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A magazine is a continually evolving thing. Every issue is both a product and a measure of reader satisfaction. Right now, we have reason to be very happy with the P/A we have been publishing. Monthly surveys show continually increasing reader approval, and the number of our subscribers has been climbing steadily, far surpassing those of either major competitor.

Still, reader responses also indicated some significant needs, both to make our contents clearer and to address some unmet reader interests. After months of intense analysis, discussion, and planning, here in this issue are the revisions we have undertaken.

**Design Content:** P/A is definitely seen as the leader among architectural magazines in its coverage of design – architectural, urban, and interior design – but our design articles have been scattered throughout the magazine. Then too, readers had indicated a desire for increased critical and reflective writing. In the new P/A, design coverage is consolidated in one central block of pages that will typically open with a Case Study, of greater depth than a typical building feature. Included in this section will be other building and interior design features, pages on new projects, book reviews, selected details, and a totally new section called Perspectives (a name we were using before, but are applying more appropriately here), which presents the critical thoughts of our editors and of outside authorities. Perspectives may include critiques and reappraisals, interviews and excerpts; in this section, the words take precedence, the images provide essential illustrations.

**Technical and Practice Content:** Here too, we have taken established, effective types of articles and consolidated them in one zone, in the first half of the magazine, which includes Technics, Technics Topics, Practice, and Reader Poll articles. Additions in this area are a new Building Science Brief page, reviewing some basics, a newsy Tech Notes column, and regular coverage of computers in practice.

**Other Departments:** In the very front of the magazine, Editorial, Views, and News Report will stay more or less in place; toward the end of the issue will be Products and Literature pages – with special sections for Technics-related products and a new place for computer products. On the last editorial page will be an all new department called Furthermore, which will be assembled of various editors’ observations – not necessarily momentous – on the development of the current issue and on plans for issues to come.

**Graphic Redesign:** To accommodate the reorganized contents of P/A, we have developed a graphic format that is not totally new. We have kept elements that worked best – the combination of wide and narrow columns on our pages, for instance, to suit different kinds of information. And we have refined this system to make it easier than before to read P/A at different layers of depth. Bold “decks” and excerpts, captions, and columns of quick-bite information modeled after our Pencil Points will give the hurried reader the essentials. Easily identified blocks of text will go deeper into a story, then separate “sidebar” copy will offer optional excursions into background information, critical assessments, interviews, and various special aspects of the work under discussion.

The new graphic treatment is on the whole very conservative. At a time when magazines generally tend to burden their pages with overscaled type and other distractions, our typography has been scaled back and made more consistent to allow photographs and drawings the attention they deserve.

To identify the reorganized, redesigned P/A on the front cover, we developed a new logo emphasizing the name we are really known by, P/A. The old logo – 23 letters marching across the cover – never had enough visual identity, and it interfered more with cover subjects than the new one will.

**The Process:** Our first decision in this redesign was to develop it with our own staff, led by art director Derek Bacchus and executive editor Thomas Fisher, both of whom have had years of experience in architectural firms. Although outside experts can contribute a lot to such a process, they can never bring to it day-to-day experience with our content or familiarity with P/A readers’ preferences, which our staff regularly monitors and discusses.

The Outcome: We have made these changes with the reactions of readers as background, to give you a more lively and rewarding magazine. Now we want to hear how the revised magazine suits you. So please send us your reactions, from general impressions to specific suggestions, as your contribution to a better P/A.
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Views

Wexner Center Zeitgeist
It is only since the self-centered sixties that architects have had the indulgence (usually in the outer-directed provinces) to create architecture that reflects society as it is rather than as we wished it were, as a goal to achieve. One does not need thick glasses to perceive that we are in a time of "incompleteness, fragmentation, and dismemberment," to quote Charles Wright's undergraduate essay in support of Eisenman's built-onanism in Ohio [P/A, Oct. 1989, presumably].

Yet there has never been a time when it was not so, except as seen through the most superficial way of viewing history - the one architecture students get. Via the un-integrated slide survey of larger artifacts from the Middle Ages, one gets the impression of cultural unity and halcyon centuries in which future tourist attractions are sleepily piled up by people not unlike the Seven Dwarfs. Beneath the Kodachrome surface, however, princes popped out each other's eyes with poniards, there were virtually continuous peasant uprisings, and technical invention in boring areas such as agriculture ran rampant. If Eisenman worked in the 12th Century he would have pooh-poohed cathedral building as not having the right "zeitgeist," as it were. Instead he would have courageously reflected the times, building witty mastabas of filth, plague-ridden bodies, and hacked off body parts. I'm sure he could have found an obscure tract by St. Anselm's half-brother to back him up.

David Clarke, AIA
Place & Occasion
Carbondale, Illinois

Princely Vision
What a pleasant shock it was to find myself agreeing with most of your December issue editorial "The Princely Vision." In addition to your many valid observations, I would wonder how the Prince thinks that his "ordinary citizens" can afford acceptable facsimiles of his regurgitated "Classical" architecture.

G. Gregory Dovey, AIA
Chambersburg, Pennsylvania

The Prince and the Prevalent
I have enjoyed P/A for more years than I like to tell, and have found your more recent issues to be especially entertaining, in the vein of Pogo, HUD scandals, Batman and other current outrageous literature. Getting old in architecture simply whets your appetite for ridiculous and arcane things, and what was once serious undertaking has adopted the genre of the laughably sardonic:

Chairs on which one cannot sit; houses that require occupants to seriously alter their ways of life; tables inviting barked shins; offices defying work.

While you are fond of attributing a little knowledge as a dangerous thing to Prince Charles, his distaste for the contemporary design scene (I hesitate to use the word Architecture) is certainly understandable and is, I am certain, born out of frustration than of any special knowledge. That he should use his unique rostrum for such silliness is, of course, regrettable; but, even to a seasoned practitioner, the "state of the art" is truly terrible, and it is too bad that a journal of the stature of P/A should encourage the vernacular.

John B. Hackler FAIA
Peoria, Illinois

Getting the Prince's Message
Our first temptation was to say, "How can Thomas Fisher (Progressive Architecture's Executive Editor) accuse Prince Charles of being naive when in the same issue [P/A, December 1989] he proposes that Rem Koolhaas has ably continued a tradition, begun by Vermeer no less, by designing a duplex, which strikingly resembles a cheap roadside motel?" It would be fun to go tit for tat with Mr. Fisher, but to what constructive end would that bring us? Wouldn't such an exercise merely reinforce the self-destructive, name-calling arguments which the architectural journals call dialogue?

We strongly feel that by taking immediate defensive postures against the view of Prince Charles, current architectural journals are missing the architectural conversation.

(continued on page 13)
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We have all known for quite some time that the architectural profession has been swimming around in its own muck, unsure of its direction, lacking a collective motivating force, splintering itself into myriad intellectual camps all vying for public recognition. This atmosphere is typical of any time when the old school can no longer answer new questions, when theoretical and practical challenges can no longer be absorbed. Such a time is perfectly characterized by the old guard, in this case embodied by “Progressive Architecture,” attempting to scare architects away from Prince Charles by equating anyone who might agree with the Prince as one of his pawns. This is surely the argument of a fading establishment on the run!

All faults must now face a new world and decide whether or not to be a part of it. This new world is pregnant with the potential of a highly variegated human family at last dwelling in peace with one another. The architecture of this new world has everything to do with beauty, life enhancement, harmony, strength, and inspiration—all that the Prince has identified as lacking in Modern Architecture.

It is time to move forward, away from architecture as fashion, away from destruction, away from ugliness rationalized by abstract mumbo jumbo. Simply ask your heart, “In what kind of place can I be most fully alive.” We’ll bet our last two bits that it won’t be the Wexner Center.

We challenge Progressive Architecture to stop squirreling opposing viewpoints away in the “Views” section and to summon up the guts to ask Prince Charles to write an open, uncensored letter to American architects. Such a move on P/A’s part would prove its desire to truly open up the discussion of the future of architecture.

We feel strongly that these resources should be part of any article or reading list related to wayfinding.

Sarah Speare
Executive Director
Society of Environmental Graphic Designers
Cambridge, Massachusetts

[The Prince’s “open letter” is already available in the form of the book “A Vision of Britain” ( Doubleday, New York), cited in our December Editorial—Editor]

Wayfinding: Further Sources
Although providing a reading list, the article “Wayfinding: An Orientation System for Hospitals,” in P/A’s November Technic Topics department did not mention three very important resources for wayfinding.

Jan Carpman’s extensive research findings, published in her book Design That Cares (American Hospital Publishing, Inc. 1986), are a standard resource for wayfinding in hospitals. Design That Cares exceeds Ms. Carpman’s earlier study No More Mazes, mentioned in the article.

The second important resource is the Society of Environmental Graphic Designers (SEGD), located in Cambridge, Massachusetts, which devoted its 1988 national conference to wayfinding. Jan Carpman was one of the conference speakers as well as Gerald Weisman, Romedi Passini, and Paul Arthur, all experts in the field. SEGD has a bibliography on wayfinding books and articles, bulletins and publications dealing with wayfinding, and a Professional Firm Directory which lists 74 designer firms, many of them specializing in wayfinding.

For more information, contact SEGD at 47 Third Street, Cambridge, Massachusetts 02141, 617/577-8225, fax 617/577-1769.

And finally, the Environmental Research Association (EDRA) encourages research related to improving environmental design methods and techniques and helps to increase the understanding of the social and behavioral aspects of relationships between people and environments. Wayfinding has been one of their research topics. For more information, contact EDRA, P.O. Box 24083, Oklahoma City, Oklahoma 73124, 405/848-9762.

We believe that these resources should be part of any article or reading list related to wayfinding.

Sarah Speare
Executive Director
Society of Environmental Graphic Designers
Cambridge, Massachusetts

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Switch in Berlin Library Competition

Steven Holl's competition-winning design for an addition to the American Memorial Library, which won a 1990 AIA Award (P/A, Jan. 1990, p. 80), has been set aside in favor of a revised design by one of the competition's finalists, Karen Van Lengen of New York. Van Lengen's design was chosen in Phase III of a twice-extended competition after Senator Wolfgang Nagel of Berlin rejected the second-phase jury's decision to award the project to Holl.

The competition was conceived as a gesture of German-American friendship mirroring that of the library's beginnings in 1950. American money built the original library, and a competition among German architects was held, with Fritz Bornemann chosen as the winner. The City of Berlin returned the favor in 1988 by asking 14 American architects to compete for the design of a German-financed addition. Van Lengen, Holl, and Lars Lerup of Berkeley, California, were chosen as first-place winners in the first phase of the competition in November 1988; the three were asked to develop the schemes further, and in April 1989 Holl's design was selected.

But political changes in Berlin, including the defeat of the Social Democratic city government that had steered the original competition (and the sudden need for housing units created by the opening of East Germany's borders) led to the rejection of the Holl scheme by Nagel, the new Senator in charge of building. The finalists were asked to revise the designs and develop an urban planning scheme with housing and commercial space for the library's surrounding area. A jury composed of Nagel and other local officials chose Van Lengen's entry from the revised designs.

The turn of events, which Holl's office calls "serious mishandling" and "manipulation" on Nagel's part, has caused a rift in Berlin's design community, already angry over the government's handling of design competitions. The Bund Deutscher Architekten (BDA) and other professional groups have taken out newspaper ads and written letters protesting the decision, and Holl's office reports that the BDA may sue the Senate. Since the second-phase jury's decision apparently constitutes only a recommendation, though, it is unlikely that there are means (save public outcry) to restore the commission to Holl.

All this is not to say that Van Lengen's scheme is not worthy; on the contrary, it is, at the least, a more overt response to site conditions on this important local spot. It will, no doubt, be a powerful presence on a site that, through the ravages of war and the disarray of Modern planning, has lost a great deal of definition. What is most unfortunate about this affair, as seems to be happening more and more, is that a politician has abused the competition process, breaking a bond with a jury and architects acting in good faith. It is necessary for governments to rethink why they hold design competitions and architects why they enter them.

AIA Names Honorary Fellows

Twelve architects from around the world have been selected as Honorary Fellows of the AIA, an honor given to distinguished architects from outside of the United States. The new Honorary Fellows, who will be invested at the AIA National Convention in May, are as follows:

Gae Aulenti, Rome, the well-known architect of the Musée d'Orsay, Paris, among other projects; Essy Baniassad, Halifax, Nova Scotia, president of the Royal Architectural Institute of Canada; Jacob Blegvad, Aalborg, Denmark, former president of the Danish Federation of Architects; David Davies, London, cited as a pioneer of the "one-stop consultancy" firm; Kiril L. Doytchev, Sofia, Bulgaria, known for his design of healthcare facilities; Dato I. Hisham Albakri, Kuala Lumpur, Malaysia, president of the 31-nation Commonwealth Association of Architects; Daryl Jackson, Melbourne, Australia, who the jury said was "one of the most important Australian architects with a world-class achievement"; Reiichiro Kitadai, Tokyo, president and founder of the Japan Institute of Architects; Jorge Nunez Verdugo, Mexico City, president of the Federation of the Colleges of Architects of the Republic of Mexico; Yuri P. Platonov, Moscow, president of the Union of Architects of the USSR (P/A, June 1989, p. 21); Eva H. Vecsei, Montreal, president of the Ordre des Architectes du Quebec; and Wu Lianyong, Beijing, who the jury called one of the "pioneers of architecture and urban planning in modern China."
London’s controversial Paternoster Square redevelopment plans have been put into the hands of a team of architects that includes Hammond, Beeby & Babka, Terry Farrell Partnership, and John Simpson & Partners. Prince Charles’s intervention—prompted by the presence of St. Paul’s Cathedral adjoining the site—apparently led to the appointment of the Classicism-minded group of designers.

In other royal news, the Prince is scheduled to visit the site of the new St. Paul’s Cathedral to discuss and study the plans for the project, which is expected to be completed in 2022. The church has been under construction since 1976 and is scheduled to be completed in 2025.

Esther McCoy 1904–1989

Editor’s Note: Architectural historian and critic Esther McCoy, PA’s Los Angeles correspondent since 1969, died of emphysema on December 30, at the age of 85. Her close friend, architect and author Joseph Giovannini, offers this tribute. Another article on Ms. McCoy’s legacy (written before her death) by Robert Venturi and Denise Scott Brown appears on page 118.

She read floor plans like lines of a palm, interpreting social history through the evolution of the layout. She built her arguments from hard facts, revealed always in transparent prose. A life-long student of human nature, she was a Geiger counter for authenticity and character, and glided between generations, always in transparent prose. A life-long student of human nature, she was a Geiger counter for authenticity and character, and glided between generations, transcending her own to discover the young and encourage the established. She had the audacity to argue—and the dates to prove—that Modernism developed in America and California as early as in Europe, that Adolf Loos did not precede Irving Gill.

When Esther McCoy died on December 30, architecture lost a great and eloquent gift. She had migrated to architecture from literature, via drafting at Douglas Aircraft during the war, then at the R.M. Schindler office, and brought with her not only her intelligence, but also a novelist’s technique. She understood architecture as an expression of the times, and of the individual, his background and character. She always set the facts in a scene, with a time and place—the concreteness of her language made it seem possible to touch buildings. In 1960, Five California Architects and Richard Neutra were both published, and suddenly California—land of the future—had a distinguished architectural past. This self-instructed historian wrote with passion and authority.

She almost quit; she couldn’t afford to continue. “In 1962, I said I will never, never write about architecture again. It was almost like—you know—casting off a lover.” But with the encouragement of grants, she went on to four more books, assembling from what she called “the small canvas” a full literary cycle focused on the California avant-garde from the early 20th Century through the 1960s.

Architects know this panorama best, but there were a couple of novels on the shelf, a dozen television scripts, hundreds of articles published here and abroad, and the memoirs on which she was working. But common to her careers was the taut prose: For Esther, to live was to write; sentences were breath.

Too charged to settle back into her own growing legend, she remained compassionate, ever curious and acerbic: “They’ll say I was sharp to the end.” It did become clear that the end was approaching as the pace of her obituaries for dear friends and colleagues accelerated—Gregory Ain, Luis Barragán, Ray Eames, John Entenza, Juan O’Gorman, Reyner Banham. People came to life on her page because her paced and understated language, dense with verbs, delivered the idea, feeling, and moment without the interference of a writer: Esther was absent. The stillness made small sounds audible.

She cropped her white hair short; she smoked like a fireman; she took her Bloody Marys with gin. She loved greatly and was greatly loved. She was radiant.

Joseph Giovanni

A New Terminal Taking Off

Murphy/Jahn upped the ante for airports when its United Airlines terminal at O’Hare Airport opened (PA, Nov. 1987, p. 95). With its model efficiency and jauntily celebratory air, the space pleased almost everyone. Clearly, Ralph Johnson of Perkins & Will has taken up the challenge with his new one-million-square-foot International Terminal, which goes into construction at O’Hare next October.

The $275-million terminal will be paid for by the city of Chicago and by the 22 international airlines that will use its 20 gates on an as-needed basis. Given this financing one would expect few architectural flourishes, but the design has a real richness.

The terminal is roughly semi-circular in plan, with the concourses wrapping around the back and kicking out in long thin spurs to either side. The 825-foot-long departure hall, an open arcing glass and steel form rising three stories and 55 feet at its highest point, will be the signature space. Like Eero Saarinen’s TWA terminal at Kennedy Airport, the new terminal’s interior is a fireman; she took her Bloody Marys with gin. She loved greatly and was greatly loved. She was radiant.
customs and a special waiting area for people meeting travelers.

International passengers at O'Hare have long used temporary facilities that gradually acquired an air of permanence. This new terminal has been delayed for ten years by political squabbling. Perkins & Will finally won the commission in October 1988 on the basis of a schematic design. Four other firms competed, including the design/build, Chicago-based Austin Group; Pei Cobb Freed & Partners; Skidmore, Owings & Merrill; and Harry Weese & Associates.

The new terminal opens in February 1994. With the completion of this and several other airport projects on the boards at Perkins & Will and Murphy/Jahn, travelers traditionally treated like larger, more awkward and recalcitrant pieces of luggage — may have to get used to being treated well. Cheryl Kent

Abandoned Arverne Beach to be Revived

Approval is pending for New York City's largest new housing project in the Arverne section of Queens. The two-mile stretch of abandoned beachfront property will be developed over the next decade into an entirely new moderate income residential neighborhood that is expected to revitalize this part of the depressed Rockaways.

At the turn of the century Arverne was New York City's premiere beach resort community, with luxury hotels and summer homes catering to the city's wealthiest citizens. With the advent of the automobile in the 1920s and 1930s, Arverne Beach was passed by for more fashionable Long Island destinations.

Over time, the once chic summer cottages were rented to the city's poor for year-round use. During the 1940s and 1950s, residents displaced from urban renewal areas in Harlem and the Bronx took refuge in Arverne's beach houses. Because of Arverne's seasonal origins, the city never provided the necessary infrastructure to support its more permanent population, and by 1969, unsanitary conditions and the density of displaced poor led the city to declare Arverne an urban renewal district. In 1971, the 278-acre site was razed. At that time several towering brick housing projects were built on part of the site.

After ten years of false starts and ill-conceived proposals, the city government, with the help of the neighborhood community board, drafted a rigorous set of design guidelines that would address the issues of building an entirely new community within the existing city plan. The goal of the scheme was to create an urban residential neighborhood that would meet the housing needs of moderate income New Yorkers, yet allow the beachfront to be as open as possible. A checklist of design elements, including building height limitations, provision of view corridors to the ocean, a 25-acre park, and the extension of the city's street grid into the site, was provided to candidates in the city's second request for proposals on the project.

The scheme prepared by Ehrenkranz, Eckstut & Whitelaw in conjunction with the Liebman Melting Partnership with the joint venture Oceanview Associates was the winning submission. Their proposal calls for residential blocks of four-story rowhouses that open both to the street and into courtyards that are raised over one level of parking. Wide "seam streets" between these blocks provide shopping, midrise apartment buildings, connection with the city beyond and views of the ocean. Housing costs will be held to moderate levels by the application of modular building techniques and bulk construction of the site.

The resulting built community will resemble many of the high-density, low-rise communities that are common in Queens, such as Sunnyside Gardens, Jackson Heights, or Brighton Beach. (Parking underneath the rowhouses, however, is an innovation here.) The urban plan of Arverne and the design of its buildings may be nothing startling, but the careful consideration of the historical, environmental, economic, and social aspects of the site make it a model project for the city that will serve as a guide for future projects of this scale. Construction of the infrastructure is expected to begin early this year. Julie Meidinger

Site plan of Arverne's first phase.

P/A Honors

Award Winners

The Plaza Hotel in New York was once again the scene for the presentation of winners in the 37th Annual P/A Awards program on January 12. The winners (P/A, Jan. 1990, pp. 75–128) received their awards and citations in a luncheon attended by close to 250 architects and other professionals.

The 20 winners, in the categories of Architectural Design, Research, and Urban Design, were selected by a jury of eight professionals from among 788 entries in the 1990 program. Unlike past years, in which the luncheon has taken place after the mailing of the January issue, this year's ceremony constituted the first public look at the winning projects.

Before the program began, Peter Eisenman, one of the award winners, spoke briefly in tribute to the late architect Paul Kennon, who had died in the previous week, and asked for a moment of silence in his memory.

P/A guests fill the Plaza ballroom.

Steven Holl (left) and John Gauntz (right) receive award from Jim Murphy; P/A's John Dixon (far left) looks on.

Peter Eisenman (left) with P/A's Jim Murphy.
Minneapolis College of Art & Design.

Design Journal
Bruce Wright • March 14 to May 18.

the Whitney Museum at Federal
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Bruce Wright

The author is editor of INFORM
Design Journal and teaches at the
Minneapolis College of Art & Design.

WILLIAMS & TSIEH
WALKER EXPERIMENTS

Seldom do architects have the
luxury of building full-scale mock-
ups of intended ideas. But the
Walker Art Center has given archi-
tects Tod Williams and Billie Tsien
that rare opportunity in an exhibi-
tion entitled "Domestic Arrange-
ments, A Lab Report," the third in
a series of six shows under the
heading of Architecture Tomorrow
(P/A, Aug. 1988, p. 25). However,
Williams and Tsien caution us that
these are not mock-ups, but full-size
pieces of a proposed house.

The architects have created a kit
of parts at actual size from low-cost
materials commonly used in build-
ings, such as foam insulation, lami-
nated craft paper, molded wood-
chip pallets, perforated hardboard,
stacked and glued sheets of Homa-
sote, clear pine planks and untufted
carpet backings. These are intended
for reuse in any number of combina-
tions — three of which are
suggested by small models dis-
played in a separate gallery, one
each for a generic urban, suburban,
and rural site. And the germ of
some intriguing ideas for the future
is suggested, but not fully explored,
in these models — particularly with
the suburban site, where Williams
and Tsien have proposed that parts
from their kit be scattered around
suburban houses as a solution to
future land use needs. Emphasis
has clearly been placed on the
larger exhibit, which fills the gallery
with huge foam roof elements
and dense, velvety walls of Homasote,
the whole surprisingly light in
treatment despite the mass.

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Czech Conference Targets
Consumption

While the East Germans were tearing down the
wall, the International Prague Assembly of Architects,
Planners, and Designers were convening to develop
plans for building a better world. The conference,
held in Prague November 6–11, was co-sponsored by
the International Architects/Designers/Planners
for the Prevention of Nuclear War (IADPPNW) and the
Union of Czechoslovak Architects, and was attended
by over 350 delegates from 42 countries.

IADPPNW's main goals are to convert national
economies from war to peace, to create a healthy natu-
ral environment, and to construct, protect, and
preserve the built environment. "We must use the
weight of our profession to achieve these goals. The fate
of people cannot be left in the hands of a few who think
they know what's best," stated Tichjan Papadriostou,
FAIA, co-chairman of IADPPNW.

The Secretary General of the Union of Czechoslo-
vak Architects, Ivan Horky, in speaking of the role
of architects today, stated that the architect has a "pro-
foundly humanistic essence. Architects' existen
depends on construction rather than destruction, and
their inherent meaning is to satisfy people's material
and spiritual needs as well as possible."

Delegates presented numerous papers on the role
of architects and planners in solving global, ecological,
and social issues. Speakers included visionary architect
Paolo Soleri, who asserted that "unlimited consump-
tion is the real enemy and, as it has been said, the
enemy is us, the compulsive buyer pursuing happiness
via hedonism, if not downright materialism." As re-
forms in Eastern Europe are aimed at unleashing a
wave of increased consumption and production simi-
lar to Western standards, an earth already strained
by acid rain, air pollution, and destruction of the natu-
ral environment will be further burdened. "To help
conquer the impending ecological disaster, building
activities have to fundamentally change and a concern
for environmental ethics integrated into our work," said
Dutch architect Peter Schmid.

At the plenary session the Assembly agreed that the
delegates should return to their respective coun-
tries as international environmental advocates and,
through their work as architects, designers, and plan-
ners, promote the principle that ecological and social
criteria are indivisible from professional responsibil-
ities. This new focus will be the theme of the Inter-
national Union of Architects (UIA) World Congress
at Montreal in May 1990. Sally Siddiqi

The author is president of a New York marketing firm for architects
designers. She is a member of the board of directors of Architectural
Designers/Planners for Social Responsibility.

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Contractor: Turner Construction Company

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Carlisle SynTec Systems

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Circle No. 323 on Reader Service Card
Calendar

Exhibitions

Minneapolis. The architects use the "Architecture Tomorrow" exhibition as a laboratory for "practical and visionary propositions regarding the utility, interpretative, and constructive possibilities of the home." Full-scale building components have been assembled and public interaction encouraged. Walker Art Center.

Seattle. "Architecture in the House" compares the residential work of two generations of Seattle architects: Robert Reichert, who brought a Modernist aesthetic based on the use of graphics to the region in the 1950s; and Mark Millet, whose use of low-cost materials and dissected volumes represents a present-day Gehryesque sensibility. Each architect has designed his own installation for the show. Seattle Art Museum.

Kahn's Museums

New Haven. Louis Kahn's legacy of influential museum designs—Yale University Art Gallery, Kimbell Museum, Yale Center for British Art, and the unrealized de Menil Museum—are studied through a series of sketches, ground plans, elevations, sections, and presentation drawings. Yale University Art Gallery.

Santa Monica. Architects from the U.S., Europe, and Japan—Eric Moss, Coop Himmeleblau, and Sinyo Okaya, among them—were asked to design furniture and other functional objects to "serve as the first letter in a possible new vocabulary of building design, or as prototypes for limited or mass production." Gallery of Functional Art.

New Schools for New York

Through March 15

Emilio Ambasz
Through March 25

Wright Drawings
Through April 8

Stanley Tigerman
Through April 15

Bank Architecture
Through April 15

Scogin Elm & Bray
February 11–April 9

Architecture and Its Image
February 18–May 13

New York. Entries in a design study program for small public schools sponsored by the Architectural League of New York and the Public Education Association are on exhibition. Urban Center Galleries.

Akron. Models and two-dimensional images of the architect's projects, both built and proposed, will be among the exhibits shown. His industrial and product designs will also be on display. Akron Art Museum.

Phoenix. A retrospective of drawings and sketches done between 1887 and 1959 celebrates Wright's all-encompassing vision. The exhibition is the first in a year-long series of events honoring the architect. Phoenix Art Museum.

Chicago. With his housing project in Fukuoka (P/A, Oct. 1989, p. 59) and the yet-to-be-completed Chicago Bar Association Building, Tigerman's design eloquently spans, and sometimes blends, the diverse worlds of deconstructivism and historicism. This exhibition of recent works coincides with the donation of Tigerman's archives to the Chicago Art Institute. Chicago Art Institute.


San Francisco. While the Atlanta firm's work is difficult to categorize, their diverse design sensibility from project to project and their use of material as a stage for experimentation rarely lacks excitement. Art and Architecture Exhibition Space.

Dallas. The inaugural exhibition at the Canadian Centre for Architecture will travel to Dallas and, in the spring, to Paris. The show is a sampling from the CCA's collection. Dallas Museum of Art.

(continued on page 30)

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Circle No. 361 on Reader Service Card
Calendar (continued from page 29)

Christopher Wren
February 21-May 8
Washington, D.C. Sir Christopher Wren's legendary design for St. Paul's Cathedral, completed in 1711, will be documented in an exhibition of rarely seen original drawings and plans, manuscripts, and artifacts. The Octagon.

Competitions

AIA Photography Contest
Entry deadline March 11
St. Louis. The St. Louis Chapter of the AIA is once again sponsoring an architectural photography contest. Photographs, which must "contain a building or part of the man-made environment" are judged on their aesthetic value. AIA members and component affiliate members—except professional photographers—are eligible. Contact St. Louis AIA, 911 Washington, suite 225, St. Louis, Mo. 63101-1203 (314) 621-3484.

Architectural Monument
Registration deadline March 30
Entry deadline June 29
New York. "A Choragic Monument to Twentieth Century Architecture" is a national competition calling for entries in the form of computer drawings, hand-embellished computer drawings, or computer-embellished hand drawings; $6000 in prizes will be awarded. Contact NYC/AIA, Choragic Monument, 457 Madison Avenue, New York, New York 10022.

AIDS Center
Registration deadline April 2,
Submission deadline June 1
San Francisco. This competition calls for a design to house an AIDS Service Provider Network and provide a permanent space for The AIDS Memorial Quilt. Architects, designers, artists, students and other interested parties are eligible. An exhibition and publication will include all entries. Contact Jonathan Pearlman, 2338 Market Street, San Francisco, Calif. 94114 (415) 626-0931.

Vietnam Memorial
Registration deadline April 10
Minnesota. An open national competition for the design of a memorial honoring Minnesotans killed in Vietnam calls for a design that "evokes a reflective mood" and "express a sense of regionalism." Contact Minnesota Vietnam Veterans Memorial, Professional Advisor, Capitol Area Architectural and Planning Board, Room B-46, State Capitol, St. Paul, Minn. 55155 (612) 296-7138.

Barrier-Free Design
March 8-9

ACSA Annual Meeting
March 17-20

Westweek '90
March 21-23

Conferences

Gaithersburg, Md. In response to the pending 1989 Americans With Disabilities Act (which will require all public accommodations and places of work to comply with federal barrier-free design standards) the Institute for Technology Development is sponsoring "Barrier-Free Design: A Conference and Charrette" at the Gaithersburg Marriott Hotel, Gaithersburg, Md. Contact Margaret A. Wyde, Institute for Technology Development, Advanced Living Systems Division, 428 North Lamar Boulevard, Oxford, Miss. 38655-3204 (601) 234-0158.

San Francisco. "Architecture of the In-Between" is the theme of the 78th annual meeting. The meaning of the "in-between" will be discussed in terms of education, design, technology, practice, and social responsibility. Contact ACSA, 1735 New York Avenue, N.W., Washington, D.C. 20006.

Los Angeles. Members of the contract furnishing industry will convene once again at the 15th annual Westweek. "LA 20/21: Design. Business. The Next Century," to be held at the Pacific Design Center, will focus on Los Angeles as an influential venue of American architecture and design. Contact Pacific Design Center, Marketing and Design, 8687 Melrose Avenue, Los Angeles, Calif. 90069 (213) 657-0800.

Calendar

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The caller, the facility manager at one of New York's largest banks, was seeing red. Actually, red-red orange.

His bank had ordered half a million dollars' worth of Steelcase open-office panel systems, but somewhere along the line someone had keyed in the wrong color number.

"When the first 500 panels came in," Mike recalls, "the poor guy at the bank took one look and nearly
died. "Those aren't my panels! I ordered beige!"

The carpeting was down, the walls were painted, the door bucks were stained. Important clients would be coming to see the installation in a week. Disaster.

Mike called Jane Williamson, his Steelcase rep, and she got on the phone to Dealer Services in Grand Rapids. They authorized the panel factory to do whatever was necessary to correct the rest of the order, but the 500 red-red orange panels that were already at the bank had to be fixed on-site.

On Friday, the factory flew in 1,800 yards of beige fabric. Saturday morning, three Steelcase technicians from the Athens, AL, factory arrived and met five of Waldner's installers at the bank. They set up an assembly line, ripped off the old fabric, put on the new. By Sunday evening, working around the clock, they'd completely reupholstered all 500 panels.

The bank was up and running by Wednesday. While the bank's important clients toured the new installation, Jane and Mike took the guys from Athens, who'd never been to New York City, to see the Statue of Liberty.

"Steelcase really came through in a clutch situation," Mike says. "It was an amazing job. No other manufacturer could do that, or would."

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Circle No. 380
Perfecting Architectural Concrete

Exacting methods and few deviations drive the quest for the perfect product. But when the product is cast-in-place architectural concrete, even the most extreme measures might not yield perfection. Interior and exterior architectural concrete is site-crafted from manual labor. It is to concrete what millwork is to carpentry. And measurement of its impeccability must reflect the distance between factory precision and field production.

As in many other businesses, specialization has guided the architectural concrete industry. Specialists employ turnkey systems that evaluate available labor, form schedules within the construction program, test preliminary and on-going concrete mixes, cast sample panels and mock up structures, and inspect the work on site. The best systems secure consistent surfaces for exposed columns, walls, and other components.

Specifications Initiatives

Architectural concrete can be grouped into classes of treated and untreated surfaces, both representing inflexible and unforgiving job-site conditions. The treated class involves primarily exposed aggregate surfaces. It offers many aggregate color and size options but requires more field steps than the untreated or "off the form" class. The latter covers both smooth and lightly sand-blasted surfaces.

What constitutes a realistic standard for cast-in-place architectural concrete? Some consultants have argued that a standard or specification could only be drawn for exposed aggregate projects, as untreated-surface installations are too contingent on flawless execution. Others contend that exposed aggregate becomes a Pandora's box, netting too many potential levels of quality or unsatisfactory product. However, one may view exposed aggregate finishes, few experts dispute the difficulty of achieving extraordinarily smooth, untreated surfaces.

Contracts usually designate end product quality level. And, while parameters drawn by the architect, owner, and contractor will continually influence project management and quality control, the industry's first architectural concrete specification should be published within two years.

The American Concrete Institute's architectural concrete committee is drafting specifications based on a guide contained in its Manual of Concrete Practice. The new document will establish acceptance criteria, currently defined as a finished product with a "pleasing appearance with minimal color and texture variations and minimal surface defects when viewed at a distance of 20 feet or as otherwise specified." Quality control will be covered in the specifications, along with tints and coloring pigments, admixtures, form release agents, and surface treatments—all issues affecting appearance and uniformity, explains California-based Joseph Dobrowolski, committee chairman. A consultant and author of the U.S. Army Corps of Engineers' Engineering and Design: Architectural Concrete manual, Dobrowolski notes that the specification will express ACI research and committee positions regarding the influence of superplasticizers and other admixtures on color and surface characteristics.

Exposed high-strength concrete applications and color variations from fly ash additives will also be examined. High-strength concrete mixes yield an inherently darker product as a result of in...

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The pursuit of perfection was a way of life during construction — and especially throughout the pouring schedule — of I.M. Pei’s Morton H. Meyerson Symphony Center in Dallas. Pei’s geometrically complex center combines exposed concrete columns, soffits, and conventional and curved beams (including a sweeping, 270-degree ring beam) with interior and exterior limestone.

A buff-colored cement approach,

creased cement content, lower water-cement ratios, and the employment of silica fume or other admixtures. Excessive use of fly ash for applications other than general building construction may lower concrete quality and performance. Fly ash is either specified according to color availability and local sourcing or specifically written out of mix designs by those who are more cautious.

A Matter of Form

Color and formwork are key, particularly with untreated surfaces. Perfection demands keeping a close watch on processes affecting color. Alternatives to natural gray architectural concrete are achieved with white or lightly buff-colored Portland cements or a host of oxide mineral pigments affording blues, browns, greens, and reds. Although the use of white Portland cement increases the sensitivity of mixing, placing, and other job site details, the results can be dramatic.

Coarse aggregate and sand possibilities augment the concrete color spectrum, as do forms and form-liners in a host of textures and patterns using today’s chemically-treated or plastic-impregnated plywood, lumber, conventional and exotic hardwoods, plastic, fiberglass, aluminum, steel, and magnesium. Specifiers must take the same active role in formwork selection as they do in color determination. Generic statements like “formwork shall be smooth and uniform” do not assure a near-perfect finish, much less acceptable results, asserts James Shilstone, Sr., a Dallas concrete consultant. A lack of clearly defined formwork specifications, he suggests, can produce “structural concrete, architecturally expressed.”

If form and formliner materials are instrumental in perfecting architectural concrete, other factors such as joints, caulking and gaskets, form release agents, and economic considerations also play a role. The most uniform applications, in color and surface terms, result from tight formwork that is caulked and gasketed to prevent leakage and that minimizes use of even highly compatible form release agents. Construction and form joints, rustications, tie holes, and forming tolerances are other factors which, aside from working drawing details, should be reviewed in pre-bid discussion between architect, owner, and prospective contractor. Formwork costs, furthermore, must be weighed against the budget and final product expectations.

Quality architectural concrete demands accuracy in formwork alignment and consistency in concrete mix proportioning and use of coloring agents. Accuracy in detailing and execution delivers a product of high standards, observes Theodore Amberg, AIA, formerly a Dallas-based associate partner with I.M. Pei & Partners, but serving as a vice president with A. Epstein & Sons of Chicago.

Twenty-plus years’ association with I.M. Pei leads Amberg to underscore these fundamentals:

- Adequate preparation of formwork, ranging from selection of form materials to preparation of final drawings.
- Uniformity and consistency of concrete mix, verified by site-cast test panels.
- Sealing and gasketing of forms to prevent leakage and irreparable blemishes and inconsistencies.
- Consistent placement to assure even distribution of concrete.
- Proper treatment of placed concrete, with all curing procedures followed.
- Careful formwork removal — patchwork will always show.

When coupled with expert detailing and a carefully chosen concrete mix, these recommendations can help the architect approach perfection in exposed architectural concrete.

William C. Panarese

The author is manager of construction information services for the Portland Cement Association.

Recommended Reading

Guide to Cast-in-Place Architectural Concrete Practice, 303R-74(82), American Concrete Institute, Detroit, (313) 966-2600

Color and Texture in Architectural Concrete, SP021A, Portland Cement Association, Skokie, Ill., (312) 966-9559

“Architectural Concrete Contract Documents,” James Shilstone, Jr., Concrete International, November 1985 (reprints from PCA)

Architectural Concrete: Design and Construction Practice, 1010, and Guide to Troubleshooting Site-Cast Architectural Concrete Problems, 4050, Concrete Construction Publications, Addison, Ill., (800) 323-2576
Finally, the missing link between expansion 

and attraction.

Admittedly, an expansion joint isn't the most aesthetic part of a building. Very few, in fact none, have ever been known to gather a crowd.

So when you specify an expansion joint, concerns such as seismic and fire ratings, and even a flat surface for pedestrians, are of a higher priority than aesthetics.

However, the new WABO® VIP expansion joint (third from the left) is beginning to change the way architects look at expansion joints. Designed by Watson Bowman Acme, America's most experienced manufacturer of expansion joints, the VIP is both functional and aesthetic.

It consists of a series of elastomeric moving seals spaced evenly between metal separators to create a look that is not only aesthetic but also meets the strictest fire codes and can handle seismic movements of up to 6 inches.

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**Building Science Brief 2/90: Joints in Construction**

This first Building Science Brief begins a series of occasional one-page reference sheets intended for the practitioner’s file. The focus is on principles and their application and where to find authoritative information.

Buildings move and failures occur when joints aren’t provided to accommodate this movement or transfer the loads driving it. Architects must: 1) recognize the need for joints; 2) understand the nature of movements at joints; 3) be able to detail or know when to seek advice about joint width, load transfer and closure devices; 4) coordinate locations of joints in substrates and finishes; 5) know what information must be conveyed in drawings and specs.

Architects should not assume that proper joint treatment will be conveyed in drawings and specs. What information must be conveyed or known when to seek advice about joint width, load transfer and closure devices; and for conditions during installation. Too small a gap can cause damage to the seal and buckling of jointed members, while too large a gap may exceed the working limits of closure devices. Reinforcing is not carried across the joint.

**Recommended Reading**


**Construction (cold) joints** are static connections between members created by job conditions, not by intent. Construction joints must transfer loads so that the jointed material behaves as if it were monolithic. Keyways, reinforcing, adhesives, cements, and roughened surfaces are used to increase the friction or bond at the joint. Construction must be staged so that cold joints do not occur at predetermined locations and thereby reduce random cracking. They help maintain watertightness of exterior claddings and are used for aesthetic reasons indoors. Control joints accommodate a single, irreversible contraction in the material and are created by forming, tooling, or cutting to create a plane of weakness within it. Reinforcing may or may not be carried across the joint.

**Control (contraction) joints** may be thought of as articulated cracks. They are commonly used in masonry and cementitious materials that shrink while curing. The joints relieve shrinkage stresses at structural undesirable locations. In finishes, cold joints may be articulated to reduce the problem of matching color and texture from one application to another.

**Expansion joints** are separations between members that accommodate elongation and contraction in the plane of the members because of daily and/or seasonal temperature and moisture changes. Gap size must account for the physical properties, dimensions, and anchorage locations of the members and for conditions during installation. Too small a gap can cause damage to the seal and buckling of jointed members, while too large a gap may exceed the working limits of closure devices. Reinforcing is not carried across the joint.

**Isolation joints** are separations between two members that allow each to move independently. Although often called expansion joints, they are used to accommodate non-thermal movement between plate-bearing members from pounding one another. Seismic joints should be considered for partitions, ceilings, pipes, ducts, and other members within and passing between separated structures. Seismic joints must accommodate movement in the plane of the separated members as well as in the plane of the joint, plus rotational and racking movements. Engineering advice may be necessary for their design.

**Coeficients of dimensional change (inches per inch, x 10^-4)**

<table>
<thead>
<tr>
<th>Material</th>
<th>Curing</th>
<th>Moisture (per %MC)</th>
<th>Thermal (per °F)</th>
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</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>12.8</td>
<td>40-45</td>
<td></td>
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<tr>
<td>Acrylic and polycarbonate sheets</td>
<td>3.6</td>
<td>4.5-5.0</td>
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<tr>
<td>Framing lumber, radial to grain</td>
<td>1300-1700</td>
<td>28</td>
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<tr>
<td>Framing lumber, tangential to grain</td>
<td>2000-3000</td>
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<tr>
<td>Glass</td>
<td></td>
<td>4.5-5.0</td>
<td></td>
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<tr>
<td>Granite, limestone</td>
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<td>40</td>
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<tr>
<td>Steel</td>
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*Interior wood moisture content (MC) varies seasonally by 2-10 percent.*

*Exterior cladding temperature varies seasonally by 100-150°F.*

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**Recommended Reading**


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Decorative building crowns are hard to miss and even harder to construct.

When the Moderns built this country's skyscrapers, flat roofs and sheer sides abounded. These design decisions simplified construction, as well as the installation of mechanical, HVAC, lighting, and window washing systems. But in 1978, the completion of The Stubbins Associates' Citicorp Center and the appearance of Philip Johnson and John Burgee's AT&T design changed all that. Johnson's Post-Modern gesture started the trend toward building tops of every size and shape.

Tall buildings with articulated tops are becoming common in most U.S. cities. San Francisco even has laws intended to create an interesting skyline, developed as part of a 1983 downtown plan (P/A, Jan. 1986, p. 122). Planning Director Dean Macris says that San Francisco was victimized by "benching of the skyline," a result of boxy International Style skyscrapers built to the maximum zoning height, and this is certainly one of the factors changing the skyscraper aesthetic to shaped tops nationwide.

Architects cite numerous other reasons. Ralph Johnson of Perkins & Will says that the "trend is to look back." Especially in cities with strong design heritages, designers are rebuilding regional archetypes -- on a bigger scale -- to bring back the articulated skylines common prior to the 1960s. Developers also play a role in redefining the building top. They want a "distinctive image," says Johnson, "to sell it as a corporate headquarters."

Articulated tops almost by definition necessitate special construction methods. Prefabricated "caps" can be installed by cranes or even helicopters. Sometimes the components for building crowns are delivered in this way, and the tops are built in place. Traditional materials -- metal roofing, steel trusses, curtain walls -- have to be adapted to new forms. For each crown in this article, several construction methods were explored, sometimes for more than a year, to provide both construction certainty and the desired visual effect.

Tall buildings' profiles are often enhanced by noticeable night lighting. Richard Eisenberg of Jaros, Baum & Bolles says that owners use lighting to set their buildings apart. While he stresses that the lighting is driven by the architecture, Eisenberg says that many buildings with distinctive silhouettes either start their lighting plans with the lobby and "reflect the rest of the way up" to the top or simply light the top. Increasingly, unusual forms of lighting -- lasers, fiber optics, and luminous pipes -- are being used.

New profile forms, however, create difficulties for certain building functions, including HVAC systems. As cooling towers move into enclosed building crowns, special provisions must be made for sufficient fresh air intake, says engineer Theodore Pannkoke. Some solutions simply mask the cooling tower while leaving it open to air, while others provide an extensive system of vents or louvers as part of the design. Another option is to move the cooling tower into the middle of the building or below grade. With a mid-building location, extra care must be taken to study the wind pressure, says Valentine Lehr of Lehr Associates, and there is extra expense because leasable space is used. In addition, special attention must be paid to waterproofing. Pannkoke also stresses that when the cooling tower is enclosed, the location of intake and exhaust vents must be carefully considered so as not to "short circuit" the system.

Materials and methods often present their own difficulties. Thomas Smith of the National Roofing Contractors Association says that nested or mechanically interlocked standing seam roofing is probably the best choice for a steep roof on a high rise, but that the dangers of wind loading or falling ice and snow can render these roofs problematic. For instance, a retaining wall to hold back snow can create waterproofing problems; Smith says that only a carefully detailed system can solve that problem.

Engineers stress the importance of access to the building top after construction is finished. Maintaining the roof and cooling tower and replacing burned-out lights is difficult if the means of access to the roof exterior was closed when construction ended. Eisenberg says that he designs redundancy into his lighting systems so that replacement is not necessary every time a lamp burns out.

The six case studies here address a variety of design and construction issues. Their resolutions prove that as the trend toward decorative building crowns continues, new construction methods and materials will be at the forefront on our redefined skyline.

Andrea E. Monfried

Technics: High Profiles

The Chrysler Building, William Van Alen, Architect, from The Metropolis of Tomorrow by Hugh Ferriss, reprinted by the Princeton Architectural Press.
**900 N. Michigan, Chicago**

While conceived as the upper portion of a classic American tripartite skyscraper design, the four turrets atop Kohn Pedersen Fox’s Chicago building (right) required up-to-date technical ingenuity. Originally, the turrets were meant to be built in place, but scheduling constraints (Chicago law limits top-of-building construction after partial occupancy) led the J.A. Jones Construction Company to propose what they dubbed the “Star Wars” approach. The turrets — structural steel frames topped with metal decking, plywood, and lead-coated copper standing seam roofing, each weighing close to 30 tons — were fabricated on the tower’s ninth floor setback. They were raised to the roof level with a stiff-legged derrick and lowered onto anchor bolts embedded in square concrete slabs — fighting Chicago’s winds all the way (left, above and below). Finally, skyline touches — steel-framed glass in the lower lanterns and limestone cladding — were added in place before the building was occupied.

**Building B, World Financial Center, N.Y.**

Of the four building top forms in Cesar Pelli & Associates’ World Financial Center (Buildings B and C, right), the dome was the most difficult to construct, says senior associate Jeffrey L. Paine. While the final roofing material was selected early in the design process — a combination of flat and standing seam copper roofing, which will oxidize in approximately ten years — a number of options were considered for the structure, including precast concrete and steel deck. The final choice was prefabricated bent steel trusses, which were lifted in by crane, says Dominic Carola, senior project architect with architects-of-record Haines Lundberg Waehler. The trusses were bolted at the bottom (the dome sits on a drum) and to a five-foot-deep steel center ring (above left). Steel plates were welded to the trusses and topped with wood sleepers, exterior plywood, and the copper roofing. All mechanical equipment for the building was squeezed into the dome’s limited headroom, says Carola, and ventilation is provided by continuous louvers running around the drum.
Design principal Ralph Johnson of Perkins & Will says that both he and the developer wanted a distinctive profile for the Chicago tower (right): The developer wanted a distinctive image for marketing purposes, while Johnson had a "personal interest in recalling traditions of earlier architecture," especially Chicago's Art-Deco tradition. Many shapes were considered for the crown, but Johnson says that the pyramid was a logical termination of the massing. To provide fresh air for the cooling towers (as well as to camouflage them), the pyramid was constructed of 12-inch steel pipes, which were the focus of consultant Richard Eisenberg's exterior lighting treatment. Lights striking the bottom portion of the pipes from the inside reflect onto the next row, turning the pipes into diffusers. Eisenberg alternated metal halide and high-pressure sodium fixtures to light the pyramid evenly from top to bottom (left). Elevator equipment and pump rooms are located in a series of smaller mechanical penthouses.

Canterbury Green, Stamford, Connecticut

An 1892 church neighboring the site influenced the design of Perkins Geddis Eastman's multi-use building. To provide the mechanical functions for the office tower portion of Canterbury Green without compromising its distinctive roofline (above), the architects set the mechanical penthouse beneath the pitched roof of the 14th floor. The cooling towers, however, required overhead openings to function properly, says senior associate Richard Northway. Custom-made aluminum louvers, to provide air intake and discharge, were prefabricated and installed into openings in the teflon-coated stainless steel standing-seam roofing; narrower vents were also set into the window openings on that level. (The cooling tower stands on built-up roofing.) The louvers are set into the roof on the back side of the building, and their blades make a grid -- the vertical blades are aligned with the roof's seams, while the horizontal blades are level -- which combine to minimize the appearance of the openings from street level.
Cumberland Center II, Atlanta

The standing-seam roof atop Cooper Carry & Associates' tower (right and below left) was constructed like any other—structural steel, steel decking, gypsumboard, insulation, plywood, copper—if the building's 55-degree slope and curved ends are disregarded. Design director Jerome Cooper chose the silhouette to ensure that taller buildings in the area would look down on "something interesting, a design that meets the sky." That simple concept did not make for a simple installation. Gary Voth, president of the roofing contractor, Armaco Copper, says that although they used unmodified seaming machines, their safety equipment was more elaborate: The workers used mountain-climbing gear and tree-trimming belts to secure themselves to the roof as they installed the copper roofing (above left, installing steel decking). The roofing on the curved portions, the most difficult to install, had to be seamed by hand because the machines did not fit. Elevator equipment is located under the roof; mechanical functions are housed in the basement and vented at the ground level.

Allied Bank Tower, Dallas

Pei Cobb Freed & Partners have taken the articulation of building tops in a different direction from others pictured here: in one sense, the building has no top, while in another, the curtain wall has become a roof. According to partner Michael Flynn, the flush glazing system was designed to serve vertical and sloping planes equally well. While the slope required some additional aluminum extrusions, this did not significantly affect the cost or complexity of the design. The roofless scheme did demand a novel window washing system, however. The upper edges of vertically contiguous facets are fitted with rails (see photo, right) from which the washing scaffolding is hung. The washing platforms—six in all—push out through operable windows just beneath each rail; Flynn likens the system operation to that of an upward-acting, roll-away lateral file cabinet drawer. These windows are indistinguishable from the rest of the curtain wall. Cooling towers for the building are located on the ground, while air intake louvers fit into the curtain wall grid above the entrances.
Consultant Lee B. Herzog discusses the difference among types of exterior maintenance equipment.

From the Top, Down

The trend toward articulating the tops of tall buildings often makes the job of designing rooftop exterior maintenance equipment more challenging. While novel solutions have been tailored for very unusual building geometries, the better architects understand the standard solutions, the better prepared they are to avoid costly difficulties later on. Too often, provisions for washing windows are added as an afterthought, forgoing the opportunity to use the scaffold as a staging platform for construction. Many experienced building owners consider the use of the platform for sealing and repair of the façade as important as its washing function.

In designing building maintenance equipment, the architect may get advice or input from numerous sources, all of whom have their own agendas:

• Contract window washers will often suggest the minimum amount of equipment. They often bring their own portable, manual or powered scaffold to the job. These units may be of dubious design and safety and have had an alarming rate of fatal accidents.

• Building maintenance equipment suppliers will typically design a system around their own equipment, and will emphasize equipment cost.

• Independent consultants will usually provide schematic design studies including equipment required, performance data, and approximate costs; determining the most efficient system for the least money is the justification for their fees.

Equipment Selection

Most exterior building surfaces above 36 feet can only be safely and effectively maintained from above. Many codes limit the use of ladders to 36 feet. In my opinion, most tall buildings of about eight stories or higher need at least one permanent scaffold because the unit will be almost constantly in use.

Three types of platforms are generally used on high rise buildings. They are the type "T" (denotes two suspension ropes) self-powered platform with the hoisting machine mounted on the platform; the type "T" roof-powered platform with the hoisting machine mounted on a roof car; and the type "F" (denotes four suspension ropes) roof-powered platform. ANSI A39.1-1987 specifically prohibits use of descent equipment – equipment that is operational in the down direction only – for window cleaning.

Self-Powered Platform

Self-powered platforms often have a traction hoist mounted on the platform, which climbs a wire rope suspended from davits or outriggers anchored to the roof. These units are somewhat more dangerous to operate than roof-powered platforms, since the traction machine pinches the hoist ropes, which may deform or kink. An alternate type of self-powered hoist is a multi-wrap unit; it accumulates ropes on a small drum mounted under or on the platform. OSHA regulations require each operator on any type-T self-powered platform to wear a separate safety belt attached to a separate safety line, which in turn is attached to the building structure.

Self-powered platforms travel at about 18 to 30 feet per minute. The units are usually not guided in building mullions, unless the building height exceeds 130 feet. Instead, they are generally equipped with rollers and angled roping to apply some pressure to the building face and to keep the platform aligned with the building façade.

Roof-mounted pedestals, permanent or portable socket assemblies, and portable davits are used to provide suspension for the self-powered platform and are designed to permit the self-powered platform to be brought inboard over the building parapet for transfer. Although davit and socket systems are certainly a good solution, they are not, contrary to popular opinion, the best option for all buildings. A standard davit may weigh 130 pounds or more and can cause back injuries to workers and roof damage from mishandling. In one case I know of, a davit was actually dropped from a roof.

Roof-Powered Platform System

A roof-powered platform with a roof car is typically used on buildings over 45 floors or when building design dictates. The roof-powered platform system often includes a roof car, which operates either on a concrete runway or a roof track, or can be mounted on the parapet. Roof cars can either be hand-powered

Workers position davit into roof-mounted socket (left). Davits may also be mounted on rails secured to parapets (right).
This self-propelled roof car (right) has integral counterweights and can be clamped to its track to resist overturning.

Rubber-tired roof cars (left) operate on a concrete platform and may be self-powered or pushed. They require tie-backs to the roof to resist overturning. The switch (right) routes a rail-mounted roof car out of sight in a penthouse garage.

(pushed) or hydraulically- or electrically-powered with a friction drive. They are designed to maintain the platform in working positions over the side of the building. If a concrete runway is used, the roof car is usually provided with rubber tires or solid casters and is counter-balanced to minimize the possibility of overturning when the fully loaded platform is placed in working position. Roof cars on concrete runways usually must be equipped with interlocked, tie-back anchors attached to building pad hooks to prevent accidental overturning. A 4:1 safety factor is required.

With most roof-powered platforms, I prefer steel tracks mounted on the roof or parapet. The rail-mounted car is easier to maneuver and more accurately positioned within the window bay drop points than platforms on a runway. When the roof car is equipped with track clips, the possibility of overturning is virtually eliminated.

Often a garage or interior siding is provided for the roof car and retracted platform, to hide and protect the unit. Roof tracks should be equipped with a track switch so that the car can go in the garage from either side of the building. Alternately, the carriage may be lowered below the roof line. Lee B. Herzog

The author is president of Lerch, Bates and Associates, Exterior Maintenance Equipment, Lomita, California. Herzog has over 23 years of experience in design, manufacture, and installation of window washing equipment and is Chairman of the ANSI A120.1 Code Committee.

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Practice

C. Jaye Berger tells how you can lose your license.

Eric Teicholz reviews the state of computer rendering and animation.

Walter Rosenfeld scrutinizes the details of project manuals.

Law: Getting and Keeping a License

Becoming a licensed architect has never been easy. Some would-be architects take several years before they pass their architectural exams. Most assume that once they pass the exams, they need not worry about their license anymore, and for most people that is true. However, there are a number of frequently encountered situations that can put a license in jeopardy. They are worth knowing about.

While passing the exam is a major factor in getting licensed, scrutiny of the applicant’s moral character also takes place. For some applicants, who may have consciously or unconsciously transgressed the law and practiced architecture without a license, this can be a problem after the exam has been taken and passed. Often the licensing department becomes aware of this through anonymous calls alleging that the applicant has held himself out to be an architect and has provided architectural services. In my practice, I have received many frantic calls from individuals who have been contacted by the Office of Professional Discipline for a variety of allegations ranging from the unlicensed practice of architecture to conviction for a crime.

An investigator from the department will look into the allegations to determine whether they are groundless or are so minor that only a warning may be issued. If the investigator determines that they are substantial, a hearing may be called. While a hearing must be held for a licensed individual, an unlicensed individual who has passed his exam usually must request a hearing. The panel members who hear the case are usually licensed architects. Depending on the backlog of cases, a hearing may take many months to schedule. If an unlicensed individual who has passed his exam is found to be morally unfit, his license will not be issued. Reversing this decision requires another hearing.

Your License and Private Life

Few people consider the connection between their private and business lives. For example, a criminal conviction for drug dealing could result in the suspension or revocation of an architect’s license. This would require a hearing on the issue and would be in addition to any other punishment the individual may have received from the criminal courts. Thus, even if an individual received a suspended sentence and probation from the criminal court, he could find at the end of that probation that he is facing a civil hearing for his architect’s license and moew penalties.

As with other areas of the law, there is often an opportunity for settlement. The settlement discussions are more in the nature of plea bargaining, as in criminal cases. An individual may agree to have a one year license suspension, for instance, rather than face a hearing. However, for unlicensed individuals, there can be no such settlement without a hearing.

For licensed architects, there are several practices they may encounter in their daily lives that can be construed as unprofessional conduct and should be immediately stopped. In most states, architects may only stamp drawings they have themselves prepared or which were prepared under their direct supervision. The practice of “rubber stamping” drawings prepared by an unlicensed individual is considered unprofessional conduct.

In New York State, the Board of Regents has recently adopted an amendment that requires licensees who stamp documents prepared by people not under their direct supervision to prepare a written evaluation of their review and to keep this review and the plans, computations, and records for at least six years. This makes it easier to find violators, but does not make the architect, engineer, landscape architect, or land surveyor immune from prosecution for this practice.

If an architect has a substantial financial interest in the contracting firm or product supplier used in a project and the client does not know and approve, it may constitute unprofessional practice. The same would be true if an employee in an architectural firm had such an interest. Employers would be well-advised to make sure that employees know this and that the firm monitors their relationships with others on the project.

If the design professional’s contract calls for any observation or supervision of the work, then it is not only a breach of contract, but can be considered unprofessional conduct, to fail to advise the owner of any “improperly authorized substantial disregard” of the plans or specifications for construction by the contractor. The architect cannot leave it to others to bring this to the client’s attention.

It is always a frightening experience to go through a licensing hearing. Knowing what is impermissible is the best way to ensure that it never happens to you.

C. Jaye Berger

The author is the founder of Law Offices C. Jaye Berger in New York City, a firm specializing in building construction, real estate, and liability. Ms. Berger is also the author of a recently published book by PSMJ entitled Cut Professional Liability Now.

Practice Points

More architects will be crossing the border between the U.S. and Canada as the AIA and the Royal Architectural Institute of Canada move forward with the Fair Trade Agreement for Architecture. The NCARB Reporter notes that increasingly similar educational and registration standards will allow registered architects to work in either country.

Two-thirds of architecture firms now consider marketing essential to the development of new business. The 1989 AIA Firm Survey reports that on average firms spend 5.2 percent of operating revenues on promotion.

According to PSMJ, architects tend to overemphasize the pursuit of new clients during slow periods, while overlooking the value of remembering existing clients by staying in contact with them, providing free consulting that could lead to further business, socializing over lunch, and always returning calls promptly.

Sixty-six percent of clients feel strong loyalty to one architectural firm for all of their work, according to a survey of businessmen conducted by the Design Partnership, Ltd., an architectural firm with offices in Minneapolis and Rochester, Minnesota.

The National Association of Attorneys General has suspended publication of its model contract forms. According to the AIA, the forms do not conform to AIA contract guidelines. There has been concern among architects because these model contracts change the traditional relationships among the participants in a building project.
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Specifications: Getting Physical

Caught up in the technical aspects of producing specifications, usually under considerable deadline pressure, specification writers don’t always have time to make decisions about the physical product itself, the project manual. That is unfortunate because they have much to contribute in the way of practical experience and knowledge of the manual’s probable future career.

Functional considerations need to be at the forefront when the appearance and the physical character of the project manual are being determined. Here are a few criteria that most specifiers would agree should be given weight.

The Cover

No matter what its graphics may be, the cover must be of substantial cardboard (preferably water-resistant) or plastic, suitable to stand up to use and abuse in the field over a period of two years or more. Heavy paper just won’t do, though it may be easier to print on. Choose whatever color you like, but include a binding fold or flap that will shield the binding device and protect the user’s hands.

If the cover is printed to order, the minimum information on it should be the project name and the architect’s name. Also helpful are the architect’s and the client’s job numbers, the name of the client, and the project location. If there is still room, consultants’ names can be added. It is not generally a good idea to include the intended publication date, since that may change after the cover is printed. Dates can go on the title page inside.

If the print run is small, or printed covers are not appropriate, standard heavy cardboard report covers will do well. They usually come with fabric-reinforced binding flaps and in a variety of colors. A cover label is easily produced on the computer for self-sticking attachment. Heavy board report covers are much better than designed covers of flimsy paper that will not stay the course, even though the report covers are less attractive.

Binding

It is a fact of construction life that the project manual often needs to be taken apart to add addenda, to distribute sections to subcontractors and suppliers, to reproduce pages for separate use, and to detach bid forms, insurance requirements, and other items. This makes the popular plastic or metal spiral binding devices far less satisfactory because they are less flexible. A special binding machine is required to handle them, and most contractor and field offices do not have one.

A second option uses double-headed post screws (commonly called “Chicago” screws) that work with two- or three-hole punched paper and covers. Though they do take equipment (a screw-driver) and time to disassemble, they work well, and when the manual gets to be two inches thick, they also provide support. Chicago screws don’t permit opening the book flat for copying, but do allow dismantling for that and other purposes. They are also easy on the hands and on neighboring volumes on the shelf.

Two-piece bent metal fasteners (made by Acco and others) are in most ways satisfactory since they come apart easily without tools. Unfortunately, with thicker books they can come apart too easily. They should never be used on a cover without flaps that conceal and protect them. The damage to users’ hands and adjacent books is too great. For most moderate-sized jobs, this fastener, properly used, is the best choice available.

Colors

Colored paper is frequently used to help locate certain sections of the manual. Traditional colors (they should be light colors so as not to lessen the visibility of the print) are blue for plumbing, pink for HVAC, and green for electrical work. Occasionally other sections are also color-coded. Be consistent from job to job and with common practice in your part of the country. Color choice should not be a design issue for each printing. And it is important not to override it. Save colors for addenda (where it is helpful to have each addendum in a different hue so that when pasted in the manual, its origin and date are immediately apparent) and for tinting later versions of bid forms should they have to be revised with corrections. As the bid opening it should be quite clear who did not use the proper form.

Compactness

Clearly, large specifications need to be printed on both sides of the page, not usually a problem with the reproduction equipment available nowadays. But the paper needs to be heavy enough and opaque enough so that the reverse side doesn’t print through either on the original issue or when xerographing later on. Trying to avoid having more than one volume of project manual for a job is a worthy goal but not always achievable. Certainly two volumes, each printed on only one side, would be an inconvenience to users as well as a waste of paper. Sets of two (or more) volumes need to be distinguished so that it is clear which volume is in hand without reading it. Color or graphics can be used. And some basic information should be inside each volume: title page, table of contents, and the like. It is usually best to stick to standard page sizes (8½” x 11” in the U.S.) to minimize printing and reprinting problems.

Devices

While it is sometimes hard to remember to punch the addenda for inclusion in the manual, this should always be done before they are distributed. One architect used to provide a heavy cardboard divider page to separate addenda (always placed at the front of the book in reverse date order) from the title page and contents, making it much easier to find the original index after subsequent material has been added. If color coding of some sections is to be done, indicating the colors selected in the table of contents is helpful to the reader as well as the printer.

Controlling the format and technical characteristics of the project manual’s sections has a clear purpose: to give the document the appearance and consistency it should have if each part had been written by one all-knowing specifier and produced on the same printer or typewriter. While such uniformity is often difficult to achieve in practice, since so many parts of the manual come from different outside sources, control of the physical product itself can be more easily accomplished because its character is almost wholly determined within the architect’s own office.

It is worthwhile to give some thought to these aspects of project manual production and to have them functionally right as well as aesthetically satisfactory, rather than to turn out a product created partly by chance or default. A good architect doesn’t let the contractor design the building or even the project sign. Is it a good idea to leave the physical characteristics of the project manual to the printer?

Walter Rosenfield

The author is a consulting architect and specifier in Newton, Massachusetts.

Project manual production checklist

- Is the CSI numbering system used for each section?
- Is there a consistent page format?
- Is a three-part section format used throughout?
- Is the same typeface used for each section?
- Is the manual printed on one or two sides?
- Is it punched with two holes or three?
- Is it collated and bound into sets?
- Are sections indicated with colored paper?
- Does it use Chicago or Acco binding?
- Does it have pre-printed covers or report covers with self-sticking labels?
- If a pre-printed cover have the design, information, cardboard weight, flaps, number of holes, color, and back been addressed?
- Is there a punched addendum divider?
- Have the AIA documents and other printed forms been inserted?
- Have the sets for bidders been numbered?
- Have extra bid forms been printed?
- Has an extra table of contents been marked up for the printer?
- Has the print order been written?
- Has the number of copies been determined, including owner’s set, architect’s office and field sets, record copies, signed copies, building permit copies, agency-required copies, consultant copies, and specifier copy?
- Has a weekday printing time been established prior to the date bidders will pick up sets?
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Computers: Animation and Rendering

A review of CADD usage by architectural firms over the last decade reveals an interesting evolution. The first professional uses of CADD were within a very rigid management framework that saw CADD as strictly a production tool to be used by "operators" or specialists, whose areas of expertise tended to be in computer science rather than design.

Emphasis on CADD production work has continued in most firms, with improvement in user interfaces and accessibility of symbol libraries offering shorter learning curves and increased cost effectiveness. However, as the technology has become more robust, firms have grown more comfortable with the capabilities of CADD, and there has been an increased interest in investigating its potential for activities other than production.

With the continuing decline of computer costs, coupled with increasing power and sophistication, CADD technology has begun to captivate the imagination of architects, who are beginning to look at it as a visually and intellectually exciting medium for exploring, developing, and presenting design concepts. There is a growing recognition of the usefulness of animation in particular, not only as a medium for general marketing and client presentations, but also as a design analysis and development tool. The hardware and software technologies for animation, which until recently have been used almost exclusively in the television and motion picture industries, are now available for a much more diverse professional market.

Rendering and Animation Technology

The quality of rendering and animation output varies widely depending on a number of factors. There are technical criteria to be considered in evaluating the hardware: image resolution, pixel depth, shading algorithms, and anti-aliasing methods to name a few. Features offered by rendering software may include ray-tracing, shadow casting, texture mapping, reflection mapping, shading algorithms, and specification of specular reflectances for surfaces. The computational processes required for these features involve arithmetic-intensive operations that are still rather poorly supported on PC-class machines, particularly for larger three-dimensional models. Even on larger animation systems, the computational time alone needed for producing a one-minute animation from a complex model may be up to a week or longer. For this reason, the tendency is to minimize the number of objects in the model to be animated, and to reduce the resolution used to produce the individual frames well below what would normally be used for a single rendering. Optimizing the resolution for animation is an art rather than a science, since the visual effects of adjusting resolution vary according to the detail of the subject matter, and the lighting and distance of the virtual camera from the target.

Each frame of an animation is rendered from the computer directly to videotape, film, or digital storage media. Videotape is currently the most popular distribution medium for computer-generated animations since, apart from being a convenient format, it takes advantage of the widespread acceptance of video cassette recorders as a marketing and presentation technology.

For the same reasons the performance gap between micro-based and mainframe-based CADD stations has been closing over the past decade, the quality of PC-based rendering is now beginning to rival that produced by large animation houses. For example, AutoDesk's Animator product and AT&T's TOPAZ product, to name two, offer sophisticated interactive graphics tools previously unavailable on personal computers. These software packages offer the ability not only to create renderings and animations at high resolution, but also to use previously developed CADD drawings as a basis for editing. Nevertheless, there is still a marked difference in the quality of the final products produced by the DOS-based PCs and the higher-end machines. Architects may find the quality of renderings and animation produced on most PC-based platforms unacceptable for presentations.

One important point for architecture firms to recognize is that they need not, and probably should not, acquire the costly hardware and software technologies for rendering or animation in-house, unless high volumes of such work are anticipated. When provided with graphic data files in the proper format, even large animation houses can produce renderings and animations of very high quality within a reasonable time. The cost of working with an animation shop in this way is a small fraction of the cost of having the shop generate the 3D model from paper-based drawings. When the conversion process is properly managed, and the design architects are brought into the process of creating the rendering or animation, the cost should be comparable to commissioning commercial renderers or model shops, and the results more controllable.

Conversion to 3D Format

Over 60 percent of architectural firms use CADD as a matter of practice for developing 2D production drawings. What is not generally understood is that 2D design development and production drawings may be used (often via extrusion) as a readily available basis for generating 3D wireframe models, and that the wireframes may then be used for creating solid-modeled renderings and animations. When properly developed, these highly realistic representations offer an unparalleled medium for the analysis of designed spaces. In fact, the wireframes produced on personal computers can be exported to the same high-end animation systems that are used in the motion picture industry.

When the drawing has been successfully read into the animation system, it first appears as a transparent wireframe drawing, since no characteristics have been assigned to its surfaces yet. There are several standard methods for accomplishing the latter. The renderer may assign a specific color to each surface or choose a texture that has been sampled digitally by a scanner. For example, a photograph of granite or an actual sample of granite may be scanned to create what is called a texture map. This texture may be mapped at any specified scale onto any surface of the wireframe. Replacing, modifying, and otherwise manipulating texture maps is very simple on the more powerful systems.

A shading algorithm may be selected if the system supports more than one. Shading models, more appropriately called reflection models, deal primarily with two kinds of matte surfaces that scatter light equally in all directions and have the same overall brightness from any viewpoint. Specular reflection is a property of shiny surfaces that creates highlights.

When color and reflective properties have been specified, internal and external lighting sources may be defined. On the more powerful systems, an arbitrary number of internal and external light sources may be defined in terms of position, color, intensity, and diffusion. Even foggy conditions can be simulated by adjusting the lighting sources.

When the model is completed, individual views can be rendered in a variety of media, including film (by attaching a film recorder to the computer's video card). Film does not involve an external camera photographing an image displayed on the monitor. Rather, the video buffer, which ordinarily would be displayed on the monitor, is sent directly to film at a resolution much higher than even high-end monitors can display. The available resolution depends on the manufacturer and model.

These new animation and rendering systems raise interesting new technical and management issues for architects. It remains to be seen in what ways architects will incorporate them into their repertoire of CADD applications.

Eric Teicholz

The author is president of Graphics Systems Inc. in Cambridge, Massachusetts.
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Reader Poll: Architect-Client Relations

Examining the sociology of practice, the poll yields a profile of U.S. firms, and some surprising facets of the exchange between architects and clients.

A by-product of the poll is a breakdown of architectural practice by types of clients and chief areas of practice. The most distinctive trait in this profile of the architectural market: Most firms, small to large, deal with a variety of clients—corporate, private, and public—and most firms have commissions in diverse areas of practice—new construction, renovation/preservation, residential, interiors, and commercial. It would appear that diversification—not specialization—is the prevalent practice trend at this time. In maintaining successful client relations, most readers concurred that understanding the client well was as important as good performance.

The Respondents (Figs. 1–3)
P/A's poll on architect-client relations drew 408 responses, a much smaller sample than usual (most polls draw over 1000 responses). Nevertheless, P/A's research consultants, Morrison & Morrison, considered the sample statistically reliable. "It may be that the topic of this poll was of limited interest to P/A readers," they said. "However, it is our opinion that the business community has been distracted this [fall 1989] quarter and has not demonstrated its usual interest in replying to surveys." Morrison & Morrison has noted a similar reduction in response to other business-to-business mail surveys conducted during this time, and attributed the "distraction" to the vagaries of the stock market, among other things, and to large lay-offs which affected management.

Another possible reason for the reduced sample size may be in that only management-level readers felt qualified to respond to many of the poll questions, an assumption borne out in the "role in firm" statistics: A majority (64 percent) of respondents are owners or principals of a firm. Twenty percent are project managers, and under 10 percent are staff architects. As is customary, most responses (85 percent) were received from architectural or A/E firms. The bulk of the responses (61 percent) came from small firms, with less than 10 employees. One quarter of the responses came from mid-sized firms of 10–50 employees, while 59 respondents (14 percent of the total) came from larger firms.

Types of Clients, Areas of Practice (Figs. 4, 5)
The bulk of respondents (85 percent) reported business in new construction. Over three quarters (77 percent) had renovation/preservation projects, and slightly more than half (56 percent) had interiors commissions. It is useful to remember that these figures do not reflect the proportion of total firm business or revenues. Over 80 percent of the readers have commercial clients, slightly less than two thirds (62 percent) work with residential clients. The proportion of public clients is lower, at 57 percent. It is possible to conclude from this data that on average public and interiors commissions constitute the smallest areas of practice, due in part to the shrinking of the public realm and to the limited penetration of architects into the interiors field.

For greater reliability of detailed comparisons, the statistics for medium and large firms were combined. The results, in terms of type of client and chief areas of practice, are telling. Significant differences are revealed in two areas: Small firms are more than twice as likely to have residential projects as medium or large firms (80 percent versus 34 percent). Medium and large firms are likelier to have public clients (78 percent as opposed to 44 percent). Smaller, but still significant differences: Medium and large firms are more likely than small firms to have corporate clients (77 percent vs. 58 percent), and they seem to have broken more successfully into the interiors market (66 percent vs. 49 percent).

Location of Clients (Fig. 6)
Firms represented by this poll report that on average, 90 percent of their business is conducted with local clients. On average, 10 percent of a firm's business is with
clients who are more than 200 miles away from their offices. Few firms (19 percent) have work with foreign clients. Large firms (at 43 percent) are more likely to.

It is interesting to analyze the responses regarding client location by firm size. (Here, too, the data for medium and large firms was combined.) The pattern that emerges is consistent: Medium and large firms are more likely to conduct business farther afield. This shows itself in various ways. For example, medium and large firms are less likely to rely completely on local clients than small firms; only 28.5 percent report 91–100 percent of their business is conducted with local clients. Among small firms, more than twice as many (59 percent) report working virtually exclusively with local clients.

This holds true of business conducted with clients who are more than 200 miles away from the firm location. On average, small firms report 5 percent of their business is conducted "long distance," while firms of over 50 employees reported on average 28 percent of business conducted with such clients. All firms reporting over half of their business as being done with foreign clients are large. One possible reason for this split is that larger firms have, besides branch offices and more developed marketing techniques, greater resources at their disposal (whether communications, equipment, or manpower), which enable them to pursue and be competitive on long-distance projects.

Repeat Clients (Fig. 7)

Among the firms polled, on average half of all customers are repeat clients. A quarter of the firms polled reported that less than a third of their clients were repeat customers. Thirty percent reported a repeat-client ratio between 40–50 percent. The bulk of the respondents (45 percent) reported that repeat clients constitute between two thirds and 100 percent of their business.

The extreme ends of this spectrum are interesting when examined in light of correlated information on the size of firm and its chief areas of practice: Among those who reported no repeat clients, all were small firms. Similarly, small firms made up the bulk of the firms who reported only limited (1–10 percent) business with repeat clients. At the other end of the spectrum, small firms also made up the majority of those that relied almost completely on repeat clients. This, probably, has much to do with the kinds of commissions that sustain small practices—an ongoing collaboration with a commercial client, for example, might constitute the bulk of a small firm's work. On the other hand, a small practice based on residential work is likely to have a low repeat-client ratio.

Client Characteristics (Figs. 8, 9)

A large majority (71 percent) of the poll respondents agreed that clients have become more demanding over the past five years. This may be attributed to a generally heightened awareness of architecture among laymen. Respondents were almost evenly split over whether client influence on design has increased over the past five years. Half of the respondents perceived that client influence had grown. Less than half (46 percent) thought clients' influence hadn't changed. A small minority felt it had lessened.

P/A readers were asked to rate each type of client their firm deals with on a number of characteristics. Responses were given on a scale of one to three (respectively equivalent to "rarely," "moderately," and "definitely"). The results reflect the mean ratings. Of the firms polled, 82 percent have corporate clients, 90 percent have private clients, and two thirds have public clients. For uniformity of responses, corporate clients were defined as those who belonged to a decision-making hierarchy, and private clients as those who made final decisions themselves. While corporate, public, and private clients are profiled somewhat differently, they are all perceived by a majority of P/A readers to be bottom-line oriented, although private clients were considered somewhat less so.

P/A readers believe that corporate and private clients are commonly quality-oriented, demanding of considerable design input, and style conscious. Corporate and public clients were deemed least susceptible to fads. Most clients, public in particular, are considered only "moderately" cognizant of an architect's value, knowledgeable about design, or responsive to innovation.

Methods of Communication (Fig. 10)

A majority of P/A readers (over 80 percent) believe that art renderings and scale models are the best means of conveying design ideas.
to their clients. Two thirds of the sample also rely on architectural drawings, and one half make oral presentations. Only a few respondents (15 percent) mentioned written descriptions as the best way to convey design ideas to clients. The architects' preference for graphics is not surprising, since it is part of the design process. It is likely that clients, too, prefer visual, rather than verbal representation.

Maintaining Good Relations (Fig. 11)
P/A readers were asked to rate the importance of several factors in maintaining good architect-client relations. It's interesting that getting to know the client well was deemed even more important than in time/on budget performance, and more important than meeting all programmatic requirements - which suggests that architecture is still very much a people-oriented service profession.

While understanding the client was of highest importance to most P/A readers, the reverse, educating the client to the architect's design philosophy was considered of only marginal importance. Likewise, encouraging the client to visit the construction site and allowing the client to make product choices were rated low in importance to fostering good relations. Architects believe that socializing with the client and wooing the client with gifts are usually not important to maintaining good relations. This seems to suggest that "good-ol'-boy" networking, if not gone, is not acknowledged.

While architects are in general agreement as to the importance of these factors to successful client relations, some differences can be noted: Large firms and firms who work with public clients are significantly more likely to believe that concluding a job within budget is very important to a good relationship. The smaller the firm, the more likely it will allow clients easy access to the firm principals, because they believe this is important to good relations. The larger the firm, the more likely architects are to believe that it is important to assign a staff member to manage the client's concerns. It is possible that this data merely shows that clients are attracted to firms that comply with their own preferences in these regards.

On average, according to P/A readers, 20 percent of corporate clients and a quarter of public clients employ in-house architects. Close to a fifth (19 percent) of the respondents agreed, occur more frequently about budget and schedule than about design.

Readers seem to have mixed feelings about working with a client's in-house architect. P/A research consultants report. While 44 percent agree that "projects that involve working with a client's in-house architect are relatively easy to manage," over half (56 percent) disagree. It is notable that 79 percent of the sample registered their opinions in the "somewhat" range of the scale. "This would seem to indicate that working with a client's in-house architects does not usually expedite project management," the Morrisons note.

That may be. More likely, the lukewarm response reflects inherent difficulties: While working opposite an in-house architect might make communication of design precepts easier, it's harder for architects to claim the prerogative of exclusive expertise. More than anything, the cagey acceptance of in-house architects proves one point: Architects and clients have different agendas, disparate interests. At best, they find a mutually gratifying middle ground.

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While Tadao Ando bases his designs on the abstractions of Modernism, the resulting buildings embrace the realities of context and culture.
Tadao Ando:
Abstraction Serving Reality

Tadao Ando's work is reductivist in the sense that he works with a limited number of geometrical figures and a few unadorned materials, but the effect is not to deprive us of sensory richness. Far from it. All of his restraint seems aimed at focusing our attention on the relationships of his ample volumes, the play of light on his walls, and the processional sequences he develops.

"I believe," writes Ando, "that contemporary architects will return to the problems that the Modern Movement left unsolved 20 years ago." He acknowledges that Modernism must be counted at least as an accomplice to the "environmental crime" of recent decades that has made the world's cities "unbearably monotonous environments." But the real culprit, according to Ando, is "economic rationalism," the view that recognizes no values except economic ones.

Ando does not talk much about the spiritual role of architecture, but that is what he is addressing when he admits shafts of light into a shadowy church or even when he frames a bed of ivy as a view from a restaurant table. He does talk about adapting every building to the specifics of its context, and this he does in ways that reach deep into Japanese tradition: On the most urban sites, he seals his building within anonymous walls and opens them only to internal courts; on more open sites, he exploits selected outward views, but still keeps his spatially rich interiors under very understated wraps.

The geometry of Ando's interior plans, typically involving rectangular systems cut through by curved or angled walls, can look at first glance rather arbitrary and abstract. What one finds in the actual buildings are spaces carefully adjusted to human occupancy. (Consider the spaces on either side of the curved wall in the I House, p. 89, or the division into entry and main space by an angled plane in the Church of the Light, p. 91.)

One device that Ando uses to excellent effect in some of the buildings covered here, the vaultlike ceiling/roof, does not quite fit into the predominantly reductivist or geometric character of his work. Abstract as it is, this canopy form is read as a sign of shelter—coming closer to symbolic allusion than other elements of his buildings. Similarly, Ando's culturally neutral materials—concrete, steel, and glass—are occasionally joined by materials with more traditional associations, such as rubble stone walls or rough-hewn wood furnishings.

The Self-Taught Architect

Among the select group of architects who are asked to lecture, teach, and compete for prestigious commissions all over the world, only Ando is self-taught. The young Ando scorned formal education, learning about construction in a carpenter's shop, and observing buildings by traveling and sketching on four continents. At no time did he work for another architect.

Somewhere along the way, the wiry, still youthful-looking Ando did some professional boxing. And he is noted for speaking with an urban accent that seems to be the Osaka equivalent of Brooklynesque. (Osakans in general are considered very spontaneous and candid by others.)

Today, 20 years after he brashly began building, Ando has a staff of 20, working in two residential-scaled buildings of his own design in one of the byways of downtown Osaka. In the work spaces, draftsmen often have to move to let others pass. On hand there is Yumiko Ando, his wife, translator, and office manager. Also at home in the office is their mixed-breed dog, LeCorbusier.

Ando and members of his staff now fly off to many sites in Japan, the U.S., and Europe; a current destination is Seville, where they are designing the Japanese pavilion for the 1992 fair. Ando has recently been visiting professor at Yale and Columbia, and this year he will do a shorter stint at Harvard.

Current Accomplishments

In recent years, Ando's office has been completing six or more new buildings per year—all so far at the moderate scale of the works shown in this article. Among the few of his works featured in U.S. magazines was the Kidosaki House in Tokyo (P/A, Oct. 1987, p. 96).

The five recent buildings featured here have been chosen to demonstrate both Ando's consistency and the way his designs draw on specific circumstances. While most of his work is strongly tied to its context, he occasionally develops imaginary projects just to explore ideas; one of these, displayed in an exhibition of his work, was realized by the client for the Church on the Water (p. 92).

The buildings discussed in this article are examined on the next six pages in terms of dominant themes in Ando's use of space (Outside/Inside), light (Light/Shadow), and materials (Concrete/Glass). In the descriptions of the individual projects on the final six pages, several other common aspects can be observed: interior courts, views from level to level, switchback routes to major spaces. On the final page, you will find a few chosen Ando quotes.

This will not be the last of Tadao Ando's architecture you will see on the pages of Progressive Architecture. His office is remarkably productive, and we will soon be sharing more of his accomplishments with our readers.

John Morris Dixon
Hidden opulence is an old Japanese tradition: Lacquered bowls and boxes are often quite severe on the outside, rich with gilded design on the inside. And urban neighborhoods are traditionally lined with severe fences or walls, above which treetops and rooftops are the only visible signs of the complex, individualized houses and gardens within.

In Ando’s work this tradition of concealment is interwoven with the international Minimalist aesthetic. His exteriors have none of the eaves or projections that enliven traditional street walls; sharply incised portals take the place of ornamental gateways.

Inside Ando’s austere envelopes, on the other hand, the geometrical restraints of traditional Japanese buildings are cast off: Curved and angular walls violate the basic rectangles of his plans. (There is always, however, one underlying rectangular grid.) Modernist open plan and transparency are employed; we often see up or down to other floor levels and sometimes get sectional views of several levels at once.

The distinction between indoor space and internal gardens – a rigorously maintained one in traditional Japanese architecture – is dissolved in the Modernist manner. Stairs are handled dramatically and inventively. Light comes from unexpected sources.

Consistent use of the same unadorned material maintains the identification of each Ando interior with its more severe exterior. The potential harshness of concrete as an interior material is offset by its refined surfaces, the rich play of light on geometric forms, and views into other spaces or gardens.
At the entrance to Galleria [akka], a mere slit in the plain concrete front wall 1 leads into an interior of great spatial complexity (drawing above). Similarly, at the Old/New complex, the simple openings in the severe front 2 afford views into a sensuous composition that includes a curved glazed bridge and a planted courtyard— not to mention cases full of pastries.
Light/Shadow

On Ando’s exteriors, the play of light is simple: the Minimal wall surfaces are evenly illuminated and the openings are seen as dark crevices. What happens behind these openings, however, is a conscious and characteristic manipulation of light and shadow.

Ando uses narrow openings to admit dramatic shafts of light, as he does all around the perimeter of the aptly named Church of the Light. Slivers of light coming through cuts in the wall, both by day and in the evening, delineate the symbolic cross above the altar. Slotlike openings where one wall plane passes through another admit strong shafts of light that point up surface textures.

Where Ando uses curved walls, it is usually an occasion to admit light at one end, which is delicately modulated as the wall turns. Where he uses vaulted ceilings, daylight is typically admitted through glazed end-walls, seeming to flow far into the interior along the curved surfaces.

Much of the light in Ando interiors comes from internal courts and gardens that are so often found in his buildings. So the light inside is often much more generous than the exterior envelope would lead one to expect. Often, too, light from an internal court reaches down to below-grade spaces, which are often crucial to meeting space demands on Ando’s typically confined urban sites.
In the Church of the Light, the passage of an angled wall plane through the rectangular envelope is marked by a narrow gap that admits dramatic light (facing page); where the plane cuts another wall obliquely, a glazed area reveals its shaded side. The cross cut into the altar wall of this church is illuminated in the evening by exterior spotlights. The living room of the T house illustrates Ando's characteristic lighting of curved walls and ceilings from large glazed areas at their ends, using their smooth surfaces for effective daylight diffusion.
Although Ando's buildings may have wood or stone floors, steel roofing, even some concrete block walls, the primary materials of his work are cast-in-place concrete and glass. His concrete surfaces are resolutely neutral, with only subtle surface indications of reinforcing and formwork modules; their geometry is what counts, rather than any expression of mass or craft. Where his typically large-scale sheets of glass meet the concrete, it is with the least visible joint detailing to be found anywhere.

Ando has provided details of a typical insertion of glass into a concrete frame (facing page), using no metal except for a barely noticeable strip of stainless steel at the sill. Dimensioning the concrete to the close tolerances such details require obviously takes extreme care. And easing the glass into narrow grooves on three edges before securing it with steel on the fourth is a painstaking procedure. But such details are executed as a matter of course in Ando’s works, some of which have constricted budgets.

The concrete in Ando’s buildings hardly ever suffers from surface damage or clumsy patching, but it is not totally free of irregularities. There is often the rather visible boundary between pours, with wavy bands of color variation. But, typically placed at floor levels or other datum lines of architectural significance, these seem appropriate and even an improvement over unrelieved uniformity. The visible evidence of the concrete's casting can be said to be truly minimal, within the limits of current technology, but the process is not in any way hidden or denied.
The fine cast-in-place concrete of Ando's buildings arouses questions about construction techniques involved. There have been rumors about special cadres of workmen and about unusual maintenance procedures after completion, which Ando refutes.

The typical concrete ingredients are portland cement, water, fine aggregate (sand), coarse aggregate (gravel or crushed stone), and an air-entraining agent. Strength is a minimum of 210 Kg/cc; slump is no greater than 15 cm; water/cement ratio is under 55 percent; air content is 4 percent; cement weight is a minimum of 270 kg/cubic m.

In a specific example, here are the statistics: strength of concrete: 270 Kg/cc; cement: 333 kg/cubic m; water: 173 kg/cubic m; fine aggregate: 835 kg/cubic m; coarse aggregate: 960 kg/cubic m; additives: 0.8 kg/cubic m. Water/cement ratio is 52 percent, fine/total aggregate ratio, 47 percent.

Forms are typically of plywood coated with polyurethane resin, typically 900mm x 1800mm x 12mm (about 35" x 70" x 1/2"). Depending on the situation, the same form materials may be used two or three times, where dimensions and other conditions are the same.

No special placement techniques are used. "Traditional" methods employed include: tamping with various tools and vibrating with internal vibrators. No special craftsmen are employed, but the architects give guidance to the contractor and briefings to the workers themselves for each job. "Continuous education efforts" are directed toward construction workers, says Ando.

After casting, proper curing is considered important. Forms are removed carefully to avoid surface damage. Silicon resin is then sprayed or rolled onto the exposed surfaces to protect from water and dirt. Every two or three years thereafter, a cleaning and a new silicon coating are recommended.
As one climbs toward the mountains in the Rokko district of Kobe, the Old/New complex is first identified by its rubble stone walls. Then the characteristic Ando volumes of concrete, steel, and glass can be seen extending discreetly above them.

Ando has taken pains to acknowledge the old and affluent residential area that surrounds this site. The granite boulder walls are of a kind traditionally used for retaining walls in such a hillside residential area, and the whole building has been laid out to preserve two 200-year-old camphor trees on the site.

Old/New displays Ando's characteristic contrast between an austere exterior and a volumetric complexity within it (pp. 86–87). Entering through a tall portal in the concrete west wall, one is immediately presented with a variety of largely transparent volumes around a courtyard that is itself surprisingly luxuriant. Near at hand, complex reflections and transparencies are generated by the curved, glass-walled passage that joins the upper-level bar to the rest of the complex.

Inside, the building has been neatly divided into four restaurant spaces on two levels. North of the entry, an Italian-style restaurant extends in a fan-shaped plan, making the most of its view of the walled gardened court; above that, a Japanese-style restaurant looks into the trees and has a great curved window that breaches the wall. On the south side of the entry are a ground-floor coffee shop (featuring fine pastry) and a second-floor bar with a view that extends out to the sea, miles away at the foot of the slope.

The interiors, by other designers, are quite compatible with Ando's intentions. In the top-floor bar, tables, bar top, and cabinets of massive, rough-hewn wood relate very effectively to Ando's minimal geometry and taut surfaces.


General contractor: Takenaka Komuten.

Site: about 1390 sq m (14,900 sq ft) in an affluent residential district.

Program: two restaurants, a bar, and a coffee shop; 806 sq m (8670 sq ft).
Located near the sea on the lower course of the Ashiya River, this house takes its place among a variety of expensive residences.

Designed in part for business-connected entertaining, the house has a cylindrical core of living/dining space that rises three stories from the level of the sunken court that it overlooks (also page 91). Inside the cylinder, floor slabs diminish in area as they rise, so that each level overlooks parts of the one below.

A linear wing extending from this pivotal core houses bedroom suites on three levels, while kitchen, garage, and other service spaces fill out the rectangular parcel. Throughout the house, large-scale Italian furniture pieces (by various designers, produced by Saporiti Italia, with some from Cassina) are placed like sculptures — effective ones — in the Minimalist spaces; storage units are built in by the architects.

As in other Ando projects, the courtyard here yields remarkable spatial rewards for such a small space; at the bottom level, small-scaled rooms (one an exquisitely Minimal tatami room) look out on an intimate space. As the terraced courtyard rises it gets larger, as the rooms facing it also increase in scale. Second floor bedrooms have their own walled terrace, with one big opening toward the larger court. At the top of the bedroom wing, a handsome master bedroom with a vaulted ceiling and a porch at its east end is like a lofty pavilion surveying the garden, the riverbed, and the distant hills.

A particularly successful feature of the house is the way light is distributed throughout the interior from a few large glazed areas, following curved walls and vaulted ceilings (p. 89). It is almost as if these curved surfaces are in themselves luminous.

**Consultants:** Ascoral Engineering Associates, structural.

**General Contractor:** Daiku Kensetu.

**Site:** About 1000 sq m (10,760 sq ft) in high-income residential district.

**Program:** House for elderly couple, their son and his family, and guests; 908 sq m (9770 sq ft).
In one of the dense lowrise areas in the core of Osaka, a blank concrete street wall marks the entrance to this powerful little retail gallery structure (p. 86). On a lot 8m x 40m (about 26' x 130'), using one level below the street and four above, Ando has created complex spaces of remarkably generous scale (pp. 85 and 87).

By introducing a long, gentle curve in plan, within the constraining rectangle, the architect has been able to carve out a central atrium that extends the full width of the site (with an implied extension slightly beyond on one side). As one enters from the street, a widening stair straight ahead provides a grand entry to the basement level, while a series of stairs climbing the curved wall invite the visitor toward upper levels. All three dimensions of this central space—height, width, and depth—exceed any expectation one might get from the exterior.

At the top of this atrium, which accounts for just half of the building's volume, a curved roof of frosted glass framed in steel (also page 91) admits light that penetrates down to the basement level. In good weather, the portion of roof over the atrium rolls back to open the complex to the sky.

In recent years, the Japanese have been building many ingenious little retail developments that offer appealing retail locations on several levels around open or sheltered courts. In this case, the type has been given a strong architectural identity by the strong forms and homogeneous surface of the concrete and by the unifying roof, recalling those of traditional shopping arcades in the West.

The shops have interesting but practical plans, with extensive frontage on the walkways around the atrium. Varied ceiling heights add spatial interest. On the top floor, a handsome gallery benefits from the billowing roof form.

**Consultants:** Ascral Engineering Associates, structural.

**General contractor:** Fujiki Komuten.

**Site:** Lot 8m x 40m (26' x 130') in dense commercial district.

**Program:** Shops and top-floor gallery; 1027 sq m (11,050 sq ft).
Modesty was demanded of this church, by both the limited means of its congregation and by its crowded location in a middle-class suburb of Osaka. Fitted tightly between the street and an existing auxiliary building, the new church is a linear volume, focused on a cross cut out of the concrete wall behind the altar (also p. 90).

The walls of this sanctuary define a volume equal to three 5.9-meter (19-foot) cubes, end to end. Slicing through this at an angle that relates to the site plan, a freestanding wall defines a narthex at the entrance, linked to the garden site by extensive glazing. A tall, narrow opening (p. 88) leads from here into the main room, lighted mainly by slits of glass; its only large glass area is heavily shaded by the angled wall (p. 89). In the morning, sunlight pours in through the cut-out cross; in the evening, lights outside the church illuminate the focal cross and cast strong patterns on the walls (p. 89).

Floors, pews, and platform furnishings are all made of rough scaffolding planks, stained a dark, neutral color. Ando advocates natural materials for "parts of the building that come into contact with the human hand or foot."

Completed last year at a cost of only 25 million yen (about $200,000), the church is seen by Ando as a challenge to the prevailing economic rationalism, in which "everything is determined by cost, and there is no room for human considerations." Even as this church was going up, it was expected to take years to complete, serving in the interim as a roofless chapel. But enough money was raised to carry it right through to completion, "thanks to the enthusiasm of the congregation and the construction company." It was apparently a case of inspiration winning out over calculation.

General contractor: Tatsumi Kensetsu.
Site: Corner lot, 837 sq m (9000 sq ft) in quiet residential suburb of Osaka.
Program: Church for United Church of Christ congregation; 113 sq m (1215 sq ft), one story.
A rural tract on the island of Hokkaido is the setting for this chapel, which is one component of a developing culture-oriented resort. Within a kind of natural bowl, an artificial pond has been created and the chapel has been erected on its shore.

One enters along a freestanding wall forming an L in plan. A gentle slope leads up to the chapel entry, a glazed volume about 10 meters square (about 32 feet square), surrounding a smaller cube formed by four-cast-in-place crosses (p. 90). A dark, curved stair leads down from here to the chapel itself, where the pond reappears through a wall of sliding glass doors, with a steel cross rising from the water.

In Hokkaido's rigorous climate, resembling that of Northern New England, the setting presents strong seasonal variations, with vivid fall foliage and heavy snow cover in season. It is in this framed, ever-changing landscape, says Ando, that "one senses the presence of what is natural and sacred."

The Chapel on the Water and the Church of the Light, completed in 1988 and 1989 respectively, reflect ideas worked out for the Chapel on Mt. Rokko of 1986. In that chapel, too, an entry process involving a 180-degree turn leads into the sanctuary itself, which is cubic. At Mt. Rokko, a glazed side wall lights the solid altar wall, in the manner of some earlier Modern churches, while in the two later religious buildings, the light comes principally from behind the altar.

The developer who built the Chapel on the Water has also commissioned the Ando office to design a Theater on the Water, to be built about 400 meters away, with curved, banked seating for 6000 facing a 200-meter-long platform extending out over the water; it would be used for concerts, fashion shows, and - in the winter - as a setting for ice-skating.

Consultants: Ascoral Engineering Associates, structural; LD Yamagawa Laboratory, lighting.

General contractor: Ohyashi Corp.
Site: Area of 6730 sq m (72,400 sq ft) in rural landscape.
Program: Church with area of 520 sq m (5600 sq ft), facing artificial pond.
"Like a single flower in a vase in the tokonoma (a raised platform) of a teahouse, it is not the quantity of visual stimuli that bears richness; rather, it is the inner quality of the message."

"To regain the fullness of life, I want to continue to pursue the reductive aesthetic I have developed through my practice as an architect. My buildings are being refined towards geometric simplicity, but I also seek to generate complexity through the introduction of various elements. This mixture is the true state of nature and man's existence."

"By employing geometry as a methodology, I seek to synthesize past and present, East and West."

Except from a lecture by Ando, Yale University, fall 1987, as quoted in Tadao Ando: The Yale Studio and Current Works, Rizzoli, 1989.
A Non-precious Image

Taking a cue from the surrounding countryside, Meyer, Scherer & Rockcastle have created a facility for design, engineering, and testing new furniture ideas.

From the road and across the fields (above, left) the complex looks like a well-tended farm. Seen across one of the ponds on the site (above, right), the southwest part of the complex exactly duplicates one of the renderings submitted to the PIA Awards. A stone base was chosen to help both the industrialized and the frame buildings meet the ground more gracefully, and to relate to the many stone foundation walls in the area. A datum of 18 inches above the highest grade point was set, forming a "horizon line" on which the buildings rest. Among the pieces the architect calls "idiosyncratic elements," the red grain bins (right) serve as conference rooms and design studios.
While many winning schemes in the P/A Awards program get built just as the jury saw them, few bear the striking resemblance between the picturesque presentation drawings and finished photos that is evident in the Herman Miller Design Yard (P/A, Jan. 1989, p. 86). It is farm imagery, plain and simple. Jurors were split about the appropriateness of the solution, and the same kind of rift is likely for observers of the finished complex - love and/or sympathy versus disbelief and/or disdain - with little in between. It is important, then, to understand what led to the farmyard imagery, beyond the fact that much (but not all) of the countryside in the Holland, Michigan, area is rural in character.

According to architect Jeffrey Scherer of Meyer, Scherer & Rockcastle, their first act was to work up a program for consolidating the functions of design, development, product safety, manufacturing engineering, and facilities into one complex. At the outset, the architects were told of a Herman Miller rule of thumb that no building will exceed 60,000 square feet, a function of keeping each person near a window. Because of the nature of the work carried on in this facility, security was another important requirement.

On the aesthetic side of the early discussions, the architects were advised that Herman Miller was distinctly not after an award-winner (ironic in view of the P/A recognition), a piece of late 1980s architecture, or anything trendy or stylish. Says Scherer, "It was not to be monumental or precious, that was a big issue, but they were insistent on high-quality design. That pairing of requests caused the design team the most anguish over how to approach the problem."

In apparent concert with these requests, Herman Miller had imposed a strict budget for the project, and were not inclined to vary from it. Given the monetary and style directives, Scherer began to think about how to enclose space for as little money as possible, and how to translate the farm vernacular of Western Michigan. Metal farm buildings were of interest to him for both their cost and their character. His thinking, he says, went beyond farm imagery to the notion of where work is done, combined with creativity. In his mind, there were "yards" of various other kinds, as well - shipyards, lumber yards - but (continued on page 102)

**Interviews: Clients/Users**

The following are interviews with some representatives of Herman Miller, both corporate and consultants: Marty Dugan, V.P., Facilities Management; Greg Hankamp, Director, Facilities Design; Rob Harvey, Sr. V.P., Research and Design; Gary Miller, Sr. V.P., Development Engineering Facilities; Tom Neuhouse and Don Shepherd, outside designers working with Herman Miller.

Harvey: This is a very accepting facility, in that it's risk-embracing, and it is not precious or monumental. But the important thing is that, from a very practical viewpoint, we've been able to find a way of meeting the demands of a very large and highly structured R&D process, and rendered the facility
A linear flow of a project idea can be traced on the plan, where the design area (plan, top left) connects with the engineering and development sections (top right), which ultimately connect with testing and shipping. One special and voluminous meeting room (above), near engineering development, was located in a courtyard to place it on "neutral turf" for meetings. The "horizon line" is held, even on the few occasions (facing page, top) when the stone is carried above it. Bowed roof forms (facing page, bottom left) were determined by how far the metal panels would droop in a hanging position; they are supported by conventionally-built steel trusses. Columns on the several porches are mounted on nicely-detailed steel bases (facing page, bottom right).
This complex is the result of a clear mandate to build a non-monument in semirural Western Michigan, and on a budget.

much more intimately and experimentally than you might expect. The architecture is successful in that regard. It's also very cost effective, which speaks well for what we do and how we do it.

Some of the material uses and some of the farmyard metaphors are perhaps a little strident, and not very convincing, but by and large the facility itself works well. It's not just the consolidation of all these functions, which is obviously wonderful, but I think the major result has been that we got a much broader understanding of what the whole process of managing change is about. This is reflected in the architecture by the breakdown into smaller elements, and the simplicity and uses of common materials; in terms of some very important aspects like materials handling, layered access, and security, it is very, very successful.
the visual aspect had to come from the farm. The details and the variations he wanted from the metal building manufacturers, while not extensive, took much of his time in the beginning. Structural assumptions and modifications, base conditions, shaped roof forms, and details like the ventilators were all carefully worked out.

Security measures, originally thought to be almost overwhelming to achieve, were cleanly and simply handled by a roughly front-to-back layering of the spaces within each building. Circulation permits a visitor simply to pass by areas for which entry is restricted. A version of that same layering is applied to the building massing, as a “veil” of smaller buildings is arrayed in front of the larger ones for the full length of the complex. Aside from reducing the apparent scale, this also gives each department its own “front door” and “porch,” something the department heads wanted very much.

The functional flow of the whole complex is clear from the plan, and therefore readable from the front of the building. As an idea comes to the company from its outside designers, it enters the design section on the west end of the complex. As it matures, it passes through engineering and the other phases, in order, from west to east. At the east end, it leaves on a truck, a mature product.

This complex is the result of a clear mandate to build a non-monument in semirural Western Michigan, and on a budget. The project has layers of fine detailing and careful craftsmanship, which require close inspection to be obvious. It is the result of much dedicated thought and work on the part of Herman Miller people and the architects; functionally and intellectually it works well, in varying degrees, for those who work there. It seems to have nurtured an admirable environment and spirit at Herman Miller. Notwithstanding disagreements, both in the profession and outside it, over the aesthetic employed, the architects have taken a set of paradoxical requirements and turned them into considerably more than a sow’s ear.

Jim Murphy
Miller: I agree, the security aspect is one of the things that is most successful. It does what has to be done but in a very relaxed way. And it's done without the need for apology to anyone. I was concerned originally about the overtness of the metaphor, but I'm more taken now with the informal use of materials, the non-precious use. I think it really induces an informality around here. Most of the people in my area have reacted extremely well. We needed these kinds of neutral territorial spaces where members of the whole company could gather and where the idea was king.

Newhouse: The building is non-precious, it is all kinds of things I enjoy and appreciate. I won't refer specifically to any other facilities around the state that do similar things for furniture manufacturers, but they are the absolute antithesis of this place.

Shepherd: As an interior designer, I have some aesthetic reservations about the building. Its character, its human traits, I'd rate higher. I think the idea is a wonderful idea, as a concept, and it does work on a number of levels. It is a very appropriate aesthetic for the region, because it is a very agricultural area.

Hankamp: Herman Miller Research had been working on some things where they had interspersed project groups throughout a space, and small clusters of engineers who worked on specific projects. That broke the mold, and seemed to be a very effective test of what we might do here. So the first plan Jeff Scherer proposed was based on having project groups interspersed throughout the space. However, as time went on, that turned out not to be economical, so we had to begin to centralize the projects by function, and to isolate them, then discuss the square footage, and what that would cost Herman Miller. And that was the beginning of the process.

Dugan: The placement of plan elements in the complex describes the actual flow of the process here, the path, literally, of an idea that comes in one door, and ultimately goes out another door, as a product on the truck. In terms of the day-to-day maintenance, the ongoing operation of the building, it has worked out quite well. It appears to be a building that, over time, will be an economical one to maintain.

Hankamp: My feeling is that it is working very well, particularly the design building. The personality that it has taken on is very influential in the design process. The types of spaces in it are leaving a very strong impression on the designers about using unusual materials and taking unusual risks.
Dugan: It’s a facility that you hear people in the Holland/Zeeland area talking about, and wishing they could work there. Just within the company, there is a whole range of folks who wish they could come over here. People are always asking what role facilities play in the organization, and if you’re looking for a facilities statement, this is Herman Miller. This really reflects, by and large, not only what people inside do, but what Herman Miller people stand for and who they are.

Hankamp: To me, the building has a very strong sense of permanence, the same sort of permanence as the old farms in the area, and I enjoy that. It just feels as if it’s going to be around for years.

Project: Herman Miller Design Yard, Holland, Michigan.

Architects: Meyer, Scherer & Rockcastle, Minneapolis (Jeffrey A. Scherer, partner in charge, design; Lynn Barnhouse, Tameron Francis; Victoria Gibbs, Jeff Kelly, Richard Laffin, James Larson, Gord Metcalfe, Thomas Meyer, James Phelps, Barry Peltz, Richard Pugsley, Garth Rockcastle, Nick Tollifson, Steve Wong, project team).

Client: Herman Miller, Inc.

Site: Rural 40-acre tract.

Program: New facility to house formerly disparate functions of design, development, product standards and testing, and manufacturing engineering.

Structural system: Pre-engineered steel frame, concrete foundations, wood frame “outbuildings,” metal grain bins.

Mechanical system: Gas-fired variable air volume air system.

Consultants: Bakke, Kopp, Balen & McFarlin, structural and mechanical; Moore & Bruggink, civil; Damon Farber & Associates, landscape.

Construction manager: E & V, Inc.

Costs: $11.4 million.

A spacious gallery in the design studio area (top right) is used for many different activities, such as gatherings, exhibits, or three-dimensional displays. It also serves as access to the kitchen which opens off it, and to the individual and autonomous studios. Since all product design at Herman Miller is done by outside consultant designers, the studios temporarily “belong” to the designer working in them. If one entrance is more public than another, it would be the one where touring groups enter (left below), by way of a small porch adorned with two wooden rocking chairs. In some of the high spaces, individual buildings-within-buildings (right below and facing page) define specialized areas.
They say there's a kernel of truth in every cliche. Too glitzy or polished a design would have branded Walz's Soho-based clients as sellouts, an impression he and the shoe store owners were eager to avoid. Rather than partition off the back, Walz retained an unobstructed sightline from simple, glazed storefront to the brickwalled alley behind the building (above). Shades on the lower portion of the rear windows screen off the alley's garbage piles. The seating area, too, reflects Walz's down-at-the-heels realism. Its tar-and-burlap wall (facing page), hung with thrift shop mirrors, has the appeal of a shabby parlor. The white leather sofas and copper mesh-shaded lamps are recent additions to the collection Walz designed for Arc International.

Walz welcomes the notion that his projects begin a gradual process of change from the moment they are inhabited and designs accordingly. Certain elements are designated as "constants," and constructed of easy-maintenance materials that are relatively impervious to wear. Others, however, are made of what Walz calls "emotional materials," which respond to continued use and reflect its effects. At Tootsi Plohound, for example, the long wall, against which most of the display ladders are arrayed, is a constant. It is clad with Senideco, a synthetic surface whose compressed waxyly texture Walz likens to "spitballs," and which can be easily cleaned or patched. By contrast, the sales counter (fig. 7, p. 109), as well as the storefront window ramp (figs. 1, 2) and other display surfaces, are covered with unfinished belting leather – a material that will scuff and stain, gradually acquiring a patina of use.

In some instances Walz goes further, to "build in" the passage of time. Since aging is inevitable, he says, he prefers to design objects that will "look worn in – rather than worn out." The stairlike display boxes, for example, are made of 1/4-inch composition board,
whose corners were worn down, anticipating the punishment they're prone to. (See close-up, fig. 6.)

Canted on rear wheels to make them look weightier (and alleviate the "corniness" of too-literal stairs) these display boxes sport three different kinds of stepped surfaces: porcelain-coated steel in the women's department, belting leather in the men's, and milky plexiglass, lit from within by "cheesy fluorescent" lighting, for the more prominent elements that flank the sales desk and seating area. In each case the material is detailed differently: The porcelain steel is laid on top of its masonite frame (see also fig. 4); the leather is inlaid; the plexiglass treads and risers are cropped in. "Each is a different relationship, with a fine articulation you'd see in a sculptor's work," Walz says. "[The detailing] has hidden meanings, you have to think about it."

It's important to Walz (himself a painter turned designer) that elements reflect the order and method of their construction. Thus, joints, pegs, and seams are visible, even accentuated. His motives for this are more than pedagogical. Walz believes objects acquire an aura of heightened value when they reflect the craftsman's presence. Blatantly high-tech elements, in particular, are enriched by the contradiction of visible handiwork. "People use the words 'cold' and 'hot' a lot. I don't believe in that business," he says. "We don't have the same opportunities to express quality that were available 100 years ago. We try to express quality in different ways. Seeing the human hand is very important."

While Walz's use of cast rubber, diverse metals, masonite, and synthetic materials points to his fascination with industrial products, other moves the designer makes are downright primitive. The wall along the carpeted seating area, for instance, was coated with tar to which vertical strips of burlap were applied. Wide seams between the burlap's frayed edges allow the tar to bulge through. The effect is evocative, bizarrely sumptuous. And, like so much of Walz's work — it capers on a fine line between subtlety and shock. Ziva Freiman

Project: Otto Tootsi Pihound shoe store, Manhattan.
Designer: Walz Design Inc. (Kevin Walz, principal; Christopher Smith, Francisco de Leon, Suzanne Couture, design team).
Client: Lawrence and Annette Everston.
Program: 2700-sq-ft shoe store including loft offices.
Major materials: Semideco, tar and burlap wall surfaces, masonite, porcelain-coated steel, translucent plexiglass, metal stud and drywall, oak and African slate floors, Cor-ten steel, rubber playground matting, belting leather, copper, wood.
Contractor: Silver Rail Construction Corporation.
Photos: Andrew Garn, except as noted.
Walz's storefront sign of translucent vinyl letters was applied directly to the window, and "shadowed" on the interior side with three-dimensional black metal characters (1). The window display is ranged on a leather-clad asymmetrical ramp that sets up an exaggerated perspective, reinforced by steel pendant lamps linked with conduit "swags." In contrast to the tall space, Walz created an intimate gateway: One jamb is of Cor-ten steel (2); the other is clad with rubber playground matting, applied face-down to reveal its ribbed underside (3); African slate defines the threshold. To reflect the passage of time, the lamps' copper-mesh shades (8), and the copper side panel of the sales desk (7), were left unsealed to gradually oxidize and blacken. The corners of porcelain-coated steel display steps are abraded, allowing the metal to show through (4). The designer's preoccupation with baring the building process is revealed in the hollow pegs joining the sides of masonite display boxes, whose wood filler responded differently to the stain finish, and so display how the piece was assembled (6). Disc-grinding adds "hand-applied" texture to a ventilation duct (5).
A selection of details from various Walz projects charts the evolution of his design credo.

Truth or Decor?

On the coattails of Frank Gehry's celebrity, the use of lowly industrial materials in incongruous settings has become rife, joining a long line of avant-garde expressions engulfed by the mainstream—and so neutralized. The unusual has become usual.

Walz dismisses the products of such trends as "decor." Underlying his derision is a deep distrust of "movements." They "tend to take away the importance of meaning. They become decor really quickly," he says, and cites the trajectory of Cubism: "[Picasso and Braque's] struggle of the first year is what's exciting. The next two years are dreary, and then they were struggling again. The birth and the death were interesting, the life was just dreadful."

How to circumvent the dol­drums of widespread acceptance? Walz, 40, believes the answer lies in charting a personal, sometimes not quite rational course. "We try to find meaning in relationships of materials, materials and process, materials and form." That meaning, while central to Walz's design, is virtually never explicit. He assumes that what is evocative to him will be so to others.

Refining the Grain

Paradoxically, though relentlessly creative—Walz eschews originality for its own sake. The designer arrives at his most startling results "out of frustration" with rote solutions. ("To use gypboard arbitrarily means you're not thinking.") At the showroom he designed for Arc International, for example, Walz sought to magnify the presence of the walls as a backdrop to enhance the furnishings on display. He decided on two kinds of sandpaper, and convinced the manufacturer, 3M Corporation, to supply him with 150-foot-long strips, each 12 inches wide, which he banded horizontally with an effect akin to masonry (13). Refusing to docilely slap paint on the dining room wall of a private residence in Brooklyn, Walz resorted to beveled masonite panels and a steel chair rail, topped by crinkled and painted rice paper (14).

Another example of Walz's
unorthodox — at times surreal — problem solving can be seen in a farmhouse remodeled for photographer Chris Callis. Walz provided prodigious kitchen storage — without sacrificing daylight — using cabinets that double as windows (15). He remains mildly apologetic about the move. "There's something ha-ha about it," he says. Eager to uphold the spirit of the 80-year-old original structure even as he updated it, Walz designed a shower stall that seems almost Victorian (12). A half-round pan, contained by tube rails, and curtains slung from hospital tracks are more appropriate “low-tech” substitutes for standard gliding door stalls.

Walz is recognized for his furniture, much of it custom built for specific projects, the rest manufactured, since 1986, by Arc International. In the company's showroom Walz built cantilevered counters, as well as an entire workstation out of wax-finished laminated leather (10), which afforded durable surfaces, appealing texture, and extraordinary freedom of form.

Balking at the "horrible idea" of a space-truncating, built-in closet in the master suite of the Brooklyn house, Walz designed angled mahogany and brass closet doors, which end short of the ceiling (11). The mahogany panels were rubbed with bronze dust for added luminosity. Brass grates dematerialize the bases. The result approximates a lightweight screen. The bedside tables have stained wood tops and pigmented cherry sides (9). The drawer pulls were made of thin steel cable. "They are about human presence, you can tell where the person was when he opened the drawer," Walz explains. "Details like this allow you to be a bit of a detective."

A casual observer might miss such fine points. But then Walz is "interested in intimacy," the features only proximity brings to light. The more and longer you look, the more you see.

A showroom designed in 1986 for AF Supply Corporation, a luxury bathroom fixture manufacturer (16), heralds many motifs that recur in later work. These include swags of electrical conduit (which enabled Walz to avoid dropped ceilings). Masonite paneling was first applied...
here, to the wall behind a steel reception desk. A security gate, made of different kinds of steel mesh, afforded varying degrees of transparency. The circle club chairs and metal end tables form the foundation of Walz's furniture collection. The designer's ideas evolve from one project to the next, though he aims to take a different path each time — guided and inspired by each job's constraints. "The more specific, the more difficult, the more interesting."

**Portrait of the Young Man**

Walz's interest in relationships can be traced to his salad days as a painter and graphic designer. In the late 1960s, after three years in Pratt's fine arts department, Walz transferred to the New York Studio School, where he was exposed to more rigorous, process-oriented training. In watercolor class, for example, entire sessions were devoted to making two marks of color alongside each other, always working from life. Being constrained to paint a portion of the subject and express also the area adjacent to it gradually yielded an understanding of how color and line could convey depth, texture, mass, and light.

Walz continued to paint for five years. In 1977, he participated in a group show at Artists Space, which included young artists such as David Salle, Robert Longo, and Cindy Sherman. Offers to mount one-man shows ensued. Preparing for these required moving to a larger loft. Walz and his wife, Barbra, found a derelict 4000-square-foot space, and, armed with books on plumbing and electricity, Walz set out to make it habitable. Three interior design commissions followed in rapid succession, he recalls. "I never painted again."
Local traditions resurface in a pair of service structures.

Gas stations, one of America's most prevalent and undistinguished building types, are generally considered architectural lightweights. One noteworthy exception to the norm appears in Glenview, Illinois, one of Chicago's suburbs. Here, the local municipality built this pumping station for the police and public works departments; it is a service structure with civic presence.

The facility is primarily an outdoor structure, an endpiece for a three-phase public works center designed by Andrew Metter. The first phase, comprising offices and a garage for truck repairs, was built in 1984; a midsection is planned to join these to segments. Metter collaborated on two other public works stations; one for Evanston won a P/A citation in 1980 (see P/A, Jan. 1980, p. 122; Oct. 1983, pp. 92–95). He considers these hybrid buildings - utilitarian workshops that deserve more recognition as civic symbols. They house the public services that make day-to-day life possible; what could be a more fitting program for a building that represents today's suburb?

The service station's possibilities are rich: It entails a ritual of cars, people, and machines, and calls for free-standing structures and a small enclosed space. At Glenview, the masonry walls link these program elements: At the gas pumps, the lower wall is flanked by three paired columns that meet the ground; on the opposite side, the columns are set into the wall itself, in indentations that imply the compressive load on the masonry. Three exposed girders span the roof and are crossed by beams, which run longitudinally. These account for the depth of the fascia; they also render the four exposed joists extraneous.

This ponderous ceiling, somewhat ominous in its bulky proportions and scale, floats above a smaller, rectilinear counterpart, which leads to the circular toilet/storage building. Here, too, Metter keeps surfaces distinct; the small roof is balanced on three steel armatures and a wall of glass brick, and the adjacent circular roof is raised on a band of glass. At night, the transparent surfaces are a street-corner beacon, a symbol of suburban efficiency.
Project: Municipal Fueling Facility, Glenview Public Works service center.
Architects: Lubotsky Matter Worthington & Law, Chicago (Andrew Matter, principal designer; Robert Lubotsky, project principal; Meredith Smith, staff).
Site: One-acre corner site.
Program: One-acre yard built for trucks and materials storage; fuel pumps, tanks, and 24-hour-accessible toilet set in front; site enclosed by 8-foot brick wall.
Major materials: See Building Materials, p. 149.
Contractor: Certified Midwest Construction.
Cost: $1,000,000; $66 per sq ft.

The Chicago School: Is it Alive or is it History?

In our survey courses on Modern Architecture, we learned that in the late 19th Century Chicago produced some of the world’s best skyscrapers. It was a city developed by businessmen who valued pragmatics over cultural pretension; on their understated buildings, façades were governed by the logic of the steel frame. The Prairie Style, one of America’s truly original architectural movements, emerged here in the work of Frank Lloyd Wright and his contemporaries. They likewise modified historical conventions and designed buildings that harmonized with the flat landscape and democratic ethos of the Midwest. As our syllabuses advanced to the Mid-20th Century, we focused once again on Chicago to study how Mies van der Rohe arrived from Germany to advance the local skyscraper tradition, and build the most understated, and perhaps most poetic, modern office towers.

While Mies considered his steel and glass buildings models to be refined by the generation of architects he educated, barely a decade elapsed after his death before a countermovement spread among Chicago’s architectural circles. In the late 1970s and 1980s, architects and critics concurred that Minimalist buildings, despite their structural clarity, could be urbanistically simplistic and ultimately self-referential.

It may be short-sighted to describe the pluralistic work of recent years as the eclipse of the Chicago School. Instead, it may have helped us recognize its heterogeneity. Reevaluations in architectural design have been accompanied by revisionist histories that reveal the diverse inspirations of Louis Sullivan...
van and his contemporaries and the intuitive leaps in Mies's design methods. Now that we are more aware of the dense layering implicit in Modernism, we recognize new options for its further development. It is difficult to assess the current condition of the Chicago School if one concentrates on the city's newest generation of skyscrapers—many are built by out-of-towners—and some employ figurative motifs that seem to obscure the structural clarity we associate with Chicago's skyscraper tradition. However, the two small structures in this portfolio imply that local architects may find new relevance in the work of Frank Lloyd Wright and Mies van der Rohe. Here, where each architect had to respond to community preferences, they showed that modern architecture can be inflected to accommodate local idiosyncrasies. Both buildings overcome the charges of self-referentiality that have maligned Modernism. At the same time, their architectonic qualities are not obscured by applied forms. Like their Modern predecessors, these architects continue to explore the relationship between the structural frame and the wall.

In the town of Lincolnshire, Illinois Bell commissioned Holabird & Root to design a telephone switching station—a secure, window-free enclosure for electric circuitry. Soon, a group of concerned neighbors told the architects they feared the building's impact and asked that it appear "residential." It might have seemed paradoxical for the architects to respond with a building designed in the manner of Mies van der Rohe; his buildings are not famous for blending into their context.

The quality of the completed building justifies their decision; it also shows how durable and flexible Miesian design can be. Elegant and simple, this building is replete with abstract correspondences to its context; through subtle manipulations in its walls and structure, the building implies more than its utility.

The one-story brick wall has references that are both structural and spatial. From the road, it seems to be a base for the five columns that rise to the fascia. On the east side, it extends into a freestanding curve; together with the adjacent straight wall, it reduces the building's scale and delineates an intermediary outdoor zone.

Holabird & Root compounded these spatial gestures with references to the barn and brick silo that once stood on the site: The hemicycle recalls the silo's circular plan, and the paired steel smokestacks seem to be a condensation of its volume. Because the barn was built of wood, steel, and brick, the architects used them on the front of the building—not to fabricate any historical imagery, but to highlight the structure with materials common to the region.

Redwood louver panels are set behind the plane of the brick and a lattice of tension braces; they screen air ducts and imply that the wall is not load-bearing. The façade is classically composed: The fascia resembles a cornice, and the exposed ends of the columns seem to be vestigial capitals. The southeastern corner sustains these classical allusions with admirable finesse (see the Selected Detail on the following page): a plate is welded into the webbing of the beam, so that it terminates with a reference to the Orders and a form that indicates the plane of the transverse wall.

Holabird & Root's design method was more inclusive than that of Mies. Unrelenting in his search for universal solutions, he distilled the logic of steel construction so thoroughly that the building itself became a virtual abstraction. Here, the architects show that Miesian rigor does not inevitably lead to a de-materialized architecture; they employ tactile materials that give the building a sensuous quality and offer correspondences to the history of the site. Instead of seeking an architecture of least common denominators, they compound the architectonic references of a building. Here, redwood, steel, and vestigial silos and capitals have not weakened the architectural logic of Mies; they simply made it richer.
Project: Illinois Bell Telephone Remote Switching Unit.

Architects: Holabird & Root, Architects Engineers Planners, Chicago (Gerald Horn, partner-in-charge; James Brand, project architect; William Ramsey, project manager; Carlos Martinez and Richard Hayes, project team).

Engineers: David Ekstrom, structural; Paul Prchal, mechanical; Theodore Cichon, electrical; Reginald Dorosz, plumbing; Mark Chertow, civil.

Client: Illinois Bell Telephone.

Site: a 2.5-acre open suburban parcel.

Program: A 4500-sq-ft structure for telephone switching, mechanical equipment, and emergency power.

Major materials: See Building Materials, p. 149.

Consultants: Joe Karr & Associates, landscape.

Contractor: Joseph J. Henderson & Son, Inc.

Cost: $1,017,000; $200 per sq ft.

Photos: David Clifton.
The real strength of the Miesian tradition lies in its handling of materials and details, a strength apparent in these wall sections by Holabird & Root. The architects developed a cladding system of brick veneer, Redwood louvers, and metal panels, each of which serves a different function. The wood louvers, for example, disguise mechanical openings. The brick veneer serves, among other things, to conceal differences between the height of the concrete floor slab and the grade level. And the metal panels function, in part, as a noncombustible wall adjacent to the exterior vent stacks.

But steel, in fine Miesian fashion, remains the real infrastructure in this building. Steel angles form the coping, steel channels the fascia, steel H-beams the entablature, steel tubes the columns, and steel pipes the cross bracing. Steel also plays a more mundane role in these walls. Steel plates, for example, cover the brick veneer, steel channels cap the block walls, and various steel angles back up the metal panels. The range of materials here is broader than what Mies would have used, but his influence is evident in the careful articulation of elements and the creative use of standard steel shapes.
Civic Art: A Model Restored?

Those who have abandoned the quest for beauty have thrown away the most important tool for arousing interest in city planning and... they are themselves helpless without the aid and power of art. Christopher Tunnard, The City of Man, 1953.

It is easy to imagine Tunnard's warning on the frontispiece of Rob Krier's Architectural Composition or Hegemann and Peets' American Vitruvius: An Architect's Handbook of Civic Art. Neither volume abandons the quest for beauty. On the contrary, these two books, kindred dons the quest for beauty. On the power of art to guide architecture.

In the manner of ancient treatises, the two books set out to compile, and thus remind us of, time-honored principles of architecture and urban design. Both are about the form of things; the physical expression of institutions and lifestyles, the public character of buildings and places, the concept of the city as a complex artifact. Both address the future conservatively, by positing traditional, and similar, solutions to new problems. Both are at times polemical, ideological, even moral in tone, yet given the ambitious sweep of each, they are also wonderfully eclectic. Each is finally more anthology than manifesto, full of specific exemplars through which general points are made.

These similarities may be surprising, considering that two-thirds of the 20th Century separates the writing of the two books. Actually, the similarities reveal much about the century. American Vitruvius' republication in the year of the appearance of Architectural Composition suggests that (with respect to the design of cities) the beginning and ending decades of our century may prove to have more in common than either end will have had with the middle.

The appearance of American Vitruvius in 1922 must have immediately struck some as enigmatic. After all, that same year Le Corbusier was exhibiting his "Contemporary City for Three Million" in Paris, and one of his inspirations, Tony Garnier's "Cité Industrielle," had seen wide circulation during the prior decade. The Columbian Exposition had taken place almost 3 decades earlier, and 13 years had passed since the adoption by Chicago's city council of Daniel Burnham's monumental urban plan. In the 1920s, operational considerations, not visual order, preoccupied American city planners. The new slogan (and goal) was a "City Scientific" reflecting, at once, disappointments encountered in the implementation of City Beautiful plans and great expectations for a more systemic, and yes, scientific approach to city planning.

As a heroic reiteration of civic design, American Vitruvius appeared just as the ascendance of Modernism threatened to render its examples irrelevant. Even though the authors outlined a rational case for incorporating spatial and aesthetic tenets in a more "scientific" approach, these efforts were not fully appreciated. Not surprisingly, American Vitruvius did not enjoy (in today's marketing jargon) a long shelf life. It mostly sat on dusty and ignored library shelves, encountered occasionally by traditionalists or adventurersome students.

Why then reprint a volume that seemed dated when first published 68 years ago? Perhaps because its insights are more useful now, as we look back on a half-century of the practical art of city planning, with results that have confirmed Tunnard's warning. American Vitruvius remains the best outline of an era in which planning as civic art flourished, an era which has yet to be properly accounted for historically. It is also, as Allan Plattus notes in his introduction to the reprint, a compelling synthesis of the formal characteristics of an American urbanism. This book was the first serious attempt to recognize an American civic design tradition. It identified and anticipated the principal American contributions to the art of city design. By illustrating these side-by-side with paradigmatic European examples (it remains a great source-book for these), the book argues for a continuity of Western town planning traditions. This was a "how-to" book on how America should adapt the traditions of city building to meet its own circumstances.

But it is our continuing reassessment of Modernism that most compels the new edition. Among those swayed by the city as "logic" and as "inevitable consequence," both planners and architects, the principal design casualty was the (continued on page 152)
Re-evaluation: Esther McCoy and The Second Generation

In Five California Architects in 1961 and in The Second Generation in 1984, Esther McCoy established what might be considered a new genre, relating social history and architectural criticism and linking them to a novelist's observations about character; she produced architectural criticism with a human face.

These observations derive from a re-reading of The Second Generation, which describes the lives and work of four Southern California architects – J.R. Davidson, Harwell Hamilton Harris, Gregory Ain, and Raphael Soriano – who all practiced in the second and third quarters of this century. This work contains McCoy's most prescient architectural writing – yet it has still to be adequately appraised. This may be because its subject is both too near and too far.

Where taste is involved, it is hard to like the recent past. In art as in life we see the struggles and accomplishments of the previous generation as ordinary, banal, or obnoxious; they exemplify the trite axioms of today or the stale outrages of yesterday. In order to achieve independence we deny (or resent) dependence; the taste of our fathers may promote nostalgia, but it seldom commands respect. We prefer the art of our grandfathers. One could call disdain for the recent past the "I know that" phenomenon.

Resistance to the last generation in art derives as well from cycles of taste. For example, in the 1950s, 1940s, and 1950s, architects preferred to work in a scale that, to our eyes, looks piddling – in the way that last year's hemline looks too short (or too long) or that John Soane's Neoclassicism might have seemed thin to the eyes of an architect in the 1840s at the culmination of the Empire Style. Le Corbusier put an end to the small scale of the mid-1950s when he reinstated a heroic stance in the architecture of béton brut; but we are in for another swing of the pendulum today and The Second Generation may prove prophetic. "Human scale," as it was called then, may soon be back again.

"Human" was a leitmotif of the second generation of Modern architects, not only in California. Immediately after World War II, architects adapted the Modern style, which had been based on universal abstractions and industrial technology, to the softer ambiance of post-war life. Modernism was domesticated, scaled down, accommodated to outdoor living, integrated with particular qualities of landscape, and mellowed by the use of natural materials. This direction, which flourished in the U.S. primarily in California, had its European counterpart in Scandinavia.

The four architects described in The Second Generation are different from each other, yet have much in common. If their most significant shared accomplishment was the humanizing of the Modern style, their response to the world of Southern California represented another common thread within their work. Though their architecture was neither explicitly and ideologically regional like that of the Bay Region architects, nor contextual as the term describes directions in urbanistic architecture today, it was nonetheless related to Southern California in particular and significant ways.

In that mild climate, the Modern theme of enhancing the flow of space between inside and outside was explored in several ways – intimate urban courts were designed to expand living room space and decks to exploit views of land and sea; and architectural form was integrated with tropical flora. This much is known about this architecture world-wide. However, in the Southern California of The Second Generation, the landscape is, in fact, a cityscape. It is the cityscape of the 1950s Western city of the United States – not of the Eastern city nor, indeed, of the Western city of today, but of the close-to-suburban, mid-century Los Angeles whose houses are frequently smaller and more densely packed than those of Eastern suburbania, and whose bungalow and courtyard imagery differs

The Dunsmuir Flats, 1937, (above) and The Avenuel Cooperative, 1947, (below) by Gregory Ain.

The Wyle house, 1949, (right) by Harwell Hamilton Harris.
from the Colonial imagery of the East.

Although the work of these architects was mainly residential, not all of it was single-family houses. Much of Gregory Ain’s architecture consisted of group housing. Ain's houses, in their size and scale, are essays in suburban urbanity. For this reason they are relevant to the higher-density suburbia that is developing in metropolitan areas today; developers of “townhouses” in today’s suburbs could learn from Gregory Ain.

Another theme of this book is the adaptation of architecture to modern living, especially that of Southern California. In her analysis of these houses McCoy devotes considerable attention to plans. They are studied for their suitability to a client’s way of life. The evaluation is sometimes on a philosophical plane, showing clients’ preferences as part of their culture and of the higher things in their lives, but often at the down-to-earth level. McCoy describes plans suited to daily life without servants, where a person in the kitchen can view children in the yard and activities in the living spaces, and where kitchens are explicitly planned for the work and storage needs of their users. She praises Harris’s cabinets designed to accommodate the depth of two standard cans or one large one.

Her delicate analyses expose the philosophy behind aesthetic decisions. She quotes, for example, Harris’s rules on the use of materials and the design of windows, because these encapsulate significant aspects of 1950s aesthetics: “Don’t butcher a material; don’t fragment it. Make whole forms of it that accommodate the openings... When I wanted an opening, I made a whole wall of glass.”

Through these architects’ words and their works, McCoy traces phases within the evolution of building technology in Southern California. Cesar Pelli, in his introduction, defines the Southern California view of technology as “creative pragmatism” that combines “optimism, a relaxed understanding of technology, and a readiness to use it in inventive ways for artistic purposes.” McCoy takes up the story of technological development after Irving Gill, evolving from his concrete walls toward the-light frame structures of traditional American wood stud systems. She evaluates the architecture of columns, lintels, and panels that resulted. “Ain predicated the merchant builders in reducing the number of elements in a structure. In the framing he carried four-by-four posts to the height of the building to form an uninterrupted girdle; he limited the sizes of wall openings to the four-foot intervals between the studs. This reduction brings a rhythm and an order that rules the building.”

McCoy documents the development of Soriano’s steel and plastic construction for housing over a period of years, giving careful attention to its rationale, structural and economic. She quotes Peter Blake on Soriano’s buildings, which “may seem on paper as hard as nails; but in reality they are as romantic as the ancient buildings of Soriano’s native island of Rhodes... he is a poet as much as a technocrat.”

Analyzing architectural detailing for its quality, precedence, influence, and relationships within the whole, she quotes a poignant observation of Davidson, “I never had a plan I wanted to change – only details.”

McCoy demonstrates that out of these California visions of life and structure emerged an architecture of modesty and delicacy and, on occasion, of a kind of bold sparseness. These buildings were never strident; they didn’t prove points, fit a theory, or promote an ideology. They went from the particular to the general; theory may have emerged but it was not imposed. Although they were well known in their time, these buildings were never icons and their architects did not become superstars. In spite of this – perhaps because of it – McCoy’s analyses render much that is important, and her reasoned exposition produces offerings that are deeply meaningful to us.

McCoy’s genius lies in pointing out the significant in the familiar. Her analysis of the programs, forms, techniques, economics, culture, and ethos of the architecture is brilliant and easy – in the overall and the details. Her description of the personalities and backgrounds of the individuals makes gripping reading. Herein lies the essence of the genre established by McCoy. The journalistic cattiness, one-upmanship and pretentious obscurity that pervade architectural writing today are not present in her book. Gratuitous polemics, sensational substitutes for serious analysis that promote the writer’s cleverness over the subject’s talents, play no role in McCoy’s critical approach. Her architect-subjects have found a recorder and analyst who, despite her presence as a participant in their history, does not intrude on their story. By trusting the intentions of her subjects and by becoming the servant of her art, she shows herself to be a profound critic and an exquisite artist. But perhaps the most significant contribution of her work here is its timeliness – and thereby, in the end, its timelessness.

Above all, thank you, Esther, for opening our eyes to a part of our recent heritage we take for granted or tend to forget, but which may play a profoundly meaningful role in architectural thought, post-Modernism. Robert Venturi, Denise Scott Brown

The authors, themselves critics of note, are principals in the Philadelphia firm of Venturi, Scott Brown & Associates.
Interview: Jerzy Soltan

It is often said that our generation of architects has retrieved history. Jerzy Soltan disagrees; he believes that many Modern architects never let it go. During his four years of work with Le Corbusier and his own practice in Poland, he considered Modernism a consolidation of the past. Recently Soltan, professor emeritus at Harvard’s Graduate School of Design, shared his views with P/A.

P/A: In the 1920s you were studying at the Warsaw Polytechnic. What was the architectural climate in Eastern Europe then?

Soltan: Modernism emerged in Eastern and Western Europe along different lines. Poland, within the Eastern sphere, was influenced by both Germany and Russia. Hannes Meyer, Mies van der Rohe, even Walter Gropius and the Bauhaus were far closer to the Russian way of thinking, with Malevich and Lissitzky, with all the Constructivists and Suprematists, than they were to the Western side, with Cezanne, the Cubists, Le Corbusier, Terragni, and Lubeckin.

Le Corbusier and the Western Europeans always sought to keep their roots in tradition. They sought contact with the early phases of previous cultures: archaic Greece, the early Roman, the early Romanesque. These were intuitive counterparts for their own sense of re-beginning. Le Corbusier’s chapel at Ronchamp draws inspiration from the Christian catacombs of Rome, the early Romanesque. It has none of the aridity one finds in the Modernism of the Eastern Europeans who started design with a tabula rasa. Curiously, Le Corbusier considered the leading Modernist, in his sympathy to tradition, to be a Russian, Ivan Leonidov – the only architect whom Le Corbusier mentioned with complete awe. Leonidov’s thinking both paralleled and preceded that of Le Corbusier. To him, Leonidov was a peer.

P/A: How did your path turn from the Eastern-oriented Modern Movement to Le Corbusier’s studio?

Soltan: When I was studying architecture I thumbed through design journals and detected some appealing buildings that broke away from the standard, stark “matchbox” Modernism that surrounded me. These were the work of Pierre Jeanneret and of Le Corbusier, whose poetic writings enamored me.

P/A: So Le Corbusier was someone whose work you had to seek out on your own?

Soltan: Yes. During World War II, when I was imprisoned for six years, I corresponded with Le Corbusier from a German POW camp. After Germany’s surrender, I ventured to France; I visited Le Corbusier, who was working then on the Modulor, his proportional system (based at that time on a 5’10” person); my height is 6’2”, apparently a disappointment to him. His first words were, “Well, this must be Soltan. But you are too tall!”

P/A: We’ve talked about the ways tradition has inspired architects. How might historical precedent surface in contemporary architecture?

Soltan: Houghton Library (1941), a Colonial Revival building, is, to me, one of the most appealing on the Harvard campus. To me, the son-of-a-bitch Corbusian, it is infinitely more appealing than, for instance, the Modernistic Harkness Commons (1950). I can’t accept matchbox Modernism. If Modern architecture has to be a string of unmodulated cubes, I’d prefer Houghton Library. But, on the other hand, I still believe that a matchbox architecture based on a real concern with humanity’s lack of shelter is more defendable than the work of someone who dabbles in, for example, non-axial axialism, non-symmetrical symmetry – the work of some of our colleagues who are trying to make something out of nothing. I detest this hermetic work more because its premises are shaky; the distance to fall down and hurt your naked ass is higher. And I find it less dangerous to be found short of talent in the matchbox mode (given a commitment to the social good) than when you are indulging in “clipper Classicism,” to borrow a phrase from William Curtis.

P/A: What would you say about the avant-garde in the pioneering years of the Modern Movement and the avant-garde today?

Soltan: All of the Modernists were definitely concerned with mankind’s need for shelter. There was a saying: “Think not about roses when the forests are burning.” It’s wrong. Man has to think about roses always (a belief that John Hejduk and I hold in common). This is a condition of the human species that the Modern Movement slighted. They forgot to “chercher la rose.”

Whatever we may say about the blights of our society, we are at our cultural beginning, its first century.

These excerpts are from an interview conducted by Philip Arcidi in Cambridge, Massachusetts, on December 22, 1989.
On its riverfront, Chicago tries design controls, but goes only halfway.

Urban Critique: Cityfront Center

Chicago is a transparent city. The logic of its placement on Lake Michigan at the Chicago River reveals itself immediately. On this spot — where the shipping docks, rail lines, and warehouses once pumped Chicago's industrial lifeblood — a new city of office buildings, hotels, and housing is rising on the north bank of the river from Michigan Avenue east to the lake.

The outline of Cityfront Center, this 52-acre private development, was drawn by Alexander Cooper, who did the master plan in 1984 (P/A, July 1986, p. 104-105). Over the next 15 years his scheme will gradually be filled in with an estimated 13.5 million square feet of office space and 5900 residential units. The scale of the project and the site's historic and visual prominence makes the work that goes up in Cityfront more important than construction elsewhere in Chicago.

Conscious of this, the city used its zoning clout to persuade the property's two owners — Chicago Dock and Canal Trust and Equitable Real Estate — to employ design guidelines. Cityfront's guidelines invent a relationship with nearby eclectic towers such as the Chicago Tribune Tower and the Wrigley Building. Cityfront is also supposed to be an answer to the alienating excesses of Modernist planning and building: Curtain walls are forbidden, as is reflective glass; all buildings must exhibit a tripartite division. Together the master plan and design guidelines are intended to create architectural harmony and a human-scale environment inviting to pedestrians.

In Chicago, where developers are generally able to do whatever they want, Cityfront's design guidelines are a first. As such they set an admirable example. Now with a few projects completed and others underway, the intentions behind Cityfront are in jeopardy. Elsewhere, guidelines have worked: In New York, they helped create Battery Park City (P/A, Jan. 1984, p. 136; March 1988, p. 86), a project praised for its design unity and urbanity, exactly the qualities Cityfront's planners say they hope to achieve. The trouble in Chicago is that these guidelines recommend when they should require. The guidelines for below-grade parking are being translated into parking at buildings' bases, and recommendations for setbacks are becoming patterned skins. Another difficulty may be the confused role played by the owner. At Battery Park City, the guidelines were administered by a public agency, not the owners.

Things looked promising at the start. As he did at Battery Park City, Cooper pulled the city's grid out over the site in his master plan, extending and incorporating existing streets into the new development and drawing the city up to the waterfront. The plan broke the resulting parcels into zones dedicated to different uses. It left a view corridor from the lake to the historic Chicago Tribune Tower. It also made good on promises for public spaces, leaving 14 acres for 7 parks, squares, and a riverfront esplanade. The plan coped with daunting problems, including two elevated arterial roads that slice through the east and west ends of the site, and a 30-foot change in grade where concealed service and utility roads end behind Columbus Drive.

On the part owned by Equitable, things continue to proceed well. Equitable's master architect, Skidmore, Owings & Merrill, with Adrian Smith as design architect, has recently completed the NBC tower, the first new building in Cityfront Center. Smith designed it to do everything the guidelines asked. A 38-story, limestone-clad building, it takes to heart lessons from skyscrapers of the 1930s, particularly those from the RCA building at Rockefeller Center. The building's height is exaggerated by setbacks and buttress-like elements on the north and south elevations. The (continued on page 122)
Cityfront (continued from page 121)

urban elements that knit the tower into the city – designed by Cooper, who has been retained by Equitable – are finished or nearly so. These include a landscaped plaza and car turnaround in front of NBC, and the extension of Illinois Street that connects the plaza to Michigan Avenue.

The completed project on Dock and Canal property has also turned out handsomely. Booth/Hansen renovated North Pier, the only remaining structure from the days when this was a shipping center. A former warehouse, it faces a slip and backs up to rail lines: Goods went in one side and came out the other. The seven-story building was converted to office and retail uses by a simple design that exposes the heavy timber construction.

Elsewhere, however, the quality of design deteriorates. A new 61-story apartment tower is being added to the east end of North Pier. The developer hired Florian-Wierzbowksi to create the skin after the tower had already been designed by Dubin, Dubin & Moutoussamy. Florian-Wierzbowksi came up with a precast panel design of varying thicknesses to give the tower a degree of articulation. The panels are colored to connect the tower with the adjacent North Pier at the base and to create interest at the top. The solution brought the project into conformity with the guidelines in a half-hearted way. The skin cannot conceal the awkwardness of the building, whose dull massing is explained by a desire for uniform floors.

Two residential projects under construction conform to the letter of the guidelines, but violate the spirit. A 39-story apartment tower designed by the Chicago firm Gelick Foran Associates does not seem promising. Eight levels of parking will form the tower’s base, which will not help create the pedestrian environment the guidelines say they are aiming for. The shaft will be rotated to provide better views, the architects say, but it will also throw the grid of the buildings’ matching drum-like corners. But the cues are misleading; the two buildings are actually joined towards permanence? Yes, but this is more a human frailty than an ideal.

Are there tendencies and schools in design? Aren’t constraints enough?

An enlightened amateur? to a privileged social class?

A hotel going up on the riverbank, designed by Solomon Cordwell Buenz & Associates, has taken advantage of the site and guidelines to create a convention hotel with good interiors for a building of its type. Still, the design isn’t strong enough for its site. Cityfront’s guidelines go only halfway and, so far, roughly half the work is turning out well. For this site, that ratio is simply not good enough. Cheryl Kent

Excerpt: What Is Design?

Q: What is your definition of “design”?
A: A plan for arranging elements in such a way as to best accomplish a particular purpose.

Q: Is design an expression of art (an art form)?
A: The design is an expression of the purpose. It may (if it is good enough) later be judged as art.

Q: What are the boundaries of design?
A: What are the boundaries of problems?

Q: Is [design] a method of general expression?
A: No – it is a method of action.

Q: Is design a creation of an individual?
A: No – because to be realistic one must always admit the influence of those who have gone before.

Q: Is there a design ethic?
A: There are always design constraints, and these usually include an ethic.

Q: Does design imply the idea of products that are necessarily useful?

A: Yes – even though the use might be very subtle.

Q: Is it able to cooperate in the creation of works reserved solely for pleasure?

A: Who would say that pleasure is not useful?

Q: Ought form to derive from the analysis of function?
A: The great risk here is that the analysis may not be complete.

Q: Does the creation of design admit constraint?
A: Design depends largely on constraints.

Q: What constraints?
A: The sum of all constraints. Here is one of the few effective keys to the design problem – the ability of the designer to recognize as many of the constraints as possible – his willingness and enthusiasm for working within these constraints – the constraints of price, of size, of strength, of balance, of surface, of time, etc.; each problem has its own peculiar list.

Q: Does design obey laws?
A: Aren’t constraints enough?

Q: Are there tendencies and schools in design?
A: Yes, but this is more a human frailty than an ideal.

Q: Ought [design] to tend towards the ephemeral or towards permanence?
A: Those needs and designs that have a more universal quality will tend toward permanence.

Q: To whom does design address itself: to the greatest number (the masses)? to the specialists or the enlightened amateur? to a privileged social class?
A: To the need.

Q: What do you feel is the primary condition for the practice of design and its propagation?
A: Recognition of need.

Q: What is the future of design?
A: (No answer)

P/A thanks Lucia Eames Demetrios for these excerpts from the film Design Q & A (1972). The text appears in Eames Design (Abrams, 1989).
France's "Très Grande Bibliothèque" competition - and its six premiated entries - finds architects dealing with the functional and symbolic needs of an Information Age library.

Just when the Bicentennial spotlight had begun to dim on Paris, President François Mitterrand unveiled his latest grand projet, the Library of France. Like the other grands projets, this très grande bibliothèque proves France's commitment to resurrecting her image as a cultural leader. Certainly, the City of Lights is enjoying a new brilliance. Unlike other grands projets, however, such as I.M. Pei's pyramid at the Louvre and Spreckelsen's arch at La Défense, whose exceptional sites forced a response to context, the library problem was very much about making a building. President Mitterrand called for "an entirely new (building) type," and the competition for the Library of France provided the opportunity to explore both an architecture of addition - to Paris, to the history of library design - and a point of departure that envelops new technologies and techniques.

Twenty semi-finalists for the library were selected from 244 entrants. A jury led by I.M. Pei further narrowed the field to four (Dominique Perrault, Philippe Chaix and Jean-Paul Morel, Future Systems, and James Stirling; Rem Koolhaas and Jean Nouvel received special citations), from which President Mitterrand selected French architect Dominique Perrault as the winner (P/A, Oct. 1989, p. 25). The final 20 projects were the subject of the exhibition, "The Library of France - First Volumes," held at the French Institute of Architecture from October 3-28, 1989. There, the projects were presented in white models of the same scale along with drawings and biographies of the architects. The overwhelming theme of the projects in the exhibition was not, as Perrault termed his project, "A Place for Paris, A Library for France," but a universality of architectural ideas that defied the specific site. A new breed of literate Modernism rendered the buildings as complex and layered as the books they proposed to hold. Nationalism, an ideal much extolled in the exhibition, is only supported in the fortuitous choice of a French architect.

The 20 proposals demonstrate the divergence that exists today among Modern architects. "Modern" seems a small umbrella to cover proposals as precise as
Richard Meier’s and as exuberant as Bernard Tschumi’s. Historicism barely appeared, except in formal relationships in the proposal of Álvaro Siza Vieira.

The competing architects had the advantage of an underdeveloped site towards the edge of the city. With the Seine itself as the nearest symbol of Paris, the urban solutions each seem to follow a unique set of rules determined by the design and thus the architect, rather than patterns established by the existing city. One clear divergence at the conceptual level is between designs based on a big, graphic idea, such as Perrault’s four open books as the image for his towers (1), and designs based on a varying of scale and form to avoid what Stirling termed “a Kafkaesque experience.” Stirling’s proposal (5) resembles an urban village with individual buildings arranged around a public garden. The garden terraces, which step down to the banks of the Seine, offer one of the few integrated garden solutions. Other proposals completely cover the site with enormous building masses – or, in Perrault’s case, create a large, flat, elevated plaza.

The proposal of Philippe Chaix and Jean-Paul Morel (3) is also based on the image of the open book. In their design, the roof plane/book is inscribed with words of great authors, like torn pages cast in stone. The public reaches the roof by any of nine elevators that pass from the open base through the transparent levels of the building. Transparency and a lightness of structure are themes shared by many of the proposals. The modern library has been interpreted as less a protective enclosure and more a highly computerized transmitter of information. Therefore, the analogies to the book become almost nostalgic.

Future Systems cites the precedent of Henri Labrouste in their use of the most advanced technology, elaborate materials, and forceful forms of their time. The form they have chosen, a curved shell pierced by a taut bridge (2), contrasts in its compactness to the form of the tree that Jean Nouvel uses to radiate into the city (6). Nouvel’s use of the tree of knowledge as a motivating force for the redevelopment of the site and the surround-
ing neighborhoods is the sketchiest of the proposals. Its lack of articulation is based on Nouvel's desire for the design to be a collaborative effort among many architects and artists, ending in a "museum of different library types." The main branches, or streets, become the connecting structure and life of the project.

Certainly, the most engrossing project is by Rem Koolhaas (4), who created a "solid block of information," placing the future of architecture alongside the future of technology. The surface of the block varies in transparency with a pattern of floating clouds etched into the glass. Inside of the block the public spaces are suspended like embryos within the mass of library stacks. Nine transparent elevator shafts, inscribed with words, songs, etc., provide access to the independent, floating shapes. One moves through the building as if through ideas and information, almost like tracing the plan of a computer chip, yet far more serene.

This is an age when the television has quickened the pace of information reception; word and image are joined. The library, as demonstrated in these designs, can become as much of an information transmitter as any video screen, turning the building itself into a readable surface and collector of images. Just as knowledge has become more accessible, so have these proposals created libraries as passageways and gathering points. The Library of France competition provided a forum in which to address an important architectural and cultural intersection, and supplying new models for library design.

The author is a freelance writer living in Atlanta.
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Mountain bikers enjoy the scenery as well as the pedaling at Tucson’s Canyon Ranch, while at Doral Saturn.
It's 9 a.m. and Canyon Ranch—cradled at the base of the Santa Catalina Mountains, under blue sky and blazing sun, surrounded by the lush green and rocky soil of the Arizona desert with its saguaro cacti standing tall, as if in silent tribute to the wonders of nature—is alive. The 6:30 morning walkers have long finished, and soon the hikers will return from their backpack into Ventana Canyon. In the spa building, focal point of activity at this 60-acre Tucson vacation/fitness resort, the guests are beating their feet, and other areas of anatomy, to rock music. In the “Total Fitness for Men” class, two dozen executives, professionals, and others are pedaling, jogging, walking, climbing, stretching, lifting. In other rooms in the 60,000-square-foot building, aerobic/toning and “stretch and flex” classes, and educational sessions on back care, even breathing, are being conducted. In the indoor pool—one of four pools on the property—“Aqua Trim” helps tone the body, through water resistance.

The more than 40 fitness classes daily cover a variety of aerobic, toning, strength, and educational activities at beginning, intermediate, and advanced levels: cross training, jumping rope, men’s stretch, women’s stretch, studio aerobics, pool aerobics, “positive power” (105 minutes of practically non-stop aerobics), body contour, circuit weights, free weights, flugels (another water exercise), lap swimming, yoga, meditation, even Tai Chi martial-art exercise.

While all this is going on in the spa building, others among the 250 guests are in the clubhouse, attending one of the 40 lectures presented every two weeks. (In all, 195 activities are offered.) Other visitors are at the health and healing center, being evaluated for cholesterol, hypertension, and general fitness; or perhaps consulting about stress management, stopping smoking, or other personal/family/job issues; or planning a nutrition program.

BY JIM BRAHMA
The ways to better health, fitness, stress management, and nutrition are offered in a convenient, enjoyable, group environment, and that's the attraction for the busy executive.

Aerobics helps set the tone at La Costa, as does water volleyball (cover photo). Hiking is a prime attraction at Canyon Ranch. Healthy eating is part of any spa experience but the meals, as presented here at the Oaks and Palms, may startle the executive accustomed to rich dining.

Some guests are playing racquetball, squash, or hardball; some are on the eight tennis courts; others are swimming. A great many more are enjoying the pampering of a spa—receiving one of the six types of massage, an herbal wrap, or one of the other rejuvenating amenities from one of the 65 masseuses and masseuses on the 400-employee staff. Or they're simply sweating away in sauna, whirlpool, or steam.

Still other guests are doing what Art, a venture capitalist from Los Angeles, does when he visits Canyon Ranch twice a year. He works out on the treadmills and stationary bikes, plays tennis, even tries to keep up with the ladies in aerobics but also, he says, “I relax. I like to read the paper for an hour in the morning and goof off. Hey, I'm here to have a good time, not kill myself.” Among the 60% of repeat visitors he has learned to select the activities he prefers.

Folks visit for a vacation, after all. But it is a different sort of vacation—and it's not for everyone. For at Canyon Ranch, and other serious fitness resorts, one can examine his or her lifestyle and learn how to, if not live longer, at least live more fully. He can incorporate what is learned here in his home life. At these spas, the vacation doesn't end when you leave; it's really just beginning.

The philosophy of Mel Zuckerman, who founded Canyon Ranch in 1979, is based on five tenets: that fitness is a state of mind as well as body; that a fitness program must include food-habit management, an exercise plan, and relaxation techniques; that everyone must take responsibility for his own health and well-being; that bad habits can be broken and replaced with good ones; and that everyone needs a little pampering once in a while. The idea of a vacation that's "good for you" is spreading, and Canyon Ranch in the Berkshires recently opened in Lenox, Mass.

Dan Baker, Ph.D., Canyon Ranch's executive director of program development, likens it to a "supermarket where you shop for the things you can take home." The ways to better health, fitness, stress management, and nutrition are offered in a convenient, enjoyable, group environment, and that's the attraction for the busy executive who tends not to put a high premium on a better, more healthy life.

"People see exercise as something you do in your spare time. After 40, they haven't got spare time for their health. We say that you've got to regard exercise time just like you do time for a board meeting," says Phil Eichling, M.D., medical director.

At coed Canyon Ranch, 25% to 35% of the guests are men. That's more than the typical spa, and it's increasing. Most are executives or professionals, although even Canyon Ranch attracts the "spa junkies" (mainly women) who seem to steam from sauna to sauna. This is not a "fat farm." Most guests appear to be in at least fair shape.

It is the "hard-driving executive" whom Canyon Ranch particularly targets. "We want to improve executives' lifestyles and show them a higher quality of life," Baker says.

The typical visit is a week, and a four-day executive-health program is being developed. The typical executive's day goes something like this: An early morning walk, hike or bike ride, one or two exercise classes later in the morning and one in the afternoon, a couple of educational classes, perhaps a one-hour professional consultation, and maybe a massage. A couple of hours, Baker says, are spent simply "taking it easy and strolling around the desert."

The walks, hikes, and bicycle rides—geared
Other serious fitness resorts with special executive appeal include:

- Cal-a-Vie, Vista, CA. At $3,500 a week, it vies with nearby Golden Door as most expensive spa. It's even more exclusive—20 guests maximum (619/945-2055).
- Canyon Ranch in the Berkshires, Lenox, MA. Mel Zuckerman's philosophy spreads east (800/326-7100).
- Doral Saturnia, Miami, FL. Ultra-modern fitness techniques blend with ancient Italian hydrotherapy treatments; 48 luxury suites adjoin resort/country club (800/331-7768).
- Hilton Head Health Institute, Hilton Head Island, SC. Health, weight control, and habit-change programs with long-term emphasis (800/292-2440).
- King Ranch, King, Ont., Canada. Opening in May, this Canyon Ranch copy will accommodate 180 guests (800/263-3272).
- La Costa, Carlsbad, CA. Ultramodern hotel offers everything—even golf—amid plenty of pampering (800/426-5483).
- Marriott's Desert Springs, Palm Desert, CA. New spa adjoins spectacular resort hotel offering golf and tennis (800/228-0848).
- Rancho La Puerta, Tecate, Mexico (40 mi. southeast of San Diego). Spa opened in 1940 by Edmond and Deborah Szekely is like Canyon Ranch minus some amenities (800/443-7565).
- Sheraton Bonaventure, Ft. Lauderdale, FL. Another luxury spa at a resort featuring tennis and golf (800/327-8090).
- The Ashram, Calabasas, CA. Small, intense "boot camp" for 10-12 hardy souls who don't mind Spartan food and surroundings and 5 hours of hiking daily (818/744-5777).
- The Golden Door, Escondido, CA. Also run by Szekely family, the ultimate in luxury/service (120 employees to 39 guests) originally was for ladies only. Now eight weeks are for men only and five weeks are for couples (619/744-5777).
- The Oaks, Ojai, CA. Here's where Canyon Ranch's Zuckerman saw the spa light. Guru Sheila Cluff owns this and the Palms, each accommodating 84 guests maximum (805/646-5573).
- The Palms, Palm Springs, CA (619/325-1111).
- Topnotch at Stowe, VT. John and Ginny Lopis, former managers at Doral Saturnia and Canyon Ranch, recently opened spa complementing ski/tennis resort (800/451-8680).
Exercise is the cornerstone for building a more healthy, energetic lifestyle, and that means aerobic exercise.

For folks at all levels of fitness—seem to be everybody’s favorite activities, perhaps because the terrain is so beautiful and challenging. There are four different walks daily, from one mile to four miles, plus an eight-miler on Saturday for the “very fit.” Hikes stretch from beginner three-milers to advanced 12-milers. The bike ride into Sabino Canyon is interesting not only for the scenery but because the 15-speed, fat-tired mountain bikes are a kick to ride.

Exercise is the cornerstone for building a more healthy, energetic lifestyle, and that means aerobic exercise, which elevates the heart rate sufficiently. For the typical executive, assistant fitness director Eric Chesky recommends finding an activity one enjoys—jogging, biking, brisk walking, swimming, e.g.—and doing this at least 30 minutes, followed by 5 to 10 minutes of stretching, 3 to 4 times a week.

Stress management is another major attraction. “Many managers, if they ever did know how to relax, have forgotten. They have a sense of guilt,” Baker says. “A lot of people have only two gears—stop and fast forward. It’s nice to have a few in between. That’s stress management.”

There are three ways to deal with stress, he says: “One, modify or leave your current environment. Two, manage your reactivity through things like biofeedback, progressive muscle relaxation, yoga, and meditation. Three, perceptual training, which is the most important. Most of us think inaccurately. If you manage your perceptions, you prevent stress in many situations.”

Healthy eating is part of any spa experience. At Canyon Ranch the meals may startle the executive accustomed to hefty portions of meat, cream sauces, and foods laden with butter, salt, shortening, and the like. Not only are the portions smaller and lower in calories, they are—most important—significantly lower in fat. Only 20% of the calories come from fat, 20% from protein, and 60% from carbohydrates, the leading source of energy. Presenting attractive dishes high in taste while low in fats is a culinary challenge, but Canyon Ranch succeeds.

The menu is high in complex carbohydrates or starches (fruits, vegetables, pasta, rice, grains, beans, legumes) and fiber. It is low in salt, saturated fats, refined flour and sugar, additives, and preservatives. It is devoid of caffeine, though packets of instant caffeinated coffee are available upon request. Decaffeinated coffee is served, along with a selection of mostly caffeine-free herbal teas.

Caffeine, salt, sugar, and soft drinks are missing from the dining room. (There’s no smoking or alcohol, either, in any of the ranch’s public areas.) Water is the drink of choice, guests are encouraged to drink eight 8-ounce glasses daily.

Although portions are small—three ounces of steak (250 calories), for example—one can order as much as wanted. Most guests, in fact, are surprised to feel so filled. One reason, Dr. Eichling explains, is that “you tend to eat bulkier foods.”

For safe weight loss, Canyon Ranch recommends that men eat 1,200 to 1,400 calories daily, and women 1,000 calories. For weight maintenance, the average man aged 25 to 50 engaging in normal physical activity needs 2,300 to 3,100 calories daily, the average woman 1,600 to 2,400 calories. Those over 50 require 200 to 300 fewer calories. It’s not realistic to expect much weight loss at a spa. Results come at home after the spa experience—provided that one continues dieting and exercising.

Pampering relaxation is a major appeal at most spas, and more and more men are discovering what women have known, that massages, herbal treatments, and the like do relieve stress and tension and add to an overall sense of well-being. Often, men visit a health spa reluctantly, to appease wives for whom spas have become an annual event. Generally, they wind up raving over them, too, and become regular visitors. Some value their spa experience so highly they extend it to their children. Stan, a Toronto dentist visiting for the third time with his wife, notes that their 14-year-old son “would never eat spa food” but that their 18-year-old is “into health.” They plan to present him a Canyon Ranch vacation for his high school graduation present. Says Stan, “What better way to start your adult life than doing something good for yourself?”

_la Costa's jumping, while at Canyon Ranch every exerciser needs a break sometime._

**At Tucson’s Canyon Ranch (800 742-9000), a standard room, single occupancy for seven nights, runs $2,350 and a double $1,910 in season (Dec. 25-June 15). Rates are slightly lower off-season (Sept. 23-Dec. 24). Prices include three meals a day, all fitness classes and lectures, plus some personal or sports services and health consultations.**
**FEBRUARY**

**Thru F18** "IMAGE WORLD: ART AND MEDIA CULTURE," Whitney Museum of American Art, NYC; exhibit highlights mass media influence on contemporary art.

**J24-M4** WINTER EQUESTRIAN FESTIVAL, Palm Beach Polo & Country Club, W. Palm Beach, FL; America's finest riders and horses in four major jumping shows.

**J27-M25** "IMPRESSIONISM: SELECTIONS FROM FIVE AMERICAN MUSEUMS," Minneapolis Institute of Arts, MN; 85 paintings, sculptures, etc., by 21 masters including Degas, Cezanne, van Gogh, Monet, and Renoir.

**1-29** "ODYSSEY: THE ART OF PHOTOGRAPHY AT NATIONAL GEOGRAPHIC," Royal Ontario Museum, Toronto, Canada; century of great magazine pictures.

**1-11** QUEBEC CARNIVAL, Quebec City, Canada; biggest and most famous winter celebration, numerous indoor and outdoor activities.

**3-18** DAYTONA SPEED WEEKS, Daytona Beach, FL; auto races capped by final day's 200-lap Daytona 500 stock car chase.

**10-18** CHICAGO AUTO SHOW, McCormick Place; America's largest annual exhibition of new cars attracts nearly 1,000 vehicles, includes entertainment.

**11** NBA ALL-STAR GAME, Miami Arena, FL; pro basketball's finest on display.

**12-13** WESTMINSTER KENNEL CLUB DOG SHOW, Madison Square Garden, NYC; over 2,900 dogs from 142 breeds and varieties in most prestigious show.

**17-19** COCONUT GROVE ARTS FESTIVAL, Miami, FL; over 300 artists, sculptors, and craftsmen, plus national entertainers in outdoor concerts.

**17-21** MIAMI INTERNATIONAL BOAT SHOW, FL; huge boat show features most popular runabouts to 100-foot yachts priced in millions. Free sailing clinics.

**23** INDOOR GRAND PRIX TRACK CHAMPIONSHIPS, Madison Square Garden, NYC; climax of ninth annual season.

**24-27** BRAZIL CARNIVAL, Rio de Janeiro; final fling before Lent goes through Shrove Tuesday, with parades and dancing in streets and along beachfront.

**27** MARDI GRAS, New Orleans; ten parades, parties, and street celebrations draw more than 600,000 revelers.

**3-11** CARNAVAL MIAMI, FL; week-long Hispanic, Mardi Gras-style bash serves up world's biggest block party—23 streets of foods, conga dancing, and entertainment.

**4** LOS ANGELES MARATHON, CA; 26.2-mile run finishes in Memorial Coliseum.

**11** USA GRAND PRIX AUTO RACE, Phoenix, AZ; downtown race opens 16-event season for 1990 Formula One world championship.

**17** SEBRING 12-HOURS GRAND PRIX OF ENDURANCE, Sebring, FL; auto race climaxes three-day gala of qualifying and other events.

**17** ST. PATRICK'S DAY PARADE, Fifth Ave., NYC; struts off at noon and lasts 6 hours, with 125,000 marchers and over 1 million spectators along 2-mile route.

**22-25** NCAA BASKETBALL TOURNAMENT REGIONALS; 16 colleges play Thur.-Sat. at Meadowlands Arena, A. Rutherford, NJ, and Reunion Arena, Dallas; and Fri.-Sun. at Superdome, New Orleans, and Oakland Coliseum.

**30-A 1** WORLD CHAMPIONSHIP SNOWMOBILE HILLCLIMB, Snow King Resort, Jackson Hole, WY.

**31-A 2** NCAA BASKETBALL TOURNAMENT FINALS, McNichols Sports Arena, Denver, CO; final four college teams.

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Sarah Charlesworth's "Bull" is among more than 100 works in Whitney Museum's "Image World."

Palm Beach's Winter Equestrian Festival will be jumping, with over 200 of the world's best riders.

The largest Hispanic festival in the U.S., Carnaval Miami attracts more than a million visitors.

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**March**

Sarah Charlesworth's "Bull" is among more than 100 works in Whitney Museum's "Image World."
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Progressive Architecture invites recent graduates and designers to submit portfolios and resumes to be judged for possible publication in an Issue on young architects scheduled for July 1990. The editors are interested not only in exemplary architectural design but also in un-built projects and alternative careers.

Submissions will be considered in any of three categories:

- Built work, constituting commissions undertaken for a verifiable client. Projects submitted must be completed by April 1, 1990.
- Unbuilt work, constituting designs undertaken for a verifiable client.
- Alternative careers for architecture graduates in other fields of design or in education, government, business, non-profit organizations, or other endeavors.

Eligibility is limited to those with a bachelor's or master's degree in architecture or a bachelor of art in architecture, received not more than 10 years prior to July 1990, or who have been practicing as designers for no longer than 10 years, as of July 1990.

Work done for academic credit is not eligible. Work done while employed at an established firm must be accompanied by a letter from a principal of that firm stating that the entrant had primary responsibility for the project. Collaborative efforts among qualified entrants are welcome.

Selections will be made by the editors of P/A. Their decision is final.

Submissions must include a one-page firm profile, and one-page resume for each entrant, in English, describing education and experience.

Graphic material, slides, and photographs included must be submitted in binders which shall not exceed 17 inches in either direction. Enclose a brief description of each project and the ideas underlying its development.

Anonymity is not required. All submitted material must be labeled with applicant's name, address, and phone number.

There is no fee for entry.

Submissions will be returned only if they are accompanied by an adequately sized and stamped self-addressed envelope. P/A will take every precaution to return submissions intact but accepts no liability for loss or damage. Please do not submit original material.

Selected entrants will be notified confidentially by April 30, 1990.

If the entry is selected for publication, the entrant agrees to make available further material as needed, but at no undue expense.

Deadline: March 30, 1990

Address all questions and submissions to Young Architects Issue, Progressive Architecture, 600 Summer St., P.O. Box 1361, Stamford, CT 06904.
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New Products and Literature

(1) Matta chairs by Mauro Conforti and (2) Nini shelf by Marie Christine Dorner are both at Massini; (3) Morgen and Leiden jacquard textile wallcoverings at Maharam; (4) Always table by Toshiyuki Kita for ICF; (5) Hazel Siegel Textile Collection for Knoll Textiles; (6) St. James® Club Chair at Donghia; (7) Quartz Desk by Peter Maly for Ligne Roset.

Westweek 90 Preview

Los Angeles has been billed as the city that will lead the U.S. into the next millennium. Westweek 90, at the Pacific Design Center, March 21–23, looks set to prove this theory with the theme "LA 20/21: Design. Business. The Next Century."

Some of the many events are: "LA 20: The Cultural and Financial Forces Shaping A New International City in the Twentieth Century" and "LA 20/21: A New Generation" with an introduction by Progressive Architecture Editor John Morris Dixon and chaired by David Gebhard, Professor of Architectural History, UC Santa Barbara (March 21, 9:30 a.m.–11:30 a.m., Center Green); "LA 21: A Vision of the Future and Those Who Will Make the Design Difference in the Next Century" with an introduction by Architecture Editor Deborah K. Dietisch and chaired by Michael Rotondi, principal, Morphosis (March 21, 2:00 p.m.–3:15 p.m., Center Green); "The State of the Industry: Change, Competition, Internationalism – Opportunities for the 90's?" with an introduction by Interiors Editor Paula Rice Jackson and chaired by Len Corlin, Associate Publisher, Contract (March 22, 8:30 a.m.–9:30 p.m., Center Blue); and the facilities management conference and roundtable "Environmental Cleanup in the 90's: The Facility Executive's Responsibility to the Bottom Line and Quality of Life" with an introduction by Robert J. Gross, National President IFMA (March 22, 2:00 p.m.–4:00 p.m., Center Green). Among the exhibitions to take in are: "Mondo Materialis," a show presented by the Steelcase Design Partnership (Murray Feldman Gallery, PDC Plaza); and "On the Edge: Industrial Design in Southern California" (Center Green).

Products shown here are some of the introductions scheduled for the show.
New Textiles
Designer and colorist Beverly Thome has added two new textiles to her collection, Bernhardt.

Next Seating Series
The Next series has been expanded to include two and three-seat settees and backless benches, a low stool, and a bar stool. Interna.

RizziOffice Additions
Phase Two of RizziOffice includes privacy screens with tackable surfaces and U-unit workstations with U-unit credenzas. Each piece in the collection is an independent wire manager. CorryHiebert.

New Sofa
Jorge Pensi has designed the Baker collection with floating steel arm cushions. The collection includes a lounge chair and sofas in three different widths. Kron U.S.A.

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Ergonomic Seating
Caddy, by Swiss designer Eckhard Hansen, has a front pivot point tilt mechanism, tilt-lock, and a flexible back for support. Allsteel.

Mission Collection Upholstery
Minares is one of three patterns (each in three colorways) in this collection of 100 percent cotton grospoint weaves. Scalamandre.

Columns and Mouldings
Paleo Wall Panel System has been expanded to include Paleo Column System with prefinished corner, base and crown mouldings, and accent panels. Components can be applied over drywall and other surfaces. Forms + Surfaces.

(continued on page 139)
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Circle No. 346 on Reader Service Card
New Products and Literature

New Shelf
Every Which Wave, designed by Designwerke, is constructed of sand-blasted steel, concrete, glass, and ash veneer. It is 75" high and 60" wide. Ottoman Empire. Circle 114 on reader service card.

Carpet Tile
A new loop, integrated-pattern carpet collection with a multitempered tip sheared finish is called Moire Plus. Interface. Circle 115 on reader service card.

Track and Recessed Lighting
ParStar is a unified system of track and recessed fixtures. The 120 volt source operates without transformers. Staff Lighting. Circle 116 on reader service card.

Glazing Reference Guides
Three new guides from the National Glass Association include current codes on all glass and glazing provisions in the Standard Building, Uniform Building, and National Building Codes. Guides are $19.95 for NGA members and $29.95 for non-members. Contact NGA, Technical Services Division, 8200 Greensboro Drive, McLean, Va. 22102 (703) 442-4890. Circle 116 on reader service card.

Roof Retrofit Brochure
Metalshield® Elastomeric Roof System is described in a new brochure. Information on deck preparation, rust-inhibitor priming, and application of flashing compound and the Metalshield® elastomeric coating is included. Monsey. Circle 201 on reader service card.

Fugue Table Brochure
The range of table sizes, shapes, materials, and edging options are described in a new brochure. Howe Furniture Corporation. Circle 200 on reader service card.

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(continued on page 142)
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(continued from page 140)
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(continued from page 142)

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Harper and Schuman.
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(continued on page 147)

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(continued on page 149)
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Advertisement

Small Company's New Golf Ball Flies Too Far; Could Obsolete Many Golf Courses

Pro Hits 400-Yard Tee Shots During Test Round

Want To Shoot An Eagle or Two?

By Mike Henson

MERIDEN, CT — A small golf company in Connecticut has created a new, super ball that flies like a U-2, puts with the steady roll of a cue ball and bites the green on approach shots like a dropped cat. But don't look for it on weekend TV. Long-hitting pros could make a joke out of some of golf's finest courses with it. One pro who tested the ball drove it 400 yards, reaching the green on all but the longest par-fours. Scientific tests by an independent lab using a hitting machine prove the ball out-distances major brands dramatically.

The ball's extraordinary distance comes partly from a revolutionary new dimple design that keeps the ball aloft longer. But there's also a secret change in the core that makes it rise faster off the clubhead. Another change reduces air drag. The result is a ball that gains altitude quickly, then sails like a glider. None of the changes is noticeable in the ball itself.

Despite this extraordinary performance the company has a problem. A spokesman put it this way: "In golf you need endorsements and TV publicity. This is what gets you in the pro shops and stores where 95% of all golf products are sold. Unless the pros use your ball on TV, you're virtually locked out of these outlets."

TV advertising is too expensive to buy on your own, at least for us.

"Now, you've seen how far this ball can fly. Can you imagine a pro using it on TV and eagle-ing par-fours? It would turn the course into a par-three, and real men don't play par-three's. This new fly-power forces us to sell it without relying on pros or pro-shops. One way is to sell it direct from our plant. That way we can keep the name printed on the ball a secret that only a buyer would know. There's more to golf than tournaments, you know."

The company guarantees a golfer a prompt refund if the new ball doesn't cut five to ten strokes off his or her average score. Simply return the balls — new or used — to the address below. "No one else would dare do that," boasted the company's director.

If you would like an eagle or two, here's your best chance yet. Write your name and address and "Code Name S" (the ball's R&D name) on a piece of paper and send it along with a check (or your credit card number and expiration date) to National Golf Center (Dept. H-1306), 500 S. Broad St., Meriden, CT 06450. Or phone 203-238-2712, 8-8 Eastern time. No P.O. boxes, all shipments are UPS. One dozen "S" balls cost $24.95 (plus $2.50 shipping & handling), two to five dozen are only $22.00 each, six dozen are only $109.00. You save $55.70 ordering six. Shipping is free on two or more dozen. Specify white or Hi-Vision yellow.

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The reissued American Vitruvius calls for a sequel. It should bring us forward in time, showing us how to use those time-honored principles of civic art within the contemporary metropolitan environment. A second volume would have to be as broad as our tasks; we need to re-order our suburban districts, develop paradigms for urbanized regions, integrate the scale of Modern development to existing fabric, urbanize our office parks, malls, and commercial strips. It is up to us to adjust the impacts of our modern transportation infrastructure, to make connections between disaggregated environments and between isolated buildings, and to restructure our zoning codes. In this way, we shall extend the intentions of Hegemann and Peets and the lessons of the Kriers. Alex Krieger.

The author is a principal in the firm of Krier Krieger Levi Architects and Adjunct Professor of Architecture and Urban Design at Harvard University.

A modern companion to American Vitruvius, with new counterparts to Hegemann and Peets' examples, is now being planned for publication by Princeton Architectural Press.
PAC-CLAD Metal Roofing Panels are a prominent design element on the recently completed 90 Main Street project in Westport, Connecticut.

The architect, Roger Ferris of Southport, Connecticut, has designed a mixed-use facility that is an attractive new addition to the town's commercial center.

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- **PLACE JACQUES-CARTIER**
  A one stage competition, sponsored by the Ville de Montréal, seeking urban design concepts for a series of public spaces, buildings, and civic art adjacent to City Hall.

**ELIGIBILITY**

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**REGISTRATION PERIOD:** February 1 to May 15, 1990

Program mailing: March 30, 1990
Anticipated due date for submissions: August 1990
Announcement of winners: September-October 1990

Registration fee: $100 CDN for Canadian residents, $200 USD for foreign nationals, certified cheque, money order, or bank draft

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Send letter of interest, curriculum vitae, selected examples of design work and/or research publications, names, addresses, and telephone numbers of references by March 1, 1990 to Professor Harry C. Hight, Dean, College of Architecture, University of North Carolina at Charlotte, 9201 University City Blvd., Charlotte, NC 28223. Affirmative Action/Equal Opportunity Employer.

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Circle No. 367 on Reader Service Card
By the time you reach this page, we hope you will have noticed some substantial changes in P/A (see Editorial, p. 9), among them the fact that you wouldn’t have reached this page before, as it didn’t exist. "Furthermore..." was developed as a way to let you know what’s coming up in future issues and to pass along some observations that don’t seem to fit elsewhere in the magazine.

The name was chosen through a scientific process under which a prize was offered to the editors. (As it turned out, the editor who was supposed to supply the prize forgot, and came up with the winning title himself in order to avoid embarrassment.) This was just a tiny episode in the laborious process of inventing a "new P/A," while continuing to put one out every month (our Art Director, in particular, experimented with minimum human sleep requirements for a couple of months), but we’re proud of the result and eager to hear what you think.

The pursuit of architectural innovation sends our editors to a lot of strange places, but for a student of architecture and especially urban design, the Walt Disney World complex in Florida is among the strangest. There, on flat wet land treated as a tabula rasa, communities devoted solely to entertainment spring up, seemingly at random, evoking any number of foreign images: Hollywood, the Caribbean, Morocco, Main Street USA. All this is tied together only by common signage and the special "all-three-parks" admission rate. This Post-Modern world of isolated episodes is an appropriate place to consider the iconic, assemblage-oriented work of Michael Graves, whose Walt Disney World Swan Hotel will be featured in March.

But we wouldn’t go as far as architect Adrian Smith, who, in awarding the Swan a Citation in the P/A Awards (Jan. 1989, p. 81), said, "This is the one location where [Graves’] architecture is contextual." In fact, we’re offering two other Graves projects in very different contexts: the Historical Center for Industry and Labor in Youngstown, Ohio (P/A, Jan. 1988, p. 122) and his renovation and addition to the Newark Museum.

Speaking of the P/A Awards, we’ve noticed that the dress of jurors during the judging process usually ranges from the corporate to the casual. As a group, though, even "fashionable architects" are generally not given to sartorial fashion. The notable exception is Helmut Jahn. During the judging this year, he was the one designer with the designer clothes. He began the judging on Sunday in a blousy shirt, which wrapped across the front to a single button, and bright green, striped socks. Subsequent sessions found him in a broad-brimmed hat, boldly striped black-and-white shirts, and neckties made of two different fabrics tied so that both showed. We mention this attire because, as we were putting together a portfolio of Murphy/Jahn projects for the March issue, we were struck by the similarities between what Helmut puts on and what he puts out. There are the wrap-around façade of the Metro West project, the brightly colored stripes of the State of Illinois project, the broad brims of 1111 Brickell, the bold patterns of the Wilshire-Midvale project. If manners make the man, it seems here that dress drives the designer.

People are always surprised to find that we are not inundated every month with letters for our "Views" page; in fact, we publish most of them. (So, in answer to the frequent question, "How do I get published in P/A," we should perhaps reply, "Write a letter.") Much of the fun of working here, though, comes from poring through the reams of mail on other subjects that stack up in our "in" boxes. We get press releases for our sports editor (a position currently unfilled), we get weekly dispatches on the volume of Western wood sold and shipped, and we get breathless, excited notices about tract-house development openings in Florida. Among the most entertaining things we’ve not yet had time to answer:

A release describing a golf clubhouse designed after Monticello: "To make it instantly recognizable as Jeffersonian, we increased the size of the entire design to scale but added Palladian windows to the front and sides for more light. (The architect) thinks Jefferson would see the larger windows as an improvement, given his affinity for Palladio’s work."

We were prepared to give that release an award for chutzpah until we ran across another that opened with this puzzler:

"If God asked you to design a house for him, how exactly would you go about performing this divinely inspired task? Though God hasn’t asked you to design, or me to write this letter, I have an editorial idea for you to consider about an especially immense and unusual architectural project..."

No, it wasn’t a place in the Hamptons for the Almighty, just a church.
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