missed opportunity—the possibility that interior spaces could be fashioned to create the kind of communities Jane Jacobs wrote about: dense, intense neighborhoods of people who know each other in the context of a street life (though one that happens to be vertical). A particular group of high-rise dwellers—university students—suffers a special loss: the socializing quads of the traditional Jeffersonian campus, where lawns and pathways breed informal student culture. Somehow, it's harder to existentialize and flirt within the compressive slabs of a city's towers.

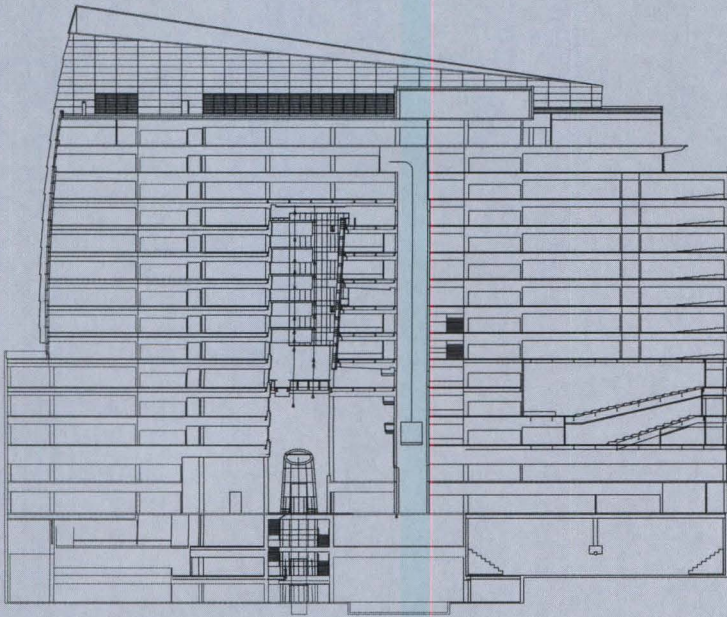
Baruch College, a branch of the City University of New York that occupies nearly a whole Manhattan block on lower Lexington Avenue, has found a way to put the quad back into the high-rise campus. Working with Kohn Pedersen Fox (KPF), a firm known for unusually handsome buildings, the school envisaged a new high-rise campus that would conform and extend KPF's established trajectory.

The new high-rise first builds community from the outside. William Pedersen, partner in charge of the design, sutures his 785,000-square-foot, 14-story building into the dense urban context with a brick, glass, and aluminum base that abstracts the traditional mid-rise character of the dominantly brick neighborhood with a complex, asymmetrical architectural collage of interlocking parts. The project designers have delivered a sophisticated curtain wall featuring operable windows flush to a façade composed of anodized aluminum panels. The design transforms the contextual givens in a polite but strong response that respects the neighborhood without aesthetic servitude.

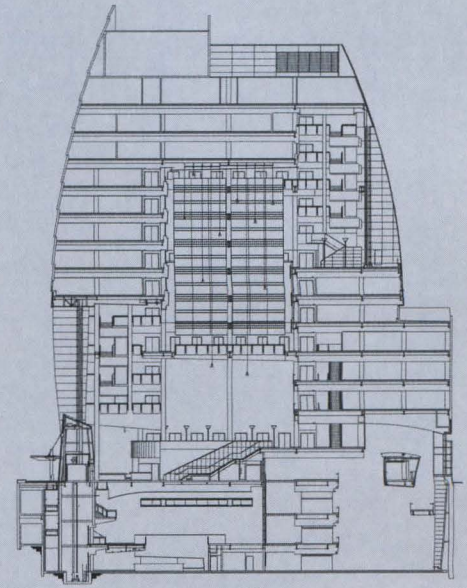
Pedersen uses architectural collage not simply for compositional reasons, but as an urbanizing strategy: collage represents a highly flexible design methodology that allows the architect to conceive very local design responses. Pedersen carves out the southwest corner of the building to establish a spatial threshold that accommodates students walking up Lexington from other Baruch buildings. He carries the pedestrian life of the Lexington Avenue streetscape past the west façade by programming the bookstore along the sidewalk. On the north façade, he pulls the building back from the lot line 15 feet to open space for a linear student plaza opposite the architecturally venerable Baruch library. Pedersen's collage strategy is not simply formalist, but urbanizing: he cultivates the life of the city around the building, using architecture as an urban hoe.

The exterior would simply be admirably responsible were it not for a single monumental gesture that lifts the design to an exalted state in the skyline. The 85-foot-high brick and aluminum base serves as the spring point for a vertiginous corrugated façade that bows out, then back at the roof—a reference to, and evolutionary improvement on, the monumental roof that vaults the Sixty-Ninth Regiment Armory just down the block. In bowing the roof out first, Pedersen inflates the superstructure, as though taking the deep breath of life that Indian masters sculpt in their figures. A unique and effective response to setback codes enacted to bring light and air to New York's narrow streets, the design results in a buoyant form that recalls Brunelleschi's Duomo in Florence. Like that unusual masterpiece, the Baruch roof seems suspended in the city, hovering like a gigantic balloon, wondrously large for the tight streets. Viewed from the east at Third Avenue, the roof soars in its amplitude, the defining edges racing back in a forced perspective that accelerates space until the roof seems to disappear from sight.

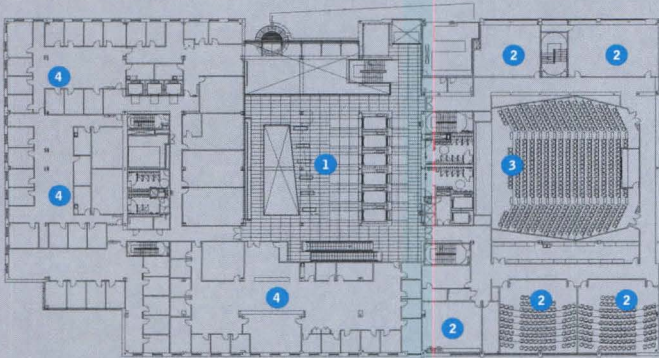
The building that behaves so responsibly and beautifully on the outside opens inside like a geode into what Pedersen calls a "vertical campus." The architect, who animates the perimeter with a mix of street and campus life, extends the urban fabric with a diagonal interior street that brings students from the inverted southwest corner past the cafeteria to the base of an atrium that rises 11 stories, dividing classrooms to the east from administrative offices to the west. Students mill on the many terraces between classes, socializing, relaxing, and studying. On "club days," students pour into the socializing areas for meetings, and the



East-west section

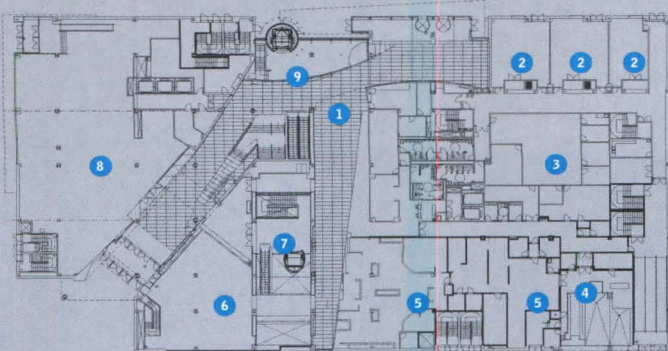


North-south section 30'



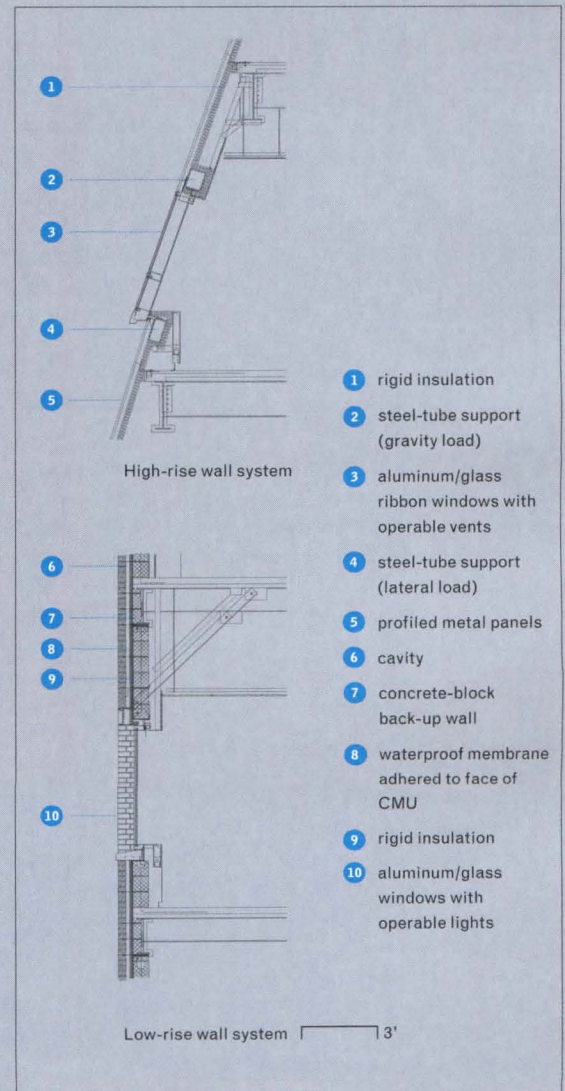
Fifth-floor plan

- 1 atrium
- 2 classroom
- 3 lecture hall
- 4 faculty offices

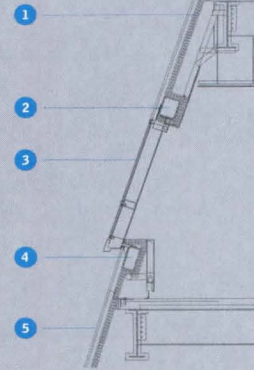


Ground-floor plan 40'

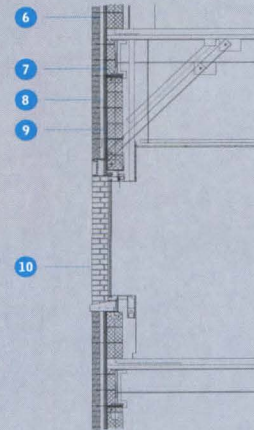
- 1 building lobby
- 2 multipurpose room
- 3 office
- 4 loading dock
- 5 food services
- 6 cafeteria
- 7 athletic atrium
- 8 bookstore
- 9 theater entrance



High-rise wall system



- 1 rigid insulation
- 2 steel-tube support (gravity load)
- 3 aluminum/glass ribbon windows with operable vents



- 4 steel-tube support (lateral load)
- 5 profiled metal panels
- 6 cavity
- 7 concrete-block back-up wall
- 8 waterproof membrane adhered to face of CMU
- 9 rigid insulation
- 10 aluminum/glass windows with operable lights

Low-rise wall system 3'



In a monumental gesture echoing the curved roof of a nearby armory (foreground), the corrugated façade bows out and then back at the roof.

friendly din proves the point that Pedersen has created a space that forges a sense of community and a collective student identity. The architect maximizes the social interchange for students, who all live off campus, by deploying a bank of skip-stop elevators (opening every three floors) set within cascades of stairways that flush the cliffs with people—a veritable Positano. Small eddies off the staircases serve as intimate rest spots for students.

Like an iceberg, a considerable amount of the building's volume lies below the water line of the street, where the school has a second public life (partially associated with the community). With an ingenious system of staggered trusses that conserve vertical space on the upper floors, the architect's design transfers loads and creates open spaces below grade that accommodate sports and cultural facilities. A huge swimming pool and a multipurpose playing court big enough for basketball and tennis lie to the east, surrounded by lockers and workout rooms, and a small concert hall and black-box theater lie to the west. Separate entrances allow after-hours use of these spaces by the public as well as the student body. The architects extend the idea of a vertical campus below grade with stairwells that pool visitors in large halls before distributing them to the facilities.

Beauty in the American high-rise is often just skin deep, after which the economics of efficiency and the hegemony of the elevator take over. The wisdom of Baruch College is that Pedersen operates on the typology of the New York high-rise, cracking it open above and below grade to cultivate the social dimension usually repressed in conventional towers and office blocks. By parting the building with a mosaic gesture, the architect releases the population of the building from rigid geometric patterns, as he creates a spatial armature that encourages public life. The experiment is clearly a success: Pedersen has established a model that can be applied to a building type that too often separates citizens from each other even though they work in close proximity. Pedersen has found the town hidden within the city. ■

NEW ACADEMIC COMPLEX, BARUCH COLLEGE
THE CITY UNIVERSITY OF NEW YORK, NEW YORK CITY
CLIENT: Baruch College, Dormitory Authority, State of New York **ARCHITECT:** Kohn Pedersen Fox Associates—William Pedersen (design principal); Gabrielle Blackman (senior designer); Robert Hartwig (project manager, interiors); Jill Lerner (managing principal); Michael Marcolini (technical coordinator); Anthony Mosellie (managing principal); Lloyd Sigal (project manager, base building); Christopher Stoddard (job captain); Mavis Wiggins (interior project designer) **ENGINEERS:** Weidlinger Associates (structural); Cosentini Associates (mechanical/electrical/HVAC); Vollmer Associates (civil) **CONSTRUCTION MANAGER:** TDX Construction **COST:** \$168 million

PHOTOGRAPHY BY MICHAEL MORAN

SPECIFICATIONS

BRICK: Endicott **CURTAINWALL / WINDOWS:** LBL Skysystems **GLAZING:** Guardian, Varicon, AFGD **METAL SIDING:** Centria **ACOUSTIC WOOD-VENEER CEILING:** Component Assembly Systems **PERFORATED METAL CEILING:** Simplex Ceilings **GROUND FACE BLOCK:** Clayton **ACOUSTIC DIFFUSER BLOCK:** RPG Diffuser Systems **TERRAZZO:** GM Crocetti **LIGHTING:** Bega; Edison Price Lighting; Zumtobel; Elliptipar

The curved façade of the vertical campus departs from the uniform orthogonality of neighboring buildings (right, top), while the main entrance on 25th Street (right, middle) continues the nautical look with its entrance-cum-smokestack. The atrium serves as a “social condenser,” allowing students to interact in interstitial spaces (facing page). The tall shaft of interior space that defines the life of the building inside occupies a surprisingly small percentage of the overall floor plate and building volume. Yet, it provides a focus for the whole building and a place for the soul of the student body to develop. The performing arts center (right, bottom) can be directly accessed from the street, inviting the community to enjoy this amenity.









business
unusual

A MANAGEMENT SCHOOL IN CLEVELAND GETS A LESSON IN ART FROM FRANK GEHRY. BY STEVEN LITT

The new facility for the Weatherhead School of Management at Case Western Reserve University is calculated to create feelings of awe and energy, compression and infinite possibility. In that sense, the Peter B. Lewis Building perfectly suits the university's goal of celebrating management as a high calling, not merely a way to pursue profit while ignoring all other values. Conceived in 1995, long before the collapse of Enron, Global Crossing, and WorldCom, the building argues that the path to redemption of American business lies not in cracking down on MBAs, but in teaching them to think more like artists.

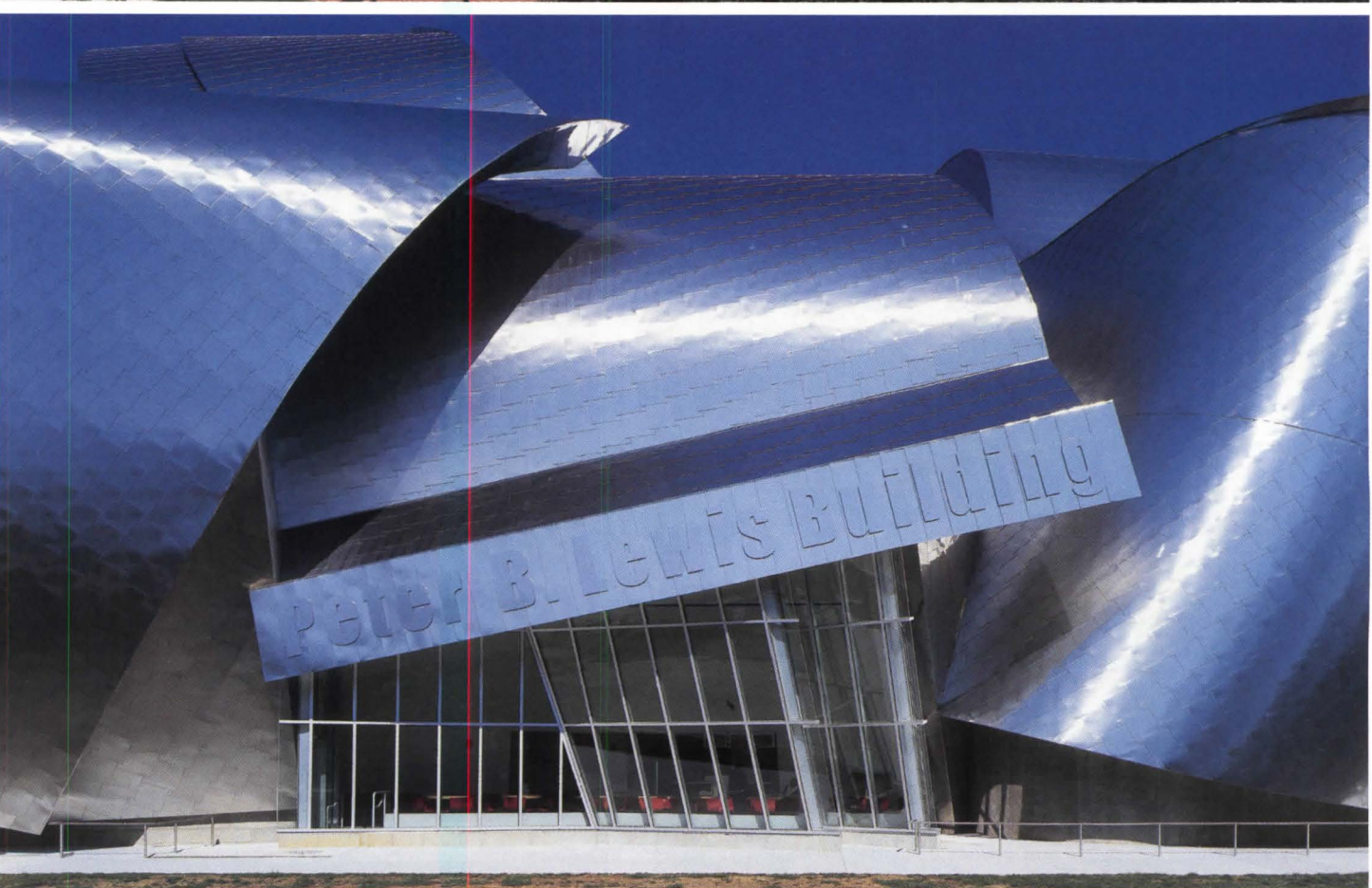
Cleveland, home to Case Western and a city with a long history of conservative artistic taste, has always seemed to lag behind the cultural moment. This is especially true in architecture. With the solitary exception of I.M. Pei's Rock and Roll Hall of Fame and Museum, completed in 1995, the city never showed much enthusiasm for architecture's leading edge. Now, in a single stroke, this new building designed by Gehry Partners, of Santa Monica, California, has propelled Cleveland into the twenty-first century and has challenged the city's staid persona.

It is significant that the building's primary donor and namesake was Peter B. Lewis of Cleveland, one of Frank Gehry's greatest client-patrons. Lewis, the retired chairman of Progressive, a large auto insurer, met Gehry at a lecture in Cleveland in 1985, and challenged the architect to design a house for him that would surpass Frank Lloyd Wright's Fallingwater. He also commissioned Gehry to design a skyscraper headquarters for Progressive in Cleveland that would have connected the city's downtown core with the Lake Erie waterfront.

Neither project was realized. But Lewis's extensive support for the house project enabled Gehry to create forms that appear in other breakthrough projects, including the Guggenheim in Bilbao and the DG Bank building in Berlin. Lewis, meanwhile, became the chairman of the board of the Solomon R. Guggenheim Museum in New York City and has pledged up to \$250 million toward construction of a museum branch on the East River in Manhattan designed by Gehry. He has also donated \$60 million for a future Gehry-designed science library at Princeton University, his alma mater.

WARPED CASCADE

The Cleveland *magnate's* namesake building at Case Western, located in the midst of the university's campus about four miles east of downtown, looks like a warped brick cube with a torrent of stainless-steel shingles cascading



The glass panels of the new Lewis Building's main entrance tilt under the mass of the south façade's explosive stainless steel billows (on previous pages). Closer-up, a café emerges from beneath the cascade of metallic curves (below). The building's northern façade (above), which faces an adjacent law school building, is mostly brick with curving steel peeking over its top. A study area in the library of the Lewis Building (facing page) features serpentine desks and sculpted drywall surfaces.

own its south façade. The image is exhilarating—not a quality usually associated with a business school.

The big disappointment is that, because the 152,000-square-foot building sits on the corner of an intersection tightly framed by other campus buildings, it's impossible to stand back and view the structure in its entirety. Gehry says he never intended the project to be a trophy building. It's hard to escape the impression, however, that he could have had a greater impact on the university and the city had he been given a more prominent site.

Nevertheless, the building complements its setting. Adjacent buildings—including the gloomy bulk of a modernist law school designed in the 1980s by Skidmore, Owings & Merrill—are actually enhanced in the context of their new neighbor. When viewed from a boulevard to the west, the shiny curves of the Lewis Building rise above its neighbor in a way that makes the law school look like a pedestal for Gehry's sculptural statement. The SOM building, in turn, now seems part of a larger and more invigorated whole.

Despite its appearance of complexity, the basic form of the Lewis Building is simple. Faculty offices sit behind four- and five-story brick walls on the east, north, and west sides of the building. In plan, the offices form a large, squared-off C, embracing a pair of freestanding classroom towers. The towers stand atop tilting concrete columns wrapped in panels of Douglas fir, which rise up from the building's lower lobby. The towers are connected to other areas of the building by bridges that span vertiginous, skylighted lobbies with sculpted drywall surfaces that evoke the geological spaces in Eliot Porter's famous color photographs of Glen Canyon.

The building's signature gesture—its ribbonlike sheets of stainless steel—wraps around the exterior of the classroom towers and spills down the south façade like a waterfall running over boulders, an idea Gehry adapted from his unbuilt plan for the Samsung Museum of Modern Art in Seoul, Korea.

At first glance, the Lewis Building may seem merely like a minor variation on the euphoric, highly sculptural language that Gehry has been famous for since the completion of his Bilbao Guggenheim in 1997. But the architect's organic vocabulary has evolved in definite ways—the curvaceous forms of the Lewis Building are more fluid, more willfully eccentric, and more supple than anything at Bilbao. At the same time, the building is crisper and less bloblike than Gehry's Experience Music Project in Seattle.

The Cleveland project also represents a technological advance over Bilbao. Structural steel members that support the Lewis Building's sinuous skin were custom-fabricated to curve along with the outer shell they support. At Bilbao, the structure consists mainly of straight members, to which the outer shell of titanium hinges was attached.

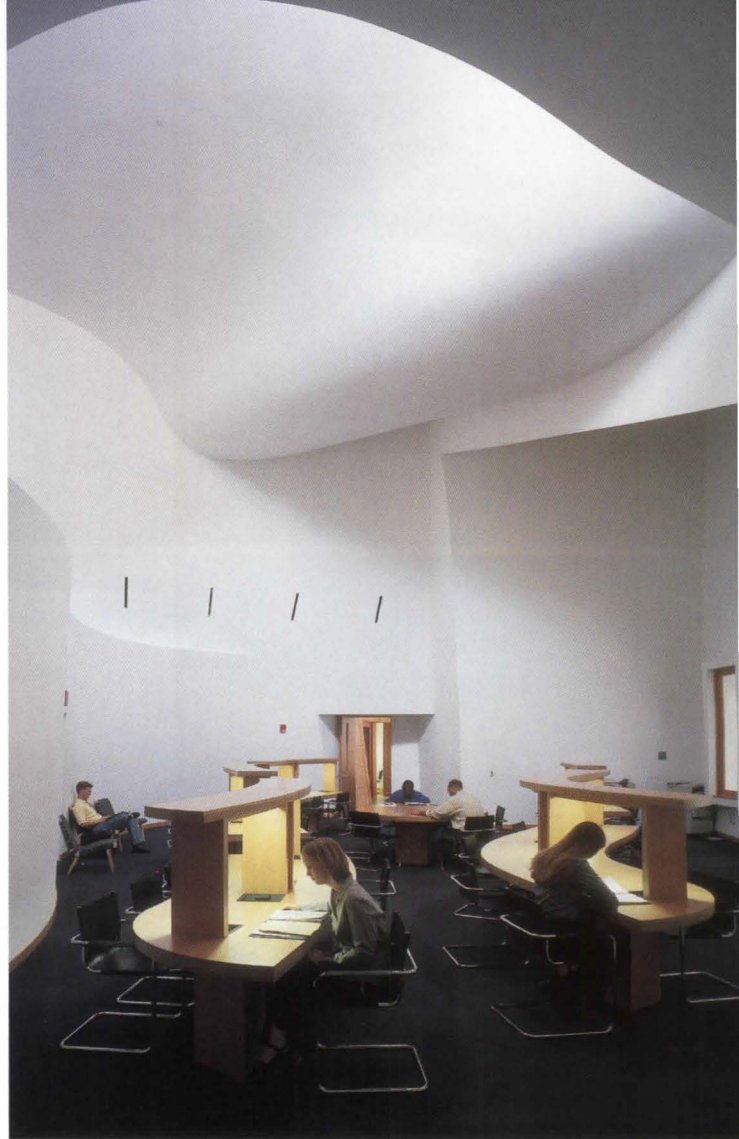
UNION OF CRAFT AND TECHNOLOGY

At its core, Gehry's methodology remains a union of hands-on craft and new technology. He starts every project by making quick, gestural sketches in pen and ink, followed by scores of increasingly complex models. Eventually, he uses a scanning device to gather data that is transferred into CATIA—a software program developed for the aerospace industry by a French manufacturer—where increasingly refined versions of the building are constructed in cyberspace.

The construction of the Lewis Building was a complex and technically challenging task, executed by local and regional contractors who had never worked with Gehry or CATIA. The raw structure of the building comprised an amazing assemblage of concrete crags and exposed steel members that squiggled like spaghetti. Now that it's finished, the building retains much of the raw energy it had in its unfinished state.

The poetics of the interior are especially rich and dense. The classroom towers, tightly embraced by the faculty office areas but separated by the high, narrow lobby spaces, evoke the compressed immensity of giant statues in Buddhist temples. (In fact, Gehry nicknamed them "Buddha Towers.") The soaring verticality of the lobby areas, with light filtering down from skylights high overhead, make them feel like canyons, or like the naves of a Gothic cathedral.

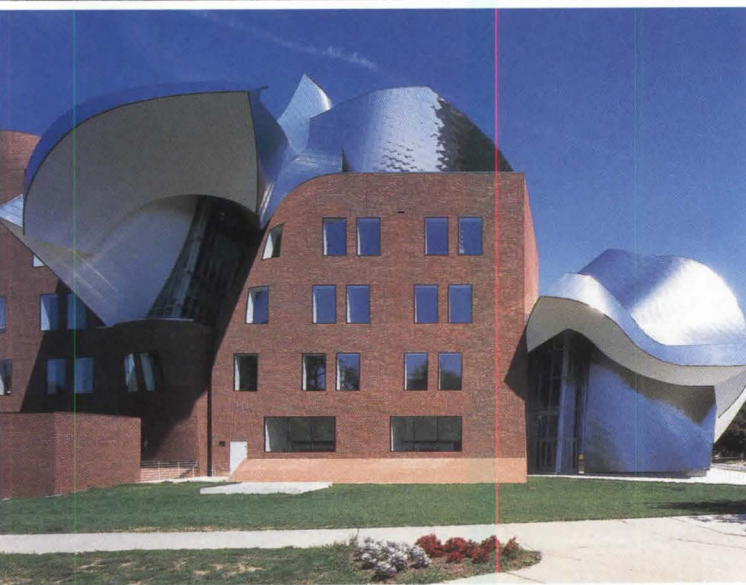
A warped cube in the center of the lobby, which functions as an interior skylight, brings to mind a Baptismal font. It sends beams of sunlight into an oval-shaped classroom on the building's lower level, an event that happens only in summer, when



**PETER B. LEWIS BUILDING, WEATHERHEAD SCHOOL OF MANAGEMENT
CASE WESTERN RESERVE UNIVERSITY, CLEVELAND, OHIO**

CLIENT: Weatherhead School of Management, Case Western Reserve University **ARCHITECT AND INTERIOR DESIGNER:** Gehry Partners — Frank Gehry (design partner); Jim Glymph (project partner); Edwin Chan (project designer); Douglas Hanson (project designer); Gerhard Mayer (project architect) **ENGINEERS:** DeSimone Consulting Engineers (structural); Euthenics (civil); Bard, Rao + Athanas (M/E/P); Rolf Jensen & Associates (code); McKay, Conant, Brook (acoustical & AV); HKA (vertical transportation); RWDI (smoke exhaust simulation CFD modeling) **GENERAL CONTRACTOR:** Hunt Construction Group **LIGHTING DESIGNER:** City Design Groups **BUILDING COST:** \$61.7 million

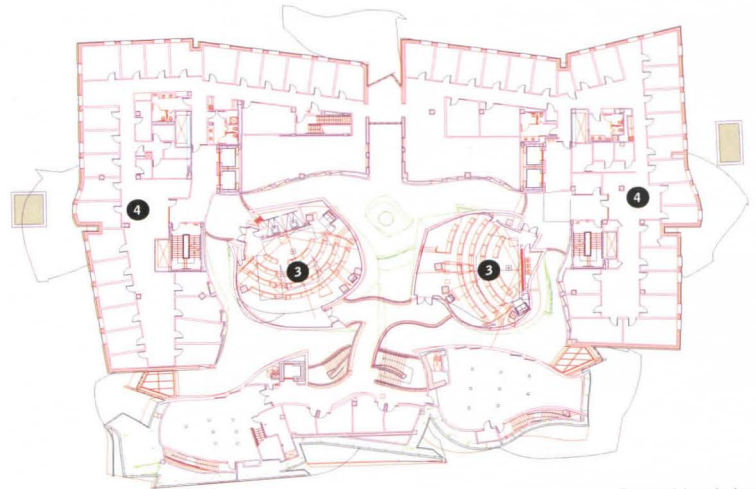
PHOTOGRAPHY BY GRANT MUDFORD



The east and west façades of the Lewis Building resemble a traditional brick structure with a curving steel canopy exploding through the center.

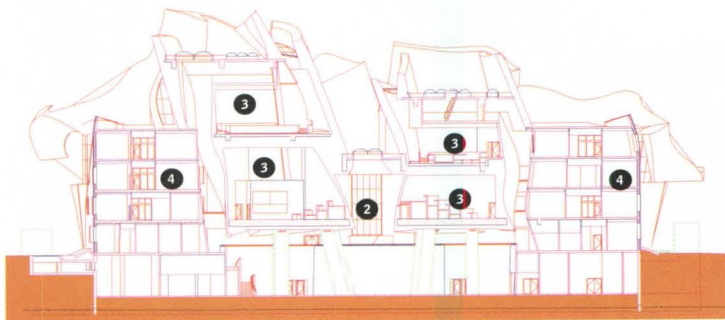


Roof plan



Second-level plan

- 1 entrance
- 2 lobby
- 3 classroom
- 4 offices



East-west section | 30'



Ground-level plan | 30' 1



A skylight illuminates the gap between two classroom towers in the heart of the Lewis Building (above). Tilting concrete columns (right) sheathed in Douglas fir rise from the lower lobby to support these towers. Visitors in the main lobby can scan a sweeping slice of horizontal space beneath the sculptural forms overhead (below).



the angle of the sun is at its highest (and school is out). In this way, the building marks a recurring celestial event, like the sculpted chambers of artist James Turrell's Roden Crater in the Arizona desert.

In the first week after the Weatherhead School opened for classes in August, students and faculty members said they were thrilled by the building's visual drama and generally pleased by its clear acoustics and the high-tech instructional gear that fills almost every classroom. But a few people expressed doubts about whether the building's design would foster greater interaction between students and faculty, as Gehry and the university had hoped, because faculty hallways are sealed off by glass doors from lobby areas where people are most likely to mingle. As for reactions from the general public, the building has at least inspired hundreds of Clevelanders to sign up for free tours that begin this month.

It's unlikely that any other new business school in the nation will have similar star power, although the Weatherhead School isn't the only one to hire a high-profile architect. Kohn Pedersen Fox is designing the new Huntsman Hall for the Wharton School at the University of Pennsylvania; Rafael Viñoly recently designed a business school for the University of Chicago; and Robert A.M. Stern just finished work on the business school at Rice University. Within this class of buildings, however, the Lewis Building is easily the most radical.

More than anything, the Lewis Building epitomizes the central role the university hopes to play in adapting Cleveland to the high-tech economy that has bypassed many older industrial cities. The building could also help the Weatherhead School improve its mediocre record. Since 1998, the school has fallen from No. 31 to No. 51 in the *U.S. News and World Report* ranking of business schools. The goal now is to vault it into the top 25 within five years. Whether the energy embodied by Gehry's building will transmute into higher performance by students and faculty remains to be seen. ■





Journey to the center of the earth

Hans Hollein's vulcania digs deep below the surface for a new museum experience.

by liane lefaivre



CHRISTIAN RICHTERS



Whoever said theme parks had to be bad architecture? This question didn't phase former president of France, Valéry Giscard d'Estaing, when he was conceiving Vulcania: Parc Européen du Volcanisme, a museum-cum-theme-park devoted to volcanoes, for his native Auvergne. Nor did it matter to Hans Hollein, who was selected out of 83 competing architects to design it.

And what, one may ask, is a museum about raging mountains that belch sulfurous gases and spew molten lava doing in the idyllic heart of *la douce* France? Fitting right in, actually. In addition to being dotted with myriad Romanesque churches, country auberges, and some of the most pristine landscapes in Europe, the Auvergne region is also home to hundreds of 23-million-year-old dormant volcanoes. The most famous of these is the spectacular Puy du Dome, and at the base of its lower flanks Vulcania is nestled among the wild flora that now populate the richly fertile postvolcanic terrain.

Five years in the making, Vulcania has exploded the definition of info-tainment. There is no other theme park like this, conceived in Hollein's words as "a monument to scientists." Upon leaving the grounds and the educational show they contain, there is nothing the visitor doesn't know about the geology, mineralogy, mythology, and cultural history of volcanoes. The hard science, provided by a world-class team of vulcanologists, is balanced by stunning theatrics, including a scary 3D movie about a prehistoric baby mammoth being engulfed in a rumbling cloud of volcanic dust. (I screamed all the way through, although the small child next to me seemed blissfully transfixed.)

spatial collage

However impressive the exhibits at Vulcania, the main attraction is the architecture, which breaks out of the Cartesian box by breaking down the functions normally contained in one volumetric mass into a collage of specialized, differentiated, articulated architectural modules. Hollein is closely associated with the architectural collage: His first application was a museum in Moenchengladbach, Germany (1972-1982), and he has been using it as his signature device ever since, so it should come as no surprise that he masterfully deploys it again here. Each separate module accommodates its specific function and expresses it in its own particular way, like a cast of characters. There is a bunkerlike unit made for viewing next to a glazed administrative office complex alongside a restaurant perched on a high wall next to the oversized, swooping torqued plane of the roof atop the giant Imax theater. As for

Hans Hollein's Vulcania (above) sits modestly on a hillside in the Auvergne region in France. Its cone is the only indication of the theatrics inside (facing page), including the cone's gold-tinted, titanium-clad interior.



VULCANIA: PARC EUROPEEN DU VOLCANISME, SAINT-OURS-LES-ROCHES, FRANCE
 CLIENT: Conseil Régional d'Auvergne, Chamalieres ARCHITECT: Studio Hollein,
 Vienna—Prof. Hans Hollein (principal), Hans-Peter Wunsch (project architect)
 ASSOCIATE ARCHITECT: Atelier 4, Clermont-Ferrand/Issoire—Philippe Tixier (project
 architect) LANDSCAPE ARCHITECT: ACANTHE—Gilles Clement and Pierre Deat (princi-
 pals) CONSULTANTS: Atelier Rainer Verbizh (exhibition design)

PHOTOGRAPHERS: CHRISTIAN RICHTERS AND SINA BANIAHMAD





A sloping path leads past a monumental wall of rough stone (above, left) to the iconic elements of Vulcania, its cone (facing page) and a Dante-inspired crater (above, right).

the cone in the center of the complex, which sits above a crater and is composed of two mutually enfolding, tilted arcs about 30 meters high, it should serve as the most T-shirt-able branding device in recent memory.

When it comes to detailing and surface, Hollein is an extreme perfectionist. Here, he creates a starkly naked, superbly textured, but highly variant architectural skin—now glazed, now metallic, now rugged, now smooth, now matte, now polished. The swooping roof is sheathed in raw copper that will oxidize and turn green. The upper part of the crater is a custom-made aggregate of Hollein's creation that merges two volcanic rocks: black basalt and a red stone. The volcanic cone at the center of the building cluster is clad in a bizarre combination of deep charcoal-gray volcanic stone on the outside and brightly glinting, gold-tinted, titanium-clad stainless steel on the inside. This gold-hued internal surface is buffed and mottled on the small side, and embossed with a three-dimensional parallelepiped pattern on the larger side that catches light in so many flickering ways that it appears different from every angle. The diagonally swirling pattern creates the illusion of an upwardly flowing wave of incandescent lava; the numinous space leaves visitors mesmerized.

Vulcania also breaks out of the box in a second extraordinary way. Thanks to colossal, cutting-edge hydraulic drilling apparatuses, Hollein has broken down architecture about as far as it can be broken down. And that is down into the earth, where much of the building's great originality lies, as it does at Hollein's soon-to-be-completed Salzburg Guggenheim Museum, which is also drilled out of sheer bedrock. Indeed, if Vulcania is fastidiously polished and tectonic on the upper level, it becomes roughly, shockingly, even brutally chthonic lower down.

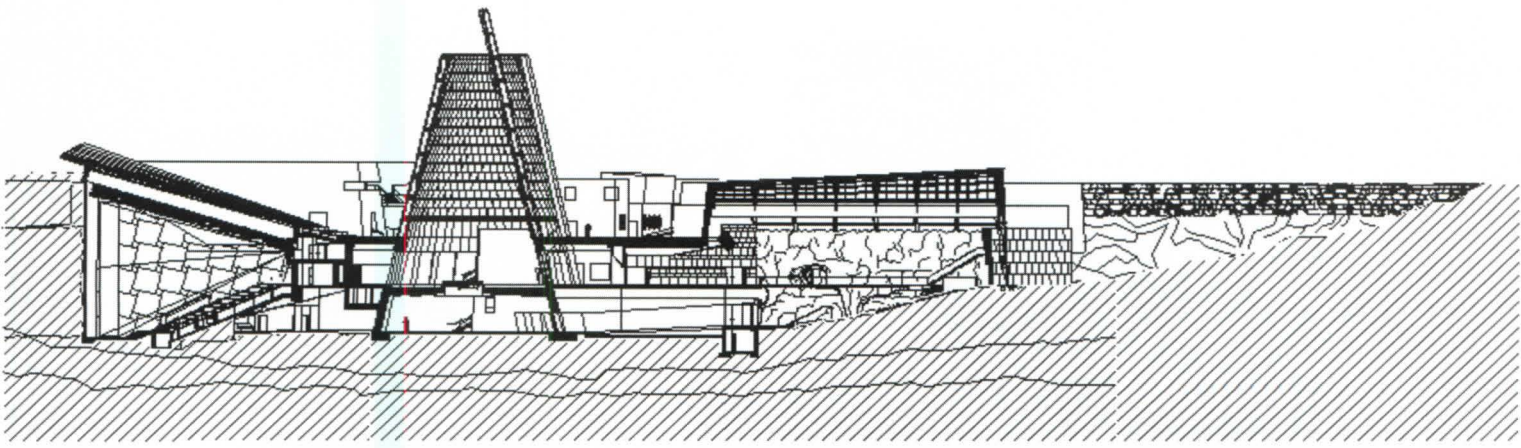
The lower level of Vulcania couldn't contrast more with the fastidiously finished surfaces above. The series of chambers and shafts gutted out of the volcanic rock is more excavated than built—grotesque architecture in the original sense of the word. As Hollein insisted during a visit to the site, it is 'dug' architecture as opposed to "piled up" and "formed" architecture. (This is a fundamental difference for him: He first divided architecture into these

three categories in the 1960s.) No highfalutin, high-tech materials, no custom-made aggregates, no gold-tinted titanium here. On the contrary, this is a man-made crater 100 feet deep and 100 feet wide, with a gaping void blasted in the rock that leads into the guts of the volcanic bedrock. Here, the craggy, bluntly hewn bedrock walls openly bear the scars left from the gouging, drilling, and blasting inflicted by a team of builders in what one senses must have been the process of "construction." The resulting rough surfaces are pierced with immense bolts and rivets bracing the structure. Hollein gives expression to the Kantian aesthetics of the sublime (as defined in Immanuel Kant's *Observations on the Feeling of the Beautiful and the Sublime*) in this way, using sheer brute force as his design tool.

dug architecture

But "dug architecture" involves more than just rough surfaces; it affects the way space is configured. Borrowing a concept from Michelangelo, who always claimed to be freeing sculptural forms from blocks of stone, Hollein calls this approach to architecture "subtractive," as opposed to "additive." Between a sculpture and a building the difference in scale is hardly negligible, of course: Vulcania is Michelangelean big time, with over 235,000 cubic yards of rock subtracted to make way for a new spatial experience. There is something paradoxical here: In the midst of this bedrock, architectural space is freed from structural load bearing, and therefore from geometry, from orthogonality and, in fact, from any order whatsoever. It is the most amorphous space imaginable. Because the building is shaped, as it were, from the inside out instead of outside in, the architecture becomes what Hollein calls "absolute space," a totally malleable, infinitely plastic element.

Hollein is in his element in Vulcania. Subterranean architecture has always been an obsession, going back at least as far as his master's thesis at Berkeley in 1960. Instigated by professor William Wurster and supervised by Joseph Esherick, its theme was, tellingly, "Plastic Space." Research he carried out then as a Harkness Fellow (the grant once given to young Europeans for traveling studies in the United States) took Hollein to the American



East-west section

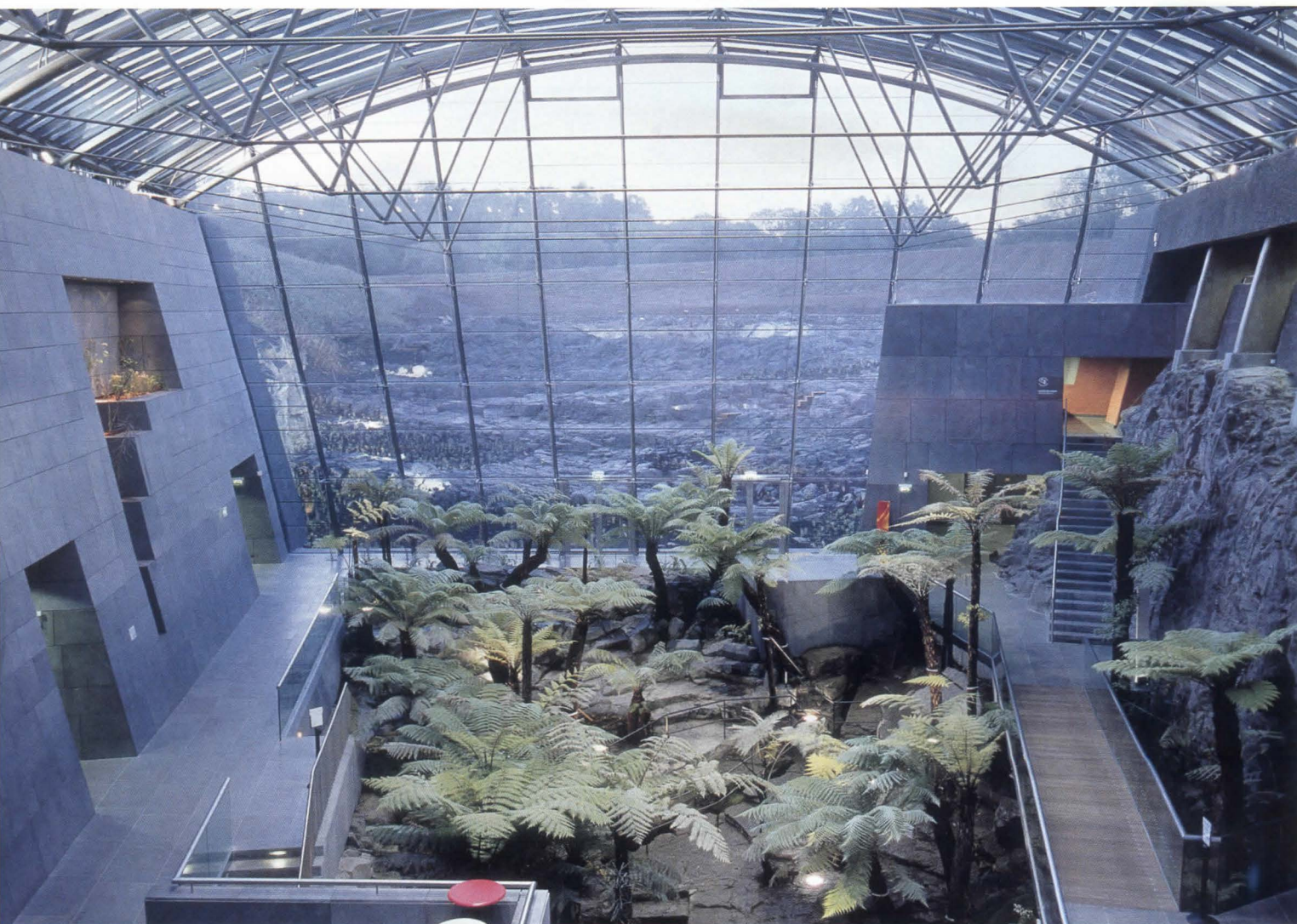
- 1 entrance
- 2 crater
- 3 cone
- 4 educational workshops
- 5 volcanic garden
- 6 gallery
- 7 restaurants



Ground-floor plan ^



The volcanic garden (facing page) informs visitors of the positive effects of volcanism—producing fertile ground for flora, for example. Interior exhibition spaces (right) and crater (above, right) are carved out of bedrock.



Southwest, where he became interested in the combination of dug and built-up architecture on Hopi Pueblo settlements. By 1963, he had coined the term “absolute space,” an important dimension of his thinking nearly 40 years later.

Like James Turrell’s Roden Crater, Vulcania is inspired by a deep emotional affinity with the landscape and a sense of loss of nature in the modern world. In their works, it is hard to tell where nature ends and art begins. Indeed, Vulcania is nearly invisible from its surroundings and has intervened in a minimal way on the surface of the land. The building complex is sunk below the earth—only the top of the cone projects above grade—and the complex is structured along a pathway, or rather a network of pathways. To enter, one follows a 600-foot-long, gently sloping path from the entrance of the park along a wall made of colossal, several-thousand-year-old volcanic “bombs” weighing several tons apiece, ejected out of nearby volcanoes. This leads to the first open-air level, which in turn leads to a downwardly spiraling ramp along the inside of the large “crater.” From there, one enters the foyer and the underground level. Through a gaping void blasted into the rock, the visitor descends through subterranean shafts from cave to cave into an absolute architectural unknown.

enter the underworld

Clearly, there is something else going on here besides a Jules Verne-like love-of-science-inspired journey to the center of the earth. Hollein is

alone among contemporary architects in having consistently argued, throughout his career, for breaking out of the narrow confines that architecture has been relegated to and bringing it closer to art by reconnecting it with more metaphysical and existential themes. He is right. Artists, writers, musicians, and filmmakers deal with the themes of eros and thanatos, life and death, all the time. Why don’t architects?

Vulcania does. It is, in fact, fraught with Freudian themes. On one level, the building is the expression of male sexuality and of the fantasy of penetrating tight recesses and expiring in womblike chambers. On another level, there’s an obsession with death, conceived of as an underworld, as in Dante’s *Inferno*, which Hollein explicitly used as an inspiration in the conceptual phase of the project. *By so doing, he is linking architecture to the Renaissance tradition of *terribilita*—that quality of supreme confidence that keeps one from accepting no authority but one’s own genius—and to Kant’s aesthetics of the sublime.*

Vulcania has something else in common with Dante’s awesome *Inferno*: it’s a runaway success. Project organizers estimated a yearly attendance of 350,000, and more than a quarter million visitors attended in the first three months alone. No wonder. With this project—and the upcoming Salzburg Guggenheim—Hollein becomes the first modern architect to link up with the ancient tradition of subterranean, dug buildings. By fusing info-tainment to the Kantian sublime, Hollein has redefined the meaning of the word “museum.” ■



© 2002 PPG Industries, Inc. All rights reserved. Caribia, PPG and the PPG logo are trademarks of PPG Industries, Inc.

There's something new on the horizon – a lush aqua green glass whose beauty is exceeded only by its performance. Caribia™ is a new spectrally selective tinted glass that combines high visible light transmission (60%) and low Solar Heat Gain Coefficient (.38). But even with this kind of performance, looks are still everything. To see a sample of Caribia glass for yourself, call the PPG Solutions Hotline today: 800-377-5267. Or email us at caribia@ppg.com.

PPG Glass Technology
Since 1883

PPG Industries, Inc., Guys Run Road, Pittsburgh, PA 15238-1305 ppgglazing.com

circle 72 or www.thru.to/architecture

CARIBIA™
Spectrally Selective Tinted Glass