



# ARCHITECTURE™

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## and, sea, and sky

BARCELONA REINVENTS ITS WATERFRONT, AGAIN

- + CLARK STEVENS DOESN'T THINK CONSERVATION DEVELOPMENT IS AN OXYMORON
- + BARKOW LEIBINGER ELEVATES AND ENERGIZES THE SUBURBAN OFFICE BLOCK
- + CAN VIDEO GAMES TEACH ARCHITECTURE?

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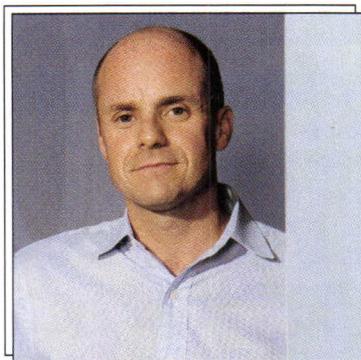
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## RIGHT ON THE MONEY

BY C.C. SULLIVAN

**To whet your appetite** for our main courses this month, I offer this smattering of hors d'oeuvres. Before I do so, however, a bit of humble pie: My apologies to our colleagues in the field of landscape architecture who may have taken umbrage with my broad swat in June's "Planning to Grow" (page 19 of that issue). I didn't mean to single your profession out, but rather to suggest that only those trained as planners should use the moniker. If one isn't qualified to plan more than a site, then that's as far as they should go. Others, such as the amply prepared Clark Stevens of New West Land Company (see page 36), should go as far as the eye can see.

### SURVEY SAYS ...

To the hundreds of readers who answered our recent magazine survey: Thanks! It was unprecedented in length—33 complicated questions—but the depth of insight you offered lets us to respond to your professional needs better than ever.

Most gratifying were your views on changes we've made to this publication; overwhelmingly, you told us we're on the right track. For example, the tally indicates the "most useful" portions of the magazine are our technical section, Process (see page 65), and our monthly roundup of new materials and methods, Sources (see page 73). We introduced both features in May 2003, when we unveiled our new graphic design. I'm glad we hit that nail on the head. (Our design did too, apparently, garnering tremendously positive critiques; many respondents rated our overall design as "excellent.")

Although the results show our approach to be right on the money, we know there's plenty of room to improve, and your suggestions are duly noted.

Just as you did with our survey, we too will deliver.

### PRESERVING GAUDÍ'S LEGACY

When you're building upon the unfinished work of one of history's greatest architects, it's hard to be right on the money. That's what the Spanish architect Antoni González i Moreno-Navarro has learned anew, as his work on Antoni Gaudí's jewel, the Crypt of the Church of Colonia Güell (1898-1916), takes

shape in a village outside of Barcelona. Local residents have protested the work. UNESCO, which has been considering adding the crypt—as well as Casa Batlló, Casa Vicens, and the Sagrada Família's nativity façade—to its prestigious (and highly protective) list of World Heritage sites, is reportedly waffling on account of the new work. And critics are heaping scorn: Juan José Lahuerta's blistering open letter to Barcelona's Mayor Pasqual Maragall in *Casabella's* June issue dissects each of González's moves.

Except for UNESCO's surprise role, the controversy sounds familiar. In 1990, a similar uproar marked by candlelight vigils was caused by the addition of contemporary sculptures to the Sagrada Família. The work proceeded; Gaudí still rests in peace.

Like many European cities, Barcelona is a place where such changes (and protests) are inevitable and healthy. (See our reports on pages 21 and 50.) A few well-placed critics not beholden to Gaudí's impeccable legacy opine that the concerns are a bit overwrought. González is removing post-Gaudí additions and inserting new paving, a stairway, and a solemn roof terrace with a modern stone parapet that no one would ever mistake for a Gaudí.

### DESIGNS ON CHINA

Here's another idea that's right on the money: Reciprocity. Architects are loathe to admit (or may not know) that Americans are protectionist when it comes to design services. Our state licensing policies need to be amended, say representatives of major U.S. architectural groups, or we could be locked out of fast-growing foreign markets. (The issue was one of nine areas of critical reform identified in a recent report on internship—see page 24.)

The AIA did the right thing when it renewed its "Accord on Professionalism in Architecture" with the Architectural Society of China this year, an agreement begun in 1993. Yet the pact still lacks explicit language on reciprocal licensing, accreditation, or educational degrees. Certainly this is in the interests of both countries; the state registration boards, if not NCARB, should immediately give the AIA authority to negotiate on their behalf. ■

**Love the magazine, but ...**

Your magazine is the best as far as design and content. I wish I could say the same for your website. More types of media—movies, panoramas, and larger, more frequent images—would be a step in the right direction.

**Bryan E. Whitman**

*New Orleans*

**Fired up**

In “Fire Codes Spur Debate” [June 2004, page 27], the author says that NFPA 5000 is the other “prevalent code” along with the International Building Code [IBC]. My research shows that only a handful of jurisdictions have adopted the NFPA 5000 and that hundreds have adopted the 2000 or 2003 IBC with hundreds more planning to implement the IBC very soon.

**Oscar Sanders**

*Reno, Nevada*

**Sharpen that pencil**

I found “Admitting Modernism” [June 2004, page 37] on the magazine *Pencil Points* by John Morris Dixon very interesting, especially since I have an original copy of Volume 1, Issue 1. I wonder how much that issue is worth these days?

**Thomas F. Karwinski**

*Mobile, Alabama*

**Extra! Darth Vader assaults dowager!**

One of the great preservation problems is the protection of the settings of individual landmarks and districts. The Porter House [June 2004, page 74] is a glaring example of how an entire historic district can be degraded by what “resides just beyond the edge.” And while the article states that the addition may be “difficult for passersby to connect with its historic base,” the view from Ninth Avenue tells a more distressing story, nothing so much as a helpless old dowager being assaulted by an architectural Darth Vader wielding dozens of light sabers.

**Robert Mackensen**

*Yuba City, California*

I was dumbstruck and amused by your June cover. Is this not the ugliest construction in memory? Is there no better example of a structural lie, or an addition without respect for the original building? The architect’s intent was to make the new construction look like it is magically suspended, which is a disappointment. As a former job captain with Eero Saarinen, I ask: What has happened to appealing architecture, not to mention beautiful architecture, a goal that seems out of reach of our ordinary lives? Surprise, yes, but at what cost?

**Charles Gathers, Sr.**

*Charlotte, North Carolina*

**As Cleveland goes, so goes Detroit**

Like the Cleveland Municipal School District and its lack of “exemplary” design [June 2004, page 112], Detroit Public Schools are facing the same challenges that confront most of

the large urban districts in the country. Detroit, however, has now challenged its architectural teams to go beyond the “bland, formulaic” approaches and strive for an expression that captures the true spirit of the city—past, present and future, providing a key stimulus for the community at large. With our strong district leadership advocating the value of innovative architecture, several of the schools from the \$1.5 billion bond program are noteworthy for their design innovation. With all of the high-profile investments in stadiums and casinos, it is reassuring that a real investment in educational facilities will have a role in the new Detroit.

**Jeffrey Boes**

*Detroit*

**My money’s on the landscape architect**

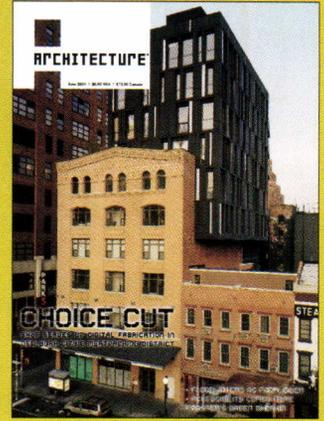
I share the sentiments in your editorial “Planning to Grow” [June 2004, page 19]: It seems most every consulting discipline remotely associated with land development has recently and miraculously gained the skills and human resources necessary to add “planning” to their menu of services. I was, however, somewhat surprised that you would list and perhaps even highlight landscape architects among the dubious. After all, which professional discipline and academic field dedicates more energy toward evaluating the project for its on- and off-site context and planning for existing conditions? Architects too often fail to incorporate adjacent outdoor “rooms” during the design process. By contrast, the landscape architect is routinely challenged to integrate all existing on- and off-site features, including vegetation, proposed structures, drainage, land uses and activities, and pedestrian and vehicular circulation. Such skills are a rare find in a “planner.”

I enjoy your magazine immensely. Cheers.

**James Gregory Ward**

*Orlando, Florida*

You seem concerned that landscape architects are practicing planning, yet landscape architecture is the major planning, design, construction, and management profession of the exterior environment—not architecture. In school, landscape architects are taught fundamental physical planning skills; in practice, they commonly prepare physical planning documents for small countries, whole states, wildlife preserves, transportation corridors, urban districts, and recreational lands. Landscape architects are licensed to plan and design the relationships between buildings, site grading and hydrol-



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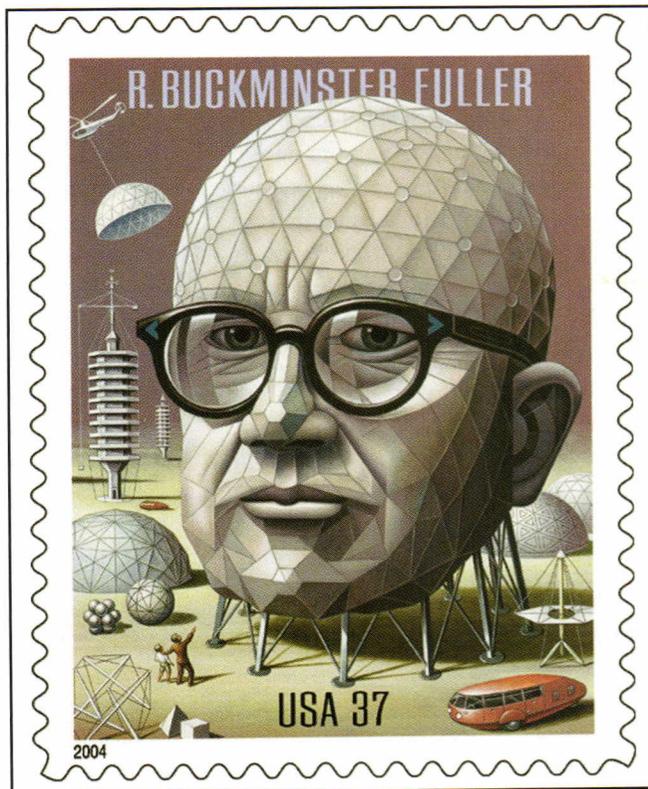
## HIGHER RATES? WHO CARES!

The man-bites-dog story of construction economics goes like this: Rising interest rates won't dampen residential construction—on the contrary, they'll give it a shot in the arm.

Huh? Yes, that's what many experts argue today. There's the fact that housing is still an attractive investment, as Floyd Norris reported in the *New York Times* last month. And then there's the homebuyers' crush to finance purchases before rates go up more, says David Seiders, chief economist for the National Association of Home Builders. And the improving employment picture and high consumer confidence should counteract dips caused by higher financing costs, adds Joel L. Naroff, chief economist of Cherry Hill, New Jersey-based Commerce Bancorp. Plus, says Gina Martin, an economist with Wachovia Securities, based in Charlotte, North Carolina, "Mortgage rates have plenty of room to move before they even reach prerecession levels."

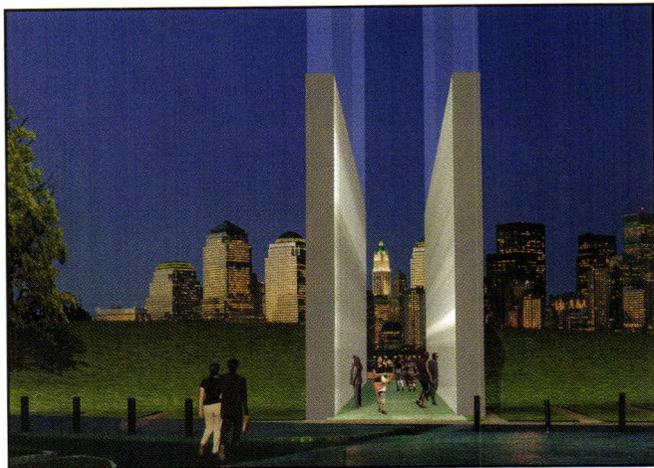
Architects might like this rosy contrarian thinking, but the data shows a need for guarded optimism: Housing starts dipped in April, May, and June. But that does little to deflate the banter. The market is still "robust," says Martin, although she sees a falloff by October. "The pace will keep up," adds Naroff. "At least for a while." **C.C. Sullivan**

## P.O. ISSUES BUCKY STAMP



R. Buckminster Fuller—iconoclastic and adored architect and inventor—was the latest historical figure to be commemorated with a stamp issued by the U.S. Postal Service on July 12, the legendary architect's birthday. The stamp image, a 1964 painting by Boris Artzybasheff, depicts Fuller's head in the pattern of his most famous invention—the geodesic dome. Some of his other inventions appear in the image as well, including the 4D House and the Dymaxion Car. Largely self-taught, Fuller's ingenuity led to 25 patents, ranging from construction processes to cars. Dedicated to the use of technology and geometry to revolutionize housing and, in fact, daily life, Fuller designed several inexpensive, mass-produced homes—one of which could be assembled and airlifted into place—and other various constructs under the title *Dymaxion*, a word coined by advertisers and trademarked under Fuller's name that is a combination of "dynamic," "maximum," and "ion." The architect received 47 honorary doctorate degrees for his work and the Presidential Medal of Freedom before he died at the age of 88 in 1983. **Katie Gerfen**

## 9/11 MEMORIAL AWARDED



New York City-based architect Frederic Schwartz's design for New Jersey's September 11 memorial (above)—two stainless-steel walls engraved with victim's names—has won the competition for the Jersey City site.

➔ On July 4th the cornerstone for the 1,776-foot Freedom Tower was laid at the World Trade Center site. In less celebratory news, its master planner Daniel Libeskind is suing the building's developer, Larry A. Silverstein, for \$843,750 in architectural fees. While David Childs

of Skidmore, Owings & Merrill has superseded Libeskind as the architect of the Freedom Tower, Studio Daniel Libeskind provided high-profile schematic design services. But as Silverstein does the math, that is only worth \$225,000.

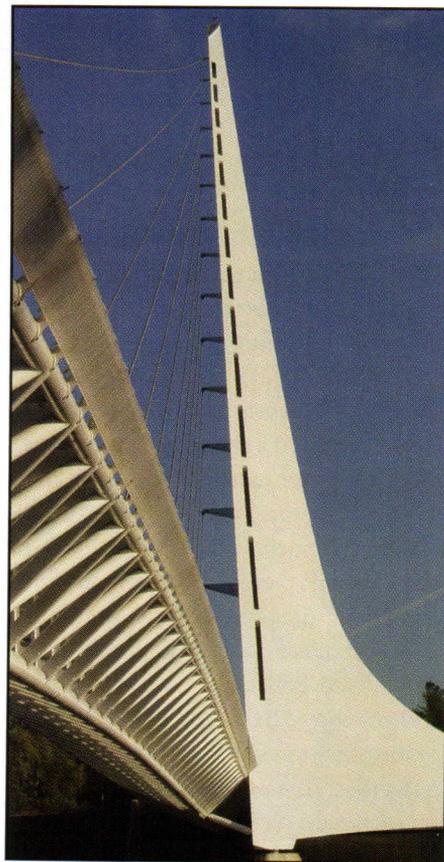
## BRIDGE FEVER: CALATRAVA COMPLETES FOUR MORE

Mr. Bridge is at it again. Last month saw the inauguration of no fewer than four new spans by Spanish architect and engineer Santiago Calatrava, whose lyrical, cable-stayed designs have become a favorite of European municipalities looking to improve their infrastructure while putting themselves on the design map. Indeed, three of the four bridges opened in Amsterdam last month, providing both traffic relief and instant iconography for Haarlemmermeer, a rapidly expanding mixed-use region west of the city's main airport. The fourth, however, marks Calatrava's bridge debut in the United States.

On July 4th, the city of Redding, California, and its Turtle Bay Exploration Park inaugurated the Calatrava-designed Sundial Bridge (right), which connects the park's muse-

um to its 200-acre arboretum on the opposite side of the Sacramento River. Respecting the park's mission to explore the relationship between the human race and the natural world, the 700-foot-long span for pedestrian crossings is careful to sit lightly on its site, which happens to be the location of a salmon-spawning pond in the river.

There are no columns in the water and the bridge's deck—suspended from cables fastened to a 217-foot-tall inclined pylon on the north side of the Sacramento—is made of steel-framed, nonskid glass panels to reduce shadows on the water. To further minimize the impact of the structure on the riverbank, steel for the \$23 million bridge was prefabricated in Vancouver, Washington, and trucked to Redding in 40-foot-long sections. **Abby Bussel**



⇒ *New York Times* architecture critic Herbert Muschamp has stepped down to pursue other opportunities at the paper. Nicolai Ouroussoff, the architecture critic for the *Los Angeles Times*, has replaced him.

⇒ Thirty-seven-year-old firm Hardy Holzman Pfeiffer Associates is splitting up into three new entities: H3 Hardy Collaboration will be led by Hugh Hardy; Malcolm Holzman will join with partner Douglas Moss to form the

firm Holzman Moss Architecture; and Norman Pfeiffer, with current partners Stephen Johnson and Jean Marie Gath, will remain in Los Angeles under the new name Pfeiffer Partners.

## CAN SOUTHERN CALIFORNIA LIVE MORE DENSELY?

The Southern California Association of Governments (SCAG) is confronting its area's burgeoning population growth head-on, calling for a plan that includes 400,000 new residential units in high-rise configurations. By converting just 2 percent of the land in the six-county region into dense housing zones, commuting times to jobs will be reduced resulting in a decrease in pollution as well.

SCAG, the largest of nearly 700 councils of government in the United States, functions as the main planning body for six counties: Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. The association is mandated by the federal government to research and draw up plans for transportation, growth management, hazardous waste management, and air quality. By law these initiatives must be followed by member municipalities.

In its report, "The Compass Vision," SCAG outlines the need: The region's population is projected to grow by more than one-third to 23 million by 2030, with most of the increase coming from births in existing families. If the region stays on its current course of growth, traffic congestion in some areas would more than triple, air quality would worsen, the cost of

transporting goods would increase, and the region's economy would suffer.

"In evaluating the potential for the plan, we learned that some subregions were already considering changes, like mixed-use development and higher-density housing near subway stations," says Beverly Perry, city of Brea councilwoman. "We're now helping cities with toolkits to demonstrate how these changes can make a big difference in land-use and transportation planning."

One of SCAG's main goals is to improve mobility by integrating transportation with land-use planning and by using subway, light-rail, and commuter-rail stations as potential sites for future mixed-use developments. The plan also encourages infill development on scattered sites in already urbanized areas.

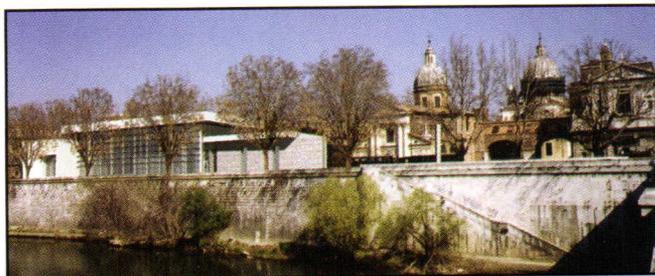
"The political consensus building for high-density housing in the region is just beginning," says Jeffrey Lustgarten, spokesperson for SCAG. "When SCAG board members go to their communities and explain how the plan improves transportation options, eliminates congestion, and reduces pollution, the response is positive." **Eileen McMorrow**

## MEIER MODEL BURNS

Having an effigy of your building burnt is pretty high up there as architectural honors go. This summer a flammable model of the Ara Pacis Museum Complex in Rome, a design created by Richard Meier & Partners, was burned in protest of such blatant modernism being inserted into a historic city center.

In 1995, Meier was commissioned to design a replacement for the deteriorating Mussolini-era glass-and-travertine structure that housed the Ara Pacis, or Altar of Peace, built by Augustus in the first century B.C. on the east bank of the Tiber. Meier's design, a \$10 million glass-and-steel museum complex, has met with considerable controversy: work on the project was halted in 2001 by the newly ascended politically—and aesthetically—rightist regime. Critics described the design as the “Los Angelization of Rome.”

The building is now on track again, however, and slated for completion in April 2005, but the former undersecretary for culture, Vittorio Sgarbi—a traditionalist art critic who recently founded the “Beauty Party,” solely dedicated to protecting



Italy's cultural heritage—is still riled. In June, Sgarbi staged the burning of a model near the Mausoleum of Augustus.

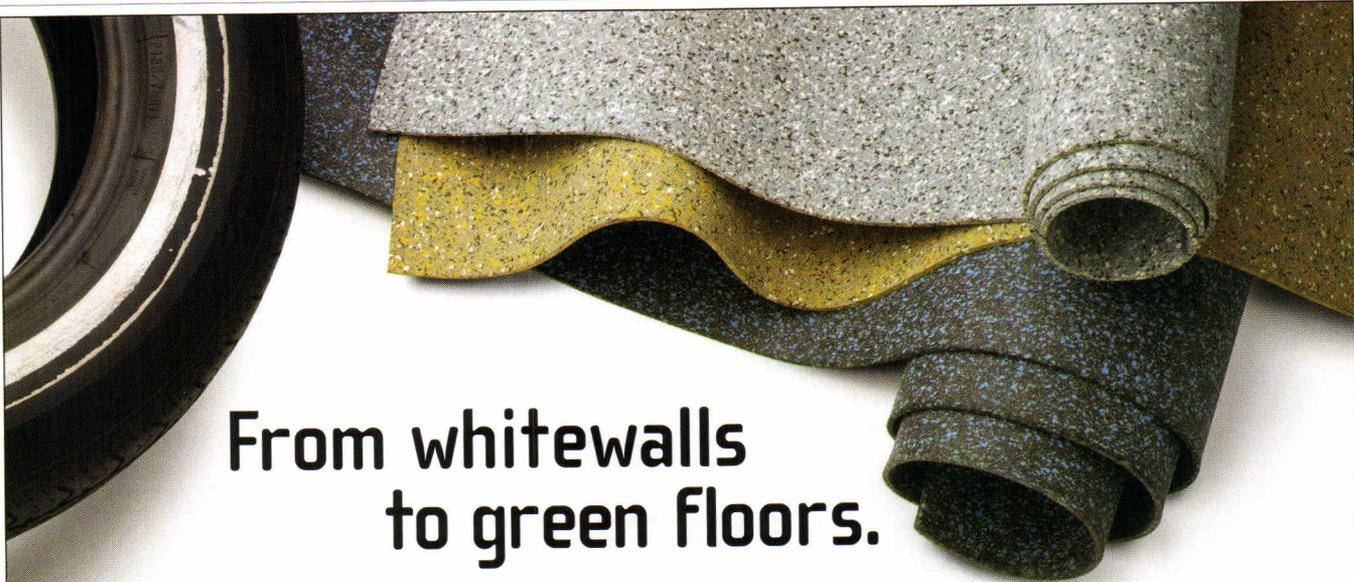
For Meier, part of the irony in Sgarbi's critique is that his design replaces a modern structure of similar mass. “Fifty years later, modernism is still appropriate,” says Meier. Sgarbi has attacked other modernist buildings: He successfully stopped the Uffizi Gallery in Florence from building an addition by Arata Isozaki—won by competition—and now has his sights on Zaha Hadid's Center for Contemporary Art in Rome.

“He is simply against any interesting architecture of quality,” says Richard Meier. However, Meier's recently completed Jubilee Church—a fantastic structure amid 1960s apartment buildings—has been spared such virulent criticism. **Bay Brown**

↳ London Mayor Ken Livingstone has appointed architect Richard Rogers as his architecture and urbanism adviser for his second four-year term, for a modest fee of one pound.

↳ David A. Wallace, 86, a Philadelphia architect best known for his work on Baltimore's Inner Harbor, has committed suicide. Edward Killingworth, 86, one of the last Case Study House architects died last month. Joseph

Wasserman, 73, a housing architect and a former president of the AIA New York City Chapter is dead. Ellen Ramsey Singer, 56, a San Francisco-based trustee of the National Trust for Historic Preservation, has also died.



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# The fifty-second annual P/A Awards

## HONORING OUTSTANDING UNBUILT WORK

The P/A (Progressive Architecture) Awards recognize unbuilt projects demonstrating overall design excellence and innovation. All entries must be commissioned by paying clients for execution. Judging will take place in September 2004. Winning entries will be notified in October 2004 and published in the January 2005 issue of *Architecture*. **NEW THIS YEAR:** The Applied Research category returns. See item No. 4 in the entry rules.

## jury

Maurice Cox – RBGC Architecture, Research & Urbanism – Charlottesville  
Teddy Cruz – Estudio Teddy Cruz – San Diego  
Roger Duffy – Skidmore, Owings & Merrill – New York City  
Maxine Griffith – Philadelphia City Planning Commission – Philadelphia  
Brian Healy – Brian Healy Architects – Boston

## submission deadline: August 27, 2004

**1 WHO CAN ENTER** Architects and other design professionals practicing in the U.S., Canada, or Mexico may enter one or more submissions. Proposals may be for any location, but work must have been directed—and substantially executed—in offices in those three countries.

**2 REAL PROJECTS ONLY** All entries must have been commissioned for compensation by clients with the intention and the authority to carry out the submitted proposal. A project entered in a design competition is eligible if it is the one proposal the competition's sponsor intends to build.

**3 ARCHITECTURAL AND URBAN DESIGN ENTRIES** Architectural design entries may only include works of architecture scheduled to be completed after January 1, 2005. Urban design entries must have been accepted by a client who intends to base future development on them; please include implementation timeline.

**4 RESEARCH ENTRIES** Applied research projects and prototypes will be accepted this year as a separate category (see entry form). Entries may only include reports accepted by the client for implementation or studies undertaken by the entrant with intention to market and/or publish results. Explain basis of eligibility on Project Facts Page (see No. 10).

**5 VERIFICATION OF CLIENT** Awards and citations are contingent upon *Architecture's* verification that selected projects meet all eligibility requirements, including *Architecture's* direct contact with clients. *Architecture* reserves final decision on eligibility and accepts no liability in that regard.

**6 PROVIDING ADDITIONAL MATERIALS** Entrants whose submissions are selected for awards or citations agree to make available further information and publication-quality graphic materials as needed by *Architecture*.

**7 PUBLICATION** Winners of P/A design awards or citations grant *Architecture* first publication rights for their winning projects while under construction or when complete or substantially complete (at *Architecture's* discretion). Publication may not coincide with building completion, but *Architecture* retains first publication rights to the project for up to one year.

**8 AWARD** P/A design award and citation winners will be announced first at a celebration in New York City in January 2005. Winning projects will be exhibited at that event. Winners will submit a summary presentation for exhibition purposes.

**9 BINDERS** Entries must consist of legibly reproduced graphic material accompanied by adequate explanatory text in English. All entry material must be firmly bound in binders no larger than 17 inches in one dimension only, to a maximum of 11 by 17 inches (9 by 12 inches preferred). Avoid fragile or sharp binders. Videocassettes, CD-ROMs, models, and any unbound material will not be considered.

**10 PROJECT FACTS PAGE** The first page of each entry binder must list project facts under the following headings: Location, Site Characteristics, Zoning Constraints, Type of Client, Program, Construction Systems, Funding, and Schedule. This information must include square footage, cost, and specific materials.

**11 PROCESS DOCUMENTATION** Entries should document the design process, as well as its result. Include information on software, hardware, and hand media employed. *Architecture* encourages entrants to include copies of preliminary sketches, alternative preliminary schemes, information on context, precedents for the design, and excerpts from working drawings.

**12 PROJECT RESEARCH** Include records of any research performed in support of an architecture or urban design project.

**13 NO ORIGINAL DRAWINGS** Please do not send original drawings; *Architecture* accepts no liability for submittals.

**14 ANONYMITY** To maintain anonymity in judging, no names of entrants or collaborating parties may appear on any submission materials except the entry forms. Do not, however, conceal the identity or location of projects.

**15 ENTRY FORMS** Each submission must be accompanied by a signed, completed entry form. (Reproductions are acceptable.) Submit the form in an unsealed envelope attached to the submission binder's back cover.

**16 PHOTOCOPY** Please enclose one bound set of 8-1/2-by-11-inch photocopies of your entry. The first two pages should be copies of the entry form and the project facts page, in that order. Secure the photocopies inside the back cover of the binder.

**17 ENTRY CATEGORIES** Identify each submission on its entry form by type (see entry form). Mixed-use

facilities should be classified by the largest function. There is no "miscellaneous" category.

**18 ENTRY FEES** An entry fee must accompany each submission. The fee is \$125 for *Architecture* subscribers; non-subscribers can submit an entry for \$160, which includes a one-year subscription to *Architecture*. Each entry after the initial entry is \$100. Make check or money order payable to *Architecture*. Canadian and Mexican entrants must send drafts in U.S. dollars. Fee must be inserted in an unsealed envelope with the entry form (see No. 15).

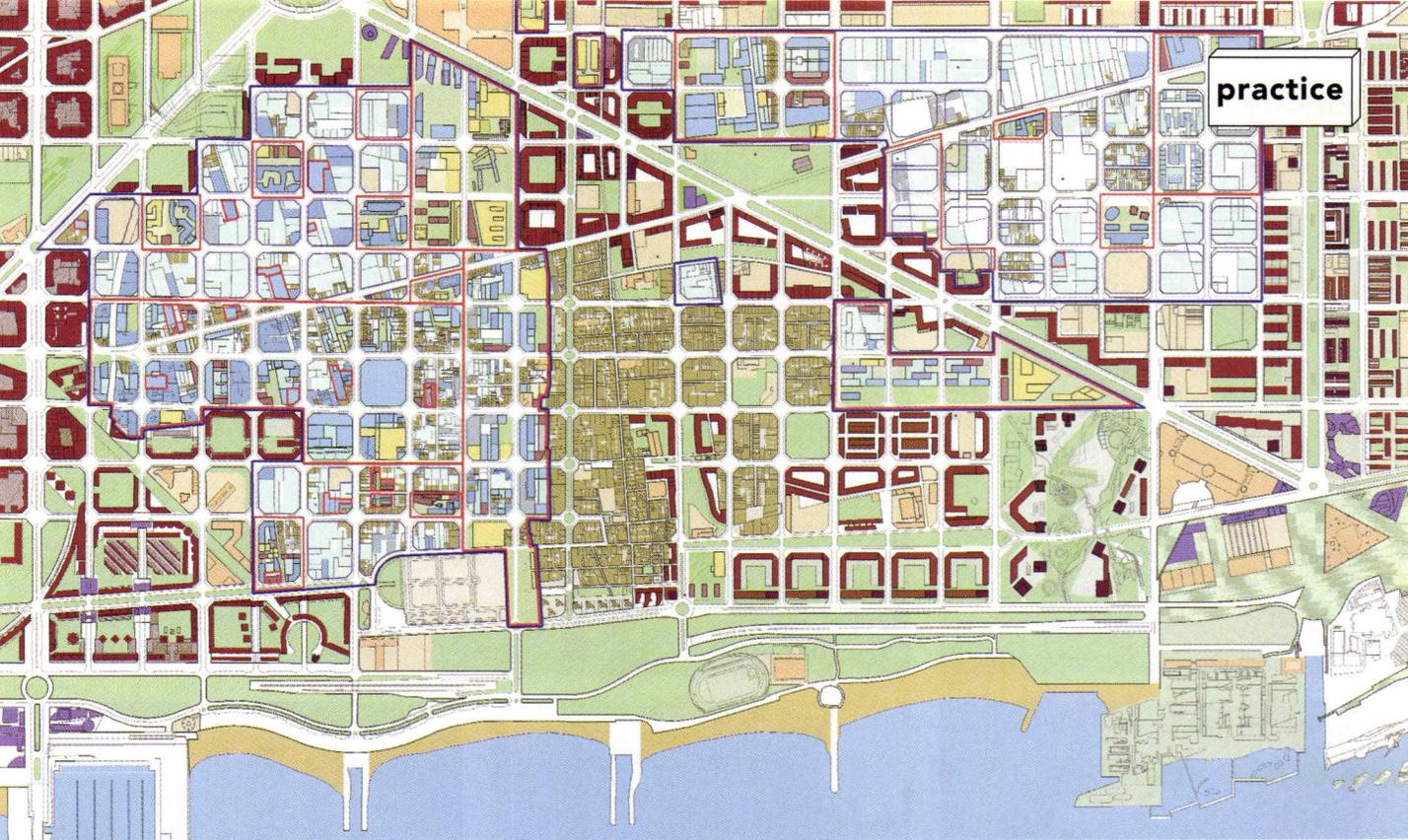
**19 RETURN OF ENTRIES** *Architecture* will return only those entries accompanied by a self-addressed, stamped envelope. *Architecture* assumes no liability for loss or damage.

**20 ENTRY DEADLINE** Deadline for sending entries is August 27, 2004. All entries must show carrier postmarks of August 27, 2004, or earlier. Hand-delivered entries must arrive by 5 p.m. EST on August 28.

### ADDRESS ENTRIES TO:

Awards Editor  
*Architecture*  
770 Broadway  
New York, N.Y. 10003

Please complete and submit all entry materials intact with each entry (see No. 15 for instructions). Photocopies of this form may be used.



## THE BARCELONA MODEL

With a sensitive scale, sustainable design, and public amenities, a 400-acre urban renewal project creates a new paradigm for city planners. by Richard Ingersoll

Over the past 25 years, Barcelona's city planners have convincingly invented antidotes to sprawl. In the 1980s, then-director of city planning Oriol Bohigas brilliantly executed his famous dictum: "Sanitize the center, monumentalize the edge." His approach was typified by magnificent spot renewals in the historic center—such as the Raval district's cultural axis, which culminates in Richard Meier's 1995 Museum of Contemporary Art—and major civic interventions in remote districts, such as the popular park El Clot, installed on abandoned train yards. "22@" is the latest program in a series of urban innovations that have contributed to what is increasingly known as the "Barcelona Model" among planners.

Organized during the late 1990s under the guidance of former director of city planning, Josep Acebillo, and with the advice of economist Joan Trullen, 22@ is an effort to convert the decaying industrial stretches of the northern part of the city, once classified under the zoning category "22a," into a renewed neighborhood dedicated to information

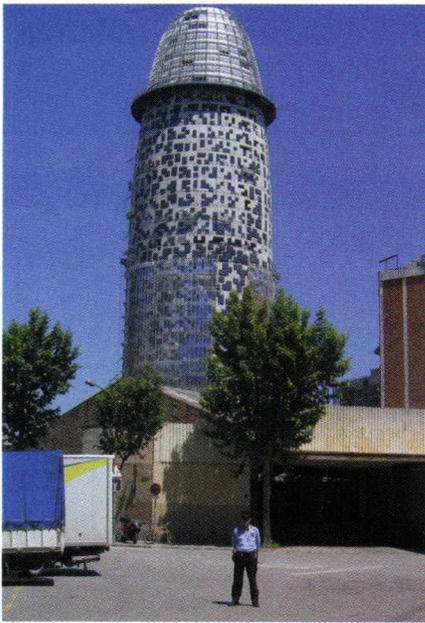
and communications technologies. The name 22@ is a marketing gimmick, meant to draw associations with Silicon Valley-style technology parks, but comprising 107 of Barcelona's nineteenth-century octagonal blocks in the two-working-class districts of Poblenou and Sant Martí—together about twice the size of the historic center—it is much more urban than office park. The site became a viable location with the completion of the extended Diagonal Boulevard, which ends at the new convention center designed by Josep Lluís Mateo, part of another current revitalization project, the Forum of Cultures 2004 (see page 52).

### INCREMENTAL INTERVENTION

It takes about ten minutes to walk along Poblenou Boulevard—22@'s other main drag and one of the most successful urban renewals of the 1990s, replete with retail, restaurants, and offices—to the six miles of beaches that have been fully reclaimed over the past decade. The 22@ plan phases the development

of 400 acres over a ten-year period—with 2010 as the scheduled end date—integrating renovated industrial structures with new buildings and maintaining a mix of commercial, educational, and residential functions. It was partly conceived as a response to the brusque urban renewal carried out for the adjacent Olympic Village in 1992, when 20 industrial blocks were expediently razed or gutted and then rebuilt with high architectural ideals.

Much care has been given at 22@ to proceed piece by piece and avoid insensitive demolitions, conserving the urban grain of the existing blocks, including the curious internal divisions that sometimes followed pre-Cerdà drainage patterns. Although there is a committee to monitor architectural standards, there has been no attempt to induce architectural masterpieces, but instead to create incentives for synergy between workplaces, schools, and housing. The one building with true monumental presence is Jean Nouvel's soon-to-be complete Agbar Tower, a 32-story polychromatic



office building covered with glass shutters. Although it functions as an icon of rebirth and can be seen from almost everywhere in the area, it was not part of the plan and belongs to a separate initiative to redesign the major Les Glories traffic circle. Just beyond the 22@ precinct lies the site of Frank O. Gehry's high-speed train station at Sagrera, scheduled to open in a few years.

#### PUBLIC AND GREEN

What makes the Barcelona Model different from most postindustrial urban renewals is the commitment to maintaining partial public ownership. In the case of 22@, the plan offers incentives by which developers can increase densities if they use 20 percent of the space for high-tech activities, contribute toward new infrastructure, provide social housing, and yield 10 percent of their lots for public spaces or buildings.

The new infrastructure includes 31 miles of bike paths, 22 miles of rebuilt roads, connections to a pneumatic garbage collector, an underground conduit for fiber-optic cabling, and a cen-

**In addition to building renovations and new construction (top right, bottom middle and right), infrastructure improvements are part of the 22@ master plan (bottom left). Jean Nouvel's Agbar Tower dominates the precinct (top left).**

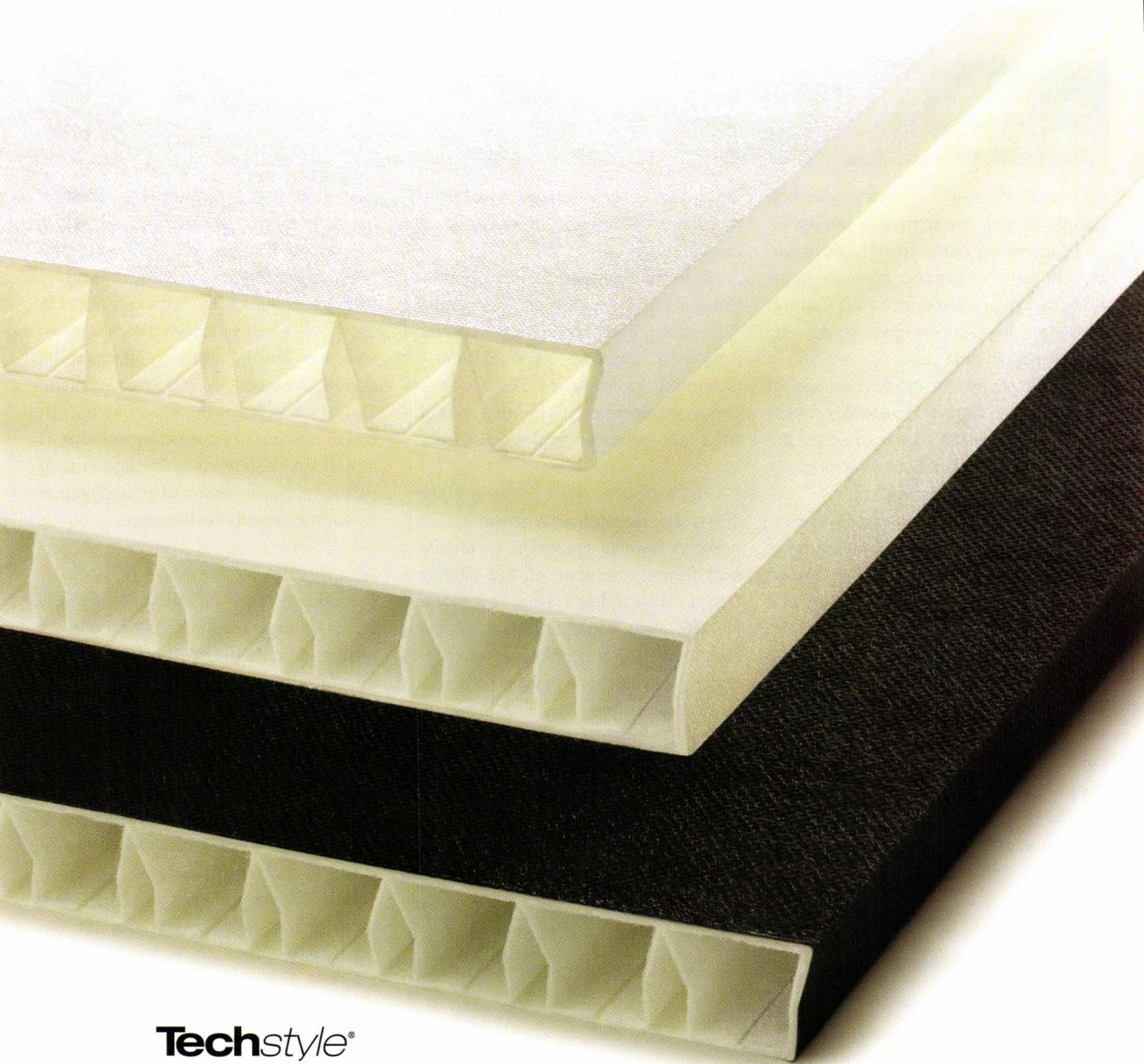
tralized heating-and-cooling plant. In addition, parking is limited to discourage automobile use, and run-off water will be recycled for nonpotable uses. And as public space is a priority, four blocks have been set aside for "Central Park," the major green space along Diagonal Boulevard. Together these features make 22@ a relatively advanced sustainable urban district, even for Europe.

Development sites range in size from half a block to two blocks to encourage a wide range of scale and attention to internal block divisions. The 4,600 existing housing units, some of which have not been recognized because of antiquated zoning, will be legitimized so that developers can renovate and also build an equal number of new housing

units, raising the number of market-rate residential units in the development by 10 percent when the program is complete in 2010.

The German information-technology company T-Systems has built the first new structure—a seven-story office building attached to a four-story training facility—on half of a block with the intent to retrofit the buildings on the other half. A new campus for audiovisual studies for Pompeu Fabra University is expected to use rehabilitated buildings on a six-block site, and last year the city opened a retrofitted textile factory to be used for training.

The flexible approach of 22@ has allowed for an incremental transformation. Although the area inevitably will be gentrified, the mix in scale and use—and the commitment to holding on to public space—should guarantee a diverse community: ambitious technology companies, small studios in urban lofts, young people going to university and vocational schools, and the holdover working class of the few industries still located in the district. ■



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CEILINGS

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# COLLATERAL DAMAGE

Will the sunset for intern boosters be a sunrise for interns? by C.C. Sullivan

**It's classic bureaucratic inertia:** Several groups form a committee to undertake an unappealing but seemingly inevitable task. In the first meeting, concrete goals and action plans are established. Tension arises. So the group resolves to act—by meeting again next year.

Thus describes the modus operandi of a recently disbanded cross-association group on internship that seemed on the verge of producing action—almost six years after it first convened.

Formed in 1999 in response to worries over an independent study on practice and academia by education expert Ernest L. Boyer, the group first met as a “collateral internship summit” in Kentucky comprising the “collateral groups”: AIA, NCARB, the National Architectural Accrediting Board (NAAB), the Association of Collegiate Schools of Architecture (ACSA), and the American Institute of Architecture Students (AIAS). The 66 delegates easily produced eight recommendations on everything from education to professional titling to the

2003, the group released nine recommendations—virtually identical to the original eight.

By this time, however, the report also listed action items. Chief among them? “The group has been sunsetted and will not meet again,” says Robert A. Odermatt, principal of The Odermatt Group in Berkeley, California, and the AIA’s representative to the collaterals.

## FRUSTRATION, AND OPPOSITION

The disbanding leaves a power vacuum, notes William W. Herrin Jr., an architect and former member of the Alabama Board of Architects who represented NCARB. “No single collateral has ownership of this, and nobody has cast in concrete what they’re going to do.”

This outcome—and glacial pace of progress—has frustrated those seeking tangible reform. “Not only was this five years in the making, but it didn’t change much in those five years,” says John Cary Jr., who cofounded the intern-boosting group ArchVoices five years

group members. Still more opposition has come from academic circles: “ACSA didn’t like it when we said integrate practice into education,” says Herrin.

Proponents of the changes include the AIAS, which formally endorses them, and the NAAB, which is revising its accreditation policies in support of them. The AIA references the report in its education policies and passed a resolution at its national conference in Chicago in June calling for the evolution of internship and for future summits on the topic.

## NCARB READY TO ACT?

Remarkably, even NCARB seems ready to act on much of the collateral group’s advice: A statement issued last month after its annual meeting says that it “welcomes, and has carefully considered” the nine recommendations and has “unanimously endorsed” all but the sixth—that the exam be permitted upon graduation. “The ARE is, as it should be, a practice-based examination,” read the missive.

“We’ll continue to make the exam more practice-based, because it’s the final gatekeeper to licensure,” says Frank M. Guillot, newly elected NCARB president and principal of Guillot-Vivian-Viehmman Architects, Burlington, Vermont. “If you’re saying someone [who passes] can practice independently, then it should be practice-based.”

Yet former leaders of the collateral group are pressing for a complete embrace from NCARB. “Many students already have practice experience,” counters Herrin. “These are grown-ups, and they should be allowed to decide when they take the exam.”

Clearly, immediate adoption of all of the measures by all of the collaterals is very unlikely. And with the task group dissolved, observers worry about losing ground on reform.

“Keeping interns involved is most important,” says Odermatt. “They’re our lifeblood; we want to keep the best and brightest in the profession.” ■

## NINE STEPS TO BETTER INTERNSHIP

1. Broaden accessibility to the profession.
2. Integrate practice into education.
3. Integrate education into practice.
4. Require professional degrees from accredited programs for registration.
5. Allow alternative types of professional experience for registration.
6. Permit examination upon graduation.
7. Promote continuous learning and mentorship.
8. Strengthen national and international reciprocity.
9. Recognize architecture graduates with appropriate titling and responsibility.

SOURCE: COLLATERAL INTERNSHIP MANAGEMENT GROUP EXECUTIVE SUMMARY, JUNE 2003

architect registration exam (ARE) that they felt could improve internship.

Unable to force the items into immediate action, the group formalized with representatives of the five associations and met three times over the next two years, finally drafting a 2001 report restating the 1999 proposals. The task force then reorganized again, changed its name again, and met again; by June

ago. “The bulk of the work was done over one weekend in 1999.”

The associations have supported the nine recommendations with varying levels of enthusiasm and with the notable exception of NCARB, which still objects to changing the timing of the ARE and expanding the use of the term “architect” and whose reluctance may have also quieted reform efforts by other



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## A BETTER RAP FOR OWNER'S REPS by Richard T. Anderson

firm

As projects and their design-and-construction teams have increased in complexity over the last decade or so, it is more common for clients to hire third-party professionals to act as their representatives. Many clients seem to find value in what this new entity brings to the process. Unfortunately, the value of an "owner's representative" has not always been as apparent to architects, contractors, and engineers.

By hiring a representative—typically an architect, engineer, or someone with a construction or development background—building owners essentially delegate their role to another entity, but the goal of the design-and-construction team and the owner's rep need to remain the same: a successful project. The definition of success, however, determines how the situation will play out for the architect. Good experiences typically result when the owner's rep recognizes that the project should be successful for all parties involved, and that fair dealing and reasonable profits for designers and contractors are beneficial for the owner because the result will be a better project. These "good" owner's reps proactively look out for the owner's best interests, bringing experience and a helpful, fresh outlook to projects, and are not merely critics of efforts by the design-and-construction team.

Conversely, bad experiences are characterized by reps who define success as only he and the owner doing well. In these instances, the owner's rep approaches the process reactively, pointing out problems after the fact and creating an adversarial relationship between himself and the design-and-construction teams. In the worst cases, owner's reps define success by how many dollars they can get the designers and contractors to contribute to the project through payments for owner claims and reductions in design fees and construction costs.

### JUSTIFYING THEIR FEE

Fees for owner's representatives, usually a lump-sum payment, are as variable as their scopes of services—for

example, whether they are doing any estimating or scheduling, or whether it is an individual practitioner or a firm providing full-time oversight—and can range from 1 percent to 3 percent of the construction cost. Often, the architect is not privy to the fee. Yet, the money paid is less important than the way the owner's rep justifies his cost or, if he is on the client's staff, how he justifies his position and salary.

### THE CURSE OF THE REACTIVE REP

Too many owner's reps validate their fees based on the obvious, superficial results of reactive management. They might suggest that they'll negotiate 20 percent out of the design consultants' fees, or promise to squeeze enough out of the contractor to reimburse their fee. The hidden costs of reduced design services and short-changed contractors may not be readily apparent to the owner, but the price tag of an adversarial relationship is rarely offset by any savings generated at the expense of

architects, engineers, and contractors, as my firm's experience on a church project demonstrated (see "Unholy Alliance," left).

The proactive owner's reps believe that as the client's champion they can better focus the design-and-construction team on owner goals, resulting in higher-quality and more cost-effective projects. In such a case, we were designing a large aquarium for which the client had extravagant ideas and a limited budget. They wanted three major exhibit areas, which was financially out of the question. The owner's rep convinced the client that it was better to do two exceptional exhibit spaces instead.

The project was delivered

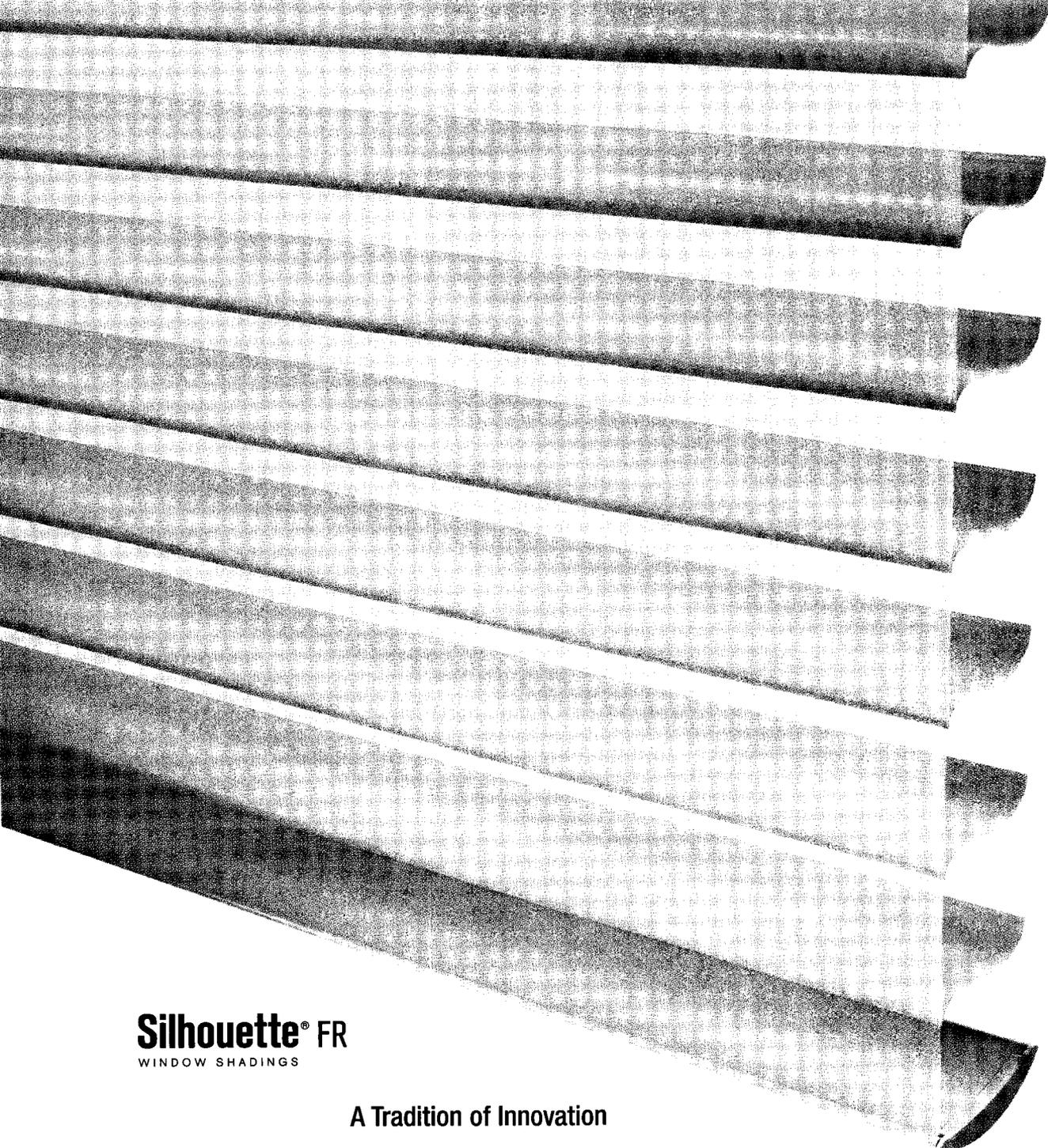
on time and on budget, and won several design awards.

Ideally, the architects, engineers, and contractors on a project should have some input into the services required of an owner's representative—and even some involvement in the selection of the consultant. But all too often, the owner's representative is hired before the rest of the team is put in place.

Defining the parameters and definition of a success-

### UNHOLY ALLIANCE: AN OWNER'S REP CASE STUDY

What's the hidden cost of owner's reps that create adversarial relationships or disrupt client-designer communications? On one of my firm's church projects, the owner's representative insisted on presenting our design concept to the client without us being present. The senior pastor had visited another church with a large skylit atrium and asked the rep if one could be incorporated into our design. The rep said it could and told us to modify the design—but refused to let us offset the cost elsewhere in the project or even propose doing so to the owner, saying that "good design doesn't have to cost more." We did as directed and as cost-effectively as possible, but we still ended up with a design concept that was way over budget. The owner's rep presented the new design to the client (again without us present); the owner blamed us for the cost overrun. As both we and the owner found, the price tag of a bad relationship is rarely offset by savings in design services.



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WINDOW COVERINGS

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ful project early on is beneficial for all parties involved. The concept of "partnering" has become familiar to everyone in the construction field, and in the case of a project with an owner's rep, a partnering session can be instrumental in clarifying the rep's responsibilities, processes for communication, and limits of authority. Clearly establishing criteria for project success for each party helps avoid the "owner wins, designer and contractors lose" scenario.

#### PARTNERING TO WIN

For example, we recently completed a large municipal building that involved a joint-venture architectural partner, more than 20 consultants, a combined design-builder and contractor that we worked for, a developer, and a complex, multiheaded tenant comprising various city departments. The opportunities for miscommunication were infinite, so a partnering session was held early on to outline the process for communicating. We ended up creating a project office directly adjacent to the site with room for all team members.

Owner's reps should never be allowed to prevent or short-circuit communication between the design-and-construction team and the client. This happens too

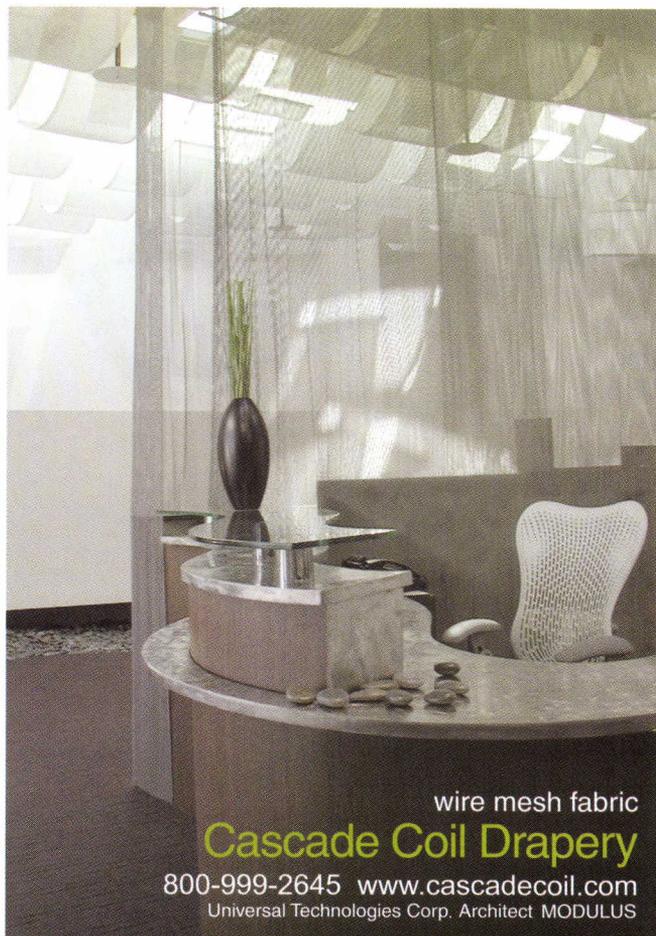
☞ **When opportunities for miscommunication are magnified, partnering sessions held early in the project cycle will help define the role of the owner's rep—and clarify the owner's expectations.**

often, resulting in the designers and contractors backtracking and correcting the results of decisions the owner abdicated to the rep. Instead, the owner's rep should facilitate good communication and prioritize decisions for the client.

#### FOR OWNERS, LOOK LONG-TERM

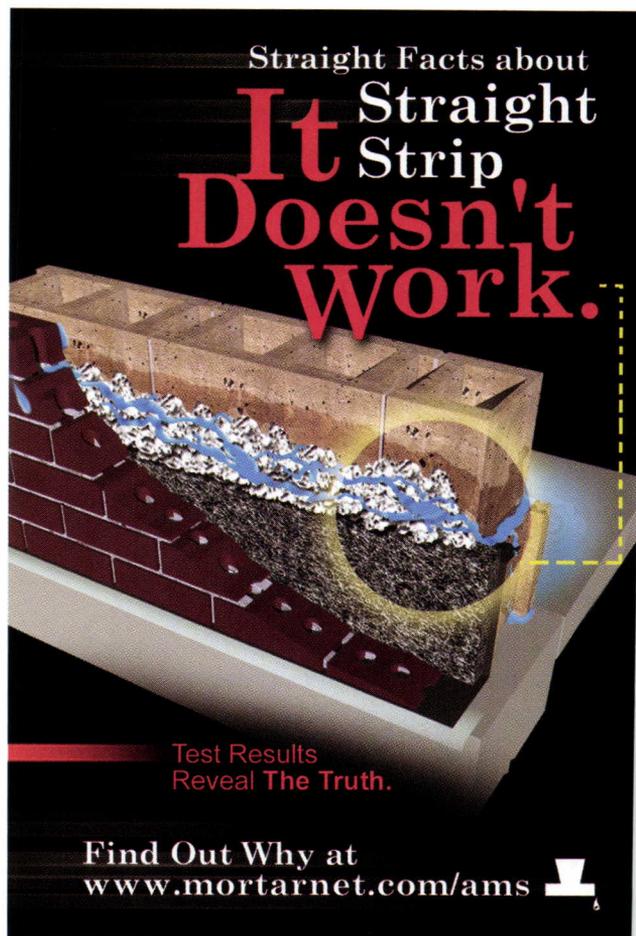
In the long run, owner's reps that act fairly and recognize the value of the expert viewpoints held by architects, engineers, and contractors can offer real benefits to the owner that outweigh the temporary payback of decisions that always favor the owner. The reactive rep is inclined to always take the owner's side, right or wrong. Most project owners are smart enough to see that long-term value is what they need, not short-term apparent gains. The best owner's reps proactively look out for the owner's best interests far beyond the design and construction work on their latest project.

**RNL Design principal Richard T. Anderson has managed and directed many of his firm's design-build and negotiated CM/GC projects, such as Colorado's Ocean Journey Aquarium and the Wellington E. Webb Municipal Office Building, both in Denver.**



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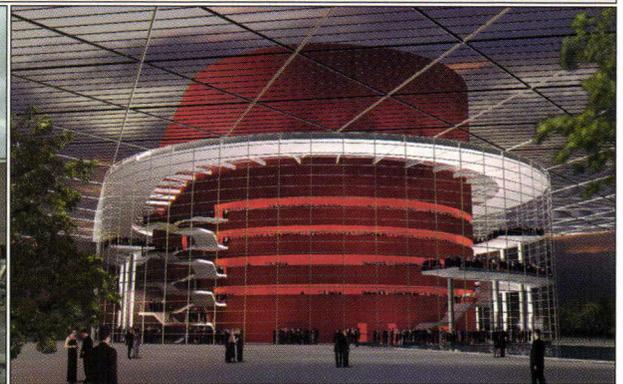
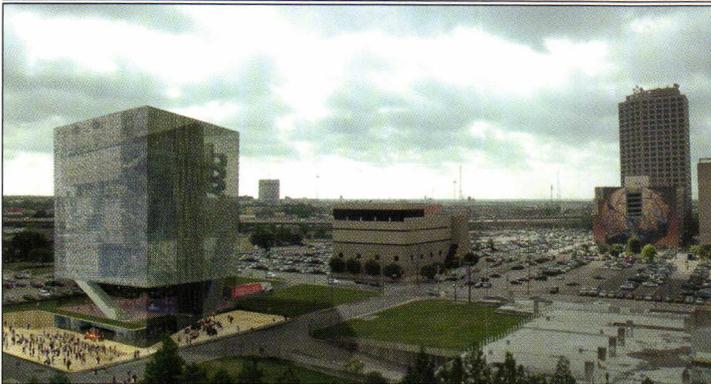
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→ FOSTER AND PARTNERS AND OFFICE FOR METROPOLITAN ARCHITECTURE | THE DALLAS CENTER FOR THE PERFORMING ARTS | DALLAS

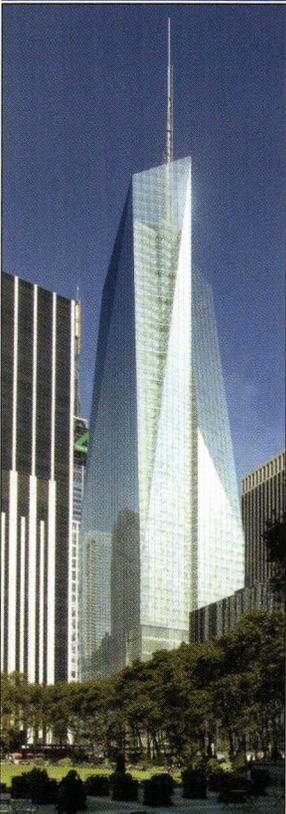
While it joins prestigious neighbors like the Dallas Museum of Art designed by Edward Larabee Barnes, Allied Works's proposed renovation of the Booker T. Washington high school for the arts, and Renzo Piano's Nasher Sculpture Center [December 2003, page 85], the new Dallas Center for the Performing Arts will no doubt raise the bar for the city's arts district when it opens in 2009. Designs for two of the center's five buildings have been released, with others to follow by early 2005. The Charles and Dee Wylie Theater, designed by the Office for Metropolitan Architecture (OMA), is an 11-story glass curtain-wall structure with offices, dressing rooms, rehearsal rooms, and public spaces above and below a second-floor performance hall, which has a mechanized stage reconfiguration system. To the northwest, Foster and Partners's 2,200-seat Margot and Bill Winspear Opera House—essentially a giant red-stained drum—is the focal point of the plaza at the heart of the performing arts center. Both firms were chosen after a 2000 design competition. The master plan, a collaborative effort by OMA and Foster and Partners, also includes a symphony hall, a second multiple-use performance hall, an outdoor performance venue as well as the relocation and renovation of the existing Annette Strauss Artist Square. When complete, the \$275 million complex will also feature restaurants, cafés, a bar, and bookstores. **Katie Gerfen**



→ COOK + FOX ARCHITECTS | BANK OF AMERICA TOWER | NEW YORK CITY

At the corner of 42nd Street and Sixth Avenue, just down the street from his Condé Nast Building at 4 Times Square that was much touted for its sustainable design attributes, Robert Fox, formerly of Fox & Fowle, has designed another "green" tower to be complete by 2008. This time, Fox applies his environmental agenda to a 2-million-square-foot, \$1 billion tower for codevelopers Bank of America and The Durst Organization, which also developed Condé Nast. Fox and his new partner Richard Cook, formerly of New York City-based Richard Cook & Associates, are, in fact, seeking the coveted LEED "platinum" rating, which according to the U.S. Green Building Council, would make this the largest LEED-certified structure at any rating level. The 54-story building has a traditional steel and concrete superstructure, but with a double façade of glass and aluminum curtain wall with an interstitial space that functions as a thermal barrier. Other features include a cogeneration plant, a thermal storage system, an "anaerobic digester" that converts food waste into electricity, a gray-water recapturing system, and individual climate controls for employees.

According to Cook, the crystalline tower was inspired by the Crystal Palace exhibition hall that held the city's first world's fair in 1853 at nearby Bryant Park. The building's form—tapering at varied jagged angles as it ascends—was not conceived for such nostalgic reasons, but rather for optimal wind resistance. While all about verticality, at street level the building has a distinct base with horizontal mullions that create a pedestrian-friendly scale. Cook + Fox have redesigned the adjacent Henry Miller Theater (1918) as part of this complex. **Bay Brown**

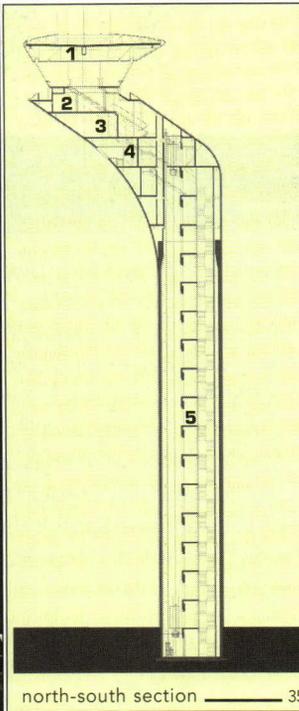
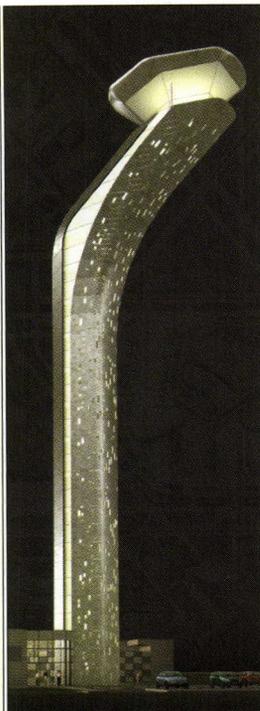


DMJM DESIGN | NORTH AIR TERMINAL TRAFFIC CONTROL TOWER | CHICAGO

The Federal Aviation Administration (FAA) has built hundreds of airport towers since it took over air-traffic control on American soil just before World War II. The feds have rarely treated these prominent structures as architectural showplaces, although 50 of the towers built between 1962 and 1970 were replicated from an I.M. Pei design that became synonymous with the type. Perhaps spurred by the creation of the Transportation Security Administration following September 11, 2001—which effectively took over aviation security—or inspired by the “centennial of flight” marked late last year, the FAA has decided to pay more attention to tower designs.

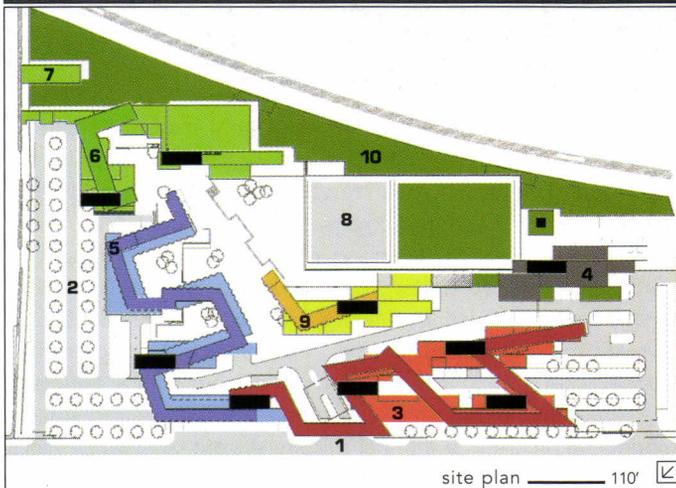
Two new projects by DMJM serve as exemplars. The first opened last year in Dayton, Ohio, to commemorate the Kitty Hawk anniversary; the second is a \$12 million facility for the northern expansion of Chicago’s busy O’Hare International Airport to open in mid-2006. The latter—a stooped figure inspired by freeway light posts, says lead designer José Palacios—is no exercise in whimsy: it is highly efficient in its use of space, and it maximizes occupant visibility. The bend in the unusual form occurs at the “junction floor,” where controllers’ break rooms and restrooms are located, creating larger floor plates without much widening of the overall volume.

As with most such towers, the structure includes a concrete shaft to damp wind loads and a steel-framed crown. A panelized ceramic-metal composite clads the form, opening at glazed “zippers” that admit daylight into both sides. At the top, the controller’s cab is wrapped in 1.5-inch-thick laminated low-iron glass, tilted 30 degrees to minimize reflection. An air curtain inside prevents condensation from forming on the interior surface; outside, a catwalk allows for frequent cleaning. **C.C. Sullivan**



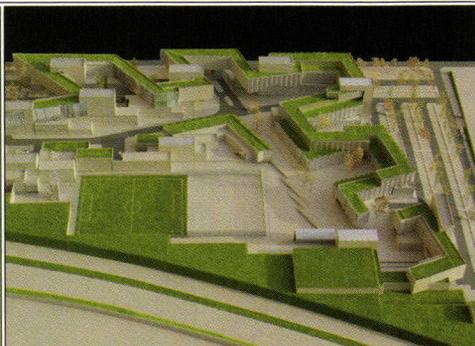
north-south section 35'

- 1 cab
- 2 mechanical systems
- 3 access (computers/electronics)
- 4 junction (restrooms/break rooms)
- 5 circulation shaft



site plan 110'

- 1 main entrance
- 2 parking
- 3 office space
- 4 services
- 5 dormitories
- 6 training school
- 7 sports facilities
- 8 sports fields
- 9 catering
- 10 dike



ZVI HECKER ARCHITEKT | ROYAL DUTCH MILITARY POLICE COMPLEX | AMSTERDAM

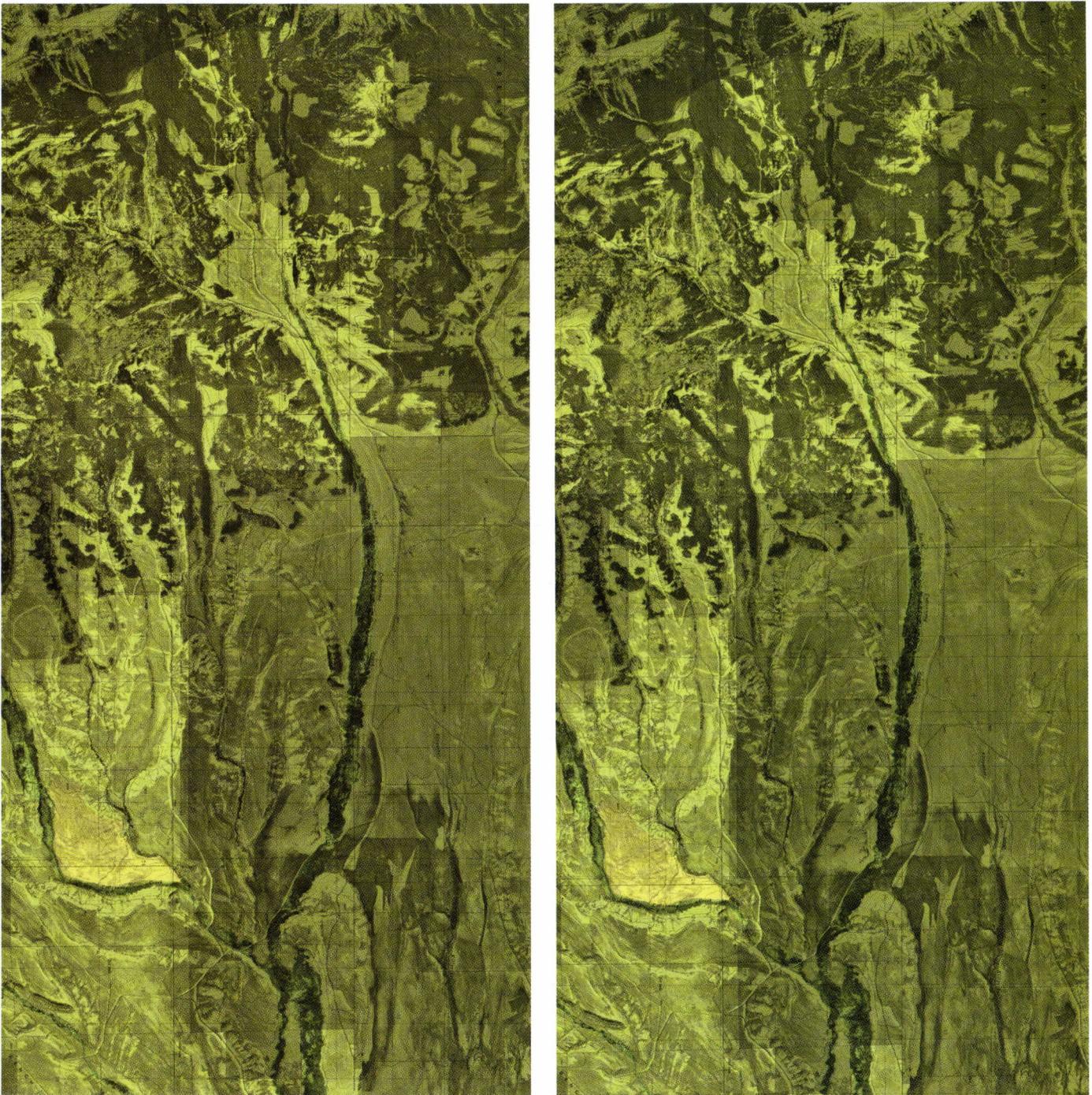
Kmar, the Royal Dutch Military Police force, is responsible for security at the country’s airports and in its harbors. The decision to build the unit’s new 430,000-square-foot headquarters at Schiphol, Amsterdam’s main international airport, was made prior to the events of September 11, 2001. It was, of course, a prescient strategy. Set to open in two years’ time, the design by Zvi Hecker, who has offices in the city as well as in Berlin and Tel Aviv, calls for a zigzag arrangement of contiguous bar buildings that enclose large, cloistered yards. The low-rise structures—with concrete bases, aluminum-and-glass-clad upper floors, and roofs covered in recycled, crushed green glass—baffle noise from both the airport and an adjacent highway while providing a secure perimeter for the 1,500 people who live, work, and train on the campus. A 20-foot-high dike along the highway is an additional line of defense against potential attacks on the dormitories and training facilities. A freestanding dining hall overlooking the sports fields anchors the inward-looking compound, while variety in scale, form, and texture mitigates its fortresslike quality. **Abby Bussel**

## LAND FALL

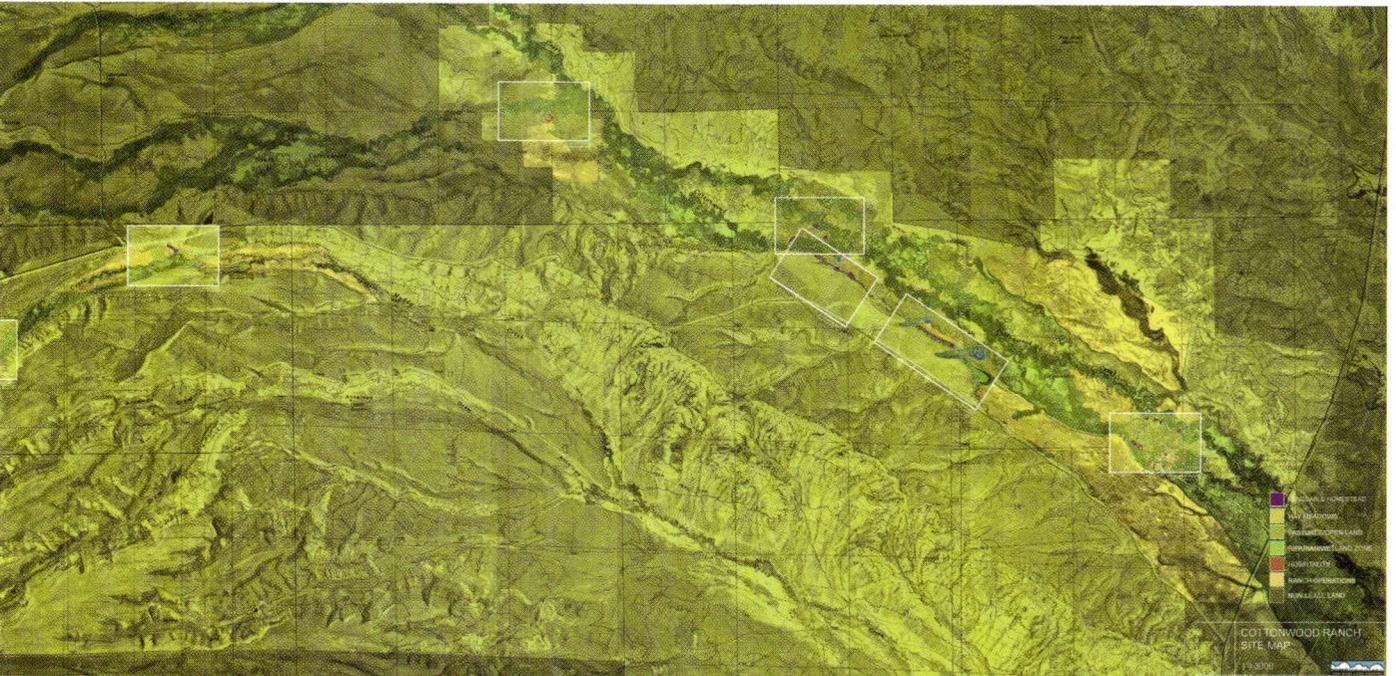
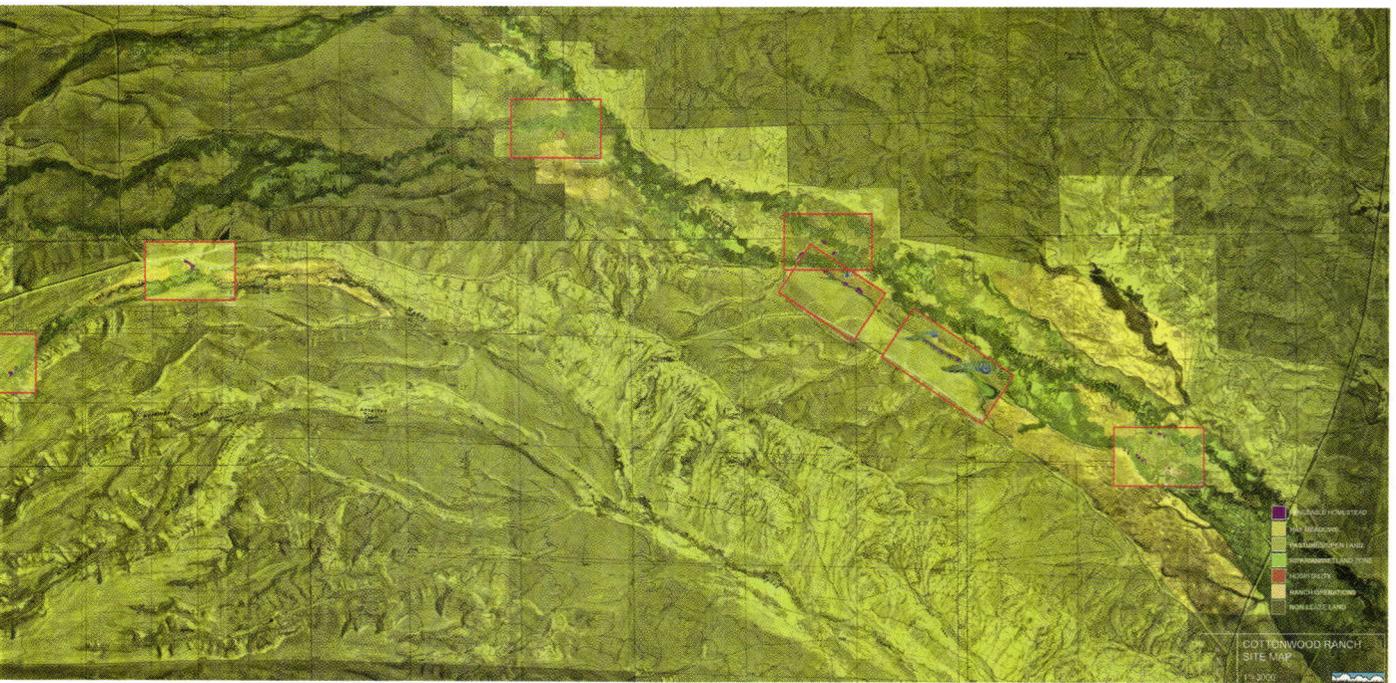
It's no secret that the United States is fast losing open and agricultural lands to development and industry. An investigative report on the mining industry and public lands produced by the Environmental Working Group, a watchdog organization in Washington, D.C., includes the following statement: "An estimated 216 million acres of federal land are open for mining under the Mining Law of 1872, or about one out of every 11 acres of land in the entire U.S." In the East, the Massachusetts Audubon Society released a report last year called "Losing Ground: At What Cost?" The study claims that the state lost 40 acres per day to new development between 1985 and 1999. "Thirty-one acres of forest, seven acres of agricultural land, and two acres of open space were developed each day during the period. Nearly nine of every 10 acres lost went to residential development, with 65 percent used for low-density, large-lot construction," reads the report.

Concerned citizens distressed by the unmistakable roar of bulldozers—and the long-term consequences of unmeasured development—are fighting back, including one strong-willed architect named Clark Stevens, a principal of Los Angeles-based RoTo Architects, a founding advisory-board member of Montana Audubon, and the man behind the New West Land Company in Bozeman, Montana. The mission of his unusual firm is to promote a new conservation methodology "that uses place-appropriate development to fund critical conservation purchases and restoration projects to integrate the human and biological communities." His pragmatic approach to conservation development suggests a paradigm shift in land use patterns: a wise compromise. ■





CONSERVATION DEVELOPMENT IS NOT AN OXYMORON  
A WEST COAST ARCHITECT PIONEERS SUSTAINABLE PLANNING IN BIG SKY COUNTRY. BY C.C. SULLIVAN



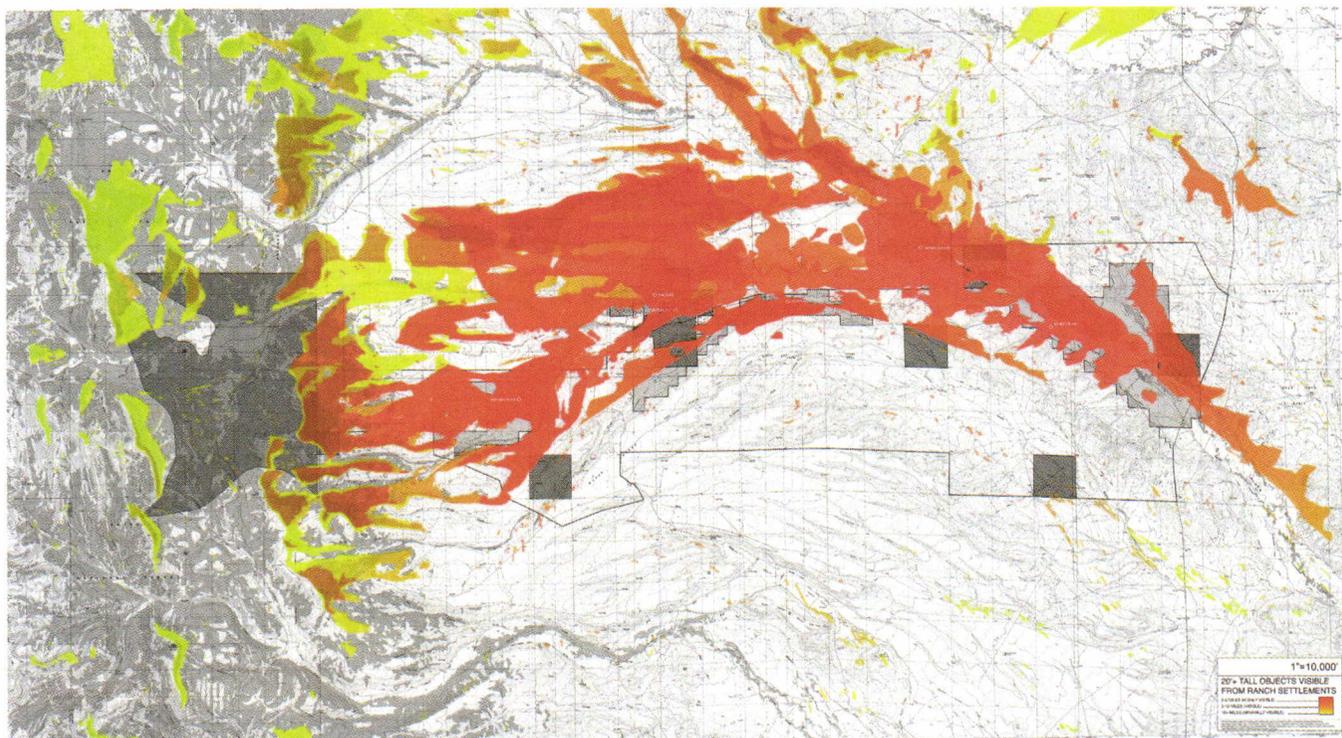
Reacting to pressures for oil and gas development, the client for Cottonwood Ranches—a 100-square-mile holding in the Green River Valley near Jackson, Wyoming—sought to establish the value of his surface rights in order to protect them from devaluation by random exploration and extraction by the holder of the mineral rights. The solution “repopulates” original homestead sites (indicated in outlined areas) with restored and new dwellings. The plan also identifies possible drilling sites that minimize aesthetic and ecological impact.

*Clark Stevens is intent on changing the world, one big swath of it at a time. An architect and planner, he’s president of New West Land Company (NWLC), a Livingston, Montana–based outgrowth of his work as principal of RoTo Architects, Los Angeles. His innovative practice envisages new forms of land use and ownership for landscapes and habitations of places as large as 100 square miles, mainly in the western United States. Describing his work as “conservation development” and “stewardship consulting,” Stevens is pioneering an approach that combines real estate speculation with ecological and cul-*

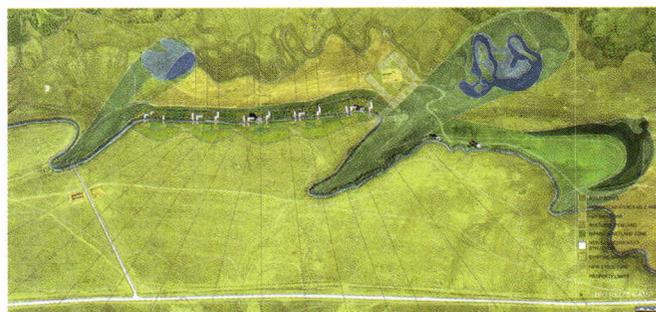
*tural preservation of the land, whether rural, agricultural, or natural. And while most of his projects have yet to be realized, he has crafted a novel approach that earns plaudits from various camps, including developers, ranchers, Native Americans, and environmentalists.*

#### **How did you get started in this unusual work?**

It’s an outgrowth of our work with Native American communities. In 2000, I founded this second firm specifically to address the growth of rural places and the fragmentation of



At working sessions, the architect and client pore over 16-foot-long drawings of the 25-mile-long Cottonwood Ranch property. The “viewshed” analysis (above) helps determine suitable locations for buildings and oil exploration that preserve scenic views. Architectural elements comprise a dense headquarters combining hospitality, residential, and ranch-operations buildings (below right) and new and existing structures for settlement camps (below left).



habitats and communities that results. Initially, I imagined that the company would be about how not to build, but I’ve had to move up the land-use decision-making chain and use development to finance traditional conservation purchases and to reintegrate humans with the land. Just becoming a NIMBY preservationist might have been easier on the ego, but it wouldn’t stem the tide of loss in habitat and human spirit. Our mission is to design strategies that prevent the degradation and promote the enhancement of storied land.

#### What do you mean by “storied land”?

Land that’s ecologically and culturally significant to the communities of humans, animals, and plants that it sustains. That sustenance is spiritual as well as physical and economic. In places like the greater Yellowstone ecosystem of Montana and Wyoming, an indigenous understanding of place still exists—not in the blood or racial sense of indigenous, but rather in the sense of engagement and intimacy with place.

#### Why did you structure this as a separate company?

It had to be a for-profit, independent practice and research

arm, because our architectural portfolio was only marginally suited to convincing a rancher that we had something to offer. Often our client wants to do something that hasn’t been done before, so it can’t be about, “How many urban-springs restorations have you done?” It’s kind of a build-it-and-they-will-come thing. And there is a very significant market for this.

#### What’s your practice model?

It’s basically a fee-for-services approach, and there’s a process template with markers along the way. While the purely utilitarian model of evaluating land-use choices is limited and inappropriate, our approach seeks returns that are financially competitive with status quo development, to attract the average rural developer or landowner. The process is initiated by a guardian morality, but it’s guided to completion by a commercial ethic.

In *Systems of Survival*, Jane Jacobs points out the dangers of this combination—the “monstrous hybrids” that can result—and that’s one reason I haven’t taken an equity position in a project. Once your fee depends entirely on a speculative venture with a long lead time, there’s a temptation to

## CONSULTING FOR RURAL CONSERVATION—AND GROWTH

Inspired by the area's rugged beauty—and later, perhaps, by the 1992 movie *A River Runs Through It*—the recreational land boom that began around Jackson, Wyoming, in the early 1980s has blossomed into a speculative real estate frenzy that persists today. Coupled with new pressures from agricultural and mining interests, the wide-scale sprawl of resorts and gated communities has encroached severely on the very natural attractions that spurred interest in Montana and Wyoming in the first place, prompting a national debate.

One side-effect of the Big Sky boom has been the birth of a novel approach to economic growth and land-use planning that focuses on environmental and conservation protections. To serve such emerging niches, an entirely new consultant class has materialized as well, and many architects and developers find themselves in alliance (and sometimes sharing fees) with a host of experts, including:

▣ **Conservation developers.** These self-described entrepreneurs include nationally regarded New Urbanists and local firms alike. Their opportunities are large in scale and long in timeframe: up to five years, versus the customary (and financing-friendly) one-to-two-year development windows.

▣ **Land-use scientists.** Working in arcane fields that mix science and conservation, these consultants bring knowledge of the living earth to project plans. Key specialties include fluvial hydrology, resource ecology, and range biology, as well as wetlands restoration, as with Bozeman, Montana's Cindy Hoschouer.

▣ **Sustainable real estate brokers.** Dedicated to promoting (and earning commissions on) low-environmental-impact communities, these dealmakers spur the demand side of the economic equation. Many of them, such as Helena, Montana-based American Conservation Real Estate, work with land trusts and conservation easements, tax incentives introduced in the 1970s.

▣ **Rural market researchers.** With longer timelines, broader horizons, and less-studied variables, conservation development calls for an unusual type of market research. Pario Research of Cardiff, California, for example, is known for this kind of analytical work.

Not surprisingly, specialized legal advice is also a crucial part of this growing building segment. With ever-changing environmental regulations and a complex history of land ownership starting with the 1862 *Homestead Act*—and, later, Theodore Roosevelt's separation of surface development rights from subsurface mineral rights—the Western states present a dense web of laws enlacing both environmental and real estate activities. **C.C. Sullivan**

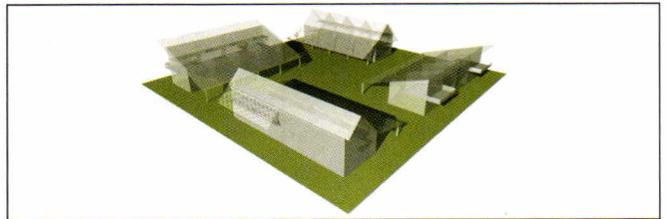
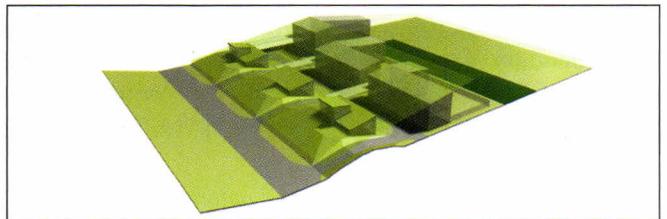
make it happen whether or not it passes Aldo Leopold's litmus test for conservation. But I might speculate with capital as well as with ideas in the future.

### How did Leopold describe conservation?

I use one of his many definitions: "When land does well for its owner, and the owner does well by his land; when both end up better by reason of their partnership, we have conservation. When one or the other grows poorer, we do not." To my mind, that suggests that the land—and its owner—must be left in a better condition than you found them.

### Can you give an example of how this works in practice?

One of the characteristics of conservation development that distinguishes it from its conventional counterpart is that you do your "landscaping" first. In a recreational landscape, beauty is everything. Having more willows painting the meandering 10-mile view of your creek bottoms equals



Clark Stevens hopes that high-density and communal living concepts developed for the ranch projects will help alleviate sprawl on ecologically fragile land. The profiles of berm dwellings within a wetlands and grassland preserve, for example, echo its topography (top).

greater value for the people who are buying the right to see and enjoy them.

The first stage of Cottonwood Ranches in Daniel, Wyoming [pages 36-38], for instance, has nothing to do with construction. It's two years of stabilizing the ranch operation by transforming from the romantic but financially unsustainable cow-calf approach to a yearling operation, which requires less winter feeding, therefore less hay—and therefore less irrigation. This allows more in-stream flows, making the streams more drought tolerant and, along with the less-grazed banks, lowering water temperatures, decreasing sedimentation, and increasing scour of the spawning beds. This provides food and building material for the beavers that co-evolved with cutthroat trout by creating deep, shaded pools that are ice-proof. All of this nurtures valuable trout breeding along with upland bird and ungulate game species hidden by the color-changing riparian willow and upland sage complex.

Still, the term "conservation development" sounds like an oxymoron. It's a tough notion to swallow; any time develop-



In addition to its large-scale projects through New West Land Company, sister company RoTo Architects serves as community liaison and architectural consultant to several wetlands-restoration projects, including Sacred Springs in Los Angeles. Next to the Kuruvungva spring, as it is called, an existing classroom building is adapted to include offices, a cultural center, and a museum.

ment is proposed for agricultural or natural land, there are objections. But growth dynamics and real estate pressures can be tracked. And by doing research, learning the intentions of local infrastructure planners, and studying estate planning by large landowners, we can certainly predict what land is likely to be developed and over what time frame. And once you imagine the inevitable results—and describe them to the community—then development that funds cultural and ecological preservation starts to make sense.

But it's not enough to say, "Here's what the zoning allows, and here's our nifty plan with more open space." That's a common subterfuge that doesn't wash on closer inspection. All the land we've worked on has been threatened by immediate legal fragmentation and sale if we couldn't find an economically viable alternative, generally because the owners couldn't afford to maintain it as open space, due to death, illness, or forced buy-out of a partner that required others to raise cash.

In the 1980s, Lane Coulston showed me that "conservation real estate" didn't have to be an oxymoron. His company, American Conservation Real Estate, was the first to creatively unbundle the collection of rights that come with deeded sales, so that agricultural ownership and land-management practices could remain intact even as newcomers built second homes and bought access rights to more land than they could hope to understand in their lifetimes.

#### **Do you join forces with environmental groups?**

I'm currently collaborating with nonprofit conservationists, but in general they're not dealing effectively with habitat connectivity or the long-term sustainability of rural economies, although most acknowledge that the two are inextricably linked. Recent attempts by well-known organizations to use

development as a tool for conservation were met with largely undeserved negative coverage in the press. But they're beginning to learn that by ignoring rural economies when making purchases intended to preserve diversity, they're creating what The Nature Conservancy has called "islands of extinction": You buy a critical habitat patch only to see status-quo rural land-use practices devour its connectivity and compromise its resiliency.

The nonprofit's role could be to set up the relationships with the landowners, design the 3-D criteria and "performance specs," set a development timetable, and solicit proposals from qualified development teams. In addition to obtaining open-space preservation and restoration as a cost of the development, the nonprofit could build in an appropriate pre-development fee in the pro forma to offset their time and risk.

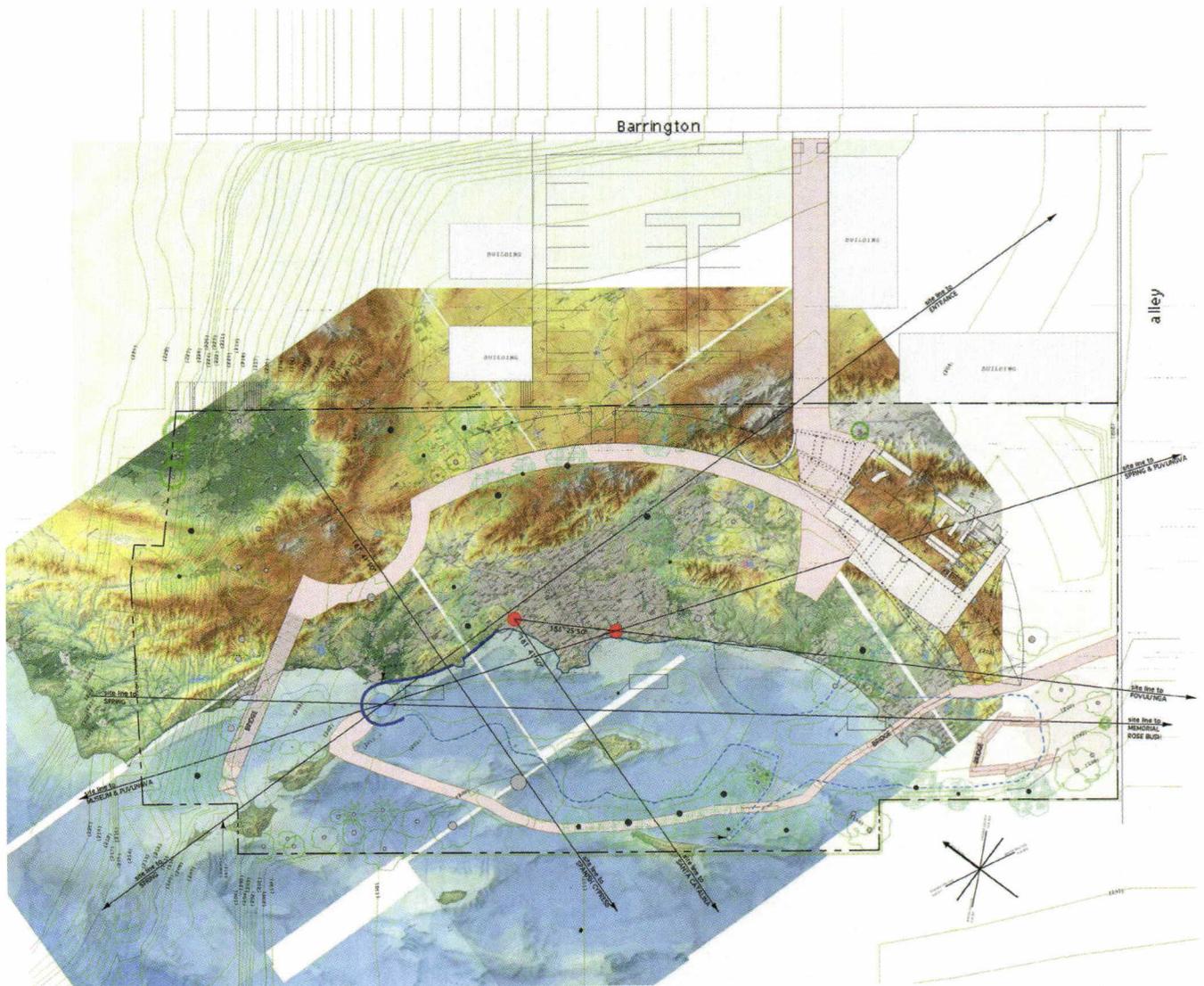
#### **And what about competitors? Do you have any enemies?**

Our enemies remain the marketers and developers who have the audacity to name their developments after places or cultures they've recently obliterated, such as Broken Arrow Ranch, Bella Vista, and Pleasant Valley Farms. The next wave of this ilk are those who greenwash the same old product and adopt the moniker "conservation development" for its public-relations value. Dishonest appropriation of the term will jade public agencies and buyers.

Another big challenge is that, if you use development as an instrument of conservation, first of all somebody's got to request your involvement, and then investment capital has to be brought in. And you have to be in early—you're working on a five-year business plan, not a one-to-two-year plan.

#### **What are you working on now?**

Corner Table [pages 42-43], in Billings, Montana, is most promising: 200 acres of development of an integrated and



The site plan for Sacred Springs features an enlarged pond, indigenous plantings, and “a walking journey across this storied landscape,” says architect Clark Stevens, to be used by native Gabrieleno and Tongva people for ceremonial and educational purposes. The artesian spring flows at 22 gallons per minute near the intersection of Santa Monica Boulevard and Interstate 405.

diverse human/natural habitat funds the purchase of over 2,000 acres; the idea is to create a distinct, beautiful urban-growth boundary in the form of an arcing, cottonwood-lined railroad grade and trestle. The work will prevent the development of 6,000 acres of agricultural and natural land—that’s more than 8,000 acres preserved and enhanced in what would otherwise be an inevitable sprawl region. Another example is Cottonwood Ranches, where my client is shifting from traditional cattle grazing to niche agriculture supported by recreational uses and ownerships. The plan integrates working ranch families with concentrations of mixed-scale dwellings and hospitality functions, such as shared guest quarters and a collective dining table, as at traditional camps.

If one could sustain only a few ranches as large as Cottonwood, at 100 square miles, the impact on the landscape could be enormous. So many ranch developments are basically golf-course communities where the links have been replaced by trout streams, and pretend cowboys operate the hooved fairway-groomers.

#### Is NWLC the only firm doing this kind of work?

At least one large planning and landscape-architecture firm is considering entering the market, and our work has influenced such regional practitioners as Erik Nelson of ThinkTank Design in Bozeman, Montana. And I think that Jackson Meadow, in Marine on St. Croix, Minnesota, is a great site plan and a nice attempt at codifying a vernacular without getting an inauthentic outcome. And the Bauhaus of riparian restoration was the Ruby River project at Snowcrest Ranch in Madison County, Montana, in the late 1980s.

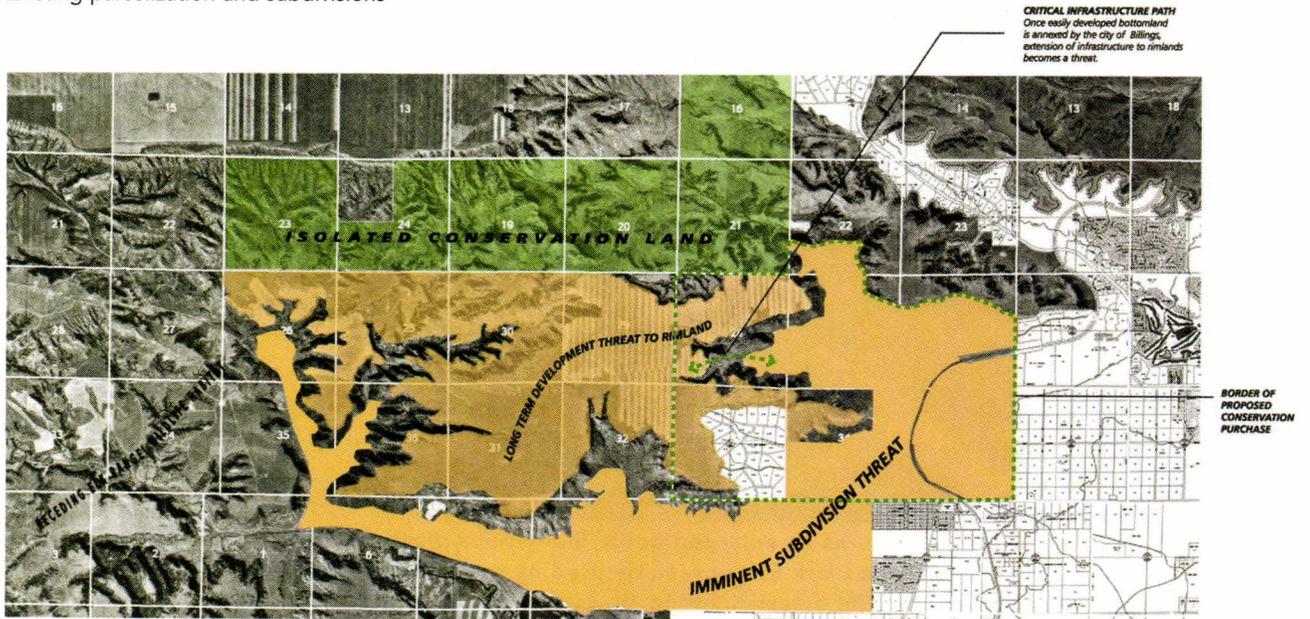
#### Who are your clients?

They all share an interest in the ecological and social health of the land they steward, as well as a deep dissatisfaction with monocultures of any kind—ecological, agricultural, social, or of thought. All have been natural teachers and eager learners. And all of them have a deep respect for private choice on private land, tempered by a healthy disdain for those who ignore their public-serving responsibilities to that land or community.

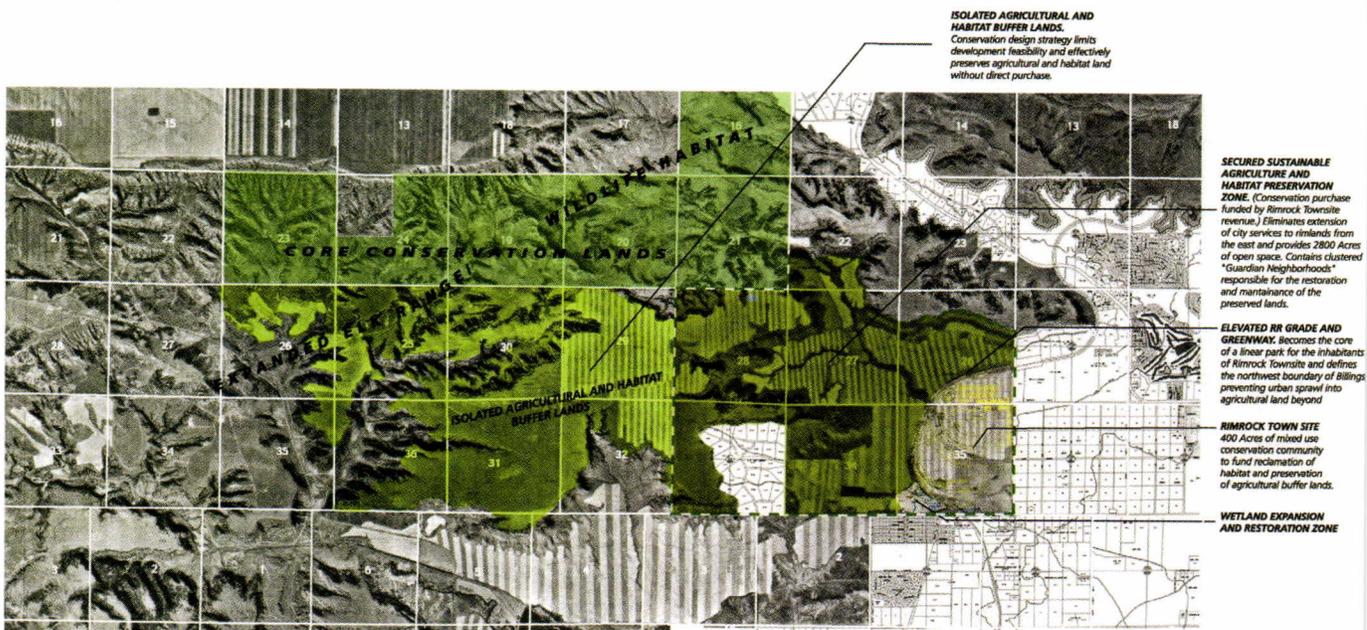
more information at  
[www.architecturemag.com](http://www.architecturemag.com)



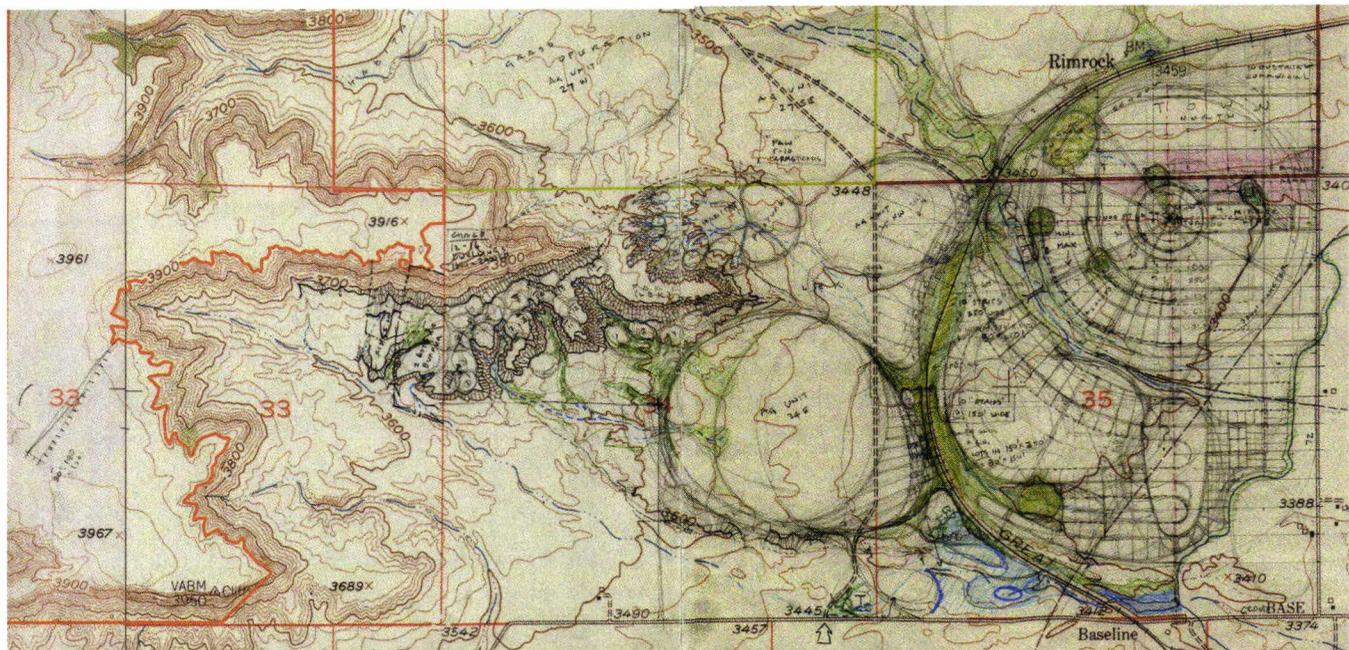
Existing parcelization and subdivisions



Probable sprawl scenario



Conservation-development proposal



For a 4-square-mile site at the tablelands west of Billings, Montana, the architect partnered with the landowner to form Corner Table and proposed clustered horse properties that are maintained in common ownership. An existing elevated railroad track divides the property's public open space and preserve lands from a proposed high-density, mixed-use community. Three studies (opposite, top to bottom) compare the existing subdivision map, a probable sprawl scenario, and the conservation-development proposal. Elaborated upon with other studies and maps (above), the Corner Table project will eventually protect some 8,000 acres by profitably and sustainably developing only 300.

### Cottonwood Ranches, Daniel, Wyoming

**project type:** ranch-management plan including strategic conservation development on working cattle ranch with conference and "camp" hospitality facilities and residential development at restored homestead sites **client:** Botur Enterprise **architect and planner:** New West Land Company, Livingston, Montana, and Topanga, California—Clark Stevens (president) **consultants:** RoTo Architects, Los Angeles—Devin McConkey, John Osborne (architecture and planning); Earth Systems—Scott Gillilan, Martha Kaufmann (hydrology); EQA Landmark Communities—Brett Malky (market research and pro forma) **area:** 100 square miles (12,000 acres deeded)

### Sacred Springs, Los Angeles, California

**project type:** relocation and adaptive reuse of 1970s-era temporary classroom facility as a cultural center and classroom, with restoration of spring and spring pool as teaching landscape and for on-site water reclamation and irrigation **client:** University High School, Los Angeles—Elois McGhee, principal; Sacred Springs Task Force **architect and conservation planner:** RoTo Architects, Los Angeles—Michael Rotondi, Clark Stevens (principals); Bo Sundius, Javier Del Risco, Rodrigo Carazo, Jack Nyman (project team) **hydrology consultant:** Tetrattech **area:** 1 acre

### Corner Table, Billings, Montana

**project type:** strategic conservation development for new mixed-use community **client:** Larry and Ankie McEvoy **architect and planner:** New West Land Company, Livingston, Montana, and Topanga, California—Clark Stevens (president) **consultants:** RoTo Architects, Los Angeles—John Osborne, Marianna Athanadiasou, Fabian Villamichel (architecture and planning); American Conservation Real Estate (real estate consulting and marketing); EQA Landmark Communities (market research and pro forma) **development area:** 200 acres wetlands/agricultural **restoration area:** 1,980 acres **protected area:** 10,000 acres



# The Greenhouse and the Chimney

In Stuttgart, an office building for a manufacturer of laser-guided incising machines gets an energy-efficient double façade. by Aaron Betshy



**When you close an office building window** in Germany (yes, they are, by law, operable), it tends to make the same satisfying, muffled “thunk” you hear when you close the door of one of that country’s more expensive automobiles. This is the result not just of some innate national sensibility, but it is also due to rigid building practices and environmental laws that make it very costly to construct a building here, while guaranteeing a high quality of construction, comfort, and care for occupants. It means that you will not see many thin-skinned, sculpturally expressive buildings in Germany. What you get is good design by engineering. This is certainly the case with the new Trumpf Customer and Administration Building outside Stuttgart, designed by Barkow Leibinger Architects.

Trumpf is a leading global manufacturer of laser-guided precision cutting machines. Its new building is located near facilities for Mercedes-Benz, Porsche, and Bosch auto parts, which means it is close to many of its customers, but that proximity also presents a problem. “I set out to build a first-class company; for that you need first-class talent, and that is difficult with those companies around,” explains Trumpf chairman Berthold Leibinger, adding that, “One of the top things that attracts good people is a good working environment, and we have found that also makes people work better.” To create such a good workplace, the chairman turned once again to his daughter, Regine Leibinger, and her American-born husband and partner, Frank Barkow, who had previously designed several factory buildings for Trumpf in Stuttgart, as well as one in Connecticut.

#### DISTRIBUTION OF LABOR

The new office building’s main innovation is to divide its 100,000 square feet of office space into split-level trays connected by open stairways. “I believe that personal contact is indispensable, and the elevator is one of the worst barriers for that kind of communication,” Leibinger says. Thus, the work areas are all distinct, but open. Managers do not sit in visually isolated private offices, but rather in glass enclosures that permit privacy while allowing visibility. The stairs between levels serve as places for planned gatherings and chance encounters, while helping to naturally ventilate the building by means of electronically controlled warm-air vents in the ceilings. Because of the slight level changes, employees do not feel as if they are going to another floor when they walk across the angled stairs, but they do feel as if they are part of a particular programmatic territory.

In addition to interior workspace functions, Leibinger needed a building that would advertise his company. The Customer and Administration Building sits next to the country’s famed autobahn and is meant to act as a first introduction to the company for potential customers. The office floors float on a

concrete tray above the free-form ground floor, making the bulk of the building visible from the highway, in contrast to the other low-lying factory and office buildings that populate the Trumpf complex, which are out of sight. The clear-glass-clad edifice hovers like a billboard above a reception and display area, meeting rooms, and a small auditorium.

The site created several challenges for the architects. They had to isolate the building’s users from highway noise while allowing for natural ventilation and those operable windows. Barkow Leibinger solved the problem by developing a double façade designed to achieve either a greenhouse or chimney effect, depending on the season. The single-glazed outer envelope, framed in lacquered steel, serves as the primary climate and sound shield. This skin has operable aluminum louvers at its base and vents at its top. In the summer, these apertures are open, allowing hot air to escape through the façade—the chimney effect. With the vents and louvers closed, a greenhouse effect is created, the inner façade—a double-glazed layer set in a black anodized-aluminum frame with operable windows—being warmer than the outer envelope.

The space between the two skins not only forms a thermal and acoustic barrier, but it is also occupiable, serving as an emergency egress route. Elsewhere in the building, passive cooling with radiant cooling decks and recirculated warm air also help to reduce energy needs.



**A double façade (above) combines emergency egress with a passive climate control system of louvers and vents. Precast concrete panels cover the base and side walls (facing page).**

#### A STRUCTURAL AESTHETIC

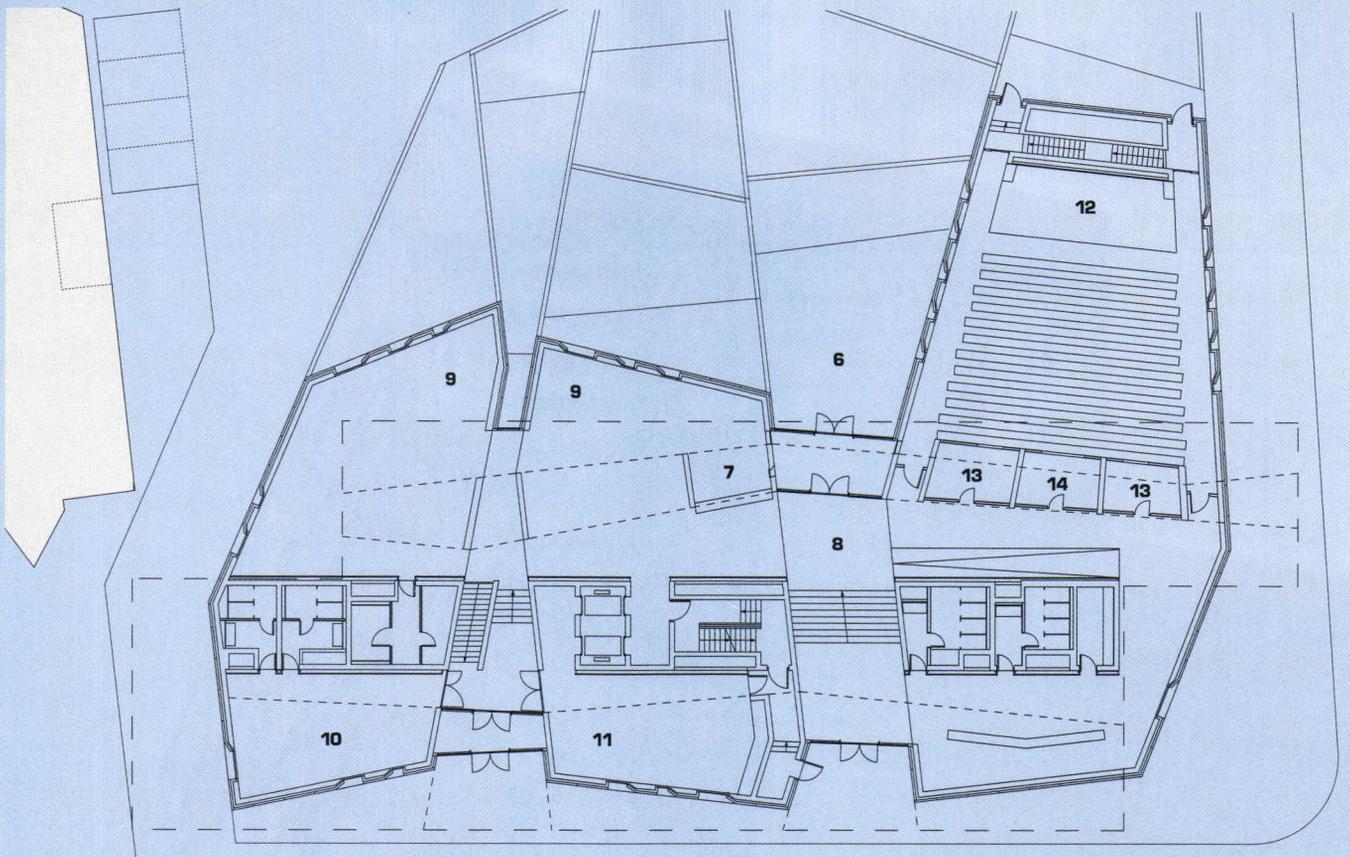
In plan, Barkow Leibinger arranged the lobby into Aaltoesque hexagonal “crystals”—angled, concrete forms that define functional precincts. The architects chose the hexagons “to try, both with the shapes and with their organization, to make sense out of the adjacent 1970s-era polygonal structures in which most of the other offices are located,” as Barkow explains. Stainless-steel rain gutters and ornamental interior walls fabricated with the company’s machinery give

a direct demonstration of what Trumpf does.

The Trumpf engineering ethic also becomes a visible system that lends scale and identity to the building. Barkow and Leibinger work within the twin traditions of a bare-bones, structurally expressive factory architecture and an aesthetic that pays homage to the machines these simple structures house through minimal, sculptural means.

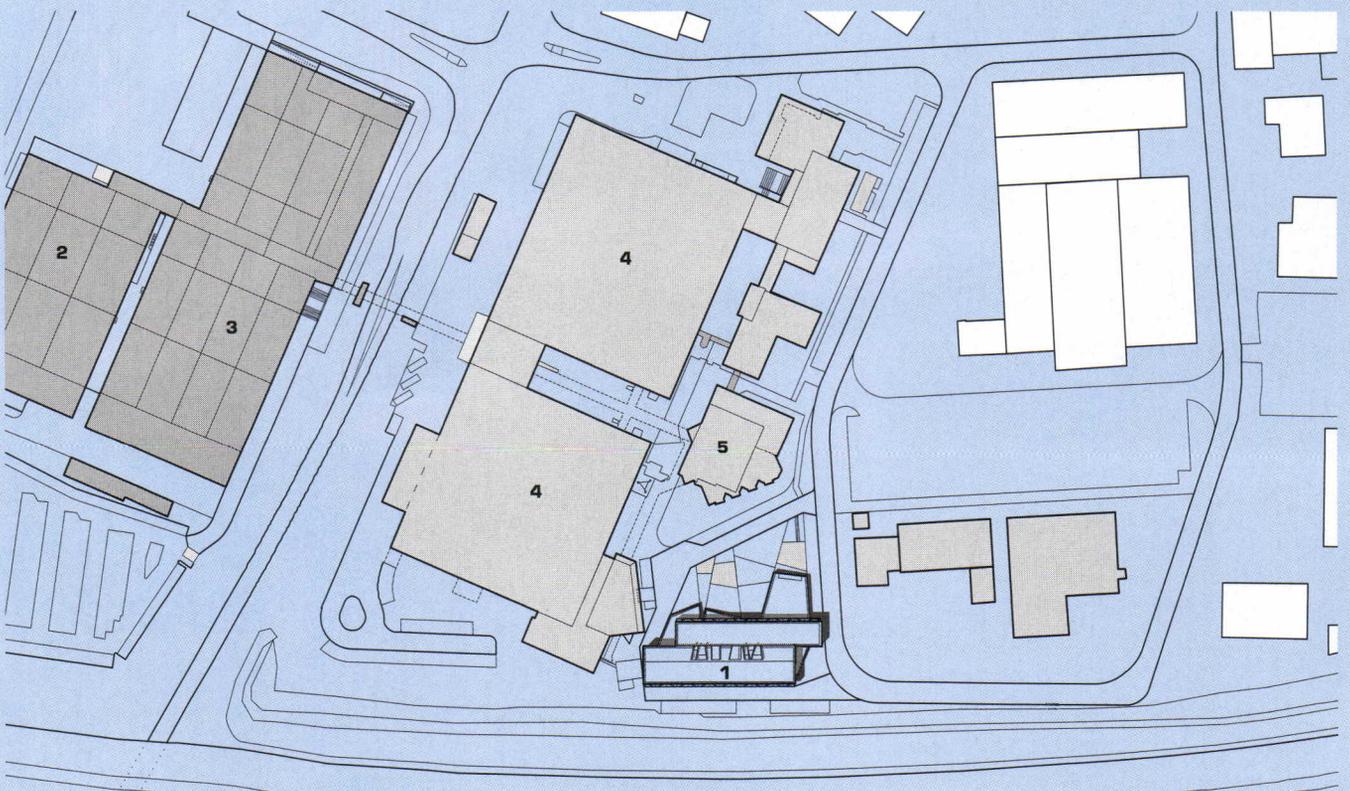
“In everything we have done for Trumpf,” Barkow says, “we have tried to integrate the architecture and the machines. We see each piece of the building as a prototype through which we try out new construction techniques and materials.” In this case, the architect hopes the offset work areas and the innovative façades will open new possibilities for highway-adjacent suburban office buildings everywhere. ■





first-floor plan — 15'

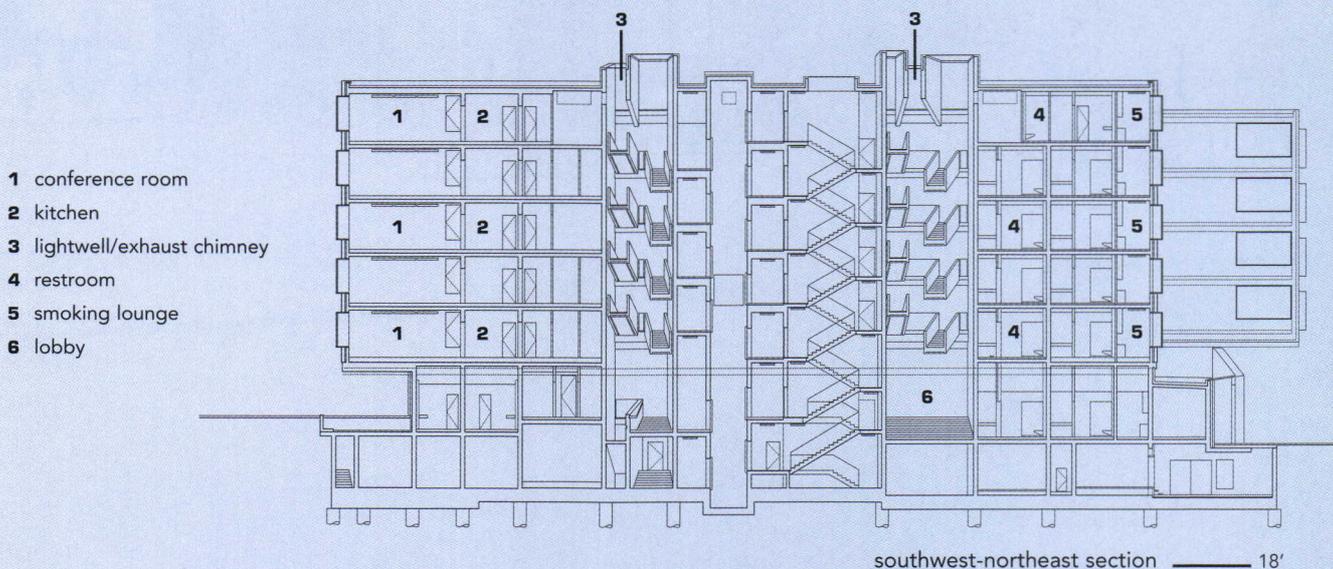
- |  |                    |                        |
|--|--------------------|------------------------|
| 1 customer and administration building | 6 entrance         | 11 employee break room |
| 2 laser machine tool factory           | 7 reception desk   | 12 auditorium          |
| 3 technical systems building           | 8 lobby            | 13 storage             |
| 4 production facilities                | 9 exhibition space | 14 control booth       |
| 5 offices                              | 10 conference room |                        |



site plan — 90' ↑



The architects offset two linear office wings in both plan and section, creating a split-level system of connections between floors. This vertical circulation becomes part of the open-plan workplace. The ramplike staircases have oak treads and handrails of folded stainless-steel plates with integral downlights.



### Trumpf Customer and Administration Building, Ditzingen-Stuttgart, Germany

**client:** Trumpf **architect:** Barkow Leibinger, Berlin—Frank Barkow, Regine Leibinger (partners); Josephine von Hasselbach (project design architect); Martina Bauer (project construction architect); Larissa Böhler, Gian-Marco Jenatsch, Christina Möller, Jason Sandy, Jakob Schemel (project team) **engineers:** Konzett, Bronzini, Gartmann, Boll & Partner (structural); Henne & Walter, Horstmann + Berger, Raible + Partner (M/E/P) **consultants:** Transsolar (energy); R + R Fuchs (façade); Ultron (office systems); Vitra (office systems) **lighting designer:** Studio Dinnebier **construction manager:** Gassmann + Grossmann **area:** 100,000 square feet **cost:** \$22.5 million

Photographs by Margherita Spiluttini and David Franck

**concrete:** Keller Bau **curtain wall:** G + H, Trumpf **anodized aluminum interior façade:** G + H **built-up roofing:** Schwab **glass:** Interpane **metal and fire doors:** Riexinger **wood doors:** Schörghuber **locks and hinges:** Glutz **cabinet hardware:** Schröter **ceiling system:** Metawell, Lindner, G + H **wood panels:** Decoustics **steel panels:** Wilhelmi **demountable partitions:** Intec, Mäder **cabinetry and custom woodwork:** Schröter, Stierle **paints and stains:** Brillux, Caparol **flooring:** Parkett, Wood Paver, Frank + Lindner **carpet:** Armstrong DLW **felt surfacing:** Wilhelmi **laser-cut stainless-steel tubes:** Trumpf **furnishings:** Vitra, Cassina, Comforto **interior ambient lighting:** Selux **downlights:** Spectral, Zumtobel **task lighting:** Tobias Grau **exterior lighting:** Studio Dinnebier **elevators:** Thyssen **plumbing fixtures:** Dornbracht, Hansa

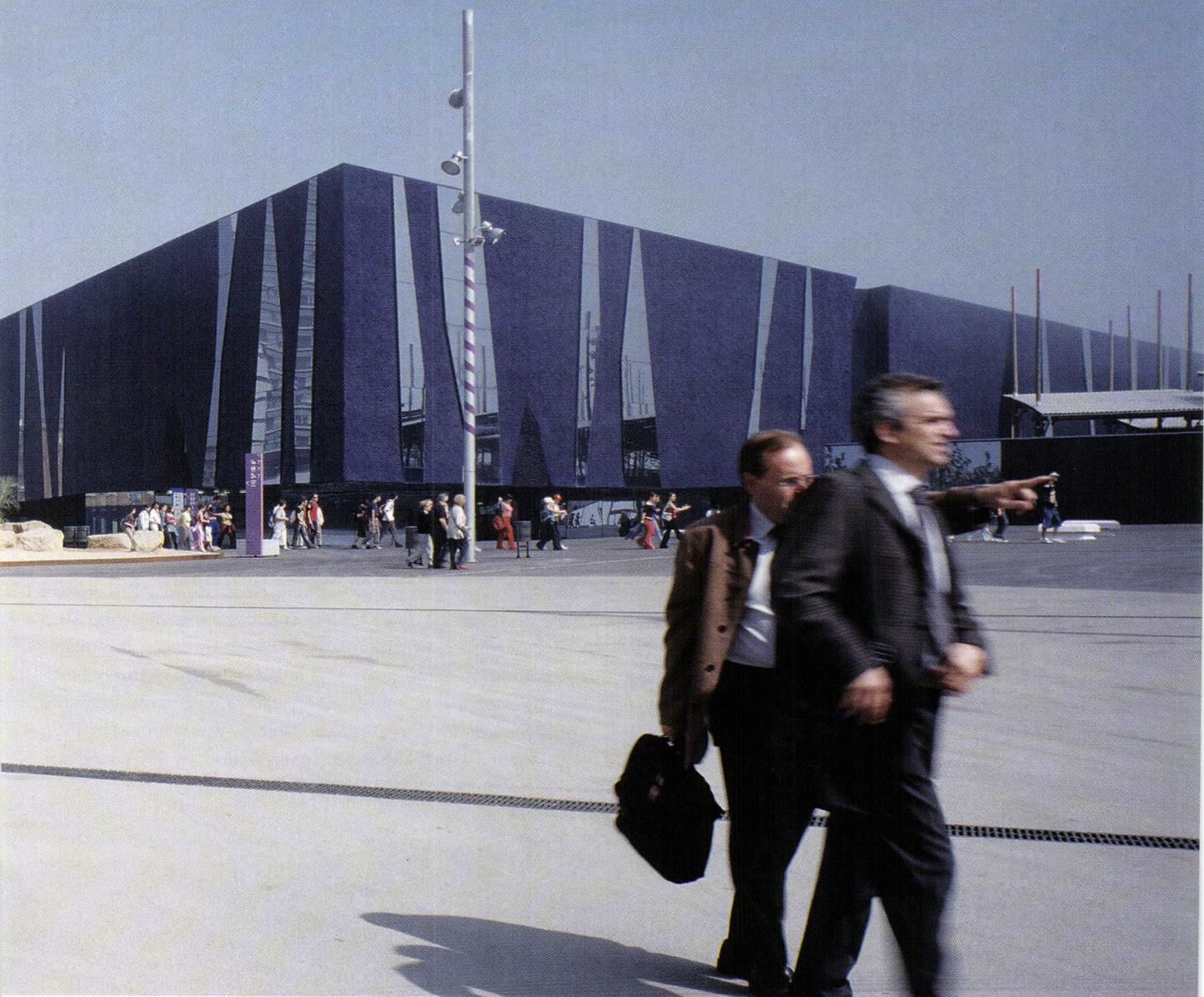


## მუდმივობის მიცე

Barcelona hosts an international forum, reclaiming its waterfront—and conserving natural resources—in the process. BY ANDRÉS FERNÁNDEZ RUBIO | PHOTOGRAPHS BY BLEDA Y ROSA

Below the massive public plaza at the heart of the 2004 Universal Forum of Cultures is a renovated and enlarged waste-treatment plant that will recycle up to two-thirds of Barcelona's sewage when the facility becomes fully operational in 2006. As

it did a dozen years ago with the Olympic Games, the city has remade a stretch of dilapidated industrial waterfront through an international event. The forum—a UNESCO-sanctioned program of conferences, exhibitions, performances, and other



Many of the forum's conferences and seminars are held in the 3,200-seat auditorium in Herzog & de Meuron's blue, concrete-clad building (above), a near equilateral triangle of epic proportions.

events on issues of sustainability, diversity, and peace—opened May 9 and runs through September 26. And, yes, the new navel of the city is a cesspool.

The old treatment plant—now covered by the forum plaza—has the capacity to recycle up to 18.5 million cubic feet of waste per day, and it also has a vault for rainwater under Taulat Street, where an ecologically sensitive new tram deposits many of the forum's estimated 5 million visitors. They will stroll through the open-air space beneath the

forum's main venue, Herzog & de Meuron's elevated, triangle-shaped building, and across a huge plaza that also shelters part of the subterranean plant. Some 1,200 columns support the flagstone pavers of this new public space. It is too big a square if contemplated under conventional urban-planning criteria, but the plaza is, of course, more than it seems, and that is why its sheer size can be regarded as a metaphor for the boldness of what's come to be known as the "Barcelona Model": recuperation of a run-down area



Sitting on a rise near architect Beth Galí's artificial beachfront area and concrete-block breakwater (above) is Auditorium Park, Foreign Office Architect's public space with two outdoor performance areas and seating for 12,000 (below).

through the pragmatic use of architectural and cultural resources (see "The Barcelona Model," page 21).

#### **THIS YEAR'S MODEL**

Once again, Barcelonans have managed to reinvent their city. The forum, which is sited where Diagonal Boulevard meets the sea, is only the latest effort in a long history of large-scale reinvention and expansion: First came L' Eixample—a massive network of regular blocks with cham-

fered corners (for fluid traffic flow) planned by Ildefons Cerdà in 1859 that extended the city limits and aimed to increase access to light and air for working-class citizens. The world's fairs of 1888 and 1929 further enhanced the cityscape. The 1992 Olympics, which remade a stretch of decrepit industrial waterfront, came next. This latest initiative—largely funded by the private sector along with investments from the government and the European Union—was planned in 1996 by Mayor Pasqual Maragall, coordinated by his successor,





Adjacent to Galí's beachfront is the 113,000-square-foot solar collector (above and below) designed by Elías Torres and José Antonio Martínez Lapeña. Facing south at a 35-degree angle, its 3,700 photovoltaic cells can generate 1.3 megawatts of power.

Joan Clos, and realized by José Antonio Acebillo Marin, Barcelona's chief architect.

Along with the vibrant blue volume by Herzog & de Meuron, the venues that will become a permanent part of the city when the forum ends include a sober convention hall by Josep Lluís Mateo that can hold up to 15,000 people; an exhibition and shopping area surrounding a new marina; a public swimming area by Beth Galí, with an island of big, brutally poetic concrete blocks that doubles as a breakwater

and a spot for sunbathers; and a waterfront park, a subtle space traced by Foreign Office Architects onto a buttress of the sewage plant—its half-moon-shaped pavers cover paths and tiers, looking like an eco-Flintstones landscape.

#### **BUILDING PLACES**

But the heart of the forum occupies only about 125 of the 530 acres that have been recuperated by the city along the water's edge. Other new facilities in the area include office





A 20-foot-wide, 463-foot-long steel bridge (above) by Ernst Ferrè and Mamen Domingo spans the new Sant Adria Marina, linking the forum plaza to the North Eastern Park by Ábalos & Herreros, who also renovated an incinerator plant (below and facing page bottom) on the same site.

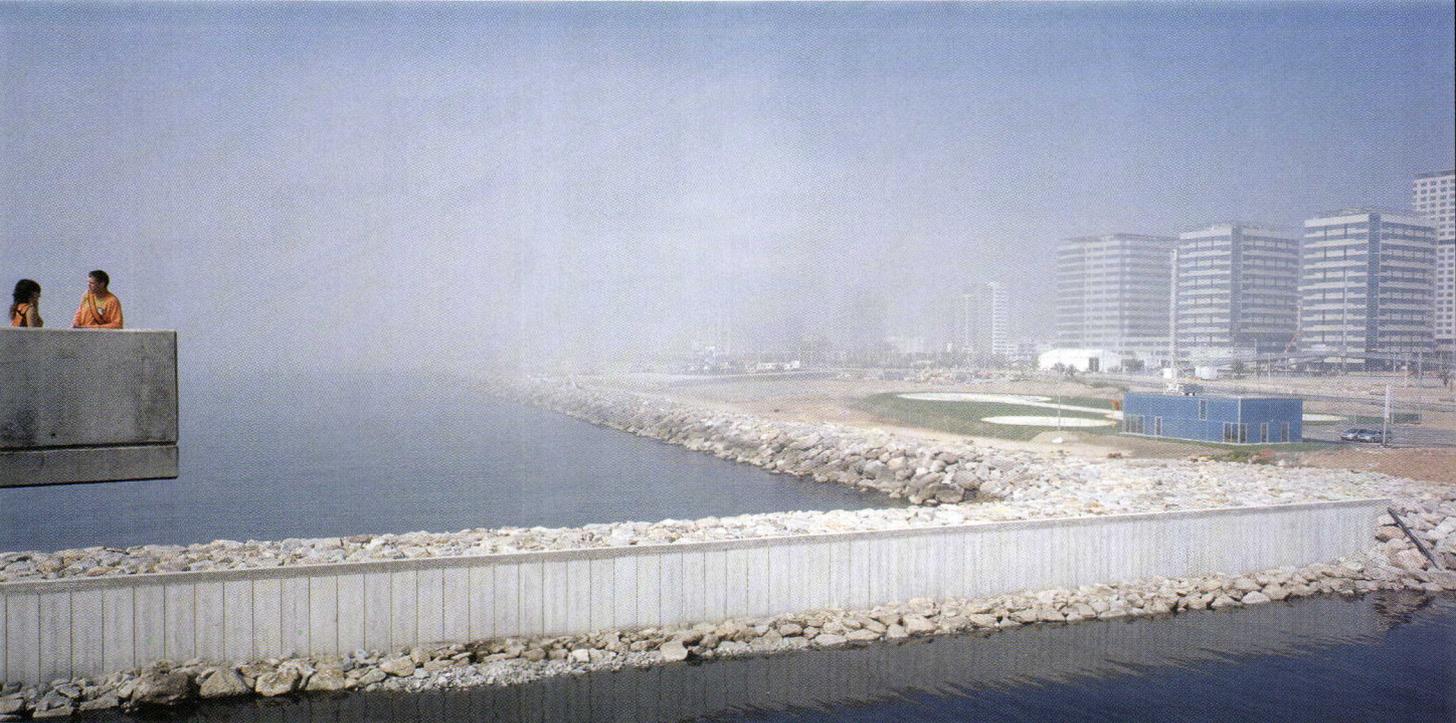
buildings, hotels, a geriatric hospital, a bland shopping mall, residential towers, and a splendid and imaginative public park designed by the late Enric Miralles, who also played a role in the conception of the forum before he died in 2000.

Within the main precinct of the forum, Herzog & de Meuron's big blue triangle was chosen in one of the 26 design competitions held for the forum venues in 2000. Its shape defined by the intersection of Cerdà's grid and Diagonal Boulevard, the building is nearly an equilateral triangle (actu-

ally 600 feet by 616 feet by 580 feet), which emerges, ascending over a slope, in the mode of Stanley Kubrick's *2001: A Space Odyssey*. Its bumpy concrete exterior—finished in a striking, Yves Klein blue—is interrupted by sparkling stretches of water pouring down from a rooftop pond, which provides passive cooling for the building in the summer.

The building's dense materiality, innovative form, and rebellious spirit give way to the 25-acre forum plaza, which covers the sewage-treatment plant. The plaza's stairways and viewing





The forum covers only a portion of the revived waterfront. New towers (above) for housing, offices, and hotels, among other programs, aim to integrate the venues into the city's life long after the international event is over.

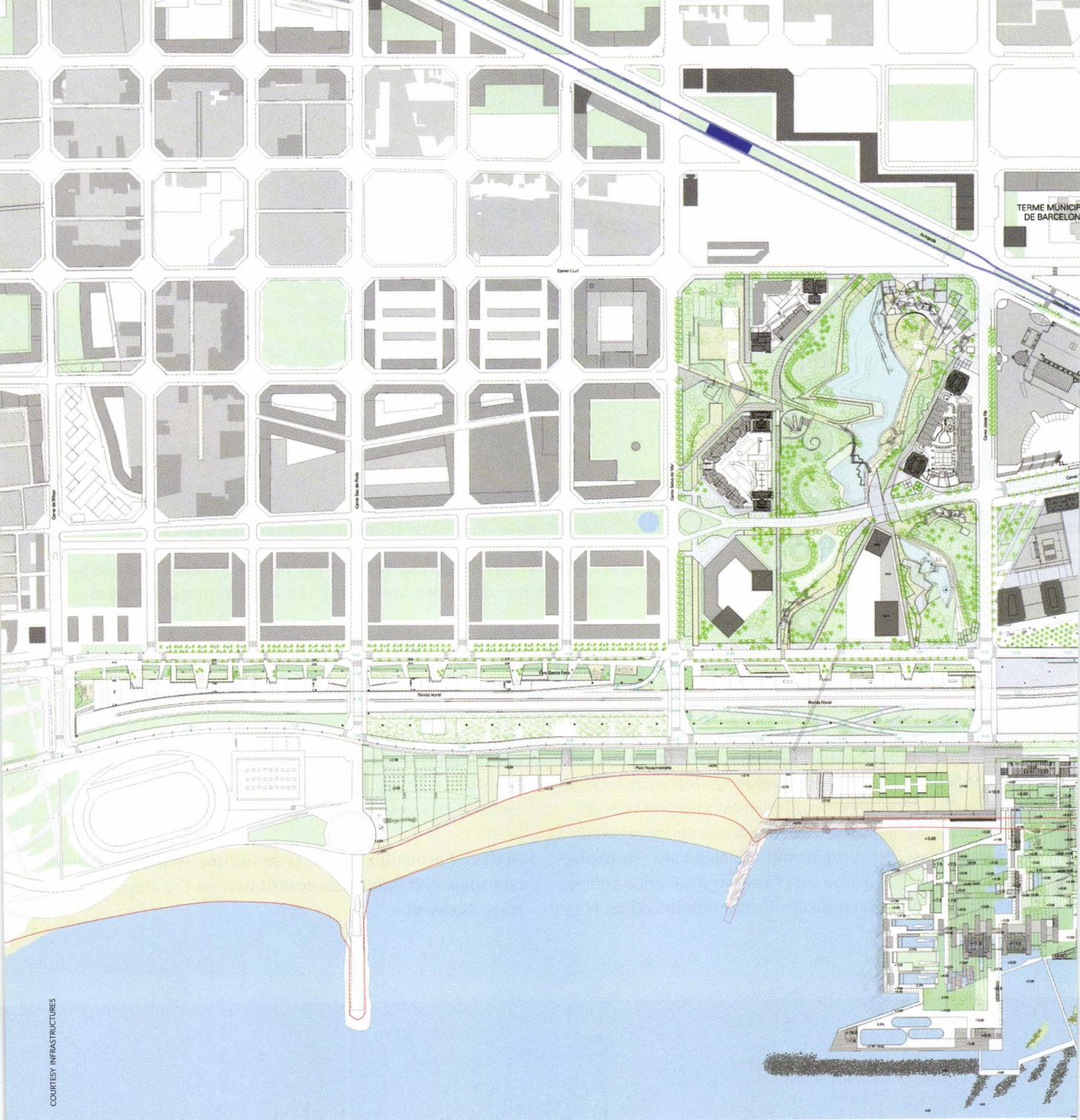
platforms were conceived by Elías Torres and José Antonio Martínez Lapeña, who are also the authors of a huge pergola covered in 3,700 photovoltaic cells that leans out to the sea atop massive sculptural concrete columns. This monument to solar collection provides energy for forum sites and venues.

Several teams have designed the various structures around the marina. Ernst Ferrè and Mamen Domingo are responsible for both the graceful bridge that flies over the marina and the three-story building that hosts the harbor master's office. Near

the northeastern end of the forum site, architects Ábalos & Herrerros have enclosed an incinerator plant in blue polycarbonate panels and designed an eco-park with dunes and lawns around it, all of which marks the end of the forum's optimistic route through this revitalized portion of the city.

**Andrés Fernández Rubio is an editor with the Spanish newspaper *El País* and a contributor to the German magazine *Bauwelt*.**





- 1 forum building
- 2 hotel
- 3 biodiversity pavilion
- 4 mixed-use tower
- 5 housing

- 6 parking
- 7 convention center
- 8 water purification plant
- 9 esplanade and photovoltaic plant
- 10 zoo and aquarium

- 11 waterfront park
- 12 bathing area
- 13 university campus
- 14 recreational harbor



The master plan for the Universal Forum of Cultures occupies a revitalized site at the end of Diagonal Boulevard. When the forum ends, its 25-acre plaza at the heart of the project will be used for large-scale, open-air events; other venues will also be adopted for new uses, weaving them into the city's new fabric.



# MAPPING THE FUTURE

FOR THEIR VIOLENT ONLINE GAMES, MAP-AND-LEVEL BUILDERS CREATE INCREDIBLE ENVIRONMENTS. ARE THEY CREATING ARCHITECTURE AS WELL?

BY HARRY ALLEN

IMAGES COMPILED BY HEE

Like many first-time visitors to Richard Meier's Getty Center in Los Angeles, Jeff Zaring was literally "slackjaw-stunned by how cool it was, and how impossible it must have been to design" the gleaming, 110-acre campus, set on a hill in the Santa Monica Mountains overlooking Los Angeles and the Pacific Ocean.

But while most go to the Getty to gaze at the Goyas and to take in the seemingly continent-wide panoramic views, Zaring went with a somewhat more warlike objective. After cribbing "an architectural detail, a set of curves, or a skylight," the 40-year-old hoped to inject a little Meier into his own unique renderings. There, those exquisite features would be unceremoniously blasted with rocket launchers, battered by plasma guns, and splattered with bouncing, bloody chunks of human flesh.

Computerized chunks, though. Zaring, you see, is a *map-and-level builder*. Map-and-level building is the art by which computer gamers create their own customized, 3-D architectural spaces—called *maps*, or *levels*—for use inside *first-person shooter* (FPS) PC games. An FPS is played as though looking through the eyes of the game character one controls, with weapon at the ready near the bottom of the screen. In the dominant "deathmatch" style of play, characters chase each other, attempting to score points by killing their opponents. Once slain, they then "respawn," or are reborn, to kill or be killed again. With games like id Software's *Quake III Arena* (Q3A)—perhaps the most widely and diversely mapped game—a player's opponents can be the computerized *bots*, or avatars, supplied and controlled by the

game itself, or actual humans, residing anywhere in the world, playing through the Internet.

To accommodate all of this carnage, map-and-level builders, or *mappers*, use free software applications called *level editors*, downloaded from the Internet—GtkRadiant, by id Software, is the most popular one for *Quake*. They then design and build, from scratch, all of the structures in and around which gameplay takes place. Through the Web, they may borrow decorative elements—for example, surface textures—from makers within the mapping world. When done, they then post their works on mapping community forums and websites, or on their personal sites, for users to freely take, try out, critique, or play as they see fit. (A site called ...LvL, found at [www.planetquake.com/lvl](http://www.planetquake.com/lvl), is the definitive archive site for Q3A maps, hosting more than 1,700 different, fully downloadable maps by some 880 creators.) "Gaming is a very popular cultural activity, it is peer-reviewed, and it is big business," says Edward J. Keller, an assistant professor at Columbia University's school of architecture and developer of a video game called *Ornament*. "Architects very infrequently can expect the kind of 'user' engagement that a level designer gets."

## GOTHIC FORTRESSES AND SPACE DERRICKS

The results of level building can be almost unlimited in variety and originality. Mappers from across the globe—the United States, the United Kingdom, Germany, Italy, the Netherlands, Denmark, South Africa, and elsewhere—bearing *noms* like Geit, Bal, pjw, and Unitool (Zaring's moniker)—



fashion Gothic fortresses, floating, interplanetary derricks, metallic stadiums, or sandstone temples.

Many mappers have replicated, or are directly influenced by, real-world architecture. QkennyQ's *Chartres* (below, right) reproduces the famed French sanctuary, while 187-J4CK4L's *Fallingwater* mimics Frank Lloyd Wright's masterwork. The Getty Center "looks like a Quake 3 map," says Zaring, with its "giant, oversized architecture, really big scale, and all these wide open spaces"; qualities, not by accident, Zaring's own maps (*Peccary of Destiny*, *The Abandoned Crate*—page 61) also possess. Some, like Zaring, also admit to having briefly fancied careers in the profession as youth.

French mapper Nicolas "Nunuk" Bouvier—whose idiosyncratic, often confounding maps (*Platypus*, *Flying*

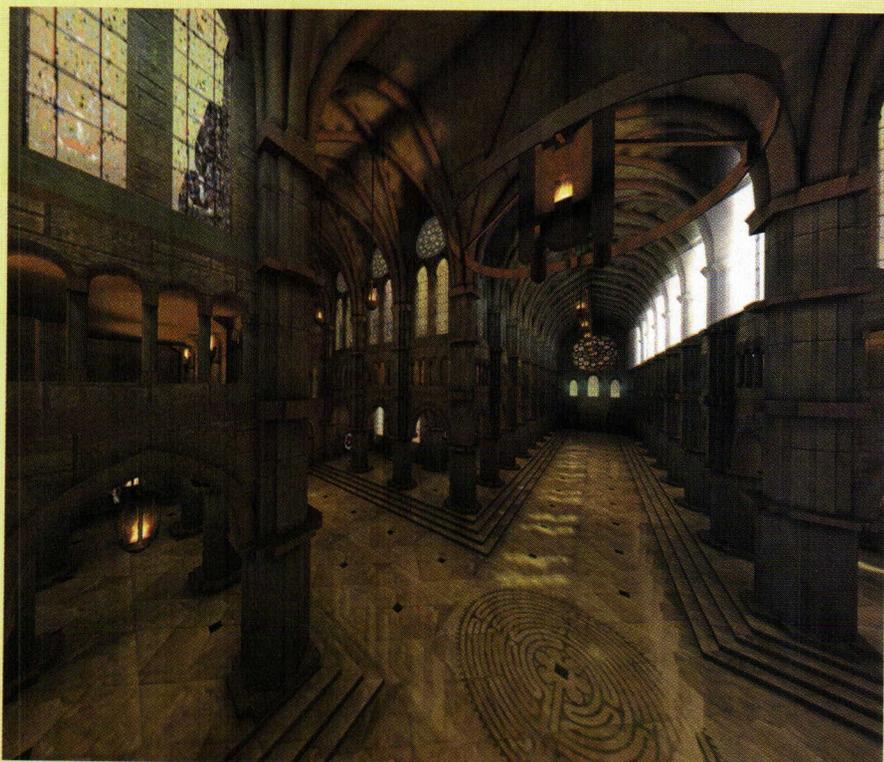
**A survey of online "maps" for first-person shooter games reveals a range of stylistic imagery, from classical recreations to outer-space environments to primitivistic ruins. Clockwise from bottom right: *Chartres* by the artist QkennyQ (2003); *Coriolis Storm* by Lunaran (2000); *Anguis in Herba* by dAde (2003); and Shub-Niggurath's *Deimos2* (2004).**



*Plutonians*, *Kleskonian Hights*) led one fan to call him the "Frank O. Gehry of the Quake world"—is the son of retired Eiffage Construction executive Richard Bouvier. Eiffage built both the recently completed Millau Viaduct in southern France, the world's tallest bridge, and the Eiffel Tower. (Indeed, the mapper grew up with pieces of the famed ironwork lying around the house, brought home by dad during

the landmark's numerous restorations.) For this reason, perhaps, while in awe of his peers, Bouvier cites not other mappers but Santiago Calatrava as the builder to beat. "That guy is doing amazing work, imagining skeletal forms with bones that he's, like, throwing into the air. These are forms that I would like to do in a map."

But despite this awareness of and fascination with the built environment,



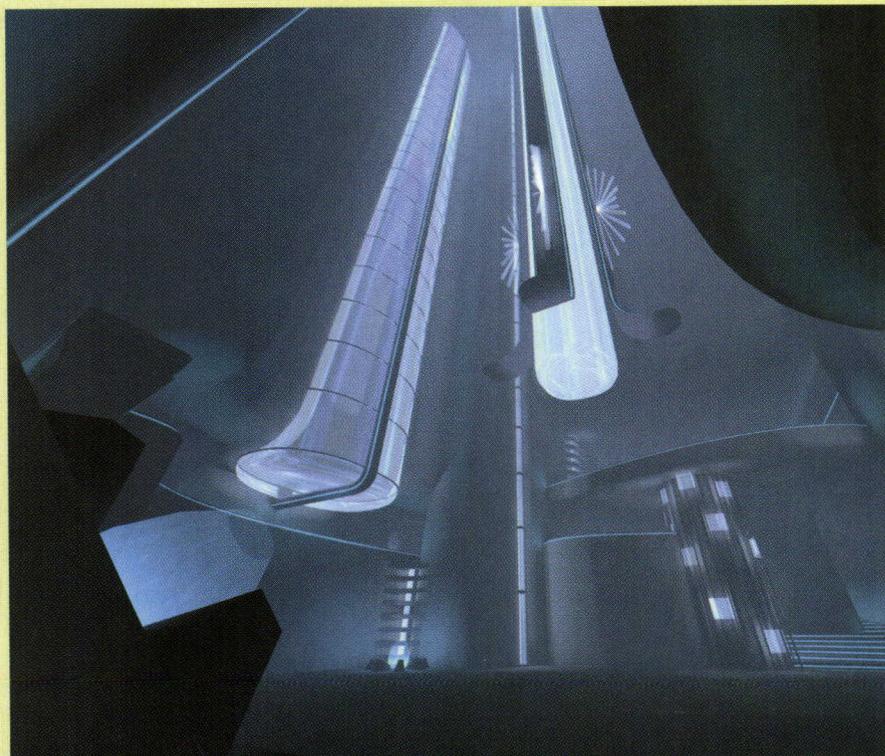


the majority of mappers' levels belong to, perhaps, no known school. Theirs is an architecture of the mind, and of fantasy; it's akin to both naïve and visionary art in some ways, but, in fact, is a digital folk architecture—perhaps the world's first.

Even those maps which emulate the visual conventions of, say, medieval, Egyptian, or Meso-American forms typically twist those shapes to fit the

objectives and rules of FPS-style, run-and-hunt gameplay. No Catalan cathedral ever had a floor plan like Spanish mapper Antonio "Auhsan" Jaume's *Overwhelming Hostility*, whose ingenious, all-enveloping coils, jumps, and drops have made it one of the most frequently downloaded maps ever. This is because, even with one gamer's terse summation of Q3A as "football with shotguns," there is no real-life counter-

part to the essential run-kill-reincarnate stratagem of the FPS deathmatch. The map's is an architecture delineated by the space-time of game violence. "Quake is a shooter game," Bouvier explains. "So it means that the architecture is going to be useful in order to shoot." In Q3A, as in most deathmatch-style games, the objective is "encouraging confrontations and keeping players moving," says Zaring. "You wanna move them, but, hopefully, you wanna move them toward each other." The design of the map plays the decisive role in this outcome. Ironically, then, though played with futuristic ray guns on multigigahertz desktop computers and across high-speed networks, the map and level's true antecedents may be the sightlines of the Roman coliseum, and the weave of the Minotaurian labyrinth.



While maps vary greatly in appearance, their users tend to judge them based on functionality—mainly, their propensity toward encouraging close confrontations. Images from games on this page (clockwise from top left): *The Velvet Yard* by Jockum Skoglund (2004); Unitool's *The Abandoned Crate* (2001), created with "texture artists" Fingers, Mr. Clean, Rorshach, and xatrix; Jax\_Gator's *Iron and Stone* (2002); *SecularDM* by the artist known as <secs.> (2003); and the work *eNergEy stAtioN* by Austin - Lil Killa (2003).



## FROM ATARI TO QUAKE

The specific role of architecture in computer and video games, in like manner, goes back to now-distant beginnings. In the earliest games, architecture—for example, a castle's creepily depicted subterranean vaults in the text-based *Dungeons & Dragons*, or the standard suburban home in the first graphic computer game, the 1980s-era black-and-white *Mystery House*—provided easily comprehended visual metaphors, useful for both contextualizing different kinds of action and creating certain expectations regarding these actions. Subsequently, architecture provided scale: A crude cluster of buildings, off on a horizon one never reached, insinuated, to early arcade and Atari 2600 driving gamers, how vast the landscape they raced on was.

Later on, 2-D *side-scrollers*, like the martial arts *Street Fighter*, set conflict against a background of slowly moving warehouses or temples. In the so-called “god game,” *Sim City*, skyscrapers bloomed or faded, according to metro government ability or ineptitude.

But it was the cunningly rendered “2-1/2-D” worlds of the Mesquite, Texas-based company id in the early 1990s—first, *Wolfenstein 3D*, then the legendary *Doom*—that forced the flat world of games to get some depth. Building on those successes in the late 1990s with *Quake* and *Quake III Arena*, id Software equipped gamers to not only venture forwards, backwards, and sideways, as in *Doom*, but also move up or down, along the z-axis, achieving true 3-D movement. The result was a renaissance in gameplay. But, even more, says Bouvier, by 2001 or 2002 a “sort of golden age for Quake 3 map-

ping and level editing” had ensued, one where computers, the Internet, and wide interest in the game itself created an optimal moment for it to flourish.

## BLOCK AND POLISH

Maps are generally made in four stages, says Richard “Charon” Heath, age 21, whose level-building exploits—*inextremis*, *Stir Fried Rocks Attack*—like all of the mappers already mentioned, have earned him a job in the gaming industry. “The first step is to come up with a plan,” he states. “You basically draw out your level, very much like traditional architectural blueprints.

“The second step is to build a very simplistic version of the level in the editor; what we call a *block mesh*. It’s very similar in concept to a foundation, but you would have to imagine a foundation that encompasses walls and

ceilings as well.” In appearance, “it is literally as if everything was flat and made of concrete.”

Third, says Heath, “begin detailing the level. This involves adding anything that makes the map visually interesting, such as doorframes and handrails. At this stage, you would basically be texturing the map, and a texture format is similar to wallpaper and paint.” For certain games, like *Quake*, some of this work can be done directly in the level editor. Others (such as Epic Games’ *Unreal* series, or Valve’s eagerly awaited *Half-Life 2*) require the user to model in 3-D, using a standard 3-D application—Maya, 3DSMax, gmax, Softimage, or Lightwave, among others—and then import the results into the editor.

“After this, you have a fourth stage, which is literally a polish, or clean-up,





stage, where you add any extra, final details to the level. Here is usually where you would place it on the Web, allow people to critique it, and then take that feedback and polish your level further."

Finally, when everything is finished, according to Heath, "You would 'pack the level up'" into a compressed file "and release it to the 'net community."

The length of time this all takes varies, based on the level's complexity

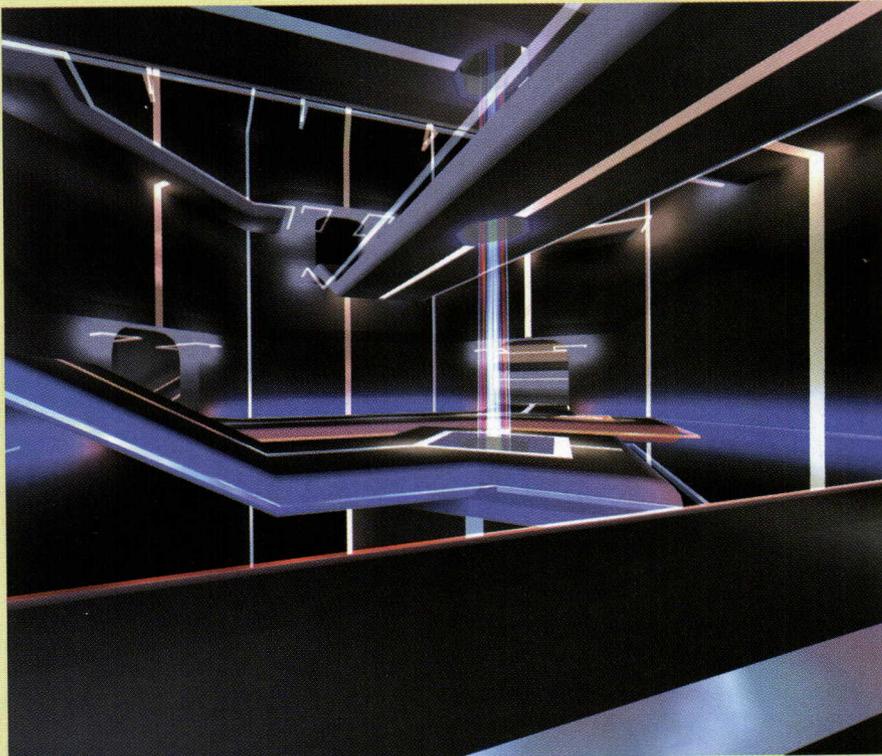
and the mapper's skill. Heath's latest, *5quid*, required an estimated half-year to complete, while his shortest, and arguably his visual masterpiece, *Flea Fights*, was finished in 17 hours.

The speed, then, with which one can model a complex structure, has led some architects to adapt Quake as a previsualization tool. When Bill Gates visited the University of Cambridge in December 2001, he stopped off at his

namesake William Gates Building, the new home for the university's computer lab. Had he roamed its halls about a year-and-a-half earlier, though, he'd have needed body armor and a grenade launcher: The actual edifice was laid out, first, as a model in Quake 2. "We'll be happy to show it to you. You can compare them side-by-side if you wish," says Paul Richens, 48, director of the Martin Centre CADLAB, in Cambridge's department of architecture. Richens, who has also rendered as FPS levels one of eighteenth-century printmaker Giovanni Battista Piranesi's famous *carceri*, or prisons, feels that map-and-level builders can teach the building profession a great deal.

"Architects have tried to build computer models of buildings for some years now," says Richens. "But the results tend to be rather sterile, rather

**The rendered environments for online games often distort perspective, scale, color, and even the behavior of gravity and light. Images on these pages (clockwise from top left): *Black Town* by XPac (2003); *Guns* by pjw (2004); *Can't Die* by Janos "Dragee" Derzsi (2003); *Cajun Hell* by Stormshadow (2003); and *AEon's Neon Light* by AEon (2003).**

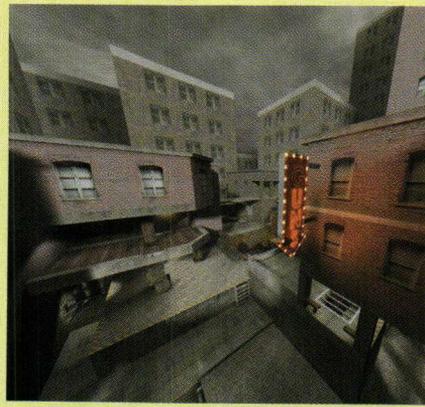


boring to look at. If you compare the ordinary architectural walkthrough with games, you begin to learn why: The people who make games find lots and lots of ways to make virtual space interesting, and they do that by putting activity there. If you look, really, game-play design is all about ways of increasing the kinds of interactions that you have with the space, and the kinds of importance that they have. And finding these modes of gameplay, as we would call them, is something that architects need to learn from game designers."

Yet despite these insights, Richens doesn't seem hopeful the architectural community will take his lead and incorporate gameplay elements into presentations. "A surprising thing that we actually experienced was that architects aren't very happy to have their architecture turned into a game and then handed over to a client to play with, because they lose all control of what is seen and what is not seen. Whereas, normally, architects are very controlling in the way they present proposals: They'll produce still perspectives, or maybe they'll do a very carefully orchestrated walkthrough. But they show the client exactly what they want them to see. They're not at all happy with the idea of showing everything, and allowing the client to explore it by himself without being supervised. But clients really love it."

Which raises the question: Is map-and-level building actually architecture?

The verdict varies somewhat. The University of Lincoln's G. M. Matthews, in his essay, "Invasion of the Body Snatchers: Architecture and Virtual Space," defines architecture as more than "building masterfully." Rather, he



says—with words that also, perhaps none better, describe *Quake III Arena* as a game—it is the "art of resistance, play, and evasion."

Adds Richens, "The kind of skills involved in building game levels certainly overlap with what architects do. It's a less complicated activity than architecture, but it certainly overlaps with it."

Of course it's architecture, contends Columbia's Keller. "Any perceived space changes the way that a person or a group of people interact, whether the space is real or virtual. Level design is architecture because it is the design of spaces," he contends.

Zaring, on the other hand, who took so much inspiration from Meier's Getty, finds the comparison "grandiose. Basically, all we're doing is we're just defining a space. There are no load limits to factor in, or any kind of com-



plex engineering. All we're doing is making something pretty. Whereas an architect has to go to school for years and years, and understand how to engineer things in addition to designing things. I think calling yourself an architect might be overstating it a bit."

But Bouvier says the question of whether or not mapping is architecture isn't even really the issue. "It's all about art, and that's why it's a huge form of art, too. That we can express our inner world within such a game is not even about the game, itself. It's all about showing our personality, within a level."

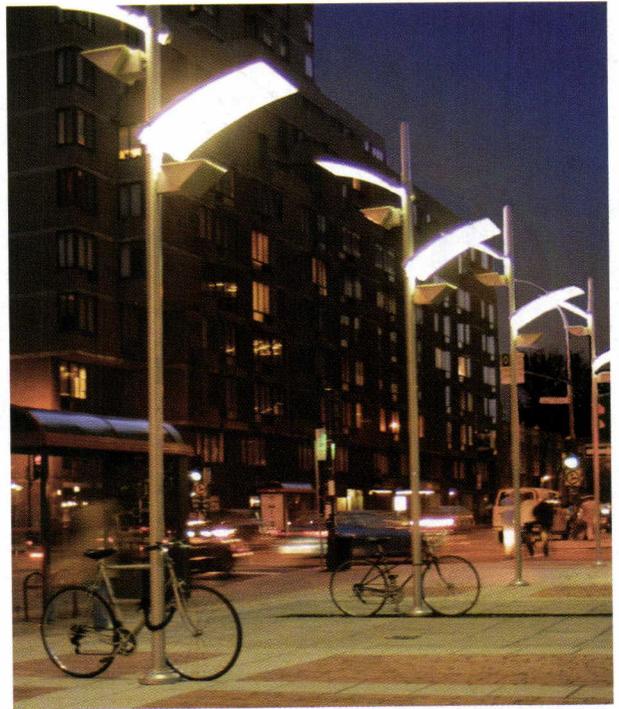
**Harry Allen, who writes frequently on popular culture, has received a Graham Foundation grant to study map-and-level building. He is also working on a book on the subject.**



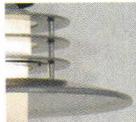
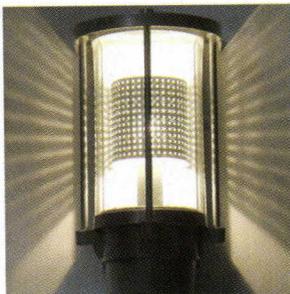


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## FOR LIQUID STONE, A VIRTUAL CHISEL

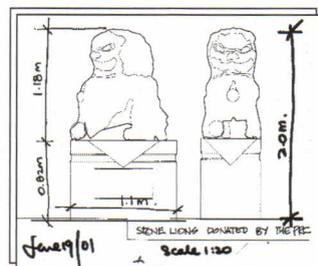
New concrete mixes revive classical ornament.

by C.C. Sullivan

Use of elaborate ornamentation is hard to consider these days without some accompanying technological advance. A recently developed technique employs self-placing or **self-compacting concrete** (SCC). These highly fluid mixes incorporate superplasticizers—high-range water reducers—that help them fill out ornately sculpted formworks and molds. The concrete, which leaves very smooth surfaces, can also save labor needed for vibration, resurfacing, and leveling finished pours. Experimental SCC uses date to 1988 in Japan; the French company Lafarge launched a commercial mix called Agilia at the 1999 Batimat show in Paris; others brands have emerged since.

Classical architects have quickly adopted SCC to produce baroque embellishments that recollect carved limestone and cast terra-cotta. Vancouver, British Columbia-based architect Joe Wai used four highly flourished 45-foot-tall **precast-concrete columns** for a new vernacular gate marking the city's Chinatown. Steel-truss cross beams with printed vinyl sheets simulate decorated wood screens, and Taiwanese glazed ceramic tiles complete the design, which is based on the inner City Gates of Beijing from the nineteenth-century Ch'ing Dynasty (1644–1911) that remained standing well into the 1930s. (Later Ch'ing designs adopted Rococo elements, as epitomized by Hollywood's 1927 Grauman's Chinese Theater.)

"In the classical idiom, you don't reinvent yourself; you find the most appropriate example and the best way to reinvent it for the particular situation," believes Wai, who also just finished an expansion of a Ming Dynasty-style Chinese garden. "So we looked at the many examples of city gates going back to the Han Dynasty that evolved in markedly different districts of cities." Throughout all stylistic periods, the gates featured odd



Perforated, enameled steel panels and fiberglass decorative rafters simulate wood elements for a new gate in Vancouver's Chinatown. Self-compacting concrete simulates intricately carved stone.

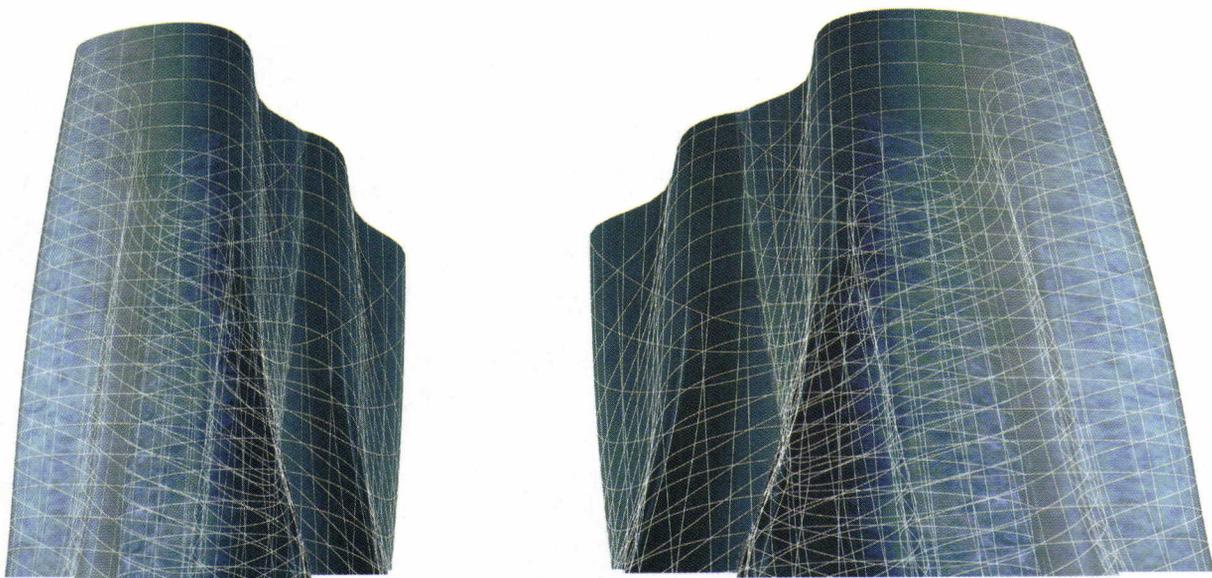
numbers of openings and greater heights than widths, Wai notes. For his \$650,000 Chinatown gate, he adjusted the proportions to allow cars to pass and to avoid below-grade pipes.

The pictorial motif, which Wai conceived with graphic artist Chi-Ho Yeung and feng shui master Joseph Ip, portrays ancient musical instruments and the traditional dress of several Chinese ethnicities, including Mongolians and Tibetans. The casts for the **column bases and finials** have intricate organic fillips produced without sandblasting or patching, thanks to the smooth casts of the SCC. ■

## POURED-IN-PLACE PAGLIACCI

Vancouver-based architect Paul Merrick chose a novel approach: he had the elements cast in situ using self-compacting concrete (SCC) to enhance the Sullivanesque sequence of base, piano nobile, and recapitulation at the crown. Like nearby turn-of-the-century Edwardian buildings with terra-cotta flourishes, the refinements make the building "an object for your eye to fall upon," he contends. The eclectic ornamental language was much provoked by the owner's interests. The weather gods Zeus, Pluvius, Lorimus, and Tempeste—doubling as members of the owner's family—appear at the ramparts. Opera characters line the parkade (as Canadians call their parking facilities). The sculptures are the work of local artist Ken Clark; other elements, such as railings and false columns, are more localized and constrained. The 2-ton gargoyles were produced in fiberglass molds with rubber liners, with steel bolts to reinforce their connections; the parapet was then poured on top. "The concrete can be placed when it is very soupy, and the result has a high degree of resolution. And it's very strong, and costs only about 20 percent more," says Merrick. "We were playing with technique, as well as form." ■





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# PROJECT MANAGEMENT SOFTWARE—DEPLOYED FOR THE BASICS

For architects, file sharing, field updates, budgeting, and tracking are its key functions.

by Eileen McMorrow

**Project-management (PM) software** is embraced by architects for its ability to enhance communication, share files, deliver updates to the field, and track and manage budgets—responsibilities that were once solely the domain of the construction manager (CM). But as architects provide more comprehensive services, they are employing PM skill sets and software with greater frequency.

“Project-management software has its benefits for the RFI, RFP, and change-order processes because it has a **built-in process and tracking system**,” says Ted Sak, chief information and knowledge officer at Heery International, Atlanta. “Project managers can manage the whole process and it eventually gets to a change order. And a client may have a question on design that is best managed with the software.

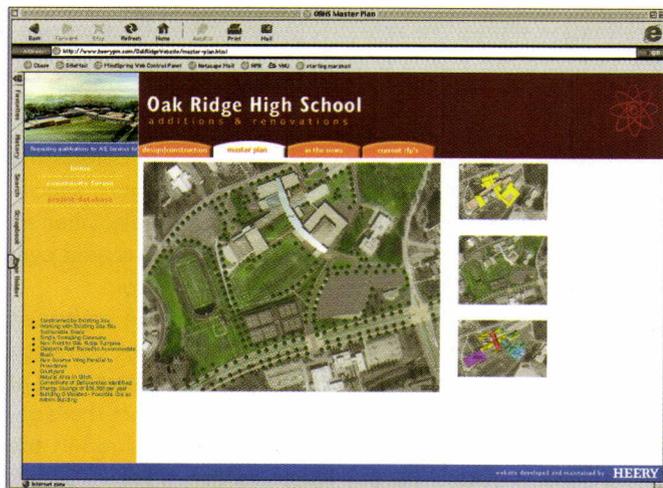
“Sharing files and documents works best. We have given users multiple ways of doing this with **FTP sites** over the Internet, which works better than e-mailing drawings among the team members,” adds Sak. Heery also hosts password-secured projects at [www.heeryprojects.com](http://www.heeryprojects.com), so all parties can access minutes of meetings and drawings.

Heery does not use as much **online redlining**, preferring to do this work face-to-face. But Sak indicates that for correcting a problem in the field, the tools are useful. “We take copies of the drawings, redline, and post them to FTP or send them via e-mail to look at them on a smaller scale.”

Heery finds PM software especially useful when managing finances. “Clients like to see a consistent format for overall budgets,” says Sak. “We are helping clients to manage design, construction, and occupancy budgets. It allows us to detail what we are doing and to customize the system.”

Heery uses a combination of Prolog Manager ([www.prologmanager.com](http://www.prologmanager.com)), Constructware ([www.constructware.com](http://www.constructware.com)) and Autodesk’s Buzzsaw ([www.usa.autodesk.com](http://www.usa.autodesk.com)) for construction site management. “We prefer **self-hosting**,” Sak explains, “but we also can self-host Prolog Manager, customize it, and clients can access it through [heeryx.com](http://heeryx.com).”

A critical issue for architects is connectivity to the hosted PM software sites. “We need quick access when connecting remotely—clients don’t want to wait to see their documents.” That’s also why Heery is a proponent of self-hosting, basically acting as an ASP. For public-sector clients, Heery hosts status reports on [www.heerypm.com](http://www.heerypm.com) and [www.heerycm.com](http://www.heerycm.com), so anyone can access updated project information.



Oak Ridge High School, home to students whose parents may be working at Oak Ridge National Laboratories in Tennessee, needs to modernize its facilities. Accessing [www.heerypm.com](http://www.heerypm.com) enables anyone to learn about the progress of the master plan to renovate the existing high school, or any public-domain project Heery may be working on.

## TRACKING THE \$\$\$

For tracking projects in general, CR Studio Architects of New York, uses Delttek Advantage ([www.deltek.com](http://www.deltek.com)) because it allows projects to be tracked in terms of time and money, and it can be connected to a firm’s billing program to help assess profitability.

When working with contractors, CR Studio uses Microsoft Office’s Project ([www.office.microsoft.com](http://www.office.microsoft.com)), which enables **effective collaboration** of team members within and between organizations, allowing the architect to monitor progress with the contractor who then reports to the client. “It is very easy to use,” says Victoria Rospond, a firm principal. CR Studio also has a commission to design a carousel building for an entertainment pier on Manhattan’s West Side. The Hudson River Park Trust and the New York State park system created a website using Constructware for its PM, where all project consultants with a password can post information, minutes, and schedules, and access the **project’s standards**. “Constructware is the most progressive software we have used,” notes Rospond. “You can see the project’s history.”

## ARE ARCHITECTS PM USERS?

Taking the contrarian viewpoint, H. Edward Goldberg, an architect and software expert with HEGRA, Baltimore, and an *Architecture* contributor, points out that PM software is for “the domain of project construction, not design. PM software is primarily management software for building and paying bills,” he adds. However, true collaboration with construction PM software is allowing for **real-time interaction** with architects, says Goldberg. For example,

Primavera ([www.primavera.com/solutions](http://www.primavera.com/solutions)), can help design and construction professionals improve project coordination. "The software is construction-oriented and tries to mitigate risk among designers, contractors, and owners. Information shared collaboratively allows construction people to figure out how a building has to be built while it is being designed," says Goldberg. The software can be used to request pricing and create **document checkout logs**.

Tririga ([www.tririga.com](http://www.tririga.com)), for example, links people in the field to the architect, so when the designer submits a specification the construction team can see it. For example, when an architect puts a door in the drawing, its specs are shared over the Internet. Thus, PM becomes a collaborative tool.

"Yet, these PM tools are only as good as the craftsmen behind the tool—and that is the same for all tools," contends David Horowitz, managing director of operations at Quarataro & Associates, a New York-based project-management firm. "It's the ability to digest, analyze, and report the information provided by the PM tools that adds value. It's how we use the cost, tasking, scheduling, or documentation information and digest it and create focused critical reports that matters."

Quarataro & Associates ([www.qa-pm.com](http://www.qa-pm.com)) provides a cus-

tom software product, GoProjex, where clients can review costs, invoices, and proposed changes. Using Microsoft Excel, the data is analyzed to show month-to-month changes and to track how money is being expended or risks are being assessed. For example, GoProjex may indicate that a risk has occurred based upon a client change in operations or due to an unforeseen field condition. "We will have input potential exposure and provided the client with a change in cost by the end of the project. Production of a change-order report helps the client understand the reduction or increase in **risk mitigation**," Horowitz explains.

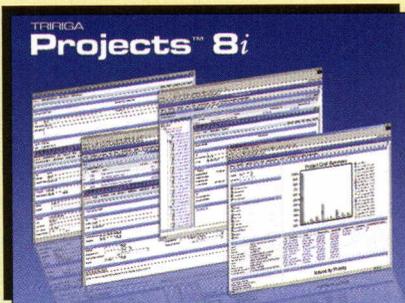
By combining conventional scheduling and accounting tools with work-process functions, GoProjex provides a macro view of the numbers and tasks and micro-level work tools for single-project implementation and communication—in effect, all areas of responsibility. For the client's **senior executives**, GoProjex allows them to log in and see the resolution of specific issues without participating in a meeting. Quarataro also uses Microsoft Office for scheduling.

More architecture firms are offering PM as a way to increase the breadth of services beyond design. Many say they always provide PM as part of the process of seeing their designs built. PM software appears to be getting all parties on the same page, um, screen. ■

## ➔ Tools for Staying on Task, on Time, and on Target

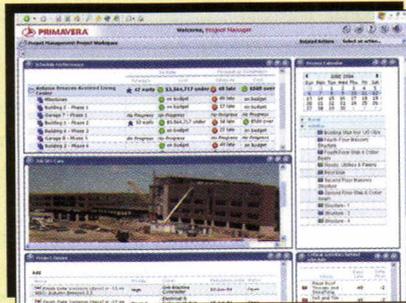
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- ☒ manufacturer: **Tririga**
- ☒ web: **tririga.com**

Projects 8i offers a solution for enterprise-wide capital project management. This suite of tools can automate, streamline, and manage the full array of project processes, including documentation, design, change management, cost tracking, risk management, and scheduling, as well as supply-chain management. The Web-based platform provides an "executive level" view of the entire project, as well as the ability to quickly drill down to all project specifics, including action items, reminders of critical dates, and project and risk status reports.



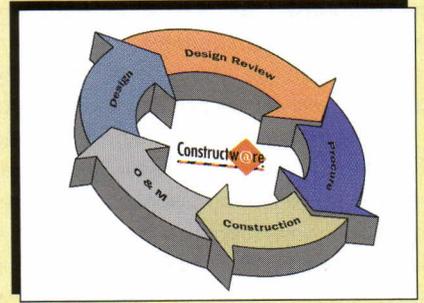
- ☒ product: **Primavera Engineering & Construction**
- ☒ manufacturer: **Primavera**
- ☒ web: **primavera.com**

Primavera Engineering & Construction enables its users to mitigate project risk through schedule analysis, cost forecasting, and streamlined coordination. Full-time schedulers and PMs can use the software to schedule projects, track their progress, undertake resource planning, and consolidate contractor schedules. Since the software also makes project information Web and Palm accessible, every team member has the power to receive and react to customized, up-to-the-minute assignments and tasks, including contractors and subcontractors.



- ☒ product: **Constructware ASP**
- ☒ manufacturer: **Constructware**
- ☒ web: **constructware.com**

Constructware ASP is a scalable, secure Internet-based suite for PM, collaboration, and design management that simplifies PM and facilitates online communication among team members. It allows for reporting, business development, project information, and document, personnel, and file management from design and preconstruction through PM and closeout. Benefits include a powerful centralized database where project and company information is stored, eliminating the need for multiple logins to a project website and allowing storage of a wealth of data.



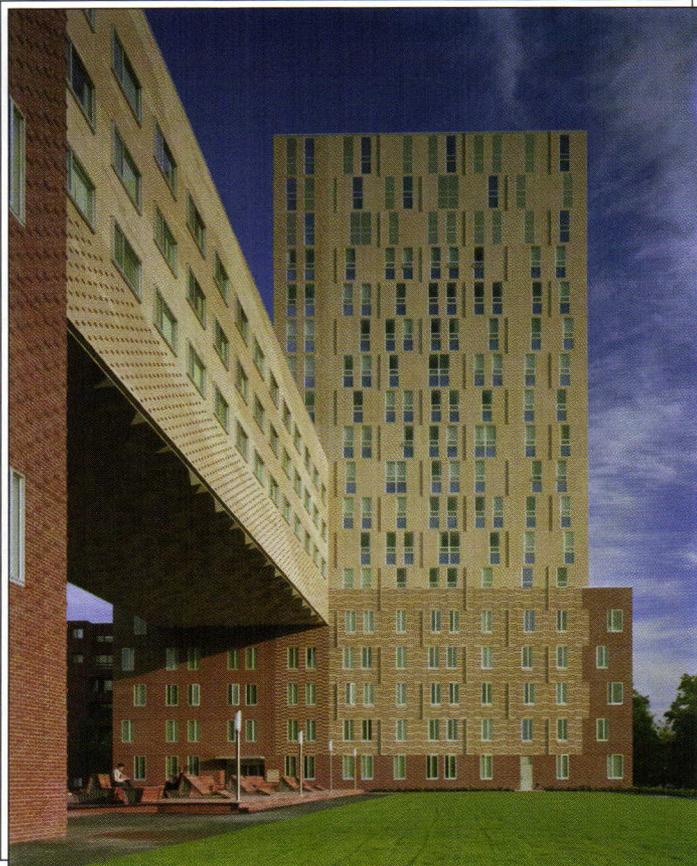
product: **Reconstructed Stone**  
 manufacturer: **Hanover Architectural Products**  
 web: [hanoverpavers.com](http://hanoverpavers.com)

The new Harvard Graduate Student Housing in Allston, Massachusetts, by Machado and Silvetti Associates is “a formidable and wonderful design,” says historian Douglass Shand-Tucci, and “a respectful but confident rejoinder to [José Lluís] Sert’s landmark towers of the sixties and the famous Coolidge courts of the riverfront ranges along the opposite Cambridge bank.”

For principal Rodolfo Machado, this is what the prominent site, which marks the entrance to Harvard from downtown Boston, demanded. So he reinterpreted the campus’ concrete-paneled modern towers and brick-clad neo-Georgian courtyard buildings by means of a three-level bridge connecting a five-story court surround and a 15-story tower totaling 240 apartments. The arrangement sets up a “front lawn” and a covered terrace framing views of the Charles River. The lateral span also gives Harvard a progressive, fresh image, which has been its architectural hallmark.

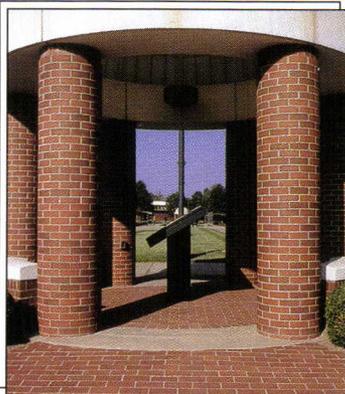
The skin includes brick for the courtyard, recollecting the nineteenth-century housing, and cast stone for the mid-rise, as used by Sert and Walter Gropius for their campus towers. Where the masses intersect, the façade planes register the meeting with the overlapping of two primary brick patterns, one for exterior and one for courtyard walls. The effect is highly engaging: The court affords intimacy, but its walls seem to bleed outward. Outside, the larger-scaled precast-concrete panels articulate several textures and a variety of window patterns; dozens of unique cladding shapes were cast to execute the concept.

Machado insists that the surface variety is neither “Picturesquism” nor “casual decoration,” but instead a regulated volumetric treatment. The sensual richness both articulates and softens the intersections of the prismatic masses. **C.C. Sullivan**



product: **Eureka pavers**  
 manufacturer: **Acme Brick**  
 web: [brick.com](http://brick.com)

Named after the clay deposits near the manufacturer’s facility in Clarksville, Arkansas, Eureka pavers come in five natural colors that resist ultraviolet radiation, which can cause fading in many artificially colored concrete pavers. Modular or 8-inch paving bricks are available with three edge details—square, chamfered, and lugged—in both medium-traffic and vehicular-traffic grades, all of which are suitable for mortarless sand-set installations.



product: **Antiqued pavers**  
 manufacturer: **Boral Bricks**  
 web: [boralbricks.com](http://boralbricks.com)

A tumbling technique imbues these extruded clay pavers with a slightly deteriorated, softened appearance, giving pedestrian walkways and light vehicular driveways a pleasant old-fashioned look. The 2-1/4-inch-thick pavers are available in a range of colors including earth tones, pastels, and reds; all of the Antiqued line of distressed pavers are produced with a novel interlocking system for stability in light- and heavy-traffic applications.



- ☒ product: **Impulse**
- ☒ manufacturer: **KI**
- ☒ web: **ki.com**

Designed by Giancarlo Piretti, the Impulse chair features a back split into two sections held by aluminum vertical supports. The lower section of the back tilts, allowing the user more freedom of movement with continued lumbar support. Available with or without arms, this new offering in the task-seating category is available using standard KI, Pallas, or custom fabrics.



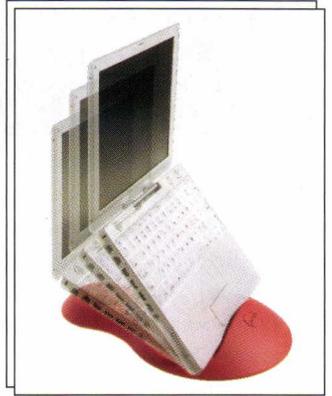
- ☒ product: **Topo**
- ☒ manufacturer: **Metro**
- ☒ web: **metrofurniture.com**

Versatile in every sense of the word, the Topo furniture system from Metro features vertically and horizontally adjustable components to fit changing office trends and personal preferences. The system comprises freestanding storage components and work surfaces that are shared between open-plan and private offices. Sliding windows and screens between stations allow for collaboration or privacy as the situation requires.



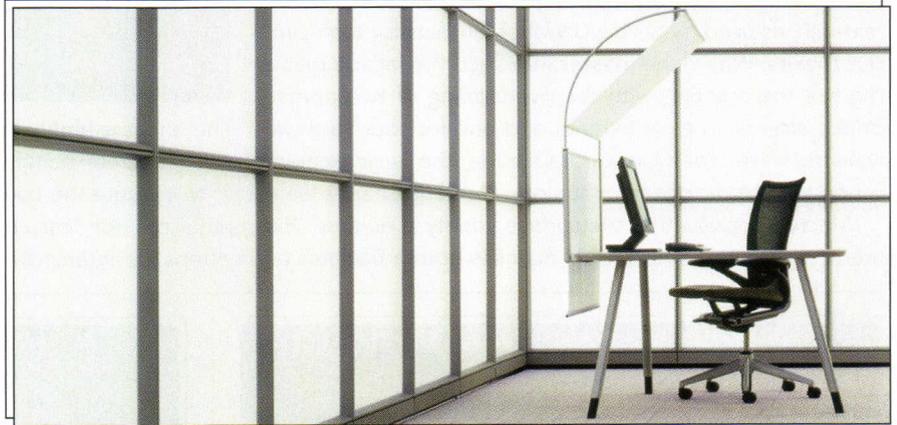
- ☒ product: **Jellyfish**
- ☒ manufacturer: **Knoll**
- ☒ web: **knoll.com**

Ergonomics do not end with chairs. A laptop stand designed to be used with an external keyboard, the Jellyfish from KnollExtra promotes better posture and relieves the physical stresses that contribute to carpal tunnel and back and eye strain, which are associated with frequent computer use. Offering three adjustable heights, the Jellyfish accommodates most laptop models and is available in four colors.



- ☒ product: **Neo wall**
- ☒ manufacturer: **Haworth**
- ☒ web: **haworth.com**

The Neo wall is Haworth's solution to the demountable wall, endeavoring to achieve sustainability in an attractive product. Answering calls from architects, Neo was designed to include a thinner profile than previous walls had as well as multiple choices for glass panels and exposed hardware. It is available in several finishes, with the option of swinging or sliding doors.



- ☒ product: **Instant Space**
- ☒ manufacturer: **Nienkämper**
- ☒ web: **nienkamper.com**

This movable architectural wall product allows for flexible uses of work spaces. Stored inside an aluminum column for easy storage and handling, Instant Space is a 6-foot-by-12-foot textile screen that unfurls to cordon off areas. Opaque and sound absorbent, the movable wall creates privacy for meetings within open-plan workplaces. It can also be used as a projection screen.





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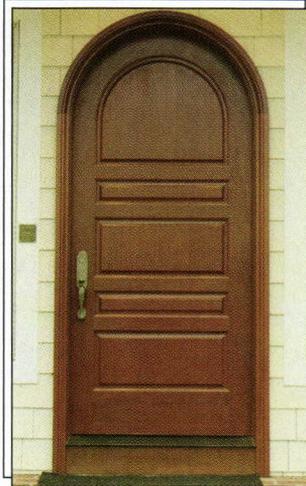
[www.lafargenorthamerica.com](http://www.lafargenorthamerica.com)

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Circle 197 or [www.architecturemag.com/productinfo](http://www.architecturemag.com/productinfo)

- ☐ product: **Ketmar**
- ☐ manufacturer: **Oakwood Woodworks**
- ☐ web: **oakwoodww.com**

The Ketmar door, a 2-1/4-inch-thick piece of mahogany with raised panels, is one of the custom, hand crafted designs available from Oakwood. The company, which is based in Rochester, New York, can produce doors and frames in any or shape, and in standard thicknesses of 1-3/8 inches and 1-3/4 inches. Precise panel alignment ensures a continuous grain and color. Available woods include cherry, ash, poplar, and oak. Glass inserts (stained, leaded, clear, or frosted), wood trim, side lites, and transom panels can also be specified.



- ☐ product: **Bungalow Series**
- ☐ manufacturer: **Simpson**
- ☐ web: **simpsondoor.com**

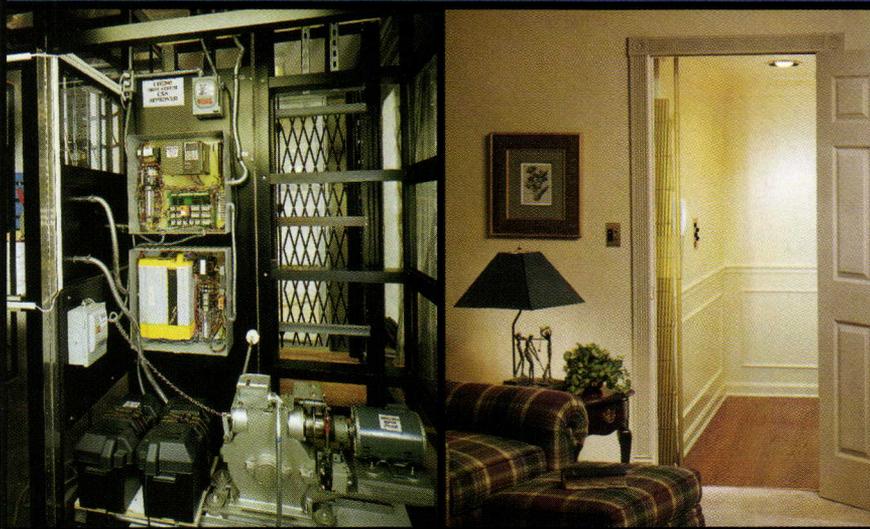
The Simpson Door Company's line of traditional exterior doors now includes the Bungalow Series with classic stile and rail construction. The doors in this collection, including model 7222 (below), feature a 1-7/16-inch-thick beaded V-groove "Innerbond" and a double hip-raised panel with the look of wainscoting that, according to the manufacturer, will not warp, shrink, or split. Standard widths range from 2-1/2 feet to 3-1/2 feet and heights of 7 feet, 8 feet, and 6 feet, 8 inches. Several sash (with 3/4-inch insulated glazing) and panel door designs are offered in Douglas fir, Western hemlock, American red oak, and custom woods such as maple, mahogany, and Eastern white knotty pine.

- ☐ product: **Hinged patio door**
- ☐ manufacturer: **Vetter Windows & Doors**
- ☐ web: **vetterwindows.com**

With raised panels, the latest addition to Vetter's line of hinged patio doors is meant to add a traditional look to residential projects or light commercial applications. Single- or double-panel inserts are offered. Interiors come in clear pine, maple, oak, cherry, or mahogany; the exterior is clad in aluminum, but can be special-ordered in primed or natural wood.



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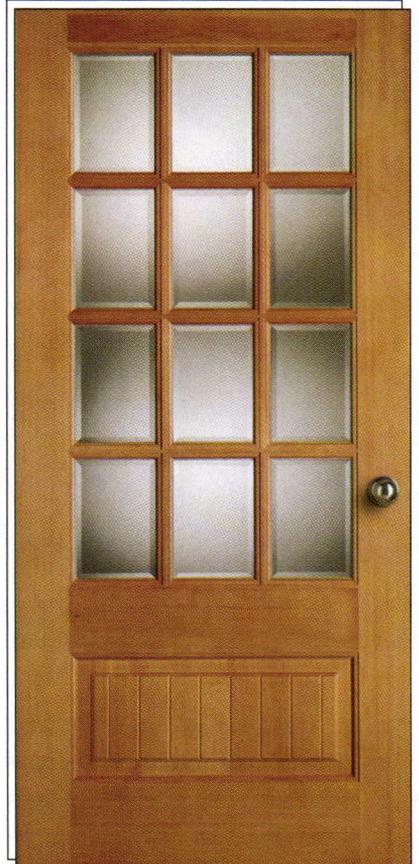
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FOR INFORMATION ON DOORS,  
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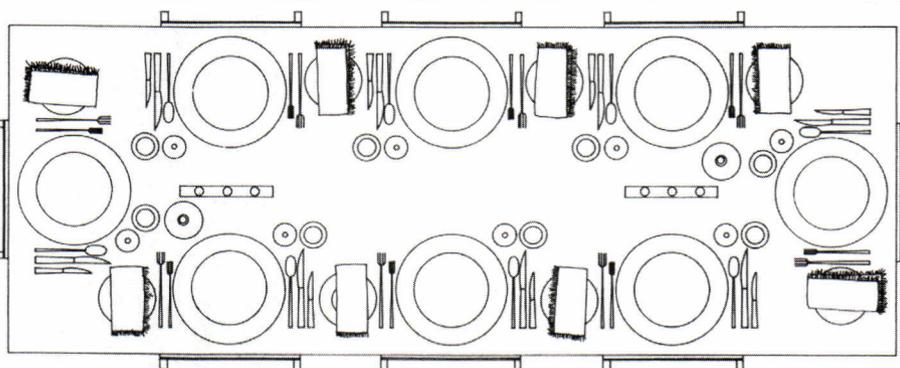
BOOK

**Eating Architecture |**

**Jamie Horwitz and**

**Paulette Singley | MIT Press**

The elevated position of design in mainstream culture in the United States is in many ways tied to a widespread obsession with the settings and tools for food preparation, presentation, and consumption. In this collection of 19 essays, artists, architects, and scholars examine the connections between our food-obsessed culture and architecture.

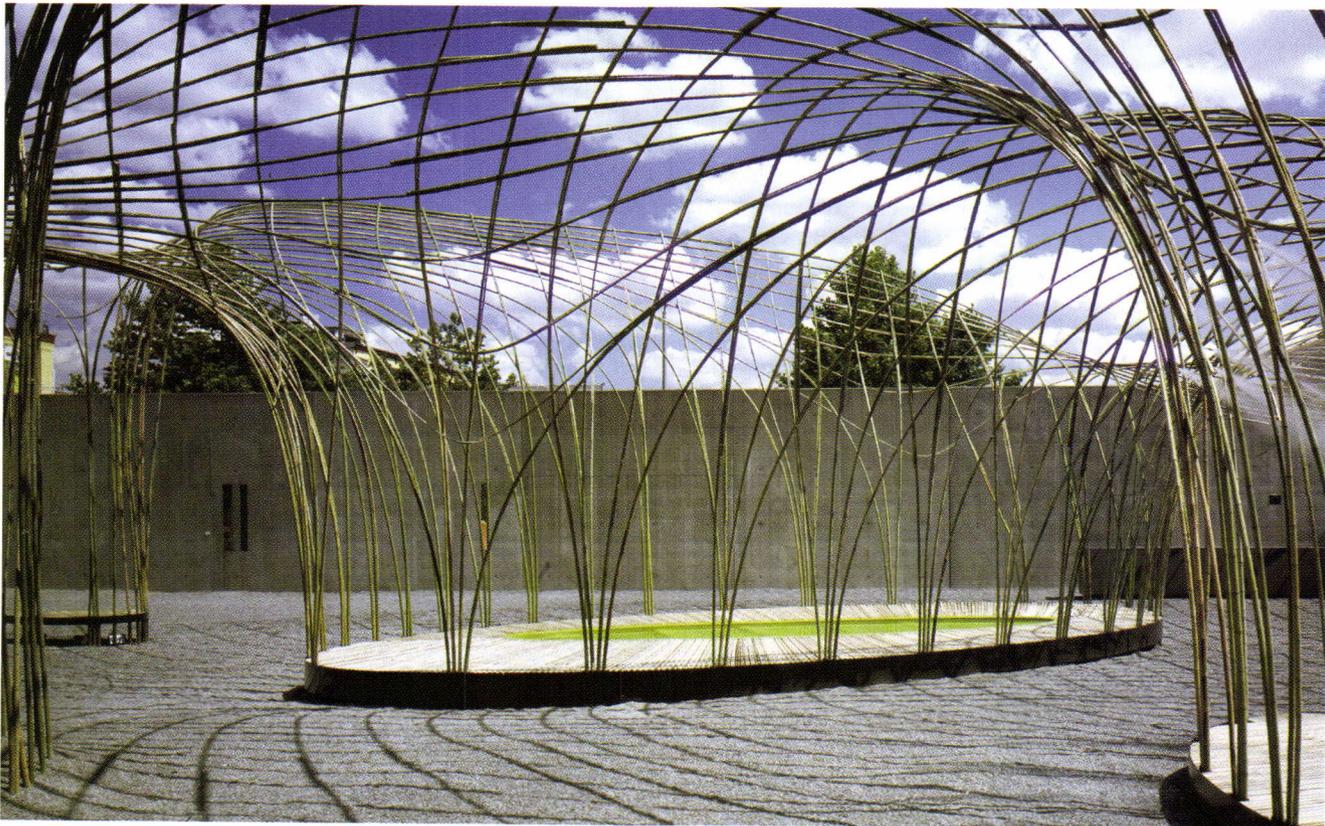


Beginning with an introduction on the relationship between food and location, the book proceeds through four thematic sections—place, kitchen, table, and mouth. Highlights include a piece by urban planner Ferruccio Trabaldi on the strategies of global food tourism and an essay by Marco Frascari on taste and architecture. Commenting on everything from memory and sensuality to industrialization and kitchen design, the book serves up a surprisingly palatable experience. **Julia Mandell**

EXHIBITION

**Canopy | P.S. 1 Contemporary Art Center | Long Island City, New York | Through September 4**

Fog, rain, water, and sand—it sounds like a 1970s funk band, but this quartet of elements, part of a design by Eric Bunge and Mimi Hoang of nArchitects for the courtyard of the P.S. 1 Contemporary Art Center, will more likely be bathed in techno beats during the museum's weekly dance parties this summer. The installation is the result of the fifth annual invited competition sponsored by New York City's Museum of Modern Art and P.S. 1 to select an emerging firm to design an outdoor environment that is displayed for all of 10 weeks and accommodates throngs of hipsters as they lounge and boogie. For what is their largest commission to date, Bunge and Hoang have filled the courtyard with a medley of environments: a heap of sand, a wading pool, a "rain forest" of live bamboo stalks showered by fire-sprinkler heads, and a "fog pad"—an oval wooden deck cooled by misters. Uniting the ensemble—which is titled *Canopy*—is an arching bamboo trellis held together by stainless-steel wire. The two key elements of the project are shading and seating," says Bunge. Hoang adds, "We wanted to combine both within one tectonic strategy." **Anna Holtzman**



TOP: COURTESY MIT PRESS; BOTTOM: FRANK OUDERMAN

WEBSITE

**Dhaka Unconcealed | Worldview Cities Project | [www.worldviewcities.org](http://www.worldviewcities.org)**

The second installment of this project, *Dhaka Unconcealed* explores the architecture, design culture, and history of Bangladesh's capital city. Sponsored by the Architectural League of New York, the site has a range of information, from technical details (population statistics, maps) to profiles of 12 local design firms, focusing on the challenges they face in carrying out modern design in a city that is resistant to change. The website takes the form of a comprehensive timeline that highlights Dhaka's history and design achievements and the cultural and political forces that shaped them. While informative and visually appealing overall, the site has subcategories that are counterintuitive to navigate—though the extra few minutes of effort yields a valuable case study of a city in transition.

The *Worldview Cities* series focuses on the built environment in places often overlooked by the design press. Like the first installment on Caracas, Venezuela [February 2003, page 22], *Dhaka Unconcealed* contains readings, interviews, photographs, and forums for discussion by architects worldwide. In the coming months, the project will launch sites on the cities of Oslo, Beirut, and Tijuana. **Katie Gerfen**



EXHIBITION

**FutureShack | Cooper-Hewitt | New York City | Through October 10**

*Solos* is a loosely defined and open-ended series of experiments intended to challenge the design disciplines. Its second installment sits in the idyllic garden behind the Cooper-Hewitt's century-old mansion. Designed by Australian architect Sean Godsell, *FutureShack* is a prototype for temporary housing made from a 22-foot-long shipping container. Intended for displaced or disaster-stricken populations, the design was a selected entry in the 1999 competition "Transitional Housing," an Architecture for Humanity program intended to develop temporary shelter for refugees returning to Kosovo. The unit contains a bathroom, kitchen, collapsible furniture, and a large sunshade lined with solar panels. All of this folds up inside the container for transportation, and can be unpacked and assembled in less than a day. Godsell claims that when

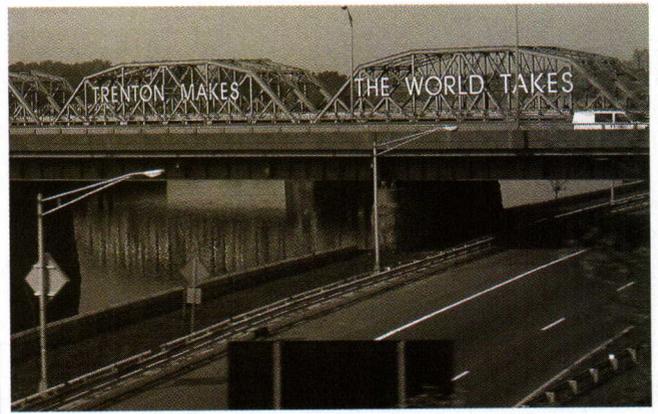


mass-produced, each of the dwellings would cost \$15,000, a price that he believes is affordable to humanitarian groups. It is unclear, however, whether such large objects could be easily delivered to remote or dangerous locations, or if *FutureShack* would be a favorable choice over more localized solutions. **Julia Mandell**

BOOK

**Zoomscape | Mitchell Schwarzer | Princeton Architectural Press**

As defined in this fun and thought-provoking (but also lengthy and academic) treatise, the "zoomscape" describes a way of perceiving architecture as we often do today: through the lens of a camera or from the seat of a moving vehicle—"views of architecture modulated by the accelerator pedal or the remote control," writes author Mitchell Schwarzer (who has also written *German Architectural Theory*). The idea will instantly appeal to many architects, from postmodernists to neomodernists, but the level of granularity presented here (forty pages and 34 literary footnotes on railroads in the era of an endangered Amtrak?) is a bit much to digest. But it's the big idea that counts: know the zoomscape. Design for it. Show your occupants and, more to the point, your passersby, why buildings are still places to stop and contemplate our surroundings. **C.C. Sullivan**



## EXHIBITIONS

**FRANKFURT, GERMANY**  
**Bawa—Genius of the Place**

A retrospective on the career of Sri Lankan architect Geoffrey Bawa.  
**GERMAN ARCHITECTURE MUSEUM**  
dam.inm.de  
Through October 17

**MIAMI****Jac Lerner—Adhesive 44**

The São Paulo-based artist turns everyday materials into modernist abstractions.  
**MIAMI ART MUSEUM**  
miamiartmuseum.org  
Through October 10

**MONTREAL**  
**Architects' Books**

An examination of three eras of architects' books and the relation between designer and reader.  
**CANADIAN CENTRE FOR ARCHITECTURE**  
cca.qc.ca  
Through September 26

**NEW YORK CITY****Andy Goldsworthy**

Modern sculpture from the British artist, installed in the roof garden.  
**METROPOLITAN MUSEUM OF ART**  
metmuseum.org  
Through October 31

**NEW YORK CITY****Austria West: New Alpine Architecture**

Featuring 26 architects and firms and their western Austrian projects.  
**AUSTRIAN CULTURAL FORUM**  
acfn.org  
Through October 30

**NEW YORK CITY****From the Eye of the Master: Vintage Photographs by Constantin Brancusi**

A display of 18 works by the Romanian artist.  
**JASON MCCOY GALLERY**  
jasonmccoyinc.com  
Through September 7

**NEW YORK CITY****Humble Masterpieces**

A collection of common objects and an examination of how their inspired designs make life easier.  
**MOMA QNS**  
moma.org  
Through September 27

**NEW YORK CITY****Isamu Noguchi: Sculptural Design**

An exhibit demonstrating the versatility of Noguchi's three-dimensional design.  
**THE NOGUCHI MUSEUM**  
noguchi.org  
Through October 4

**NEW YORK CITY****Hands to Work, Hearts to God: Saving the North Family Shaker Site**

Views on and history of a crumbling monument.  
**WORLD MONUMENTS FUND GALLERY**  
wmf.org  
Through September 20

**NEW YORK CITY****Faster, Cheaper, Newer, More: Revolutions of 1848**

The change of an era as seen through objects.  
**COOPER-HEWITT, NATIONAL DESIGN MUSEUM**  
cooperhe Witt.org  
Through January 9, 2005

**ROTTERDAM****The Critical 1970s**

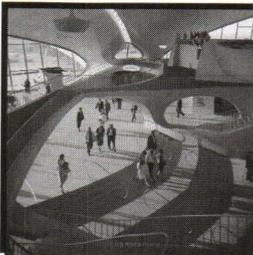
A review of 10 years of Dutch architecture: defining characteristics and the driving social forces.  
**NETHERLANDS ARCHITECTURE INSTITUTE**  
nai.nl  
Through October 3

**VENICE****Metamorph—9th International Architecture Exhibition**

Exhibit of works by architects around the world.  
**VENICE BIENNALE**  
labiennale.org/en  
September 12–November 7

**WILLIAMSTOWN, MASSACHUSETTS****Ezra Stoller Architectural Photography**

Images of iconic American buildings by famed Stoller.  
**WILLIAMS COLLEGE MUSEUM OF ART**  
wcma.org  
Through December 19



## EVENTS

**BALTIMORE****First Annual Baltimore Architecture Week**

Series of architecture-based events including tours, lectures, and design awards.  
**AIA BALTIMORE**  
aiabalt.com  
October 9–16

**MILWAUKEE, WISCONSIN****Urban Waterfronts 22**

22nd annual conference exploring ideas for waterfront design and their implementation.  
**PFISTER HOTEL**  
waterfrontcenter.org  
October 14–16

**NEW CANAAN, CONNECTICUT****Modern Day House Tour and Symposium**

Visits to internationally known houses.  
**NEW CANAAN HISTORICAL SOCIETY**  
nchistory.org  
October 23

**NEW YORK CITY****Open House New York**

Weekend event showcases art and design at 125 sites in all five boroughs.  
**OHNY**  
ohny.org  
October 9 and 10

**PHILADELPHIA****Signature Urban Objects**

Conference exploring the branding of cities by their functional urban objects.  
**UNIVERSITY OF THE ARTS COLLEGE OF ART & DESIGN**  
signatureurbanobjects.com  
October 15 and 16

**UDINE, ITALY****Promosedia—28th International Chair Exhibition**

Exposition dedicated solely to chairs with exhibitors from 200 manufacturers.  
**UDINE ESPOSIZIONI**  
icff.com  
September 10–13

**WASHINGTON, D.C.**  
**Festival of Building Arts**

All ages participate in and observe a variety of building crafts at this festival.  
**NATIONAL BUILDING MUSEUM**  
nbm.org  
September 18

## COMPETITIONS

**P/A Awards**

Architecture's annual program for unbuilt projects (see page 18).  
**architecturemag.com**  
Deadline August 27

**U.S. Green Building Council Design Competition**

USGBC's competition for students and young architects to design a LEED "platinum" building.  
**architects.org**  
Deadline September 1

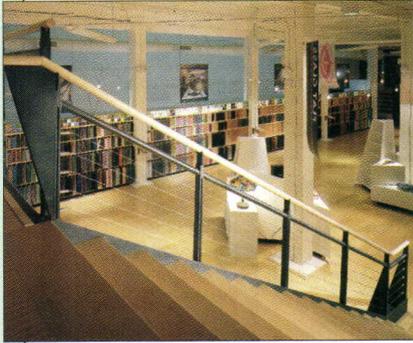
**European Union Prize for Cultural Heritage**

Competition for prizes in historical renovation, conservation or study of cultural heritage.  
**europanostra.org/lang\_en**  
Deadline September 15

# ARCHITECTURE PRODUCT REVIEW

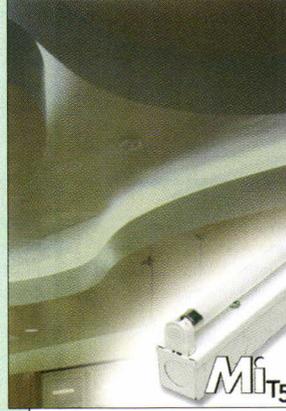
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## HATCH RAILING SYSTEM



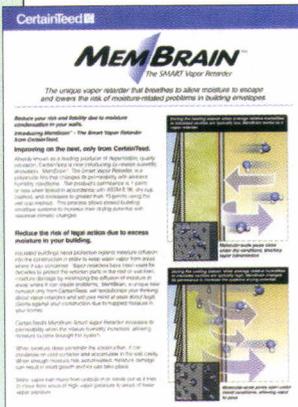
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## LUMIÈRE MONACO 6000



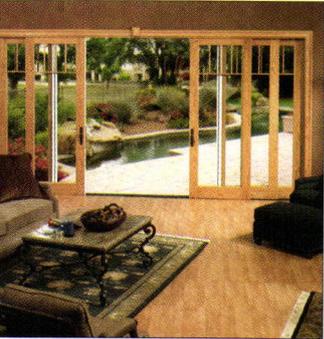
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ogy, lighting and vegetation, and site ecology and circulation systems. About 80 years ago, the professions of architecture and landscape architecture tried an experiment, helping to form the profession of planning. But over the last 50 years, that profession has migrated into social and economic planning, leaving landscape architects to assume the premier physical planning position.

**Jon Bryan Burley**

East Lansing, Michigan

**Competing in Italy**

What "Tyranny of Contest" [May 2004, page 37] describes about European competitions is true, but the situation in Italy is quite distinct. The Italian Parliament passed a law a few months ago to regulate competitions and to improve the quality of architecture in public projects. Before approving the law, Co. Di. Arch., a Milan-based private committee created to defend architects' interests, presented the Minister of Culture the following suggestions: "(1) Jury discussions should be public, and the vote open. The participants and public can attend but have no right to intervene. However, the jurors, if they wish, can ask the participants to explain their proposals; (2) The ideas competition should ask only for one drawing board and one page of description of the proposals. The capacity of synthesis, in architecture, is always an expression of quality ... only one drawing board was used by Le Corbusier to publicly illustrate his Plan Voisin [1925]; (3) The currently (fake) anonymous system should end. 'Architecture needs a father and a mother to be born,' Filarete wrote in his fifteenth-century *Trattato di architettura*. (4) The number of architects on juries should be reduced ... 'artistic sensibility,' it is known, can be stronger in an illiterate than in a graduate."

Needless to say, none of this was accepted. As Bay Brown writes, in a global world "the issue becomes an international one"; the above suggestions are a humble contribution.

**Mariopaolo Fadda**

Santa Monica, California

**A kinder, gentler greenwash**

The article on human-centered sustainable design and its "kinder, gentler" approach [April 2004, page 39] shows two projects by architects that appear to be designing way too big (walk softly and leave as small a footprint as possible) and too homocentric (humans are only one small part of the precious web of nature). While we can't build without doing any harm, we can at least make every effort to minimize the harm we do. From here it looks a lot more like business as usual with a few token eco-gestures and some slick, buzzword public relations to make the urban megastructure owners falsely fantasize that they're environmental heroes.

**Don Stephens**

Spokane, Washington

**CORRECTION**

The article on *Pencil Points* failed to credit the editors of that book, George E. Hartman and Jan Cigliano.

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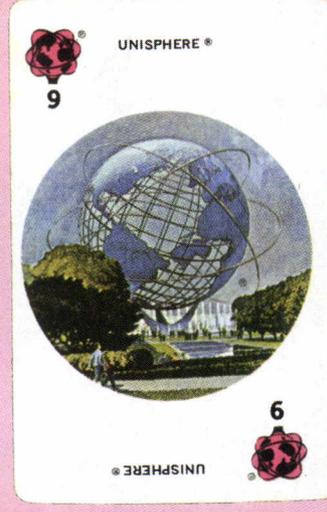
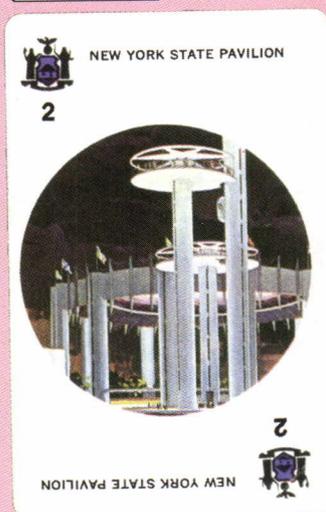
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## WORLD'S FAIRS ARE NO LONGER ON THE AMERICAN AGENDA. IT'S TIME TO REJOIN THE GLOBAL COMMUNITY. BY FRED A. BERNSTEIN

If the next 100 years will be, as some predict, the Chinese Century, one of the harbingers is the world's fair planned for Shanghai in 2010. The Bureau International des Expositions (BIE)—the Paris-based organization that sanctions world's fairs—chose Shanghai over competing cities in Mexico, Russia, Poland, and South Korea.

No U.S. city was even in the running. And no U.S. city is preparing a world's fair bid. Indeed, our country is so uninterested in international exhibitions that it dropped out of the BIE, which has 91 member countries, in 2002. According to Alfred Heller, author of a 1999 book on world's fairs, even if a U.S. city wanted to hold a fair, the BIE would be hard-pressed to approve its bid. "Why would it support a fair in the U.S. when its own members are competing for the same dates?" he asked.

American participation in fairs sponsored by other countries has dropped off precipitously. In 2000, the United States was a no-show at the fair in Hannover, Germany, having decided that building a pavilion wasn't cost-effective. Some 180 nations, from Swaziland to Uzbekistan, managed to find the money.

All of this is heartbreaking to any lover of fairs and their architecture. Ushering in the last century—the American Century—was the 1893 World's Columbian Exposition, in Chicago, with its "white city" of classically inspired buildings. (The association of the beaux arts with public architecture flourished soon after.) In New York City, the 1939 World's Fair brought memorable design and technology (including the Trylon and Perisphere) to the masses. Twenty-five years later, an era of optimism brought more gee-whiz pavilions to the same site in Queens.

The 1964 World's Fair was dedicated to "peace through understanding" and, at least in the eyes of this observer (who was eight years old at the time), it went a long way toward accomplishing that goal. Sure, the fair was commercial (with General Motors, IBM, and Pepsi putting on some of the best shows). But with Michelangelo's *Pietà* in the Vatican pavilion; the works of Goya, El Greco, and Picasso in the Spanish outpost; and an amazing range of foreign foods not then avail-

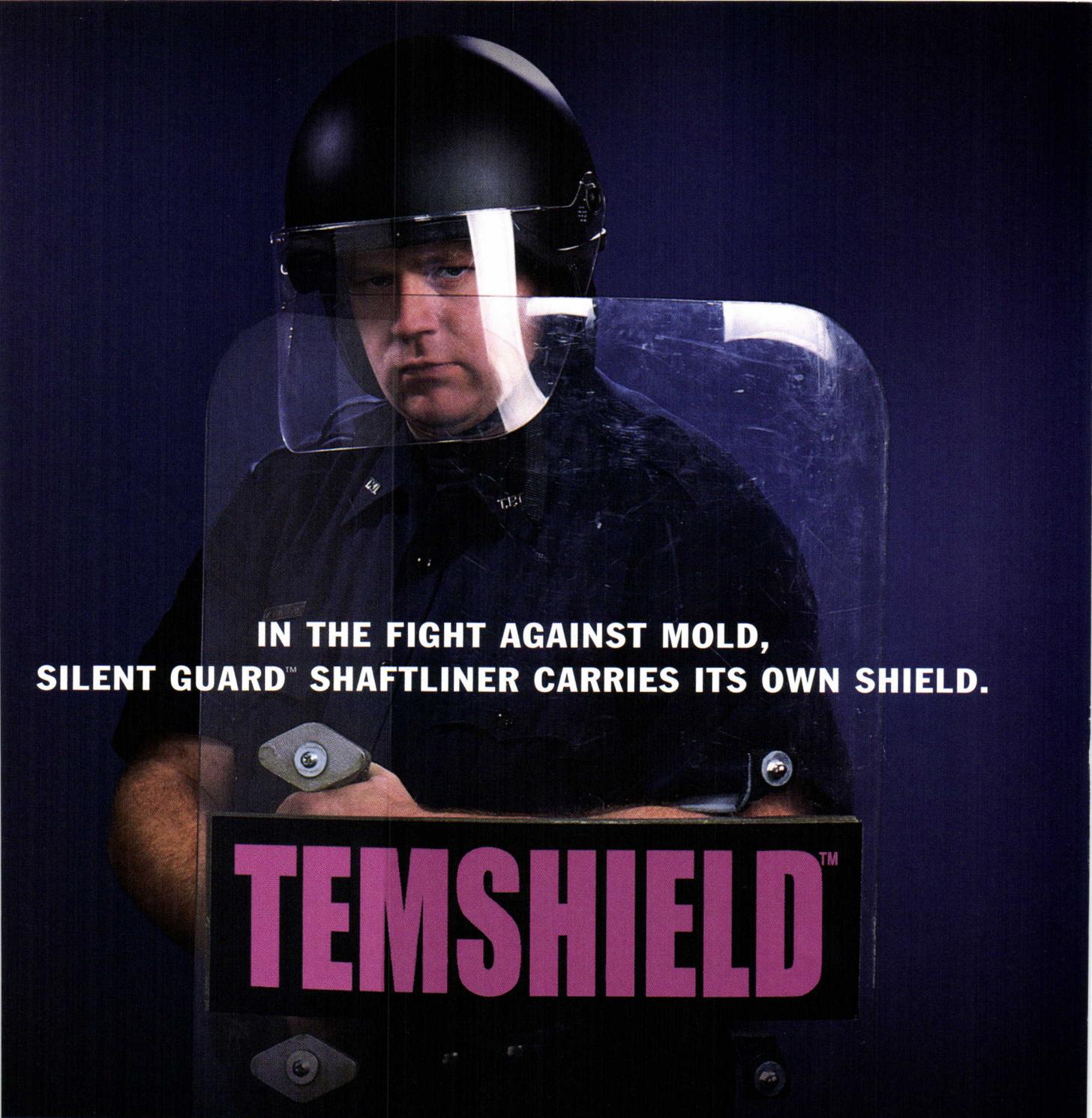
able in the United States, the fair was a showcase for multiculturalism long before it became a catchword. Towering over the fair was Philip Johnson's New York State pavilion, with capsule elevators climbing to a platform from which the Unisphere was visible below. Is it too much of a stretch to see the condition of Johnson's building, which has been rotting away for nearly 40 years, as a statement about "peace through understanding"?

Twelve years ago, the United States Information Agency closed its World's Fair office. Around the same time, Congress failed to appropriate money for a pavilion at Expo '92 in Seville designed by Los Angeles-based architect Barton Myers. Instead, at a fair celebrating the 500th anniversary of Columbus's voyage to the new world, the United States put up a couple of tents it had in storage, resulting in what was, by all accounts, a national embarrassment. Will any fair ever reserve the best space for the United States again? In 2000, the theme of the Hannover fair was "a new world arising"—and the United States wasn't there. A state department spokesman, Adam Meier, said he didn't know if we would be represented in Shanghai. There is a plan to do something at next year's fair in Aichi, Japan, but Meier didn't know what.

For architects, world's fair pavilions—which are by definition temporary—provide opportunities to experiment with materials and forms that might seem frivolous in other contexts. For every pavilion by a star architect (Alvar Aalto's Finnish pavilion in Paris in 1937, or Tadao Ando's design for Japan in Seville), there are dozens of others by little-known designers that use temporariness as license to try new things.

But the issues go beyond design. The United States needs an image upgrade, and a pavilion costs far less to build than an Apache helicopter. The world won't be coming to America in 2010; it will be heading to Shanghai, with or without us.

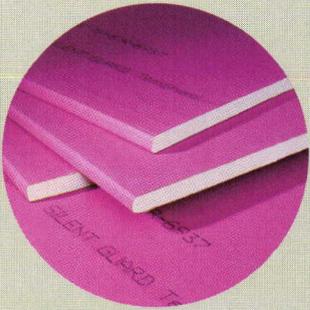
**Fred A. Bernstein contributes to the *New York Times* and *Oculus*, the journal of the AIA New York Chapter.**



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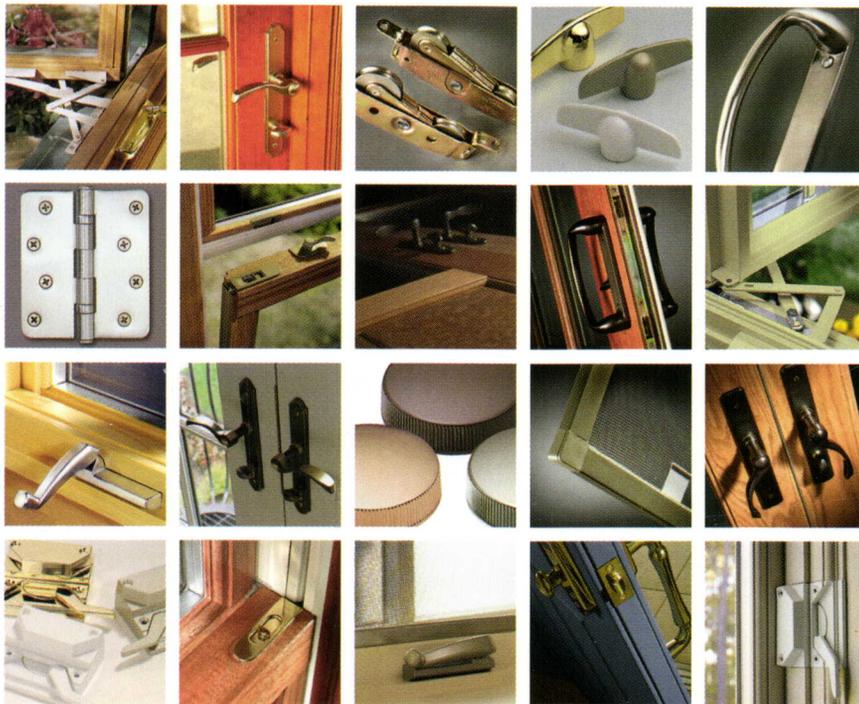
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