ARCHITECTURE

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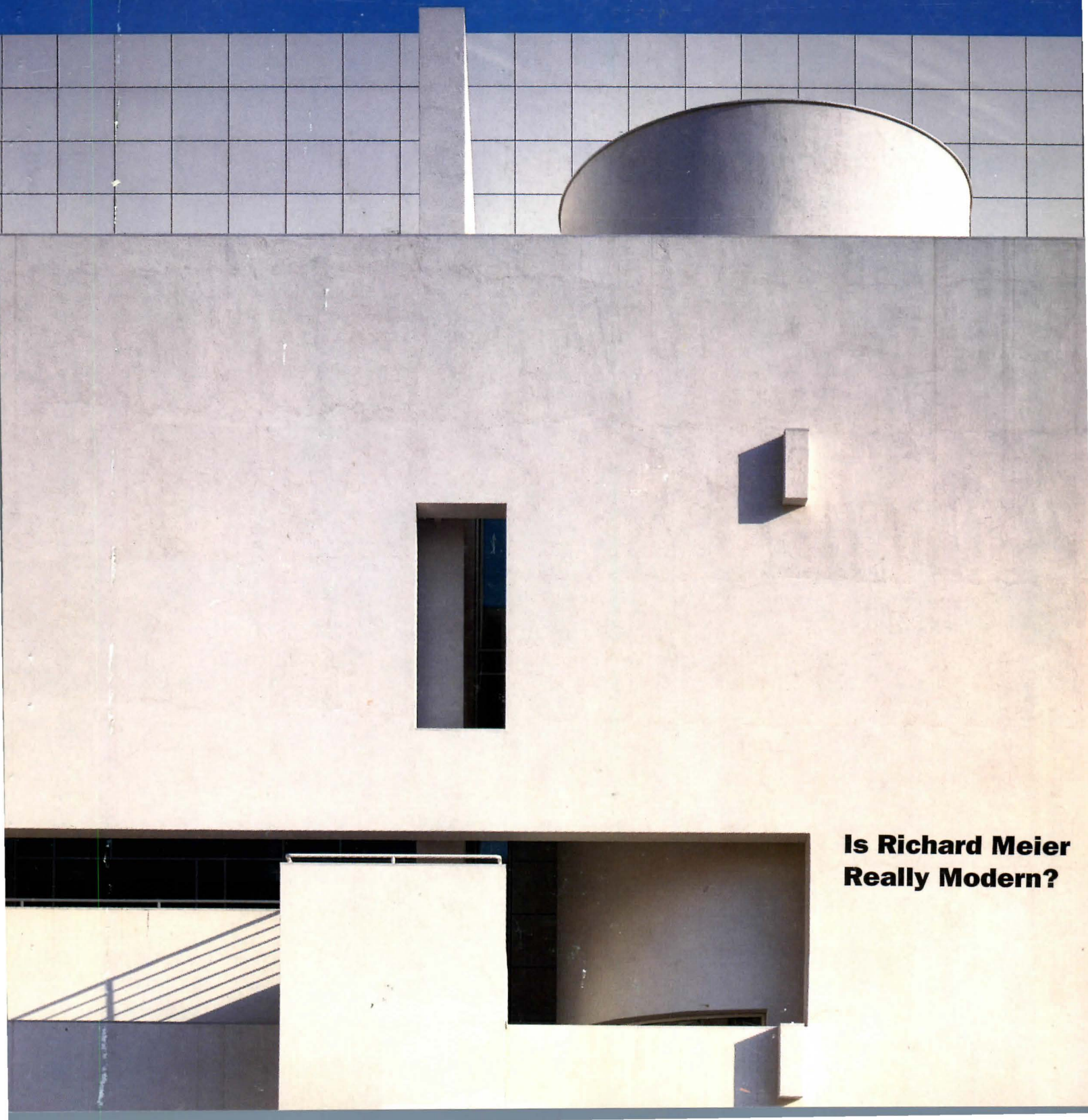

Is Richard Meier Really Modern?

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For Form's Sake

This issue examines the insistent formalism of Richard Meier's newest buildings.

Why devote an entire issue to Richard Meier? After all, the New York architect has hardly wavered from the white Neo-Corbusian vision he first developed more than 30 years ago. Even during the 1980s, when the other "Whites" started dabbling in Postmodern historicism, Meier steadfastly stuck to his Modernist language of pristine, abstract, and heroic forms.

It is precisely this skillful consistency—and sometimes yawning predictability—that is examined in this month's issue. The single-minded authority and sheer beauty of Meier's buildings contrast with the temporizing, often fragmented nature of architecture today. His explorations of space and light are grounded in a disciplined rigor, but one that is self-referential, rather than investigative of larger cultural issues.

In recent years, Meier has become mainstream, even conventional. His grids, golden sections, and plan "graphics" produce buildings that look Modern, but are ultimately Beaux-Arts in their emphatic hierarchy and axiality. In extending and reinforcing street patterns and public squares, projects such as Barcelona's Museum of Contemporary Art (pages 70-79) and the Hague City Hall and Central Library (pages 98-107) underscore the traditionalism of Meier's city-making. His buildings knit together the surrounding urban fabric, despite their material distinction from context. This strategy has led many European clients to commission Meier buildings for their city centers—an enlightened approach to historic districts that has yet to be accepted in the U.S.

In fact, no living architect has designed more significant urban buildings in Europe than this American. Meier's architecture may no longer occupy the forefront of design, but it stills hold a strong appeal: From Frankfurt to Montpellier, mayors and planners are drawn to his snowy forms for their progressive associations with Modernism, delivered with a reassuring level of detail.

Meier's impressive portfolio of civic and cultural projects abroad has recently garnered new commissions at home from clients who, like their European counterparts, are drawn to Meier's Modern-but-not-too-contemporary sensibility. Federal courthouse commissions in Long Island (page 137) and in Phoenix (pages 138-139) offer the 61-year-old architect the chance to design important public buildings in this country for the first time in more than a decade.

The tight budgets of these government projects have not constricted Meier's elegant vocabulary. On the contrary, the courthouses represent new subtleties in his work, with elements such as conical rotundas and brise-soleils conveying monumentality and environmental sensitivity. This shift in direction represents the contribution of Meier's Partner Thomas Phifer, who has enriched the firm's signatures since becoming head of the New York office in 1988.

Meier's largest U.S. commission is, of course, the Getty Center in Los Angeles (pages 80-87), now under construction. This nearly 1 million-square-foot, multibuilding complex is clad in travertine, a departure for Meier. Yet as the form and disposition of the rising hilltop volumes reveal, the complicated ensemble repeats familiar territory.

Meier's relevancy is not as a visionary or theorist, but as a consummate formalist—the architect as artist. Given the profession's current preoccupation with expanding the boundaries of architecture, his obsession with the design and craft of building seems old-fashioned. However, the seductive beauty and civic presence of his buildings convincingly argue the architect's traditional role. Meier shows us that form-making still matters.

Deborah K. Dietsch

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Letter

BPI group president explains recent changes at ARCHITECTURE.

Dear Reader,

In last month's issue, Editor-in-Chief Deborah K. Dietsch welcomed our new *Progressive Architecture* (*P/A*) readers and outlined some of the exciting plans we have for 1996 and beyond.

This month, I want to take a few minutes of your time to try to clear up any remaining questions regarding the events that led to ARCHITECTURE's losing the designation as magazine of the AIA. Additionally, I also want to clarify the issues that led to our subsequent purchase of some of the assets of *P/A*.

When BPI Communications, Inc., purchased ARCHITECTURE from the Institute in March 1989, it was with a definite set of expectations. For our part, we were convinced that ARCHITECTURE would make a natural and strong addition to our company's Arts & Design Group. Because of our strong commitment to architecture and design, we agreed to pay the AIA a full price for the magazine ($12.15 million), hoping that the ensuing partnership would add significant value to both parties.

With respect to the Institute, the message we got was quite clear. The AIA was entrusting us with a magazine that had enjoyed a long and storied history. The Institute's main concern was that we do nothing to diminish or sully the fine work that predated our purchase.

Despite the economic depression in magazine publishing that ensued shortly after our purchase of ARCHITECTURE, we were resolute in our pledge to the AIA to maintain and exceed the standard of excellence we inherited. Over the last several years, the magazine has won numerous awards, chief among them two Jesse H. Neal Awards for editorial achievement. Conferred by the American Business Press, these awards are the Oscars of business journalism.

Most importantly, the members of the Institute, who after all are our ultimate graders, have consistently given the magazine high marks. As recently as April 1995, in a study conducted by Readex, a nationally known independent research firm, a randomly selected sample of members were asked which magazine they would choose to receive as part of their annual AIA membership dues, if they could receive only one. The results provided a resounding vote of confidence in ARCHITECTURE. Almost two-thirds of AIA-member registered architects (63.1 percent) chose ARCHITECTURE as that one publication. *Architectural Record* and *P/A* were chosen by 22.6 percent and 14.3 percent of members respectively.

As our relationship with AIA developed and deepened, we were privileged to move beyond just publishing ARCHITECTURE. We helped participate financially in the restoration of the Octagon, and we have been proud supporters of Accent on Architecture. Most recently, we have enjoyed greater responsibility as part of the AIA/AAF Allied Organizational Member Council.

The terms of BPI's acquisition of ARCHITECTURE included a seven-year Cooperation Agreement, which provided, among other things, that the AIA would guarantee purchase of annual subscriptions to ARCHITECTURE for its members each year. BPI, in turn, agreed to sell these subscriptions at deeply discounted rates. The ongoing financial benefits of the Cooperation Agreement to BPI were fully reflected in the $12.15 million price paid to the AIA for the magazine.

While ARCHITECTURE has become and remains profitable these past six years, it has still fallen far short of our expectations. The architectural marketplace is extremely competitive, and the decline in advertising pages for the marketplace as a whole has been precipitous.

The point of recounting this history is that, legal contracts aside, BPI made a commitment to the AIA to publish the best magazine possible, regardless of economic conditions—a commitment we fulfilled. In accepting our purchase price, we believed the AIA was committing to an open-ended and ongoing partnership that would be terminated only in the event of displeasure with our performance. As part of our Cooperation Agreement, an Advisory Board was established to oversee the quality of the magazine. It consists of four members of the AIA and four members from BPI. Currently, the AIA members are L. William Chapin, II, FAIA, Martin D. Raab, FAIA, Peter A. Rand, FAIA, and Charles Hamlin, AIA's Vice President of Public Affairs. At the most recent board meeting, the minutes reflect that AIA board members were polled on the issue of editorial quality and agreed that "as a magazine for the profession, ARCHITECTURE is meeting the conditions of the BPI/AIA contract well. The publication is performing its primary mission as an organ of professional education."

Moreover, through each and every year of the relationship between AIA and BPI, the board has conveyed to BPI its feeling that the content and production value of ARCHITECTURE were more than satisfactory.

We were disappointed when we learned that the AIA intended to create a bidding process for the right to become the magazine of the AIA. In our proposal to the AIA Board of Directors, we told them that we felt we were at a significant disadvantage versus other potential parties since, unlike everyone else, we had already paid $12.15 million to the AIA. That point notwithstanding, we prepared a proposal that we felt was fair under the circumstances. We were subsequently informed that ARCHITECTURE would no longer be the AIA's magazine, effective with the publication of the December 1996 issue.

In the interim between that October announcement and the end of 1995, Penton Publishing, Inc., the publishers of *P/A,* concluded that the architectural market could no longer support three publications. *P/A*'s market share had fallen to 19 percent, and the magazine was losing a significant amount of money. We, on the other hand, were confronted with the stark reality that, beginning in January 1997, we would no longer be able to depend on the AIA guaranteeing 50,000 AIA readers, thus impairing our ability to compete for advertising revenue.

Since our needs coincided, talks between the two companies began in late 1995. Penton, having decided to leave the architectural market, proposed that we serve out *P/A*'s subscriptions and pay an appropriate amount to purchase certain of *P/A*'s assets. After some negotiation, we agreed. The transaction was concluded on January 2 of this year.

As a result, we stand poised to renew our commitment to architecture and design. Our editors plan to retain those editorial components of *P/A* that the profession knew and respected. This new change will allow ARCHITECTURE to become an even stronger voice for you in the future.

In coming weeks we will share with you additional exciting plans embodying a unique and new approach to serving the profession, which we hope will allow us to earn your continued trust and support. We look forward to providing you with more comprehensive information and services as ARCHITECTURE moves forward in 1996. We welcome your comments and ideas for the future.

Sincerely,

Paul O. Curran
President, Arts & Design Group
BPI Communications Inc.

Letters

Memorial for multitudes

Although I live and work in Boston, I did not visit the New England Holocaust Memorial (December 1995, page 23) until recently. While I agree that the memorial suffers from an inelegant choice of site and an overwhelming deluge of text, I must disagree with you as to its "effectiveness." I walked through the etched glass columns with tears streaking my face. People read of the horrors, yes, but not as voyeurs: voyeurs are neither shocked nor touched so profoundly.

The site does seem cheap so close to Haymarket and Quincy Market. But when the world is bemused by headlines of people denying the Holocaust happened, don't you approve of such a busy location? Crowds see the memorial and wander over out of curiosity: they are shocked into tears. Memorials are meant to be seen by multitudes, by tourists. The Holocaust Memorial does what it was meant to do.

Amanda B. Howell
Boston, Massachusetts

I was surprised to read your negative review of the New England Holocaust Memorial. This beautiful monument speaks to us through its descriptions as well as its powerful architectural rhetoric. As for its siting near a tourist destination—what better site for such a monument of remembrance than along a trail that celebrates freedom?

Cameron Roberts, AIA
Boston, Massachusetts

42nd Street's facelift

Congratulations on your summary of the fortunes of 42nd Street (November 1995, pages 94-99). It is a great puzzle in which government, the private sector, and institutional presence are all competing for attention. You are right about how the sleaze marketplace has killed the place, and it is interesting that government has made the current renewal possible—especially now, when the public sector is held in such low esteem.

Hugh Hardy, FAIA
New York City

Farewell to TAC

I read your article on the demise of TAC with great sentimental interest (December 1995, pages 117-119). Although I never worked for the firm, as a student at Harvard's Graduate School of Design in the late '70s, TAC was a dominant feature on the Cambridge architecture scene. My roommates worked for TAC, and I clearly recall the annual strawberry and champagne celebration of Gropius's birthday, where Mrs. Gropius was always kind enough to speak. Forty-six Battle Street and the Design Research store were icons of the "Yankee Modernism" that inspired even those of us studying Rossi and Krier.

As SOM enters its 60th year, it is a sobering thought to those of us who survived the recent recession that one of our old friends has ceased to exist. While the TAC corporation may be an empty shell, the collaborative spirit continues in those of us who remember.

Gary P. Haney, AIA
Washington, D.C.

Events

Exhibitions

LOS ANGELES. "Franklin D. Israel," February 11-May 26 at the Museum of Contemporary Art. Contact: (213) 626-6222.

MONTREAL. "The Idea of the Penitentiary," through May 5 at the Canadian Center for Architecture. Contact: (817) 738-1933.

NEW YORK. "Lilly Reich: Designer and Architect," February 8-May 7 at the Museum of Modern Art. Contact: (212) 708-9500.

"Six Bridges: The Making of the New York Megalopolis," through April 19 at PaineWebber Gallery, sponsored by Cooper-Hewitt, National Design Museum. Contact: (212) 713-2885.

WASHINGTON, D.C. "The New American Ghetto," photographs by Camilo Vergara, through May 5 at the National Building Museum. Contact: (202) 272-2564.

Conferences

ATLANTA. National Kitchen & Bath Association conference, May 2-6. Contact: (908) 852-0033.

LOS ANGELES. WestWeek furniture exposition and conference, March 13-15 at the Pacific Design Center. Contact: (310) 657-0800.

MIAMI. International Tile & Stone Exposition, April 24-27. Contact: (800) 881-9400.

MINNEAPOLIS. AIA national convention and exposition, May 10-12. Contact: (202) 626-7396.

NEW YORK. "Buildings/New York" trade exposition, April 17-18. Contact: (203) 840-5608.

"Interior Design Week," May 3-11, sponsored by the ASID. Contact: (800) 338-4411.

SEASIDE, FLORIDA. "The Technique of Traditional Town Planning," April 23-27, sponsored by the Seaside Institute. Contact: (904) 231-2421.

TAMPA. Wood windows and doors conference, February 10-14. Contact: (708) 299-5200.

Competitions

Architectural League of New York Young Architects *Forum*. *Entries* due **February 12**. Contact: (212) 753-1722.

"Convivial Spaces," sponsored by the International Union of Architects and Habitat II. Registration deadline: **March 15**. Contact: 33-1-45-243-688.

Designs for Governors Island, New York, sponsored by the Van Alen Institute. Entries due **April 2**. Contact: (212) 366-5836 by fax.

Finnish International Wood Innovation Competition. Entries due **April 29**. Contact: 358-0-132-4599 by fax.

THE OBJECT OF ART I

News

Anshen + Allen Prepares to Sell Branch Offices

San Francisco-based architect Anshen + Allen (A+A) is preparing for a major shift in ownership as Chairman Derek Parker grapples with plans for his firm's succession. Parker, age 61, is trying to sell off his overwhelming financial interest in A+A—reportedly as high as 75 percent—by allowing the firm's Los Angeles and Baltimore offices to buy themselves out.

These two offices would continue to use the Anshen + Allen name independently, without forming a new holding company. Principal Edward Hord, who heads the Baltimore office, calls the transition "a change in accounting" and declined to comment further.

"I've been thinking for a long time about how to get a large firm to operate as a small firm," Parker maintains. He refers to the process as "devolution"—a loose, visionary term that has close colleagues spooked. In recent months, Parker has begun to pass the torch to junior colleagues, saying he recognizes that selection panels for projects "are now a generation younger than I am and want to work with their peers. More and more my job is to provide guidance and strategy."

Closer to the point, sources say, Parker is trying to net a decent return on his equity in the company, which he joined in 1960. Last year, Parker was reportedly preparing to phase himself out of the firm. Some assumed his departure would pave the way for former President and CEO John E. "Jack" MacAllister to take the post of chairman, but Parker realized he had placed too high a value on his stock in the firm and decided on a more gradual departure. According to a source, "MacAllister left in a huff." MacAllister, however, insists that his was "a very friendly departure."

Last October, MacAllister was appointed president of the California operations of NBBJ, the nation's most active healthcare architect and a key competitor of A+A. By hiring MacAllister, NBBJ CEO James Jonassen expects to pump up his firm's healthcare presence in the Golden State, long a laboratory for new types of medical delivery.

While NBBJ's healthcare practice has been robust, its California operations have not performed at pace with the rest of the firm, owing to a focus on projects in Southeast Asia. MacAllister attests that he has been given the resources and support to build NBBJ's California division into "what it should be."

That goal may not be too difficult, given recent shifts in the West Coast healthcare arena. Ellerbe Becket recently closed its L.A. office, and Anderson DeBartolo Pan is slowly pulling out of healthcare in California to focus on electronics, following the firm's purchase last August by engineering giant Fluor Daniel. That market share will likely be carved up by A+A, NBBJ, and fellow healthcare market mainstays Stone Marraccini Patterson and Kaplan McLaughlin Diaz, both of San Francisco, and Santa Monica-based Lee, Burkhart, Liu.

Taking stock of these recent developments, Parker asserts that A+A's new organizational strategy will boost his firm's share of the healthcare market. "The future belongs to the quick—we've got to be cheaper and faster," he declares, but observers note that Parker's outsized financial interest in A&A has made it hard for the firm to act nimbly.

MacAllister, meanwhile, knows enough about A+A to compete with Parker. "Once MacAllister is settled, he's going to draw the good people away from A+A," asserts a prominent West Coast lab consultant. "NBBJ has had that reputation for a long time."—*Bradford A. McKee*

Maryland's Ex-Governor Elected to AIA Board

William Donald Schaefer, governor of Maryland from 1987 to 1995, has been elected by the AIA board to become one of two public directors for 1996 and 1997.

Schaefer's election is a sign of the respect that the 74-year-old politician earned within the design community during his terms as governor and mayor of Baltimore (1971 to 1987). While in office, Schaefer gained the reputation of being the quintessential "bricks and mortar" advocate, consistently pushing for big-ticket projects as catalysts for economic development. More than a dozen buildings and public spaces around the state bear his name.

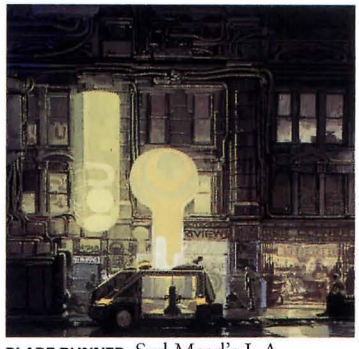
Though sometimes derided for his "edifice complex," Schaefer is widely seen as a friend of architecture who understands the significance of good design in revitalizing his state. As governor, he was influential in the funding, siting, and construction of Oriole Park at Camden Yards, an AIA-award-winning baseball park whose 1992 opening helped spark a wave of downtown stadium and arena projects. A companion football stadium by HOK is now in the works.

Significant projects completed during Schaefer's 16-year tenure as Baltimore's mayor include the National Aquarium, designed by Cambridge Seven Associates, and Harborplace, an early festival marketplace by Benjamin Thompson Associates. During that time, Schaefer also presided over the rebirth of many of the city's neighborhoods.

Schaefer is now a lawyer affiliated with a Baltimore law firm and a lecturer for University of Maryland and Johns Hopkins University. He replaces AIA Public Director Jane Maas; the AIA's other public director is Patricia Carbine, cofounder of *Ms.* magazine.—*Edward Gunts*

FILM EXHIBITION: Model of set by Rochus Gliese for German director F.W. Murnau's 1927 film *Sunrise.*

CABINET OF DR. CALIGARI: Set model.



BLADE RUNNER: Syd Mead's L.A.

DICK TRACY: Oscar-winning sets.

Exhibition Showcases Architecture's Starring Role in Films

The exhibition "Film Architecture: Set Designs from *Metropolis* to *Blade Runner,*" on view at Brown University's Bell Gallery from December 9, 1995, to January 21, explores on-screen visions of architecture and urbanism in 20th-century films. Curated by Assistant Professor of Art and Architecture Dietrich Neumann, the show enthusiastically portrays architecture's role in film with a fascinating collection of movie clips, stills, models, sketches, and other artifacts.

Movies have given rise to visions of cities and places as palpable as any devised on a drafting board or construction site. The 16 films chosen by Neumann highlight the most important cinematic architecture, such as the imaginative streetscapes and skylines in Fritz Lang's *Metropolis* and Ridley Scott's *Blade Runner.*

The chronological show begins with 10 lovingly presented works of the German Expressionists, dating from 1920 to 1930, including the landmark *Cabinet of Dr. Caligari* and the visually stunning *The Golem,* with sets by architect Hans Poelzig. Prints and sketches by directors and set designers are juxtaposed with the work of contemporary architects to reveal a strong connection between architecture and film.

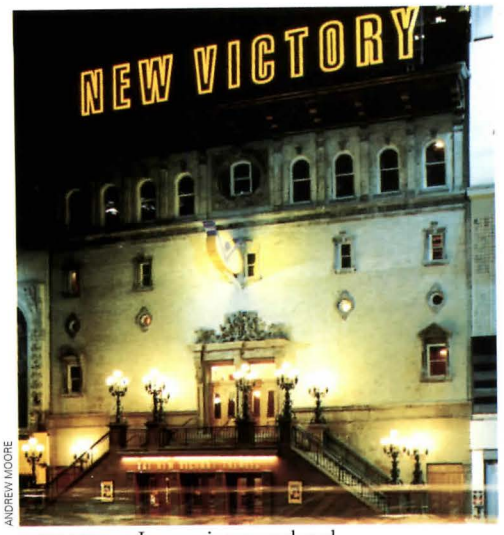
"Film Architecture" ends with work from three films of the last decade, *Blade Runner, Batman,* and *Dick Tracy,* which revive for contemporary audiences many of the themes and traditions explored by Expressionist filmmakers. The dark, sinister architecture of these movies harkens back to the late Expressionist works directed by Fritz Lang, *Metropolis* and *M* (curiously omitted from the show). The weight Neumann lends to films from the 1920s and 1980s underscores important thematic connections between the two filmmaking eras.

Three films, Jacques Tati's delightful critiques of the Modernist workplace and domicile, *Playtime* and *Mon Oncle,* and King Vidor's tribute to our collective professional ego, *The Fountainhead,* cover the intervening decades. However, this trio is far too few in number to adequately illustrate the relevant cinematic output from 1930 to 1980, and gets lost in the effort to bridge the powerful Expressionist and contemporary works.

"Film Architecture" will be on view at the Academy of Motion Picture Arts and Sciences in Los Angeles, beginning April 4.—*Ned Cramer*

MUSEUM OF THE CITY OF NEW YORK

OLD VICTORY: Hammerstein's theater, circa 1900.

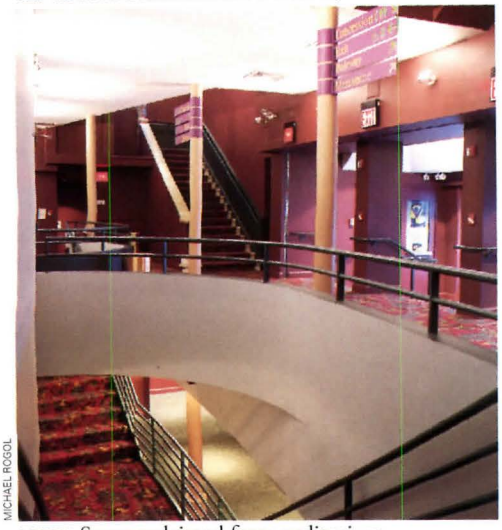


ANDREW MOORE

NEW VICTORY: Lost staircase replaced.

ANDREW MOORE

PROSCENIUM: Original plasterwork restored.



MICHAEL ROGOL

LOBBY: Space reclaimed from auditorium.

MICHAEL ROGOL

LOBBY: Signage by Chermayeff & Geismar.

ANDREW MOORE

AUDITORIUM: Capped by dome with plaster putti.

Theater Restoration Inaugurates Times Square Revival

The New Victory Theater is the first theater to reopen in the highly touted New 42nd Street redevelopment project (ARCHITECTURE, November 1995, pages 94-99). Unveiled last December, the restoration by Hardy Holzman Pfeiffer Associates (HHPA) restores dignity to the 95-year-old playhouse, which languished for two decades as a pornographic movie theater until making its debut as a venue for family-oriented live entertainment.

Designed by Manhattan architect J.B. McElfatrick for Oscar Hammerstein as the Republic, the 1900 building was converted in 1931 by burlesque producer Billy Minsky into the area's first striptease establishment. During a wave of patriotism in the 1940s, the theater was renamed the Victory and cleaned up for second-run movies. Then, after 30 years of shabby gentility, the Victory returned to the skin trade as Times Square's first blue movie house. Other 42nd Street theaters followed suit during the 1970s.

In 1990, the city and state of New York collaboratively established the New 42nd Street, Inc., a not-for-profit group mandated with revitalizing the historic theater district as a modern entertainment destination. Thanks to government funding and the support of private groups, $2.5 billion is being poured into the 13-acre Times Square site, helping to restore nine historic theaters and generate hotel and retail development. Private theater developers include Walt Disney, the American Movie Channel, and Tishman Dream Team Associates.

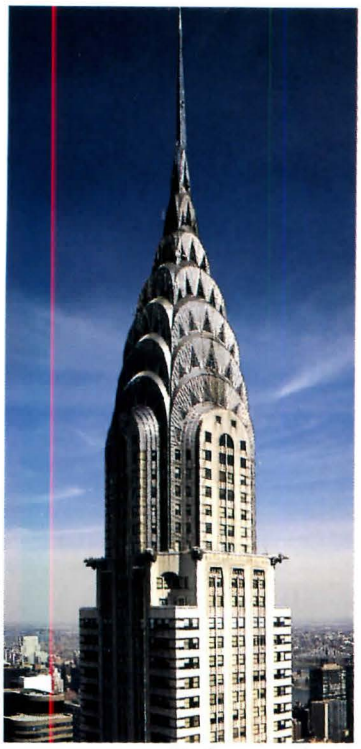
The independent, not-for-profit theater group that took over the operation of the New Victory in 1994 selected HHPA for the project based on the firm's successful restoration of the Brooklyn Academy of Music's Majestic Theater and its new headquarters and studio for the Dance Theater of Harlem.

Sixty years of increasing neglect had left the New Victory in a dilapidated condition and unsuited to contemporary theater needs. In addition, the original theater lacked a lobby of any description—the exterior doors opened directly into the ornate auditorium.

On the exterior, HHPA rectified changes made in 1932, removing an Art Deco marquee and replacing the lost wrought-iron lamps and grand staircase on 42nd Street. On the interior, the architect restored the remaining original ornamentation, including the auditorium's putti-strewn plasterwork ceiling and domed stage-side boxes.

To gain additional circulation space in the cramped theater, HHPA simply shaved off the last few rows of seats, added a wall between the lobby and the slimmed-down auditorium, and inserted a staircase in the newly reclaimed space.

This simple, elegant solution to the functional problem is undermined, however, by the neutrality of the lobby's design, which lacks a celebratory quality worthy of the auditorium's gorgeous riot of plasterwork. The only hint of liveliness in the lobby is the corny "street" signage by Chermayeff & Geismar. Disney has also commissioned HHPA to renovate its 42nd Street showplace, the New Amsterdam, which is scheduled for completion January 1997.—*N.C.*



PETER MAUSS / ESTO

CHRYSLER BUILDING: Under renovation.

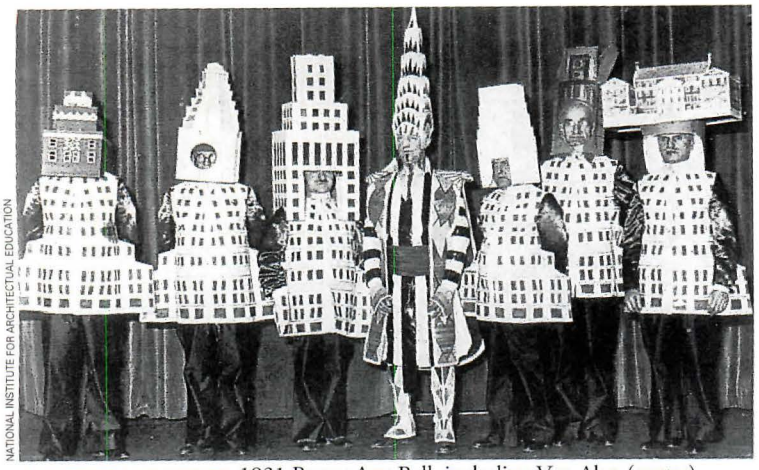
Van Alen's renown

A plastic-covered scaffolding has veiled the **Chrysler Building** (left) in New York for several months. The brick-and-stainless-steel envelope of the 1929 landmark is being cleaned, upgraded, and restored by **Hoffmann Architects**, a Manhattan firm specializing in exterior rehabilitations. The $1.5 million project will be completed this summer.

Architect William Van Alen, who designed the Chrysler Building, is the new namesake of the former **National Institute of Architectural Education** (NIAE). Van Alen won the NIAE's Paris Prize in 1904, when the organization was known as the Society of Beaux-Arts Architects. He later went on to become the NIAE's greatest benefactor. Recently elected Chairman of the Board Michael Manfredi and newly appointed Executive Director Raymond Gastil will head the **Van Alen Institute: Projects in Public Architecture**. The Institute's focus will shift from architectural education toward advocacy of public projects through competitions and design workshops. The first Van Alen Institute competition is for Governors Island in New York City Harbor.

Van Alen is also remembered for the Chrysler Building costume he wore at the 1931 Beaux-Arts Ball, where he posed with contemporaries for a famous photograph (facing page). **Philip Johnson**, **Frank Gehry**, **Peter Eisenman**, and **Richard Rogers** are among the architects invited by *Vanity Fair* to pose for a reprise of the picture in an upcoming issue of the magazine. Rogers will sport a model of the Lloyds Building in London, and Johnson will don a facsimile of his PPG Tower in Pittsburgh.

Van Alen will also be commemorated in a new museum of skyscrapers, founded by Columbia University professor and architectural historian **Carol Willis** with the financial support of the philanthropic J.M. Kaplan Fund. Locations on and around Wall Street are being considered for the new museum. Willis plans to curate the debut



NATIONAL INSTITUTE FOR ARCHITECTUAL EDUCATION

ARCHITECTS AS BUILDINGS: 1931 Beaux-Arts Ball, including Van Alen (center).

show, "The Architecture of Business, the Business of Buildings."

Salem museum expands

Director **Dan L. Monroe's** vastly successful fundraising drive for the **Peabody Essex Museum**, including a $20 million gift from the nation's fourth wealthiest man, **Ned Johnson**, has led to a $36.2 million construction plan. The Salem, Massachusetts, institution has been inundated with proposals from architects hoping to realize **Cecil & Rizvi's** extensive master plan. Among the firms vying for the commission is **Schwartz/Silver Architects**, originally commissioned to expand and renovate the Peabody Museum before its 1992 merger with the neighboring Essex Institute and the 1993 appointment of Monroe. Despite the obvious interest of many New England firms, Monroe and the Peabody Essex board of directors are tentatively planning an invitational international competition. The master plan calls for renovating the older buildings; adding a gallery, library, and storage spaces; and developing a coherent identity for the institution's scattered facilities.

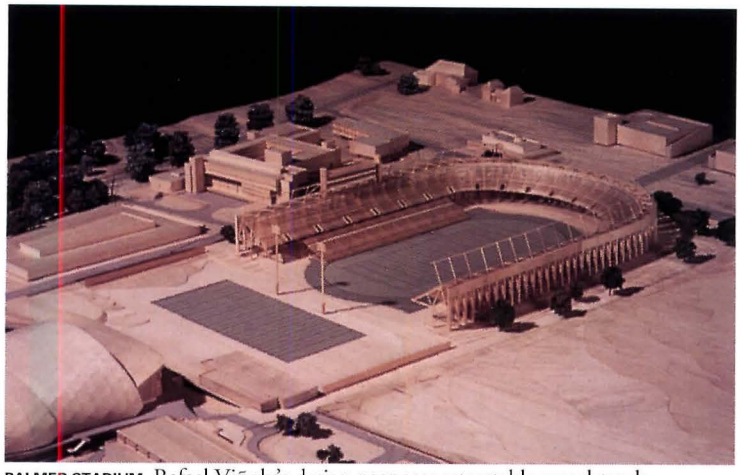
Vatican patronage

As part of its preparations for the Jubilee celebration of the year 2000, the Vatican has invited architects **Peter Eisenman**, **Frank Gehry**, **Richard Meier**, **Tadao Ando**, **Günther Behnisch**, and **Santiago Calatrava** to participate in a competition to design a church on the periphery of Rome. The competition inaugurates a Papal initiative to build more than 50 churches on the city's outskirts; the winner will be announced at the end of May.

Squall over Lake Superior

Holt Hinshaw Architects, designer of the Lake Superior Center in Duluth, Minnesota (ARCHITECTURE, December 1995, page 27) was fired from the project in August 1995, according to the aquarium's former director Bob Bruce. Bruce cited the firm's "predictable arrogance" and financial and administrative mismanagement of subcontractors as the cause of the break. Mark Hinshaw claims that the aquarium was pressured to dismiss his firm because 80 percent of design fees for the building were going to an out-of-state architecture firm and subcontractors, and that Bruce lost his job in the process. Meanwhile, several Minnesota firms are being considered by the center to complete the design with reorganized exhibits.

Holt Hinshaw's former partner **Wes Jones**, now of San Francisco-based **Jones, Partners: Architecture** is designing a pedestrian bridge and ranger station at San Jose's Guadalupe River Park, and a public stair folly at the University of Cincinnati.



PALMER STADIUM: Rafael Viñoly's design proposes retractable grandstands.

Princeton plans

Machado and Silvetti Associates is revising **Day and Klauder**'s 1913 master plan for Princeton University and designing a $20 million, 260-bed dormitory. Other projects under way on the Princeton campus include **Gwathmey Siegel & Associates**' addition to the music school, **Smith Miller Hawkinson**'s children's book collection in the Firestone Library, and **Rafael Viñoly's** Palmer Stadium (above). Off campus, **Venturi, Scott Brown and Associates** (VSBA) is renovating and expanding the train station at Princeton. VSBA's design includes a 15-foot-high, book-shaped sign.

Firm changes

Onetime Pennsylvania Avenue Development Corporation director **M. Jay Brodie** has left his position as director of planning and urban design at RTKL **Associates** to run the Baltimore Development Corporation. **Charles Eastman**, CAD guru and director of the Center for Design and Computation at UCLA, has been appointed professor of architecture and computer science at Georgia Tech. Bay Area firm **Marquis Associates** is closing shop after 40 years of practice, one year after the death of founder Robert B. Marquis. Current principals **Gita Dev** and **Hal Brandes** will continue to work on several projects, including completing the Franklin Delano Roosevelt Memorial in Washington, D.C., with landscape architect **Lawrence Halprin**. **Crosby Helmich** of San Francisco is heading across the bay to merge with the Emeryville, California, office of **Ratcliff Architects**. The newly merged group, which will retain the Ratcliff moniker, will employ 75

people. DEGW **International**, a London-based firm specializing in workplace design, is opening an office in New York next month to manage projects for Arthur Anderson in Chicago and CIGNA Insurance in Hartford, Connecticut.

New commissions

Machado and Silvetti Associates is renovating and expanding the J. Paul Getty Museum's Malibu villa to house the institution's collection of Greek and Roman antiquities. The master plan will include an outdoor theater for the production of Classical plays. **Hodgetts and Fung** have been chosen over **Coop Himmelb(l)au**, **Morphosis**, and **Stanley Saitowitz** to design a 30,000-square-foot building to house the San Francisco Art Institute. **International Architects Atelier** is working on a 12,000-square-foot, rubber-clad nature center in Kansas City, Missouri. **Philip Johnson, Ritchie & Fiore** is completing a three-story apartment building in Tremblay, France, near Paris.

Anshen + Allen is working on a pair of academic projects: a $21 million expansion and renovation of the 80,000-square-foot engineering building at the University of Iowa, and a $14 million, 60,000-square-foot research laboratory for the medical center at University of California, Irvine. **Ellenzweig Associates** has received new commissions totaling 200,000 square feet: two science centers for Ursinus and Augustana Colleges, and a visual and performing arts center for Clark University. **Sundberg Olson** is designing a 45,000-square-foot gallery in Bellevue, Washington, and a 72,000-square-foot museum in Takoma, Washington. **Narduli/Grinstein Architects** is converting three manufacturing buildings into a 41,000-square-foot performing arts center and a 23,000-square-foot art exhibition space for the Bergamot Station cultural complex in Santa Monica, California. **Steven Ehrlich Architects** is designing an addition to a 1938 Richard Neutra beach house in Santa Monica. **Thompson and Wood** is collaborating with **Carlos Zapata Design Studio** of Miami and **Ellerbe Becket** of Kansas City to design a stadium for the Chicago Bears in Gary, Indiana, near Chicago. The 75,000-seat stadium will be located in the 1,100-acre Planet Park, planned by Thompson and Wood, which will also contain a midway, entertainment and retail complex, and recreational facilities. Thompson and Wood and Zapata are also collaborating on a 23,000-square-foot, 15-story office and retail building on the waterfront in Kitakyushu, Japan. **Yost Grube Hall** is designing a $20 million law library for the University of Oregon in Eugene. California design firm **Sussman/Prejza & Company** is designing the streetscape along a 2.5-mile stretch of East Washington Boulevard in Culver City, site of several Sony-owned studios. In addition to a completely new street sign system and logo for the city, Sussman/Prejza will erect a giant pair of C's, Culver City's initials, emulating the Hollywood sign. The firm has also been named environmental designer for the vast 1,087-acre Playa Vista development near Marina del Rey. **Julie Snow Architect** of Minneapolis has been commissioned to convert a streetcar roundhouse in St. Paul into the Minnesota Transportation Museum.

Obituaries

Albert H. Swanke, former senior partner of **Swanke Hayden Connell Architects**, died January 8 at the age of 86. The architect, who spent his early years in the office of Ernest Flagg, is best remembered for his restoration work on the U.S. Capitol Building and the 1986 centennial refurbishment of the Statue of Liberty. **Kenneth S. Halpern**, director of the Manhattan Office of the Department of City Planning, died January 13 at the age of 51. The architect and planner was instrumental in the design of South Street Seaport. Halpern created zoning plans and design guidelines for the Lower East Side, Central Harlem, Upper West Side, and East Side.

Architect:

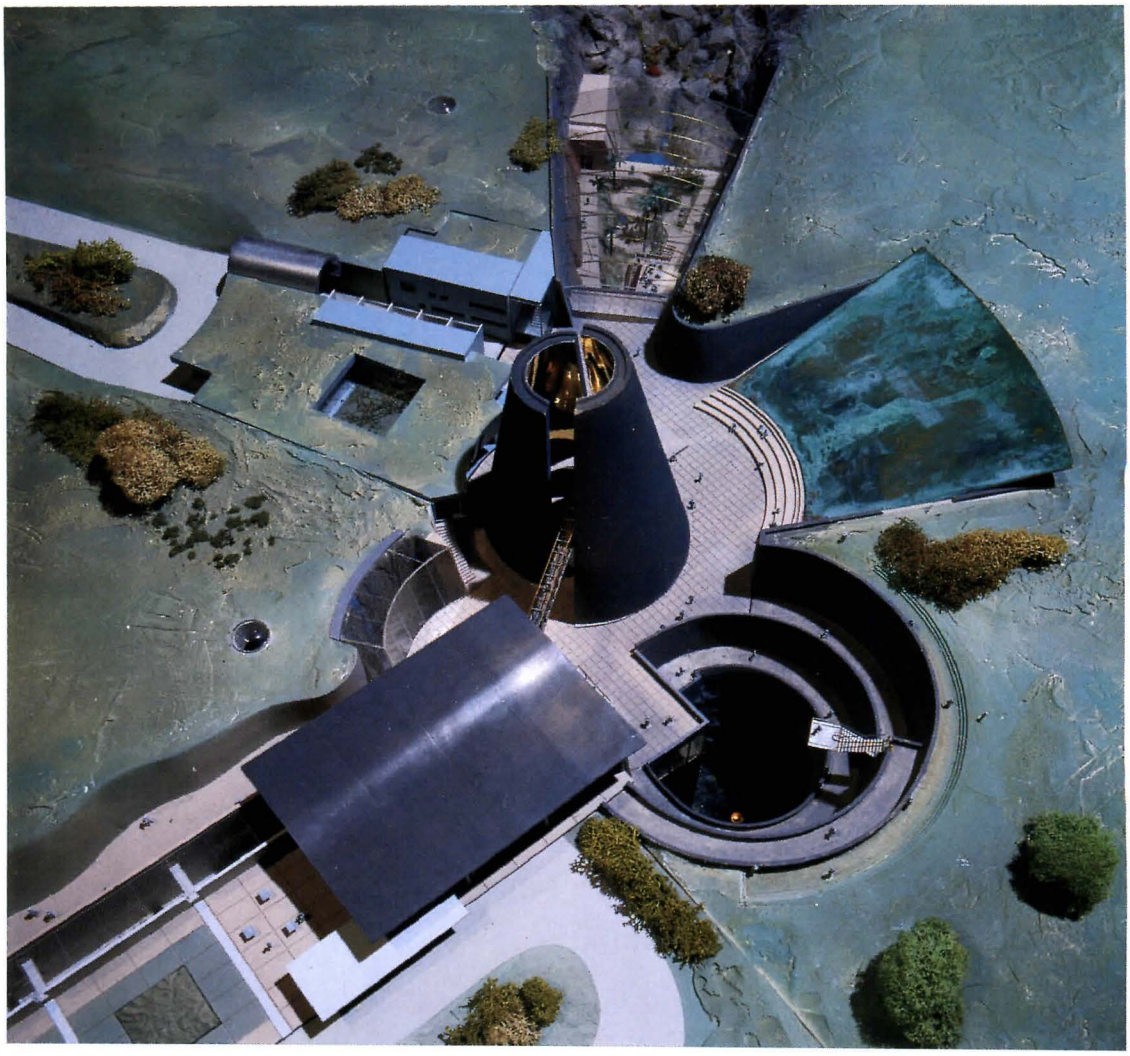
Walter C. Carlson

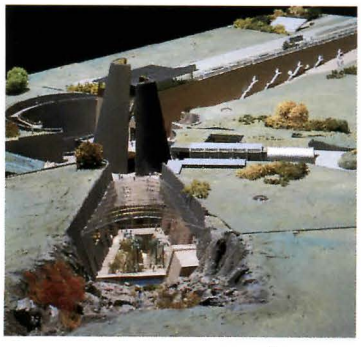
Walter C. Carlson Associates

Deerfield, Illinois

On the Boards

A museum in France recreates the caverns and craters of volcanos.





European Center of Volcanism
Saint Ours-les-Roches, France
Hans Hollein, Architect

The European Center of Volcanism demonstrates the creative and destructive power of nature. Located in the mountainous Auvergne region of France, the building's design, by Viennese architect Hans Hollein, echoes the forms of the surrounding extinct volcanoes.

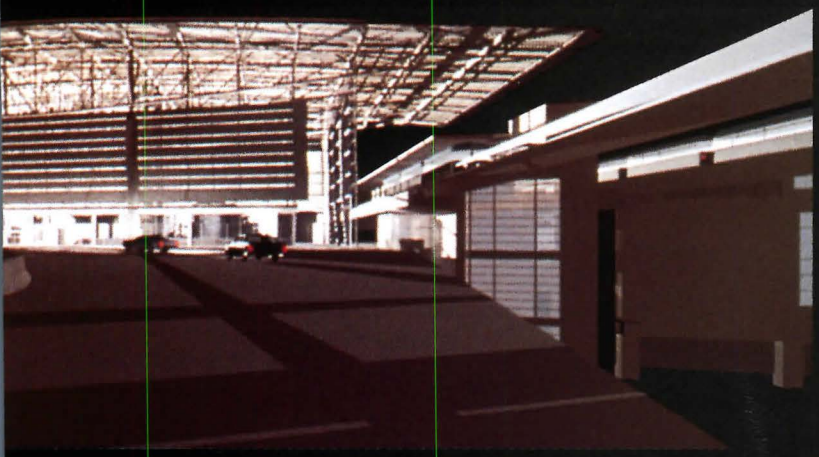
A 70-foot-high cone, clad in black volcanic rock and lined with gold leaf, contains the museum's main hall. An amphitheater and garden structure are clustered around this cone, the primary above-ground feature (above). A long allée (left) and low rectangular pavilion give access to the main hall, from which a spiraling ramp leads around the lip of a simulated crater. Other subterranean exhibition areas recall the caves and fissures caused during seismic eruptions. Completion is scheduled for 1998.—*N.C.*

On the Boards

International Terminal
San Francisco, California
Skidmore, Owings & Merrill

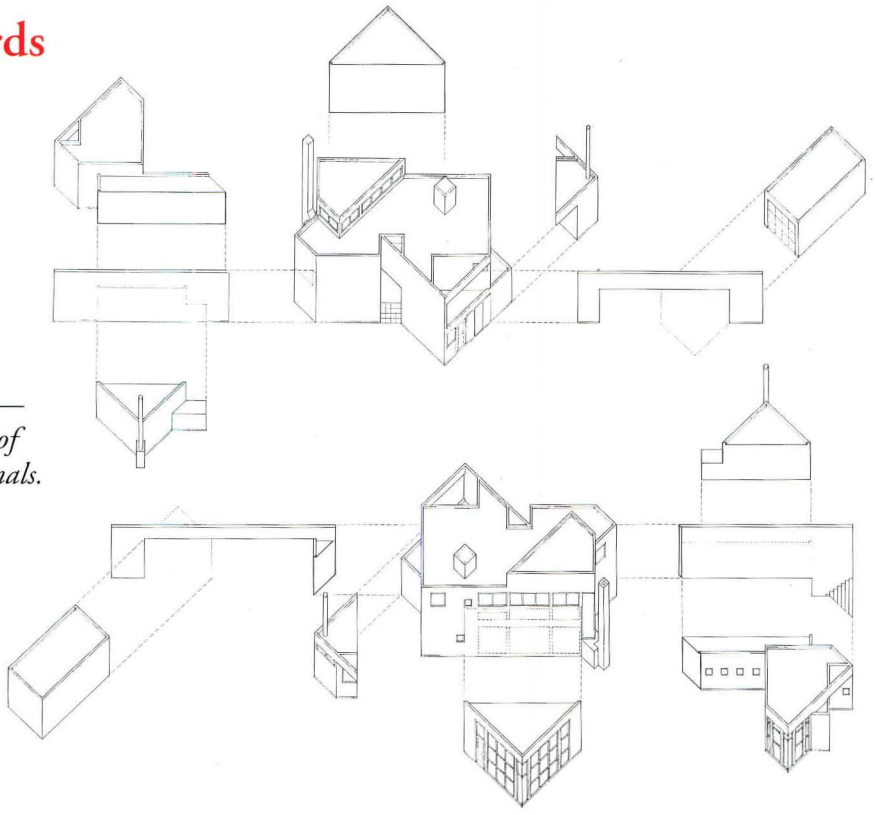
Skidmore, Owings & Merrill (SOM) is designing new terminals at Tel Aviv's Ben Gurion Airport and Boston's Logan Airport, and expanding Washington's Saarinen-designed Dulles Airport and the international arrivals building at New York's Kennedy Airport.

Now, SOM's San Francisco office, in association with Del Campo & Maru and Michael Willis and Associates, has been selected to design the new 1.5 million-square-foot San Francisco terminal as part of a $2.5 billion expansion. SOM's seven-story building is organized around a great hall crowned by a wing-shaped, double-cantilevered roof suggesting a lighter variation of Saarinen's famed TWA terminal at Kennedy. A pair of boarding wings extend to the north and south of the three-story-high hall, which will house ticket counters. The $375 million project is slated for completion in 1999.—*R.A.B.*



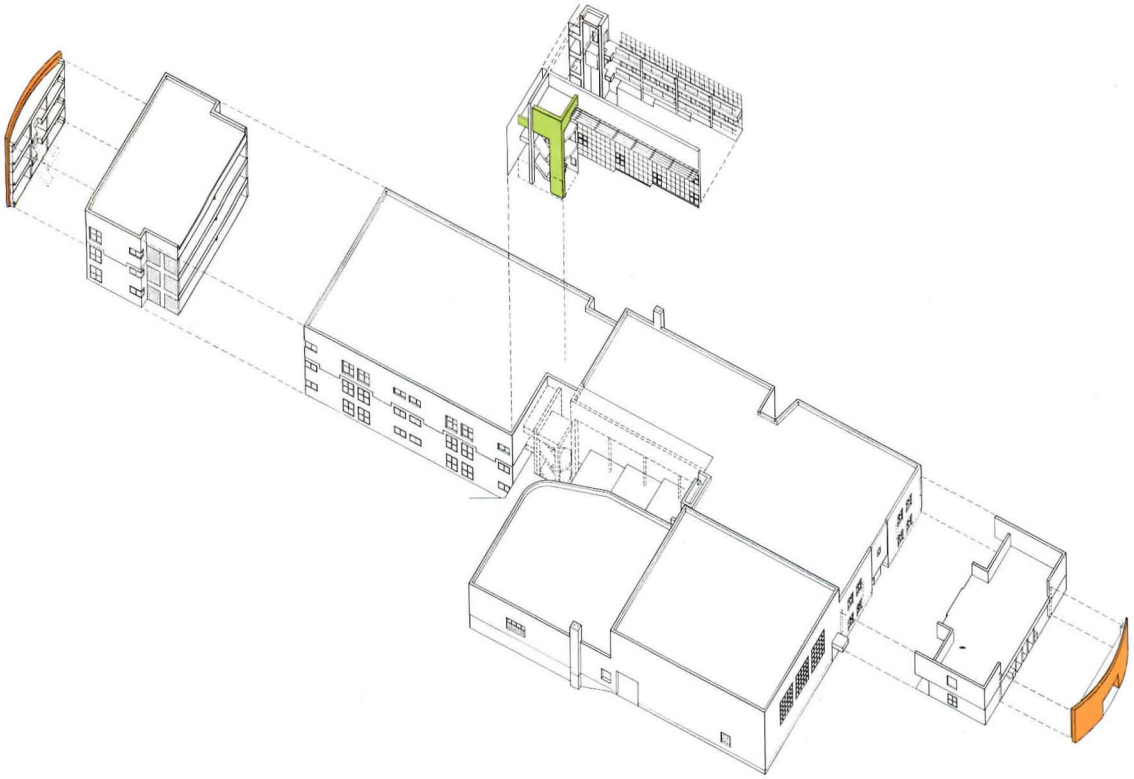
On the Boards

Additions transform—and respect—a pair of Richard Meier originals.



Hoffman House Renovation
Stamberg Aferiat Architecture
East Hampton, New York

By 1994, Anita Hoffman had outgrown her landmark 1967 Richard Meier-designed house. On the recommendation of the noted architect, she turned to Peter Stamberg and Paul Aferiat (who worked for Meier from 1975 to 1979) to renovate and expand the 2,000-square-foot dwelling. Stamberg Aferiat extended the planes of the structure's rotated axes into the landscape, against which they set their additions: a new master bedroom and bath, and expanded living room, dining room, and kitchen. The resulting composition maintains Meier's rigorous geometries, yet manages to add 1,000 square feet. The house will be stripped of its decaying painted wood cladding and refaced in stucco; insulated fenestration will replace single-pane glazing, upgrading thermal performance. The project is scheduled for completion in June.—*R.K.*

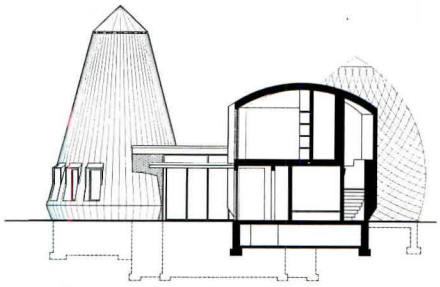


Clifty Creek Elementary School Addition
Stamberg Aferiat Architecture
Columbus, Indiana

Clifty Creek Elementary School is Richard Meier's contribution to the architectural treasure trove in Columbus, Indiana, generated by Irwin Miller's renowned Cummins Engine Foundation. By 1994, however, the school had outgrown its 1982 design, and it was also in need of renovations and modifications to meet ADA guidelines. Now, an addition of 15,000 square feet by New York City-based Stamberg Aferiat Architecture brings new classrooms, teacher preparation areas, accessible elevators and corridors, and a media retrieval system to the 73,500-square-foot school.

Stamberg Aferiat's design bookends the original structure, sliding a new circulation core into an existing court between the two wings. Glazed brick and concrete masonry are largely continued, leaving Meier's esthetic intact.—*R.K.*

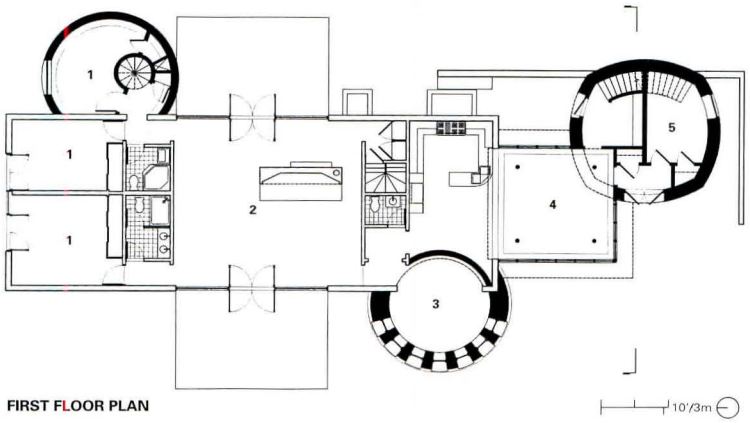
On the Boards



WEST-EAST SECTION

1 BEDROOM
2 LIVING ROOM (EXISTING)
3 DINING ROOM
4 FAMILY ROOM
5 GUEST BEDROOM

Conical pavilions transform a mid-century Modern house by Philip Johnson.



FIRST FLOOR PLAN

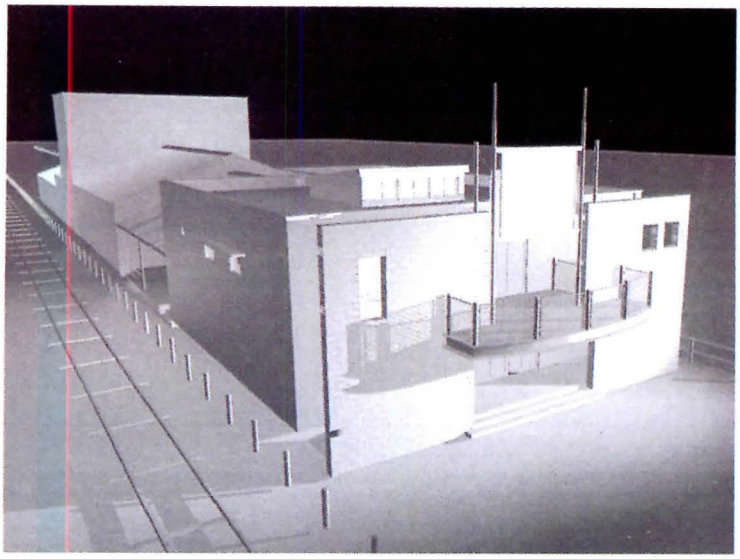
Oneto House
Dennis Wedlick, Architect
Irvington, New York

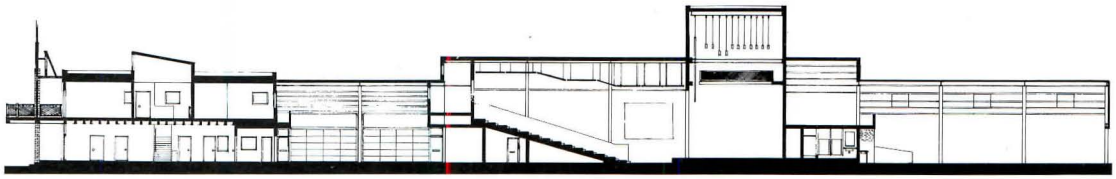
When the Oneto House was completed by Philip Johnson in 1952, the noted architect was still in his High Modern period. In adding 1,750 square feet to the 2,300-square-foot house, architect Dennis Wedlick attempted to maintain the integrity of Johnson's brick, glass, and steel box by grafting a contrasting trio of sculptured, copper-clad volumes onto the structure.

The additions, intended to read as oversized landscape elements, will contain a dining room in the cone, a guest room in the cylinder, and a bedroom in the beehive. A family room under a wavy roof replaces the original covered terrace. Given Johnson's most recent addition to his New Canaan property (ARCHITECTURE, November 1995, pages 74-79), it is little wonder that the 89-year-old architect has endorsed Wedlick's plan for expanding his Oneto House.—*R.K.*

On the Boards

Projects by women architects celebrate local culture.





Chicano Cultural Center
Morris Gutierrez, Architect
Houston, Texas

Architects Deborah Morris and Gabriella Gutierrez are renovating a 17,500-square-foot Houston warehouse into offices for Festival Chicano, a local performing arts organization. The new facility will also house a gallery, classrooms, rehearsal space, studios, and a proscenium theater.

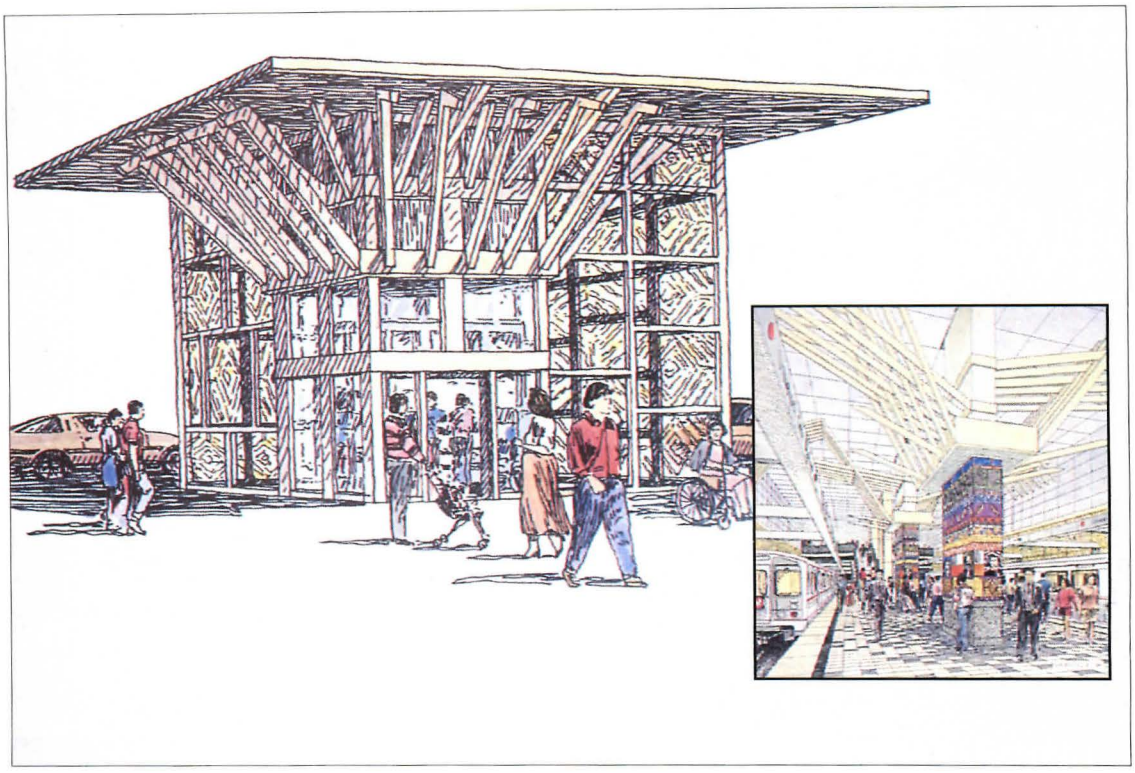
The existing brick-clad office block and metal-sheathed warehouse will become a single facility, without significant alteration of their exterior profiles. Their structures and materials will be upgraded to meet environmental and acoustic standards. A new concrete block entry wall with an attached metal armature will frame a balcony and outdoor projection screen. The new wall is pulled 6 feet away from the existing north facade, creating space for wheelchair access ramps and an exterior mural gallery. Construction will begin this December.—*R.K.*

Universal City Metro Red Line Station
Siegel Diamond Architects
Universal City, California

Inspired by a century-old glade felled for nearby street widening, Siegel Diamond is designing the $15 million Universal City rail stop for the Los Angeles County Metropolitan Transportation Authority with articulated structural "trees" that emphasize the lofty 75-foot height of the station interior.

These concrete columns sprout nonstructural aluminum branches; their bases will be wrapped in polychromed murals by Siegel Diamond and local artist Margaret Garcia.

The porcelain-on-steel and ceramic murals depict the colorful events of the Mexican-American war, which ceded California to the United States in a ceremony at the Campo de Cahuenga historical site adjoining the transit stop to the east. MCA/Universal Studios is considering building a people mover to connect commuters with the CityWalk shopping area to the south.—*R.K.*

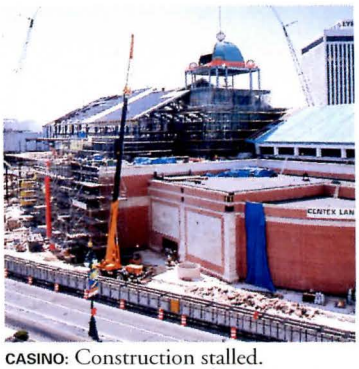


PSSST. THE COMPAN
HAVE SOME MA

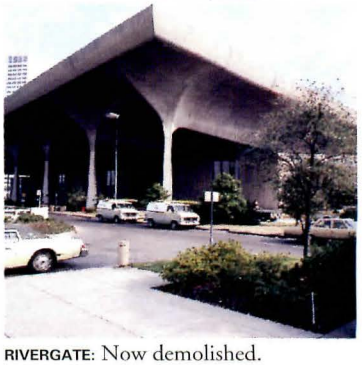
Twenty-six story, 312 Elm Building

An elaborate casino project fails to fulfill architectural and economic promises.

HARRAH'S NEW ORLEANS: Casino design suggests 19th-century French precedents.



CASINO: Construction stalled.



RIVERGATE: Now demolished.

New Orleans Rolls Dice on Casino

New Orleans has a profound respect for its architectural and cultural heritage, but it holds equally dear its reputation for celebration—the city as perpetual party. The two once complemented each other with easy nonchalance, but the city's romantic charm has recently become a mask for economic decay. The post-oil-boom decline of New Orleans since the mid-1980s has left the city's leaders scurrying in shadows so deep that they became blinded by an $850 million ray of light, manifested in the form of the world's largest land-based casino.

This light of temptation blinded the city from seeking even the most standard of performance bonds from Harrah's New Orleans, the would-be operators of the new casino. It also persuaded them to sacrifice the city's architectural past: The developers demanded and won demolition of the Rivergate convention center, the award-winning palace of 1960s Modernism designed by local architects Curtis and Davis. They wanted its prime site for their new gambling facility, initially promised as a sensitive presence modeled on Charles Garnier's Paris Opera House (1875).

In the end, New Orleans sold its soul for a vast structure on the edge of the architecturally dense French Quarter. The new casino resonates with all the image and content of a suburban shopping mall—scaleless, shapeless, and unresponsive to its historic context. Its brick-and-precast-concrete exterior, designed by local architect Perez Ernst Farnet, was stripped and compromised by a political process that values only cost-effectiveness, becoming a scantily decorated shed to house the gambling theme park created by Henry Conversano and Associates.

And now, it appears that the city has been dealt a bad hand. On November 22, 1995, citing massive discrepancies between original financial projections and current fiscal realities at its temporary facility, Harrah's filed for bankruptcy, laying off 2,500 workers and terminating construction on the 550,000-square-foot casino.

There is currently no guarantee that the project will ever be completed. The promised economic redemption of New Orleans lies incomplete, a vacant structural shell on the site of a now-demolished architectural landmark.—*Scott Wall*

Scott Wall is an associate professor of architecture at Tulane University.

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Communicate, Don't Isolate

Architects must value and share their knowledge to gain power and respect.

As president of the Architects' Council of Europe in 1994 and the Royal Institute of British Architects (RIBA) from 1993-1995, I have closely observed the pressures that are changing architectural practice so rapidly in Europe. As a practicing architect helping large companies manage their businesses internationally, I have witnessed parallel changes in my clients' organizational structures. Both architects and clients are faced with new values and attitudes, increasingly fierce international competition, more and more specialization, and above all, with information technology that dissolves every convention it touches. Just as clients are learning to cope with accelerating change, so architects must learn to redesign design—and our profession.

How can we seriously defend, in a changing world, the apparatus of professionalism that we have inherited from the 19th century—the paraphernalia of institutes, councils, committees, awards, medals, visiting boards, honorary fellows, diplomas, and dinners?

The increasingly fragile, if still widespread, atelier system is now being violently challenged by a supply-side-driven construction industry that, in order to maximize profits, behaves as if the client should have no choice. This industry increasingly attacks what it construes as the protectionism, inefficiency, and self-aggrandizement of architects. From this perspective, we are very much part of the problem.

In Britain, architects have experienced wave after wave of government attacks on the traditional values of their profession—on the code of conduct; on the funding of what appears to outsiders to be an expensive, inconveniently long and design-oriented educational program; on appropriate fee levels; and even on our right to own the hard-won title of "architect." What is common among these attacks is the desire to deny the special status of the professional in society.

Long accustomed to economic competition, American architects seem today, from a post-Thatcher, British perspective, to be privileged, enjoying some protection of both their title and function. Architects in the rest of the European Union are horrified by the situation in Britain, which to them combines the horrors of unbridled fee bidding with the absence of state support for professional standards in the field of architecture.

The fundamental issue, however, is not how to restore architectural protectionism. In the longer term, barriers don't work. The challenge for all architects everywhere is to work out how to demonstrate the importance of architectural imagination to society today and in the future. I believe we have to reinvent the idea of the profession.

From my parallel presidencies, I have learned that many of our troubles stem from failing to observe the implications of societal change—and, more practically, from clinging to an obsolete managerial framework. Most architects seem to have no difficulty understanding what their colleagues are trying to do with glass, steel, and stone. Many of the same internationally published books sit upon architects' shelves worldwide; the same global images haunt our collective imagination. And yet the vast majority of architectural practices, because of the specific nature of sites, the small scale and fragmented pattern of client demand, and the divided and generally undercapitalized nature of architectural practice, remain very local indeed.

The curious combination of global awareness and intensely local economic reality may in theory seem to be a source of strength for architects—a version of the fashionable management nostrum, "Think globally; act locally." The real lesson is more likely to be the opposite: Internationalist fantasies are getting in the way of architects' engagement with the urgent particular demands of their clients, and with the great contemporary issues of ecological sustainability that require direct involvement if they are to be resolved.

This pessimistic view was borne out by a four-year study of architectural practices un-

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dertaken by the RIBA in 1991. Called the Strategic Study, the first phase became a severe critique of certain unintended consequences of the 1960s managerial revolution in architectural practice. Some architects, desperate to survive, had become accustomed to giving away or spectacularly discounting their chief intellectual property—conceptual design ideas—in order to attract the busywork of detailing, working drawings, and contract administration that they wrongly imagined would pay the bills.

The second phase of the study concentrated on learning what the best contemporary clients think about architects, and on discovering the secrets that made certain architectural practices succeed during the recession. The RIBA learned that clients do like and value design ideas—but that they very much dislike the way in which architects deliver what they have designed. This is partly because clients find it difficult to disassociate the architect's contribution from that of the rest of the construction industry, and partly because architects, thanks to an enthusiasm inherent in our calling, often raise clients' expectations without actually having the power or the managerial control to provide all that we have appeared to promise.

Worst of all, RIBA's detailed studies of the most "successful" practices showed that the cleverest, ablest architects were rating their performance by peer group criteria—design, CAD skills, technical expertise—and certainly not by how well these skills could be applied to enhance clients' enterprises, businesses, or even their quality of life.

Instead of being depressed by these discoveries, we made sure that the third phase (1994-1995) would rethink what it is that architects should be trying to achieve. This task was performed with the optimism characteristic of architects' great gift—the belief that, given a clearly stated problem, we can somehow design a way to solve it.

The architectural profession, in particular, can only justify itself in terms that relate to the unique nature of architectural knowledge, that is, the cumulative understanding that architects have built up, project by project, about how to use design imagination to house our clients' activities in the most effective, beautiful, and sustainable way.

What architects forget is that no one knows more about design and the user than architects. To make this precious collective resource fully operational in the competitive and consumerist environment of today, we must learn to define our knowledge in a manner that commands public respect. Our title, remuneration, professional relationships with clients, position in the construction industry, and educational programs all depend upon demonstrating that there is no more effective way to express what buildings can and ought to do than that great 19th-century invention, the professional institute.

The objective of the RIBA Strategic Study is nothing less than the redefinition and reinvention of the role of the architect in modern society. If we ask how our profession, in this information-hungry last decade of the 20th century, can set about reforming itself, then the answer has to be through architects sharing the full potential of architectural knowledge with each other.

In order to achieve this objective, the RIBA is inventing ways in which architects can continually communicate with and learn from clients. One powerful method is through the current series of focus groups begun so that architects can explore with universities, housing developers, healthcare providers, and other sectors the kinds of buildings clients will need in the first decade of the next century.

We have found that architects need training to conduct such focus groups—they need to learn to listen—but also that clients love the sessions and want to institutionalize such cooperative relationships with architects. Results are published in the *RIBA Journal;* implications are explored in the Institute's compulsory Continuing Professional Devel-

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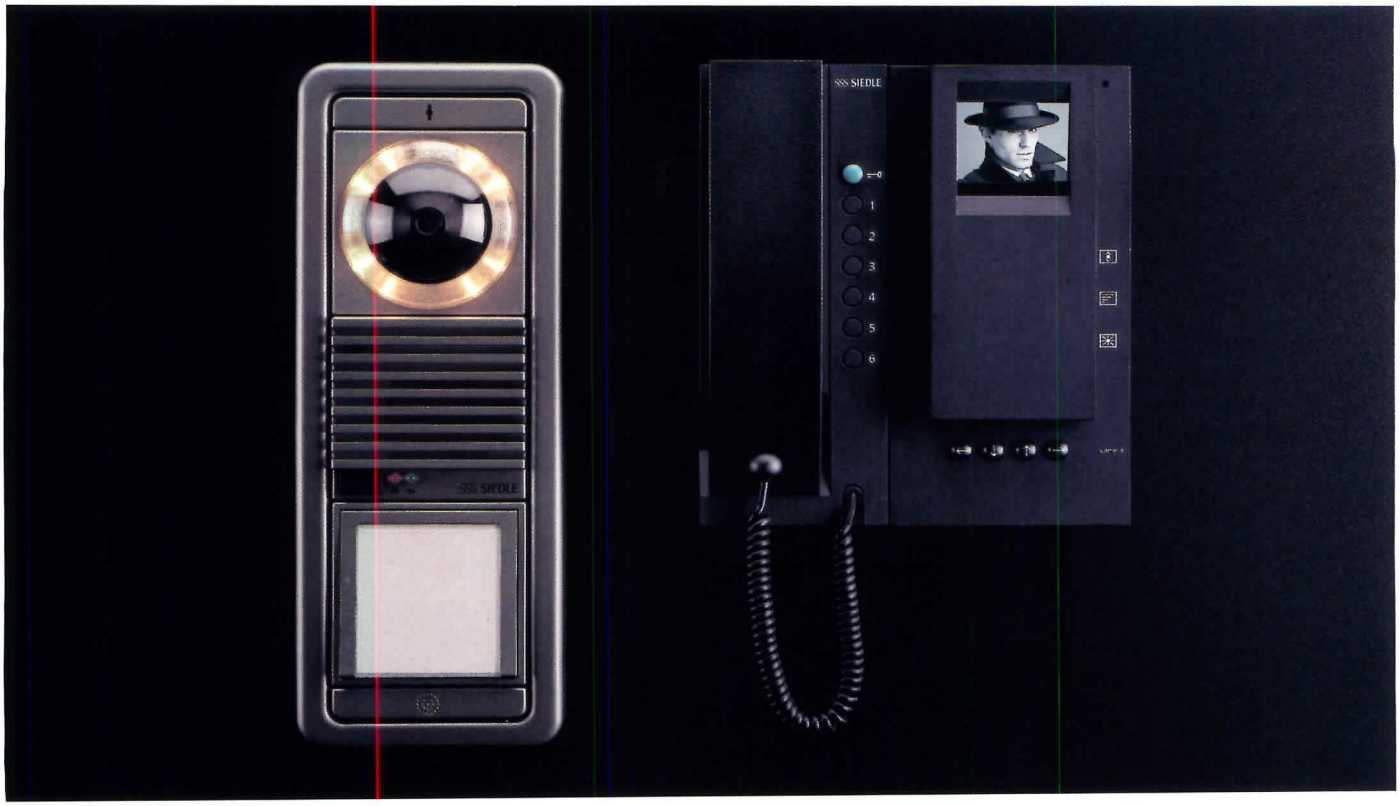

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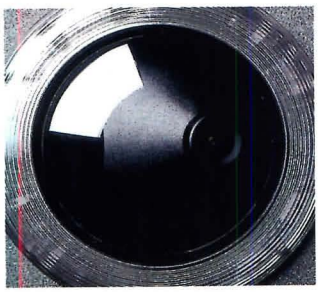

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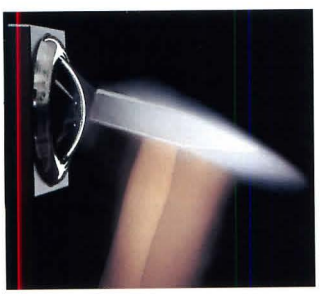

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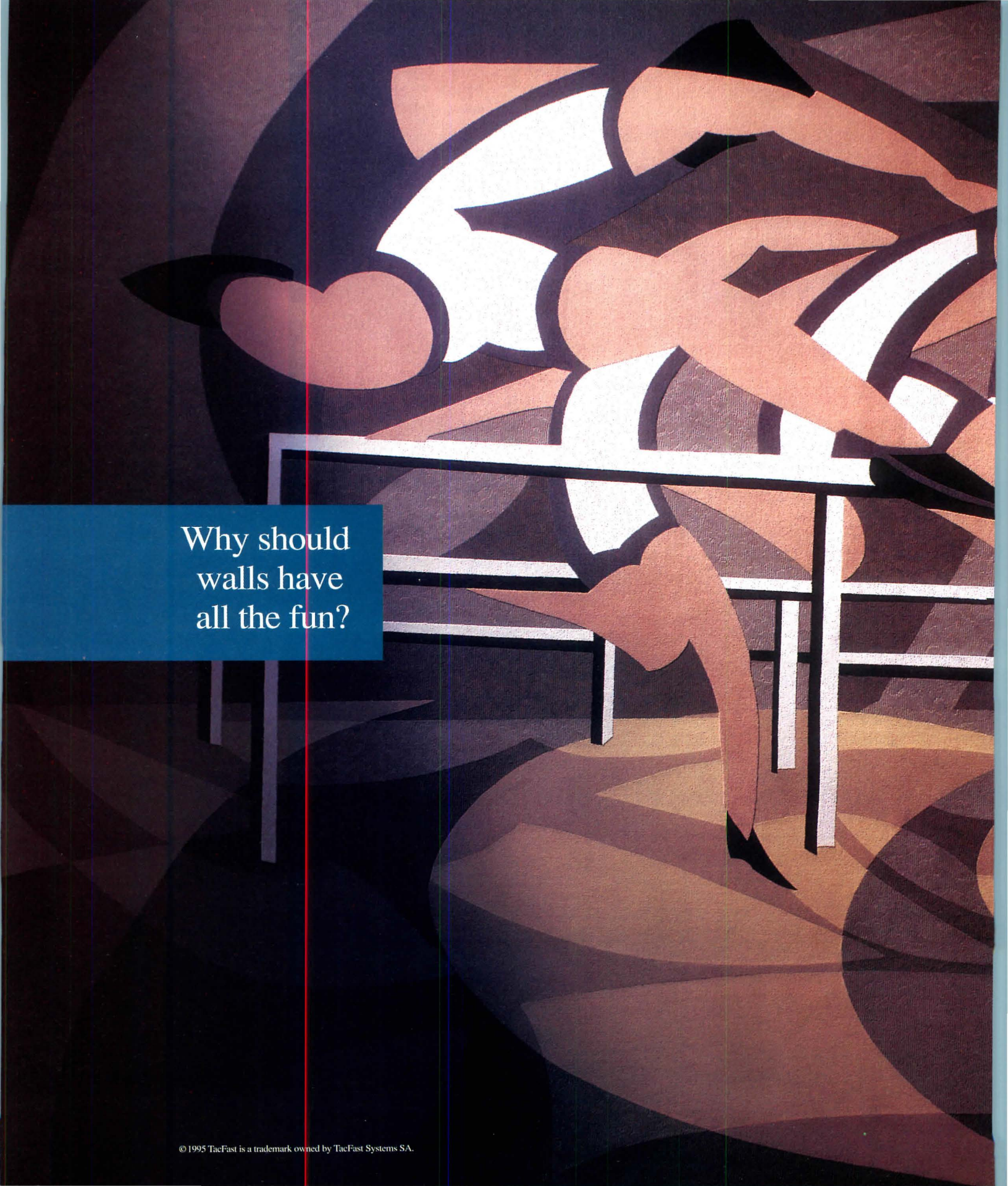
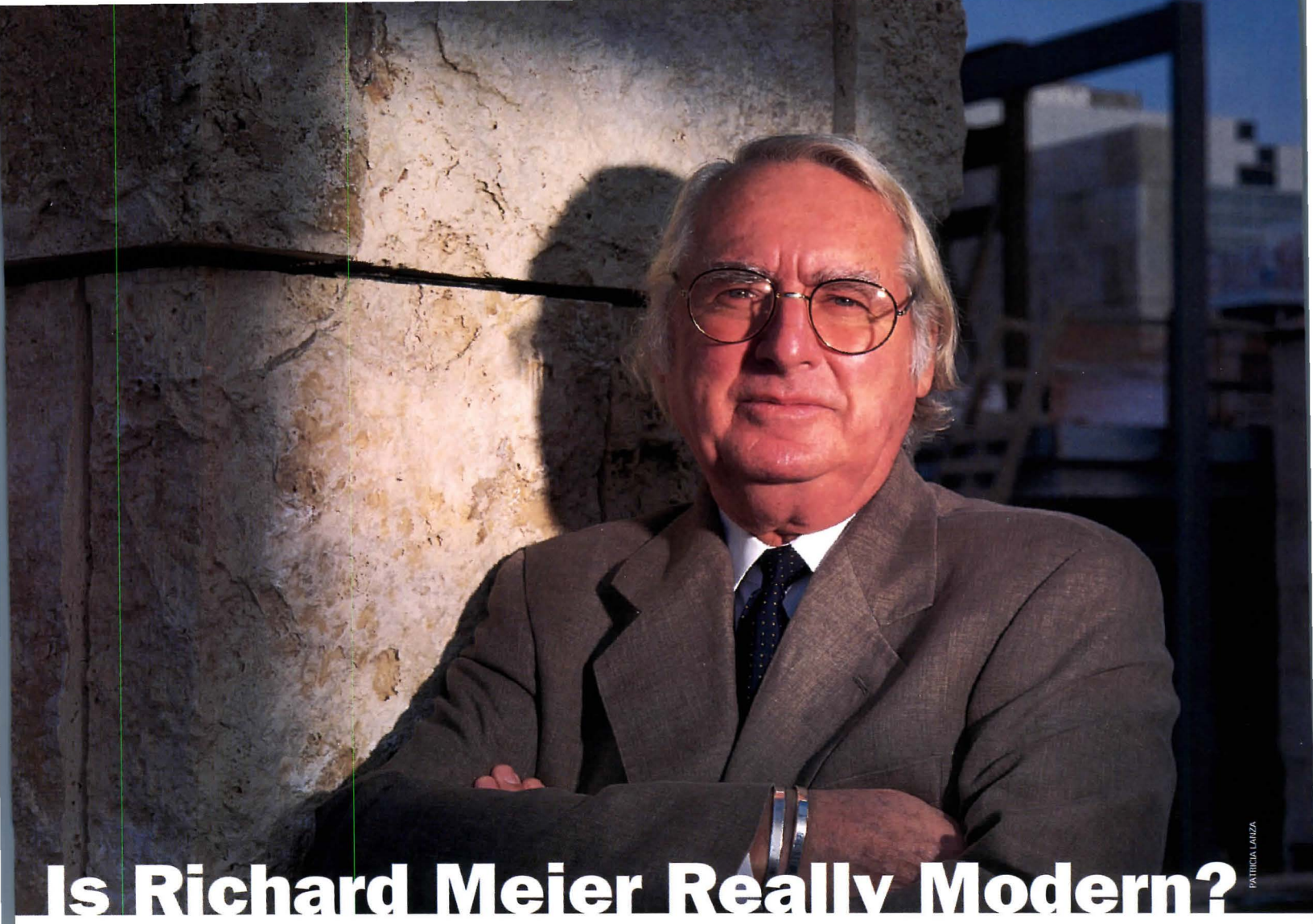
opment (CPD) program, and longer-term consequences are being factored into our validation of the course of the 38 British schools of architecture. In effect, the Institute is using the network of its membership to disseminate practical, future-oriented knowledge. The distinguishing mark of professionalism in architecture in the next decade will be the shift we have already begun making at the RIBA—from being a learned organization to becoming a learning organization.

More and more, information technology will be the glue that holds us all together. Shared access to a superior body of knowledge will allow architects, in an increasingly information-addicted society, to exercise direct influence on politics. Our power base will no longer be patronage, but that formidable combination of data, practical design imagination, and ethical concern for the good of users that is the essence of architectural knowledge. In this way, consumerism can be directed by architectural intelligence to tame a construction industry that has confused large profits and large scale with what ought to be done. We architects will then have every justification to be the masters of the procurement process.

Architects will be far less concerned with maintaining boundaries, and much more willing to make alliances with whatever disciplines are necessary to anticipate and meet our clients' needs. Our scope of work will extend from the design of new buildings to the design of the whole built environment, external and internal. Developing architectural knowledge, freely and voluntarily shared, is what the profession is for. The test of the validity of a profession is not how well we defend our boundaries, but how fast we can expand our knowledge base.—*Francis Duffy*

Francis Duffy is chairman of DEGW International, a firm specializing in workplace design. The RIBA Strategic Study can be obtained (£20 per volume) from RIBA Publications, 66 Portland Place, London W1N 4AD.





PATRICIA LARZA

Is Richard Meier Really Modern?

Who can forget the first view of the breathtaking Douglas House (1973), rising on a steep Michigan hillside amid a forest that could not compete with the structure for spatial complexity and porosity? With a structural cage of steel columns and large-scale mullions seen against opaque white walls, the house was both foreground and background, a spatially rich, formal composition that reflected an original organization at its core.

Early in his career, Richard Meier devised a parti for a multistory, basically rectangular building that is approached through a dense section of smartly aligned rooms opening into a voluminous space enclosed in glass. Through this organization, he introduced many issues—the progression from dark to light, small to large, and solid to void, and *promenades architecturales* on bridges, ramps, and staircases. Less figure/ground than forest/ground, Meier's polarizing organizational strategy forged new formal territory beyond his obvious debt to Le Corbusier.

The flexibility of Meier's vocabulary, which, since the opening of his office in 1963, has been adapted to many building types, climates, and countries, resides in the fact that his forms are open and the design strategy, collagist. His highly disciplined buildings might be accountable to a grid, but the perimeters escape the closed regularity of solid volumes, and the geometries themselves can be freely combined, fragmented, and layered. These crisp, abstract forms, based on point, line, plane, and volume,

Meier's vocabulary is malleable to the different interpretations of his two design partners, Michael Palladino and Thomas Phifer.

often superimposed and interpenetrating, identified Meier with early heroic Modernism. He remained an unreconstructed Modernist even during the '80s, when Postmodern historicism cost him jobs in the U.S.

Europe, however, did not give way to the Postmodern juggernaut, and Modernism did not lose its appeal as an expression of the contemporary condition. For Europeans, Meier's Platonic forms, poised in a balanced play of asymmetries, embody a refinement of architecture returning to home ground. The allure of Meier's buildings has become a form of esthetic functionalism in cities needing a kind of beauty that implies contemporaneity.

Beyond the presence of beauty and the image of newness, Meier's designs bring perspectival order to old sections of European cities founded before the advent of perspective. The Exhibition and Assembly Building (1993) in Ulm, Germany, and the Museum of Contemporary Art in Barcelona (pages 70-79, this issue) were predicated on grids that, in their virtual extension, order the city around them in spheres of rationality.

Meier's buildings were geometrically severe at first, but in the lyrically beautiful Atheneum in New Harmony, Indiana (1979), the architect allowed sinuous forms to play within and against a plan split by two shifted grids. Six years later in Frankfurt, he expanded the notion of free forms playing with nonaligned grids in the even more lyrical Museum for the Decorative Arts, a complex building with a tentacular reach into a surrounding park across from the Main River.

Although squiggly walls reminiscent of Le Corbusier had already erupted in plans for many of his buildings, the Frankfurt museum and the Atheneum fostered a sense of spatial ambiguity through grids dynamized by their mutual independence. The impulse came from Meier's longstanding interest in collagist juxtapositions of forms and materials that create a layered, formal richness.

This interest in collage dates from Meier's student days at Cornell in the 1950s, and since the mid-1970s, he has created paper collages which have been exhibited at major galleries in the U.S. and Europe. Fabricated from ticket stubs, announcements of openings, stamps, and other memorabilia of the architect's life, the collages are studies for his buildings—explorations in the layering of forms and texture, meticulously composed.

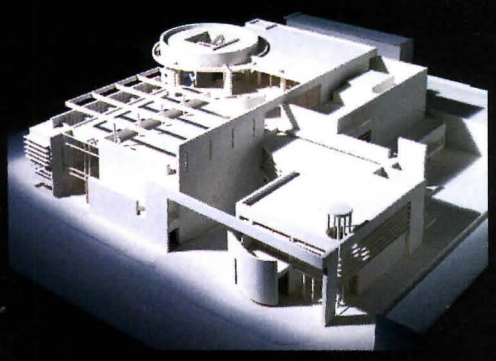
Meier has developed collage as design process most notably and grandly atop two spurs of the Santa Monica Mountains for the Getty Center (pages 80-87, this issue), where the eastern suite of buildings aligns with one spur, and the western with a second spur splayed 22½ degrees off the first. The two lines cross at a cylindrical entry to the museum, a drum that pivots the whole project, and many cross-axes relate the two grids with an intriguing set of interruptions, dislocations, and fragmentations. Although the formal composition of the plan, resonant with allusions to Hadrian's Villa and the poetic incompleteness of ruins, is conceptually sophisticated, the plan's idea does not seem to be fully developed in the third dimension. Simply extruding the collagist plan has not created an equivalent sensibility in space.

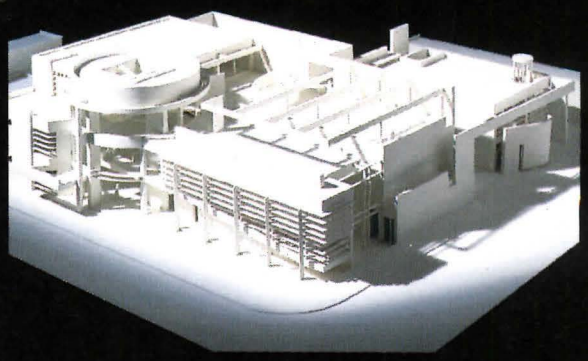
In 1986, after Meier was awarded the commission for the Getty Center, he established a Los Angeles office, now headed by Partner Michael Palladino. The same year, Meier invited Thomas Phifer—a Southerner who had worked with Harry Wolf and Gwathmey Siegel—to become an associate, then a partner and head of his New York office in 1988. The 42-year-old Palladino, a student of Meier's at Harvard who began working for him in 1978, and Phifer, also 42, are Meier's only design partners. Each is charged with heading the design effort of his respective office. (The Los Angeles branch, with 75 people, is actually larger than the 48-person New York office.) Just as Meier's vocabulary of an open architecture is highly adaptable, so too is it malleable to the different interpretations of Phifer and Palladino. And while the work of each partner is clearly unified by Meier's signature forms, their underlying strategies are different.

Under the direction of Phifer, the New York office has designed and supervised Meier's recently completed work in Europe —Canal+ Headquarters in Paris (1991), the Weishaupt Forum in Schwendi, Germany (1992), and the Hypolux Bank in Luxembourg (1993)—and is overseeing a new cycle of projects in the U.S., including two federal courthouses in Islip, New York, and Phoenix, Arizona. The Getty and other West Coast and Pacific Rim work is overseen by Palladino.

In the summer of 1987, with Phifer on board, Meier worked on a set of projects that included the Hague City Hall and Central Library (pages 98-107, this issue), the Portland Eye Center, the Ulm Exhibition and Assembly Building, and a magnificent trio of high-rises proposed for the redevelopment of Madison Square Garden. These designs, among others by the New York office, reflect a shift in Meier's strategy. While his public projects have always developed urban spaces

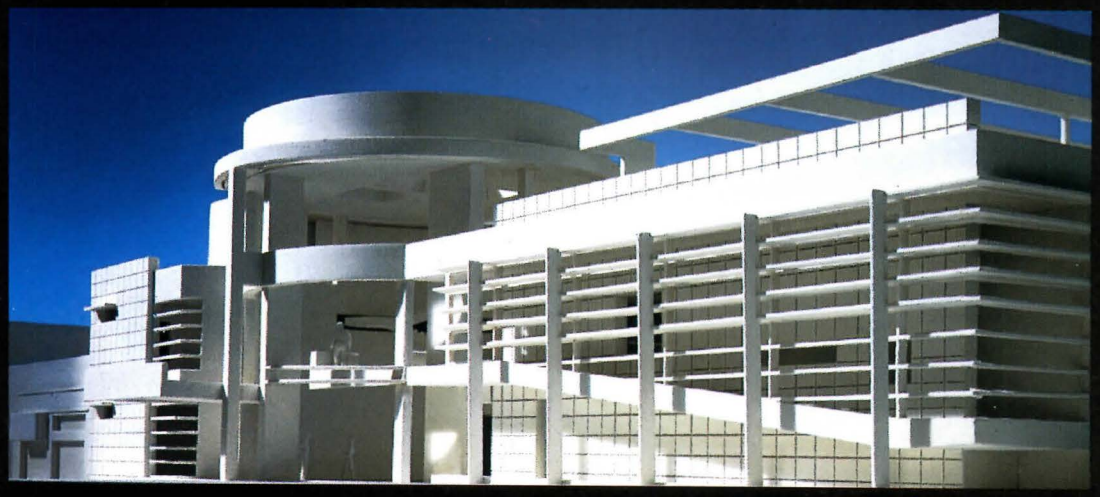
New Buildings

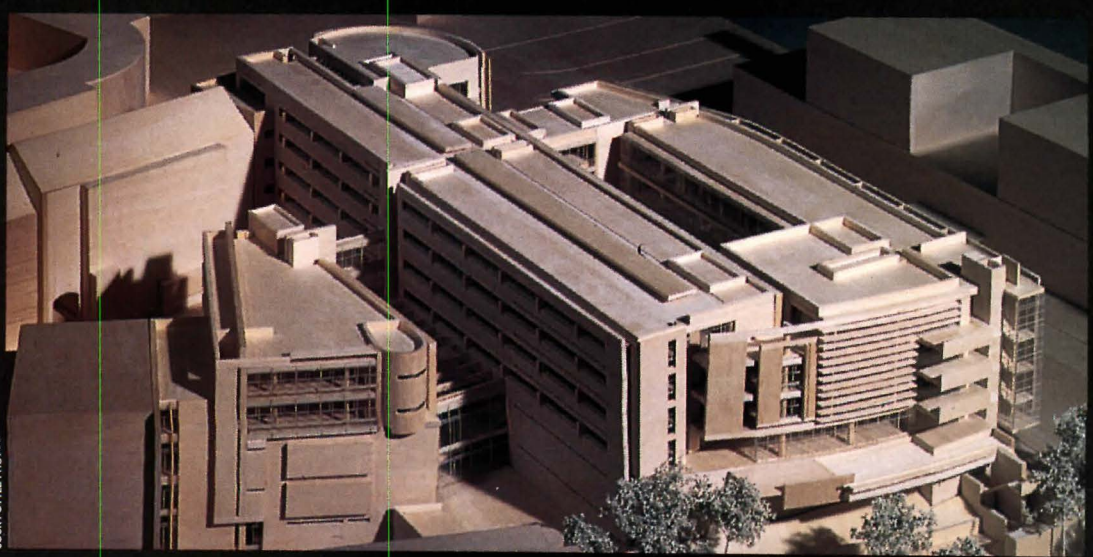




Museum of Television and Radio
Los Angeles, California
Designed by Meier's Los Angeles office for a corner site in a Beverly Hills shopping district near the Gagosian Gallery (pages 88-91, this issue), the three-story Museum of Television and Radio (right) reflects Meier's continuing interest in collagist devices. Circles and diagonals interrupt an otherwise conventional grid; the main entrance, for example, is marked by an aluminum-clad cylinder that serves as a hinge for the public spaces. The gallery, theater, gift shop, and classrooms are located on the ground floor of the building; ramps circling the entrance drum lead to study areas above.

Interior functions are articulated on the exterior as separate volumes, though the nature of the exhibits precludes opening forms to the outside. A ramp to parking below separates an office wing from the building's main body. The museum will open this March.





JOCK POTTLE PHOTOS

Euregio Basel Building
Basel, Switzerland
The 100,000-square-foot office and retail building in Basel, Switzerland (left), to be completed in 1997 for the investment group Euregio, is conceived as a mixed-use, temperature-sensitive, "green" office building by Meier's New York office. Each aluminum-paneled facade, with clear and white glass and brise-soleils made from aluminum mullions, is detailed for its respective sun exposure. With operable windows and natural air flow, the design minimizes dependency on air conditioning.

Narrow floor plates for offices guarantee natural light and air from nearby windows. Retail space is located on the ground floor and on the first basement level.

The long building negotiates a difficult sloping site with contours on several levels; the narrow end overlooks a city park to the north. A plaza extends the public space of the street into a courtyard at the center of the building. The semi-independent cylindrical tower, which marks the intersection of two busy Basel streets, introduces a monumentality drawn out from the body of the building.

The descendants of the buildings that once cut the edge of the profession have emerged as balanced and orderly efforts representing the cultural mainstream.

and civic character, these buildings feature a new emphasis on expressed circulation, processional sequences, and a decisive frontality—concerns that breed an increasingly strong sense of monumentality.

As the scale grows, clarity of organization among the parts is emphasized over compositional fragmentation. The New York office often organizes the building along a continuous circulation spine or wall crossed by a secondary axis, such as in the Barcelona museum. In these bigger structures, programmatic functions are isolated from the building mass and expressed separately, often appended to one side of the building wall, and public spaces become stately, recalling traditional civic rotundas.

Such break-out forms as cylinders and cones, intended for special functions, create a punctual order in buildings conceived as thick and layered bars and emerge as freestanding symbols against Meier's white tapestries. The underlying grid in the buildings conceived by the New York office is also internally differentiated and textured, each divided into two squares and two golden rectangles that set the entire fabric of the building in repetitive A-B-A-B rhythms, as in the Barcelona museum.

At the same time, Meier has invited an interdisciplinary collaboration that has begun turning his white architecture green. For his Phoenix federal courthouse, Phifer worked with engineer Ove Arup & Partners to design a vast, self-aerating public hall 100 feet high and a soccer-field long. Misted updrafts will cool the cavernous structure during summer, and each facade is specific to its orientation.

The Neugebauer House in Naples, Florida, is organized to induce cross-ventilation most of the year: Windows open low and air escapes high to take advantage of weather, climate, and local building traditions. Designed as an open structure, the Naples house breathes. Formal complexities have long characterized Meier's porous designs, but they are now further developed by climate-sensitive building orientation, operable windows, ventilation grilles, and sunscreens.

Meier's buildings have evolved in their design intentions, but his designs retain the identifiable style that makes his buildings such sought-after collectibles for cities with cultural aspirations. The change is gradual, and though he makes no quantum leaps, Meier does convincingly transform his inspiration so that his buildings emerge as Meier inventions rather than Corb derivatives. If Le Corbusier designed architectural volumes for their play in light, Meier has proliferated the parts of his buildings intensively so that they are more than volumetric. Prisms and cylinders are no longer solid and absolute, but broken and interpenetrated, forming luminous grounds for the architect's myriad figures. These mostly straight, orthogonally organized parts accumulate into layers of form, space, and incandescent light in what seem white architectural forests in constant parallactic shift. The volumes stabilize his buildings, while the many skeletal elements give the buildings recessional depth. Most recently, the open forms have led to open buildings—structures whose porosity has been cultivated for environmental sensitivity.

If Meier has superseded his inspiration, the question remains whether the 61-year-old architect has become locked in his own signature—whether he can supersede himself. The perception outside his office is that these buildings—so remarkable for their spatial complexity, meticulous detail, and attitude to light—no longer investigate the terrain of esthetic adventure and risk once exemplified by Meier's early houses. Is he on automatic pilot? Are the buildings in California and the East Coast basically the same as those in Germany and Spain? Does his formal imprimatur overwhelm the recent shifts in his work toward monumentality and environmental sensitivity? Is such obvious formalism conceptually relevant in an era now redefining architectural issues based on the particular rather than the general?

As the projects in this month's issue show, the descendants of the buildings that once cut the edge of the profession have emerged as balanced and orderly efforts representing the cultural mainstream. Paradoxically, Meier's Modernism is Classical and traditional.

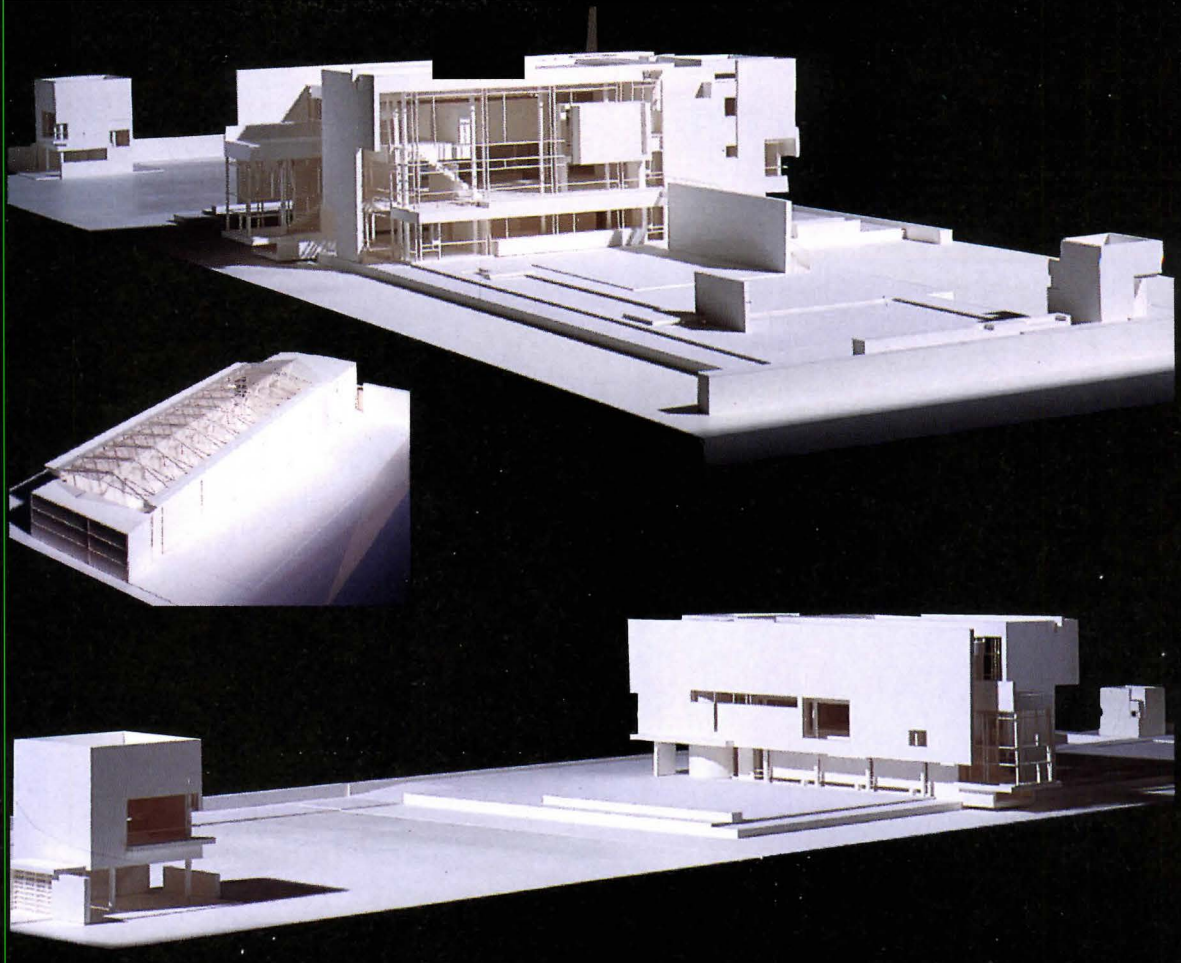
Inevitably, the Turk has become the Dean, and it seems that something has been lost in the transition. At the recent dedication of the new museum in Barcelona, a speaker called it "the most beautiful [contemporary] building in Spain." Possibly. Even probably. One can hardly imagine a more generous design: Every opportunity for architectural richness has been explored and built within a cogent, but not simplistic, structure. Urbanistically, this magnificent creature opens up a dark and congested district and enlightens it with order.

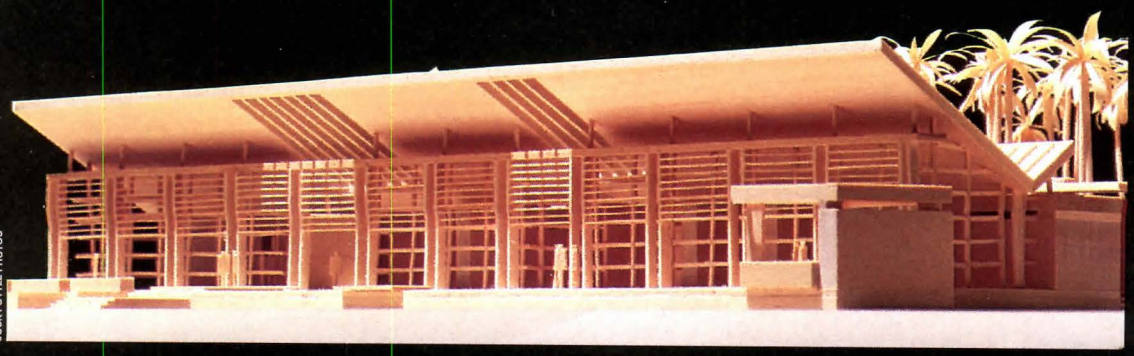
The disappointment is that the Barcelona Museum of Contemporary Art no longer surprises in the way the Douglas House once did. We have grown to expect a Meier from Meier.—*Joseph Giovannini*

New Houses

Rachofsky House
Dallas, Texas
Set on a dark granite plinth, this 10,000-square-foot house in a Dallas suburb (right), to be completed in May, is designed around a large and growing private art collection. The basic parti derives from Meier's longstanding organizational pattern, featuring a relatively opaque and dense band of rooms and functions across the front of the building and a more open pavilion at the back.

Designed by Meier and New York Partner Thomas Phifer, the house's aluminum-paneled, 96-foot-long front facade protects it from a busy thoroughfare and establishes a long, two-story space that doubles as an entrance hall and gallery. Within the main volume on the second floor, Meier organizes the master bedroom suite and study on mezzanines that overlook the double-height living room. The main house, a pool house, and a truss-topped, freestanding gallery (center) establish a characteristic Modern composition of point, line, plane, and implicit grid.





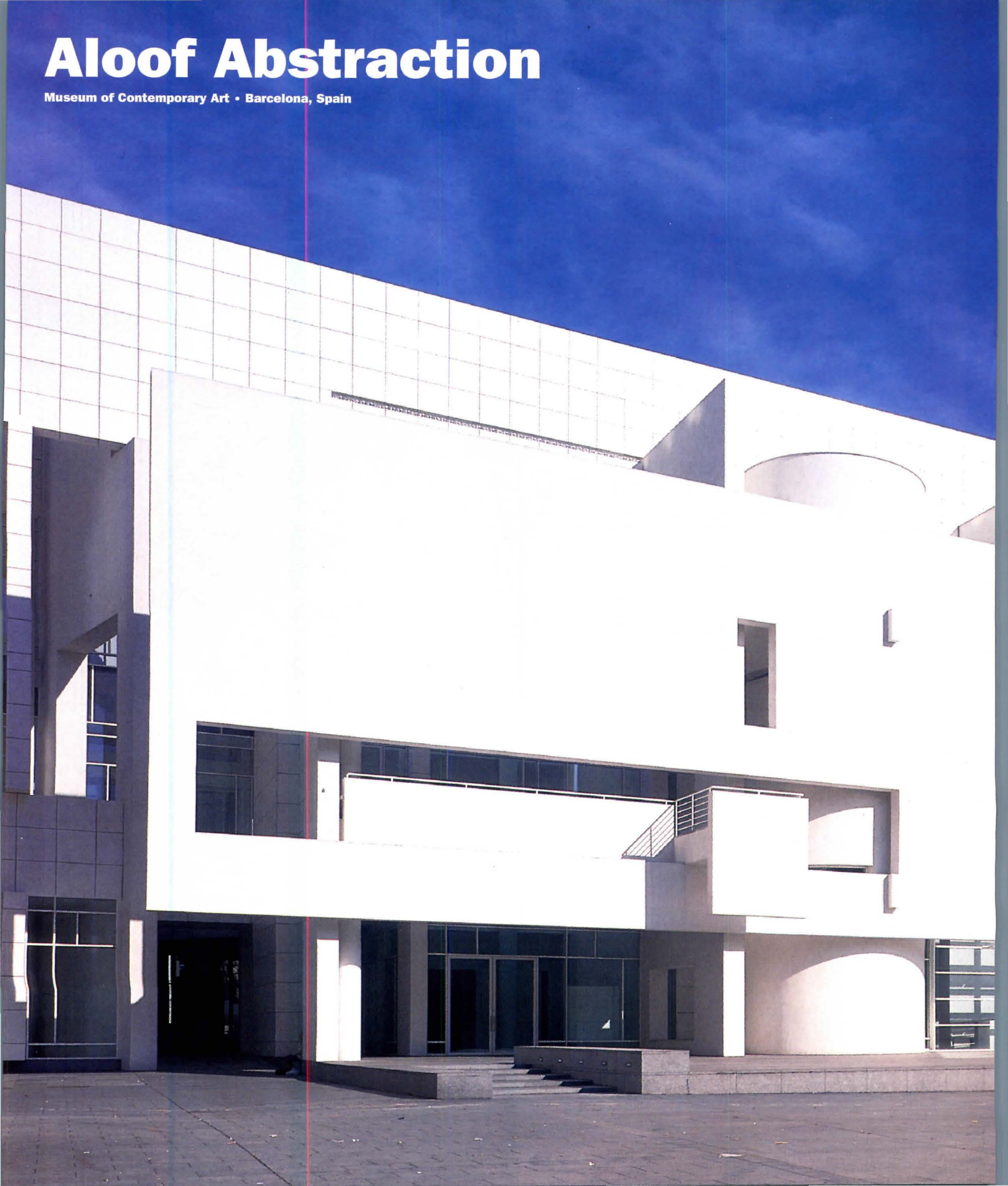
Neugebauer House
Naples, Florida
Eschewing the collagist sensibility that informs many of his buildings, particularly those of the 1980s, Meier devised a highly structured plan for this beachfront house (left), organizing the building in sequential layers from front to back. A long corridor on the land side leads past a band of bathrooms and closets to all rooms; beyond this service zone, the ceiling lifts to form 20-foot-tall spaces. The angled ceiling encourages air, admitted through louvered doors, to rise and pass through the building.

The porosity of Meier's formal language allows the building to serve essentially as a continuous air filter, inducing breezes according to principles long understood by architects of vernacular structures in the tropics. Though it does not exhibit their diminutive scale and structural fragility, the 7,000-square-foot design draws on the early Florida houses designed by Paul Rudolph in the 1950s. The Neugebauer House will be completed in October 1997.

JOCK POTTLE PHOTOS

Aloof Abstraction

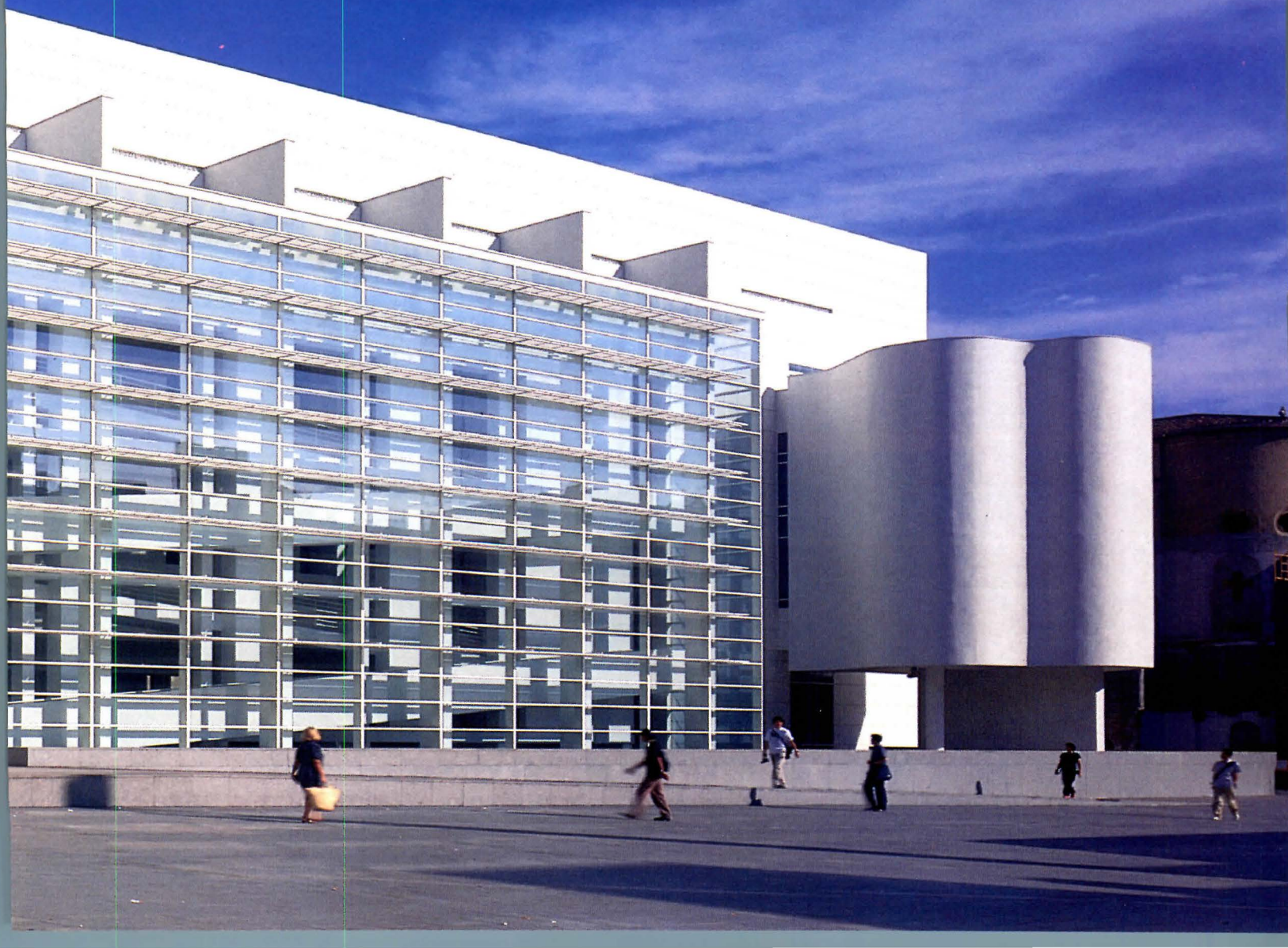
Museum of Contemporary Art • Barcelona, Spain

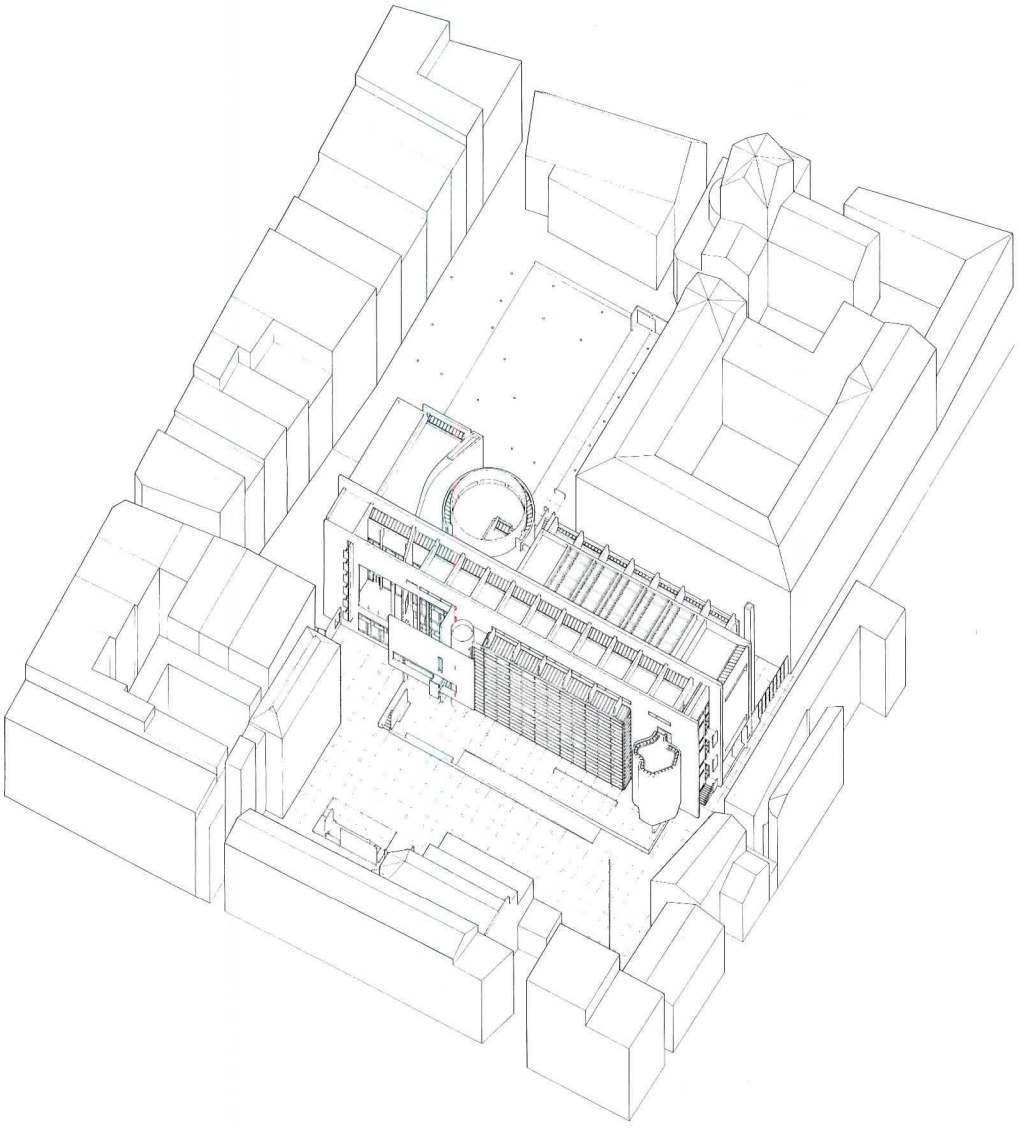


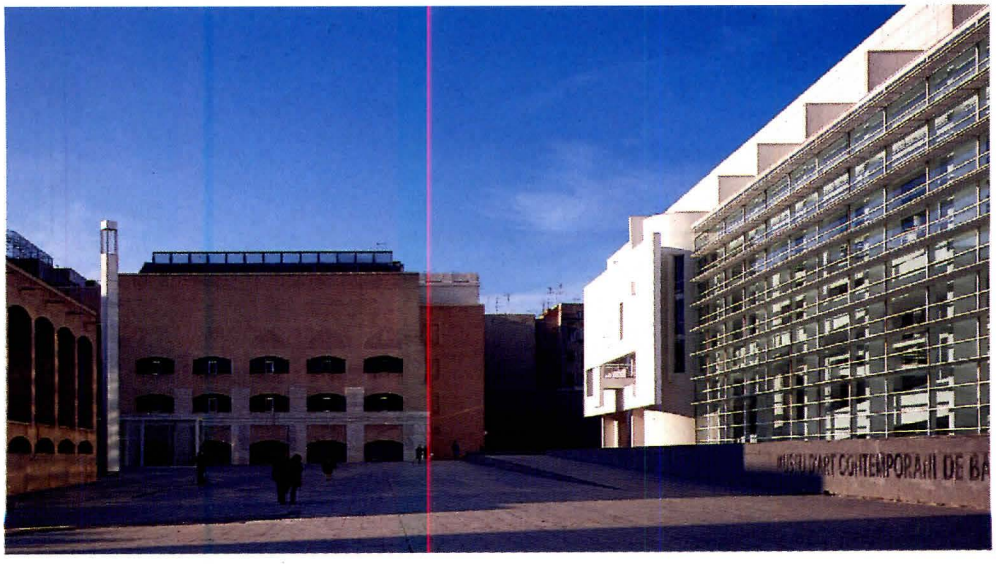
Modernism came to Barcelona tempered by local dress. Josep Lluis Sert's seminal Tuberculosis Clinic (1935) adopted the earthy coloring of its older neighbors, and was arranged around a patio with a tile-faced ambulatory—an early example of what we now call regionalism. The Barcelona architects who followed, such as Martorell-Bohigas-Mackay and the young Ricardo Bofill, developed a brick vernacular that drew on the city's urban traditions.

Now, more than half a century after Modernism's heroic period, central Barcelona has been invaded by a gleaming white, abstract building with expansive stretches of glazing. It is as huge as an ocean liner and set down on a site cleared of the city's historic masonry fabric. Yet this shocking anachronism has been enthusiastically received by the ordinary citizens of Barcelona, who see its architecture as heralding the new—an appropriate role for the city's first Museum of Contemporary Art. The positive reception has been helped by the fact that this 150,000-square-foot museum is among the most elegant of Richard Meier's works, with the horizontal emphasis and compositional

THESE PAGES: Slotted plane in museum's south facade marks main entrance. Glazed wall showcases internal ramp; free-form volume (below) houses special exhibitions.







repose characteristic of the buildings Meier has designed with Partner Thomas Phifer of his New York office.

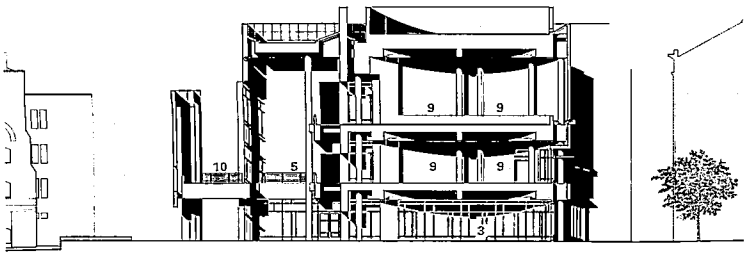
Meier's museum is located in one of the oldest parts of Barcelona, where monasteries and hospitals were built outside the walls of the city's Gothic Quarter. In time, the city wall was extended to enclose this district, known as El Raval, which became one of the densest, poorest, and roughest parts of Barcelona. A chain of open spaces has recently been cleared in the area, providing public plazas and recreational precincts and restoring the medieval buildings to view. Most of the area's new and refurbished buildings have been assigned cultural and educational functions, such as the Casa de Caritat (ARCHITECTURE, September 1995, pages 74-77) just north of Meier's museum, a 19th-century hospital transformed into the Center of Contemporary Culture.

After the city decided to establish a museum of contemporary art in 1987, Meier was commissioned in 1988 by Mayor Pasqual Maragall, who hoped that the appointment of an architect with a high international profile would also raise Barcelona's. Although construction began in 1990, the museum was not completed until last November.

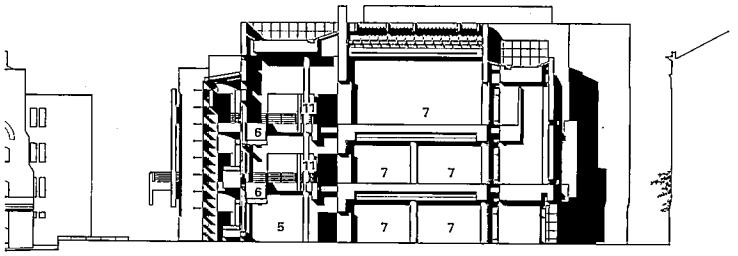
Basically a rectangular block, the building measures 120 feet wide, rises three stories to a height of 77 feet, and extends 400 feet from east to west along the northern edge of the new Plaza of the Angels. Curiously for a museum, the building is extensively glazed to the south and, except at the ground level, punctuated only by relatively small windows to the north. The huge expanse of glazing along the south facade is shaded from the intense summer sun by the relatively late addition of horizontal sunshades. At night, the glazed facade showcases visitors on the circulation ramp behind the windows.

The south facade is further animated by two projecting elements, which are stuccoed in contrast to the white, enameled aluminum panels cladding the main body of the building. To the east, a free-form, windowless volume houses special exhibitions; to the west, a hovering plane punctuated by slots and a projecting balcony marks the main entrance.

The location of this entrance draws visitors across the new plaza, while a passage beside the entrance leads into a pleasant, tree-planted courtyard onto which open the cafeterias of the museum and the Casa de Caritat. The locations of entrance, passage, and café constitute the building's sole recognition of its setting. Although the museum

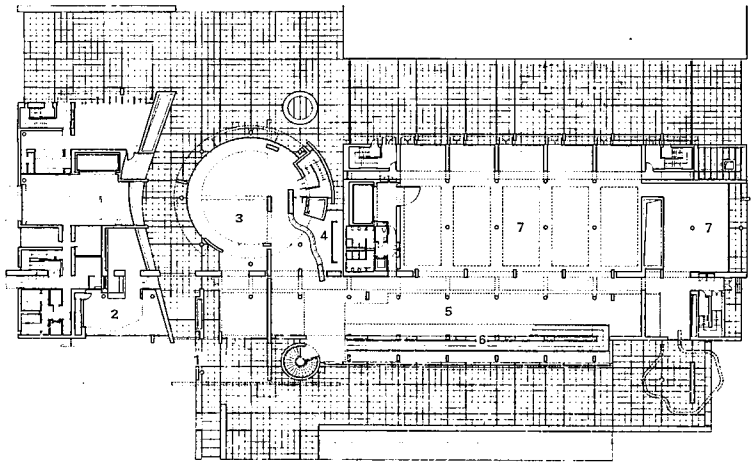


SECTION A-A

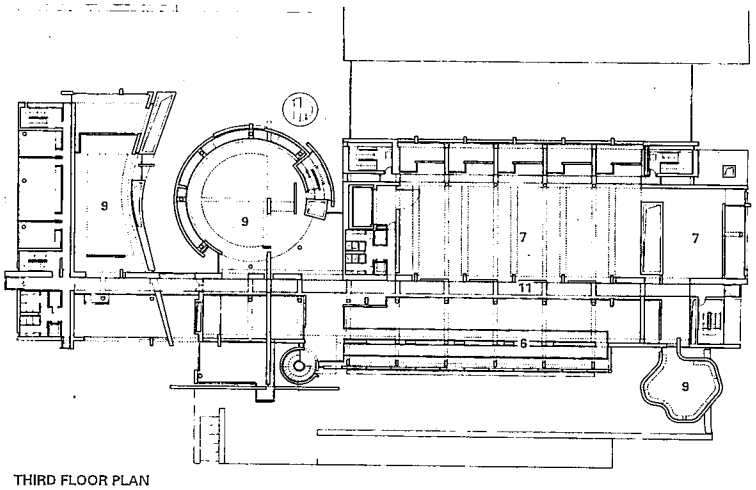


SECTION B-B

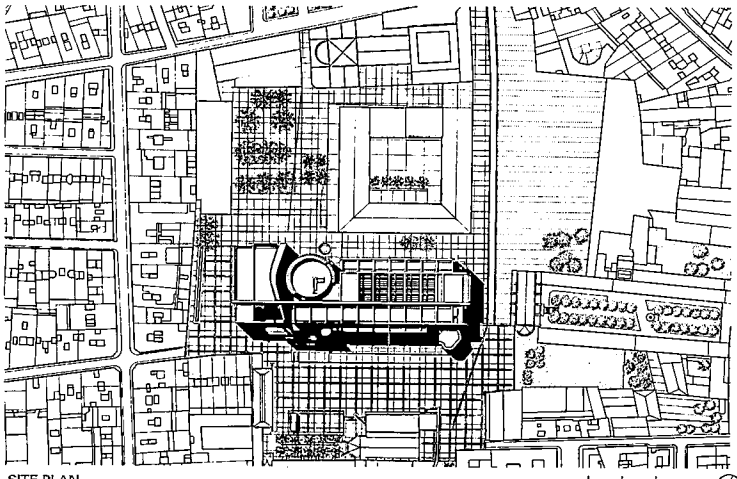
40'/12m



GROUND FLOOR PLAN

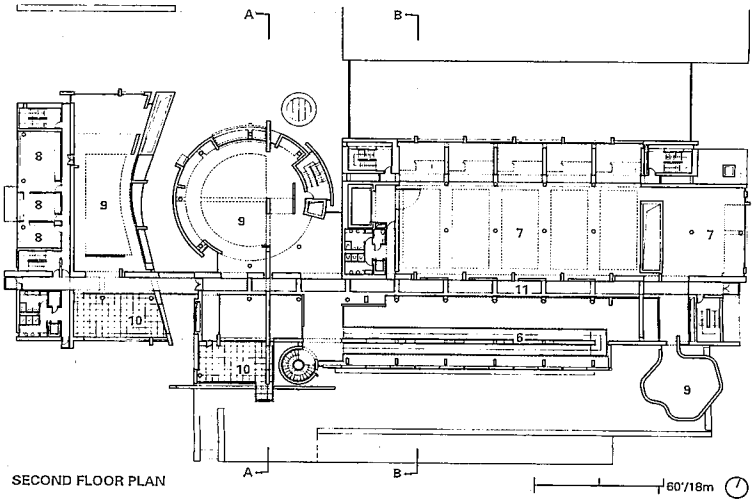


THIRD FLOOR PLAN



SITE PLAN

100'/30m



SECOND FLOOR PLAN

60'/18m

1 ENTRANCE
2 MUSEUM SHOP
3 LOBBY
4 INFORMATION DESK
5 MAIN HALL
6 CIRCULATION RAMP
7 FLEXIBLE GALLERY
8 ADMINISTRATIVE OFFICE
9 SPECIAL EXHIBITION GALLERY
10 TERRACE
11 GALLERY CORRIDOR

FACING PAGE, AXONOMETRIC: Museum faces plaza to south, shady court and Casa de Caritat to north.
FACING PAGE, BOTTOM: Nearby former Convent of the Angels is being renovated to house exhibition spaces.
SECTIONS: Ramp and large, flexible galleries form building's core.
SITE PLAN: New museum is located in heart of densely infilled Raval quarter.
PLANS: Museum entrance leads to drum, which guides visitors to circulation ramp and helical stair.

edges both plaza and courtyard, its forms in no other way help articulate these as urban spaces. Instead, the new plaza is treated as a void from which to view the haughty new building, which is uncontaminated by context, or good urban manners—a startling departure in a setting so heavy with history.

The aloofness to surroundings may have been Meier's choice. However, his client gave him no option but to shape the interior independently of its contents. Neither collection nor director was in place when Meier was commissioned. The museum's holdings were assembled around a core of local, municipal, national, and corporate collections only when the building was under construction. Therefore, instead of creating rooms tailored to known artworks, the architect designed a combination of large, flexible galleries and more specific spaces for special or temporary exhibitions.

These special spaces are all on the top two floors. In addition to the free-form volume projecting from the main facade, they are housed in the drum over the lobby and those galleries west of the wall edging the public route that squeezes past the lobby. The drum also holds part of the permanent collection, which fills the galleries to the east. These are flexible galleries that extend through all the floors and can be subdivided by movable, freestanding partitions.

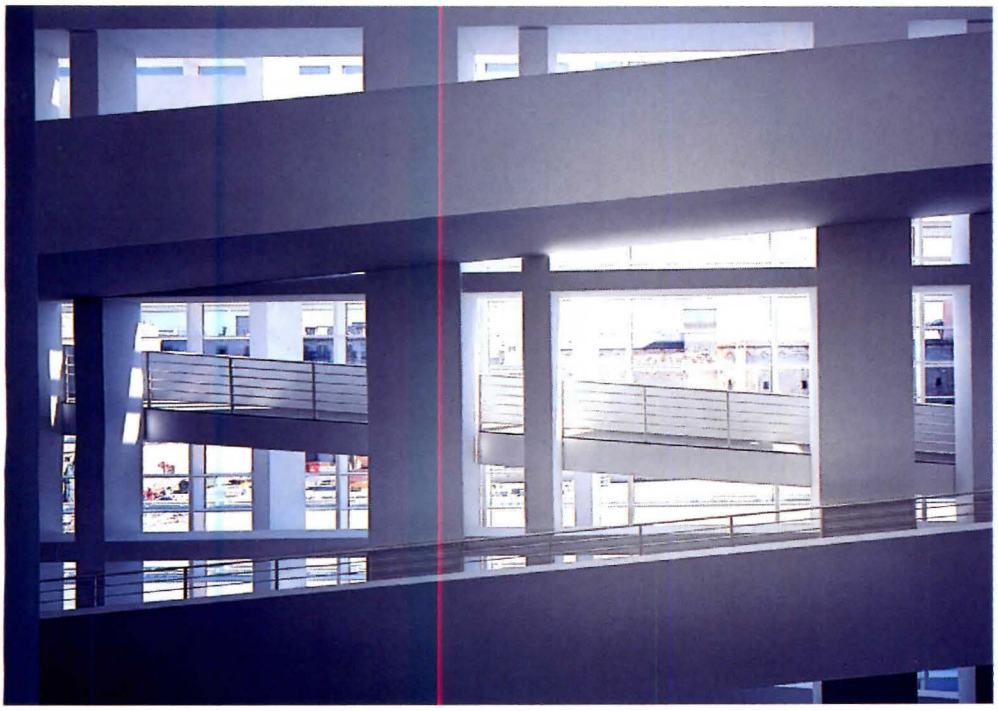
The top floor is lit by a glass roof shaded by two layers of fixed louvers, one angled to exclude direct southern sun, the other the fierce afternoon light. On the lower levels, light is admitted through both horizontal and vertical slit windows and from the brightly daylit hall that climbs the ramp.

Curators acknowledge that Meier's galleries are well scaled to the display of large contemporary works, but they are nervous that light levels are too high for conservation purposes. They also bemoan the decision to stack their offices on six levels at the building's west end, requiring them to constantly circulate between floors.

Public vertical circulation is confined to the ramp and a helical stair that land together at each floor, where circulation follows a single walkway to the galleries. Consequently, it is impossible to organize a proper narrative flow in an exhibition spread across different floors. Ideally, visitors would proceed through the galleries to one end of the building, descend there, and then proceed back through the galleries on the floor below. The only possible way the curators could accomplish this would be to incorporate the

RICHARD BRYANT / ARCAID

FACING PAGE, TOP: Metal-paneled eastern end of museum contrasts with historic Casa de Caritat (right). Sculpture court lies behind fence.
FACING PAGE, BOTTOM: Primary entrance, next to terrace overlooking plaza, exhibits Neo-Modern play of elements. Cylinder houses stair; office corridors are expressed by projecting balconies (left).
ABOVE: *Blocks* projecting from windows in north facade recall Le Corbusier's La Tourette. Round skylight in courtyard daylights children's room below.



SCOTT FRANCES / ESTO

TOP: Galleries are reached by south-facing ramp (right) in circulation hall.
ABOVE: Ramp, supporting frame, and south facade's glazing create complex layering.
FACING PAGE: Ramp is framed by 52 1/2-foot-high wall, with openings that allow light from glazed south facade and roof to penetrate.

fire escape at the building's southeast corner into the public circulation—a solution forbidden by fire codes.

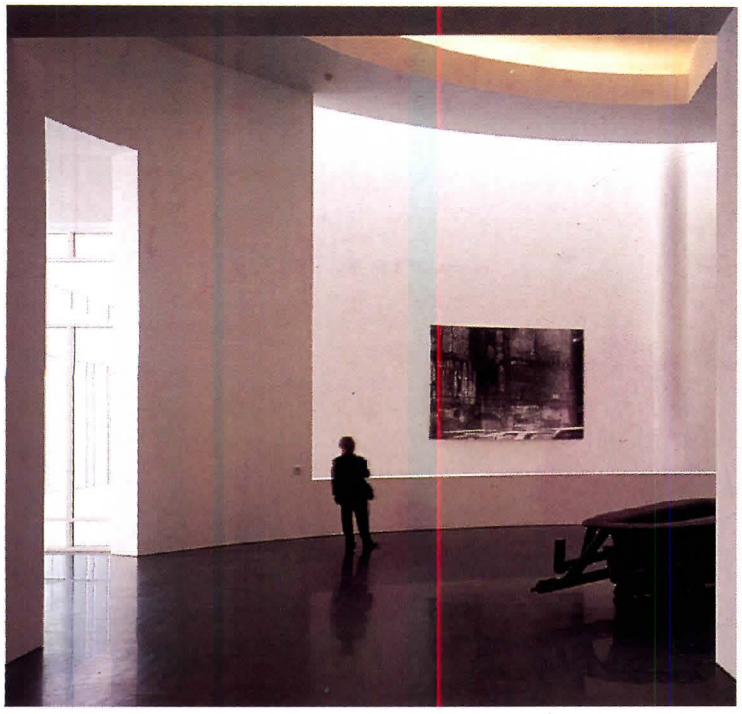
For many, such functional drawbacks are offset by the building's seductive glamor. Like all Meier's architecture, the Barcelona museum is very much a celebration of light. Daylight is admitted in several different ways: flooding brightly through the south-facing glass wall along the ramp and more softly through the glass roof, or washing down walls from rooflights and across ceilings, walls, and floors from variously sized windows. The constantly changing motion of daylight and its multiplicity of shadows bring the building alive.

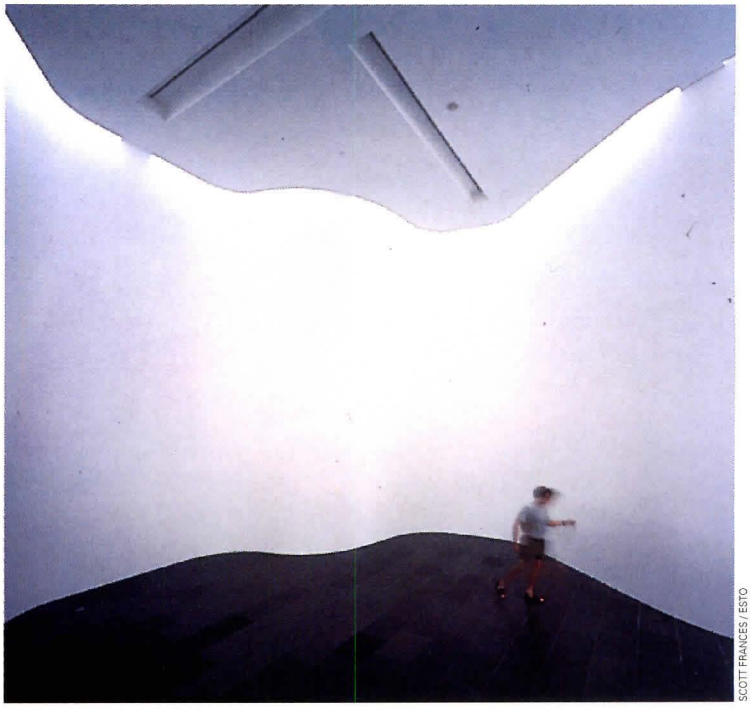
The Barcelona museum is also splendidly shown off by artificial lighting, concealed along the edges of beams and lower portions of ceilings, that shines dramatically up through glass blocks set into the black granite floors. However, the lighting displays the building to better effect than it does the artworks, which are sometimes placed in shadow relative to the adjacent brightly lit areas.

Those visitors schooled in the Modernist ethos will be disturbed by Meier's lack of distinction between elements that are structural and those that are not. Much of what appears to be structural does not reflect structural necessities: Balustrades are up to 18 inches thick, and large parts of what look like beams function only to conceal air-conditioning ducts and lighting. In another esthetic, such subterfuge would not matter, but it is dismaying in a building that purports to be an homage to European Modernism.

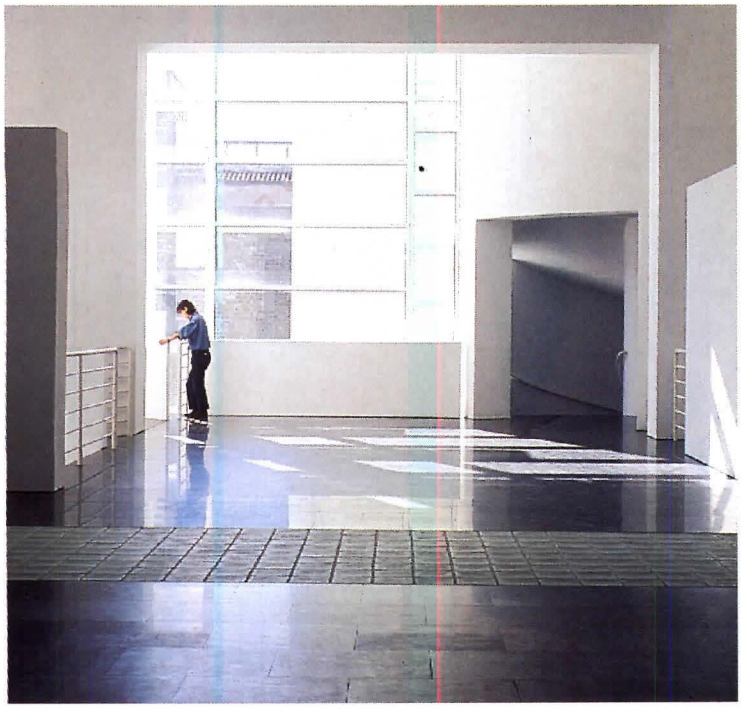
It is easy to see why the public likes the bright white spaciousness of Barcelona's new museum. But for architects familiar with the sources of Meier's now formulaic vocabulary, and with contemporary debates over context and history, materiality and tectonics, the body and embodiment, it is difficult to share this enthusiasm, especially when pondering what other architects might have made of such a plum commission in an area so rich with history. However, Meier was not commissioned to create such architecture, but because his buildings are immediately recognizable as a brand image. Judged within these limits, the Barcelona Museum of Contemporary Art may be one of Meier's most successful achievements.—*Peter Buchanan*

Peter Buchanan is a London-based architect and writer. He has just completed volume three of Renzo Piano Building Workshop: Complete Works *(Phaidon Press).*





SCOTT FRANCES / ESTO



SCOTT FRANCES / ESTO

TOP LEFT: Inside top level of drum, floor stops short of wall, allowing light to filter through to level below.
TOP RIGHT: Free-form volume is daylit around perimeter from skylight above. At night, track system installed in ceiling highlights sculpture on floor.
ABOVE LEFT: Glass blocks in floor allow light from louver-screened glass roof to be shared throughout building.
ABOVE RIGHT: Daylight defines larger, open-plan galleries (left) and smaller, more ordered galleries (right).

FACING PAGE, TOP: Within drum, floating wall customizes gallery for changing exhibitions.
FACING PAGE, BOTTOM: Flexible gallery on top floor is daylit by glass roof.

MUSEUM OF CONTEMPORARY ART BARCELONA, SPAIN

ARCHITECT: Richard Meier & Partners, New York City—Richard Meier, Thomas Phifer (partners-in-charge); Reynolds Logan, Alfonso Perez-Mendez (project architects); Daniel Brown, Steve Dayton, Patrick Flynn, Raphael Justewicz, Jonathan Marvel, Gilbert Rampy, Jr., Madeline Sanchez, Thomas Savory, David Shilling (project team)
ASSOCIATE ARCHITECT: F.J. Ramos and Associates, Barcelona—Isabel Bachs, Fernando Ramos (principals)
ENGINEERS: Obiol, Brufau, Moya Arquitectos (structural); Estudi d'Arquitectura, Francesc Labastida and Azemar (mechanical)
CONSULTANT: Fisher Marantz Renfro Stone (lighting)
GENERAL CONTRACTOR: C.O.M.S.A.
COST: $30 million
PHOTOGRAPHER: Lluís Casals, except as noted

Richard Meier's long-awaited Getty Center in Los Angeles will not be completed until 1997, but the six-building complex is far enough along for some preliminary assessments to be made. Chief among them is that the Getty—for all the envy this coveted commission has provoked—was weighted from the outset with such an overload of conflicting requirements that it would have been difficult, if not impossible, for any architect to overcome the dubious conceptual decisions made without Meier's participation.

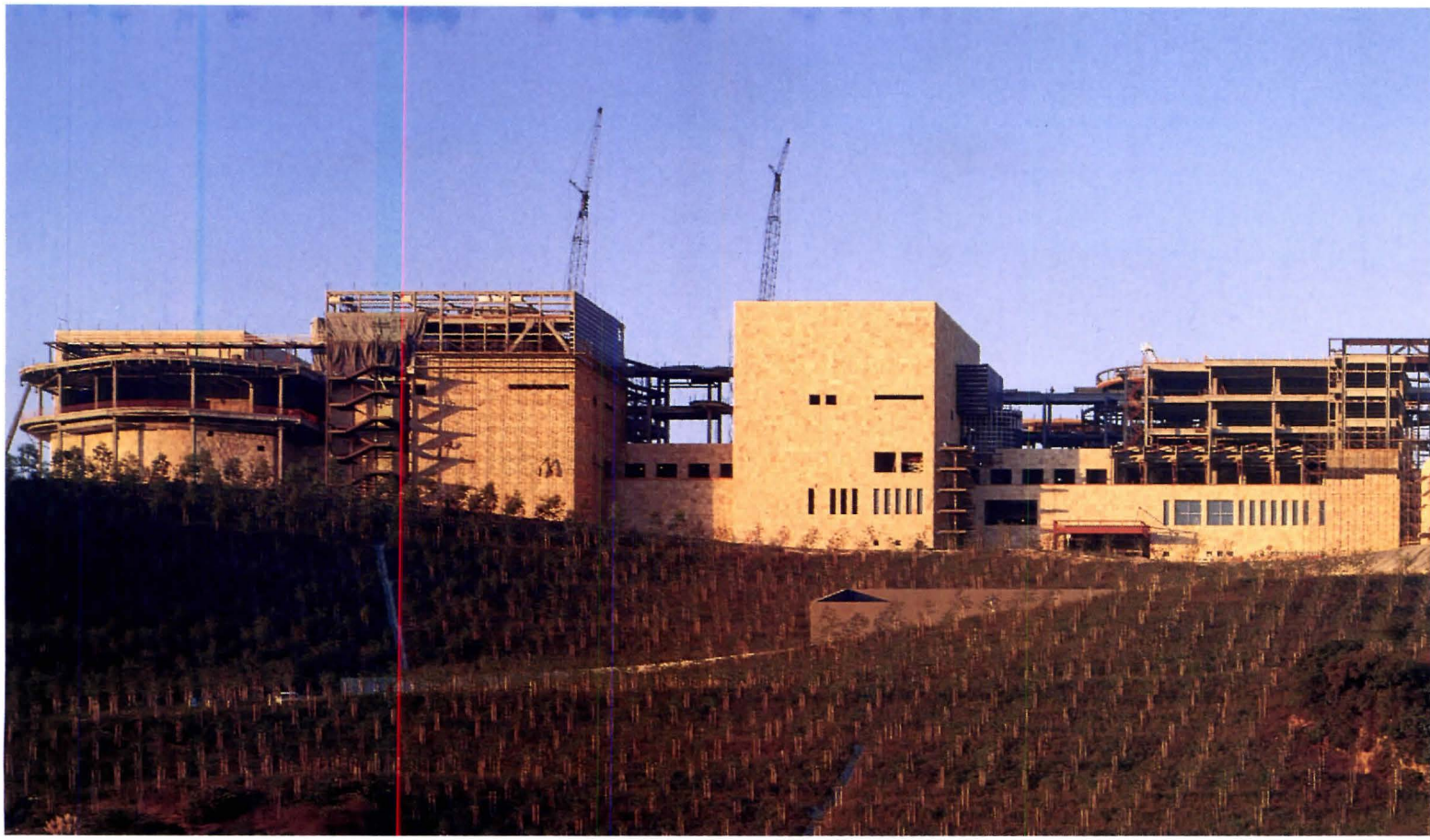
Most evident of the problems is the Getty site itself, an arid ridge perched above the north-south San Diego Freeway and east-west Sunset Boulevard. The 110-acre property commands spectacular panoramic views of Los Angeles and its environs. Yet the high-priced, high-profile land may also be an ecological time bomb, prone to all the region's notorious natural disasters.

Admittedly, the unfinished Getty structures came through the 1994 Northridge quake relatively unscathed. On the steep hillsides surrounding the buildings, Meier has laid out hundreds of live oaks in an obsessive grid (perhaps suitable for topiary but not this asymmetrical native species) and has underplanted the trees with a fire-retardant grass amusingly called poverty weed. Though dramatic, the land is also unusually exposed and rather remote, and one can't help but wonder how well the Getty's narrow, curving access roads would function during a major emergency.

THESE PAGES: Atop a 900-foot-high ridge overlooking the Pacific, the Getty Center is reached by road (far right) and parallel cable-drawn tramway.

The Getty Gets Ready

The Getty Center • Los Angeles, California



JIM CRAWFORD

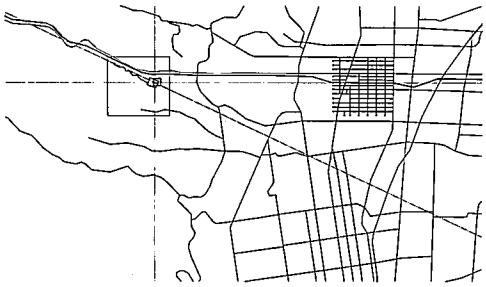
The site is further problematic in symbolic terms. The Getty Center's aloof, yet highly visible, remove from the city prompts the feeling that this is an unapproachable redoubt of high culture. To be sure, the Getty's current home, a reproduction Roman villa on a secluded estate in Malibu, is also far from welcoming. As a private institution, the Getty is under no civic mandate to make itself accessible to a wide audience. But because of its forbidding architectural posture, the new museum is unlikely to attract many segments of Southern California's rapidly growing multicultural communities.

The Getty Center building that requires the most enclosure for security and conservation purposes—the museum—is unfortunately also the one Meier chose to front the site's open southern and eastern vistas. Its massive bulk, accentuated by the sheer cliff of the 100-foot masonry walls on these precipitous elevations, recalls Crusader castles and the Great Wall of China.

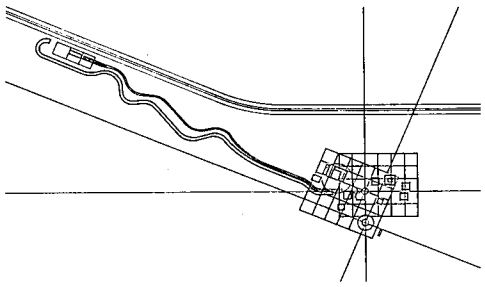
Visitors will arrive at the Getty Center's parking lot at the base of the hill, where all but staff and VIP guests will ascend to the buildings at the summit by either taking a tramway or walking up the pedestrian path alongside the track. Although public bus transportation to the Getty is planned, the complicated arrival sequence alone is enough to deter some would-be attendees.

As construction progresses, it is clear that Meier's greatest success thus far has been his choice of a rough-hewn Italian travertine as one of the principal cladding materials (the other being off-white enameled aluminum paneling). Required by his contract with the Getty Trust not to produce yet another of his signature all-white schemes, Meier was thus jolted from his formulaic stasis and forced into one of the most interesting uses of materials in his too-consistent career. The warm-toned travertine is beautifully installed, with slabs exhibiting fossils placed at eye level. Here is proof that Meier can risk further departures from a body of work that,

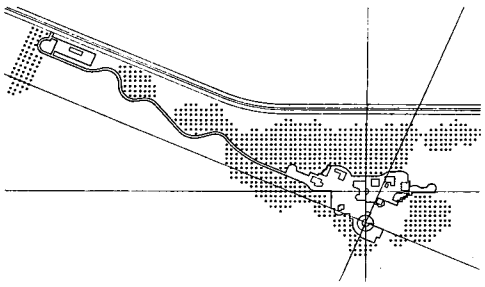
TOP: Extending along eastern elevation are (from left) four pavilions of Getty Museum; Conservation Institute (beneath upright crane); Getty Trust offices; and auditorium (far right).
FACING PAGE, LEFT: Hills are planted with oaks.
FACING PAGE, RIGHT: Offices are clad in powder-coated aluminum panels interspersed with horizontally mullioned glass, recalling 1930s streamlining.
FAR LEFT: Rough-cut Italian travertine panels on base of Conservation Institute are dry hung and bracketed to concrete bearing walls.
LEFT: Upper-level painting galleries are toplit with natural and artificial illumination.



CONTEXT



GEOMETRY



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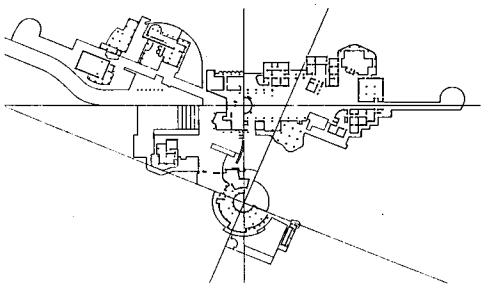
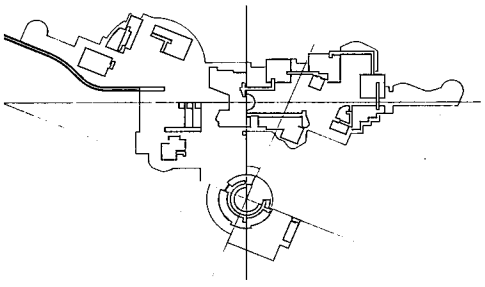
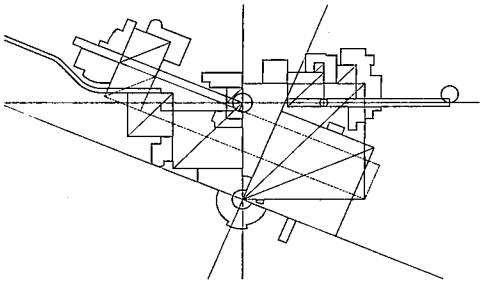


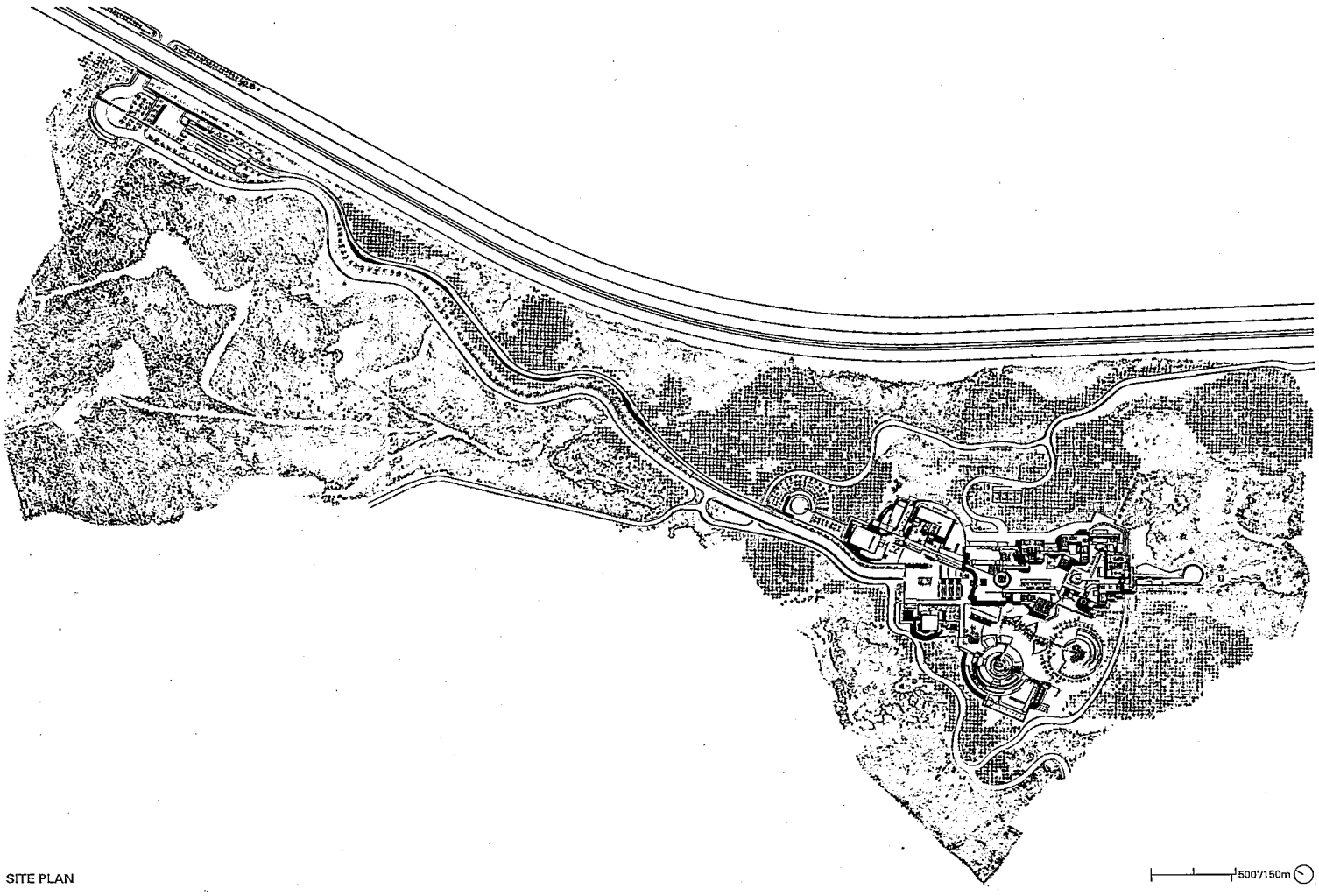
STRUCTURE



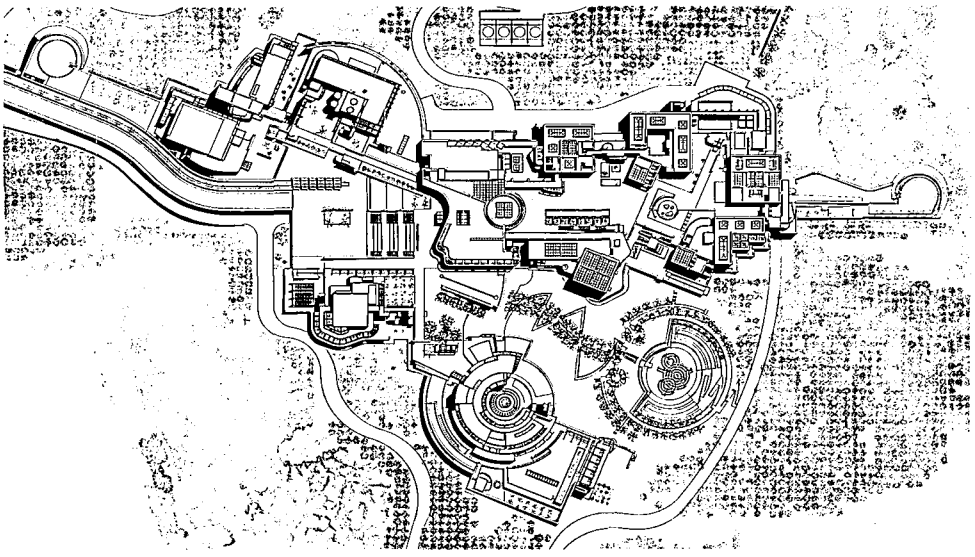
CIRCULATION



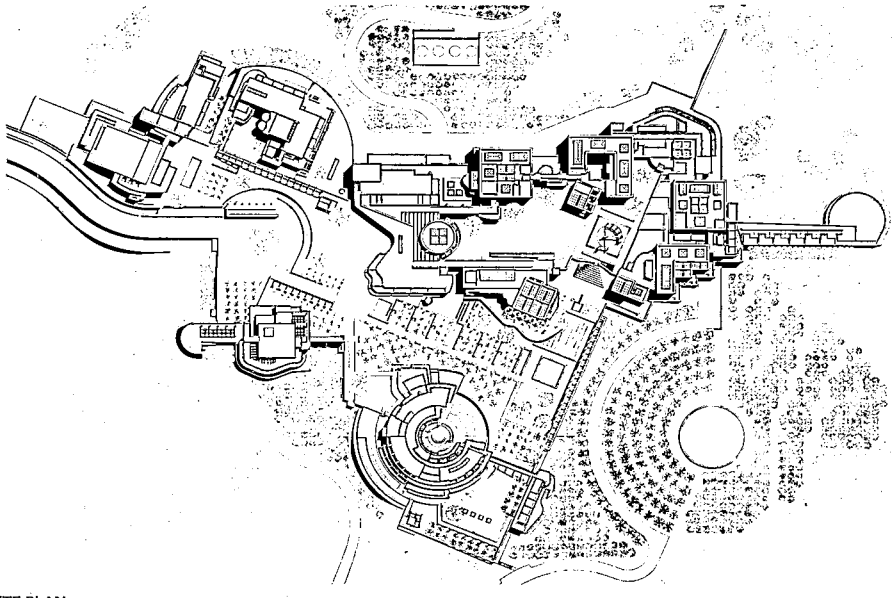
EXTERIOR SPACES



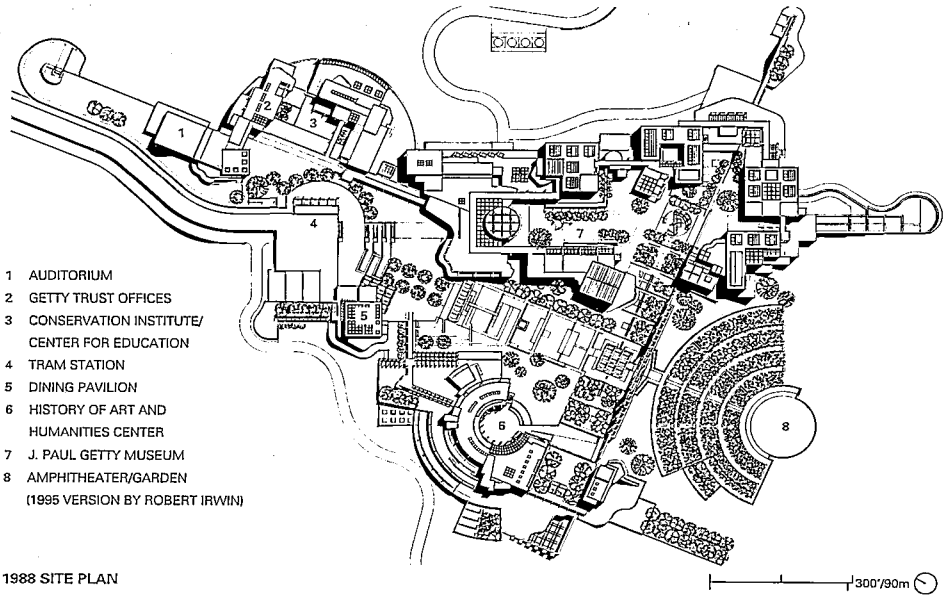
SITE PLAN



1995 SITE PLAN



1991 SITE PLAN



1988 SITE PLAN

however admirable in its professionalism, in recent years has tended to avoid challenges.

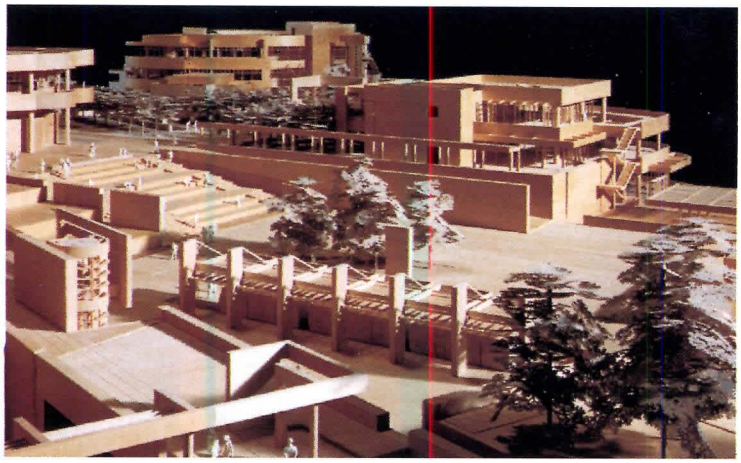
The overpowering, monolithic effect presented by the Getty on approach is quite the opposite of the expansive feeling the ensemble imparts once one reaches the central plaza at the top of the hill, which will be humanized with broad flights of steps and enlivened with fountains and plantings. Deployed around the relatively small level portion of the site are a half-dozen buildings, though their episodic massing implies that there are several more. The structures include the museum, an auditorium, offices for the Getty Trust and the Conservation Institute, a study center for the arts and humanities, and a dining pavilion. The cumulative effect falls somewhere between that of a very well-endowed college and a tasteful world's fair.

To accommodate so many disparate functions, the site plan has been cranked around in the extreme. According to Meier, the scattered arrangement was inspired by that of Hadrian's Villa at Tivoli. Though the layout is exceptionally busy—unsurprising with a program so varied and a budget so lush—the buildings' individual details are carried out with Meier's customary finesse. He is nothing if not skillful and dependable, as well as predictable, qualities that are understandably reassuring to institutional clients.

As with any art museum, the success of the Getty will depend on the quality of its galleries. Here they have been placed logically to display paintings under skylights on the upper floor, with more light-sensitive works-on-paper and decorative arts in artificially illuminated rooms below. In an astonishing loss of nerve, Getty officials have given the design of the gallery interiors to Thierry W. Despont, a New York-based decorator who originally trained as an architect. The top-floor gallery that he has mocked up with gray-green velvet wallcovering and parquet flooring is imposing enough, but the disjunction between Meier's architecture and Despont's decor is more than a bit disconcerting.

Of course, definitive evaluations of the Getty Center are still premature. For now, however, the dominant impressions are of size, complexity, richness, and power carried to excess. (The current cost estimate of $733 million is expected to reach $1 billion.) If Los Angeles at times seems as though it is becoming the capital of a new Roman Empire, then the Getty Center may well be its incipient Palatine Hill.—*Martin Filler*

M. Filler writes for many design publications.



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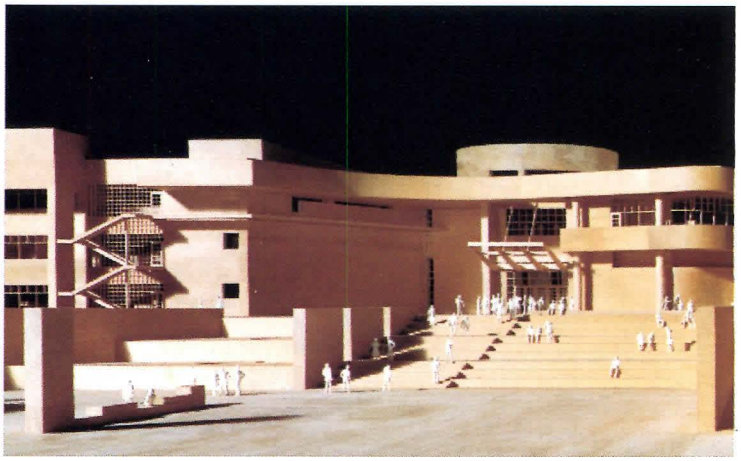

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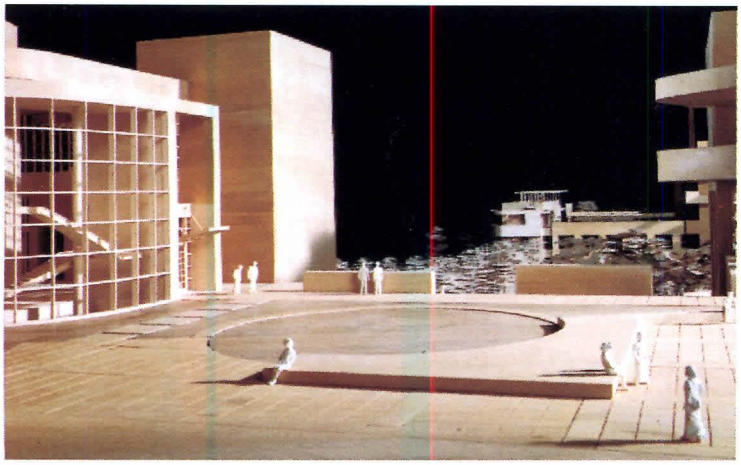

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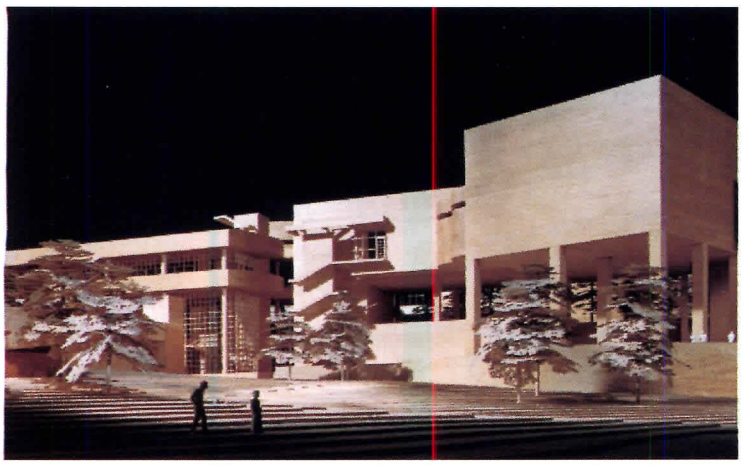

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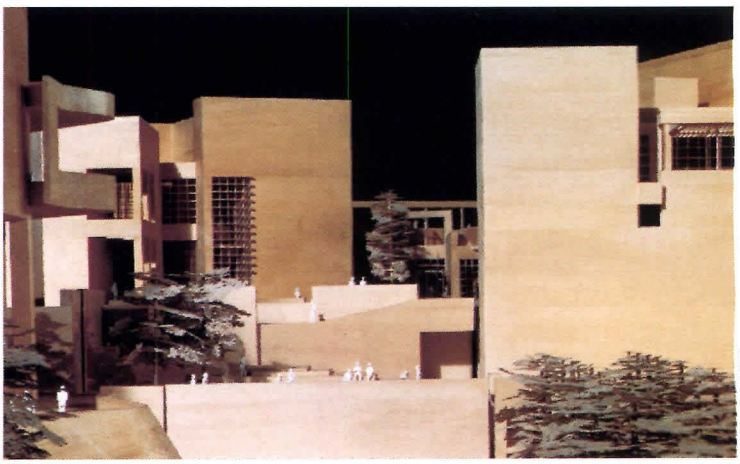


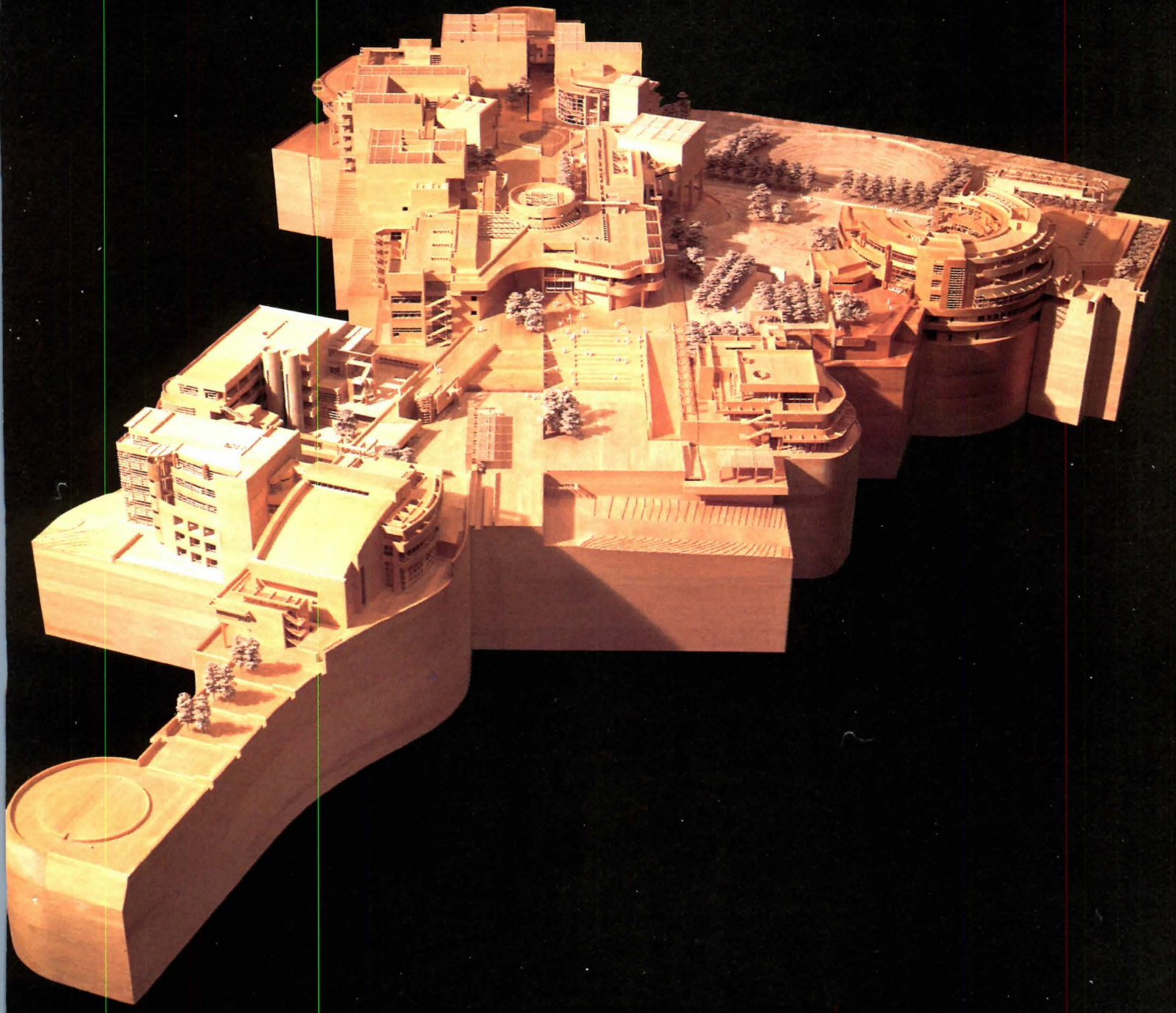
6

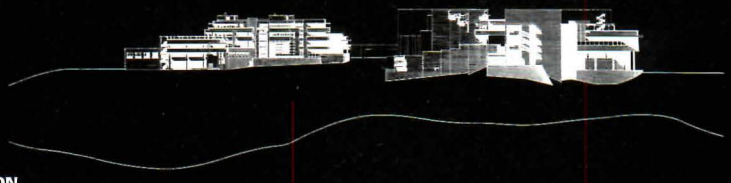
JOCK POTTLE PHOTOS

ABOVE: Enlarged views of model show food services building and Center for the History of Art (1), steps leading up to museum entrance (2), Getty Museum's central courtyard (3), museum rotunda seen from central courtyard (4), gallery pavilions on museum's west side (5), and monolithic pavilions towering above plaza level (6).
FACING PAGE: Wooden model of 945,000-square-foot complex displays mixture of axial and angular siting elements. Zoning height restrictions were overcome by establishing grade level close to the ridge's crest, resulting in facades that rise as high as 110 feet.

THE GETTY CENTER
LOS ANGELES, CALIFORNIA

ARCHITECT: Richard Meier & Partners, Los Angeles—Richard Meier, Michael Palladino, Donald E. Barker (partners-in-charge); John H. Baker, James Crawford, Tom Graul, Michael Gruber, Richard Kent Irving, Christine Kilian, James Mawson, A. Vic Schnider, Timothy Shea, Richard Stoner, Aram Tatikian, J.F. Warren (project architects)
LANDSCAPE ARCHITECTS: Olin Partnership, Emmet L. Wemple & Associates
ENGINEERS: B&E Engineers, Rogoway/Borkovetz Associates (civil); Altieri-SeborWieber (mechanical/electrical); Robert Englekirk (structural); Pacific Soils Engineering (soils)
CONSULTANTS: Karsten/Hutman Margolf (project management); Woodward-Clyde (geotechnical); Fisher Marantz Renfro Stone (lighting); The Office of Thierry Despont (design of decorative arts galleries)
GENERAL CONTRACTOR: Dinwiddie Construction Company
COST: $733 million (estimate)
PHOTOGRAPHER: Timothy Hursley, except as noted





SOUTH ELEVATION

EAST ELEVATION

200'/60m

Over the last decade, the white cube that has long been a given of American galleries has been challenged by many architects trying to deneutralize spaces for viewing art. They have opened windows, added color, designed multilevel environments, and created object-specific installations, all to minimize the disparity between the subjectivity of the visitor and the objectivity of the art.

Whether it is his own building or an artwork, Richard Meier still believes in the sanctity of the object—and in the white cube as the best environment for displaying it. What Meier has asked in the design of several museums, and most recently in the Gagosian Gallery in Beverly Hills, California, is how far the white cube can be manipulated yet still retain its essential nature as a concentrative chamber that does not compete with the art displayed. He wants to keep the cube, but change it in order to enrich the viewing environment.

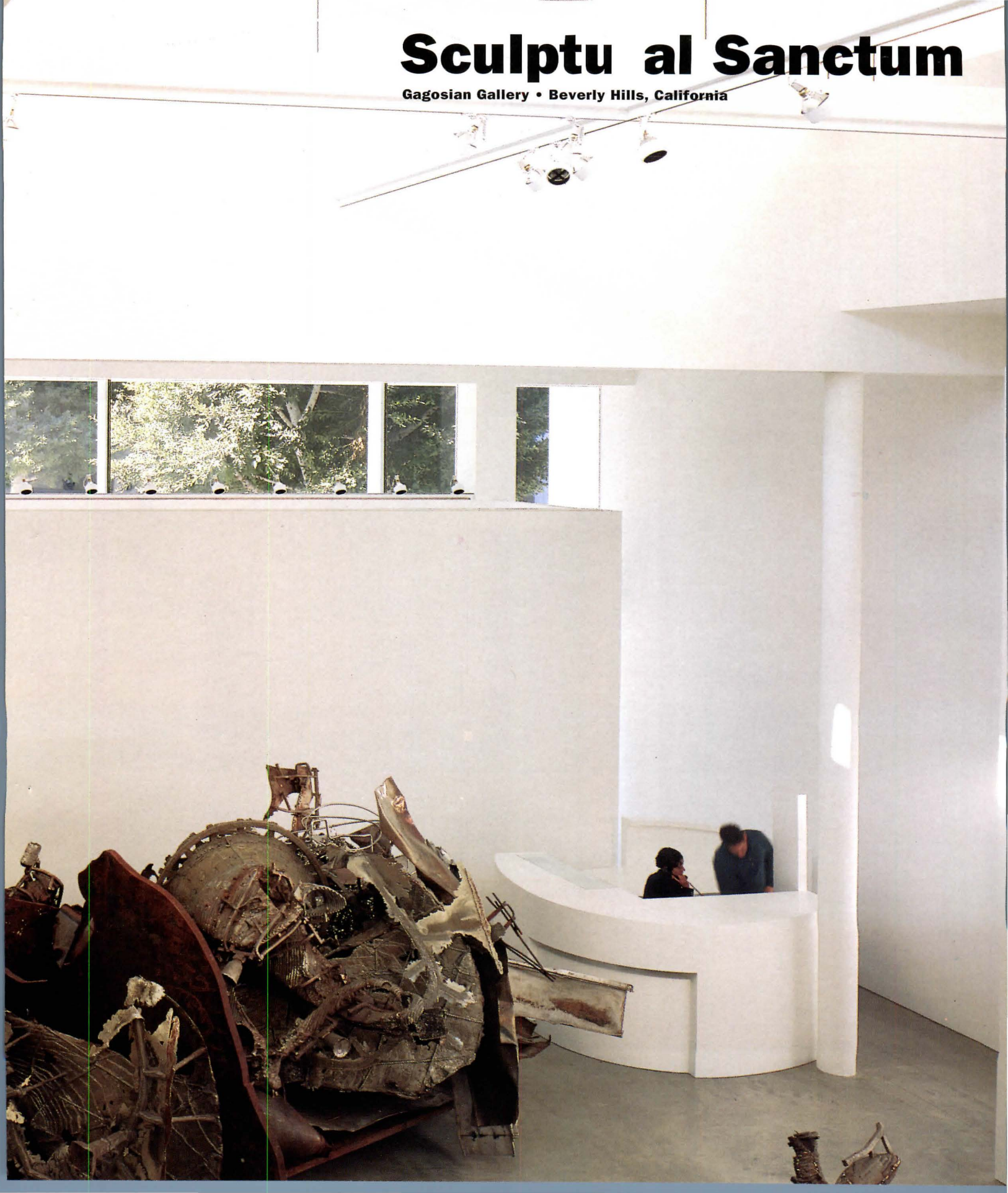
Given the scale of the nearby Getty Center, the new Gagosian Gallery in the Rodeo Drive shopping district is a trifle. But precisely because the two-story infill building is small, with a simple program, it acts as a microcosm for Meier's attitudes about how architecture should present art.

Inside and out, the building is as white and starched as a dress shirt,

THESE PAGES: Gagosian Gallery's lofty main space houses Frank Stella sculpture, bathed in natural light by clerestory windows and skylights.

Sculptu al Sanctum

Gagosian Gallery • Beverly Hills, California



calmly standing out simply by virtue of its crisp and genteel formality. The forms are quiet. A wall of patterned glass visually fogs the view into the interior. It is set within a deep, two-story facade capped by a long white bar that ties the front together with the tension of a tautly drawn entablature. Hovering over the main roof is a secondary roof with the gently curved section of a potato chip.

Visitors enter the Gagosian through a stark corridor leading to a tall, squarish hall of about 2,000 square feet. Designed for large-scale artworks, it will also accommodate smaller pieces: the hall's two ceilings, conceived for a double scale, measure 27 feet and 20 feet. A smaller gallery lies to the east. A balcony, framed by a large, undecorated opening, projects from second-story offices out over the main gallery.

In the main gallery, the higher ceiling rests on clerestory windows that allow light to reflect on its soffit and cast a gently suffused glow. Overhead lights suspended in an open structural grid establish the first of several vertical planes that give the ceiling recessional depth. Typically, Meier keeps walls from touching ceilings and other walls, so that surfaces part for space to continue out of sight in coves illuminated by natural or artificial light. The deep spatial carvings in this porous cube keep the eye roaming up, out, over, and through walls.

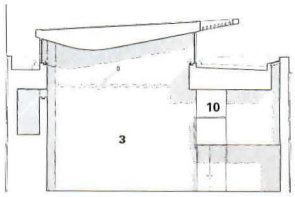
At the height of the artwork, the space is calm, holding viewers' attention without forcing it. Meier breaks the hermetic seal of the standard gallery without losing the qualities that make the white box such a focused, and focusing, space.—*Joseph Giovannini*

ABOVE: West facade is punctuated with public entrance (left) and service door (right).
FACING PAGE, ABOVE: Lighting grid establishes third ceiling plane; small balcony projects over main space.
FACING PAGE, LEFT: Smaller gallery is lit by clerestory.
SECTIONS: Angled roof scoops light into gallery; offices and storage area are stacked in southeast corner.
PLANS: Large main gallery adjoins narrower viewing space; both are overlooked by second-story office.

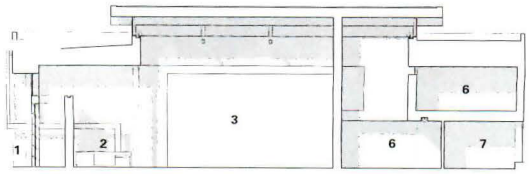
GAGOSIAN GALLERY
BEVERLY HILLS, CALIFORNIA

ARCHITECT: Richard Meier & Partners—Richard Meier, Michael Palladino, John H. Baker (partners-in-charge); Ron Castellano, Glen Irani, Gudlaug Jonsdottir, Andrew Kim, Julian King, Paul Masi, Alfonso Perez, Rijk Rietveld, Carlos Tan (project team)
ENGINEER: Robert Englekirk (structural)
CONSULTANT: Fisher Marantz Renfro Stone (lighting)
GENERAL CONTRACTOR: Peck/Jones Construction
PHOTOGRAPHER: Timothy Hursley

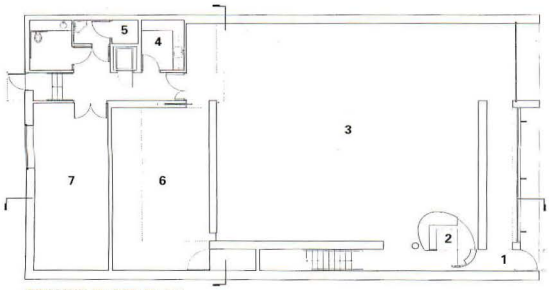
1 ENTRANCE
2 RECEPTION
3 MAIN GALLERY
4 PANTRY
5 MECHANICAL
6 GALLERY
7 STORAGE
8 OPEN TO BELOW
9 OFFICE
10 BALCONY



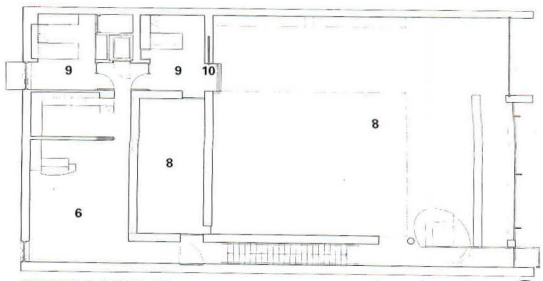
NORTH-SOUTH SECTION



EAST-WEST SECTION



GROUND FLOOR PLAN



SECOND FLOOR PLAN

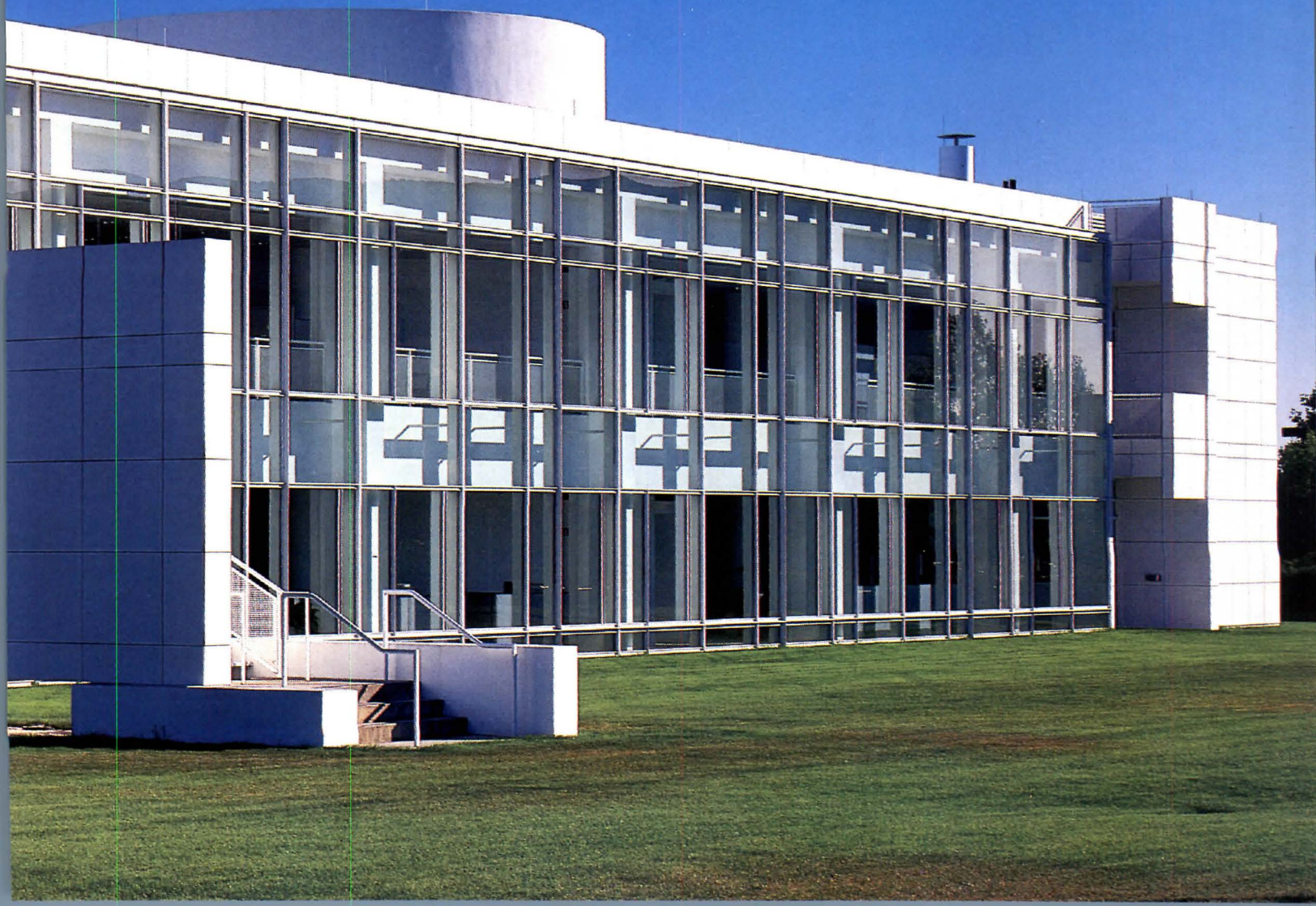
Swiss Precision

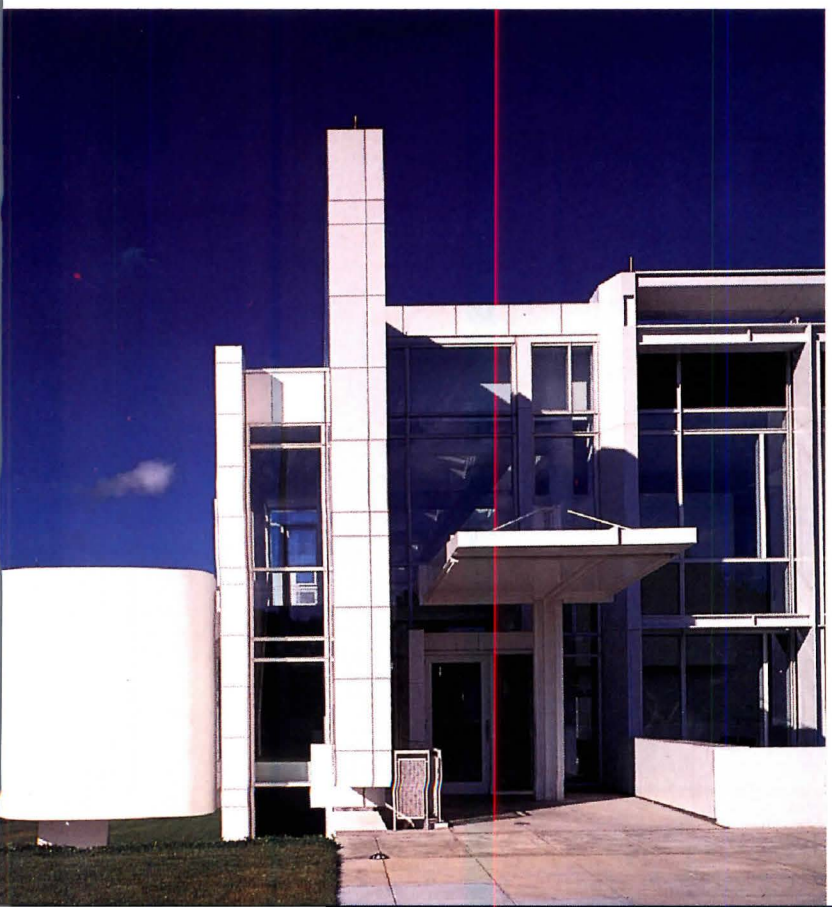
Swissair North American Headquarters • Melville, New York

The idea of Richard Meier designing a suburban build-to-suit might seem improbable. But the morphology of office parks turns out to be well suited to the architect's high-design sensibility, since it requires buildings to sit as isolated objects within parking-lot landscapes. For the North American headquarters of Swissair in Melville, New York, a Long Island community not far from Kennedy Airport, Meier ups the spec-built ante with a modest yet elegant structure that indicates a developing sobriety in his work.

Like most office-park buildings, the Melville facility is designed to house a prosaic program: a reservations center with administrative offices for Swissair's American customer and freight operations. It is organized simply, with executive offices on the top floor, reservations and training facilities at ground level, and computing and building support areas below grade. "We're known for our efficiency and quality," explains Swissair Project Manager Bert Urfer, who directed the invited-interview architect selection process. "We wanted to make a statement about that, and the clean line of Meier's architecture does it very well—so he got the job."

THESE PAGES: Golden section and repeating squares govern proportions of north-facing curtain wall. Cylinder holds meeting rooms; projecting wall shields emergency stair.



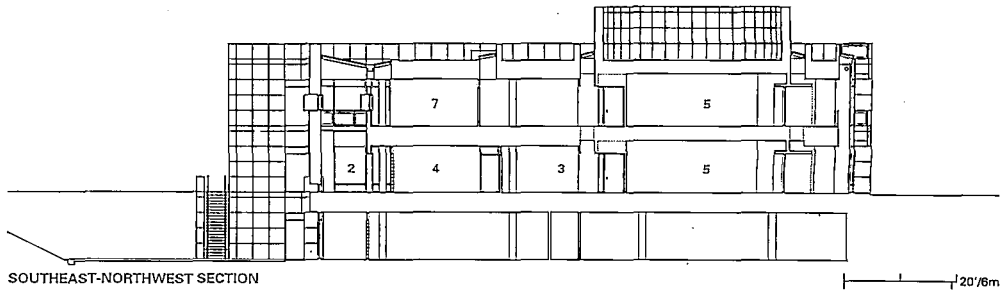


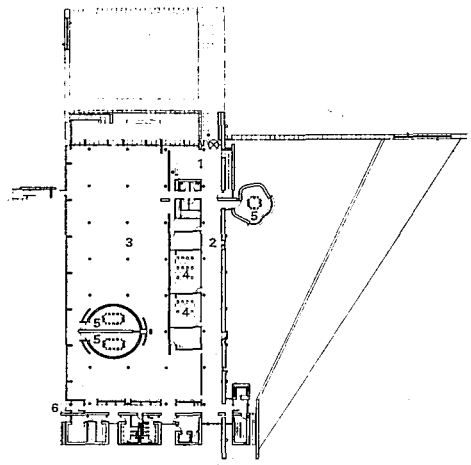
Swissair was interested in more than an image of efficiency, however, and required Meier to stress energy management in his design. As a result, the new building will never have to shake off the rumors that dogged Meier's Douglas House (1973), a glassy lakeside pavilion that sacrificed climate-related function to elegant form. At Swissair, as in much of his recent work, Meier's sophisticated manipulation of light is enriched with environmental consciousness. The 58,000-square-foot building is all but closed along its southern and western exposures, which are subject to undesirable heat gain, glare, and highway noise. On the north side, evenly modulated sun pours deep into open-plan offices through a wall of glass. A brise-soleil protects the east facade and gives monumental presence to the entrance.

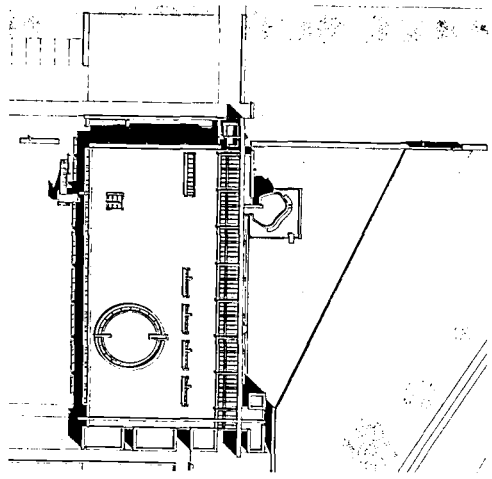
Swissair breaks from earlier Meier structures in other important ways as well. It is formally simple: Essentially a rectangular solid, most of the building's visual richness stems from its gridded, white metal skin and its north and east curtain walls, which reflect the overlapping geometries ordering the building's proportions and organization.

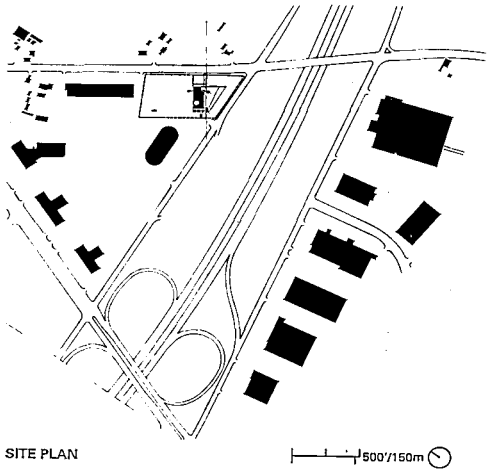
The building measures 200 feet long, 100 feet wide, and approximately 25 feet high (above grade), multiples of proportioning systems based on single and double cubes and rectangles. Furthermore, its two structural modules are derived from an overlapping pattern of repeated squares and golden sections. The concrete column grid, floor plates, and west shear wall form one module, the two curtain walls another. In plan, the column grid thus seems to be slightly out of alignment with the dominant vertical supports of the curtain wall. Meier's trademark white skin aligns with both systems, unifying them. "I believe that proportion and scale are the fundamental issues of architecture, those that tie it to the human body," maintains Partner Thomas Phifer, project designer, who keeps a photograph of Mies's Farnsworth House on his desk.

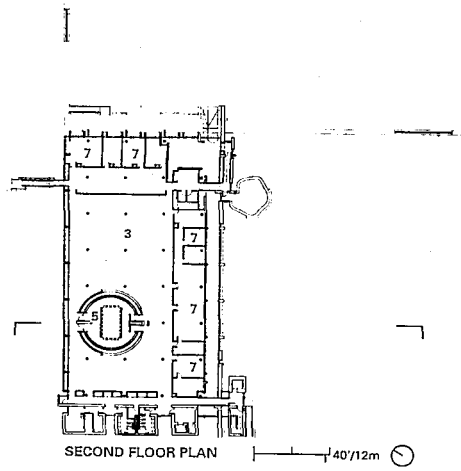
Like Meier's new Museum of Contemporary Art in Barcelona (pages 70-79, this issue) and upcoming courthouse in Islip, New York (ARCHITECTURE, January 1996, page 68), Swissair reveals itself best in transverse section. The project is experienced as a layering of parallel planes through which one moves. Each layer is clearly distinguished, from the slotted south facade, through the adjacent skylit corridor, classrooms, internal circulation, and offices, to the north curtain wall held ever-so-slightly off the tapered





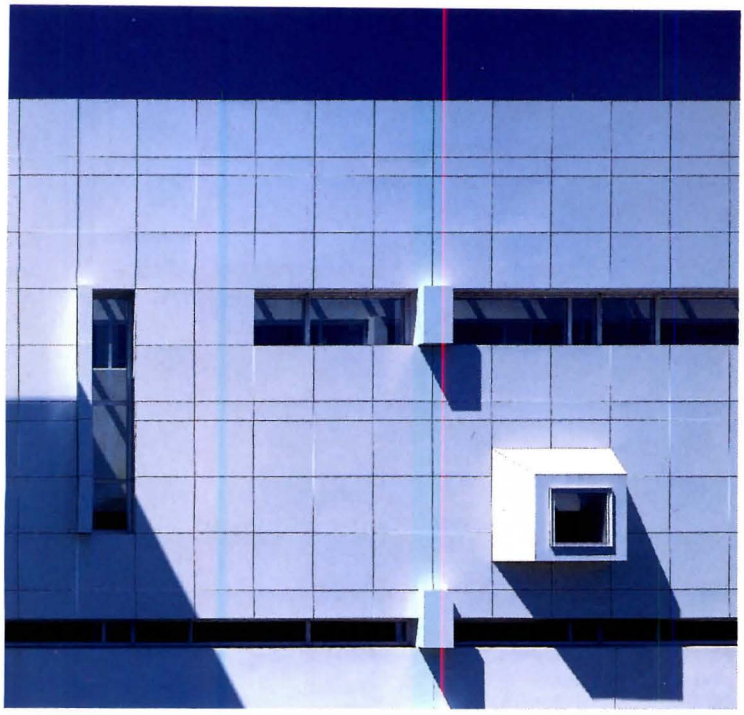






1 PUBLIC ENTRANCE AND RECEPTION
2 MAIN HALL
3 OPEN OFFICE AREA
4 TRAINING ROOM
5 CONFERENCE ROOM
6 STAFF ENTRANCE
7 PRIVATE OFFICE

FACING PAGE, TOP: Limited fenestration protects south facade. Curving volume houses conference room.
FACING PAGE, LEFT: Canopy marks visitors' entrance on east elevation.
FACING PAGE, RIGHT: Cafeteria on lowest level opens onto patio and landscape.
SECTION: Administration occupies top floors; basement houses services.
SITE PLAN: Building's south side faces Long Island Expressway.
PLANS: Offices and services encase open reservations areas on upper floors.



TOP: Metal panel system gains sharp definition from recessed gaskets.
ABOVE: Sculpted window in south-facing gallery frames views.
FACING PAGE, TOP: Light patterns animate whitewashed planes of lobby.
FACING PAGE, BOTTOM LEFT: Glass-block-lined training classrooms (right) share atrium daylight.
FACING PAGE, BOTTOM RIGHT: Skylit hall reveals separation of concrete interior columns from steel-framed wall.

edges of the concrete floor plates. The only exceptions to this progression are the cylinder of meeting rooms rising through the center of the building and the amorphous conference room attached to the south face.

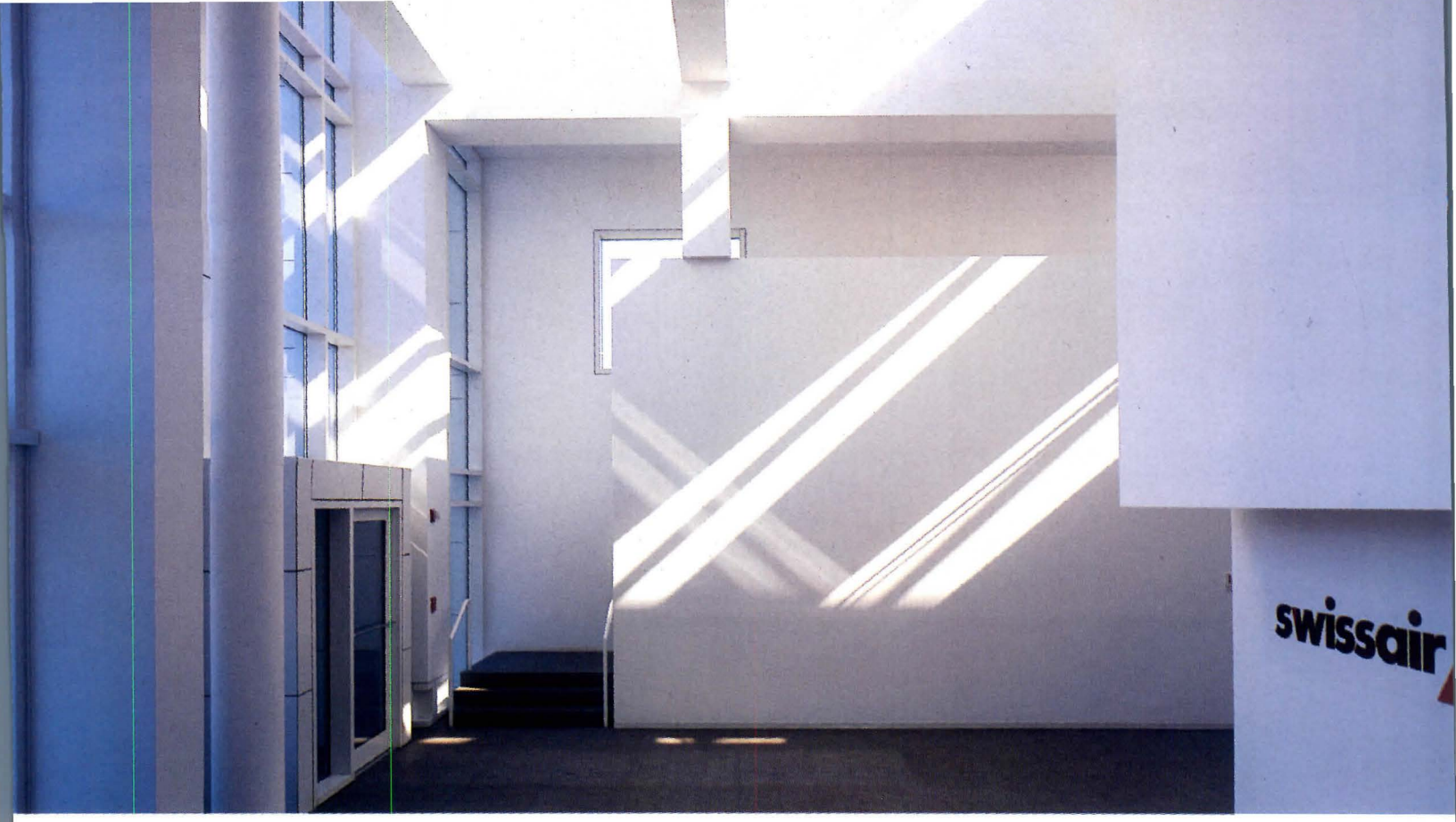
The Barcelona museum, Islip courthouse, and Swissair building form a coherent body of work that reflects Phifer's direction of Meier's New York office. All three projects are assemblies of expressed planar sections. The sculptural forms that project from their simple volumes act as foils to the rectilinear formalities of the massing. Further, the curtain walls are articulated—and complicated—explications of the proportioning systems that govern the building. Reading these layers requires closer scrutiny than their simplified forms may at first suggest.

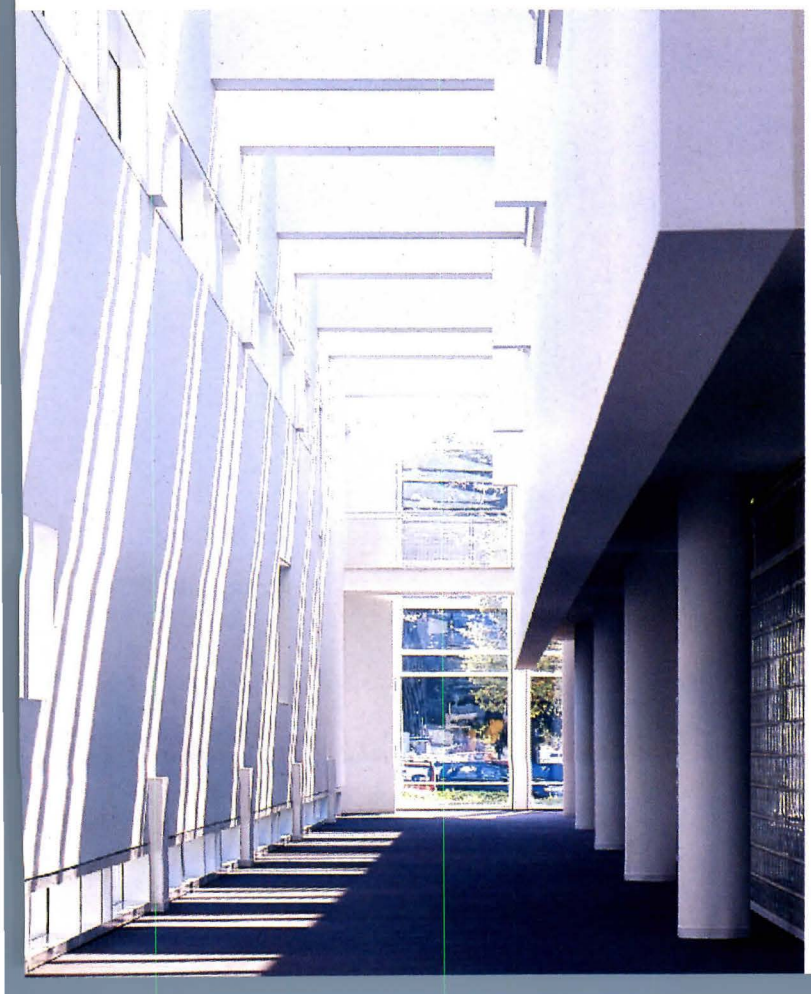
Such scrutiny, however, raises questions that a more cursory review of Swissair might overlook. Meier's preoccupation with the manipulation of proportional minutiae comes at the expense of more pedestrian, but still important, matters. Swissair's lofty lobby, for instance, is reserved for guests; employees enter through a low, crowded back door on the headquarters' north side that seems like an afterthought. Ceilings throughout are finished in standardized drop-in panels that detract from the customized systems of the building's skin and fenestration.

In a project that is otherwise so meticulous, such shortcomings become magnified. They are the stuff of more typical spec-office buildings—not one by Richard Meier. Nevertheless, within its banal Long Island office park, the Swissair building is a welcome exception, a sparkling apparition floating on a carpet of grass.—*Reed Kroloff*

SWISSAIR NORTH AMERICAN HEADQUARTERS
MELVILLE, NEW YORK

ARCHITECT: Richard Meier & Partners, New York City—Richard Meier, Thomas Phifer (design partners-in-charge); Robert F. Gatje (administrative partner-in-charge); Alan Schwabenland (project architect); Jim Sawyer (project manager); John Reed, Steve Dayton, Reynolds Logan, Alfonso Perez-Mendez, Madeline Sanchez, Pete Bochek, Nancy Clark, Tim Douglas, Michael Duncan, Richard Manna, David Schilling (project team)
LANDSCAPE ARCHITECT: William T. Schmitt Associates
ENGINEERS: Ove Arup & Partners (structural); AltieriSeborWieber (mechanical/electrical); Nelson & Pope (civil/traffic)
CONSULTANTS: Fisher Marantz Renfro Stone (lighting); Shen Milsom & Wilke (acoustics); Lerch, Bates & Associates (elevator)
COST: Withheld at owner's request
PHOTOGRAPHER: Scott Frances/Esto


swissair



The Hague has been planning to build a new city hall since 1903. Over the years, dozens of designs have been prepared, some of them bearing famous names like Hendrik Petrus Berlage and Willem Marinus Dudok, but all were eventually frustrated by war, economic hardship, or political indecision. Then, in 1986, Adri Duivesteijn, the alderman responsible for planning and urban renewal, revived the project by suggesting that a new city hall could be the catalyst for a general renewal of the Hague's run-down Spui district, an inhospitable quarter dominated by dreary, monofunctional government office blocks.

The city held an international developer/architect competition, which was won by Richard Meier. After various twists and turns—including alterations to the

THESE PAGES: Corner of Kalvermarkt and Spui streets is dominated by drum of the Hague's new public library; new city hall extends along Kalvermarkt (left).

Dutch Modern

City Hall and Central Library • The Hague, The Netherlands

program, a change of developer, and a refinancing package—the Hague City Hall, which incorporates a new public library, was completed last year. Whether you take the 90-year or the 9-year historical perspective, it has been worth the wait. Refined and serious, Meier's architecture is entirely appropriate to a symbol of an ancient city's civic pride that has been gestating for most of the century.

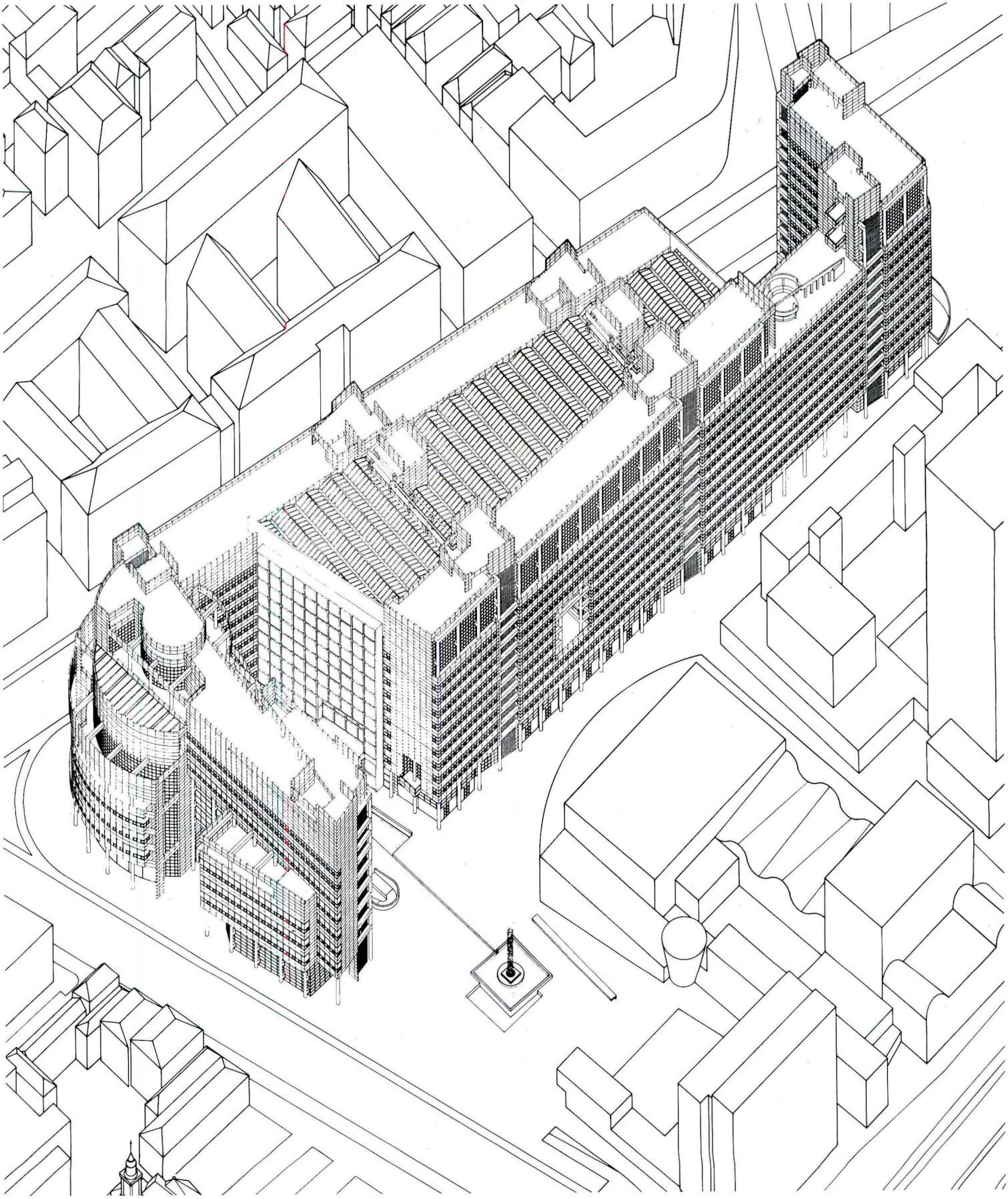
Not that this is a solemn or pompous building. It has no clock tower or monumental portico, none of the traditional symbols of political power and prestige. For this, his largest completed building to date, Meier has stuck to the abstract Modern language he developed over the past 30 years.

At the heart of the building is a glass-roofed public plaza. One hesitates to call it an atrium because it is more than that. It is an urban room, open to everybody without security restrictions, and offering a variety of specific functions. This is where citizens collect their passports, driver's licenses, social security checks, and the like. It is also where wedding parties gather before mounting a generous stair to the circular wedding hall on the northeast end of the second floor. At the other end, next to the main entrance, an information center occupies the ground floor of a cylindrical projection whose upper levels house the council chamber.

There are shops and cafés around the perimeter of the plaza and usually a temporary exhibition in the middle, but there are no trees, fountains, or statues. It is people who animate the space—they are the focus, it belongs to them, and that is the way it feels. Up above, two long, narrow blocks form the side walls of the plaza. These blocks house the offices of approximately 2,500 council officials, previously accommodated in 20 different buildings, who enliven the public plaza as they walk across the open bridges between the two freestanding elevator towers. Everything is transparent and democratic, architecturally as well as politically—even the elevators are fully glazed wall climbers.

THESE PAGES: Library and furniture shop (left) and city hall (right) are separated by open passageway that extends existing plaza in front of concert hall and dance theater to southeast.


"H.J. VAN DER ZWAAN"
POFFERTJES



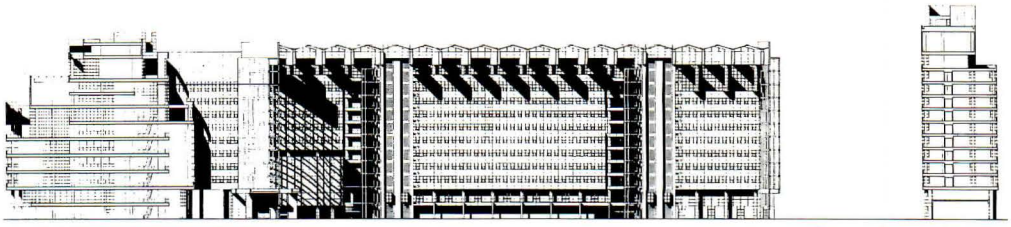
Cleverly integrated with the surrounding streets, the plaza is an inviting space. Full-height glass walls are all that separate it from smaller open spaces at each end, which are embraced by the return wings of the two interlocking L shapes dominating the overall plan. However, although Meier's building is one uniform development architecturally, it functions as three separate buildings.

At the southwest end of the complex stands a new public library, key shaped in plan, with a big drum on the corner of the busy thoroughfares of Kalvermarkt and Spui. To complicate matters, the library wing also houses a large furniture shop and is pierced by a two-story-high passageway leading to the main entrance of the city hall. This broad passageway continues the axis of Gedempte Gracht, an important shopping street on the southwest side of Spui.

The space between the library and the main building is open on the southeast side, extending the existing plaza in front of the neighboring concert hall and dance theater. At the city hall's other end, the arrangement is reversed, with a self-contained, spec office block in place of the library. The whole complex is a sequence of interpenetrating urban spaces, clearly defined by the form of the building yet accessible from all sides.

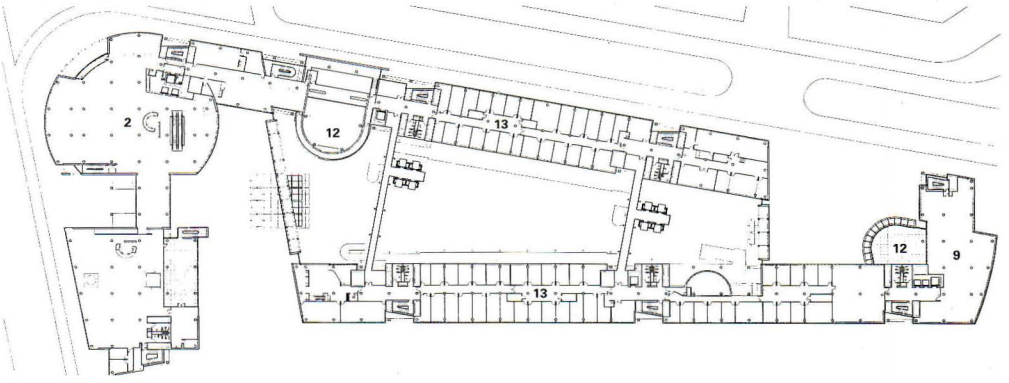
The 1.2 million-square-foot building is integrated with its surroundings geometrically as well as spatially. Kalvermarkt and Spui, the streets that define the northwest and southwest boundaries, meet at a slightly acute angle which reverberates through the whole plan. This angle means that the covered plaza is tapered rather than rectangular. On a smaller scale, the external walls of the four main exit stairs are recessed at a slight angle to the facades that they articulate. Subtleties like these are more apparent in the plan than in the direct experience of the building, but they nevertheless impart a dynamic tension to the whole composition.

Meier has never been particularly interested in the intrinsic qualities of materials,

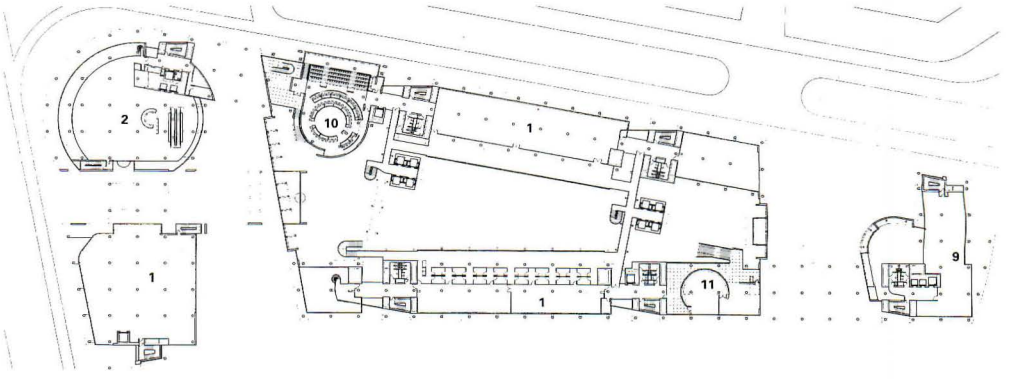


SOUTHWEST-NORTHEAST SECTION

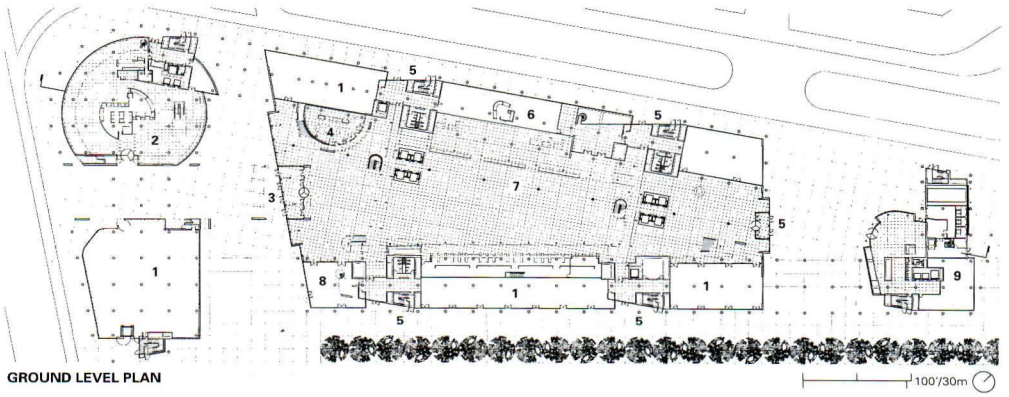
100'/30m



THIRD FLOOR PLAN



SECOND FLOOR PLAN



GROUND LEVEL PLAN

100'/30m

AXONOMETRIC: *Two interlocking L-shaped blocks of building are joined by skylit atrium.*
SECTION: Public atrium, measuring 130 feet high and an average of 90 feet wide, is pierced by elevators.
PLANS: Complex is sequence of interpenetrating urban spaces accessible from all directions; most of ground floor is open to public. Angle formed by major thoroughfares of Kalvermarkt (top) and Spui (left) reverberates through plans.

FOLLOWING PAGES: Covered plaza, which incorporates passport office, is a tall, narrow space, but reflective white cladding ensures that daylight penetrates to lowest level. Viewed from pedestrian bridges, drum contains information center on ground floor, council chamber on second level, and open terrace on roof.

1	RETAIL	7	ATRIUM
2	LIBRARY	8	RESTAURANT
3	CITY HALL MAIN ENTRANCE	9	SPEC OFFICE
4	INFORMATION CENTER	10	COUNCIL CHAMBER
5	ENTRANCE	11	WEDDING ROOM
6	READING ROOM	12	TERRACE
		13	CITY HALL OFFICES

CHRISTIAN RICHTERS / FOTOGRAF

CITY HALL AND CENTRAL LIBRARY
THE HAGUE, THE NETHERLANDS

ARCHITECT: Richard Meier & Partners, New York City—Richard Meier, Thomas Phifer, Gunter Standke (partners-in-charge); Rijk Rietveld, Diederik Fokkema (project architects); Francisco Bielsa, Peter Bochek, John Bosch, Patricia Bosch Melendez, Paul Cha, Eric Cobb, Adam Cohen, Susan Davis McCarter, Hans van de Eijk, Kenneth Frampton, Stephen Harris, Gordon Hasslett, Raphael Justewicz, Gerard Kruunenberg, John Locke, Richard Manna, David Martin, Siobhan McInerney, Brian Messana, Marc Nelen, Alex Nussbaumer, Ana O'Brien, Hans Peter Petri, Hans Put, Greg Reaves, Marc Rosenbaum, Madeleine Sanchez, David Shultis (project team)
LANDSCAPE ARCHITECTS: Joan Busquets, Alle Hosper, De Kern Gezond
ENGINEERS: Grabowsky & Poort (structural); BVS (mechanical and electrical); Peutz and Associates (building physics)
GENERAL CONTRACTOR: Wilma Bouw
COST: $170.8 million
PHOTOGRAPHER: Richard Bryant/Arcaid, except as noted

and apart from the plaza's marble floor, there are few natural materials in the Hague building. For the most part, it is composed of two kinds of white "stuff": matte-plastered concrete for the structure and glossy-coated aluminum for the cladding. But this severely limited palette concentrates attention on what matters most—form, space, and light—and these elements are handled with consummate skill. Like all of Meier's buildings, the Hague complex is a controlled composition of finely proportioned and subtly lit geometrical forms: a series of variations on the themes of square and cube, circle and cylinder.

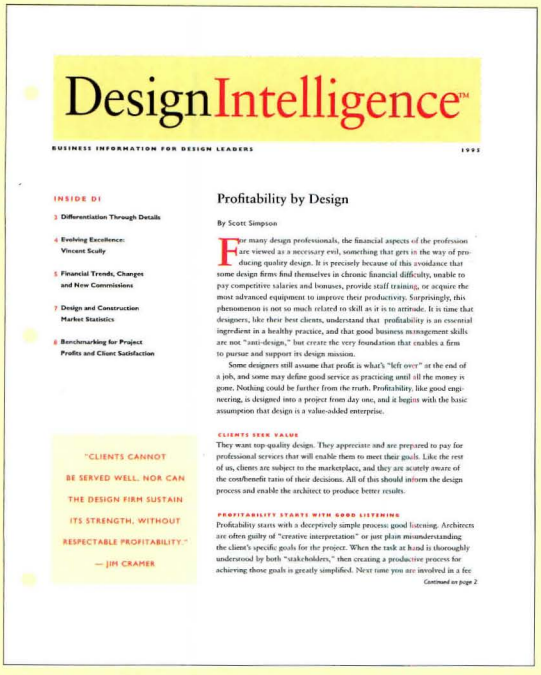
Meier has created some beautiful set pieces, such as the "urban window," a four-story-high opening that admits shafts of sunlight to the center of the plaza. And even in the most workaday areas of the building—the office corridors, for example—spaces are accented by an unexpected side light falling on freestanding columns. Through the accumulated effect of refinements such as these, the whole building achieves a remarkable dignity and presence, despite a complicated program and a tight budget.

The next major phase in the redevelopment of the Spui district will be a large composite scheme, called De Resident, at the northeastern end of the city hall site. Masterplanned by Rob Krier, it includes buildings designed by Michael Graves and Cesar Pelli. The Graves building, a recladding of a 1960s office tower, is crowned by a pair of gigantic gabled roofs. That is one way to interpret Dutch architectural history. Meier's building is, in its way, equally Dutch and equally traditional, but he draws his inspiration from a close study of architects Johannes Duiker, Jacobus Johannes Pieter Oud, and Mart Stam rather than from pictures in tourist brochures. The building that the city hall most resembles is Rotterdam's seminal van Nelle Factory, designed by Mart Stam (1926). It is ironic that it should take an American to remind the Dutch of their pioneering Modern past.—*Colin Davies*

TOP LEFT: Bookshelves in library are kept away from perimeter, creating open, well-lit interior.
ABOVE LEFT: Council chamber, accessible to public, is housed in circular room.
FACING PAGE: Library floors are set back from exterior wall to increase spacious effect. Freestanding round columns occur throughout building, imparting dignity to even workaday spaces.

ADVANCING THE ARCHITECT'S COMPETITIVE EDGE 24 TIMES A YEAR

Design



DesignIntelligence℠

BUSINESS INFORMATION FOR DESIGN LEADERS 1995

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4 Evolving Excellence: Vincent Scully

5 Financial Trends, Changes and New Commissions

7 Design and Construction Market Statistics

8 Benchmarking for Project Profits and Client Satisfaction

"CLIENTS CANNOT BE SERVED WELL, NOR CAN THE DESIGN FIRM SUSTAIN ITS STRENGTH, WITHOUT RESPECTABLE PROFITABILITY."
— JIM CRAMER

Profitability by Design

By Scott Simpson

For many design professionals, the financial aspects of the profession are viewed as a necessary evil, something that gets in the way of producing quality design. It is precisely because of this avoidance that some design firms find themselves in chronic financial difficulty, unable to pay competitive salaries and bonuses, provide staff training, or acquire the most advanced equipment to improve their productivity. Surprisingly, this phenomenon is not so much related to skill as it is to attitude. It is time that designers, like their best clients, understand that profitability is an essential ingredient in a healthy practice, and that good business management skills are not "anti-design," but create the very foundation that enables a firm to pursue and support its design mission.

Some designers still assume that profit is what's "left over" at the end of a job, and some may define good service as practicing until all the money is gone. Nothing could be further from the truth. Profitability, like good engineering, is designed into a project from day one, and it begins with the basic assumption that design is a value-added enterprise.

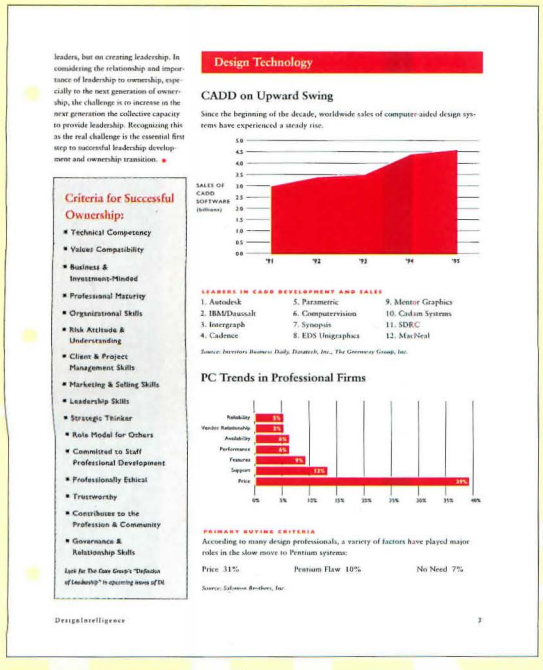
CLIENTS SEEK VALUE

They want top-quality design. They appreciate and are prepared to pay for professional services that will enable them to meet their goals. Like the rest of us, clients are subject to the marketplace, and they are acutely aware of the cost/benefit ratio of their decisions. All of this should inform the design process and enable the architect to produce better results.

PROFITABILITY STARTS WITH GOOD LISTENING

Profitability starts with a deceptively simple process: good listening. Architects are often guilty of "creative interpretation" or just plain misunderstanding the client's specific goals for the project. When the task at hand is thoroughly understood by both "stakeholders," then creating a productive process for achieving those goals is greatly simplified. Next time you are involved in a fee

Continued on page 2



leaders, but on creating leadership. In considering the relationship and importance of leadership to ownership, especially to the next generation of ownership, the challenge is to increase in the next generation the collective capacity to provide leadership. Recognizing this as the real challenge is the essential first step to successful leadership development and ownership transition. ■

Criteria for Successful Ownership:

- Technical Competency
- Values Compatibility
- Business & Investment-Minded
- Professional Maturity
- Organizational Skills
- Risk Attitude & Understanding
- Client & Project Management Skills
- Marketing & Selling Skills
- Leadership Skills
- Strategic Thinker
- Role Model for Others
- Committed to Staff Professional Development
- Professionally Ethical
- Trustworthy
- Contributes to the Profession & Community
- Governance & Relationship Skills

Look for The Coxe Group's "Definition of Leadership" in upcoming issues of DI.

Design Technology

CADD on Upward Swing

Since the beginning of the decade, worldwide sales of computer-aided design systems have experienced a steady rise.

LEADERS IN CADD DEVELOPMENT AND SALES

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3. Intergraph
4. Cadence
5. Parametric
6. Computervision
7. Synopsis
8. EDS Unigraphics
9. Mentor Graphics
10. Cadam Systems
11. SDRC
12. MacNeal

Source: Investors Business Daily, Datatech, Inc., The Greenway Group, Inc.

PC Trends in Professional Firms

PRIMARY BUYING CRITERIA

According to many design professionals, a variety of factors have played major roles in the slow move to Pentium systems:

Price 31% Pentium Flaw 10% No Need 7%

Source: Salomon Brothers, Inc.

DesignIntelligence 3

When clients talk about your firm, they're really talking about you and your leadership. *DesignIntelligence* is a newsletter that presents new management ideas and insights that help you grow.

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There are forces of change rapidly altering professional practice. With *DesignIntelligence* as your partner, you'll profit from our experience and active involvement in the technological revolution. Even the most educated principal is too often uninformed outside a certain (and sometimes narrow) range of design and management subjects. Each issue of *DI* uncovers new and relevant information on technology and its changing implications. If you are seeking facts that will keep you ahead of the times, you will find insightful information in every issue of *DI*.

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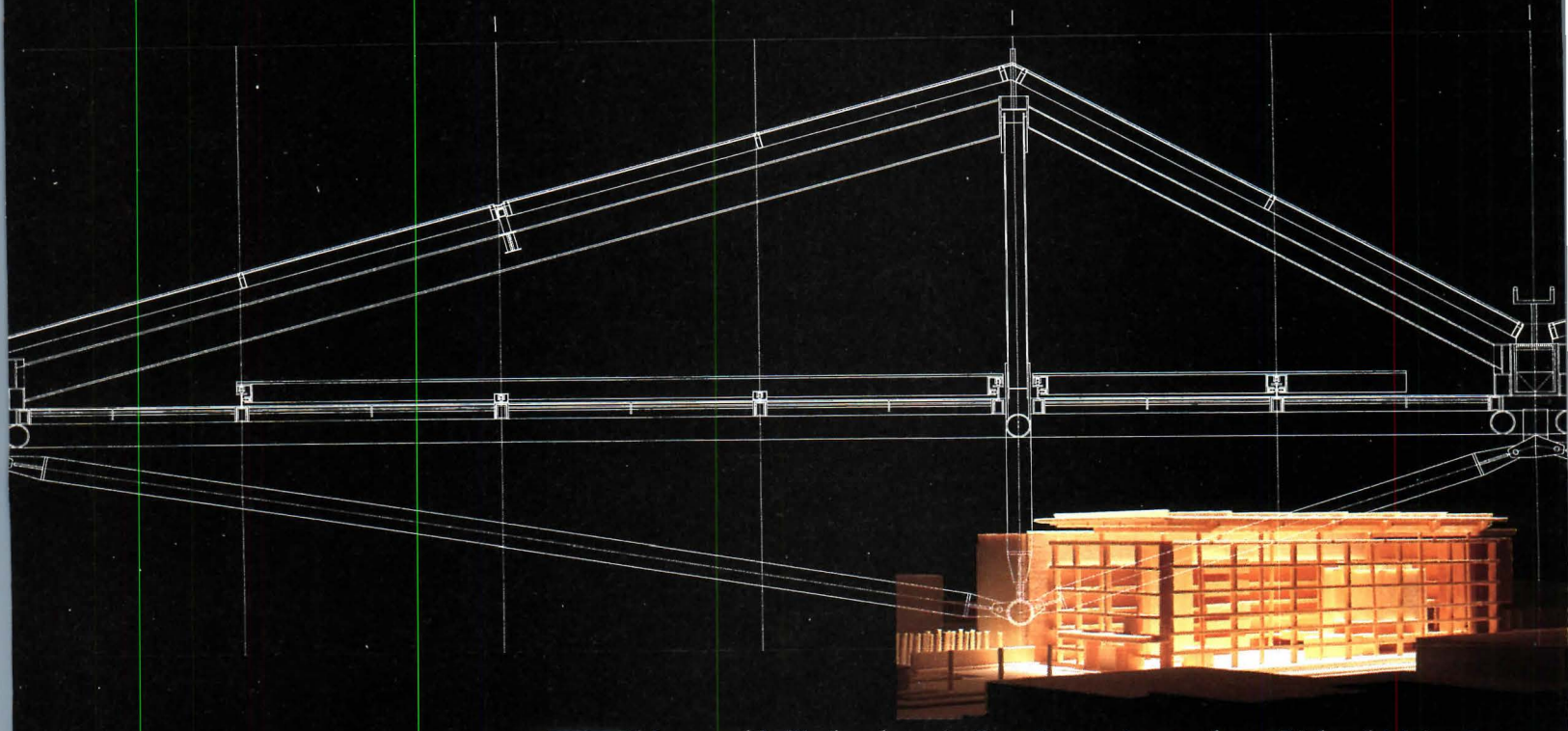
Technology & Practice



This month's Technology & Practice section explores Richard Meier & Partners' growing environmental consciousness. A feature on the architect's cladding systems details the integral sunshades, operable windows, and brise-soleils found in six of his newest buildings, including the U.S. Courthouse and Federal Building in Phoenix, Arizona (above).

For the Phoenix courthouse, Partner Thomas Phifer dared to propose a giant glass-walled atrium in the middle of Arizona's Sonoran Desert. This risky scheme is made viable—and economical—because of digitally modeled, passive solar cooling techniques. Our computers feature shows how engineer Ove Arup & Partners employed computational fluid dynamics to predict air movement and heat transfer in the atrium of the courthouse. Developed by the aerospace industry, this sophisticated software is now aggressively marketed for building applications as a way to streamline mechanical systems.

Our practice article surveys the radically changed mind-set of clients in the 1990s. Architects who hope to survive in this new, tougher business climate must thoroughly research their clients' histories, clearly communicate their design goals, and above all, emphasize service over self-interest.

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Circle 117 on information card

Meier's White Turns Green

European projects have led Richard Meier & Partners to environmentally sensitive systems.

Richard Meier has never been known for his environmental sensitivity. Until recently, the architect treated his gridded metal skins and glass curtain walls as abstract surfaces, without much regard for their thermal performance or energy efficiency. For example, many windows in Meier's addition to the Des Moines Art Center (1985) had to be retrofitted with foam panels, since their unshaded glazing resulted in excessive heat gain and glare.

Meier's recent European commissions, however, have forced the architect to rethink his detailing. Stringent regulations in countries such as Germany and the Netherlands governing natural ventilation, daylight, and energy consumption in buildings have resulted in energy-efficient cladding and daylighting systems, operable windows, and integrated sunscreens in Meier's designs.

This newfound technical savvy began with the KNP office building in Hilversum, the Netherlands (1988) and the Canal+ Headquarters in Paris (1991). It is also evident in recent projects both abroad and in the U.S., including a new federal courthouse in Phoenix, Arizona.

This new attention to energy and environmental performance is changing Meier's design process. "We're letting technology speak," asserts Partner Thomas Phifer, adding, "That doesn't mean just exposing ducts—we let technology and the way things are put together articulate the building."

Leading engineers and consultants are key to achieving this technical articulation and performance. Meier's collaborators include structural engineers Guy Nordenson and Mahadev Raman of Ove Arup & Partners in New York; curtain wall specialist Heinteges Architects; and lighting consultant Fisher Marantz Renfro Stone. While continued collaboration with technical wizards may not turn Meier into the American Norman Foster, such cooperation promises to sustain his newfound technical sensitivity.—*Raul A. Barreneche*

LISA QUINONES

ABOVE LEFT: Partner Thomas Phifer (left) and project architects Alfonso Perez-Mendez (center) and Stephen Dayton (right) examine model of roof trusses atop Meier's new Phoenix courthouse (pages 138-139).

Hypolux Bank Building

Kirchberg, Luxembourg

SCOTT FRANCES / ESTO

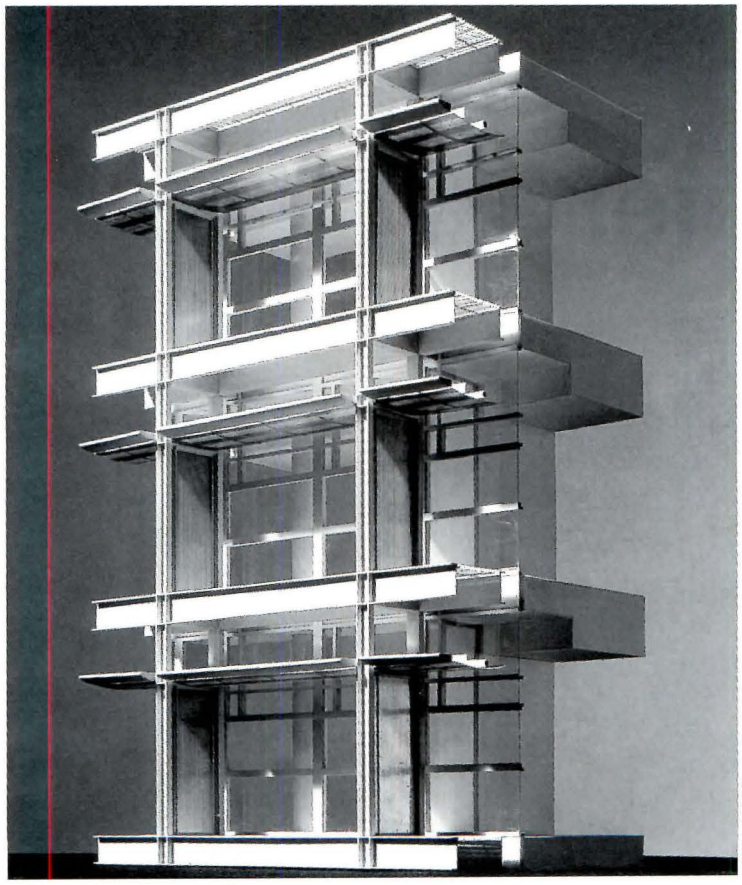
One of Meier's first experiences with the European standard of intelligent buildings was in designing the Luxembourg branch of the German bank Hypobank International. Located in a suburban business park, the L-shaped, five-story office block is organized with offices on the perimeter separated by a central corridor. The floor plates measure only 15 meters wide, to ensure that adequate light and air can penetrate the full depth of the building.

To reduce heat gain, the south-facing offices are shaded by steel-framed sunscreens that incorporate 1-meter-wide grilles, which double as catwalks to permit access to the curtain wall. A secondary steel frame supports slightly bowed canopies of aluminum mesh, and placed below these shades are vertical mesh panels that extend 1 meter from the curtain wall. The 1-by-2-meter vertical panels, which eliminate western sun in the afternoons, are mounted on pivoting aluminum frames to simplify maintenance.

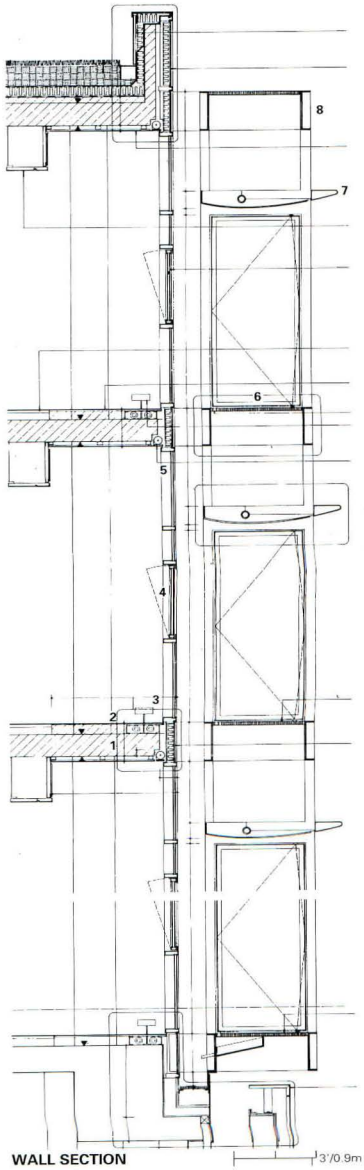
The elaborate system of horizontal and vertical shading is somewhat overwrought. Adequate sunshading could have been achieved with fewer elements, but the layered combination does animate the facade with patterns of light and shadow—and keeps the sun out.

The Hypolux building also represents Meier's first naturally ventilated office structure, with operable windows that effectively eliminate the need for air conditioning. Employees can also modulate the temperature of their workspace with individual thermostats and airflow controls placed below windows.

The Hypolux building taught Partner Thomas Phifer how much European clients value efficient structures. "The Europeans are maniacs about building performance," explains Phifer. "If they use one more ounce of energy than was calculated, they go nuts."



JOCK POTTLE / ESTO



WALL SECTION 3'/0.9m

TOP: Three-meter-square grid of steel frames supports vertical and horizontal sunscreens on west facade.
ABOVE: Primary grid of steel members supports 1-meter-wide catwalks. Secondary grid of vertical and horizontal sunscreens is composed of 1-meter-wide aluminum mesh panels.
SECTION: Vertical mesh panels below bowed sunscreens pivot to allow access to maintenance catwalks.

1 CONCRETE SLAB
2 RAISED FLOOR DECK
3 HEATING UNIT
4 OPERABLE WINDOW
5 POCKET BLIND
6 STEEL GRATE
7 PERFORATED METAL SUNSHADE
8 STEEL BRISE-SOLEIL SYSTEM

Swissair Headquarters

Melville, New York

SCOTT FRANCES / ESTO

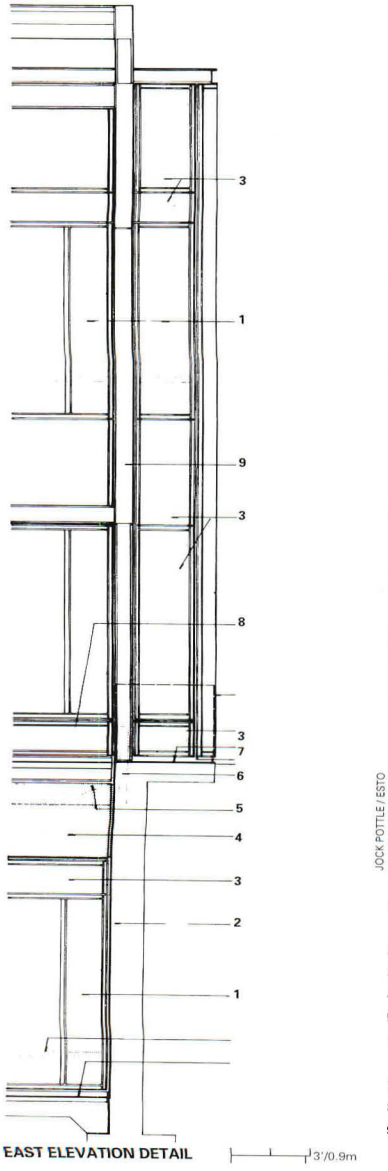
As the North American headquarters for Switzerland's national airline, Meier's Swissair office building on suburban Long Island might appear to be based on European standards. But with a tight budget, the architect was unable to introduce high-tech gymnastics—or even natural ventilation, which Partner Thomas Phifer, project designer, initially proposed. Instead, Phifer focused on orienting the three-story building for maximum solar benefit and detailed the facades to reduce heat gain with minimal means.

The south elevation is essentially solid, with few notched openings scored into the aluminum-paneled facade. This wall eliminates noise from the nearby highway and reduces the harsh sunlight. Behind this facade, a toplit public circulation gallery provides natural illumination to adjacent offices.

The glazed north facade is clad in a simple curtain wall fitted with insulated low-E glass. Because sunlight never shines directly on the glass, Phifer kept the gridded, glazed surface free of sunscreens.

The building's east elevation is composed of a similarly glazed curtain wall. On this facade, however, the architect mounted fixed, 13-by-4-foot aluminum blades that shade the glass from direct morning light. The blades are fastened to the aluminum framing members in front of the curtain wall surface to animate the glazed facade.

Both the north- and east-facing curtain walls feature an inexpensive system of "snap caps." These aluminum extrusions are customized variations on the flat cover plates of traditional curtain-wall mullion caps. They conceal the joints of the frame and act as an ordering device for the gridded facades. The west facade is solidly clad in a prefabricated system of 9-by-12-foot aluminum panels bolted to the edges of the concrete floor slabs.



EAST ELEVATION DETAIL 3'/0.9m

JOCK POTTLE / ESTO

1 INSULATING GLASS IN ALUMINUM-FRAMED WALL SYSTEM
2 CONCRETE FOUNDATION WALL
3 INSULATING GLASS
4 CEMENT PLASTER FASCIA
5 CONCRETE LEDGE BEYOND
6 ALUMINUM TUBE SUNSCREEN STRUCTURE AND ANCHORS BEYOND
7 CONCRETE PAVING
8 METAL PANEL SILL
9 METAL PANEL SUNSCREEN

TOP: Aluminum extrusions, or "snap caps," cover off-the-shelf mullions of east-facing curtain wall.
ABOVE: Fixed, 4-foot-deep aluminum fins shade glass from morning light.
EAST ELEVATION: Curtain wall's end bay, projecting 3 feet from main facade, is fitted with insulated low-E glazing.

Museum of Contemporary Art

Barcelona, Spain

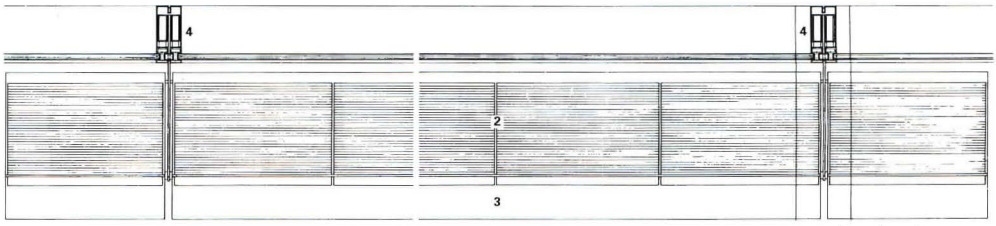
Partner Thomas Phifer designed the new Museum of Contemporary Art in Barcelona as a crisp white box filled with daylight—a stark contrast to the surrounding medieval masonry structures of the city's Gothic Quarter. "We believe very strongly that art should be viewed in daylight," explains Phifer, "so we tried to get natural light into just about every space." The challenge was to protect sensitive artworks from the strong Mediterranean sun and adhere to curators' stringent lighting levels. Working with Paul Marantz of New York-based lighting consultant Fisher Marantz Renfro Stone, Phifer installed roof-mounted louvers to preserve indirect daylighting while blocking out ultraviolet radiation.

Typical museum laylights, in which white glass or fabric panels are mounted below skylights, diffuse sunlight uniformly but obstruct exterior views. In the Barcelona museum's main gallery, the sky and its changing conditions remain visible while sunlight is reflected into the galleries through a grid of 40-centimeter-wide, fixed aluminum blades. The fin-shaped blades are held in place by a steel support that spans the skylights' framing members. The skylights are glazed with laminated, insulated glass with a UV-protective inner layer.

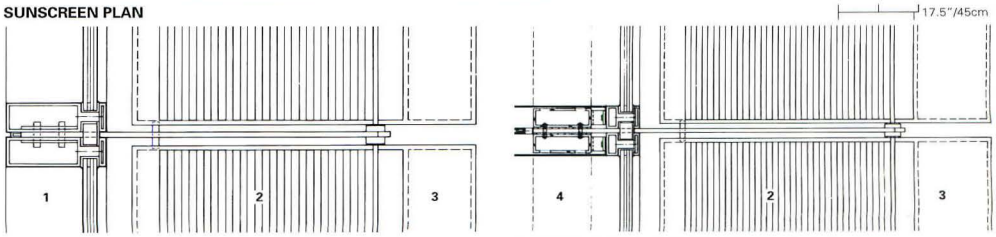
Above other galleries, the architect installed smaller blades—similar in size to Venetian blinds—inside 4-foot-wide skylights to similarly control daylighting.

Overlooking a newly created public plaza, the museum's main south-facing elevation is shaded by lightweight brise-soleils composed of 1-inch-diameter aluminum rods. The rods, which are supported by aluminum brackets bolted to the double mullions of the glass curtain wall, provide sufficient shading while allowing visitors to see through the sunshades.

LLUÍS CASALS

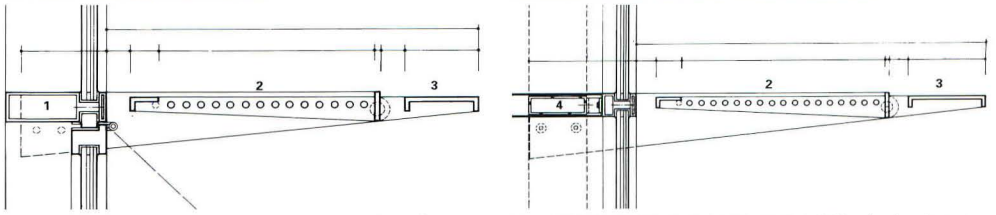


SUNSCREEN PLAN



TYPICAL SUNSCREEN PLAN DETAIL

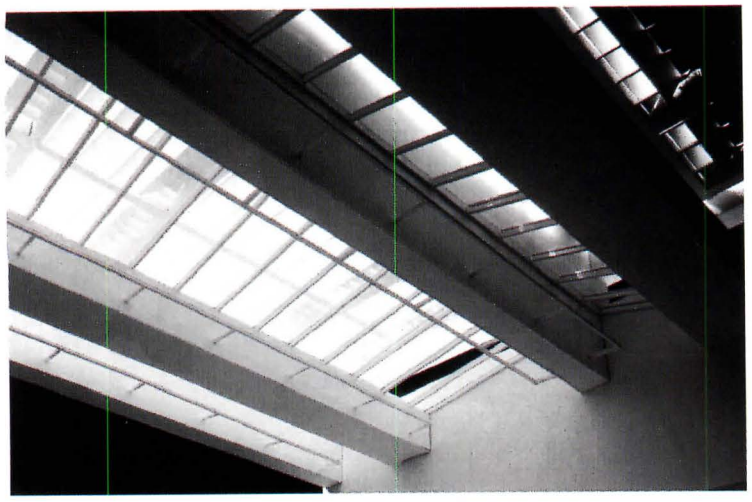
SUNSCREEN PLAN DETAIL AT DOUBLE MULLION



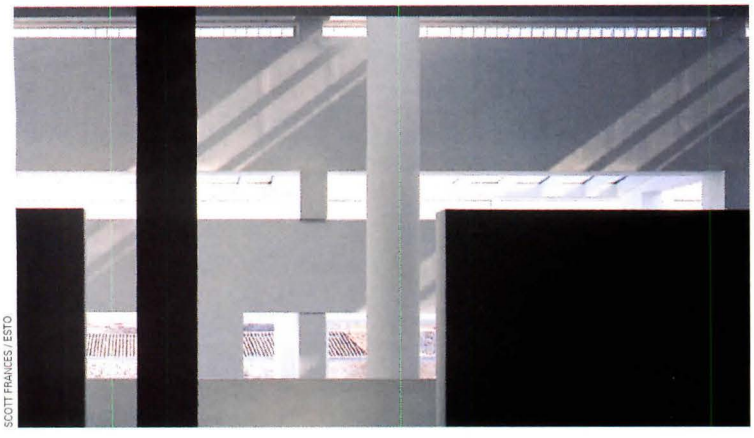
TYPICAL SUNSCREEN SECTION

SUNSCREEN SECTION AT DOUBLE MULLION

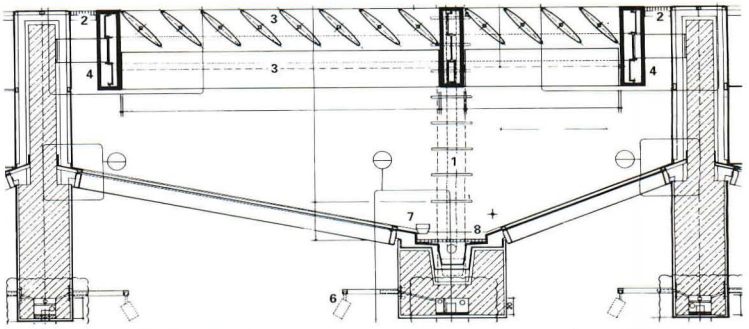
1 CURTAIN WALL MULLION WITHOUT INTERNAL STRUCTURE
2 PAINTED ALUMINUM RODS
3 PAINTED ALUMINUM EXTRUSION
4 CURTAIN WALL MULLION WITH INTERNAL STRUCTURE



LLUIS CASALS

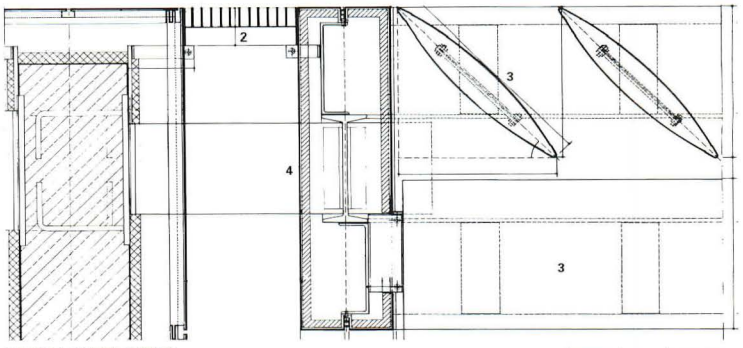


SCOTT FRANCES / ESTO



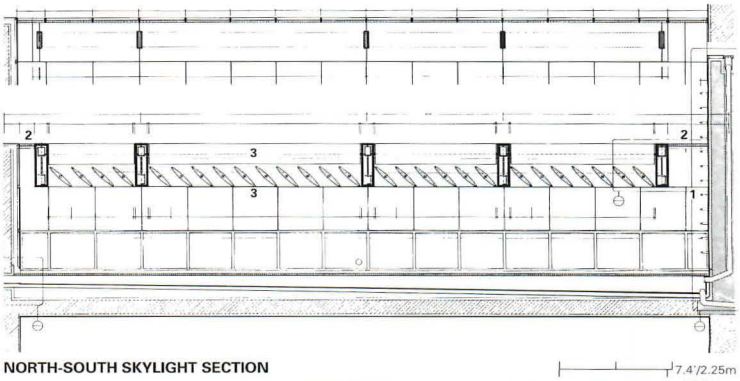
EAST-WEST SKYLIGHT SECTION

3.9'/1.2m



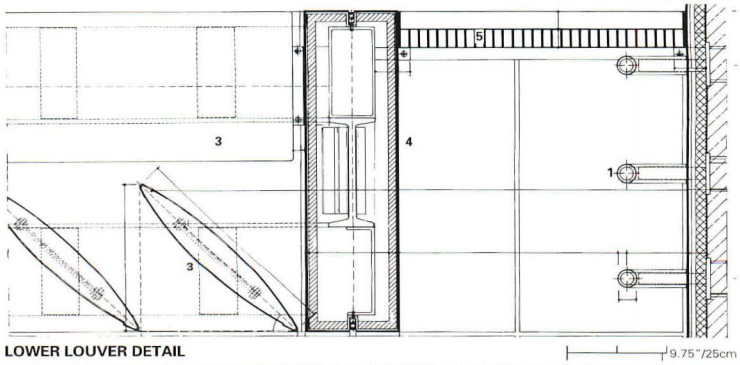
UPPER LOUVER DETAIL

9.75"/25cm



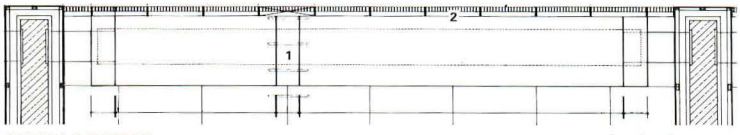
NORTH-SOUTH SKYLIGHT SECTION

7.4'/2.25m



LOWER LOUVER DETAIL

9.75"/25cm



CATWALK SECTION

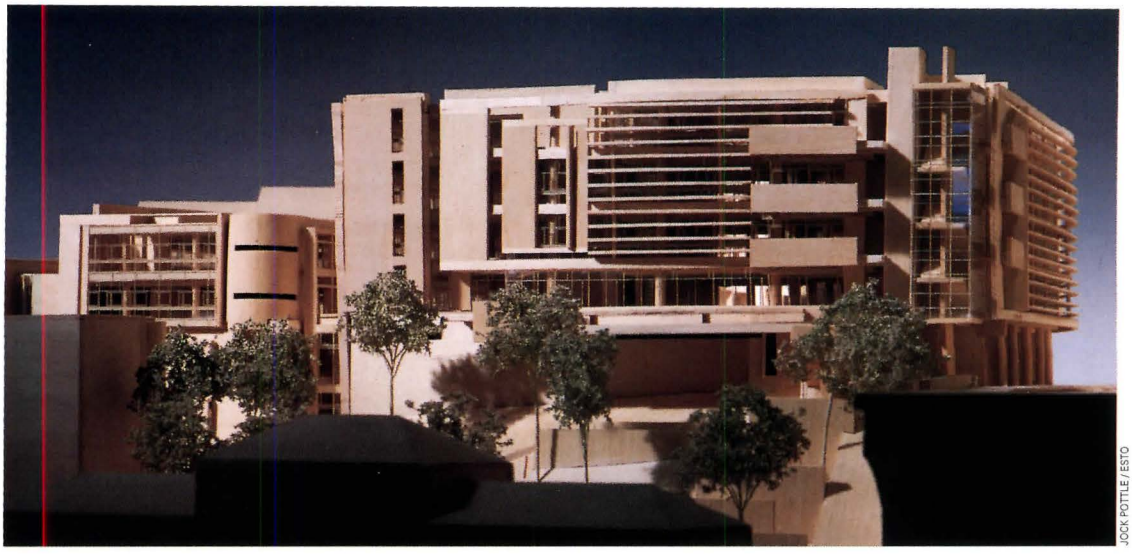
1.95'/60cm

FACING PAGE, TOP: Museum's south-facing glazed curtain wall is shaded by aluminum sunscreens.
FACING PAGE, TOP PLAN: Typical sunscreen is composed of 18 aluminum rods measuring 1 inch in diameter.
FACING PAGE, LEFT PLAN AND SECTION: Aluminum brackets support rods.
FACING PAGE, RIGHT PLAN AND SECTION: Brackets are bolted to mullions.
TOP: Skylight study model shows uniformity of reflected daylight in galleries.
CENTER AND ABOVE: Controlled gallery daylight (top) contrasts with uncontrolled light above circulation (above).
TOP TRANSVERSE SECTION: Upper grid of fixed aluminum blades spans skylights.
LOUVER DETAIL: Blades are supported by steel frame mounted to skylight.
LONGITUDINAL SECTION: Lower grid of louvers above main gallery is perpendicular to upper tier.
LOUVER DETAIL: Steel frame supports 40-centimeter-wide blades.
BOTTOM SECTION: Catwalks allow maintenance of louvers and glass.

1 LADDER
2 STEEL GRATING, PAINTED WHITE
3 EXTRUDED ALUMINUM LOUVER
4 ALUMINUM-CLAD STEEL STRUCTURE
5 REMOVABLE ACCESS GRATING
6 GALLERY LIGHTING
7 UPLIGHTING
8 MAINTENANCE PASSAGE

Euregio Basel Building

Basel, Switzerland



JOCK POTTLE / ESTO

A new Meier-designed office and retail building in Basel combines environmental efficiency with sculptural manipulation of natural light. Scheduled for completion in 1997, the project is located in the center of the Swiss capital.

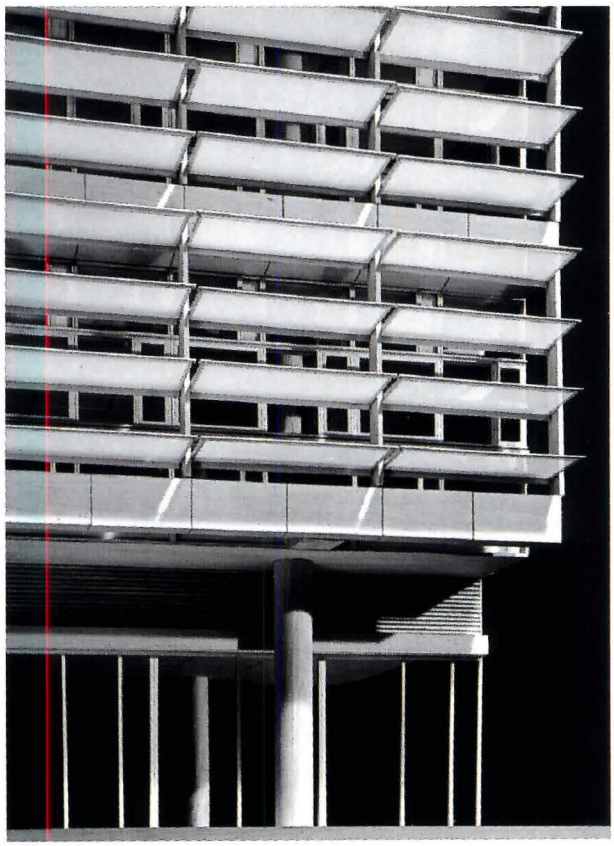
Strict government regulations in Switzerland require that buildings provide natural light and air to all occupants of a floor. According to Phifer, these regulations do not dictate specific building dimensions, but architects must ensure that the entire depth of a floor plate receives daylight and natural ventilation. The Basel building, for example, is organized as a double-loaded corridor with a window in every office.

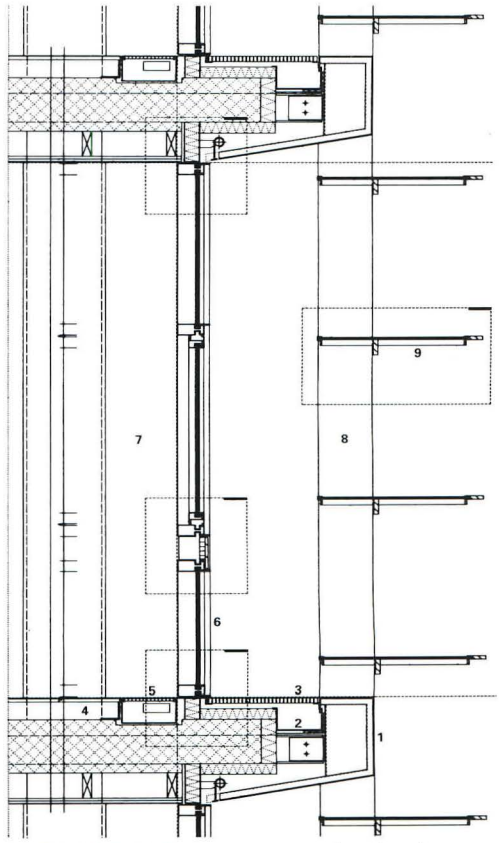
The building's south facade is assembled from a prefabricated glass curtain wall and translucent glass sunscreens. The curtain wall is composed of prefabricated 2-by-3-meter panels, fitted with low-E glass, that were hoisted into place and clipped onto the concrete structural slabs. Each panel contains two operable windows: a smaller, 100-by-35-centimeter vertical pane and a larger, 1-meter-square window.

On the hottest summer days, some artificial cooling will be required. Such mechanical ventilation will be provided by ducts mounted in the floor plenum just inside the building's exterior envelope.

The sunshade system is supported by a structural system that is independent of the cladding. This aluminum frame is clipped onto the outermost edge of the concrete floor slabs, outside the curtain wall.

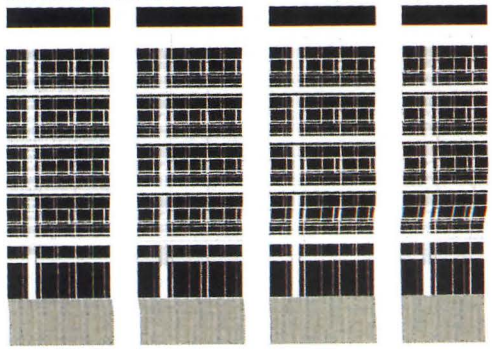
The shades consist of 1-meter-wide blades of laminated glass incorporating a white PVB inner layer, which helps reduce street noise in addition to shading the curtain wall. When the sun hits the louvers, the glass blades softly diffuse daylight onto the facade, adding a luminous quality to an otherwise precise, rational building envelope.





SOUTH FACADE SECTION

1.5'/0.45m

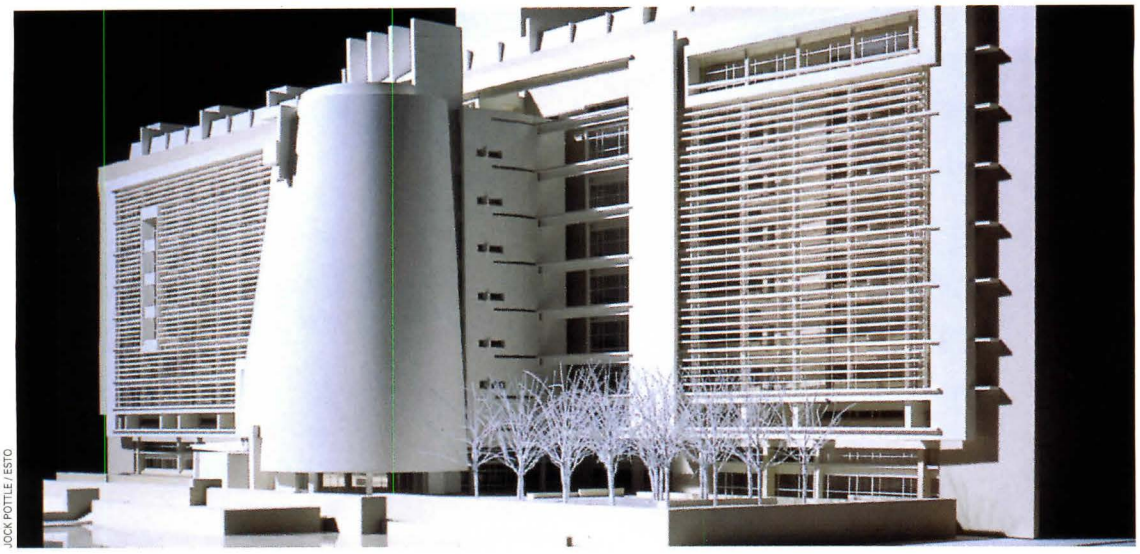


TOP: Swiss office building incorporates daylight and natural ventilation.
ABOVE: Translucent, 0.8-meter-deep glass blades will shade south facade.
SECTION: Aluminum superstructure outside curtain wall supports sunscreens.
RIGHT: Facade study shows gridded pattern composed of sunshades, curtain wall, and structure.

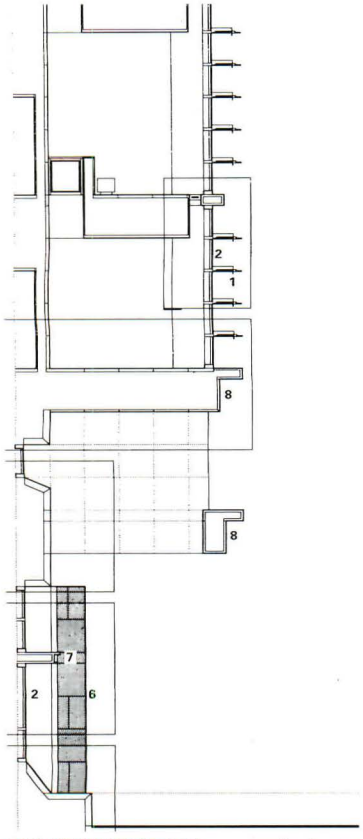
1 ALUMINUM PANEL CLADDING
2 FACADE DRAINAGE
3 ALUMINUM GRATING
4 OPEN CELLULAR DECKING WITH CARPETED FLOOR
5 FLOOR RADIATOR
6 ALUMINUM PROFILES AND INSULATED GLASS
7 PRECAST CONCRETE COLUMN WITH PLASTER VENEER
8 ALUMINUM/STEEL SUPPORT
9 LAMINATED GLASS SUNSHADE

U.S. Courthouse and Federal Building

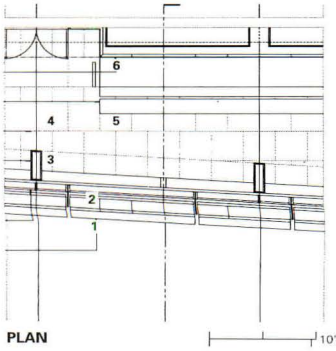
Islip, New York



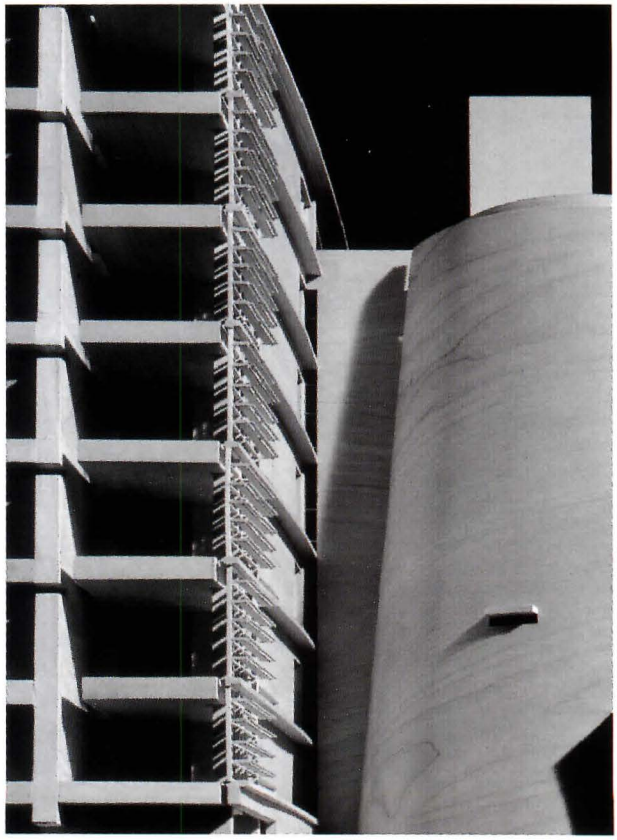
JOCK POTTLE / ESTO



SOUTH FACADE SECTION 5'/1.5m



PLAN 10'/3m



1 SUNSCREEN
2 GLASS
3 GYPSUM BOARD
4 STONE PAVERS
5 STONE BENCH
6 STONE CLADDING
7 METAL CAP
8 METAL PANEL

TOP: Aluminum sunscreens shade full floor-to-ceiling glazing of courthouse's south facade with conical rotunda.
ABOVE: Three-foot-wide aluminum panels articulate floor levels, interrupting repetitive bands of sunshades.
SECTION: Brackets mounted to bowed curtain wall hold 1-inch-diameter aluminum rods in place.
PLAN: Sunshades are bolted to aluminum mullions of curtain wall.

Meier's proposed federal courthouse on suburban Long Island (ARCHITECTURE, January 1996, page 68) demonstrates that energy efficiency can be achieved even in government buildings on tight budgets. The 12-story structure's south facade is articulated with a huge, slightly bowed curtain wall oriented to take advantage of views of the Atlantic Ocean only four miles away. Partner Thomas Phifer's challenge was to minimize heat gain from such a large expanse of glass.

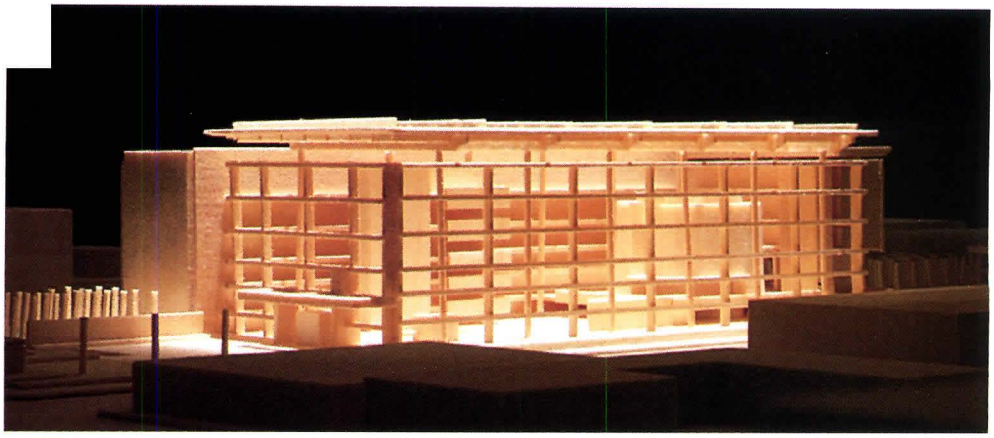
Phifer plans to install a simple louver system to shade the glass that will also reduce the scale of the 19-foot floor heights of the courtrooms behind. The louvers are similar in detailing to those of the Meier-designed Museum of Contemporary Art in Barcelona: A series of 1-inch-diameter aluminum rods are held in place by brackets mounted directly to the double mullions of the low-E insulated glass curtain wall.

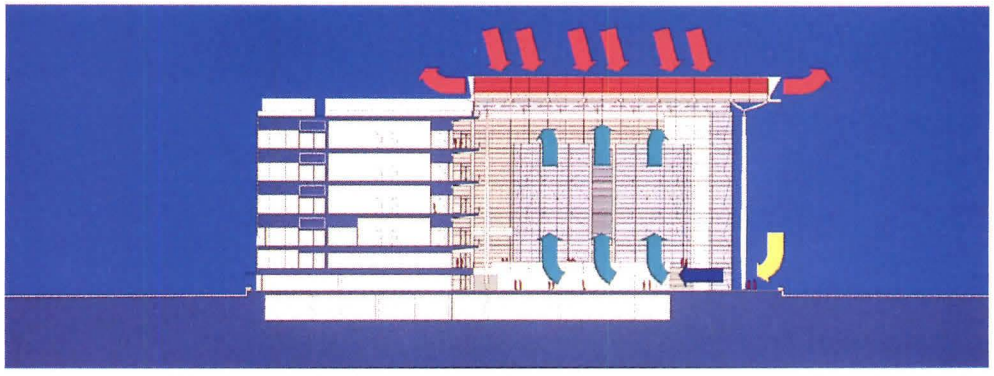
"The louvers will cut out all the heat from these public spaces, allowing us to have floor-to-ceiling glass," explains Phifer. The rods will also create patterns of light and shadow on the facade, animating its surface. Extending out from the south facade, the conical rotunda distinguishing the building's entrance will be clad in solid aluminum panels.

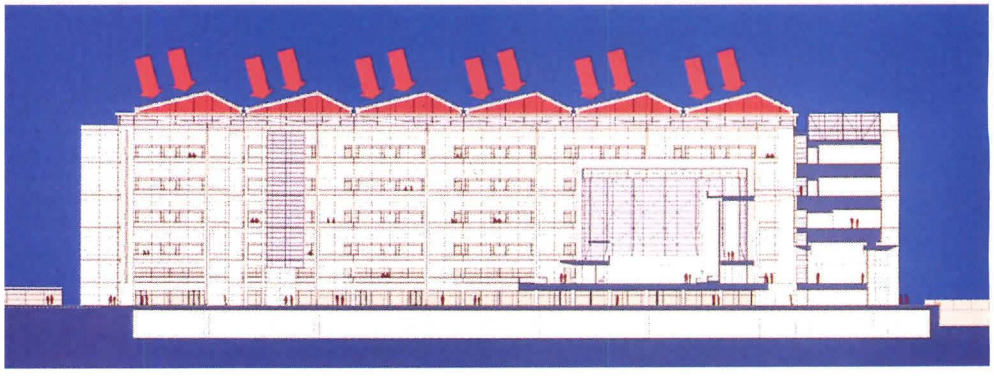
To strengthen the glazed facade against wind, Phifer inserted a bracing system inside the building envelope. A series of columns placed behind the curtain wall will add lateral stability. Phifer is also working with curtain wall manufacturers to develop a "snap cap" system similar to the mullions installed at Swissair's Long Island headquarters (page 133, this issue). The caps w ll conceal plates joining cladding panels to further articulate the glazed south facade of the courthouse. Given the sun angle in summer, however, the caps will not provide any additional shading to the glass.

U.S. Courthouse and Federal Building

Phoenix, Arizona







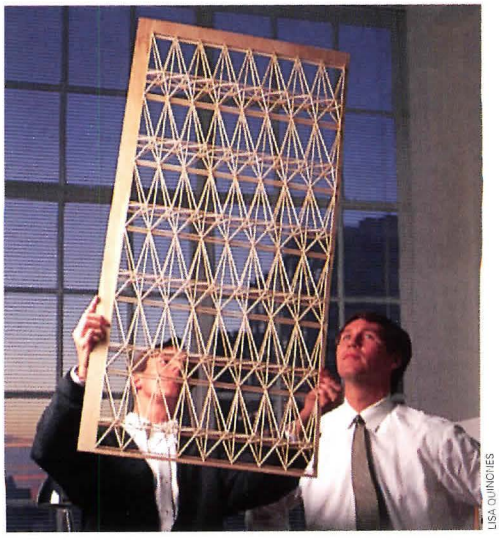
The new 500,000-square-foot courthouse in Phoenix promises to be Meier's most technologically sophisticated building to date. Collaborating with curtain wall specialist Heinteges Architects and engineer Ove Arup & Partners, Meier and his team are taking advantage of sophisticated heat modeling to predict airflow and heat transfer in the building (page 167, this issue)—and creating an energy-efficient atrium in the desert. "With an incredibly difficult budget, we had to keep the building forms and gestures simple," explains Partner Thomas Phifer, project designer.

The courthouse will be organized around a rectangular, 4,800-square-meter atrium open to the east and north and clad entirely in glass. To shade this vast public room, louvers will be mounted inside the delicate truss structure of the rooflights, which, like the louvers in Meier's Barcelona museum, will be composed of a series of small steel rods. The skylight will be clad in a single layer of clear laminated glass. As air trapped between the glass and the louvers is heated by the sun, it is vented out through the ends of the roof assembly by natural currents.

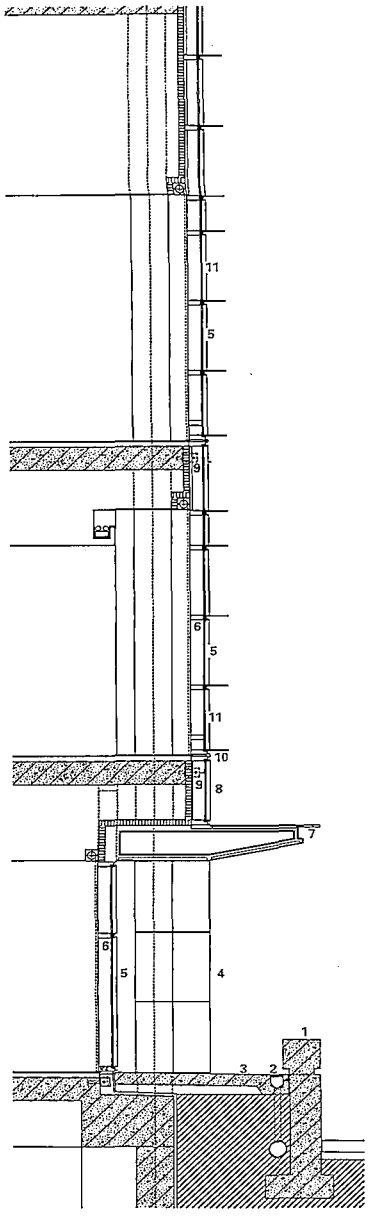
The north wall enclosing the atrium is composed of single-pane glazing, held in place by an aluminum curtain wall frame braced by tubular steel struts. On the east facade, aluminum rods placed between the layers of a double-pane glass assembly will shield the glass from the direct morning sun.

The offices along the south and west elevations are clad in bands of clear and fritted low-E glass supported by an aluminum curtain wall. The glass is shaded by slender aluminum "snap caps." Because Phoenix's sun angle is relatively high, the shallow mullion coverings can replace wider brise-soleils. Translucent fabric shades on west-facing windows will block harsh afternoon sun.

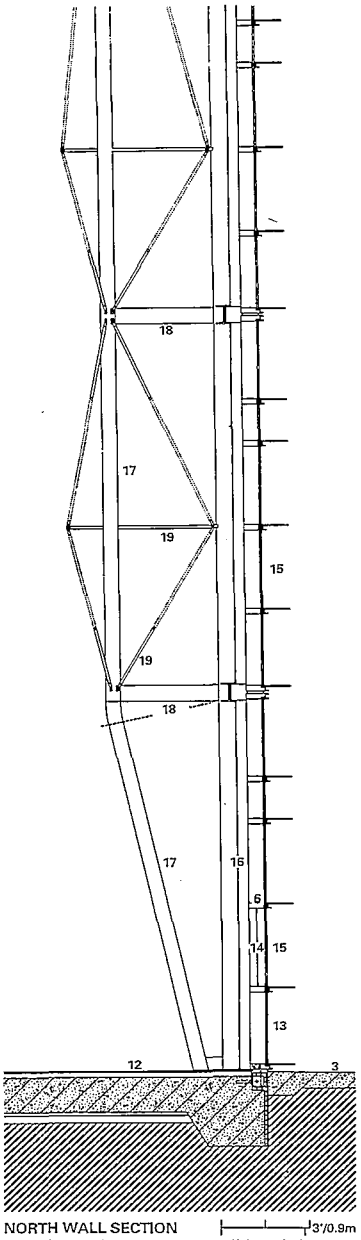
TOP: Courthouse atrium faces north.
CENTER AND ABOVE: Heat trapped between atrium skylights and louvers below will be released at ends of skylight.
RIGHT: Team architect Timothy Collins Douglas (left) and Partner Thomas Phifer (right) examine roof model.
FACING PAGE, WALL SECTIONS: Aluminum mullion caps, 30 centimeters deep, will double as sunscreens on south-facing wall. Atrium's north facade will be braced by 1.5-meter-deep truss.
FACING PAGE, ROOF SECTIONS: Laminated glass panels of skylight are supported by steel frame; aluminum-rod sunscreens are supported by brackets fastened to tubular steel struts.
FACING PAGE, CEILING PLAN: Trusses and aluminum louvers animate atrium.



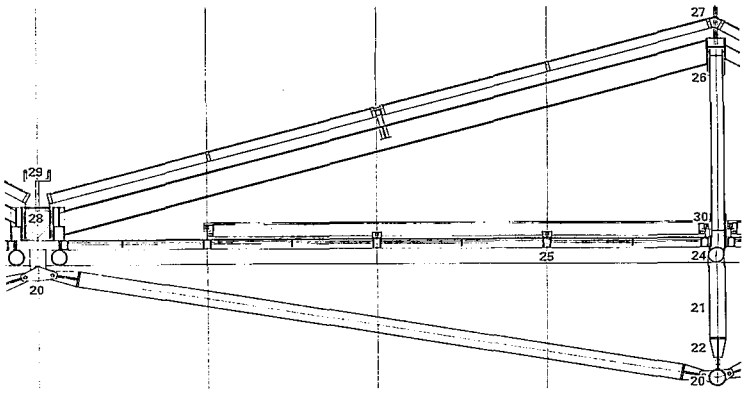
LISA QUINONES



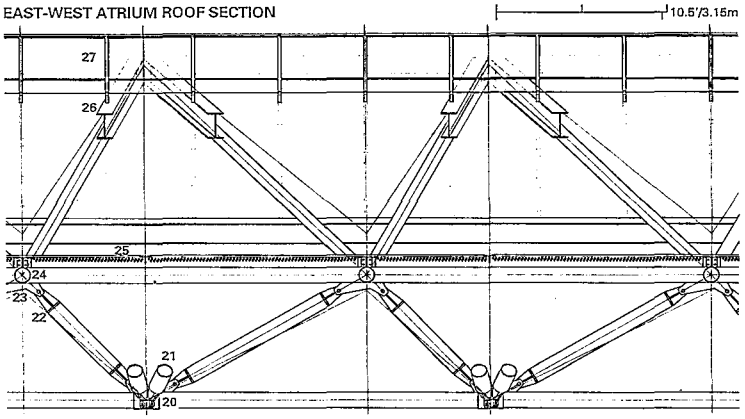
SOUTH WALL SECTION 2.95'/0.9m



NORTH WALL SECTION 3'/0.9m

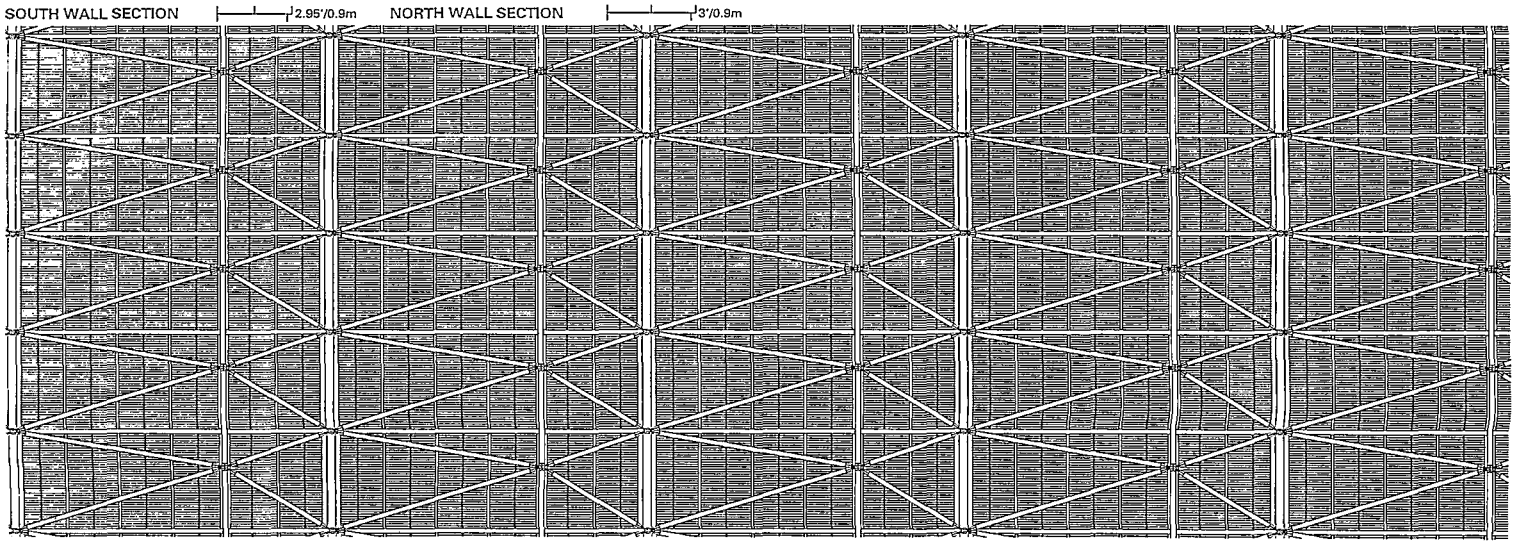


EAST-WEST ATRIUM ROOF SECTION 10.5'/3.15m



NORTH-SOUTH ATRIUM ROOF SECTION 7.5'/2.25m

1 CONCRETE PODIUM RETAINING WALL
2 CONTINUOUS METAL TRENCH DRAIN
3 CONCRETE SLAB ON GRADE
4 METAL PANEL
5 CLEAR, DOUBLE-LAYERED INSULATING GLASS
6 ALUMINUM EXTERIOR WALL SYSTEM
7 METAL-PANEL-CLAD BLADE
8 FRITTED GLASS/INSULATED SHADOW BOX
9 CURTAIN WALL ANCHOR
10 25mm STACK JOINT
11 FRITTED, DOUBLE-LAYERED INSULATING GLASS
12 TERRAZZO FLOOR
13 STAINLESS STEEL MESH
14 SPRAY NOZZLE HUMIDIFICATION SYSTEM
15 CLEAR, SINGLE-LAYERED GLASS
16 PAINTED STEEL ANGLE
17 PAINTED STEEL TUBE
18 PAINTED PLATE
19 STAINLESS STEEL ROD
20 CAST-STEEL CONNECTOR
21 300mm ROUND STEEL TUBE SECTION
22 WELDED PLATE CONNECTOR
23 PINNED STEEL PLATE CONNECTION
24 COMPOSITE STEEL BEAM
25 FIXED SUNSHADE LOUVERS
26 W-SECTION STEEL
27 ALUMINUM SKYLIGHT SYSTEM
28 GUTTER
29 WINDOW WASHING SUPPORT
30 ROLLING LADDER



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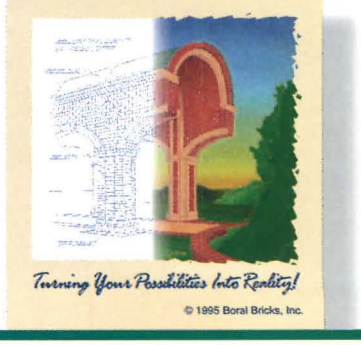

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Listen Up or Lose the Client

Architects must tailor services, tame their egos, and translate their "design-speak" for 1990s business realities.

Today's business environment is entirely different from that of five and 10 years ago. The record profits now being tallied by prospective clients have been made possible by the belt-tightening methods that corporate America and its recession-bashed government correlatives have been relying on for the past few years. While banner profits roll up, many of America's blue-chip companies continue to lay off tens of thousands of employees.

Understanding this new mind-set requires relinquishing certain outmoded concepts. For architects, failing to recognize these changes can be disastrous. Even the most optimistic design or construction firms should not be lulled into believing that the prosperity of the 1980s is about to begin again.

The excesses of the 1980s have distorted the basic values that so many design firms developed prior to those years. Now is the time for firms to return to these fundamentals if they are to regain their momentum as successful service professionals. It is no longer acceptable to tell clients, "This is the way we've always provided this type of service," or, "Nobody ever asked us to do it that way." Nor are clients willing to let architects question how quickly they want responses to their inquiries or to hear, "I just don't think it will work."

This type of thinking may have been accepted by clients when business was booming—and the service provider ruled with higher fees that reflected excessive demand. In years past, some design professionals may recall, there were minimum fee schedules (abolished as antitrust violations in a U.S. Supreme Court decision handed down in 1975) and marketing was limited to a good word-of-mouth campaign. Many will even remember with fondness a time when architects, interior designers, contractors, engineers, builders, construction managers, and in-house corporate architects did not all compete for the same work. Today, no service provider dares to dictate terms to a quality client. Attentiveness and the clear willingness to bend over backward to a client's needs are the norm.

The client of the 1990s is looking for team members to supply valuable advice that cannot be obtained from

his or her own employees. Clients are seeking intelligence from those willing to provide information, creativity, and objectivity in the shortest amount of time and often—but not always—for the lowest price.

Architects are experiencing a form of culture shock from the way clients are questioning their fitness for new projects. Responding to the new questions posed by existing as well as prospective clients has become a daunting challenge. Architects, sadly, are often unable to speak the same language as their clients. Part of the reason is that design professionals don't, as a rule, read the same business and trade publications that their clients do. And too many have persistently chosen to remain mired in the "design-speak" of their school professors or mentors.

This is no time for firms to get caught up in semantics with clients or the public. At an AIA awards presentation in the late 1980s, I gaped at blow-ups of the winning designs which described each project as either "representing an historical allusion within the contextual linearity of our times" or "embodying the syntactical nuances of today's semiology" or some such similar refrain. I quietly took the arm of one of today's leading architects and, whispering in his ear, asked if he had a clue as to what was being described by all those words. To my surprise, he leaned over and said no, he had no idea, but "that's the way these guys like to talk to each other." My advice is not to talk like that to clients. Arcane language is openly scorned by clients, and architects can no longer afford to appear to be elitist prima donnas.

Ironically, the business world has nevertheless begun to realize that good design can have a solid effect on the bottom line. One has only to think about the enormous worldwide impact of the Ford Taurus, the Gillette Sensor razor blade, and the Apple computer to understand how excellence in design can shape a company's economic future.

There are many lessons in this new business mind-set for the design and construction world. Architects, like their counterparts in product design, must learn to translate abstract design solutions into concrete, businesslike terms. Redefining esthetics into a solid program that your client can appreciate is essential if you are to prove your firm's talents go beyond "pretty pictures."

Value-added thinking has led firms such as Swanke Hayden Connell to tailor its design and construction administration services to the tight budget constraints of clients. In some instances, the firm has discarded the full-phase design construct for a result-oriented, two-step design approval and construction schedule that matched the business needs of its client.

My own experiences in negotiating contracts on behalf of architects with corporate, developer, and government clients are instructive as to how architects can run afoul of the need to listen more clearly to the client. During the course of sorting out the myriad business and legal issues involved in the design for a new high-rise in New York City, a discussion ensued with the owner over why the high-tech nature of the design warranted a higher-than-usual fee. The owner wanted legal assurance that my client, a well-established, award-winning architect, would not over-design the building, and would bring it in on time and on budget.

"I need him to understand," this frustrated real-estate powerhouse said of the architect, "that he cannot keep showing me his design for a stainless steel curtain wall when it is not in the budget. No matter how many times I insist that he take down his facade drawings and show me alternate schemes, he continues to put them back up, every meeting." The architect by my side then proceeded to renew his argument with the developer about the sanctity of his design, ignoring the warning signs that this issue could threaten his status as the project architect. Only when I asked for a recess of the negotiations and explained, in private, what would happen to him if he persisted (forget the higher fee I was trying to secure for him—he would be out of a job) did he reluctantly agree to take down the offending drawings.

Was it ego that made this architect insist he was right? Was it an inability to listen to the signals of the client, or was it an instinctive approach that had worn down many clients in the past and thus become acceptable for every situation?

Regardless of the rationale, such inflexibility has no place in today's dealings with the business world. Rarely will architects or any service professional remain on the job or get a future commission with an "I-know-what's-best" attitude. Architects often convey to the public an impression of being aloof and aristocratic, an image that may hurt architects professionally. The fact is, there is just not enough work to go around.

What are clients looking for when considering and interviewing architecture, engineering, and interior design firms for today's choice commissions? Are there certain pre-interview strategies that can be employed to ensure a higher share of successful outcomes? What are the particular pitfalls to avoid when you sit down with public and private prospective clients to give an overview of your firm's work? What preparation can you make to place your firm at the top of the list for an important project?

To answer these questions, consider the following strategies for private-sector projects:

Research the client's business thoroughly. Read all the stories that discuss the company's current business and its strategies for procuring new business, so that you can speak articulately about what challenges the client's executives must address for a successful project. A. Eugene Kohn of Kohn Pedersen Fox researches the business background of every prospective client so fastidiously that he is often praised for knowing more about their home town and company history than they do. "Developing anecdotal common ground with clients is essential to understanding the goals and aspirations for a project," Kohn maintains.

Develop a financial profile of the client. Through your stockbroker, secure copies of the prospective client's past three annual financial statements. Inside these self-promoting glossies is the public image your client wishes the investment world to see. Search the Internet for government filings and other business reports on the client, then compare this image with the one reflected in the glossies. If the two pictures merge, you will be able to sound like an insider with specific insight into your client's game plan. Gensler and Associates, for example, has embraced computer technology designed to gain a secure foothold in the market for roll-outs of large retail chains. Publicizing its commitment to engaging in state-of-the-art networking with clients has garnered Gensler widespread publicity and client loyalty.

Identify whether the client has a strong interest in design issues. If a corporation has always hired star designers for showcase offices and buildings, you can be certain that there will be a heavy emphasis on design experience at your interview. If, however, the client's primary goal is to avoid penalties as a holdover tenant if its new offices are not ready on time, then you must orient your team to meet this schedule at all costs. In your interview, be prepared to discuss your firm's singular success at satisfying these critical needs for other clients.

Show how your firm can provide services that are part of the client's larger goals.
Highlight your ability to be part of a problem-solving team prepared to integrate its services with clients who are operating on a global perspective. For example, offer to have your team available on late shifts at critical times, in order to match work schedules at overseas sites with your home office.

Tell clients what they want to hear—and be ready to deliver what you tell them.
Show that you are sensitive to business problems and willing to meet your client's budget-setting goals in cooperation with contractors, construction managers, and lenders. Provide case histories of how you worked on teams that met these goals for other clients. Be prepared to show in detail how your firm will deliver this critical service, including who will do so.

Ask questions before the interview.
Preliminary sessions should be scheduled for inquiries addressing the client's special concerns for his or her project. Be precise, even if you hear answers indicating your firm may not have one or more of the exact qualifications of the job. Asking probing questions—being a great listener—is one of the most difficult, yet highly rated, qualifications a service provider can exhibit.

Show that you've been there before.
Cite examples of how you were confronted with a thorny problem by a prior client and helped develop a cost-effective solution. Several firms develop client handouts defining specific examples of creative design solutions that, for example, added more rentable space to an owner's anticipated building area.

Project your expertise in a friendly manner.
Nobody wants to work with someone, regardless of talent, who is a social snob, a bore, or who makes them feel uncomfortable. Be friendly from the outset. Theodore Hammer, managing director of HLW International, a large New York architectural/engineering firm, recalled being notified on Halloween about losing a project. Nevertheless, he went to a gift shop and sent congratulatory messages and festive masks to the client's representatives, wishing them luck on their project. The goodwill gesture paid off two years later when the client, remembering both the kind thought and the quality of HLW's presentation, called and gave Hammer an even larger commission.

Convey a hands-on concern for the client's business goals.
Make it clear that you will be personally involved in every aspect of the project. This includes a sincere, concerned effort to design and administer the construction as if every dollar spent by your client were your own.

Make the client look good.
Let your client or client team know from the outset that you will make them shine in the eyes of their superiors, their lenders, their stockholders, and, in fact, everyone with whom you come into contact on the project.

For those who work in the public sector, here are five approaches that will be warmly received by government clients:

Understand today's political and budgetary climate.
Prepare your presentation so that it will reflect the realities of the public client in the 1990s: shifting budgets, constant oversight by politicians, and a protect-my-job-at-all-costs mentality. Government clients are often under enormous pressures to do a seemingly impossible job. Show a sympathetic recognition of these problems in your presentation.

Match your approach to the client's larger social goals.
Show that your firm is serious about the specific public or social concerns constituting the heart of the proposed project.

Be extra careful to provide clear responses to every question in the RFP.
Respond to the precise questions posed in an RFP first, then turn your attention to defining the special ways in which your firm can bring its experience to bear. Too many proposals are set aside because bureaucrats perceive that you have failed to treat them and their questions with the same care and attention they spent in putting the RFP together.

Never talk down to a government client.
Show a sincere respect for the public representatives who are, in the last analysis, responsible for spending public money. All too often a single sentence, which appears to convey disrespect either for the client team or its project, may cost you the job.

Remember that the right graphic images can make a difference.
Consider presenting a graphic depiction of an effective management system that reflects how your firm can handle the project within the confines of the public program.

And here is a list of questions that architects should consider in order to add value to their services in a manner that will be warmly received by all types of clients:

What services can you offer your client that are not now being offered?

How can you position your firm in a way that differentiates you from how competitors are providing services at present?

Can you define a marketing niche not presently being exploited by others in your area of expertise?

Can you identify and correct inefficiencies in the way your firm delivers its services that will enable you to market those services in a more profitable way?

What changes in your firm's operations can you initiate that will make the design process more convenient for your clients? More timely?

From direct discussions with your clients, what new services would they willingly pay for that you are not providing?

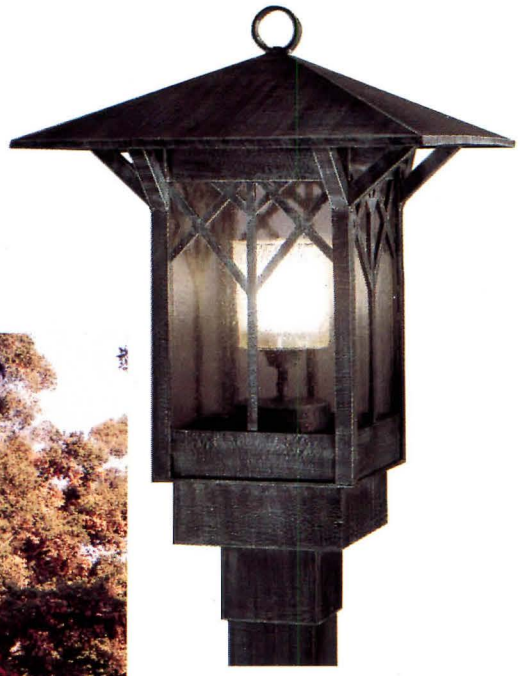
What trends in their industry are your clients addressing that require them to change their way of doing business?

What trends can you predict clients will be facing five years from now?

How can your firm be prepared to take advantage of those trends?

Adding value to the range of services you provide is a necessary component to meeting the business needs of your clients. Expanding and tailoring your services are the first steps to launching your practice in this critical direction. Teaching everyone in your organization, from the top down, to listen carefully to your clients and to meet their demands personally and with enthusiasm will place your firm at the top of the shortlists—and improve your chances of getting that important next project.—*Barry B. LePatner*

Barry LePatner is the founder of New York-based Barry B. LePatner & Associates, a law firm devoted to advising architects.



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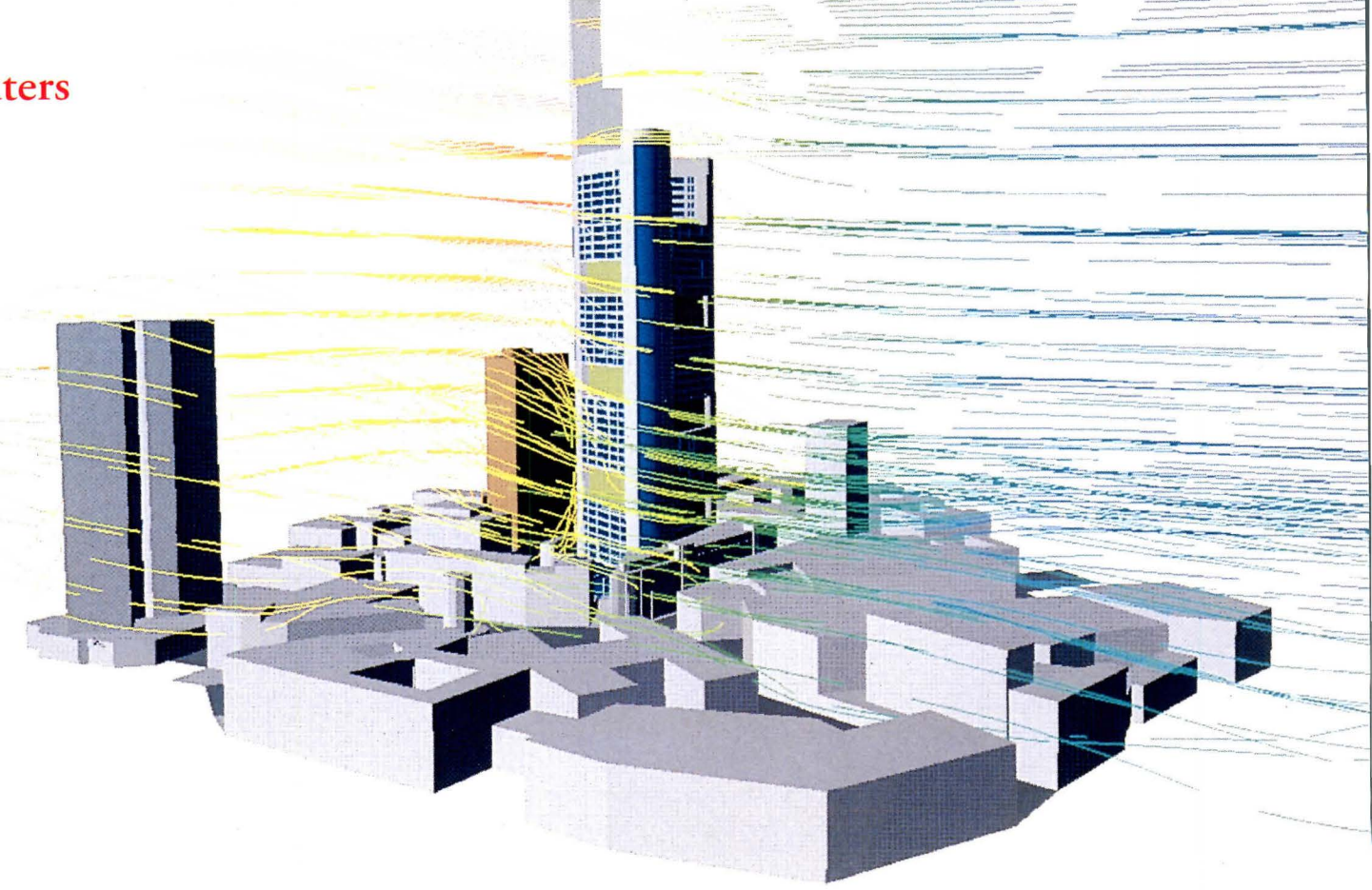


Modeling the Elements

Sophisticated modeling software predicts air flow, heat transfer, and a potential fire's progress.

Rocket science has infiltrated architecture, with computer technology that was developed to simulate the aerodynamics of airplanes and spacecraft now being applied to test building mechanical systems. To understand how air moves and heat collects around solid objects, architects are relying on a sophisticated modeling technique called computational fluid dynamics (CFD).

The Lamborghini of computer modeling, CFD solves the equations that govern fluid flow—momentum, energy, and mass—and translates the numeric solutions into easy-to-read graphics. Armed with this data, architects and engineers can predict heat transfer and air movement within a structure. Air flow speed, pressure, temperature, turbulence levels, and concentration of contaminants such as smoke can be simulated for a building, then proposed heating, ventilating, and air conditioning systems can be fine-tuned according to the results.

Although Danish engineer Peter V. Nielsen used CFD in the early 1970s to predict air movement in buildings,

TOP: Wind-flow patterns around Norman Foster's office tower in Frankfurt, Germany, are modeled through computational fluid dynamics.

only recently have commercial software manufacturers targeted the modeling techniques for building applications. CFD programs now available include Fluent, from Lebanon, New Hampshire-based Fluent Incorporated; CFX (formerly CFDS-Flo3D), from Pittsburgh-based AEA Technology; and Phoenics, from Atlanta-based Phoenics North America.

Some engineers, including Ove Arup & Partners, have developed their own CFD software. Alternatively, Rowan Williams Davies & Irwin (RWDI), consulting engineers specializing in microclimate studies, reached an agreement with Waterloo, Ontario-based Advanced Scientific Computing (ASC) that allows RWDI to manipulate ASC's TASCflow program to customize each study.

The numbers involved in a single CFD analysis are mind-boggling, but they yield a remarkably straightforward output: color-coded contours and vectors that clearly represent air temperature, direction, and velocity. "The graphics allow our brains to get around the problem," observes RWDI Principal Glenn Schuyler.

However, the pictures are deceptively simple. The skills required to perform an accurate CFD analysis remain challenging, the computer power considerable, and the cost high—a CFD analysis can range from $5,000 to $250,000. In addition, a study such as the one performed for the atrium of Richard Meier & Partners' Phoenix federal courthouse can take months to complete: Ove Arup & Partners spent several weeks entering data, and each analysis took more than two days to resolve into a graphic.

For architects, the payoff is in smaller, more energy-efficient mechanical systems. CFD encourages innovation in mechanical design, while lowering the margin of error. A sneak preview of air distribution can streamline duct placement and reduce unnecessarily high velocities and too-cool temperatures.

"HVAC system designers rarely have more than a vague notion of the patterns of air flow and temperature between the supply diffuser and the extract grille within a space," contends Daniel Nall, principal of Roger Preston + Partners, a British engineering firm with an Atlanta office. American architects have too often relied on a mix-it-up approach to cooling, Nall continues, in which cold air is injected at high velocities and agitated, resulting in a uniform air temperature regardless of occupied areas.

Meanwhile, widespread use of CFD in Europe has encouraged more efficient conditioning techniques, such as displacement ventilation, radiant cooling, and natural ventilation. Such methods exploit a distribution of temperatures and air velocities rather than equalized air temperatures—results that CFD can validate early in the design process.

The first step of a CFD analysis is to break down the particular building area into hundreds of thousands of geometric cells, which make up a three-dimensional mesh, or grid. Boundary conditions must be incorporated into the mesh, including flow rates, air temperature, and the location of supply and exhaust grilles. Heat transfer, which occurs on all surfaces, must be calculated: for example, the radiated and convected heat from windows. The operator identifies physical blockages that affect air movement, such as partitions or furniture, then factors heat release from occupants, lighting, and heat-generating equipment. The location and release rates of indoor air pollutants are critical for laboratory or smoke analyses.

After the boundary conditions have been entered, equations for heat, mass, and energy are solved at every cell in the mesh. The calculations are iterative, meaning that the computer compares the figures derived at one cell to those of its neighbor, determines the margin of error, and recalculates. The cycle is repeated until the discrepancies between the calculations for each location are reduced to an acceptable limit.

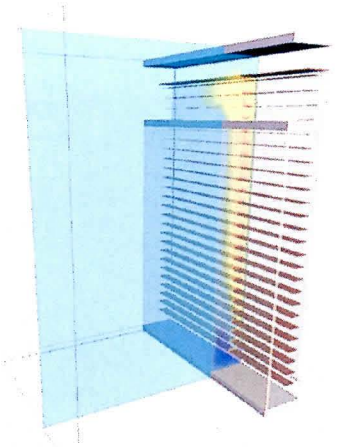
The result is an incomprehensible volume of numbers. The only way to express the information is to use the numbers to graphically chart air-flow patterns, temperature distribution, and contaminant concentrations throughout the space—a qualitative characterization from quantitative data. But beware: "Wrong results are just as compelling as correct results," cautions Schuyler. "[CFD] takes more expertise than running WordPerfect."

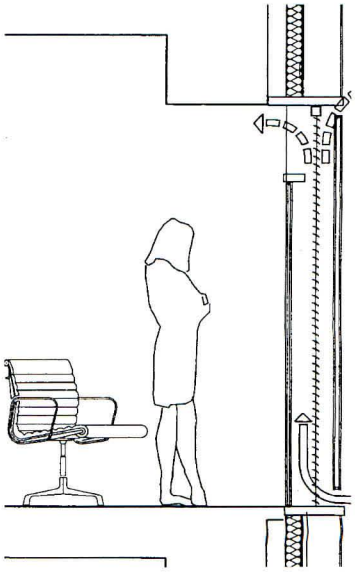
During the analysis, the user must be able to refine the grid to improve resolution and reduce calculation time, because the iterative nature of the calculations means that they would continue indefinitely if not interrupted. "There's no time in the program where it is finished," explains Nigel Tonks, senior mechanical engineer at Ove Arup & Partners. "You must have a feel for when it's ready and use your judgment."

With the advent of increasingly user-friendly software and cheaper, more powerful computers, CFD analyses are proliferating. And as architects and engineers are eventually trained in the procedure, more cost-effective, environmentally sound design will become standard practice.—*Ann C. Sullivan*

Commerzbank

Frankfurt, Germany
Norman Foster and Partners



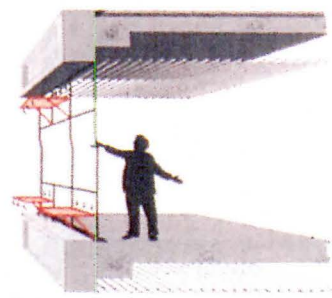


Engineer Roger Preston + Partners simulated wind currents with a CFD program to determine if Norman Foster's Frankfurt high-rise could be naturally ventilated (preceding page). The engineer also utilized CFD to model the performance of a Klimafenster, or "climate window," a possible cladding option. Blinds installed in the cavity of the triple-glazed unit will purportedly intercept solar gain and vent warm air outside, increasing the momentum of air traveling out and assisting cross-ventilation.

TOP: Blinds deflect heat from interior.
ABOVE: Air travels up cavity and into office; warm air, trapped along outside face, is expelled at top.

Potsdamer Platz

Berlin, Germany
Richard Rogers Partnership



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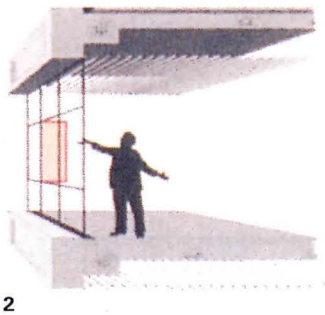

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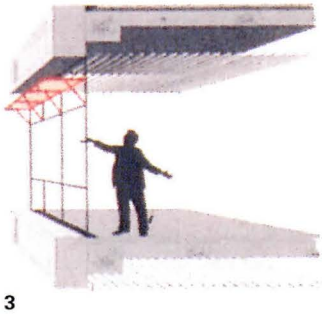

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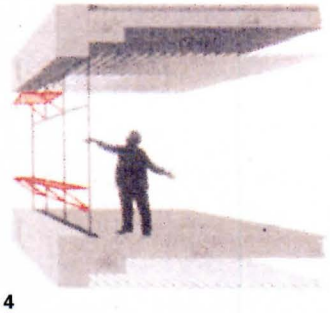

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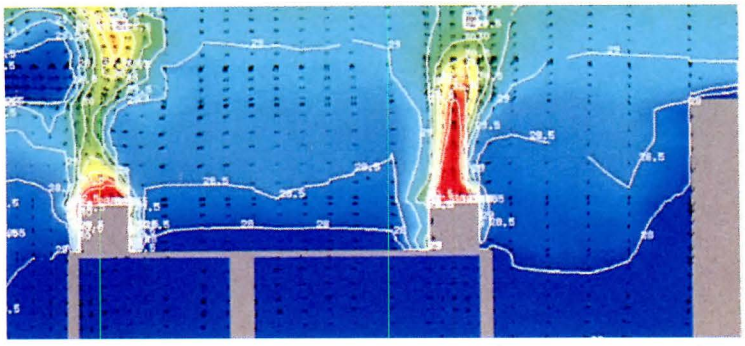
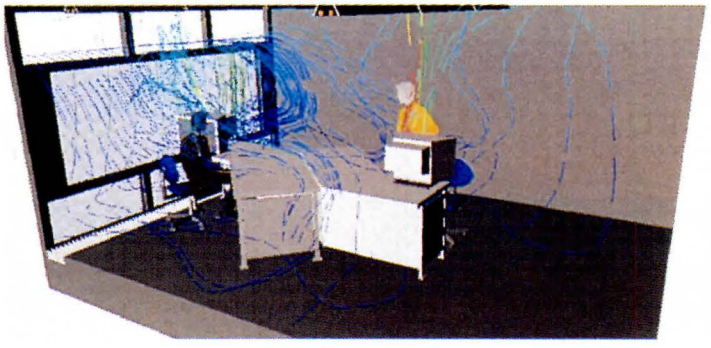
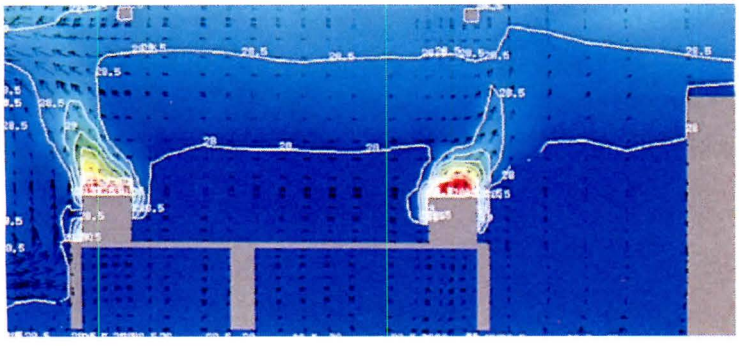
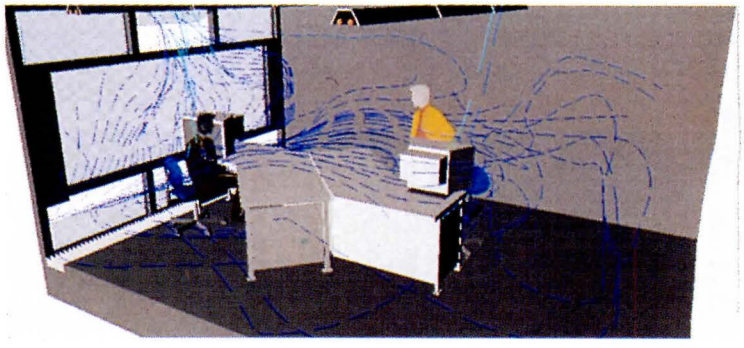








A trio of 300,000-square-foot office buildings in Richard Rogers Partnership's mixed-use Potsdamer Platz development, although vast, will be naturally ventilated. To determine the number and placement of operable windows, Roger Preston + Partners used CFD to analyze several curtain wall designs. This process showed how to bring sufficient air into the space without overwhelming occupants, and how to localize and expel heat generated by computers.

For each curtain wall configuration, the London-based engineer generated a three-dimensional graphic illustrating the direction and velocity of air, and a sectional model of temperature distribution.

Preston selected a curtain wall that consists of a single operable window in the center of a ceiling-height horizontal glass band, and a continuous row of operable windows directly above the floor. In this scheme, all operable windows are top hung (4). This combination efficiently dissipates heat from computers and circulates air throughout the space.

A variance as slight as replacing the fully operable bottom row with two operable, center-hung windows at either corner (1) expelled only the heat from the workstation closest to the window wall. One side-hung window in the center of the wall (2) and a single row of top-hung windows along the ceiling (3) simply distorted the heat plume from the computers instead of eliminating it.

Preston's analysis focuses on a smaller space, in terms of volume, than more frequently modeled atriums or performance halls. However, the mesh generated for the workstation model is more complex (comprising a greater number of cells), because variables such as heat gain from people and equipment must be calculated with more precision. The trade-off for the greater detail rendered by a higher-density mesh is in the additional computer time required to resolve the program.

TOP: Multiple window configurations were modeled to compare outside air flow through workstations in naturally ventilated office buildings.

CENTER LEFT: Ceiling-height operable windows (3) vent cool air which distorts, but does not dissipate, heat plume over computers.

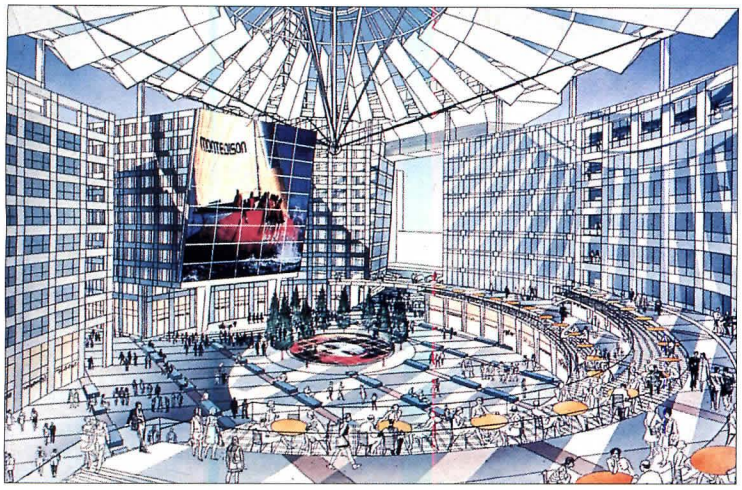
CENTER RIGHT: Three-dimensional model of ceiling-height windows (3) indicates powerful surge of air concentrated at perimeter.

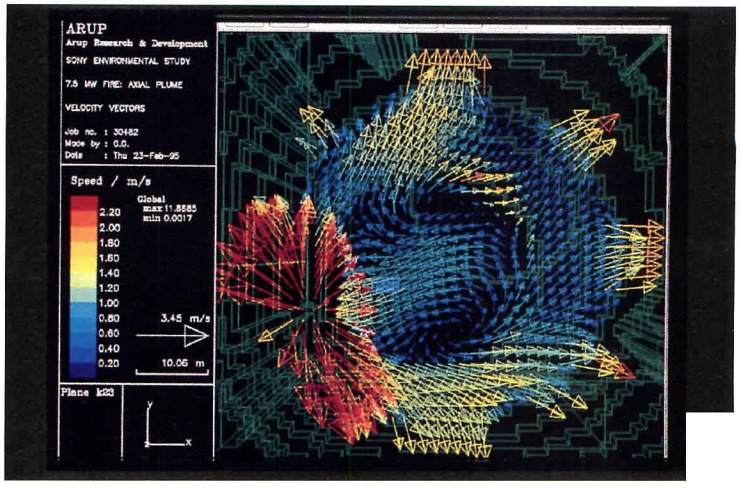
ABOVE LEFT: Preston's preferred solution locates operable windows at floor and ceiling levels (4). Temperature profile reveals that significantly reduced heat plumes dissipate and exit through ceiling-height windows.

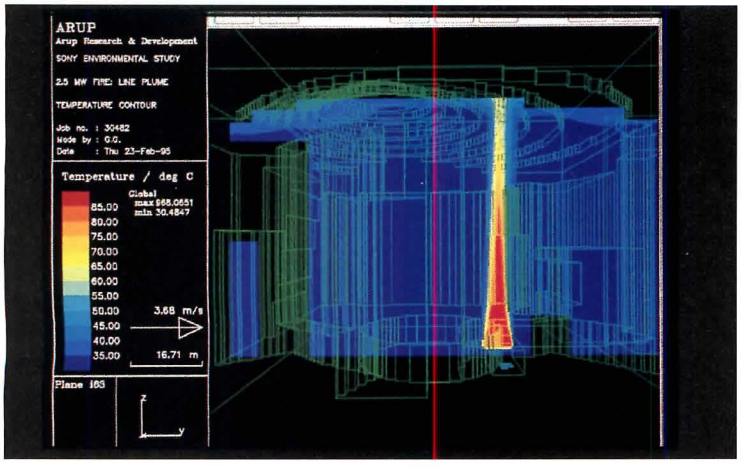
ABOVE: *Outside air, entering from windows at floor, diverges at point where circuitous path near perimeter wall expels hot air through top band of windows, and ventilating air reaches computer workstation and interior (4).*

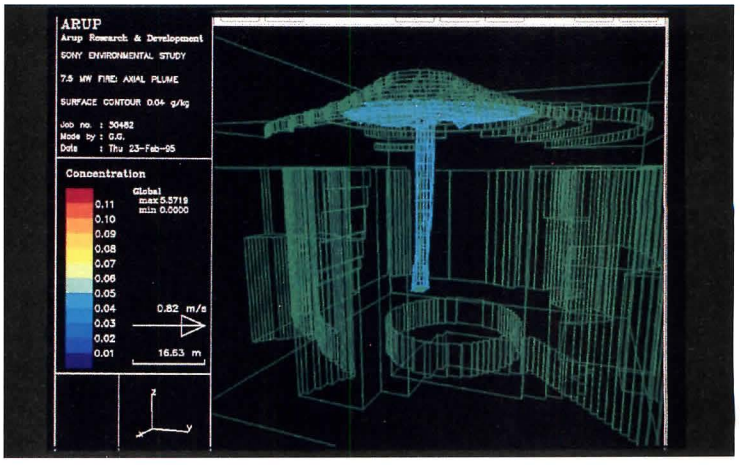
Sony Center

Berlin, Germany
Murphy/Jahn Architects









In 1992, Murphy/Jahn Architects with Ove Arup & Partners won the competition to design Sony Center, a 2.3 million-square-foot multiuse development for Sony's European headquarters. The complex is organized around an elliptical outdoor plaza topped by a tension-cabled roof structure of fabric and glass. The sides are partially exposed, and the center of the roof, which spans 345 feet, opens in moderate weather.

Arup performed climatic studies to determine the most economical way to condition the outdoor space, comparing the cost of building the roof with the increased time the space could be occupied, at night and in winter, for example. Using CFD techniques, Arup modeled air temperature and velocity distribution in the plaza, factoring in wind and the effectiveness of recycling exhaust air from mechanically conditioned perimeter buildings. The seasonal surface temperatures of granite, aluminum, fabric, and glass materials were incorporated as boundary conditions.

The team concluded that the protection provided by the roof and surrounding buildings, although not airtight, is sufficient to passively moderate the climate inside the plaza for a good part of the year, while a small amount of localized heating increases operating time considerably during winter months.

Arup also simulated a fire in one of the retail booths on the ground level to ensure that adequate fire safety measures would be provided. CFD can test the rate of ventilation to prevent life-threatening concentrations of smoke from building up during the fire.

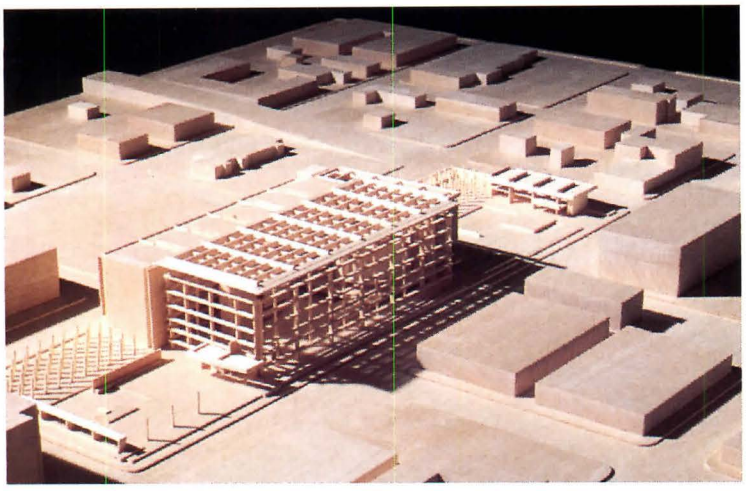
The program models the fire's plume—the column of hot, smoke-filled air and gases that rises over the source. Air circulation within the plume is displayed by a velocity vector graphic, in which arrows indicate air movement through the plume as it cools down.

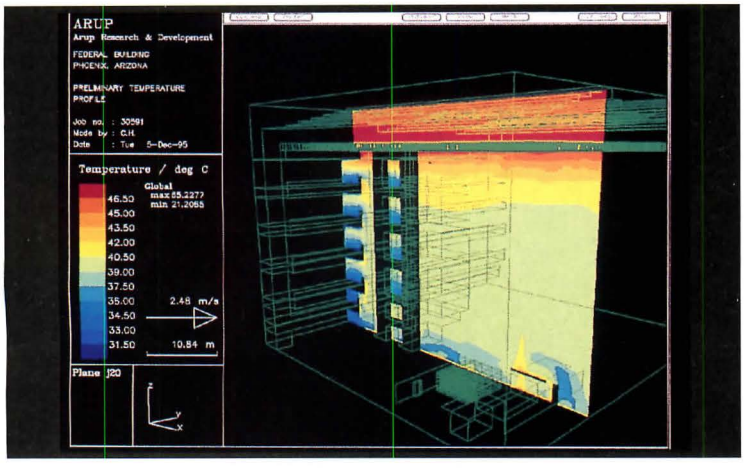
A contour graphic illustrates the dispersion of smoke over time to determine if occupants of the adjacent buildings can be safely evacuated before the complex fills with toxic smoke. A temperature model confirms that heat from the fire is localized and cools down as the smoke rises—an important consideration in material specification, since the roof construction must withstand temperatures generated in worst-case fires.

TOP LEFT: Fabric-and-glass tent partially encloses plaza at Sony Center.
TOP RIGHT: Arrows in axial plume show air circulation inside smoke plume; color and length indicate velocity.
ABOVE LEFT: Line-plume contour illustrates localization of heat from simulated fire and decreasing temperature of smoke as it rises.
ABOVE: Graphic illustrates concentration of smoke over time.

U.S. Courthouse and Federal Building

Phoenix, Arizona
Richard Meier & Partners
Langdon Wilson Architecture Planning





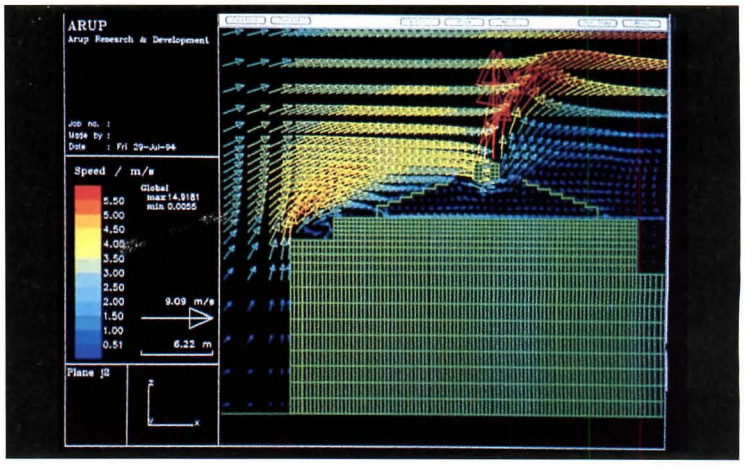
Richard Meier & Partners is working with Ove Arup & Partners to streamline the cooling and ventilating systems in the atrium of a new courthouse and federal building in Phoenix, Arizona. Glazed on the north and east faces and topped by peaked skylights, the six-story public space is flanked by air-conditioned offices and courtrooms on its south and west sides.

Using CFD software, Arup focused on passively conditioning the atrium's ground floor and upper-level balconies, but allowing hot air to naturally rise to the roof, where it will escape through louvered vents on the north and south sides of the skylights. As the hot air rises, a vacuum effect occurs in the lower levels, drawing fresh air in through a ground-level adiabatic misting system, which exploits evaporation as a cooling method. In adiabatic cooling, a fine mist of water is sprayed and quickly evaporates, lowering air temperature in the process. Conditioned air from the offices will be vented to adjacent balconies rather than expelled outside. The atrium will thus be significantly cooler than outdoors, although not as cool as the mechanically conditioned offices.

TOP: Sunshades on roof and east facade protect Phoenix courthouse.
ABOVE: In thermal stack effect, hottest air (red) rises, while cool air (blue) is introduced at ground level and vented from offices to balconies.

Science and Engineering Research Facility

University of California, San Diego
La Jolla, California
MBT Architecture



Ove Arup & Partners simulated external air flow at University of California, San Diego's new research facility in La Jolla, designed by MBT Architecture, to ensure that toxic fumes will safely exit the building and dissipate in the atmosphere.

The laboratory's air handling equipment, housed on the roof, is partially enclosed by sloped walls. Fume exhaust stacks 1 foot higher than the roof enclosure were initially proposed. The team planned to modify the stack height and wall construction to remedy air flow or fume problems.

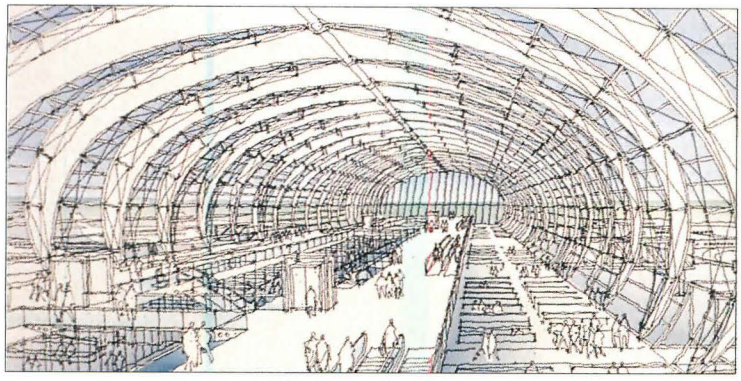
Arup modeled two-dimensional sections through the area surrounding the laboratory, since three-dimensional models required a mesh of millions of cells and enormous computing power. The engineer determined that with short fume stacks, recirculation patterns dragged the exhaust back toward the roof and into outside air intake.

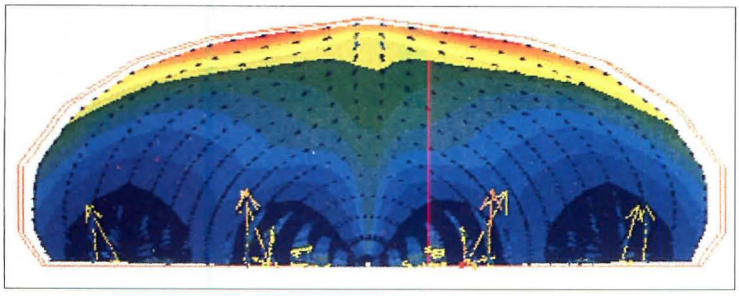
Louvered wall panels were proposed to alleviate the low pressure zones responsible for the recirculation, and 6-foot-tall exhaust stacks were recommended in order to expel the exhaust in less turbulent air above the enclosure.

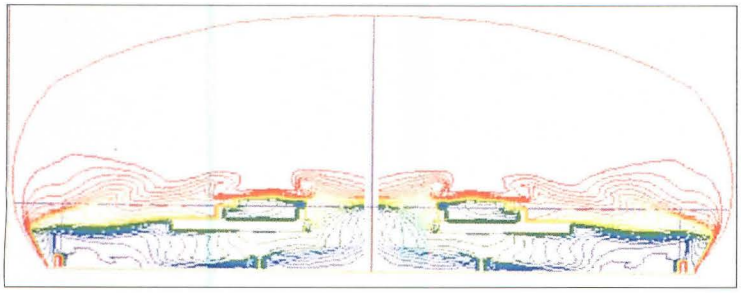
TOP: Rooftop design at UCSD research facility minimizes safety hazards.
ABOVE: Velocity vectors indicate air flow through louvered wall panels, roof enclosure, and tall stacks, which release exhaust in less turbulent air.

Second International Bangkok Airport

Bangkok, Thailand
Murphy/Jahn Architects







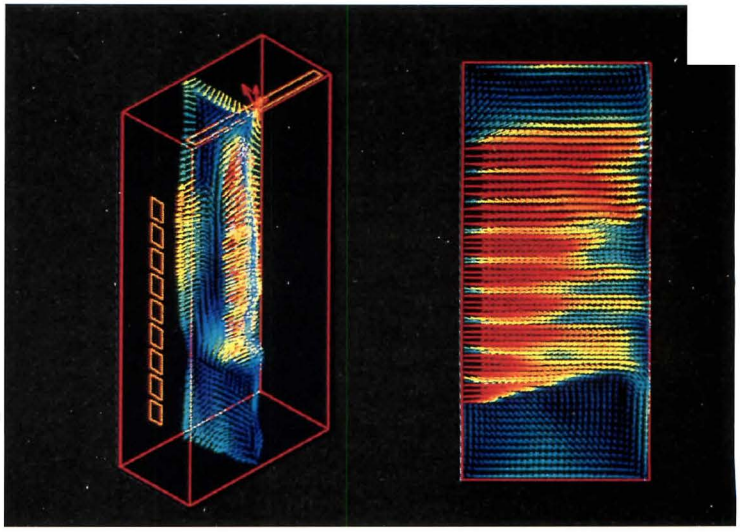
Designed by Murphy/Jahn Architects, the glass- and Teflon-clad steel ribs of the new Bangkok Airport terminal will enclose 5.5 million square feet of arrival and departure halls, ticketing areas, and offices. In designing the terminal's mechanical, electrical, and lighting systems, Flack + Kurtz elected to condition only the ground level and concourse, and allow hot air to rise to unoccupied zones in the enormous vaulted volume.

The New York-based engineer evaluated different heating and cooling approaches using CFD, including radiant floor cooling and mechanical fountains. The final design consists of a series of 6-foot-high, 4-foot-diameter semicircular and circular displacement grilles through which cool air will be pumped. When the conditioned air comes in contact with heat sources or people, it will rise and remove heat and contaminants. The air that collects in the top of the vault will be warmer than outside air even during peak summer hours, eliminating heat gain through the glazed roof and reducing the cooling load.

TOP: Vaulted airport terminal poses formidable heating, cooling, and ventilation difficulties.
CENTER: Temperature contour shows 9-foot-high mechanical fountains, rejected for high energy consumption.
ABOVE: Velocity vectors track supply air from displacement grilles.

Civic Center Complex

San Francisco, California
Skidmore, Owings & Merrill



Working with mechanical engineer Flack + Kurtz, architect Skidmore, Owings & Merrill is restoring the historic 1921 California State Supreme Court building in San Francisco's civic center and designing an 800,000-square-foot addition to the north. Twin full-height atriums anchor the 14-story addition's east and west ends, which are separated by offices, courtrooms, libraries, and service areas.

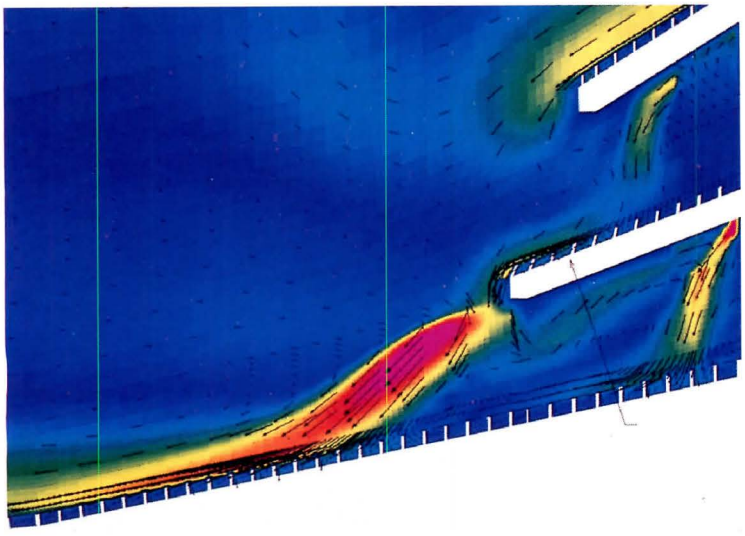
Flack + Kurtz considered heating and cooling the offices mechanically, and passively conditioning the atriums with exhaust air expelled from office floors. In this approach, the warmer exhaust air rises and exits through the roof, while cooler, unconditioned air remains on ground level—maintaining a comfortable climate for occupants.

The engineer employed CFD to evaluate air flow patterns within the two atriums and to ensure that maximum air velocities would not exceed appropriate levels. Effective heat removal depends on the size and placement of the supply openings at the end of each floor and the extract grilles on the roof, which were also analyzed with CFD.

TOP: Skidmore, Owings & Merrill's competition-winning addition to the California State Supreme Court building adjoins 1921 original.
ABOVE: Warm air exits office floors and is discharged through roof (red); cooler air remains on ground level.

Bank One Ballpark

Phoenix, Arizona
Ellerbe Becket



The Diamondbacks' new Phoenix stadium will boast a retractable roof and a natural grass field—two features at odds with conventional air-conditioning methods. For the grass to grow, the roof needs to be open until late afternoon, meaning that heat may collect in the concrete seating areas and heavily tax the ballpark's mechanical systems.

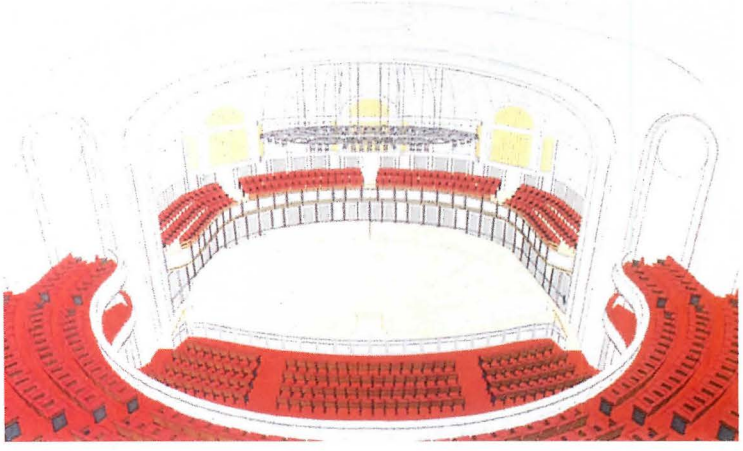
To reduce the risk, Ellerbe Becket retained consulting engineer Rowan Williams Davies & Irwin (RWDI) to model M-E Engineers' proposed mechanical systems design using CFD. RWDI simulated thermal transfer and air flow patterns for 3:30 p.m., directly after the roof closed, and for a 7 p.m. game start. Boundary conditions included heat release rates from the concrete and from spectators.

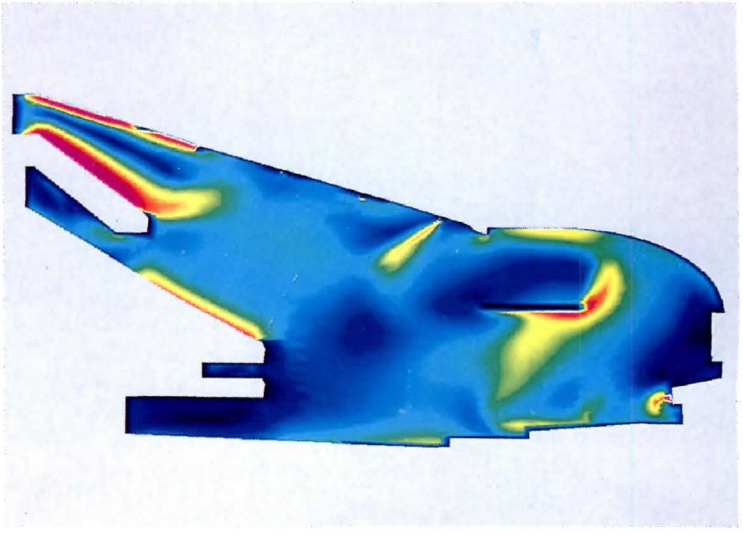
RWDI also performed wind-tunnel testing to determine the infiltration rate of outside air through proposed openings in the east and west walls, intended to provide natural ventilation. CFD revealed that wind-driven air currents may overwhelm mechanically cooled air. RWDI recommended eliminating the openings, and Ellerbe Becket concurred.

TOP: Retractable roof challenges air conditioning design at Phoenix ballpark.
ABOVE: Contour plot details air speed at game start. Air with highest velocity (red), vented off end of concourse floor, dissipates before reaching audience seated on lower levels.

Chicago Orchestra Hall

Chicago, Illinois
Skidmore, Owings & Merrill





In renovating and expanding the Chicago Orchestra Hall, Skidmore, Owings & Merrill (SOM) will raise the roof, enlarge the stage, extend seating, and replace mechanical, electrical, and fire-protection systems in the main performance hall. SOM's determination of optimal air flow patterns and speed was influenced by acoustics, because too-high velocities could disrupt sound waves. A constant volume system with overhead supply and under-seat return was selected for the seating areas. On the stage, which is exposed to intense lighting, floor-level origin points will augment the overhead supply.

SOM hired Rowan Williams Davies & Irwin to conduct an independent CFD analysis to test its proposed mechanical design. Employed as a modeling tool, CFD confirmed complex air flow patterns resulting from the irregular geometry of the hall and the heat generated by stage lights. SOM was able to fine-tune the position of supply and exhaust ducts and the velocity and direction of air according to the model.

TOP: Expanded Chicago Orchestra Hall will feature new mechanical system tested by CFD.
ABOVE: Contour plot illustrates air speed, critical to acoustic performance. Highest velocities (red) occur at supply ducts above stage and furthest tier; air from stage-level supply ducts has lower velocity (green and blue).

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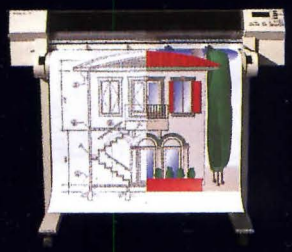

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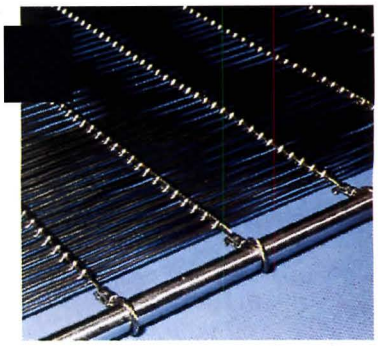
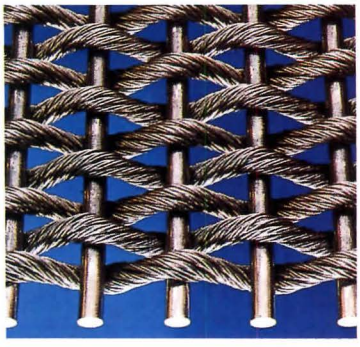
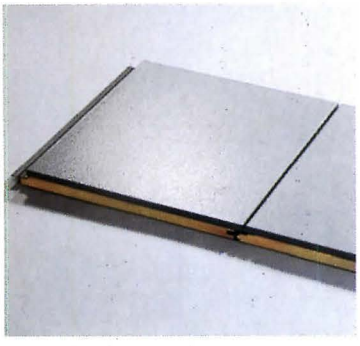
Products

Metal mesh and panels add steely elegance to interiors.







TOP LEFT AND RIGHT: GKD's Architektur metallic fabric line was launched after French architect Dominique Perrault integrated the German manufacturer's woven wire mesh into several projects. The material is traditionally used for industrial and mechanical applications such as conveyor belts, filters, and acoustic dampeners, but Perrault adapted it for interior partitions, sunscreens, surface cladding, and the undulating ceilings in the National Library of France (top). The metallic fabrics are manufactured in stainless steel, bronze, copper, brass, and other metals, with wires as fine as 0.02 millimeters in diameter (center right).
Circle 401 on information card.

ABOVE: Foamwall panels from Smith Steelite sandwich two inches of foam insulation between 24- to 20-gauge galvanized-steel surfaces; a lower-priced version of the line is available in thinner 26-gauge galvanized steel. The fire-retardant panels are manufactured in standard 24- or 30-inch widths and up to 30-foot lengths; the joints can be adjusted from 1/8- to 1-inch widths, running vertically or horizontally. A silicone sealant applied to the exposed joint area provides weather protection, supplemented by gutters and weep holes within the panels. Available in 12 colors, the panels can be specified in custom dimensions, with curved profiles, and with smooth or patterned surfaces. Foamwall panels are compatible with Smith Steelite's Therm-A-Frame windows.
Circle 402 on information card.

ABOVE: Metal plank and tile ceiling systems from Hunter Douglas Architectural Products are incorporated into the HOK-designed domestic terminal of the Tampa International Airport, completed last May. The sound-absorbant ceilings feature optional security clips that restrict access to the plenum and mechanical spaces. The metal plank ceiling system is available in 8- to 24-inch widths and 2- to 12-foot lengths; the metal tile ceiling system consists of a standard 24-inch-square unit with 20 different perforation patterns. Both systems are available in 0.032-inch-thick anodized aluminum or 0.024-inch-thick stainless steel plates, with an optional baked-on enamel finish.
Circle 403 on information card.

ABOVE: Stainless steel cladding for both interiors and exteriors is available in textured patterns from the Architectural Specialty Products division of Chicago Metallic. The 16- to 24-gauge steel panels have a galvanized-steel backing and purportedly resist impact: Chicago Metallic bonds stainless steel and other finishes such as painted steel, copper, and aluminum to insulating cores of honeycombed metal, plywood, fiberboard, or foam. The panels are connected by tongue-and-groove, caulk, gasket, or open joints. Chicago Metallic's cladding lines are available in a standard panel size measuring 4 by 12 feet.
Circle 404 on information card.

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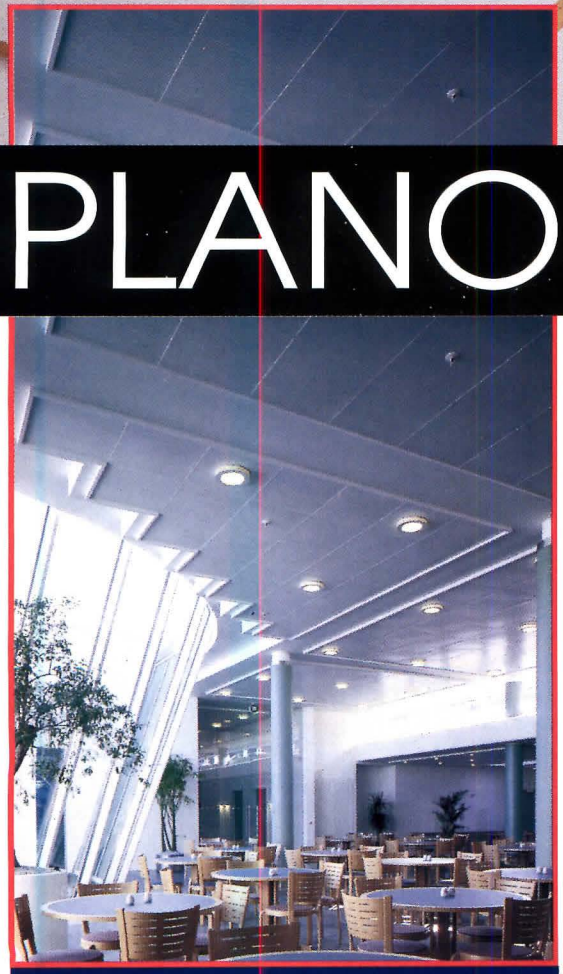

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Circle 135 on information card

Products

Aluminum curtain wall
EFCO's S-5600 aluminum curtain wall system is manufactured in pressure-glazed, vertical butt-glazed, and slope-glazed versions. The aluminum frames, available in depths of 5 to 9 inches, can be specified with 1/4- and 1-inch-thick glass panes. Panes can be projected out from the curtain wall, allowing for the placement of climate-control vents behind (above).
Circle 407 on information card.

Soffit panels
Petersen Aluminum's soffit panels have three new profiles: PAC-750, with a bevel-cut groove; Reveal, with an indentation at the joint; and Flush (above), with no differentiation between panels. Reveal and Flush panels are manufactured in aluminum and 24- or 22-gauge steel. The PAC-750 is available in solid, half-vented, and fully vented 0.032-inch-thick aluminum.
Circle 405 on information card.

Translucent wall system
Kalwall exterior wall systems feature translucent fiberglass panels set in an aluminum housing. The wall system is available in standard 2 3/4-inch or 1 9/16- to 11-inch thicknesses; in 4- and 5-foot widths; and 3- to 20-foot lengths. Wittenberg, Delony & Davidson's University of Arkansas lab facility (above and below) incorporates a Kalwall-clad bridge with clear glass windows.
Circle 408 on information card.

Steel curtain wall
Formawall 1000-H steel curtain wall panels by H.H. Robertson (above) are available with horizontal or vertical tongue-and-groove joints. The panels are offered in a 2-inch thickness with an insulating foam core, flexible enough to be formed and curved. H.H. Robertson also manufactures aluminum-framed windows which can be integrated with the steel 1000-H line of panels.
Circle 406 on information card.

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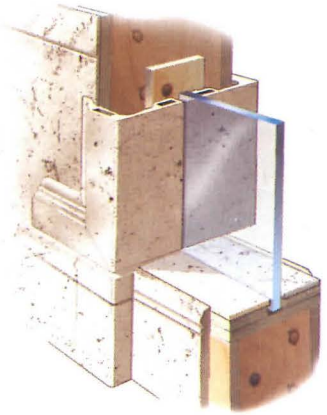

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Circle 137 on information card

Products

Speckled finish
Decora wall finish from Parks (above) is composed of multicolored flecks of paint suspended in a transparent gel. The transparent, water-based gel purportedly protects a painted surface from dirt accumulation, and unlike most solvent-based finishes, is vaporless. Available in 12 colored-fleck combinations, Decora can be applied over any standard commercial paint.
Circle 411 on information card.

Stair treads
The Disc-O-Tread from Musson Rubber Company (above) is a circle-patterned, molded-rubber covering for stair treads. Two 3/4-inch-wide Grit-Strips, placed 1 inch from the edge of the tread and 3/4 inches apart, protect stairs from wear and slippage. The 1/4-inch-thick, 12 1/2-inch-deep treads are available in 10 colors. Musson also manufactures compatible floor tiles.
Circle 409 on information card.

Rocking chair
The Laurelwood chair (above) from Sauder's DesignCare line of healthcare furniture provides a fixed, bent plywood frame for a rocking seat and back. Available in three back heights of 33, 39, and 43 inches, the seats have a standard depth of 25 inches. Laurelwood chairs are manufactured with 1 1/2- to 2 1/2-inch-thick foam cushioning.
Circle 412 on information card.

Vinyl flooring
Mannington Commercial's CustomSpec II vinyl flooring is now offered in three new patterns, in addition to Bolero (above) and Granulaire. Duet features leaf motifs in six color combinations; Diamond Club, with a harlequin pattern, and pebbled Festival are available in five color combinations. CustomSpec II is manufactured in 12-foot widths.
Circle 410 on information card.

Fireproof sealants
Isolatek Type CT sprayable coating for static joints and Type I caulk for flexible joints are both fire resistant. Type CT provides a 1/8-inch-thick layer of sealant to joints; Type I caulk can be used in joints of up to 4 1/2 inches wide. Both are manufactured from water-based, nontoxic materials. Isolatek also produces fire-resistant putty and mortar.
Circle 413 on information card.

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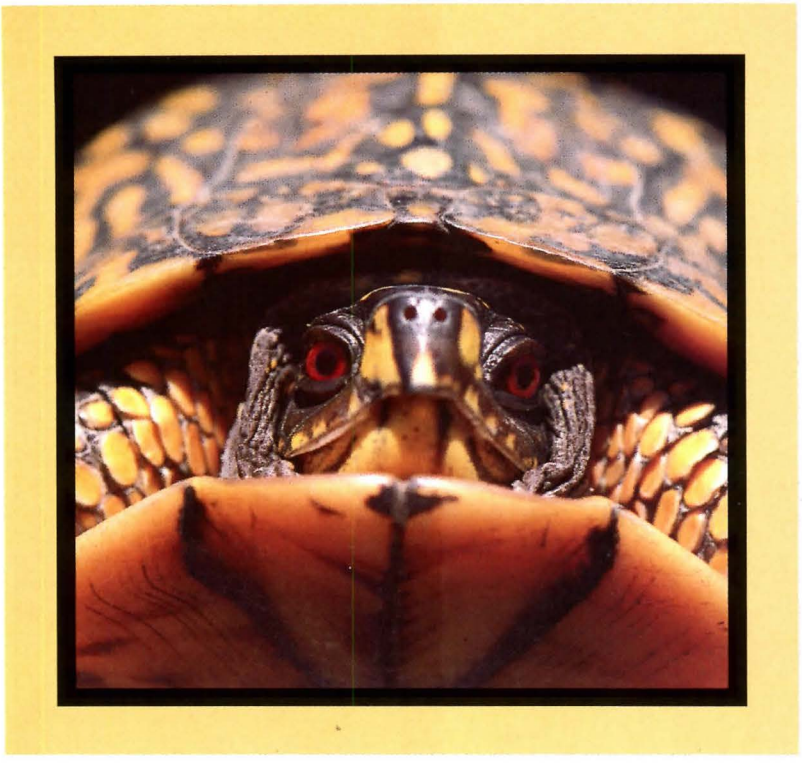

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Details

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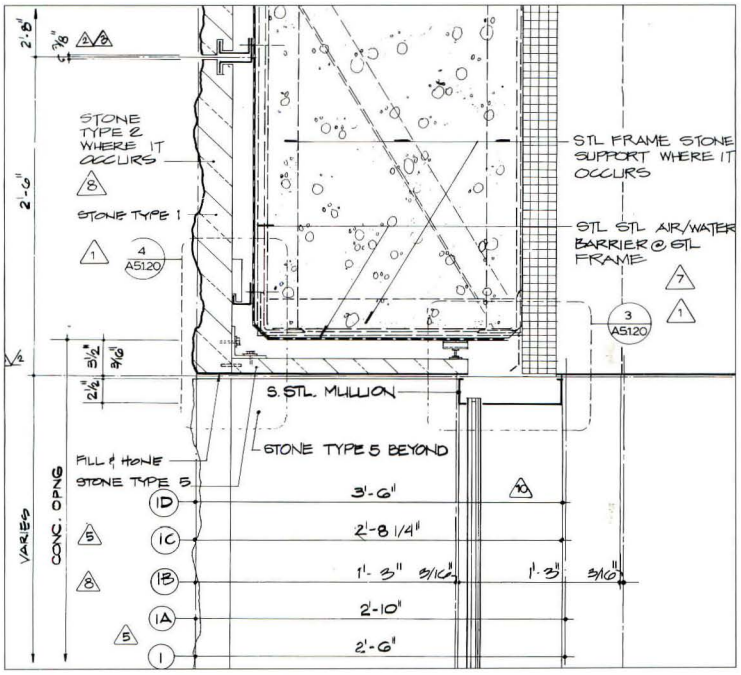
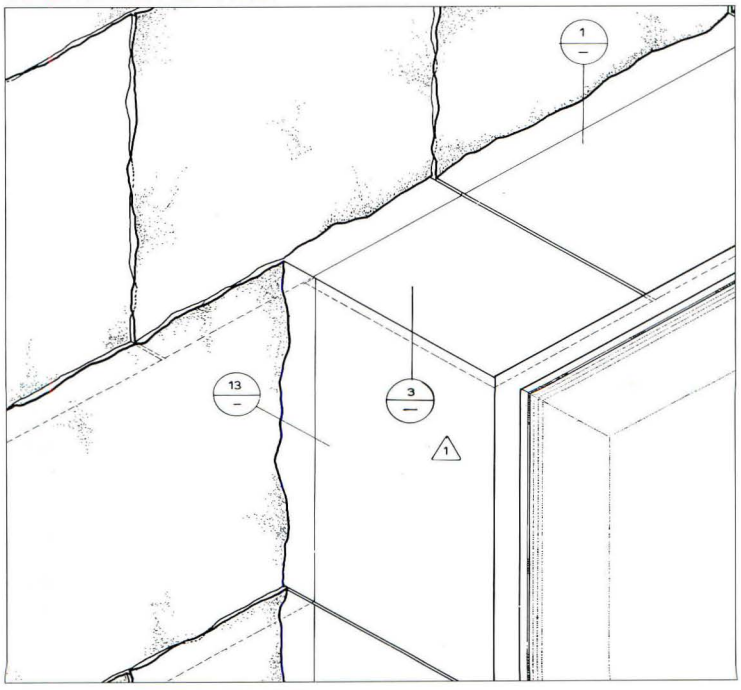


SECTION THROUGH WINDOW HEAD



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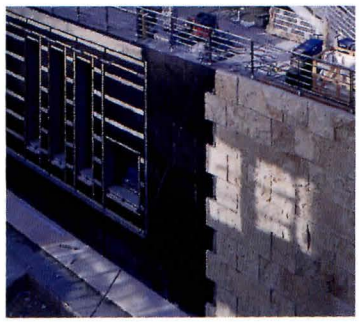

TIMOTHY HURSLEY PHOTOS

The Getty Center
Los Angeles, California
Richard Meier & Partners, Architect

The rough-hewn travertine cladding of Richard Meier's Getty Center in Los Angeles (pages 80-87, this issue) marks a radical departure from the architect's signature metal panels. The 30-inch-square stone panels—quarried with a huge, guillotinelike blade for a heavily textured finish—are applied to the building as a 3-inch-thick veneer laid in a running bond pattern. Stainless steel anchors fasten the corners of each panel to concrete shear walls and steel framing, separated by a 2-inch-deep drainage cavity (above left). Meier left the panel joints open, thereby eliminating maintenance problems caused by degradation of sealants from moisture and sun. The open joints also offer improved seismic performance, allowing cladding panels to move independently during an earthquake.—*R.A.B.*

Satellit – a part of the project

San Marcos Town Center, San Marcos, CA.
Architect: LPA, Irvine, CA. Lighting Designer: Patrick Quigley & Associates, Torrance, CA.
Landscape Architect: Wimmer Yamada Caughey, San Diego, CA.

The Satellit fixture was chosen as the solution for The San Marcos Town Center project in California. A variety of product families makes it easier to choose the right light fixture for your special project, and if you want special designs or features, you will always find Louis Poulsen as one of the most flexible and innovative partners. Louis Poulsen is one of the oldest manufacturers of specialized lighting design. We look forward to serving you the optimal light solution for your project.

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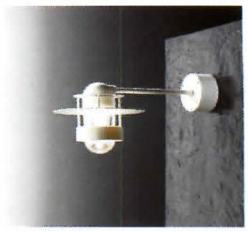
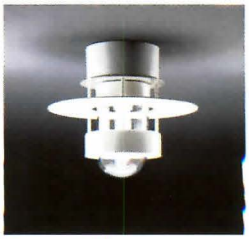


Orbiter Wall



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