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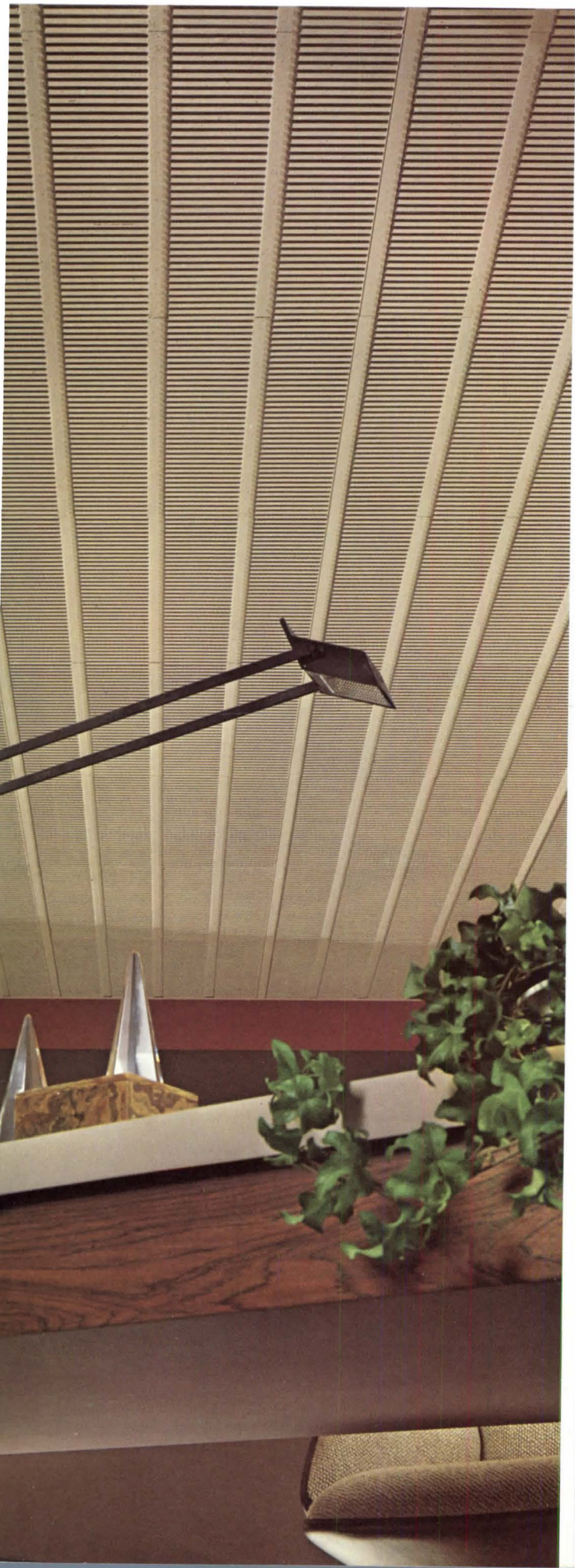
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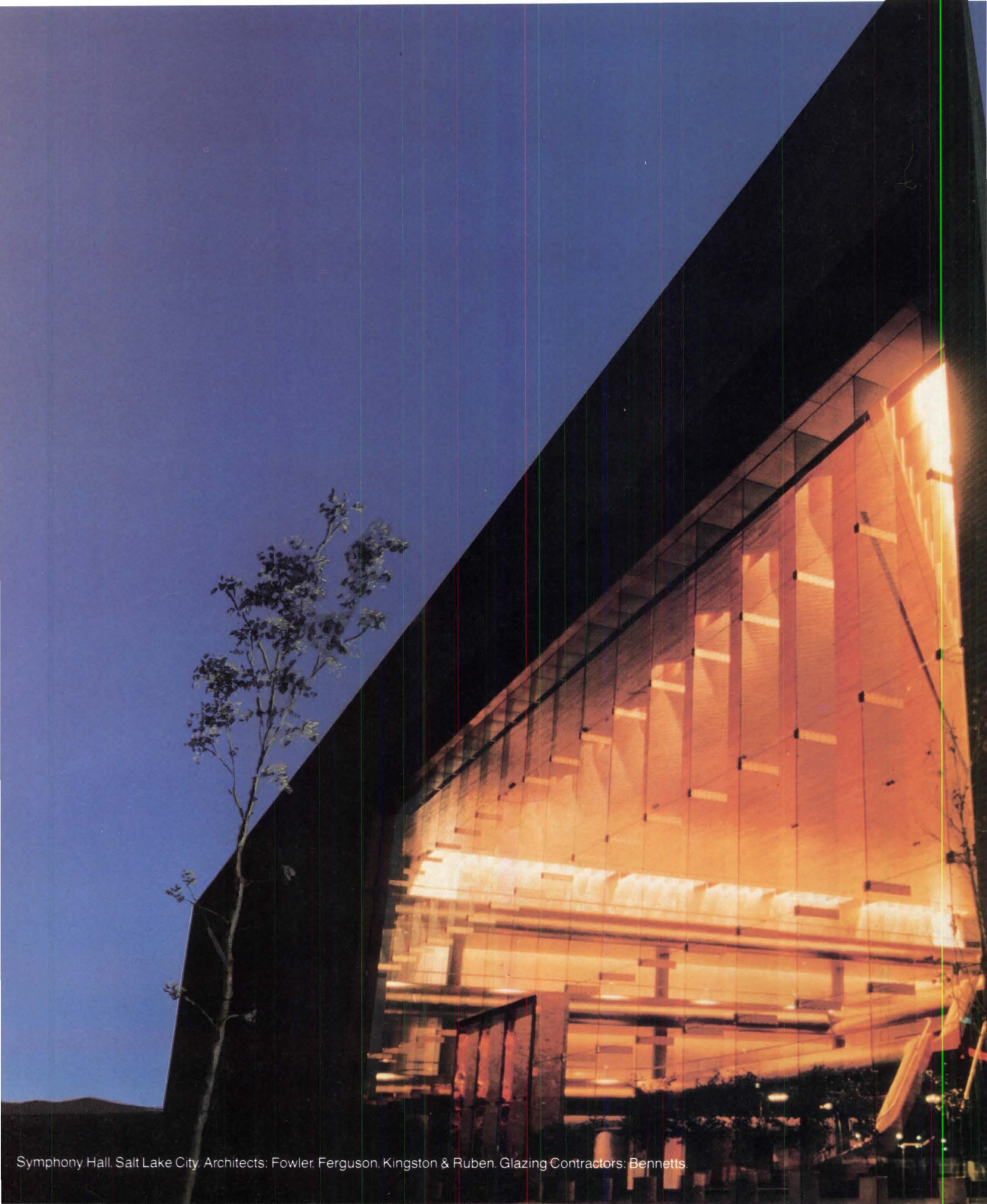
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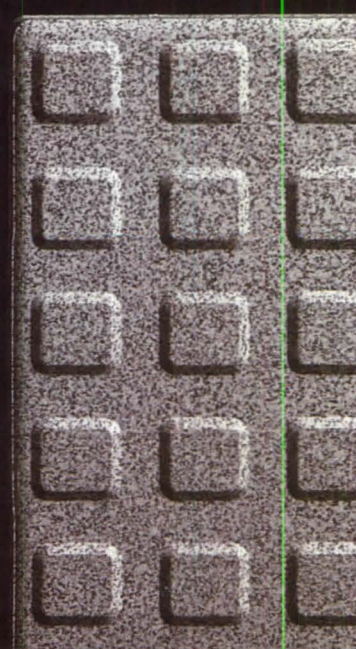
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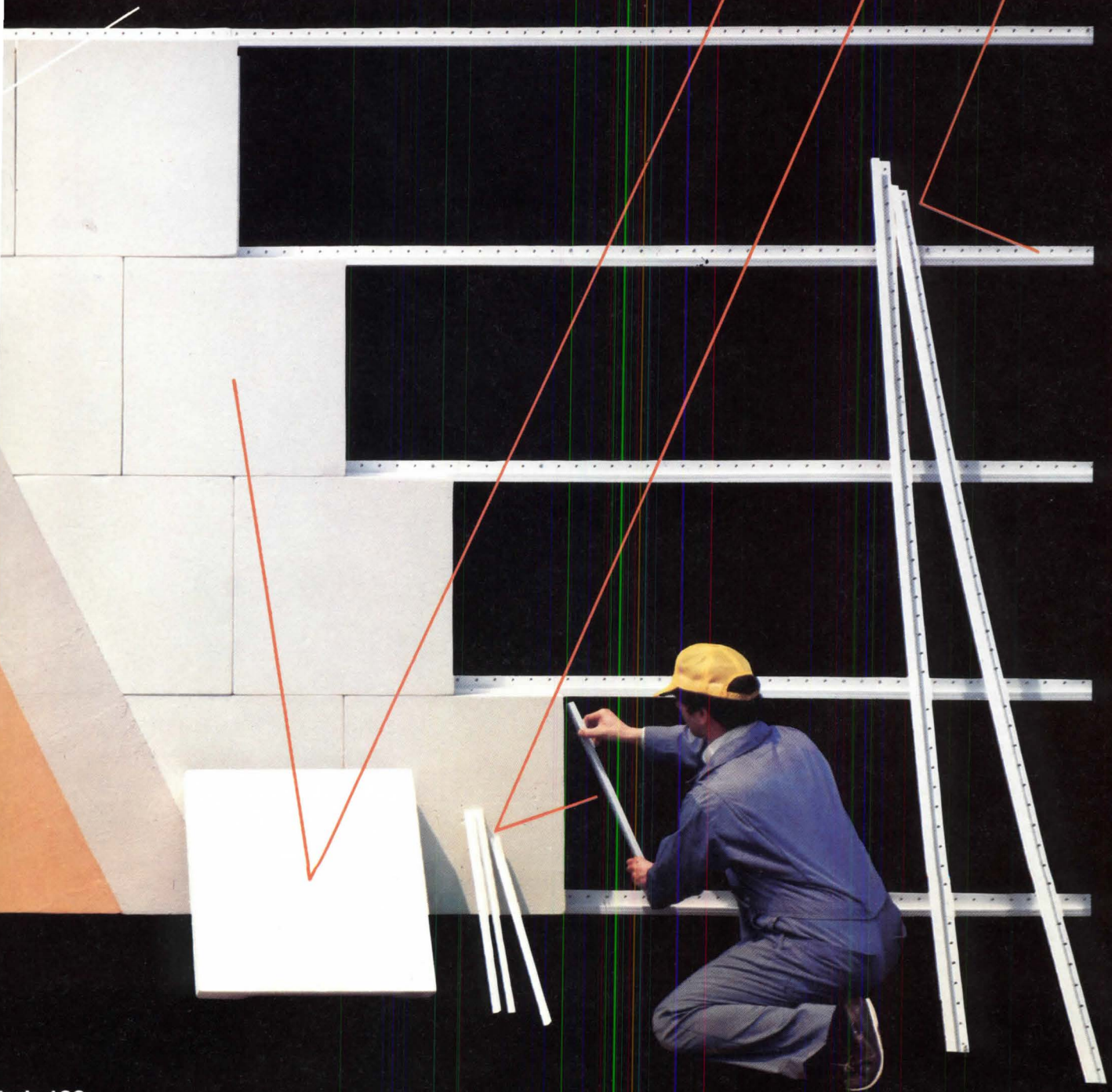
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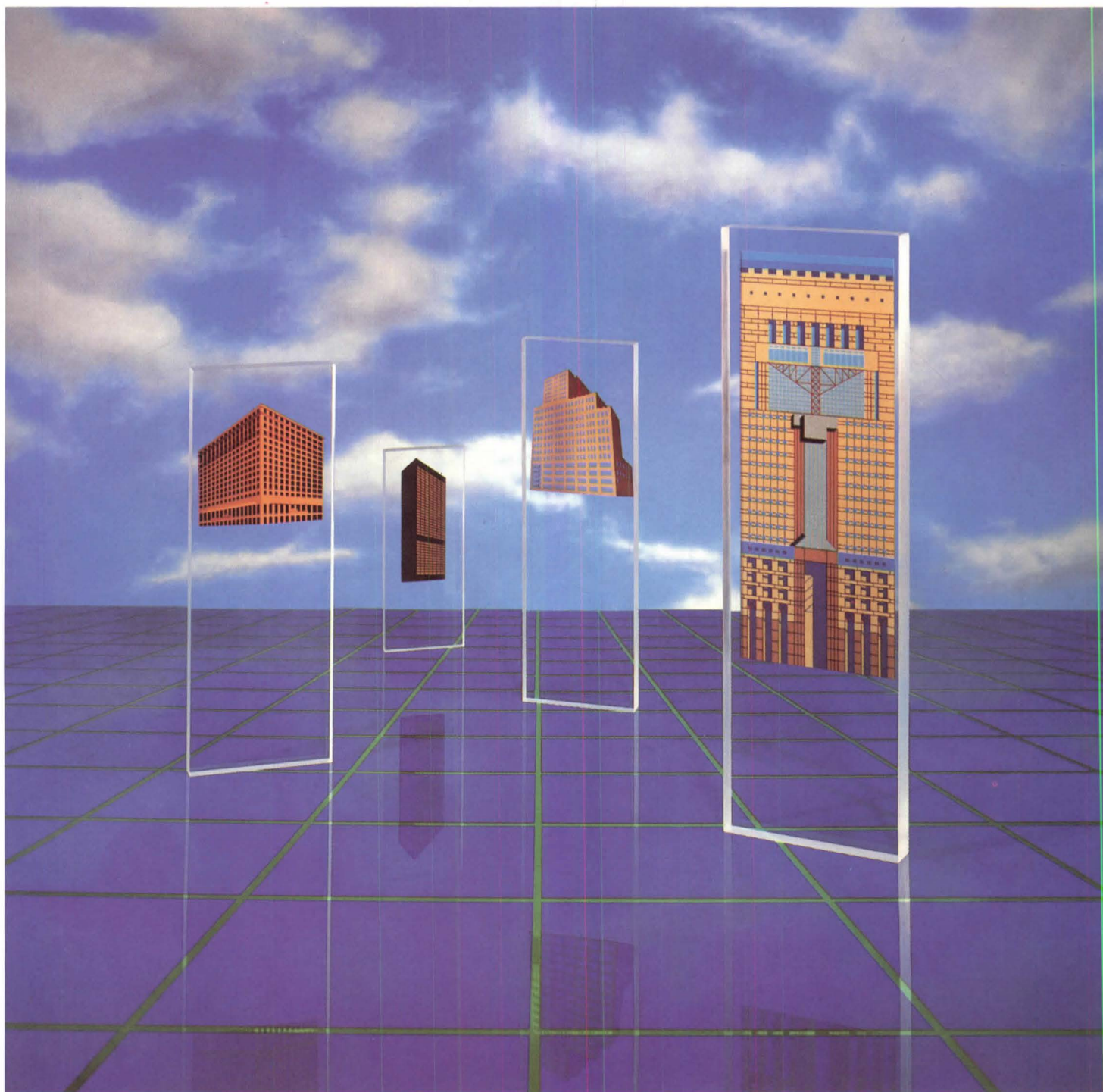
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## EVENTS

**April 2-4:** Seminar on Health Facility Design, Fort Lauderdale, Fla. Contact: Tony Fifer, A.J. Fifer Associates Ltd., P.O. Box 9104, Ontario, K1G 3T8, Canada.

**April 2-4:** Workshop on How to Develop and Integrate Systems Drafting with Computer-Aided Production, Department of Engineering, University of Wisconsin, Madison.

**April 3:** Lecture by Malcolm Wells, School of Architecture, Yale University, New Haven, Conn.

**April 3-6:** Fourth International Conference on Energy Options—The Role of Alternatives in the World Energy Scene, London. Contact: Conference Services, The Institution of Electrical Engineers, Savoy Place, London, WC2R OBL, England.

**April 5-6:** Workshop on Systems Networking and Creating Effective Data Bases for Working Drawing Production, Department of Engineering, University of Wisconsin, Madison.

**April 5-6:** AIA Energy in Architecture: Redesign Workshop, Dallas. Contact: Brenda Henderson at Institute headquarters, (202) 626-7353.

**April 6-17:** Renewable Energy Tour of the Far East. Contact: Linda Bouwkamp, Jordan College Energy Institute, P.O. Box 1906, Grand Rapids, Mich. 49501.

**April 8-10:** Inter-Society Color Council Annual Meeting, Southfield, Mich. Contact: Dr. Allan B.J. Rodrigues, E.I. du Pont de Nemours & Co., P.O. Box 2802, Troy, Mich. 48007.

**April 9-10:** Seminar on Built-Up and Non-Conventional Roofing Systems, Department of Engineering & Applied Sciences, University of Wisconsin, Madison.

**April 9-11:** Annual Technical Session and Meeting of the Structural Stability Research Council, San Francisco. Contact: SSRC, Fritz Engineering Laboratory, Lehigh University, Bethlehem, Pa. 18015.

**April 9-12:** American Institute for Design and Drafting Convention and Technology Exhibition, Anaheim, Calif. Contact: AIDD, 901 N. Washington St., Suite 509, Alexandria, Va. 22314.

**April 16-18:** International Advanced Illumination Conference and Exposition, New York City. Contact: National Expositions Co., Inc., 14 W. 40th St., New York, N.Y. 10018.

**April 20-22:** Earth Systems Exposition, Albuquerque, N.M. Contact: Earth Systems Promotions, Robert L. Proctor, P.O. Box 1217, Corrales, N.M. 87048.

**April 30-May 1:** Seminar on Practical Computer Graphics: New Tools for the Building Industry, Department of Engineering & Applied Science, University of Wisconsin, Madison.

**May 5-9:** AIA Annual Convention, Phoenix.

**May 17-21:** Star 84: 15th International Exhibition for Furnishing Textiles, Milan,

Italy. Contact: Star, Viale Monza, 177-20126, Milano, Italy.

**June 13-15:** International Conference on Windows in Building Design and Maintenance, Göteborg, Sweden. Contact: Secretariat, Windows in Building Design and Maintenance, c/o RESO Congress Service, S-105 24, Stockholm, Sweden.

## LETTERS

**San Francisco's Union Square:** I read with interest Jim Burns' article on Union Square (Nov. '83, page 62). It is an insightful and direct comment on a subject that needs urgent attention—sensitive urban open space preservation and design.

Appropriateness of form and expression relative to existing context seems to be misunderstood by many designers these days, but far too often we see examples of the kinds of things Burns talks about in his critique. All of us want our chance at personal expression, but at times, for the sake of visual tranquility and cohesiveness, an individual building that says, "Hey, look at me" is not the answer.

History has shown us that individual creative personal expression is indeed possible within the boundaries of the larger context. The best examples, to me, are those in which one is sensitive to and derives creative inspiration from the essential qualities of the existing situation. Perhaps the way to accomplish that is to spend as much time "seeing" and "feeling" a place as thinking about it.

Burns' article is excellent. I'd like to see more like it in future issues.

Dean Abbott  
Landscape Architect, Urban Designer  
New York City

**Learning from the '60s:** James Shipsky's "Six from the '60s" (Jan., page 80) was right on. With a slightly different twist, it also described us of the '40s and '50s. If I were starting over, those are the six guys I would like to learn from.

Whitney R. Smith, FAIA  
South Pasadena, Calif.

**Diversity in Fort Worth:** David Dillon's article on Fort Worth's "identity crisis" (Nov. '83, page 66) misses the most important point, that Fort Worth is blessed with an architectural heritage to be preserved and with the prosperity of growth that spurs new development. As long as the singular integrity of each historic structure is assured, why can't our respect for the past live side by side with our ambitions for the future?

A commitment to history requires as well a commitment to present and future excellence. Our creations, standards, and values should live side by side with those we treasure from the past, in society at large and in architecture specifically. While we preserve our heritage, will we

not be judged harshly if we leave nothing new for our ancestors?

In speaking of Fort Worth, Dillon asserts that "the city is confused." In a sense, aren't we all? Depending on our moods, most of us wear different clothes, adopt different styles. At any rate, each of our cities is populated by different types of people. Within the cities, let us celebrate our diversity, not suppress it.

To deny a city a multifaceted design personality is to favor a moronic simplicity. Or, to paraphrase Emerson, a foolish urban design consistency is the hobgoblin of little minds.

Geoffrey S. Simril

Executive Director  
City Center Redevelopment Corporation  
Saint Louis

**Cost Control (?):** I could hardly keep from chuckling when I read of the President's private sector survey on cost control (see June '83, page 25).

We had just recently been interviewed for possible selection as architects for a federal project in southern Indiana. The interview team consisted of three persons sent from the office of a Washington, D.C., consulting firm. They required two days to interview four local firms.

Roughly, their costs must have been: airfare, \$1,014; room, \$225; meals, \$180; car rental, \$140; salary costs, \$1,920; evaluation costs, indefinable. Total cost: \$3,479+.

The project had a budget of \$50,000 to \$75,000, which indicates the maximum design fee of 6 percent would be \$4,500. I think we were on the wrong end of the interview.

Henry G. Meier, FAIA  
Indianapolis, Ind.

**Amplification of a Building Material:** The December '83 article about the Oasis Diner in Boulder, Colo., (page 58) makes reference to Alucobond but in misuse of our registered trademark and mentions our product in conjunction with another material totally unrelated. Alucobond is produced in a proprietary continuous manufacturing process unduplicated by any U.S. panel manufacturer. It is an aluminum-polyethylene-aluminum metal composite that is characterized by flatness, high strength-to-weight ratio, ease of fabrication, availability of large sheet sizes, and a variety of high quality painted and anodized finishes. Manufactured in Benton, Ky., Alucobond is widely used in new construction, retrofit, and commercial signage, with numerous applications in the U.S., Canada, and South America.

Julie M. Maise  
Consolidated Aluminum Corporation  
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**Correction:** Lest some readers fear that we are following some arcane fashion, be assured that the blue headline on page 69 of the February issue was an error, not a format change. *Ed.*

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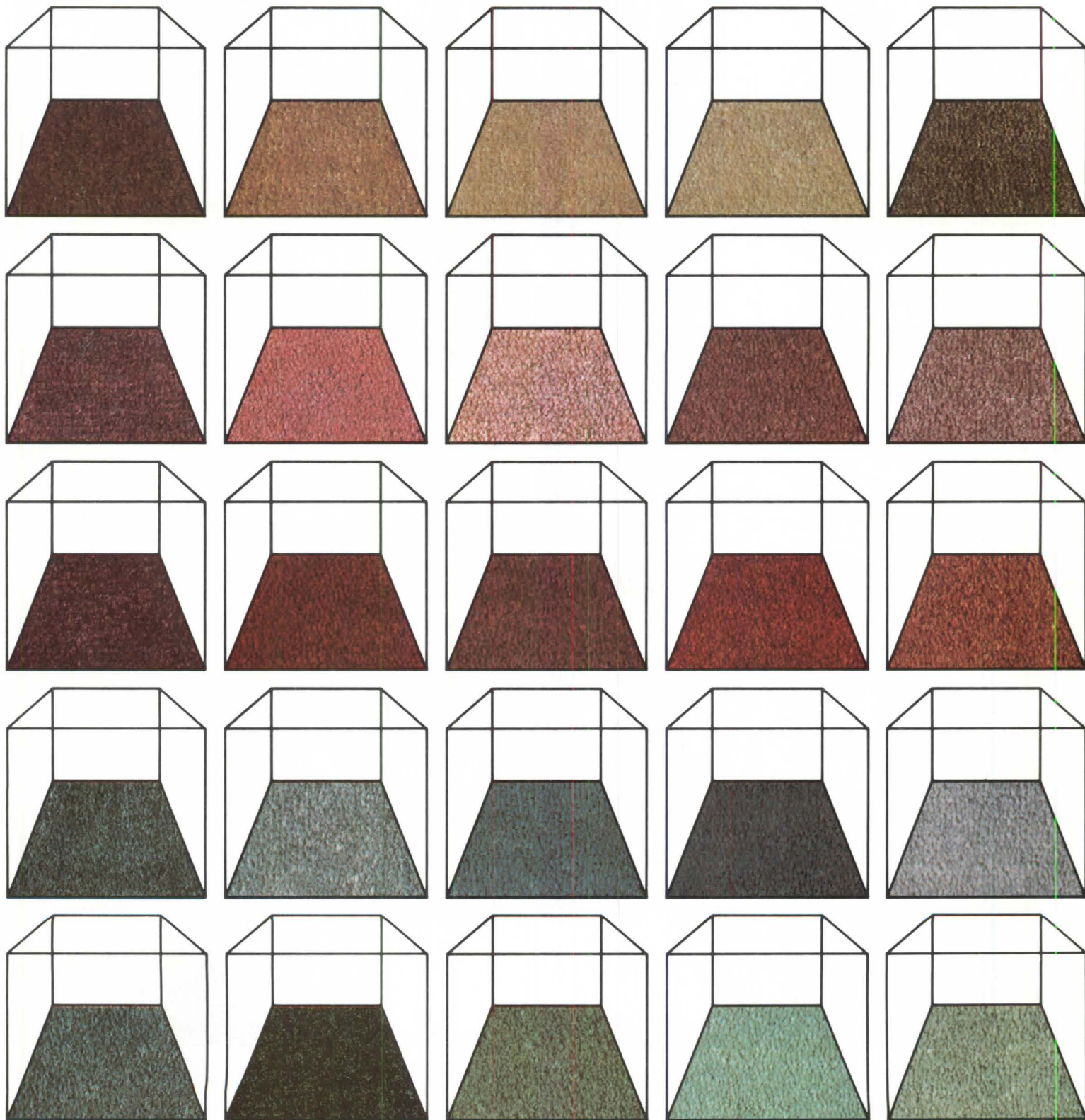
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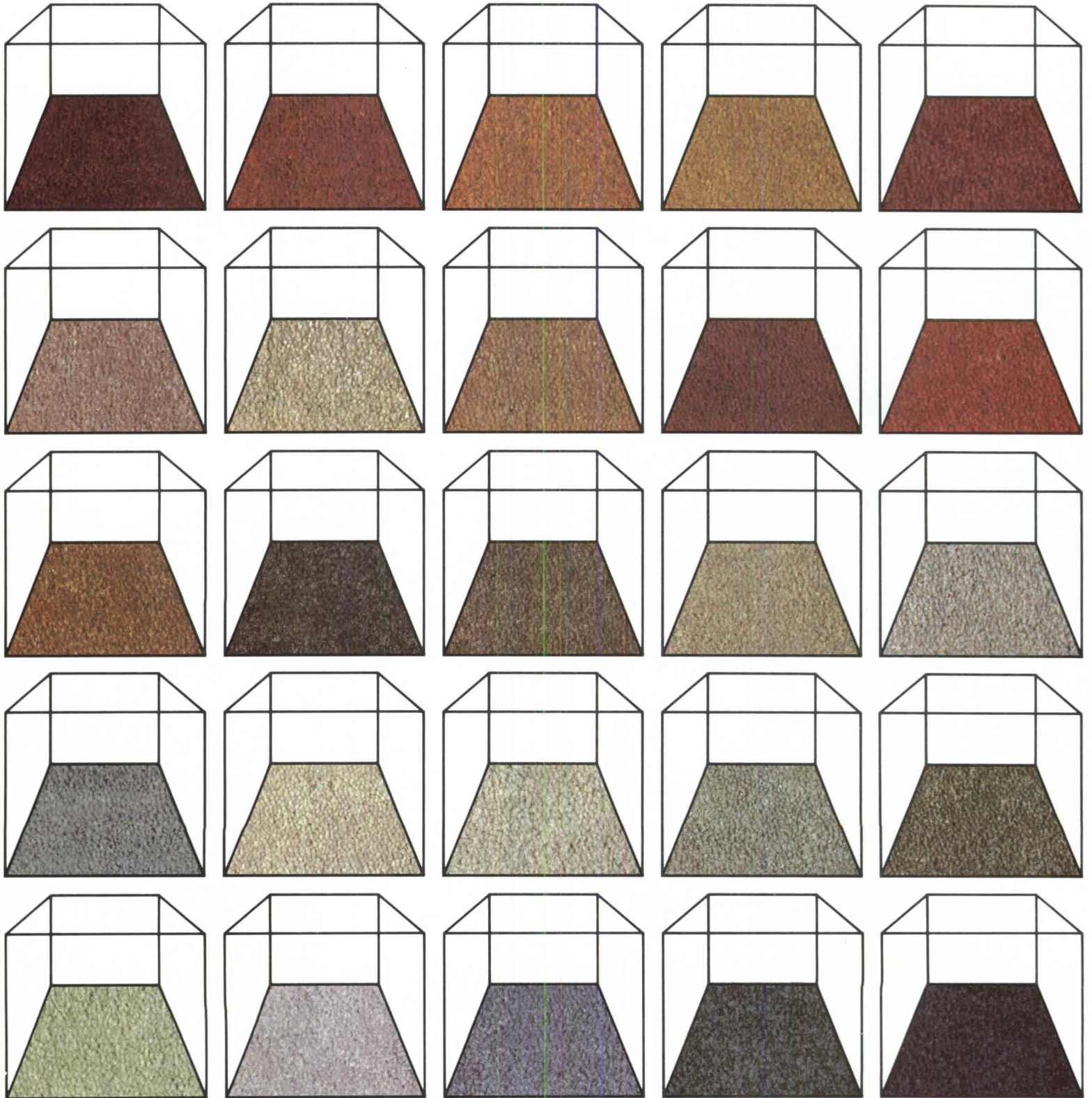
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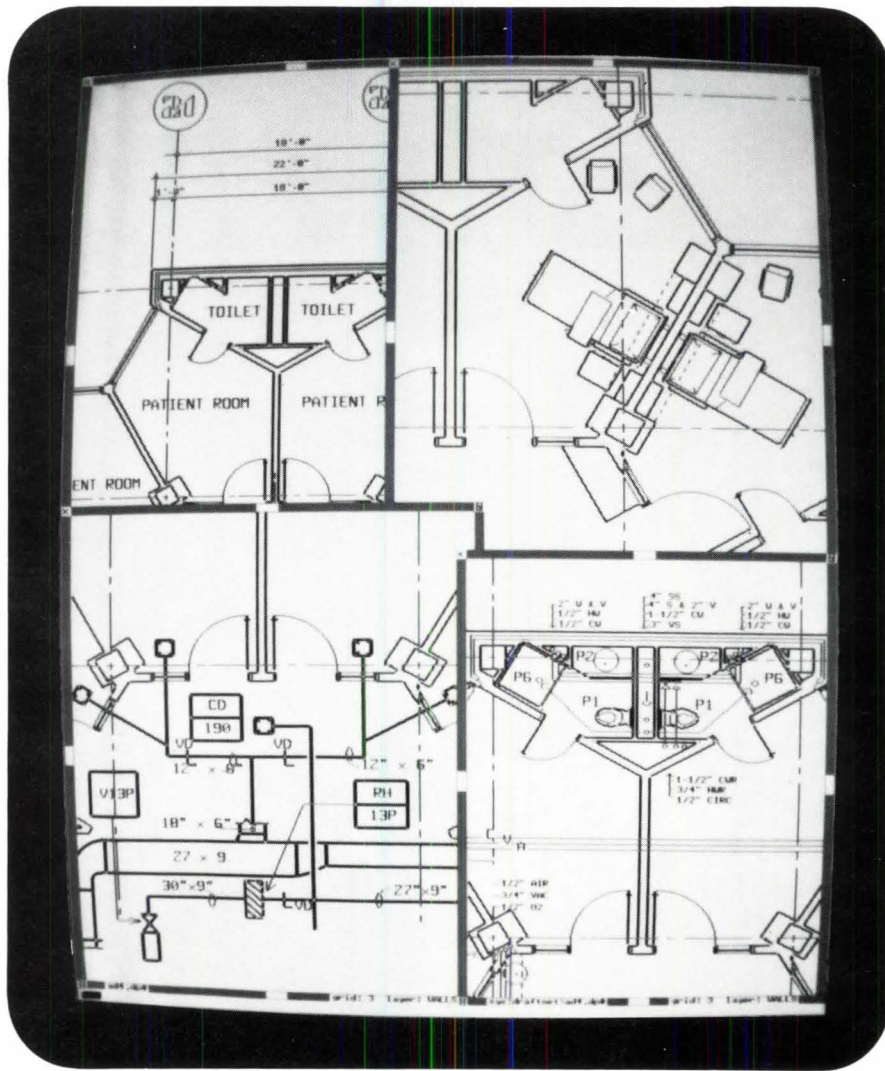
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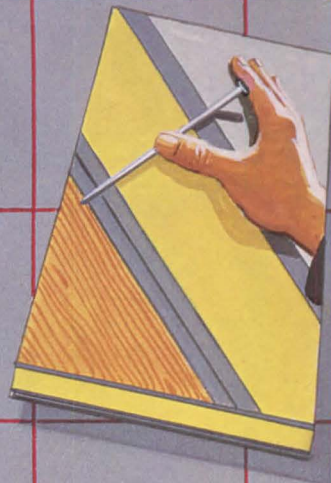
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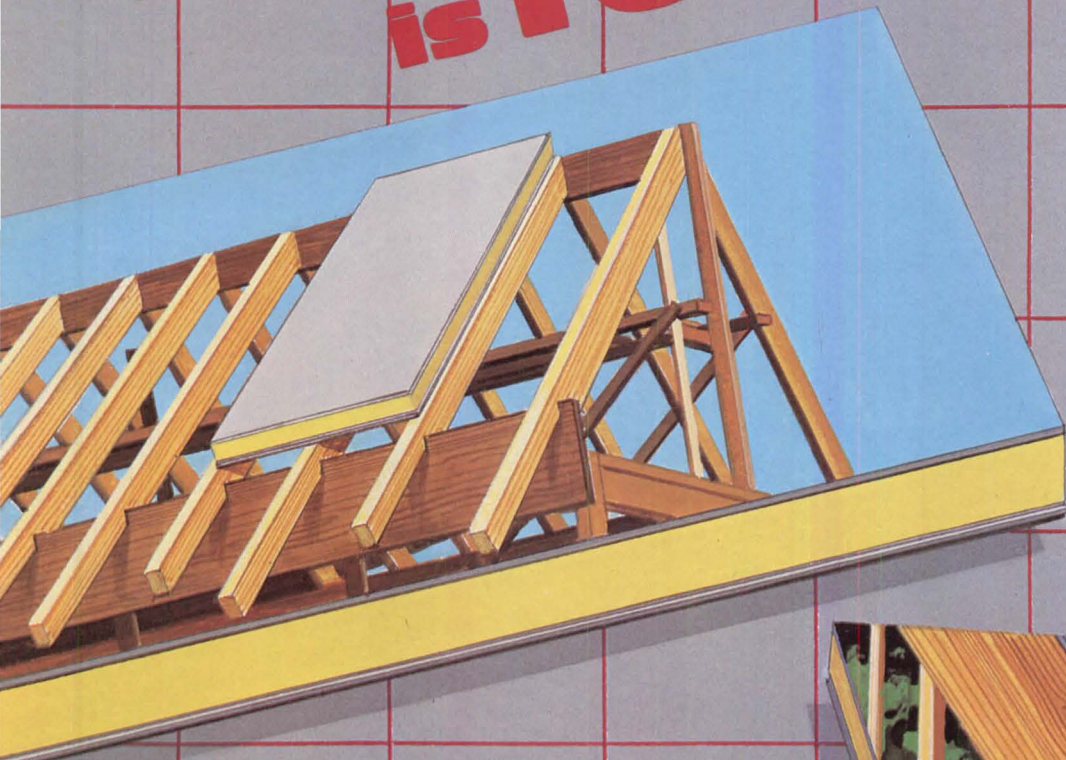


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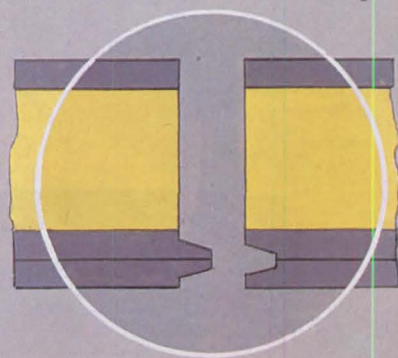
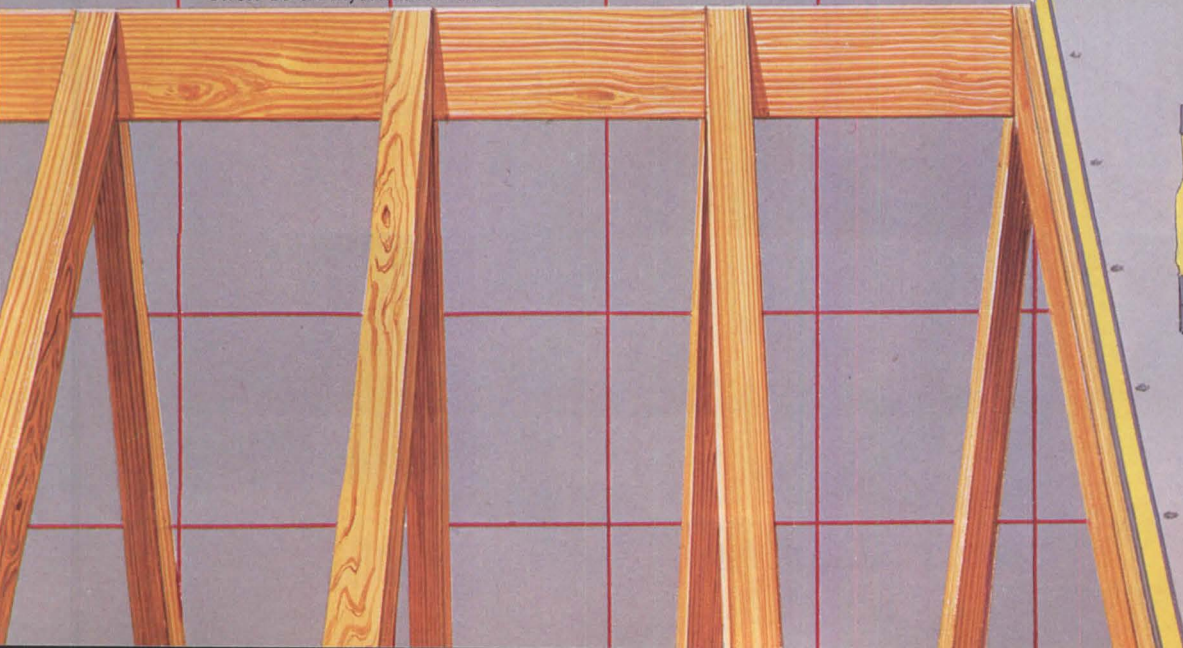
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## Awards and Competitions

# Kallmann, McKinnell & Wood Receives AIA's Firm Award

Gerhard M. Kallmann, FAIA, tells the legend of the founding of the firm of Kallmann, McKinnell & Wood.

The year is 1961 and Noel Michael McKinnell is Kallmann's teaching assistant in his studio at Columbia. One day Kallmann and McKinnell take a long walk down the island of Manhattan from Morningside Heights to the Battery. On the way, they make two decisions. One, they will pool their talents and attempt to start an architectural practice. Two, since they have no other way of getting work, they will enter competitions. They will enter not more than five competitions. If, by the fifth, they have not won, they will abandon their attempt to start a firm.

Somewhere high above Broadway, the gods are listening. Within a month, a competition is announced for the design of a new city hall in Boston. It is the first competition for a major public building in the United States since the one for San Francisco City Hall in 1912. Kallmann and McKinnell, neither of whom has ever designed an actual building in his own name and neither of whom is registered, enter. A friend, Edward F. Knowles, AIA, generously offers his office space and his registration stamp. Kallmann and McKinnell, supplemented eventually by some of their friends and Columbia students, go to work.

Let several months pass. Cut to the rotunda of the Boston Museum of Fine Arts. Much of the Boston architectural community, along with many others, is jammed into this Beaux-Arts space. The focus of attention is a large white cloth, which is draped over a model of the winning design for City Hall. No one except the competition jury knows whose model is beneath the cloth. Kallmann and McKinnell are present, as are the other seven finalists in the competition. Also present in the audience is someone Kallmann and McKinnell have yet to meet: Henry Wood, AIA, an architect with the Boston firm of Campbell & Aldrich.

At the dramatic moment, Mayor John Collins lifts the white cloth and the curtain goes up on the history of what is to

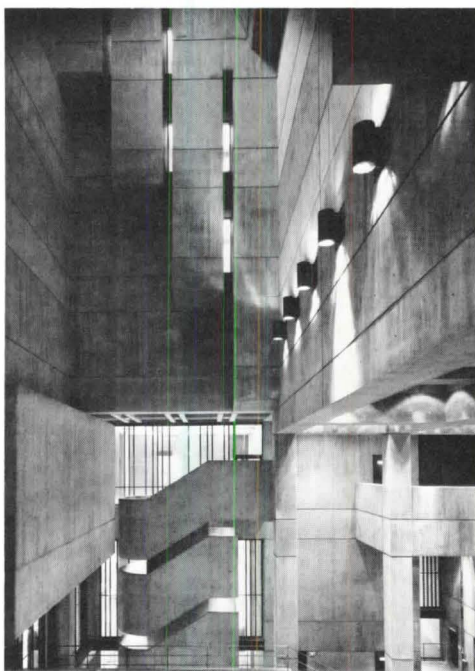
become the 1984 AIA firm of the year.

Recalling that moment, Michael McKinnell, FAIA, says today: "I don't think it ever once crossed my mind that we would win. In fact, I didn't want to come to Boston for the unveiling. All we tried to do was make the building what we ourselves thought it should be."

For McKinnell, whether or not he really lusted for it, the victory proved timely. He had been let go by Columbia, he was newly married with a child on the way, and he held the technical status of illegal alien.

According to witnesses of the unveiling ceremony, Mayor Collins, who knew no more than anyone else what it was he was about to unveil, greeted his discovery with astonishment and possibly with dismay. Boston City Hall was not and is not anyone's conventional idea of a city hall. But Collins, with his urban renewal director, Edward Logue, Hon. AIA, went ahead and built it, becoming the first in a string of courageous and ambitious clients whom KMW seems to have a knack for finding. Boston City Hall opened in 1968. Unforgettable, controversial, powerful, it quickly won an AIA honor award. A few years later, in a poll held in the bicentennial year of 1976, the AIA JOURNAL asked architects, historians, and critics to nominate up to 20 of the most significant buildings in American history.

*continued on page 24*



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*Clockwise from upper right: Phillips Exeter Athletics Facility, American Academy of Arts and Sciences, Boston City Hall.*





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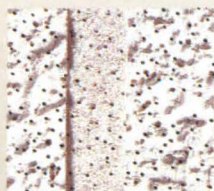
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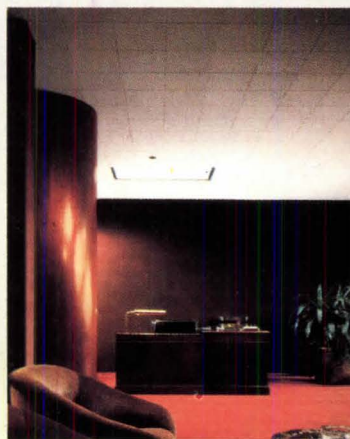
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**Awards and Competitions** *from page 21*  
City Hall finished sixth, ahead of any other work by a living architect.

By the time City Hall opened, both Kallmann and McKinnell had been teaching at Harvard for several years and had moved their firm to Boston. (Today, McKinnell is a full professor, Kallmann a professor emeritus.) The competition rules specified that any winner not registered in Massachusetts must associate with a Massachusetts firm. Kallmann and McKinnell allied themselves with Campbell and Aldrich, from whose ranks Henry Wood was assigned to the project. In 1965, as City Hall went into construction, Wood moved over to join Kallmann and McKinnell, becoming a partner in 1970.

The three partners came from diverse origins. Kallmann, was born in Berlin in 1916, left Germany in the 1930s, and studied architecture at the Architectural Association in London. He was for a time assistant editor of the magazine *Architectural Review*. He came to the United States in 1948 and over the next 15 years taught in Chicago and New York City and worked for several firms. McKinnell, now 48, grew up in Manchester, England, got his architecture degree there, and came to the U.S. to enter the master's program at Columbia. Wood, 54, is a Bostonian who majored in physics at Harvard, became interested in architecture after hearing a lecture by Joseph Hudnut, and made a final decision to move from physics into architecture at the moment when, as an unwilling draftee, he witnessed atomic bomb tests at Eniwetok.

How could relatively inexperienced architects execute so awesome a commission? McKinnell admits things were difficult and credits Nelson W. Aldrich, FAIA, with pulling the young firm through.

The road from City Hall to the AIA firm award was long and very often rocky. Despite many design awards, work was sometimes slow in coming. The best known early buildings—City Hall, the Boston Government Center Garage, the Boston Five Cents Savings Bank (another competition winner), the Roosevelt Island Garage, and the Phillips Exeter gymnasium—were all powerful, sculptural works, built entirely of concrete and tending toward the brutalist. KMW was in danger of being stigmatized as a firm of designers who could do nothing but build monuments just at the moment when cultural tastes were changing, when the preservation and ecological movements were encouraging a gentler, more familiar, less aggressive kind of architecture.

It is just possible that KMW would not have survived the transition except for the arrival of a second commission almost as remarkable as City Hall. On a wooded five-acre knoll near Harvard, KMW was asked, in 1978, to create a new headquarters for the American Acad-

emy of Arts and Sciences, a society of scholars, artists, and scientists. Working for the first time at a semidomestic scale on an almost rural site, KMW turned for inspiration to the arts and crafts movement and especially to Wright, Mackintosh, Aalto, and Greene & Greene. They designed a low, spreading hilltop villa with broad copper roofs, brick-piered arcades, small-paned windows, stained wood trim. The academy won another AIA honor award and inaugurated a new phase in the firm's work. Today, KMW has grown to a total staff of 35, is busy with six major projects, all significant, all different, and all in some way remarkable.

For Bangladesh, the firm is completing site analysis for a new U.S. embassy. For Aspen, Colo., a performing arts center is in schematics. For Boston, a new Back Bay station, combining rail and rapid transit, is under construction, and a few blocks away a massive rebuilding of Hyines Auditorium, the city's major convention facility, is in schematics. For a corporate deer-park site in New Jersey there will be a headquarters complex for a large manufacturer of medical equipment. Finally, for St. Louis, yet another competition winner is under construction, a school of business and public administration for Washington University.

At the present moment, Michael McKinnell and Henry Wood are staying on top of this impressive workload while Gerry Kallmann completes his fellowship at the American Academy in Rome, where he hopes to have time to reflect on the work of his firm and to articulate more fully the philosophy that underlies it. McKinnell and Wood are less willing, and feel less able, to talk about architecture in general terms. Says McKinnell: "Gerry is always able to place all our work and all our problems into a larger cultural context. Neither of the others can do that."

What first drew Kallmann and McKinnell together back in the Columbia days,

McKinnell says, was a common desire to create architecture that would derive much of its expression from the means of building. Only Louis Kahn, he thinks, was doing that at the time. New York architects, by contrast were cloning thin versions of Mies van der Rohe in which the sensitive placement of Barcelona chairs and positioning of downlights was all that was left of design.

From the first, the KMW design process has changed little. All design is done by the partners. It begins with Kallmann and McKinnell sitting alone in the private studio they share, upstairs from the rest of the office. They look at blank yellow trace. They talk and sketch together, sometimes drawing on the same sheet and sometimes unable to remember, later, whose seminal sketch was whose. At some point fairly early in the process, Henry Wood gets involved, advising on design primarily from the point of view of construction. Both Kallmann and McKinnell sketch with great delicacy and skill, not only at this conceptual stage but later on in evocative presentation pastels or ink-and-wash miniatures.

Only when design has been fully conceptualized does it move out of Kallmann and McKinnell's private studio into the larger office to begin the usual process of testing and development through models, measured drawings, and consultations with the owner and others. Hans Huber, an architect with a special knowledge of detailing who has been with KMW for most of the last 15 years, is a key figure in this process. The partners also make a point of emphasizing the importance of owners, builders, and consultants (especially structural engineers) in their design process, yet after talking with them one is left with a contrary impression. This firm's work is, much as design ever is in architecture today, essentially the creation of the partners themselves. They remain active, too, throughout construction, so much hands-on involvement means not having too big a firm, and KMW has accepted that limitation.

A slightly sensitive point with the architects is the question of their use of history. They feel they were out in front of their peers on this issue and don't get enough credit. City Hall, they say, has a classically tripartite division of base, shaft, and entablature, a notion few architects were exploring at the time. Both partners love to tell a story in which one of them is passing City Hall by taxi when the cab driver points to the building. "Do you know where the architects got the idea for that?" the driver demands. "No," replies the entranced architect. The cabbie takes out a penny, turns it to the side that represents the Lincoln Memorial, and then turns the Lincoln Memorial upside down. "See?" he says triumphantly. (Try it.)

*continued on page 27*

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*Unless otherwise indicated, the news is gathered and written by Allen Freeman, Nora Richter Greer, Michael J. Crosbie, and Lynn Nesmith.*

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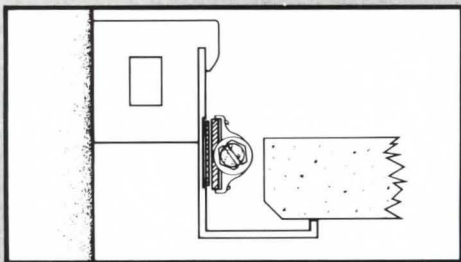
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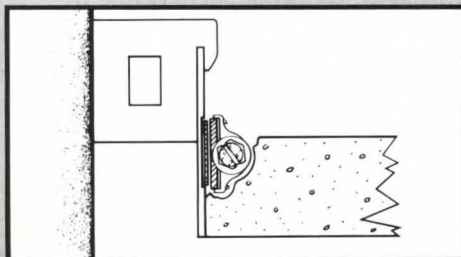
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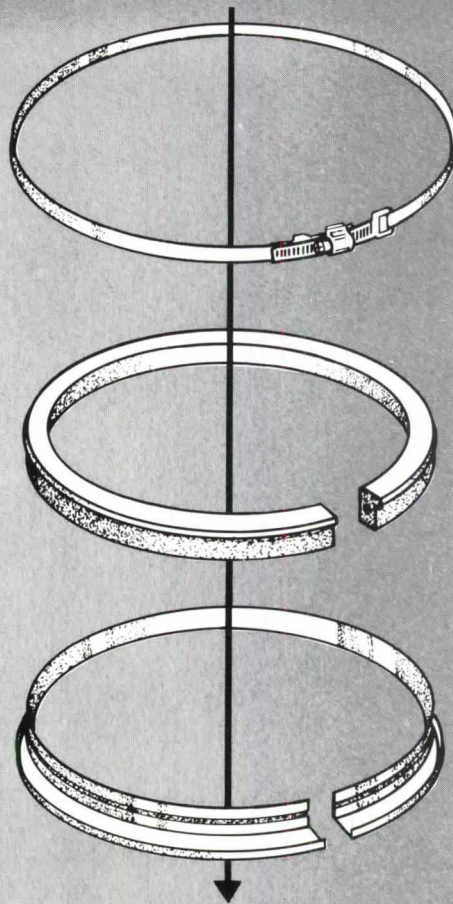


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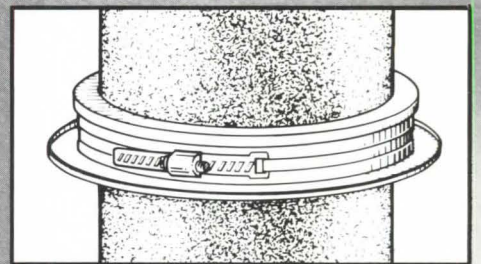
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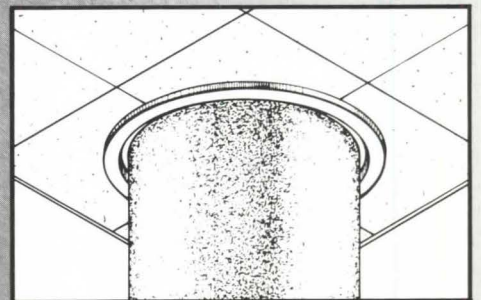
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## Awards and Competitions from page 24

Kallmann and McKinnell regard this story as proof of one's roots in classical architecture. But they never "quote" directly from the architecture of the past. They subject a source to a process of integration and transformation that makes it new. They detest the practice of employing history for "ironic" contrast or that of designing a building as a puzzle of arcane precedents to be deciphered by the clever. They believe that, instead, they use history in a straightforward way as a source of both imagery and typology. They employ whatever cultural imagery is provoked in them intuitively by the task at hand—the imagery that they find arouses in them and, they hope, will arouse in others the kinds of associations that will help make the building's meaning clear. And they employ in the same way whatever typologies have been developed by architects of the past to organize and solve generic programs similar to the program KMW's designers find themselves dealing with at a given moment. Thus, typologically both City Hall and the American Academy are atrium buildings with a generally archaic-classical kind of plan, whereas imagistically City Hall evokes Paestum and La Tourette while the Academy conjures up Edwardian arts-and-crafts country homes and clubs.

With some irony, McKinnell muses that although he and Kallmann have changed little in their years of teaching, the academic backdrop behind them has moved so much that student perceptions of the two have undergone a reversal. Where in the 1960s Kallmann and McKinnell were seen as theorists, artists, and intellectuals, today in the 1980s students think of them as nuts-and-bolts professionals. McKinnell thinks students are now too hermetic in their definition of architecture and he tries to combat this tendency by relating his practice to his teaching through the use of real-world anecdotes.

Not really trendy, despite many imitators, not at all interested in the enterprise of taste-making, not particularly good at self-promotion, KMW stands on the architectural scene today as a force for conservatism and for the case that new ideas must be absorbed, digested, and related to program and to tradition—both general architectural tradition and the architect's own evolving personal tradition—before they can become usable. It's a stance that enables KMW to work both sides of the street, to make sense to bankers while remaining interesting to the avant-garde of their profession. With more work and just as much energy, KMW may only now be taking its place in the sun.

ROBERT CAMPBELL

*Mr. Campbell is a contributing editor of ARCHITECTURE. Michael McKinnell was his thesis adviser a very long time ago.*

## British Gold Medal Awarded to Indian Architect Correa

The Royal Institute of British Architects will present in May its gold medal to Indian architect and planner Charles Correa, whose solutions to Third World housing problems have attracted worldwide attention.

Born in Hyderabad, India, in 1930, Correa was educated at St. Xavier College in Bombay and received a B. Arch. from the University of Michigan in 1953 and a M. Arch. from MIT in 1955. In 1956 he returned to Bombay, where he set up his own practice in 1958. Although Western trained, Correa turned to indigenous Indian architecture as inspiration, especially that of peasants.

Much of his work is very simple in design and relies on materials and construction techniques used widely in small Indian villages. Correa once said, "A country like India is really a pleasure for an architect to work in. It is one of the few occasions left when the two (contradictory) compulsions that precipitated modern architecture can be synthesized: namely, on the one hand the credo that function, however broadly defined, is the progenitor of form; on the other, the equally compulsive fascination that architects have always felt for new and exotic forms."

RIBA cited Correa for his ability to capture the "modest, deeply practical, and timeless solutions of peasant building. . . . Even his major works—such as the Gandhi Barshan Museum in Delhi and the Kala Art Center at Goa—speak this same unassuming but thoughtful language, enlivened always with touches of characteristic wit."

In 1964 Correa's proposal for New Bombay, a settlement for two million people that was designed to relieve some of the overcrowdedness of Bombay, was adopted. This project, along with others, reflects one of Correa's central beliefs—that the true problem of low-cost housing is not one of building forms but of proper land use planning. Says the RIBA citation, "The strength of such an approach lies in its refusal to dominate. His buildings do not celebrate power nor wealth, but demonstrate the virtues of an architecture that is dedicated to good sense and to the spirit of live and let live, that is frugal in its use of materials, and where possible in the product of communal enterprise in which—once the basic essentials are provided—the people involved devise their own solutions."

In hearing of the award, Correa commented: "I feel quite overwhelmed by this extraordinary event, which honors the architects of the Third World and the issues they address."

*News continued on page 29*

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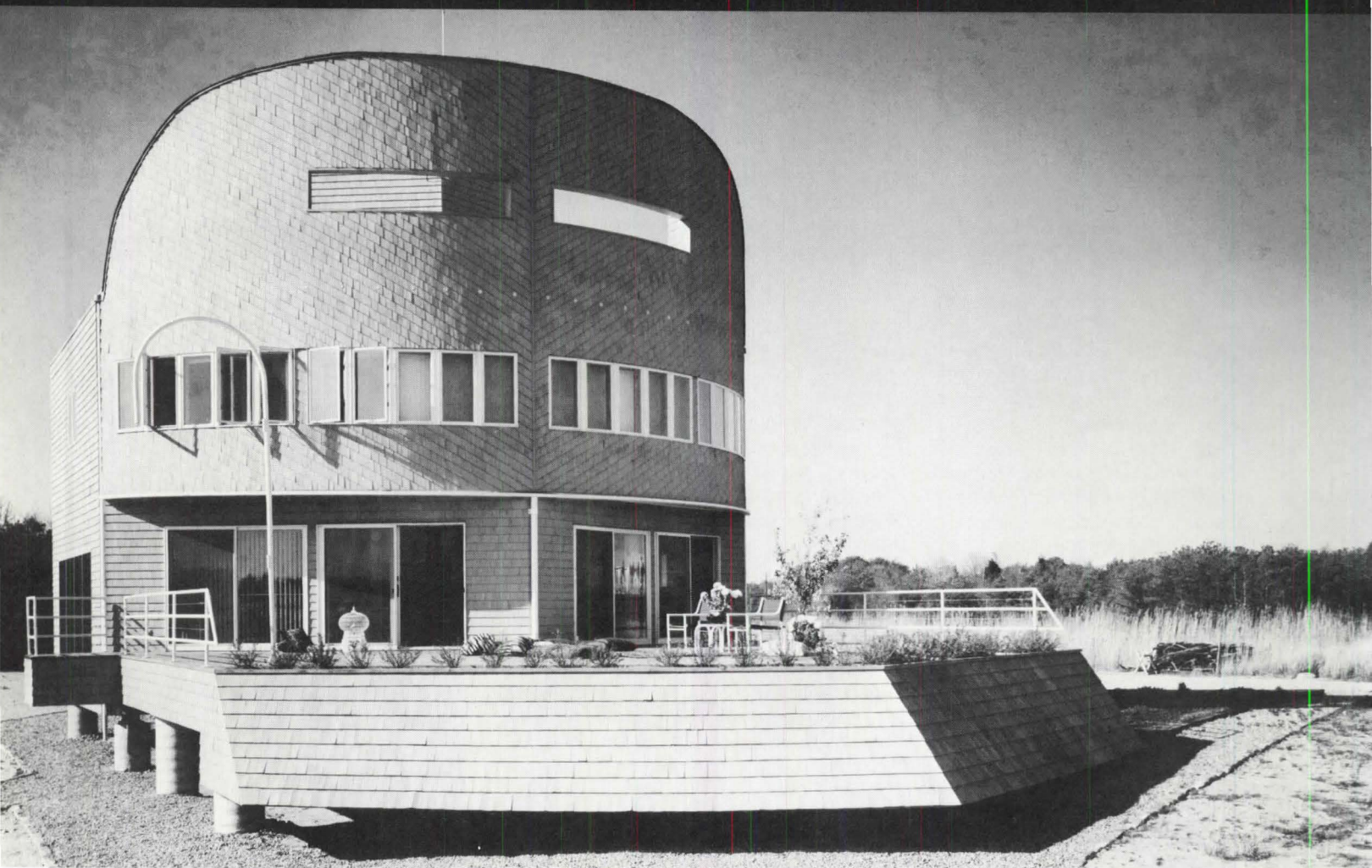
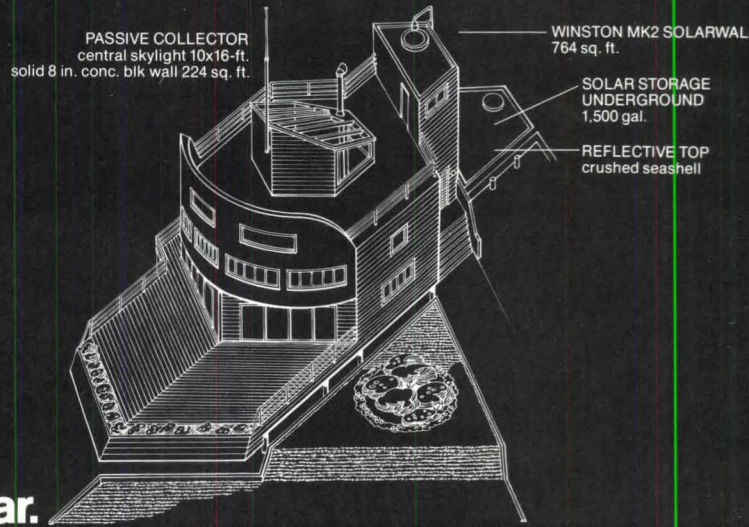
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## ACSA Honors Robert Geddes For Excellence in Education

Robert Geddes, FAIA, has been named to receive the 1984 award for excellence in architectural education presented by AIA and the Association of Collegiate Schools of Architecture. He will receive the award this month at ACSA's annual meeting in Charleston, S.C.

Geddes' career has been distinguished as both an educator and architect. Born in Philadelphia in 1923, he studied architecture at Yale and Harvard, receiving a master's degree in 1950. Geddes says that while at Harvard he formulated a view of architecture as integrally tied to society and its history, a view that he has expanded and refined throughout his career. "I had a very strong social, almost political, sense of what architecture was all about," he says.

Geddes later returned to Philadelphia, to teach at the graduate school of fine arts and the University of Pennsylvania and in 1954 to found his own firm, Geddes Brecher Qualls Cunningham. At Penn Geddes conducted research for the city's development authority in collaboration with ecologist Ian McHarg, Hon. AIA, and others. In 1965 he was named dean of the school of architecture at Princeton University.

While dean, Geddes says, his efforts were directed toward integrating architecture with other aspects of the university. He introduced a number of new programs and courses, including an introduction course (which he continues to teach) on building design, landscapes, and cities, open to all undergraduates at the university. Geddes says that this course, which has been one of the most popular at Princeton, makes the study of architecture a part of the education of all students and also sets architecture within a broader context. "It connects buildings and their landscapes to cities," he says, "so there's a sense of architecture not as buildings isolated from their larger environments."

Geddes stepped down as dean in 1982 and is now William R. Kenan Jr. professor of architecture, a chair he has held since 1968. With a perspective of nearly 35 years in academia, Geddes sees architectural education at the moment as a slightly unbalanced appreciation of the subject. "There is a greater enrichment of architecture now, visually and historically," he says, "but there should be a greater drive toward the political and social meanings of architecture, to increase the connections to the social sciences—politics, economics, and anthropology—the sciences of our own society and our own time."

Geddes' research while at Princeton has been a collaborative effort with experts in other disciplines, notably social sci-

tists Robert Gutman, Hon. AIA, and Suzanne Keller, Hon. AIA. Studies conducted by Geddes on the needs of people in the built environment have been incorporated into the design work of his own firm, which received AIA's firm award in 1979. The firm also received AIA honor awards for Pender laboratory at the University of Pennsylvania in 1960 and for the humanities and social sciences center at Southern Illinois University in 1976.

Geddes sees more of his time in the future spent on his practice; "My new style is what I call 'postdean' architecture," he says. And in an effort to clarify the architect's role in the design of cities, Geddes hopes to evaluate the development of Philadelphia over the past three decades in search of greater involvement by architects and alternative design strategies for the future.

Jurors for the award were Joseph Esherick, FAIA (chairman); Robert D. Fox; Roy Knight, FAIA; Eugene Kremer, AIA; Robert C. Metcalf, FAIA; and Allen Payne.

## Ralph Erskine Receives First Wolf Foundation Prize

The first Wolf Foundation prize in architecture will be presented in May to Ralph Erskine of Sweden for his "fundamental contribution to contemporary architecture, based on his creative spirit, solving human problems in a highly original formal language." The \$100,000 international prize was established in Israel in 1975 by the late Dr. Ricardo Wolf "to promote science and art for the benefit of mankind."

The foundation awards prizes in mathematics, agriculture, physics, chemistry, and the arts and presents stipends and research grants to Israeli students and scholars. Previous winners in the arts were Vladimir Horowitz, Olivier Messiaen, Joseph Tal, Marc Chagall, and Antoni Tapies.

The prize committee called Erskine "a creative and original architect who has evolved from one of the second generation leaders of the modern movement to an architect concerned in a wide range of projects with a dialogue between the existing and the new, and participation of the users in the creation of their habitat."

Erskine, 70, was born in the United Kingdom and educated at the Polytechnic, London, in the 1930s. He moved to Sweden just before World War II, drawn to the Scandinavian country's embodiment of the new welfare state and a new architecture to go with it. He attended the Royal Academy of Arts in Stockholm in 1944-45 and has practiced in Drottningholm, Sweden, since 1946.

Erskine's philosophy of architecture is said to emphasize the importance of man

*continued on page 31*

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**Awards and Competitions** from page 29 and man's right for a decent social and physical environment. He emphasizes participation during the design process of the people who will use or live in the building. He advocates modern urban redevelopment through resettling existing communities in low-rise/high-density housing that combines existing structures with new construction. Erskine's architecture also reflects a pragmatic response to the bitterly cold climate. Through "arctic studies" he has developed designs that take advantage of the sun's heat and light, control snow drifts, and find some protection from the arctic winds.

Notable during Erskine's 40-year career is the massive redevelopment of Byker, Newcastle-upon-Tyne, England, during the '70s and the more recent Students Association Hall and new Central Library for the University of Stockholm.

### The Institute

## Newly Named EVP: A Self-Proclaimed Professional Manager

In 1978 Louis Marines decided that his job as general manager/marketing director of William Kessler's 25-person architecture firm in Detroit was limited. Marines wanted to be a "full-blown manager" and to "do it in a bigger pond," in his words. Little did he know then that within six years his pond would grow to embrace the Institute's staff, and in turn all of AIA, and that his title would be executive vice president.

At age 41 Marines considers himself a "professional manager" who has spent all of his adult life "trying to get as much as possible out of limited resources and making people feel good about the process and making an organization an instrument of policy." He feels he was chosen as AIA's next in-house leader "to take the Institute in hand, to take the staff in hand, to take the resources in hand, and to help get more mileage from a limited amount of resources. . . . The charter says, by implication, that the board wishes to be free of the need—the perceived need, I think—for the day-to-day involvement in the Institute, and be left to deal with more appropriate issues, like where is the profession going, what should the profession do to respond to competitive pressures, client demands, public concerns, how to deal with all of those more global or cosmic issues."

Marines took the job because, as he says, "the Institute realizes in itself so many of my personal goals about the things that I want to do with my life, in

### Copley Square Winners

Five finalists in the competition for the redesign of Copley Square in Boston were chosen in early February by a jury chaired by urban-space expert William H. Whyte of New York City. The winners will be paid \$5,000 to develop their proposals for final judging and announcement of a winner on May 20.

The finalists are: SWA Group of Boston; Cooper, Ekstut Associates, New York; Clarke & Rapuano, New York; Samuel R. Coplton and Harry L. Dodson, Cambridge, Mass.; and Michael R. Van Valkenburg, Krisan Osterby-Benson, Peter Schaudt, and John Whiteman, Cambridge.

By the rules of the competition, any of the finalists may be required in the second stage to associate with a more experienced firm. ROBERT CAMPBELL



Allen Freeman

the way of improving the natural and built environment and doing that through teaching and communications and publishing and research." Marines also said that he has a "high regard for the Institute and its aims, its people, its history and its future."

Marines' interest in architecture predates his professional affinity toward business and management. "Embarrassed" that his reasons might sound "naive," Marines explains that of the many magazines his family received when he was 9 or 10 years old (his family loved to read, he says, and

*continued on page 34*

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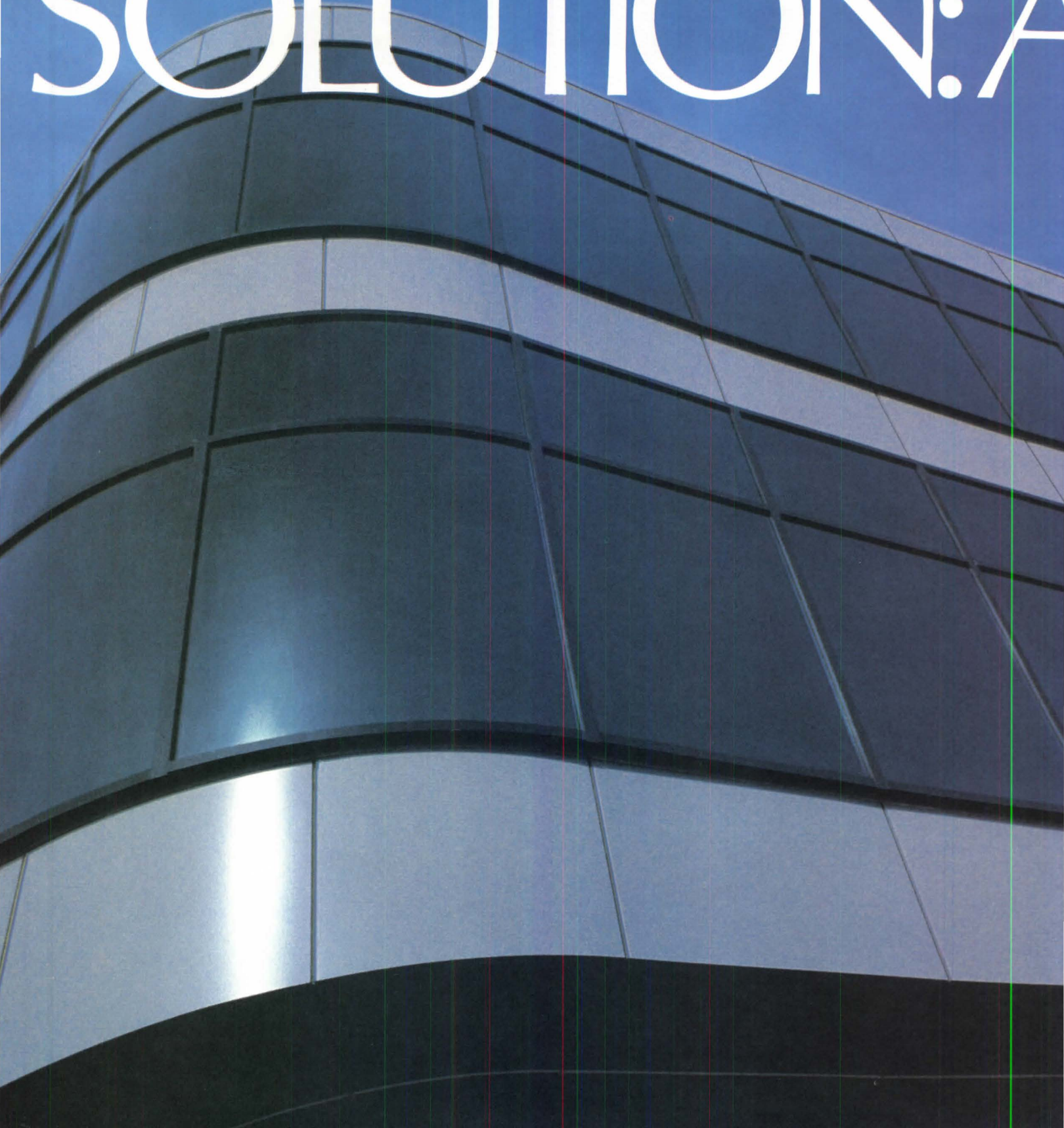
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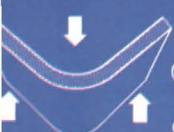
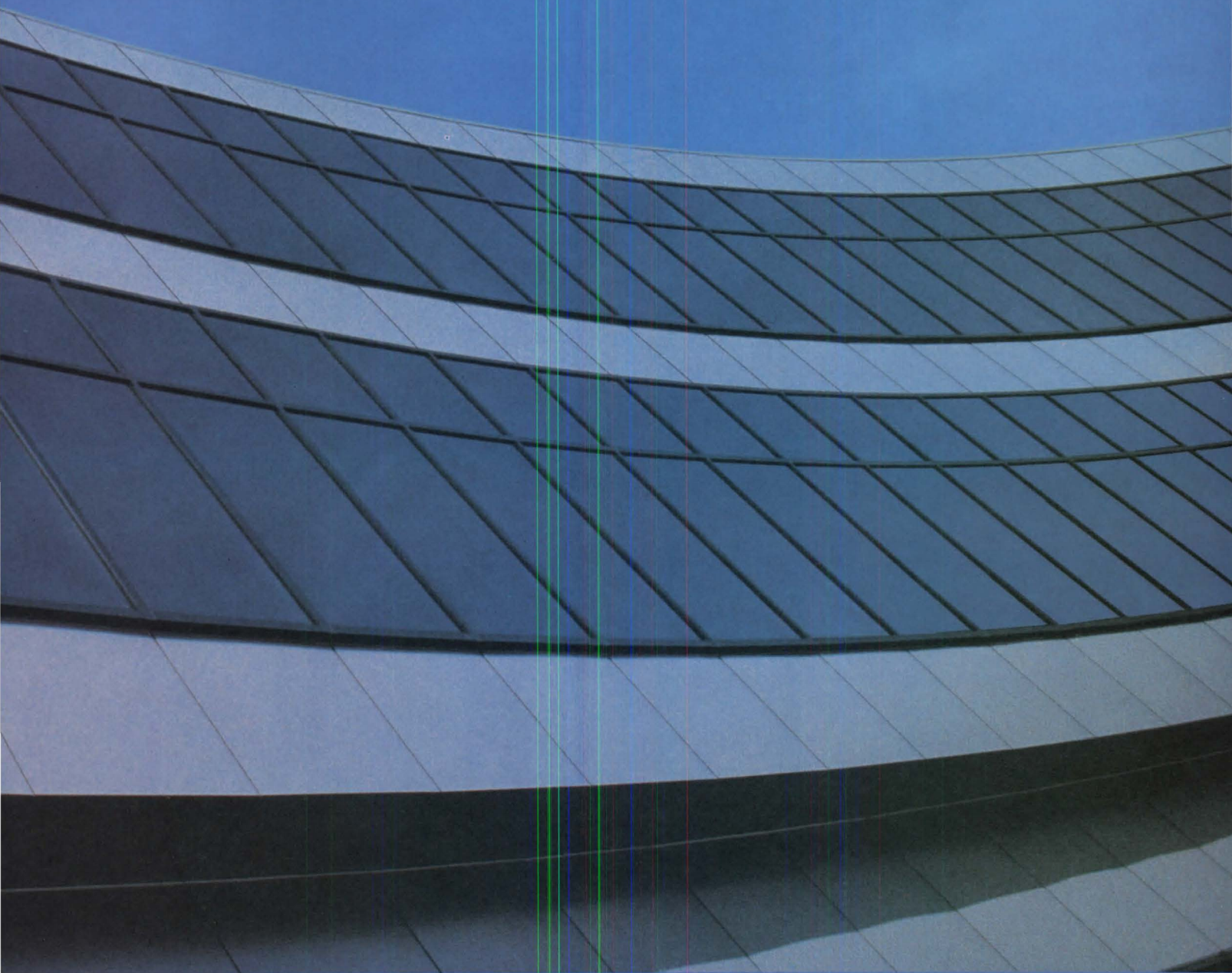
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Composite Material Specialists

Circle 17 on information card

## The Institute from page 31

received about 50 magazines a month) the first ones he turned to were the shelter magazines. "I always turned to the sections that had floor plans, and I used to study those and track the circulation. I guess, with the benefit of hindsight, what I was looking for was whether you could live and work and play in this place and have a good time and how well would it accommodate your family."

At the age of 16 Marines left Bergen County, N.J., to attend Washington and Jefferson College in Washington, Pa., from which he graduated Phi Beta Kappa with a major in English. His interest in the built environment, which had continued through high school, matured in college with the help of many art history courses. At W&J, as he recalls it, his professors encouraged him to consider architecture as a profession. "I never felt qualified," Marines says, "because I felt that part of the definition of being an architect was to know how to draw, and I always had a terrible hand." Marines' avocational interest in architecture, however, played a definite role as he started a career as a construction magazine editor, eventually became a management consultant for design firms, and ultimately a general manager of a 300-person architecture/engineering firm in New York City.

After W&J, Marines attended Harvard University's school of management but after two terms decided "it would be a piece of both courage and intelligence to get myself out of there and more into an area where professional services were really important."

His first job was as news editor of *Contractor News*, a publication owned by the Chilton Co. There he rose through the ranks, becoming a features writer, concentrating on business topics, and eventually managing editor. When the magazine folded, Marines continued with the company as an assistant to one of the vice presidents for publishing.

In 1972 he joined the Coxe Group Inc., a consulting firm in Philadelphia headed by Weld Coxe that deals exclusively with the marketing and management of design organizations. "Coxe was running a practice that really seemed to be more of what I wanted to do with my life. His challenge for me was to manage his consulting practice. His real interest was in getting a professional manager to come and tie all the strings together and make the practice more efficient."

On his first day Coxe took him on a consulting assignment to Baltimore so that Marines "could get a better understanding of what a practice is all about," Marines says. From that day forth, Marines

spent more and more time as a management consultant, eventually expanding his responsibilities to include marketing consulting.

After spending six years with the Coxe Group, Marines decided it was time for a change and moved to Detroit and William Kessler's firm. He would only spend a year there, basically because Kessler's staff had shrunk and that in turn caused Marines to be cast as the marketing director as well as general manager. What made a lasting impression on Marines, however, was his "chance to see good design done close up, to watch the process, to watch the master at work, as it were."

The next move was to New York City, to Haines Lundberg Waehler. He began there in 1978 as marketing director, becoming general manager about a year later. "One of the partners took me to lunch one day and said the marketing effort, which I was directing, was not quite working the way we had anticipated. 'We're close,' he said, 'but not close enough. We need to let some 40 or 50 people go. And just to prove to you how important your role is and to stress its urgency to you, I think we are going to make you the general manager and let you lay off the 40 or 50 people.'"

For the next three years Marines "wore the hats" of both the marketing director

# TOOLS OF THE TRADE

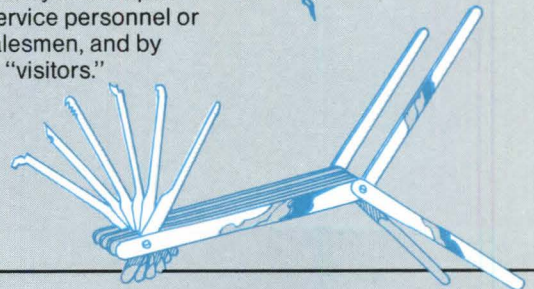
## THEIRS

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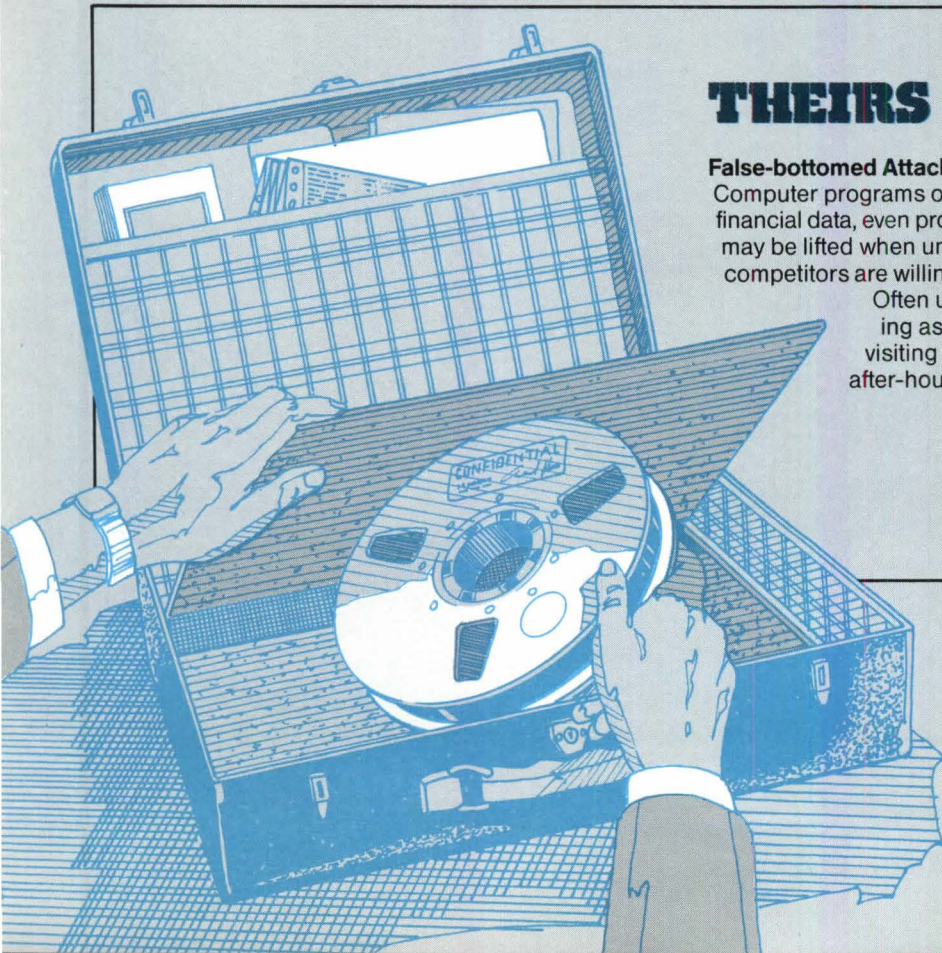
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and general manager. When his wife became ill with cancer, he reduced his responsibilities to part-time. After his wife's death at 31 he returned to full-time work at HLW.

"I thought that maybe when my job was done here at HLW I would really be in a position to move into a new challenge that would give me a chance to have a significant impact on the profession, but to do it through writing and teaching, research and those kinds of things," Marines says. Then someone suggested that he look into the EVP position at AIA. "The more I dug into it the clearer it was that this was an opportunity that couldn't be passed and that if I could pass muster around my managerial skills and my commitment to the priority of good design and the principles of the Institute and what its people stand for, that it was a perfect next career step for me."

When ARCHITECTURE interviewed Marines he had accepted the position of AIA's in-house leader only 10 days earlier. He now finds himself carrying a "mobile library on AIA around in a bulging briefcase," and says one of his most difficult tasks is "to simply get a grasp on everything that is going on and to get some feeling of chemistry with the key people at the Institute." Marines views his challenge as finding out what each staff mem-

ber is doing, or wants to do, and what "they should be doing in the eyes of the board . . . I feel like I am a blank blackboard that needs to be written on a thousand times," he says. "If you want to see the whole gory thing unfolding you should stop by weekly. You would either catch me pounding the desk or with a big grin. I suspect it is going to be a little bit of each."

While Marines is currently unfamiliar with all the intricacies of AIA, he is definitely well versed on the requirements of a general manager of an architecture firm, and those, it would seem, are transferrable to the helm of AIA. "There is a need for a unifier, for an interrogator, to be the focal point, to help the partners to define those things that are common among them about the way they wish to practice, to serve their publics, to treat their staff, to run their businesses—someone to help them reach and define those common grounds and then be the one to carry those out. That, I think, is a crucial role for the general manager: to be the facilitator around the identification of those things that are common to those different partners and then to be the implementer of the tactics necessary to achieve those strategies. . . . I have also said that the role of management in a professional practice is to almost be invisible . . . to

be a web that keeps things tied together but that lets the light of architecture shine through. . . . I have never been one for managing to the extent that management becomes the predominant characteristic or image of the practice."

Marines plans to assume full-time duties at AIA at the beginning of April. In the meantime he will wed Linda Jensen, who will be leaving her job as general manager of a structural engineering firm in San Francisco. They will settle into a rented house in Washington with Marines' wire-haired fox terrier.

Marines was chosen by a search committee composed of R. Randall Vosbeck, FAIA; R. Bruce Patty, FAIA; and Melvin Brecher, FAIA. Vosbeck says that they were looking for a "real strong manager," above all else, and that Marines had the "foremost qualifications." The fact that Marines has a great enthusiasm for architecture was also a strong factor in his favor. This interest was also cited by Weld Coxe as one of Marines' strongest assets—that he is a "professional manager who has committed his career to the design world." William Kessler calls Marines a "forthright, energetic, indefatigable" person, who has a good sense of humor and who will bring a "freshness" to AIA.

NORA RICHTER GREER

*News continued on page 36*



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## First Awards Program for Federal Design Excellence

President Reagan has announced the first governmentwide awards program for federal design excellence, to be administered by the National Endowment for the Arts, with support from AIA and other design organizations.

The quadrennial Presidential design awards program will recognize "exemplary achievements" in the fields of architecture, engineering, landscape architecture, planning and urban design, and interior, graphic, and product/industrial design. The Administration views the awards program as a way to better federal design, both esthetically and economically. In

FY '82 the federal government spent approximately \$35 billion for construction or rehabilitation of structures, \$2 billion for printing of publications and books, and \$235 million for furniture and office equipment.

Any completed and implemented design project, product, process, or program that has been directly supported, commissioned, produced, or promulgated by the federal government will be eligible.

In a recent letter to President Reagan, AIA President George M. Notter Jr., FAIA, wrote, "AIA applauds your efforts in establishing an initiative that will provide for good design at all levels of government."

The first awards will be presented next fall, according to NEA, for projects "sup-

ported, commissioned, produced, or promulgated" by the federal government between Jan. 1, 1974, and Jan. 1, 1984. Two types of awards will be given: recognition awards and Presidential awards to the most outstanding works.

The jury is to base its decisions on the following principles: "The undertaking must contribute to improving the federal mission it serves; it must establish model design practices, standards, or guidelines that can be replicated by other federal projects or programs; it should be cost-efficient and should demonstrate measurable savings through careful design and planning; it must achieve professionally recognized standards of visual quality in its form and image; it must achieve a high level of technical quality in its planning, design, and execution."

For guidelines and entry forms contact: Presidential Design Awards, Design Arts Program, National Endowment for the Arts, Nancy Hanks Center, 1100 Pennsylvania Ave. N.W., Washington, D.C. 20506.

# ABOVE & BEYOND

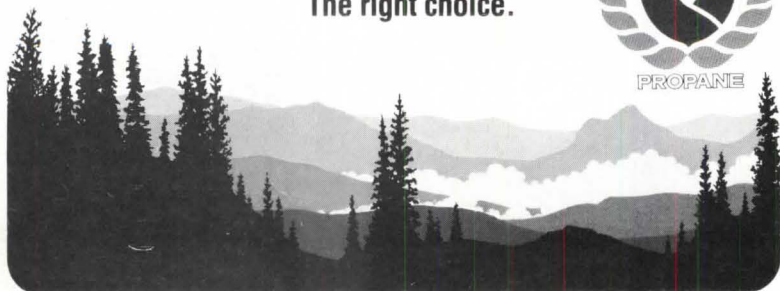
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## Eighty-three to be Invested As AIA Fellows in Phoenix

Eighty-three members of the Institute will be invested into the College of Fellows May 5 at the AIA convention in Phoenix. Fellowship is conferred on members of 10 years' good standing "who have made significant contributions to the advancement of the profession in one or more of the following areas: architectural practice, construction, design, education, government, industry, historic preservation, literature, public service, research, service to the profession, or urban design."

The 1984 jury of fellows was chaired by John Anderson, FAIA. Other jurors were David M. Bowen, FAIA; Robert P. Madison, FAIA; Peter Samton, FAIA; Norman J. Schlossman, FAIA; Henry N. Silvestri, FAIA; and Pat Y. Spillman, FAIA.

The new fellows are:  
Iris S. Alex, New York City  
Earle S. Alexander Jr., Houston  
Yvonne Warner Asken, Kalamazoo, Mich.  
Charles H. Atherton, Washington, D.C.  
Theodore T. Bartley Jr., Philadelphia  
William H. Beaty Sr., Germantown, Tenn.  
John Belle, New York City  
Chase Black, Battle Creek, Mich.  
Sinclair Black, Austin, Tex.  
Charles E. Boettcher, Rockford, Ill.  
Glenn Allen Buff, Coral Gables, Fla.  
John Avery Carter, Nashua, N.H.  
Donald Douglas Chapman, Honolulu  
William Dominic Concolino Jr., Monterey, Calif.  
William Howard Cook, Tucson, Ariz.  
James Hudson Crissman, Watertown, Mass.  
Robert Fred Darby, Jacksonville, Fla.  
John N. DeHaas Jr., Bozeman, Mont.

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### The Institute from page 36

Alfredo De Vido, New York City  
Eugene Cox Dunwoody, Macon, Ga.  
Robert A. Eckert, Tacoma, Wash.  
Audry Emmons, San Francisco  
Hideo H. Fujii, Birmingham, Mich.  
Kenneth R. Fuller, Denver  
Robert C. Gaede, Cleveland  
David W. George, Dallas  
Norman, M. Giller, Miami Beach  
Thomas A. Gray, Little Rock, Ark.  
Karl H. Greimel, Rochester, Mich.  
Kenneth G. Groggs, Chicago  
Peter M. Hasselman, San Francisco  
William R. Henry Jr., Jackson, Miss.  
George S. Hoover, Denver  
Gerald Horn, Chicago  
Charles F. Hummel, Boise, Idaho  
Stephen B. Jacobs, New York City  
Arthur D. Johnson, Omaha  
Richard H. Kaplan, Cleveland  
Richard Keating, Houston  
Frank S. Kelly, Houston  
Charles McChesney Kober, Los Angeles  
S. Richard Komatsu, El Cerrito, Calif.  
Robert Kramer, Boston  
Moritz Kundig, Spokane, Wash.  
Roger Williams Margerum Jr., Detroit  
Harvey Victor Marmon Jr., San Antonio, Tex.  
Joseph Maybank, Cambridge, Mass.  
Kenneth Douglas Maynard, Anchorage  
Charles Terrence McCafferty, Detroit  
William Francis McCall Jr., Moultrie, Ga.  
Henry G. Meier, Indianapolis  
John K. Miller, Santa Rosa, Calif.  
Richard R. Moger, New York City  
Yoshio Nakazawa, Evanston, Ill.  
Paul R. Neel, San Luis Abispo, Calif.  
Rolf Ohlhausen, New York City  
William E. Patnaude, Fresno, Calif.  
Leason Fredrick Pomeroy III, Orange, Calif.  
Arnold J. Prima Jr., Washington, D.C.  
James Scott Rawlings, Richmond  
James W. Rich, Tulsa, Okla.  
Hilyard R. Robinson, Washington, D.C.  
Craig W. Roland, Santa Rosa, Calif.  
Alan Rosen, Los Angeles  
Donald P. Ryder, New York City  
Joh Richen Schleuning, Portland, Ore.  
William W. Scott, Minneapolis  
Dale Edwin Selzer, Dallas  
Jerome M. Seracuse, Denver  
Will Shaw, Monterey, Calif.  
William H. Sippel Jr., Pittsburgh  
Harwood K. Smith, Dallas  
Robert A. M. Stern, New York City  
Alan R. Sumner, Dallas  
Milo H. Thompson, Minneapolis  
Duane Thorbeck, Minneapolis  
James D. Tittle, Abilene, Tex.  
James S. Tuley, Charlottesville, Va.  
Robert A. Van Deusen, Grand Junction, Colo.  
Walter F. Wagner Jr., New York City  
George Valentine Whisenand, Honolulu (posthumously)  
Elliot Willensky, Brooklyn, N.Y.  
George Smith Wright, Arlington, Tex.

## Marvin Cetron, Hugh Sidey To Speak at AIA Convention

Professional forecaster Marvin Cetron will keynote the Institute's 1984 convention in Phoenix. Also scheduled to speak during the May 5-9 convention is Hugh Sidey, veteran *Time* magazine Washington contributing editor.

Cetron is founder and president of Forecasting International, Ltd., an Arlington, Va., firm that advises industry and government in management techniques, corporate strategic planning, research and development planning, project selections, economics, and marketing. He is also co-author, with Tom O'Tool, of *Encounters with the Future: A forecast of life into the 21st Century*, and of *Brave New Work*, a study of jobs of the future, to be published this year.

Cetron has predicted that in the next century many people will change careers every 10 years, and that "because of great advances in computers and robots, the average work week will be just 20 hours . . . which will make leisure a huge industry. In what will be a highly technical society, those who earn the most will be professional athletes, artists, writers, chefs, and other creative people."

Distinguishing his work from that of "futurologists," Cetron says, "As a consultant, I can't dream or indulge in wishful thinking. . . . We think in more practical terms. With every problem, I always have to ask myself three questions. Is it technically feasible? Is it economically feasible? And is it acceptable from the standpoint of social policy?"

The convention's other main speaker, Hugh Sidey, has reported on the American presidency for more than 25 years. He has been an author of or contributor to six books on the presidency and a panelist on the syndicated television program, "Agronsky & Co.," for over 15 years. His column, "The Presidency," began in *Life* in 1966 and was moved to *Time* in 1973.

Also as part of the convention, AIA is providing half of the funds needed to construct tensile structures to protect against heat in the Phoenix Civic Plaza, where a Mexican holiday fiesta is scheduled for one day to be followed by a day of activities to involve the general public. The diamond-shaped mesh tent structures will consist of 12 40-foot-square modules reaching a height of 30 feet in the center. Designed by Bill Moss of Camden, Me., currently teaching at Arizona State University, the tents are to remain in Phoenix where they can be modified or relocated as part of city plans to enliven the downtown area. The "Public Sunday" program on May 6 will include an exhibit of drawings that propose ways the city can improve its core.

News continued on page 62

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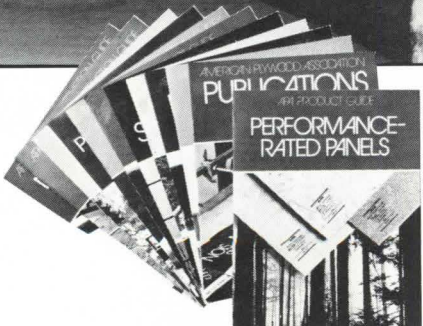
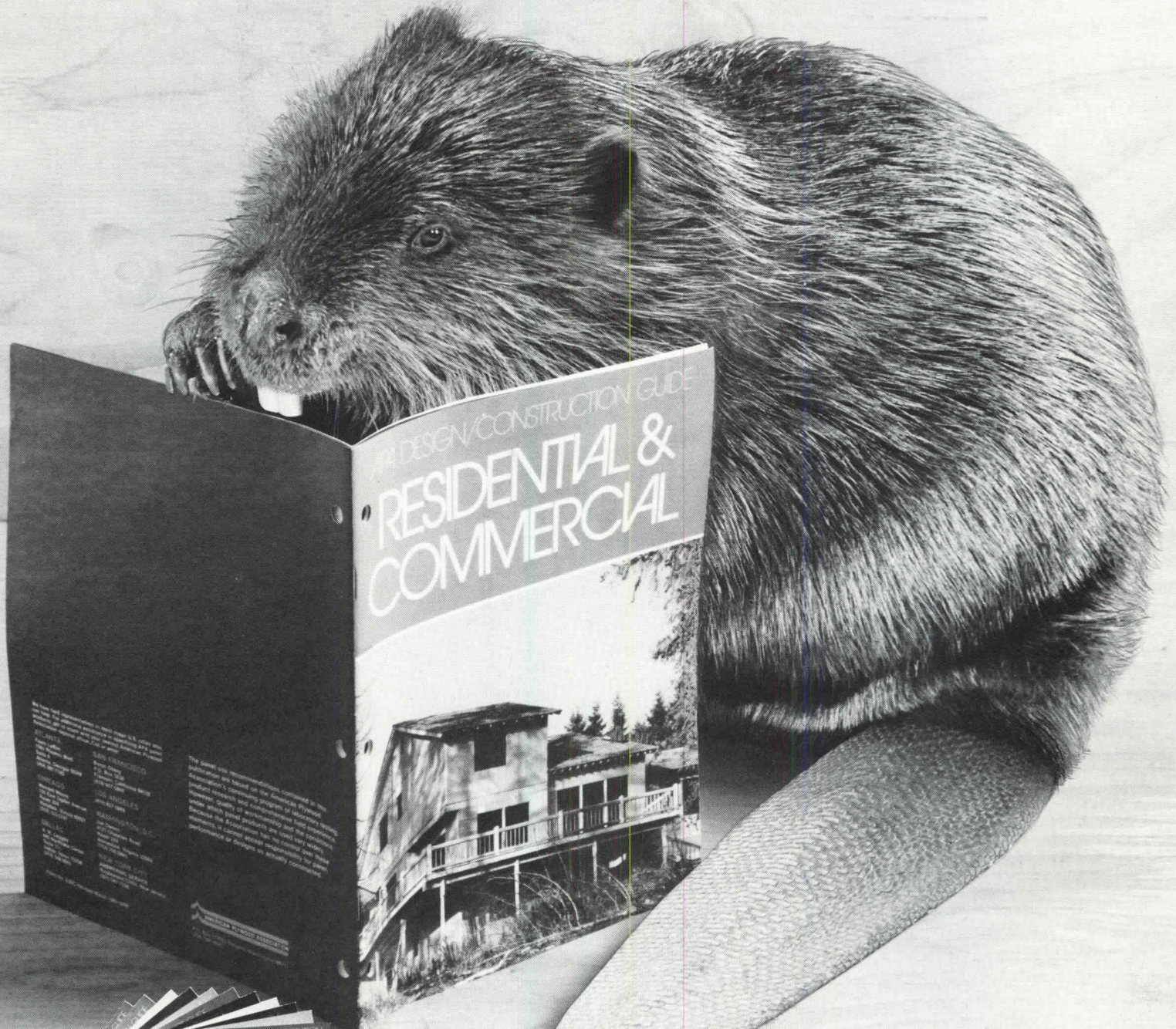
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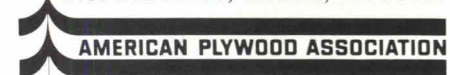
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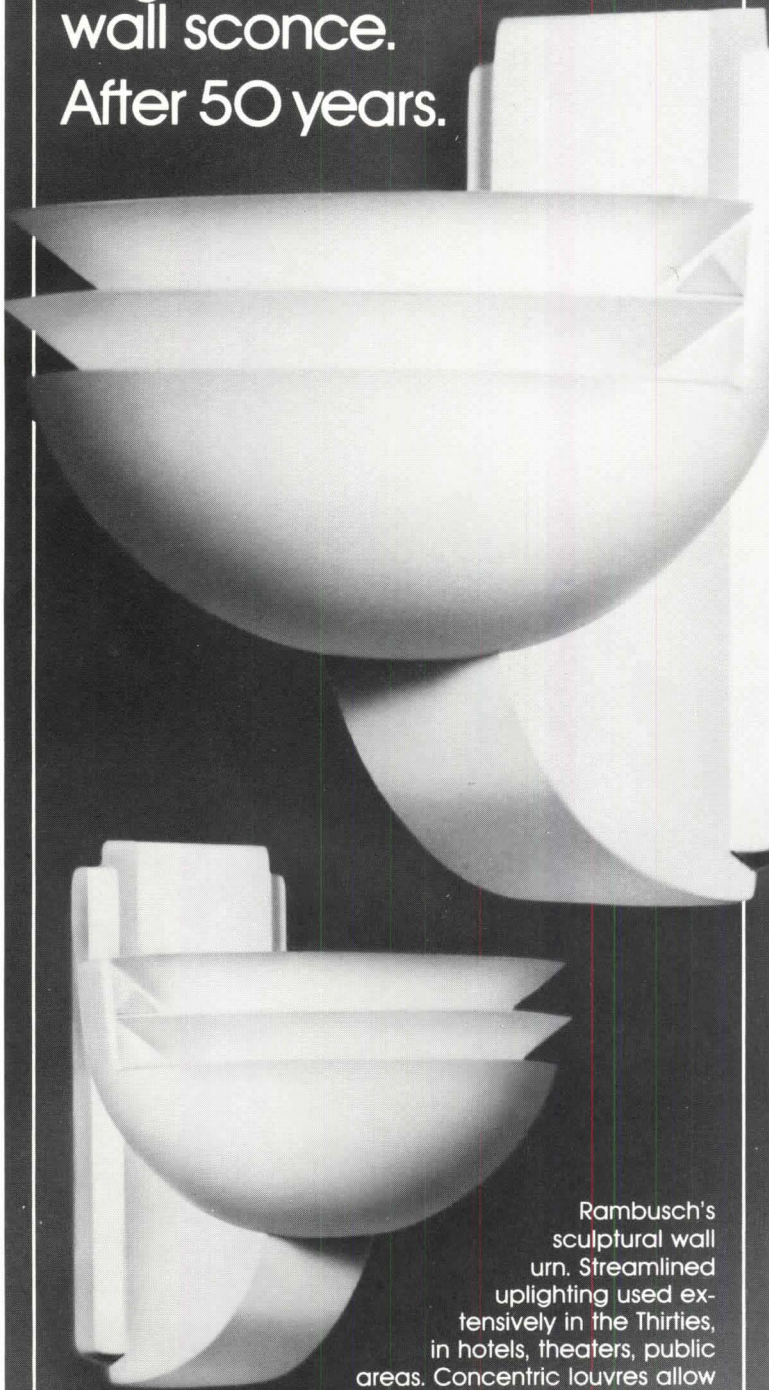
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**Preservation** from page 74

Citgo sign above Kenmore Square was relit after being dark for four years. Citgo officials guaranteed its existence for at least three more years.

During '83 there were also at least two cases of preservationists opposing highway construction. In Fort Worth, Tex., Citizen Advocates for Responsible Expansion brought suit opposing a 1.5 mile extension of an Interstate highway, contending that the expanded freeway would create a 20-foot-high, 200-foot-wide barrier to the city's historic train station and post office and would be within five feet of Water Garden, a park designed in the '60s by Philip Johnson. And the Federal Advisory Council on Historic Preservation showed unanimous support for citizens in Mobile, Ala., who are fighting a \$250 million elevated freeway that would run next to three historic districts.

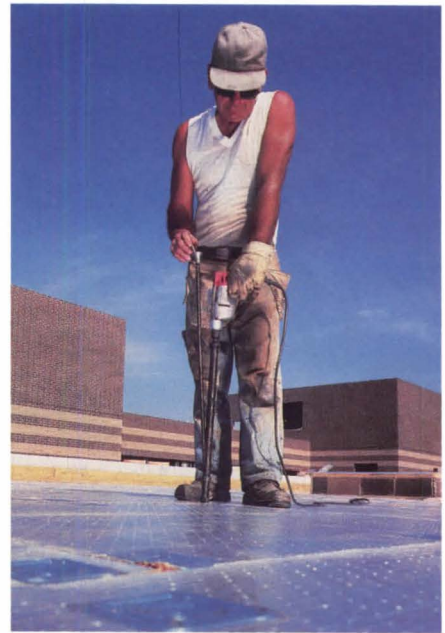
NORA RICHTER GREER



**Statue of Liberty Restoration.**

A renovation plan for the interior of the Statue of Liberty was unveiled last month by the architects for the French-American committee for the restoration (see Sept. '83, page 16). Several decks in the base of the statue are to be removed (they are not part of the original structure), which will allow views up through the base. A new stairway in the base is also planned, which will spiral around a new glass elevator. The stairway in the statue itself will be refurbished. The project is part of an overall restoration to cost \$230 million, and should be completed by 1986.

*News continued on page 184*



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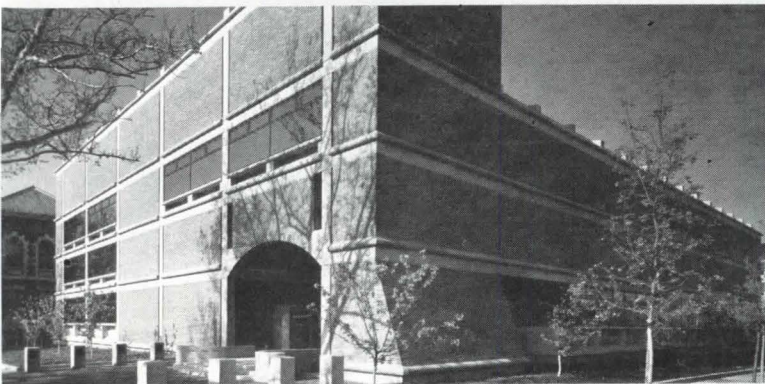
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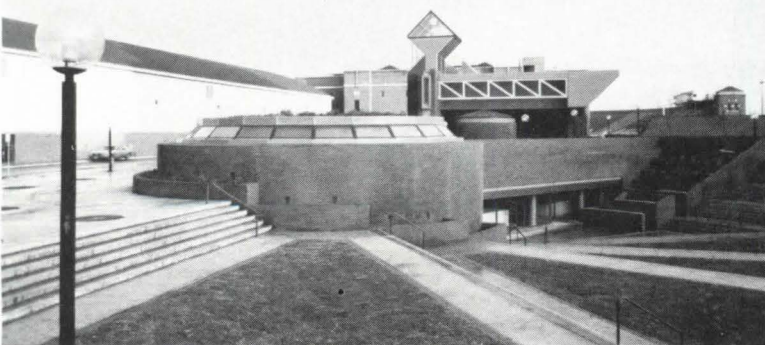
# Announcing the Winners of the Seventh CRSI Design Awards Program.



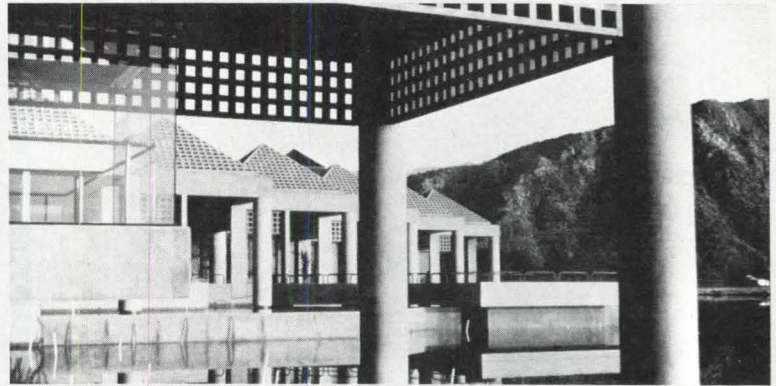
**Nornall Road Bridge**, Country Club Plaza District, Kansas City, Missouri  
**Jury Comments:** "A nice transition from the real world into the fantasy. It lent itself perfectly to reinforced concrete in a free form ability. Use of the old light fixtures added charm."  
**Owner:** City of Kansas City, Missouri  
**Architect:** Howard Needles Tammen and Bergendoff, Kansas City, Missouri  
**Structural Engineer:** Howard Needles Tammen and Bergendoff, Kansas City, Missouri  
**General Contractor:** Tri-City Construction Co., Kansas City, Missouri



**Seeley G. Mudd Library**, Yale University, New Haven, Connecticut  
**Jury Comments:** "This is a very elegantly detailed structure. It's a simple structure making excellent and subtle use of light—a nice place to study."  
**Owner:** Yale University, New Haven, Connecticut  
**Architect:** Roth and Moore Architects, New Haven, Connecticut  
**Structural Engineer:** Spiegel and Zamecnik, Inc., New Haven, Connecticut  
**General Contractor:** Tomlinson-Hawley-Patterson, Inc., Trumbull, Connecticut



**Civil/Mineral Engineering Building**, University of Minnesota, Minneapolis, Minnesota  
**Jury Comments:** "An excellent example of underground architecture in a severe northern climate. Cleverly introduces natural light and campus views at several levels below grade. It could only have been done with concrete."  
**Owner:** University of Minnesota, Minneapolis, Minnesota  
**Architect:** BRW Architects, Minneapolis, Minnesota  
**Structural Engineer:** Meyer, Borgman and Johnson, Inc., Minneapolis, Minnesota  
**General Contractor:** M. A. Mortenson, Minneapolis, Minnesota  
**Excavation Contractor:** Glenn Rehbein Excavating, Inc., Lino Lakes, Minnesota



**The Vintage Club**, Indian Wells, California  
**Jury Comments:** "A harmonious blend between the mountain terrain and the peaks of the structures. A simple and economical reinforced concrete framing system with sensitive detailing results in an elegant and exciting structure."  
**Owner:** Vintage Properties, Menlo Park, California  
**Architect:** Fisher-Friedman Associates, San Francisco, California  
**Structural Engineer:** Robinson-Meier-Juilly and Associates, San Francisco, California  
**General Contractor:** Emkay Development Corp./Morrison, Knudsen Co., Newport Beach, California



**Piper Sonoma Cellars**, Healdsburg, California  
**Jury Comments:** "It's very refreshing to see a winery treated like this. This is a very nice use of concrete and the glass gives it a lighter look. Elegant."  
**Owner:** Piper-Sonoma Cellars, Inc., Healdsburg, California  
**Architect:** Roland/Miller/Associates, Santa Rosa, California  
**Structural Engineer:** Zucco Associates, Santa Rosa, California  
**General Contractor:** Paul V. Wright, Inc., Santa Rosa, California

## The Jury for Design Awards VII:

**Robert Broshar**, FAIA, President  
 The American Institute of Architects  
 Washington D.C.

**Thomas W. Ventulett III**, Partner  
 Thompson, Ventulett, Stainback and  
 Associates, Inc.  
 Atlanta, Georgia

**Boyd C. Ringo**  
 Professor of Civil Engineering  
 University of Cincinnati  
 Cincinnati, Ohio

**AIA Representative**  
**Mrs. Maria F. Murray**  
 Director, Awards Program  
 The American Institute of Architects  
 Washington, D.C.

All winners share equally in the awards.  
 There are no specific categories.



Send for your free copy of the **CRSI Design Awards VII Brochure**. It's fully illustrated, describing important design features of all winning structures. Contact: Concrete Reinforcing Steel Institute, ATTN: Victor A. Walther Jr., Executive Vice President.



**Concrete Reinforcing Steel Institute**  
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 Schaumburg, Illinois 60195  
 Phone: (312) 490-1700

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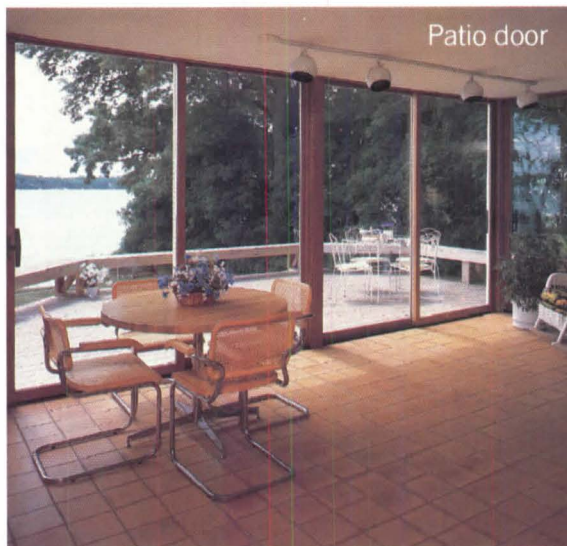
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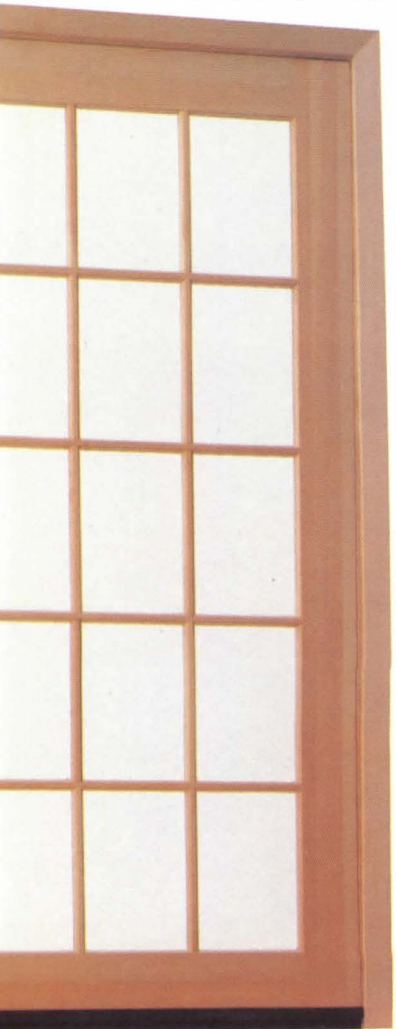
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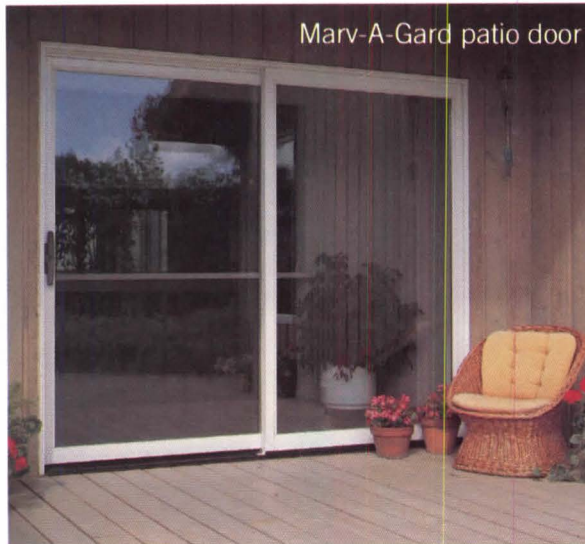




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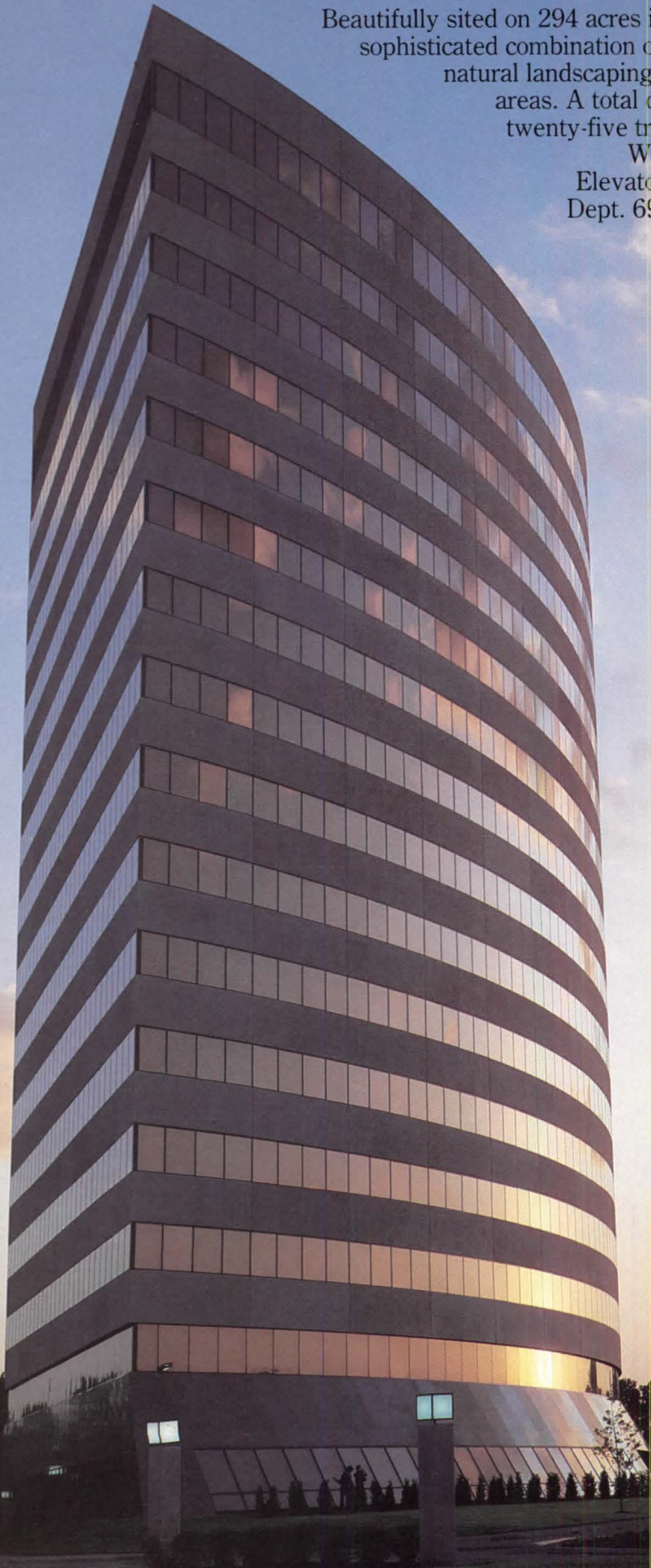


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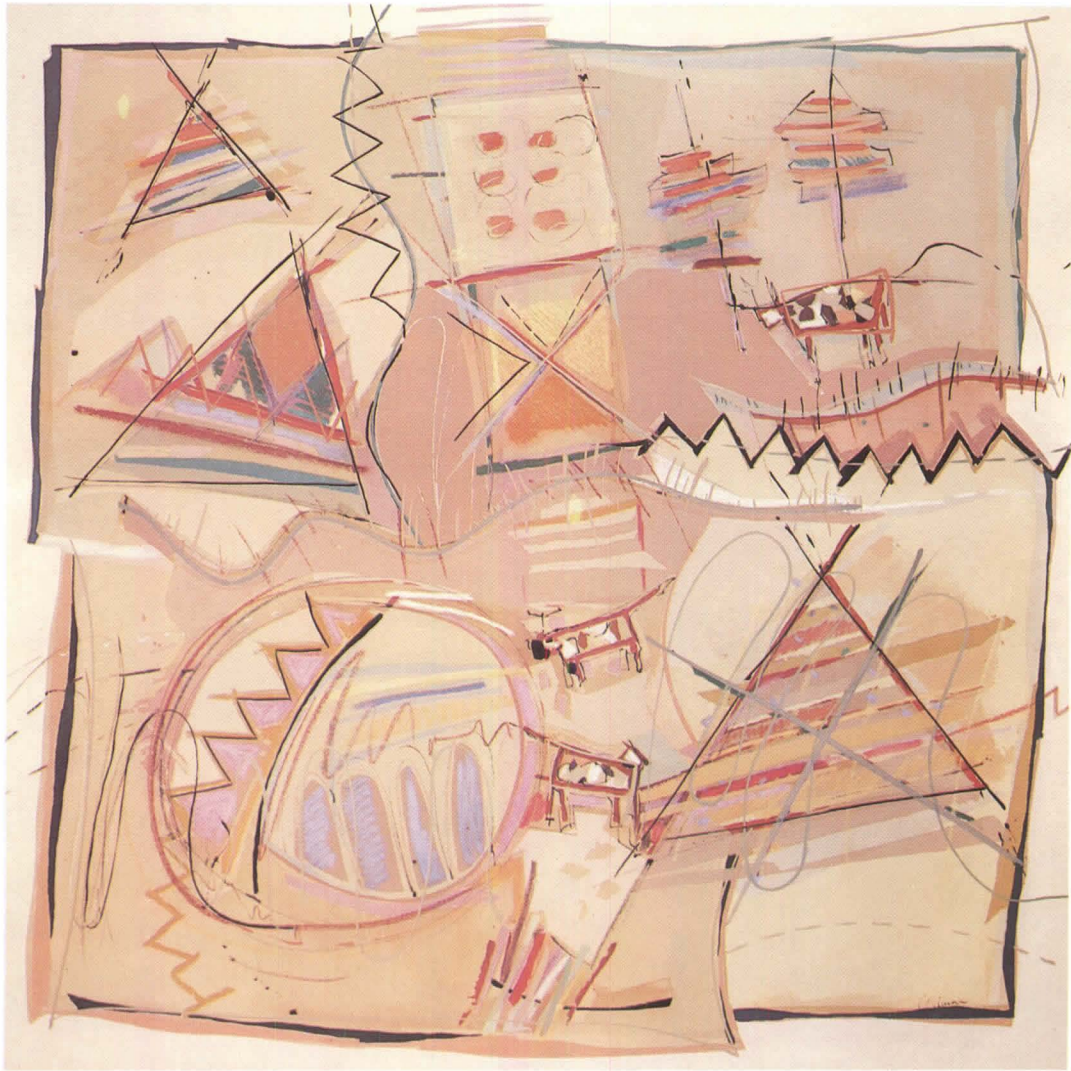
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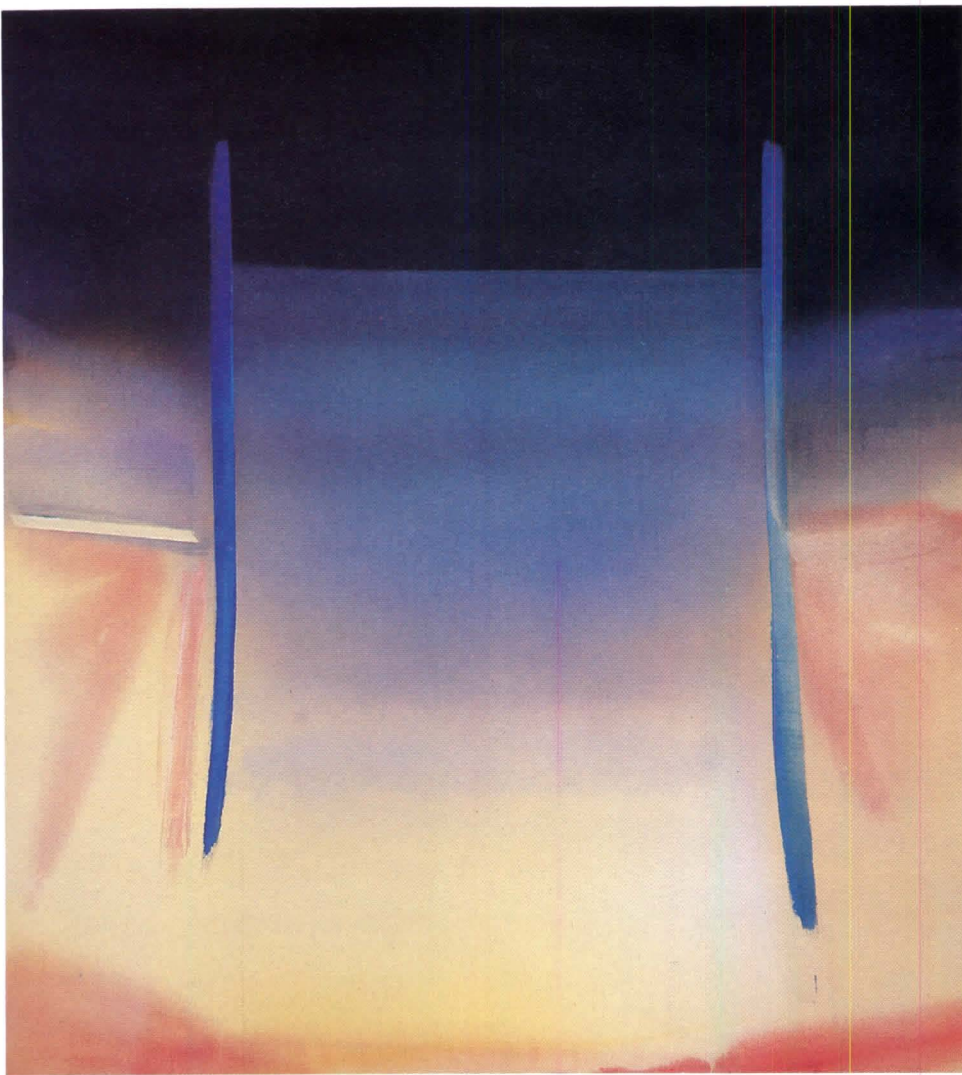
## Four Painters of the Southwest



Living and working in the American Southwest has made a strong and lasting impression on the artists whose works are shown on these pages.

Sally Anderson is a native of Wisconsin, where she also studied art. After moving to Albuquerque in the 1970s, she says, the immediate influence of her new home was that "it opened my work up quite a bit. There is a big sky feel here," she explains, "which in turn opened me to new things." Anderson's airy canvases also set the mood of the Southwest with color—soft shades of brown and tan and pink. The idea of movement is implicit in the work, she says, like wind moving through an open landscape.

The New Mexico sky and the region's ancient art are influences found in the paintings of Richard Hogan. Against fields of pink and tan, streaks of color float "like the transparent color areas in the sky at sunset that are continually shifting," says Hogan. The artist's interest in desert petroglyphs leads him to abstract their forms, and the way their colors seep into the rock's surface is also suggested.

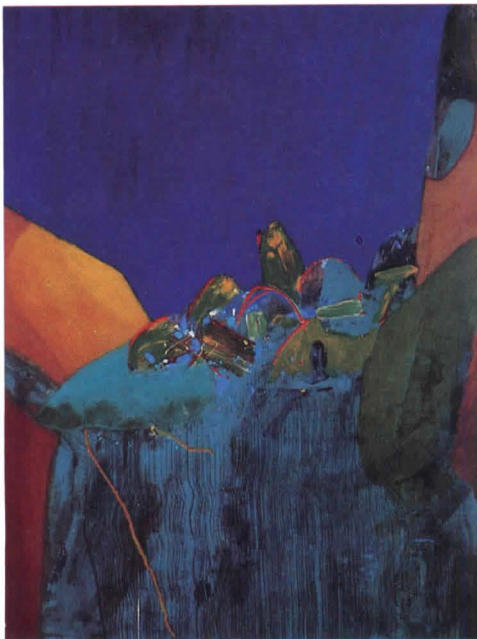


For Nancy Tokar Miller, moving to Tucson from the East introduced a new perception of space and its vastness. An interest in Chinese and Japanese art dovetailed with her theme of relating the spatial quality of Arizona. "Moving out to a place where the spaces are very big allowed me to explore the idea of Taoist space," says Miller, "the space between the objects being more important than the things themselves." She uses fluid washes—thin, transparent colors—to create the sense of large, atmospheric areas, and then thickens the paint for small, single forms.

Jim Waid sees his work as a dialogue with the Sonoran Desert. "I go out there every couple weeks," he says, "and just sit out there and absorb it all." Rarely making sketches during his trips, the artist returns home and reinterprets the desert color, light, and life forms. The colors in his work fluoresce as Waid has seen the desert virtually glow under the light of a sunrise or sunset. Against expanses of color, he interjects forms suggesting desert creatures and plants. His paintings then influence the way he experiences the desert on his next trip, says Waid, completing the dialogue.

MICHAEL J. CROSBIE

*Across page, top, Sally Anderson's 'Wind Pattern,' with Richard Hogan's 'Mahoning' across page, bottom. Left, Nancy Tokar Miller's 'Nara II'; below, left and right, Jim Waid's 'Chautauqua' and 'Alliance.'*



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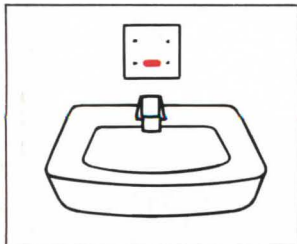
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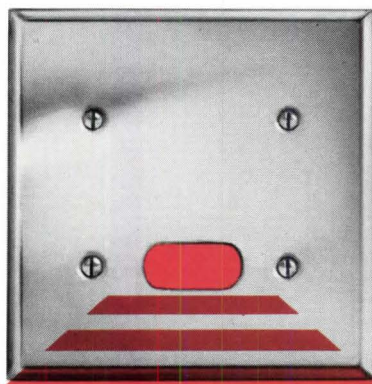
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# ARCHITECTURE

**I**n large part because AIA will hold its convention this year in the region's most prominent city, we present on these pages some of the beauty and meaning in man's struggles to carve out a place to live in the desert Southwest. We start with the Indians who did it first, and some say best, from mud and stone; the Spanish who forged Christianity into a culture through magnificent missions; and the mining companies, which built with impressive urban form and identity.

Then we offer the work and words of a half a dozen Arizona and New Mexico architects today trying to reinterpret these regional traditions in a way meaningful to the last half of the 20th century. Frank Lloyd Wright set an example at Taliesin West, and we look at that familiar masterwork through the eyes of a native Arizonian who was there at its inception.

The haunting open desert that has invited habitation by man has also promoted his instinct to sprawl from the urban centers. We review that phenomenon in four short impressions of Phoenix, Tucson, Albuquerque, and Santa Fe.

Finally, an appreciation of a transcendent work in one of the region's awesome settings, the McMath solar telescope atop Kitt Peak in Arizona. ALLEN FREEMAN  
*(Mr. Freeman was editor in charge of this issue. D.C.)*



# Roots of Regionalism: 'Great Stone Cities'

*Pueblos and cliff-dwellings of  
the Anasazi. By Carol Ann Bassett*

In the high desert region of the Southwest, great stone cities rise as the silent sentinels of a vanished race, a people that settled the plateaus, flourished, then mysteriously disappeared. These haunting monuments, which have survived for more than a thousand years, were the home of the Anasazi—the “Ancient Ones”—a name given to them by the Navajo long after they had gone.

Asiatic in origin, the Anasazi settled in what is known today as the Four Corners region, where New Mexico, Arizona, Utah, and Colorado come together at a common point. Their civilization was centered at three major areas—the narrow river valley of Chaco Canyon, the red cliffs of Mesa Verde, and the

---

**Ms. Bassett** is a freelance writer in Tucson and regular contributor to the *New York Times*.



David Muen

wind-carved canyons of Kayenta. With the sandstone they quarried from the surrounding mesas, these industrious stone masons erected giant multistoried dwellings that remain the most striking examples of North American Indian architecture.

Anasazi culture spanned 1,200 years and reached its zenith at Chaco Canyon, where the most provocative example of stone work survives at Pueblo Bonito (beautiful village). Built in a valley beneath a 200-foot-high sandstone cliff, a massive urban center rose to five stories in some places, contained 800 rooms, and housed as many as 1,000 residents. It was the largest apartment building in the world until a bigger one was built in 1882 in New York City.

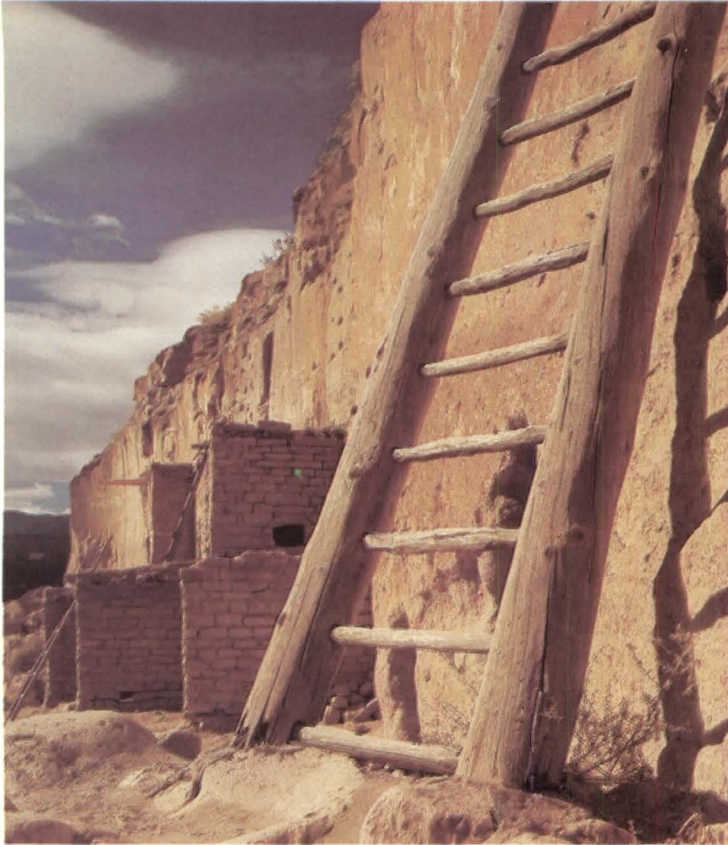
The energy needed to build the great pueblos also produced a mysterious network of roads. Most of them radiated from Pueblo Bonito, connecting the cultural center to 11 other cities

*The sun rises on the deteriorating walls of Pueblo de las Humanas and Mission, Quivira National Monument in central New Mexico.*

and to hundreds of outlying communities throughout the canyon. The roads were usually straight, regardless of the terrain. They measured 30 feet in width and were worn down to the bedrock.

The first permanent Anasazi shelters were pit houses, or subterranean dwellings from one to six feet deep, erected about A.D. 350. Four freestanding posts set in a dirt floor supported a roof of horizontal beams, which were covered with brush and earth. A rectangular opening was left in the top of the roof as a smoke hole and sometimes as an entryway. In addition, there was a small ceremonial hole—the *sipapu*—a symbolic link to the spirit world.

Shortly after 700, the Anasazi began living communally in



Left, Puye cliffs, Santa Clara Canyon in New Mexico. Right, the great ruin of Betatakin, which means 'Hillside House,' Navajo National Monument, N.M. This ruin comprises 150 rooms.

## Impacts of conquest and technology.

dynamic cultural centers, abandoning the pit houses for slightly curved rows of contiguous rooms. Walls were made of stone laid in adobe mortar, and entrance to the structures was by ladder. As long as the buildings remained one-story, each room was lighted by the openings in the roof. Later, when upper stories were added, the bottom levels that were deprived of light became storage bins, and the circular pit houses were transformed into ceremonial *kivas*. This marked the end of the early phase and the beginning of the pueblo period, which carries down to the descendants of the Anasazi—today's Pueblo Indians.

Tree rings in roof beams have revealed that construction of the large buildings at Chaco Canyon occurred between 919 and 1067. Heavy timbers of ponderosa pine, carried by hand from mountains 30 miles away, were set in walls as support for the floors above them. Doors and windows opened onto terraces and centered on the plaza below. Built above ground for the first time, Pueblo Bonito's 35 *kivas* were given a subterranean effect by filling in the spaces around them with earth.

The massive walls of the complex were built in three parts: an inner and outer veneer of carefully laid sandstone and an interior of rubble and mud. Despite the refinement and regularity of the masonry, the Anasazi plastered these textural surfaces with adobe mortar. Walls were often three feet thick at the base and tapered toward the top levels, which were terraced back to allow use of the rooftops. Soon other large structures with similar designs began to take shape, suggesting that the Chacoan architects worked from a carefully laid-out plan to achieve unity of form.

The intellectual capacity of the Anasazi is also reflected in several solar observatories that were used to trace the solstices and equinoxes for planting, harvesting, and the ceremonies that surrounded them. Among the most famous is the "Sun Dagger," located on top of Fajada Butte at the south end of Chaco Canyon. There, a spiral petroglyph still accurately captures a shaft of light that is guided between two stone slabs.

No one is certain what prompted the rapid cultural advances in the classic pueblo period from 1050 to 1300. Artifacts reveal that the Anasazi developed a sophisticated trade system with

the Hohokam and Mogollon cultures to the west and with certain Indian tribes of Mexico. The presence of macaw feathers and abalone shells and the similarity in the architecture of Chaco and the Casas Grandes ruins in northern Mexico have led some scholars to believe that extensive trade and cross-cultural communication existed at this time.

The innovations of the classic pueblo phase came much later to the Anasazi kinsmen in the north at Mesa Verde. The transition in architecture from tiny settlements on the plateau to four-story dwellings occurred about 1100. Unlike Pueblo Bonito, most were not planned, and rooms were added at random as the population grew. Walls were often laid with a single thickness of sandstone blocks in even layers and covered with mud plaster. In about 1200, the Anasazi of Mesa Verde sought refuge from hostile outsiders by moving into cliff dwellings that were limited in size by the contours of the cave.

For reasons that still remain unclear, the Anasazi by 1300 had abandoned most of the cities and villages of the plateau. Perhaps the greatest mystery is what led to the exodus only decades after the great stone cities were completed. The stunted growth of tree rings found in beams at Pueblo Bonito indicate that a severe and prolonged drought occurred about 1150. There is also evidence that just before they abandoned Chaco Canyon, the Anasazi took on a defensive position by blocking up windows and doorways.

After a gradual migration, the Anasazi settled along 150 miles of the Rio Grande and its tributaries to the south—from Taos Pueblo in northern New Mexico to Isleta Pueblo south of Albuquerque. Others moved to Zuñi in the west, and to the Hopi mesas in northeastern Arizona. Today 29 pueblos survive.

Had it not been for the disruptive arrival of Francisco Vásquez de Coronado in his search for the fabled Seven Golden Cities of Cibola in 1540, the Pueblo culture that was developing along the Rio Grande and in Hopi and Zuñi may have grown more distinctive and refined. In the Spanish attempt to colonize and convert, the *conquistadores* often burned villages and destroyed sacred *kivas*.

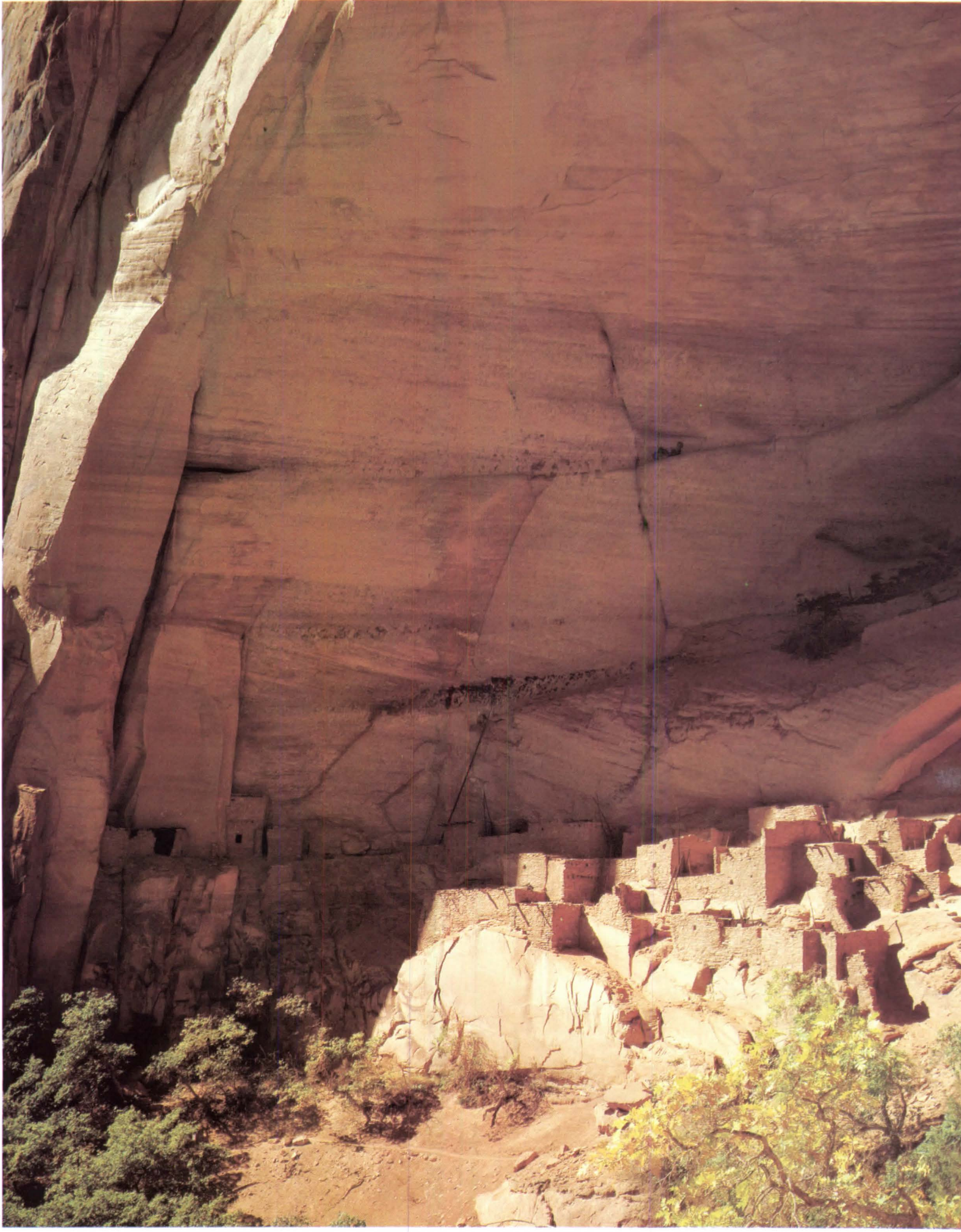
The Spanish, however, introduced new elements of design and building techniques. Among them were the forming of mud into adobe bricks, the use of corbels to support beams, and iron tools to help with construction. The Spanish also made an imprint on the overall village plan and religious beliefs of the Pueblos. Except in the Hopi pueblos, the mission church is usually a dominant feature of a village.

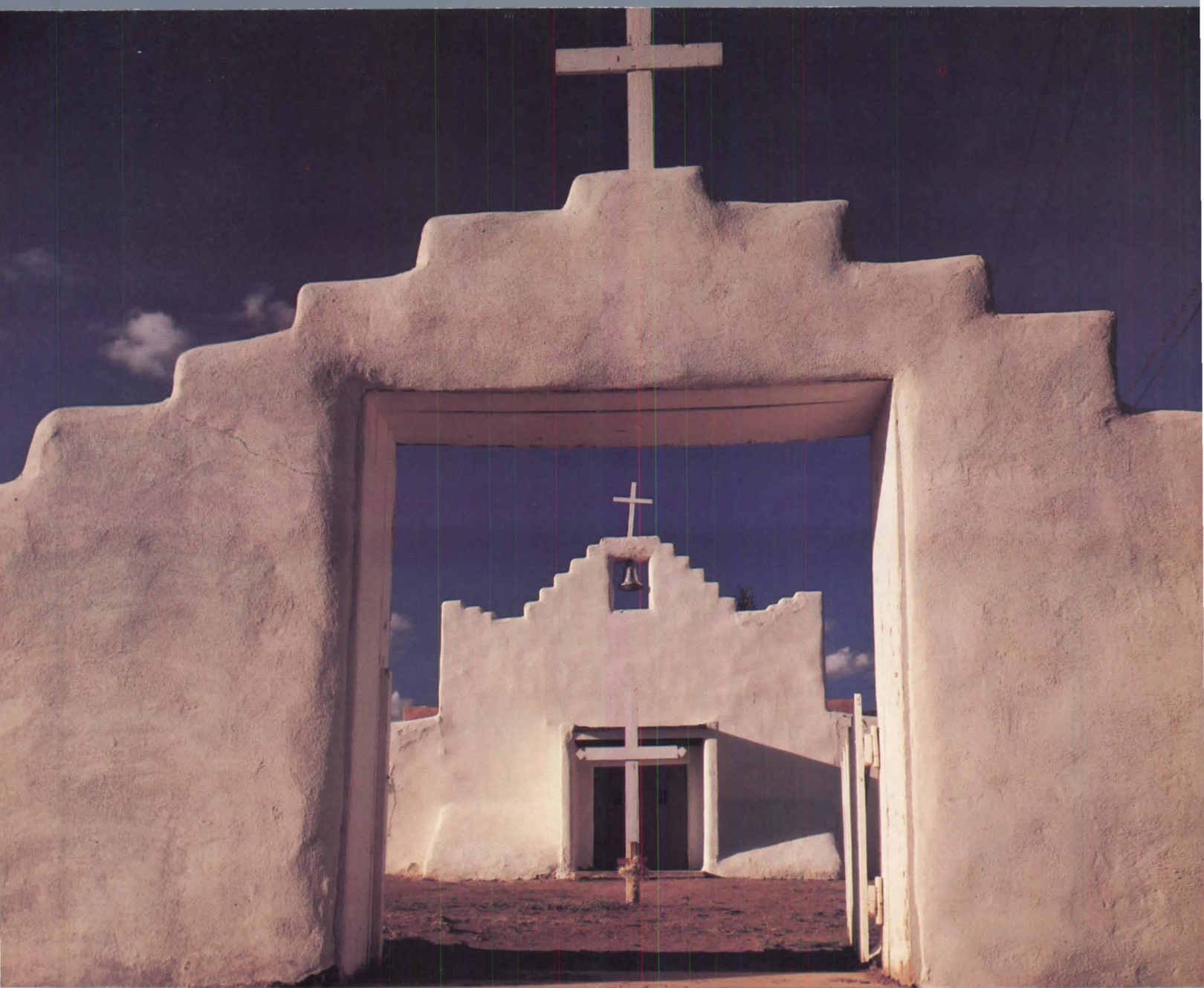
With the 20th century came unprecedented change. In 1881, Zuñi Pueblo was a compact, multistoried community that had been occupied for more than 400 years. Defensive in nature, it was a dense, enclosed structure. By 1915, when defense was no longer necessary, the upper stories were dismantled or fell away, and the core of the pueblo began to spread out into surrounding lands.

The enforced impact of modern technology was even worse. In 1970, the federal government through HUD banned the use of adobe as a building material on Indian reservations. To qualify for low interest government loans, the Pueblos must now desert their old houses in the heart of the village and move to new ones. A final loss of architectural integrity came when the dull gray of concrete block replaced the soft brown of adobe. Corrugated metal roofs eliminated the need for smooth wooden beams. Paved streets, power lines, and television antennas have forever marred the essential character of most modern pueblos.

Today, the Pueblo Indians at Nambe, Walpi, and Zuñi, among others, are reaffirming their past by insisting on building with traditional materials. They are newly perceiving their environment as their ancestors of the rock did—as a vehicle of self-expression and a oneness with the earth. □







# Roots of Regionalism: The Missions

*The powerful, built legacy of the Spaniards. By C.A.B.*

While traveling around the Southwest on horseback in the early-1900s, writer Willa Cather was so captivated by the Spanish missions that she later wrote to a friend: "The old mission churches, even those which were abandoned and in ruins, had a moving reality about them; the handcrafted beams and joists, the utterly unconventional frescoes, the countless fanciful figures of the saints, no two of them alike, seemed a direct expression of some very real and lively human feeling."

These sights and impressions still exist in the 17th century churches of New Mexico and in the more elaborate mission chain established more than 100 years later by Father Eusebio Francisco Kino in northern Mexico and southern Arizona.

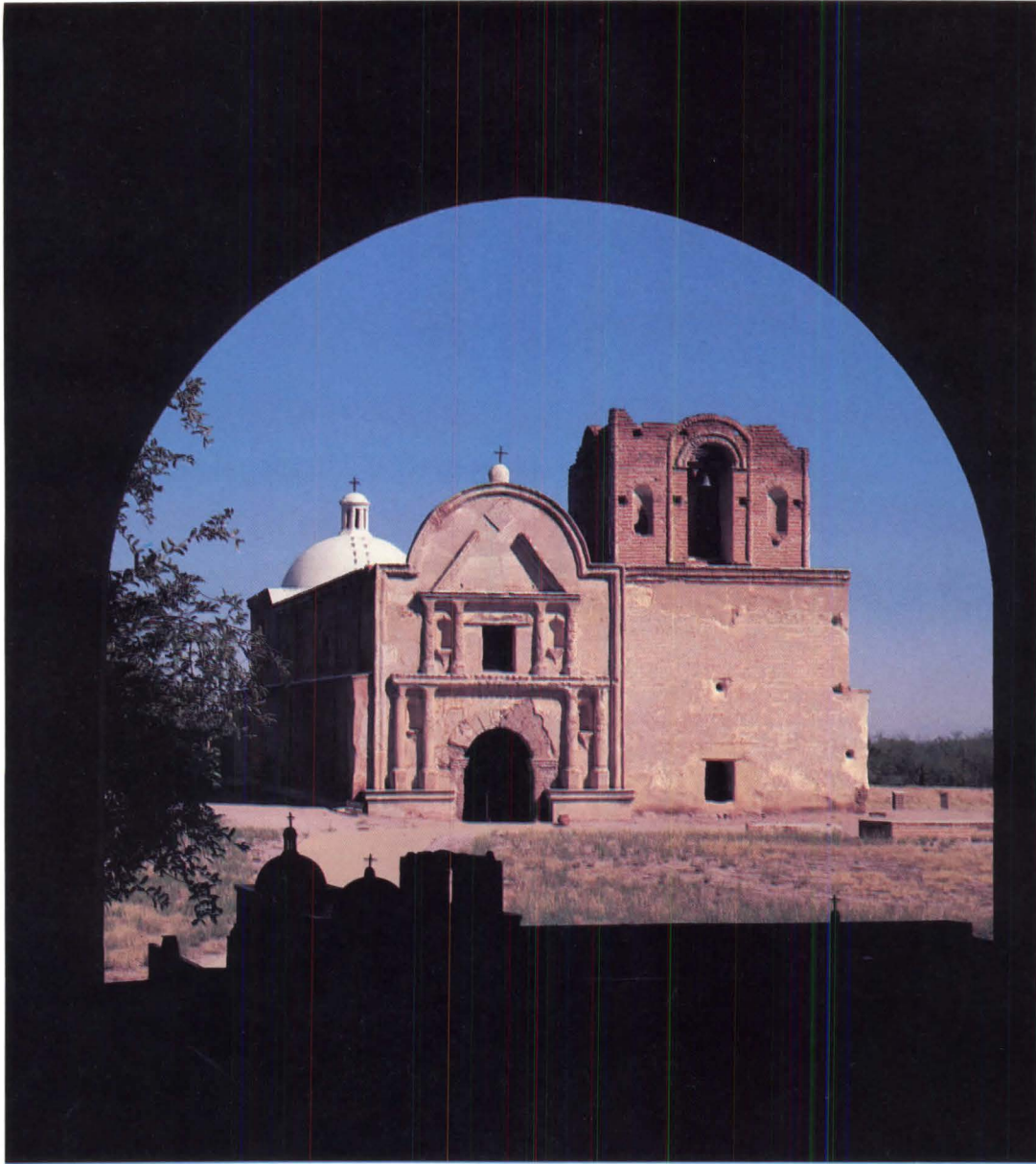
In the Indian pueblos of New Mexico, as in Mexico, the design of the missions was entrusted to the priests, who relied heavily on native labor. Most of the early churches along the Rio Grande were rectangular in shape with a single aisle, few arches, and no vaulted ceilings or domes. Main altars, if present, were narrow and built against the nave walls, which were usually whitewashed and brightly painted with traditional Pueblo motifs. Ceilings were built in a progression of 30 to 40 *vigas* (beams), two to three feet apart, and set on a pair of hand-carved wooden corbels.

The largest of the early New Mexican mission churches is San Esteban Rey at Ácoma Pueblo, built of stone and adobe between 1629 and 1644. The massive walls, 10-foot-thick at the base, rise to a height of 60 feet.

By the peak of the missionary era in 1660, New Mexico had between 45 and 50 mission churches. By 1680, when the Pueblos rebelled against Spanish oppression, many churches were destroyed or turned into stables. By the time of the Spanish reconquest of 1692-93, most churches were so damaged that extensive rebuilding was necessary.

In the 18th century, the *number and quality* of missions dropped. New churches tended to be smaller and lower, and craftsmanship was cruder than it had been in the previous century. Most adobe churches from that era did not last long.

In the scorching deserts of Mexico, a bigger challenge awaited the Spanish priests—a harsh and hostile terrain where water and building materials were scarce and Indian raids were frequent. By the time the Jesuit priest Kino was sent beyond "the rim of Christendom" into Pimería Alta (present day Sonora, Mexico, and southern Arizona) in 1687, an early mission chain was already underway. Kino worked in that province until his death



in 1711, founding more than 20 missions, building churches, and introducing cattle and wheat to the Indians. Among his finest accomplishments are the missions of Oquitoa, Tubutama, and Caborca in the Altar Valley, San Ignacio and Cocóspera in the Magdalena Valley, and in southern Arizona—Tumacácori and San Xavier del Bac near Tucson—the most striking example of mission architecture in the United States today.

Kino first visited the small Pima Indian village of Tumacácori in 1691 and Bac (“where the waters gather”) in 1692. By 1698, Tumacácori had a small adobe church and was a peaceful outpost surrounded by fields of grain and livestock. It was not until 1700 that Kino began laying the foundations for his mission San Xavier del Bac, 40 miles north. Unfortunately, he died before he ever saw this final dream come true.

By 1751, Spanish rule had strained Pima patience beyond endurance, and like the Pueblos of New Mexico, the Pimas rose in rebellion, destroying missions and settlements.

The small church at Tumacácori lay in ruins until a new one was built in 1800. But even this mission did not last long. Deserted in 1848 and later desecrated by vandals and treasure seekers, Tumacácori now stands as a silent ruin.

More fortunate in its survival was San Xavier del Bac, the northernmost of the Kino missions. The present church, known as “the White Dove of the Desert,” was built between 1783-97 by the Franciscans. Based on the Latin Cross plan, San Xavier combines a variety of Byzantine, Moorish, late Mexican baroque, and native designs, which are so well-blended that it is often difficult to distinguish where one style ends and another begins.

*Left, church at Picuris Pueblo, N.M.; above, Tumacácori ruin.*

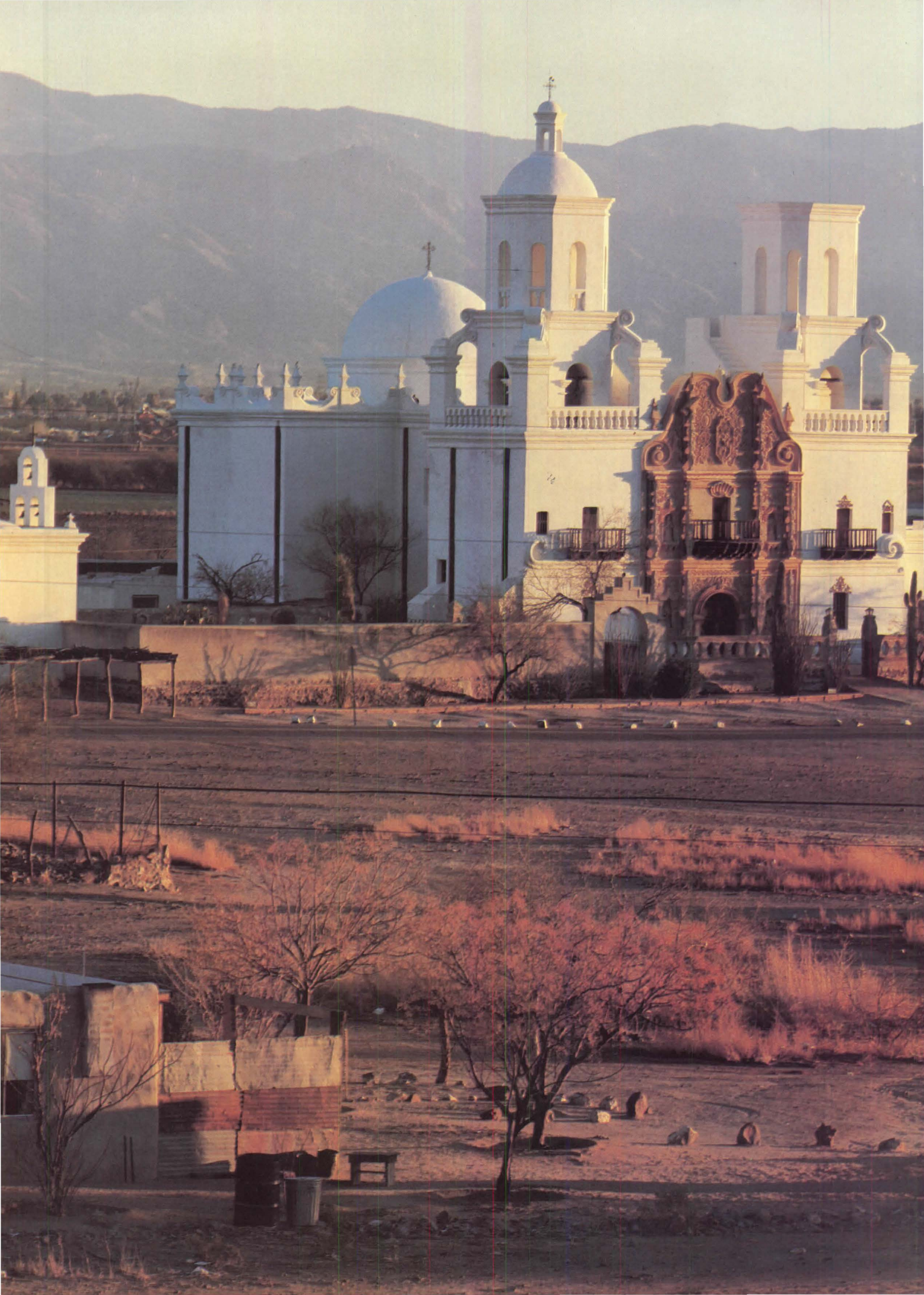
The smooth walls of the mission, formed of fired adobe and plastered with limestone, are an average of three feet thick. The massive dome, supported by arches and squinches, rises to a height of 52 feet and is illuminated on the interior through two clerestory windows set high in the walls.

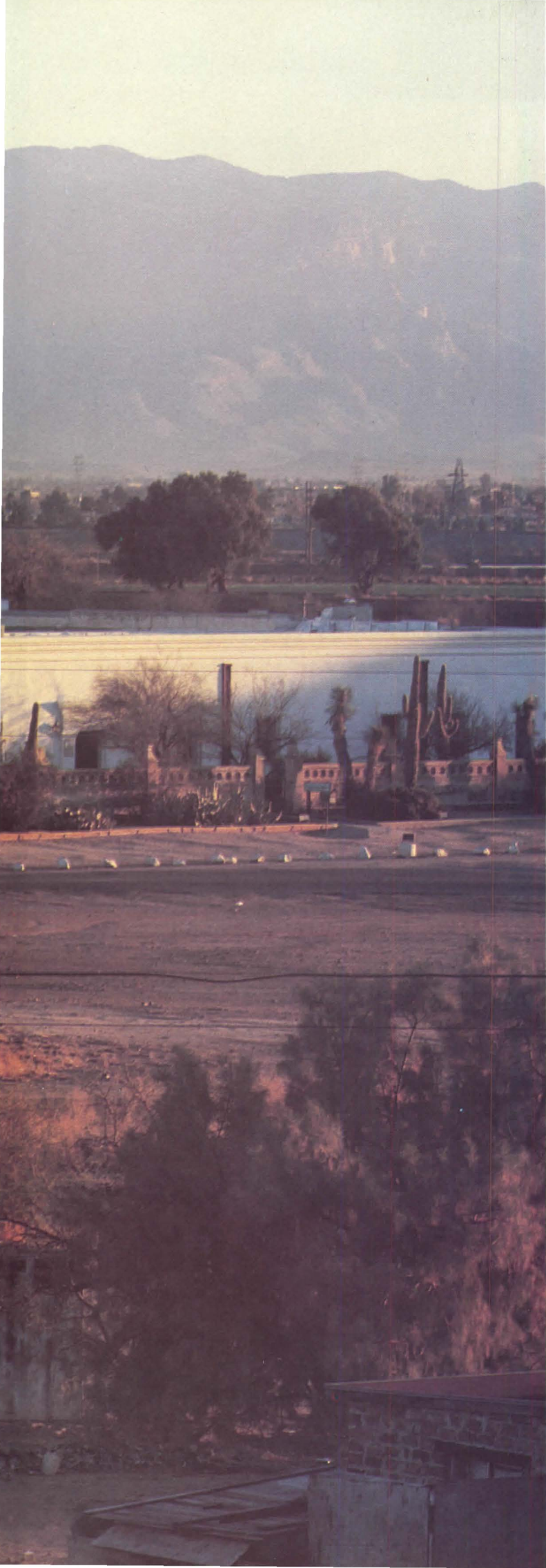
Nearly every square inch of the ornate interior is adorned with frescoes and other decorative elements, including a curious pattern of blue dots created by the Indian artisans after dipping their thumbs in vegetable dye and pressing them onto the plaster. Another touch of primitive charm is the diamond-back rattlesnake motif that writhes around the niches in the walls.

The ornate sandstone facade also reflects a variety of styles—Moorish spirals and Mexican baroque columns. In addition, traces of pigment from native plants and minerals are still visible in the four niches holding what remains of the saints. The scallop shell motif, used frequently in the mission churches of Sonora, is the emblem of St. James the Creator, patron of Spain.

Surrounded by legend, the unfinished east bell tower has long mystified visitors. One Papago tale relates that while working on the spire, a workman fell to his death and turned into a large rattlesnake that lives to this day beneath the tower. Equally as mysterious is the unknown identity of the architect of San Xavier.

Unlike dozens of other missions that have been eroded by the elements or have crumbled back to the earth from which they were built, this final dream of Kino stands today as a goal for architects attempting to forge a valid regional expression.





Willard Clay

*San Xavier del Bac near Tucson, in continual use for 200 years, has never been rebuilt and only partially restored. □*



# Roots of Regionalism: Mining Towns

*They are far more than just putative movie sets. By John Pastier*

As countless tourists know, mining towns make up one of the most picturesque and evocative families of American settlements. They usually occupy dramatic mountain sites, and their fabled past and faded present naturally invite musings on the nature of time and fickle fortune. Physically, they are the closest America comes to having some Mediterranean hill towns of its own; intellectually, they offer perspective to a culture wedded to the immediate present and the notion of unending increase.

It is rarely noticed that these colorful places form a substantial chapter in American urban and architectural history. They were an important mechanism in taming the nation's final and least hospitable frontier, and their concentrated wealth often spawned impressive displays of urbanity in highly improbable settings. Their form was almost always compact and picturesque, their scale humane, and their populations adventurous and diverse. The best known and most glamorous of them were based on precious metals, and coincidentally it is they that have, over the last generation, found new life and status as ski resorts.

But in the desert Southwest, mining has been dominated by copper. As a result, a corporate and industrial order has tempered the vagaries of rugged individualism, and copper towns have normally been longer lived and more stable than typical gold and silver camps. Some have even been products of formal planning, and many copper town buildings have been the works of first-rate architects.

Whether designed or ad-hoc, they have the common quality of being subordinated to a rugged landscape. Even when their sites are relatively flat, mining operations have created immense earthworks in the form of open pit excavations and mounds of spent ore. Ajo, a level, planned townsite, abuts a spectacular waste pile that also qualifies as the largest dam in the world, seven miles long and 274 million cubic yards in volume. (In comparison, this is 30 times the length and 85 times the volume of Hoover Dam.) Naturally there are corresponding excavations, some in the form of mining shafts and tunnels, but also in an enormous open pit where full size ore trains seem no larger than models in a hobby shop.

Ajo's center consists of Spanish colonial buildings within a Beaux-Arts street plan. Its spine bisects the angle between two symmetrically splayed street grids and is anchored by the central towers of a railroad station at one end and of a high school at the other. This formal axis includes a wide street flanked by two white churches, and a palm-studded plaza ringed with stores, a cafe, the depot, and a theater whose fronts are shaded and unified by a continuous arcade. This ambitious and elegant civic composition thus assimilates commerce, transportation, education, religion, and entertainment in symbol and in fact. Dating from about 1920, it exists in startling juxtaposition to the muscular and monumental structures of refining and smelting plants and the already mentioned 100-foot-high wall of depleted ore.

In contrast to such geometric order on a horizontal desert site, the near-ghost town of Jerome is perched upon Cleopatra Hill, a mountainside so steep that the only possible urban pattern is serpentine. This once-extensive settlement takes the form of a tangle of twisting streets, and one marvels at the builders' courage and ability to anchor large structures so firmly, and smaller ones so lightly, to the difficult terrain. In Jerome's prime 15,000 people were said to live there, and its uppermost houses sat 1,500 feet above its lowest. Each had a spectacular view across

a broad valley, past the nearby smelter town of Clarkdale, toward a distant raised plateau. Quite a few of the houses and larger commercial buildings still stand, roughly perpendicular, and the town has become a tourist attraction and a home to artists and craftspeople. Its most impressive structures are a mine owner's adobe-brick mansion crowning a mountain spur, and the similarly sited reinforced concrete shell of a large, arcaded miners' hotel.

Ironically, precipitous and pragmatically thrown-together Jerome has survived a century, while the town of Tyrone, comprehensively designed by no less a master than Bertram Goodhue and solidly constructed by Phelps-Dodge on reasonably level ground, flourished only five years and has vanished without a trace. Built in the Burro Mountains between 1914 and 1918, Goodhue's planned community supplanted an earlier one of the same name and included several hundred single and multifamily housing units freely disposed within the rolling landscape, a central plaza, small shops and a large company store, offices, public buildings, a school, chapel, and railroad station.

Predating Ajo by a few years, it was also Spanish-derived, but was a bit less formal and more "modern"—that is, flat roofed, sparsely decorated, and somewhat asymmetrical and abstractly composed—than the work of Ajo's unknown designer. Tyrone was an indisputably progressive undertaking in both the social and design sense—contemporary accounts hailed it as "the ideal mining city"—and its short life, caused by a recession and the mines' high operating costs, was clearly a case of virtue unrewarded. When mining ceased in 1921, Tyrone's population plunged from 7,000 to almost zero, and its working equipment was dismantled and moved to other mining centers. Goodhue's town center and villas later saw brief use as a company-operated guest ranch, but for the most part they remained fenced off and vacant, until resumed mining in the form of an open pit finally consumed them in the 1960s.

Goodhue may have been the greatest architect to work in the copper camps, but he was not the only one of note. Henry Trost, based first in Tucson and then in El Paso, was the desert Southwest's leading architect from the turn of the century until the Depression, and a substantial portion of his work was in the mining towns of the region. These included Morenci, Globe, and Silver City, and, more importantly, Bisbee and its smelter town of Douglas. These twin cities are quite likely the



*Left, Jerome, Ariz., and the San Francisco peaks. Right, the railroad station and plaza in Ajo, Ariz.*



## The life, decline, and rebirth of Bisbee.

most interesting and substantial urban artifacts of the Southwestern mining industry, and Bisbee itself can in many ways be considered the culmination and archetype of the Southwestern mining town form.

In 1910, Bisbee was Arizona's third largest city and possibly its richest. In county population it was first, surpassing even Tucson and Phoenix. Sited a mile above sea level in the Mule Mountains, its houses climbed the sides of two narrow intersecting ravines, Tombstone Canyon and Brewery Gulch, while businesses and public buildings filled whatever level space there was in the canyon bottoms. The town was so closely built and vertical that travelers arriving at night often mistook it for a city of tall buildings. For eight decades, the U.S. Postal Service has not provided home delivery due to the steepness of the residential districts; instead everyone is given a box at the downtown post office, which has naturally become a major social hub.

In its youth, Bisbee was not a greatly admired place. Its sanitation was poor, and the city was crowded and hectic with three-

shifts-a-day and seven-days-a-week work activity. Smelter fumes fouled the air and killed all plant life for miles around. The unpaved streets were by turns dusty or impassably muddy. Brewery Gulch was the Las Vegas of its day, wide open with around-the-clock gambling, heavy drinking, and prostitution. The town was prone to flash floods and destructive fires. Genteel visitors compared it to hell, and Bisbee finally took the hint by controlling first its brimstone smelter smoke and then its fires.

In 1903, the smelter was replaced by a more efficient one 25 miles away in the new town of Douglas. A few years later, after fires destroyed much of the wood frame, false-fronted business district, an ambitious rebuilding began in brick and stone. Some of the commissions went to Trost; others to Fred C. Hurst, a somewhat stolid local architect whose work grew more sophisticated in response to Trost's example. In 1908, work began on the suburb of Warren, a middle- and upper-class enclave linked to central Bisbee by an eight-mile-long electric interurban rail line, the only one in the state. A nearly level site allowed a formal City Beautiful street plan in the shape of a fan whose spine was a broad street with a linear park running down its center. The upper end of this grand axis was occupied by the





*Across page, two houses in Warren, Ariz., a 41-room mansion for Phelps-Dodge's general manager and a more modest one designed by Henry Trost. Above, rough and ready dwellings in Bisbee, Ariz.*

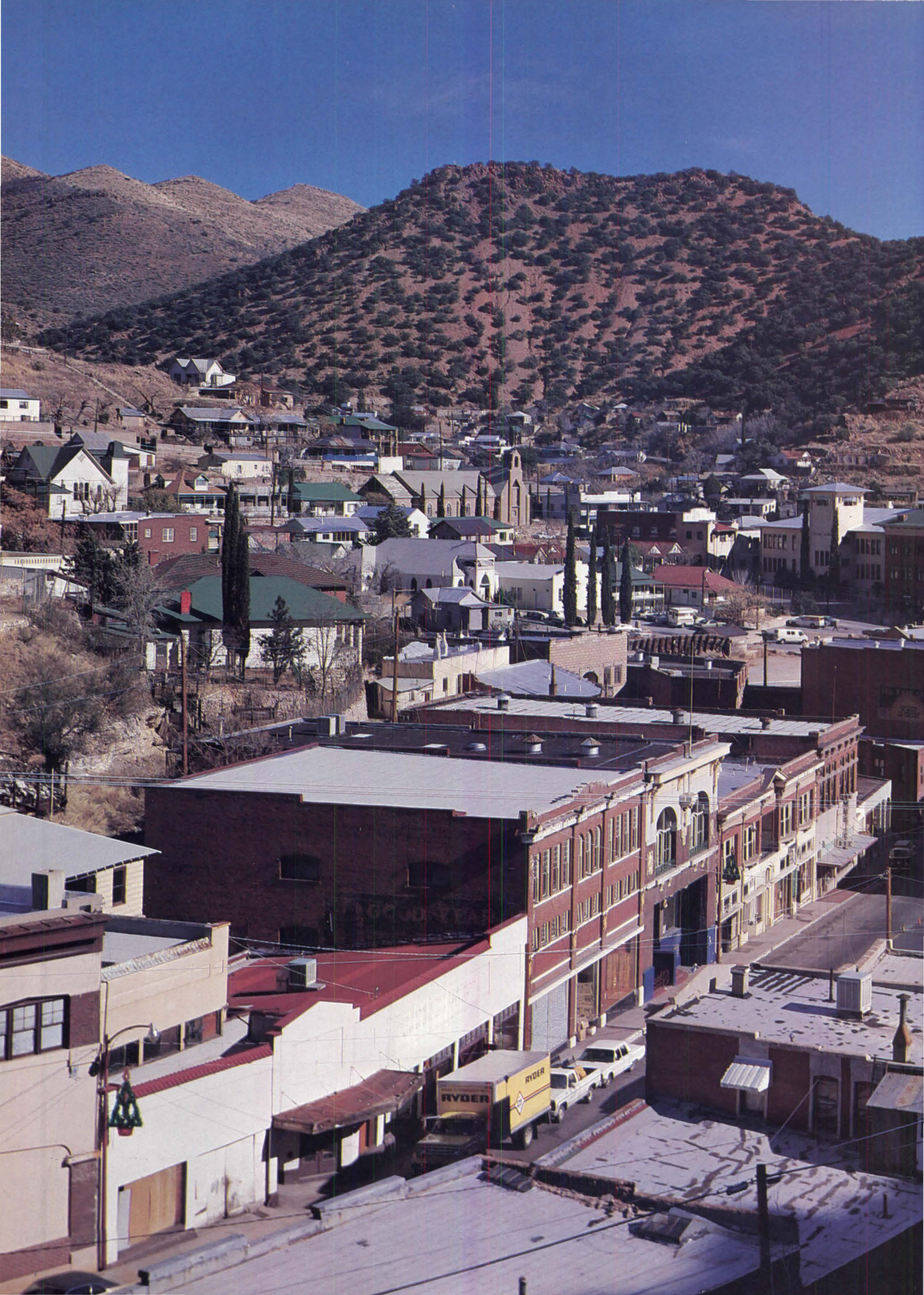
41-room mansion of Phelps-Dodge's general manager, while the lower was precisely aligned with a distant view of three clustered mountain peaks. Just as in downtown, the Warren building boom led to several commissions for Trost and Hurst.

The development of Douglas, an offspring that would eventually grow larger than Bisbee and Warren combined, also produced several Trost buildings, including the Gadsden Hotel. Even though altered, its lobby is a remarkable example of the Sullivanesque style transplanted from the Midwest to the Mexican border. There are many other substantial and interestingly designed downtown buildings, most notably the unexpectedly urbane railroad station with its once-grand approach, but the city's flat site and absolutely regular street grid preclude the individualistic urban character that comes so naturally to mountainous settlements.

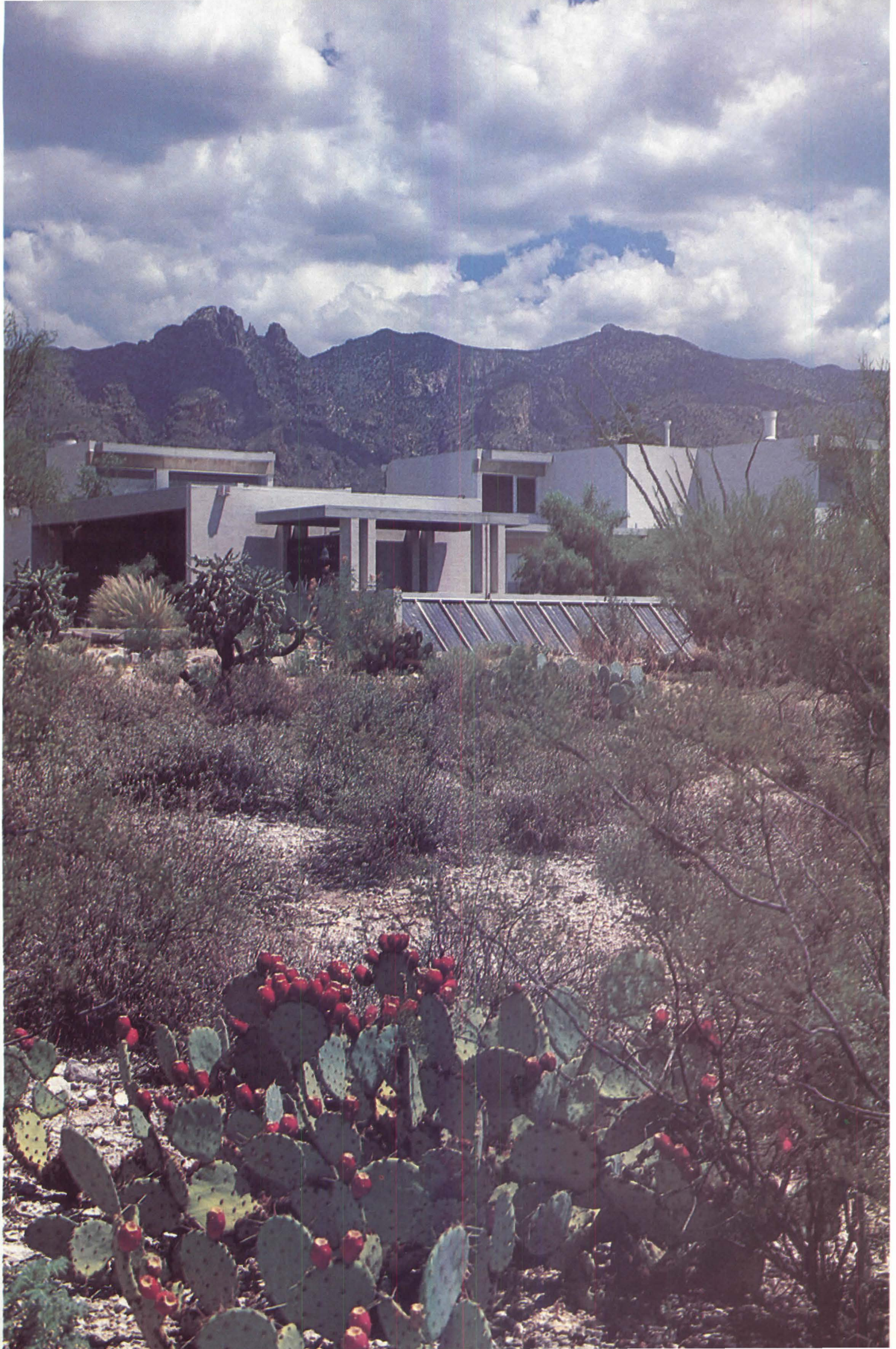
In retrospect, Arizona and New Mexico's copper camps seem to have reached their architectural and urbanistic peak around

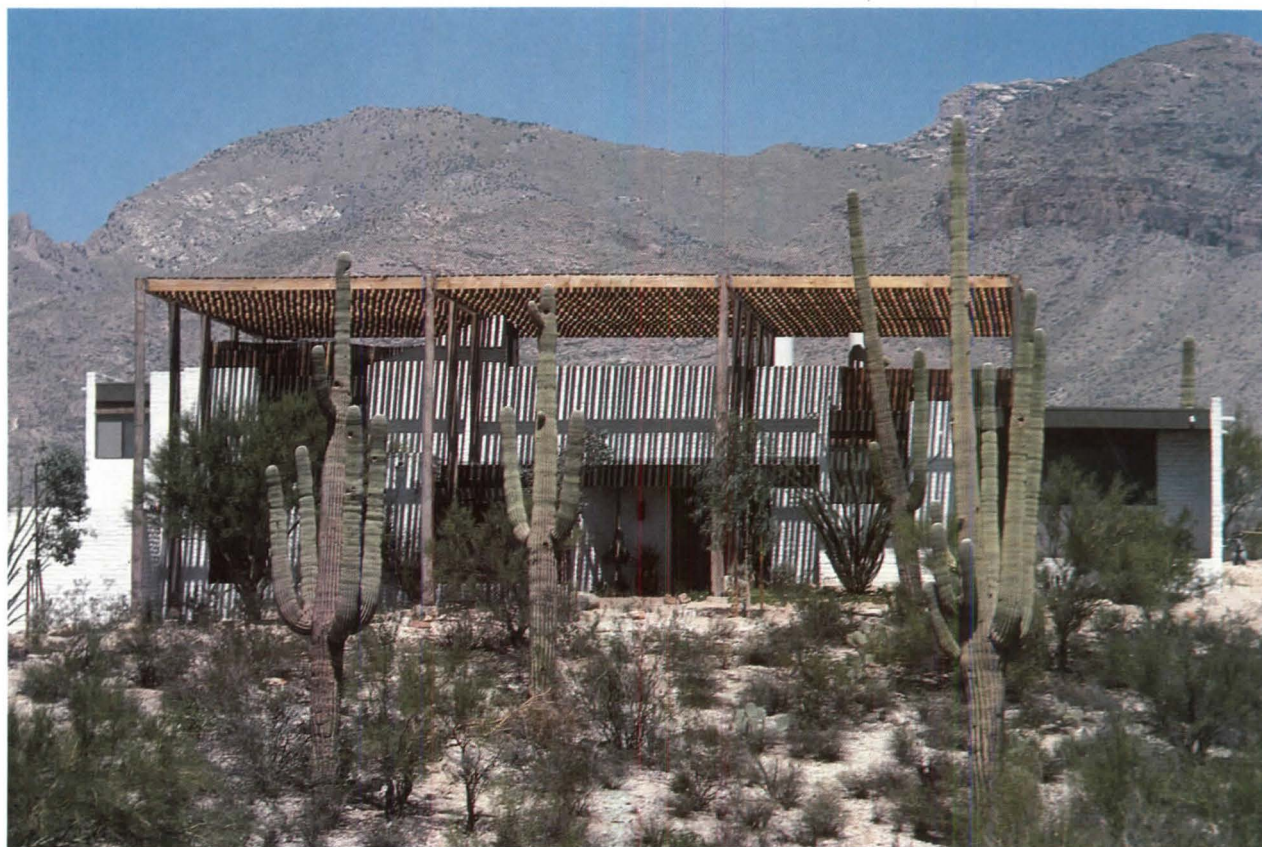
World War I. The Depression stifled many of them, causing them to shrink or be abandoned. Mechanization has reduced the need for labor, so that fewer people live in mining towns. Fires have taken their toll, and open-pit operations have consumed such places as Ray, Morenci (and with it, at least one Trost building), most of Bisbee's neighbor Lowell, and, of course, Tyrone. The replacement towns have been practical but not distinguished, with layouts and architecture in the postwar sunbelt suburban mold, scaled to the automobile rather than the person. Many camps are pragmatically temporary, taking the form of scattered mobile homes.

Still, some of the grand old towns remain. Since 1974, Bisbee has shown its ability to survive the shutdown of mining activity that spanned 95 years. Globe, Superior, Clifton, and Ajo still carry on, while Jerome and the legendary silver camp of Tombstone cultivate tourism. In a region whose vigorous postwar growth has largely been implemented through homogenized suburban sprawl, these settlements stand as reminders of an earlier urban tradition rich in form and identity, embracing both order and serendipity and unfailing in its mastery of human scale. □ *Overleaf, Bisbee, Ariz. Photograph by Dick Dietrich.*









# Reinterpreting Regionalism: Arizona

*Three architects who respect the desert terrain and traditions. By Allen Freeman*

It takes a century for saguaros to fully mature into strange anthropomorphic giants with prickly green arms reaching 50 feet or more above the Sonoran Desert landscape. Although they are found only in southern Arizona, the southeastern tip of California, and northern Mexico, the wonderful saguaros are forbidden—as are all cacti—in certain lushly landscaped developments of million-dollar-plus houses in Paradise Valley, adjacent to Phoenix and Scottsdale.

An extreme case of desert denial in Arizona's megaoasis metropolis, Paradise Valley is nonetheless indicative of thinking in the state's ongoing sandstorm of development, where air-conditioning and irrigation have helped dilute the region's architectural and natural identities. Evidence in the cities is widespread, from French Tudor spec houses to suburban lawns, grassy highway medians, and verdant golf courses. Some areas of Arizona have become so humid as a result of irrigation that evaporative cooling—the technique of lowering temperatures to comfortable levels by simply raising desert humidity—has lost effectiveness. “Phoenix has clobbered its climate,” remarks Judith Chafee, FAIA, with a definite Tucson bias.

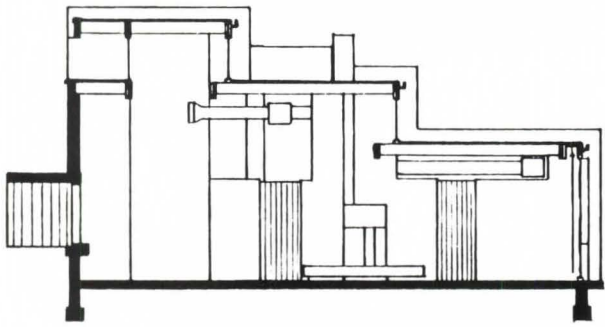
And, says William Bruder, another outspoken Arizona architect: “Although I enjoy Mexican architecture, the biggest plague in Phoenix is the pseudo-Spanish style—the white stucco, tile

*Left, Chafee's Jacobson house, Tucson. The ramada form over her shade house, above, is indigenous, but its size recalls sheltering trees not found in the region. The masonry forms relate to nearby houses out of politeness, not revivalism, she says.*

mansard, and a couple of arches. To people who come here from the East it appears Mexican or Southwestern in flavor. But if you go down to Mexico, the whole idea of courtyards and materials and shade and shadow and outdoor living is so well done; people just don't comprehend that here yet. We live in a sort of Disneyland Southwest, with developers and a lot of architects who haven't looked at the meaning of what Southwestern living is.”

Chafee, Bruder, and Fred Osmon, AIA, are among a handful of Arizona architects who respect the desert rather than attempt to modify it, interpret regional building traditions rather than imitate their surface motifs. Most of their work has been houses.

Chafee practices in a 100-year-old abode house—“the region's loft space,” as she calls it—near downtown Tucson and teaches architecture at the University of Arizona. A native Arizonan educated at Bennington and Yale, she returned to Tucson 14 years ago after working in several strong Eastern design offices, including five years with Edward Larrabee Barnes. Today she revels in the diversity of her region and its implications for architects. One of her favorite assignments for architecture students, she says, is to “have them design something, say a conference center, requiring a lot of self-help construction on a site of their choice along the road from Tucson to the top of Mount Lemmon, a change in elevation of several thousand feet. Using materials at hand, they are supposed to respond to six climates going up the mountain, starting with the low desert where adobe is appropriate, into a rocky area, and then to the heavily timbered top where wood construction is appropriate.”



© Glen Allison



## Forms that change with the situation.

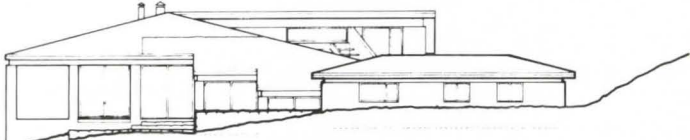
Chafee's own work of the past decade is remarkably varied, in large part responding to the region's diverse topography, climate, and building traditions. For instance, one house strongly evocative of Sonoran architecture nestles on a hillside in the low desert. A masonry structure, its irregular forms are scaled to relate to nearby pueblo-style dwellings. Its roof and patio are shaded by a high Papago ramada—Papagos are Indians living mostly south of Tucson—which also allows warm air rising from the valley to pass through its open ribs.

Quite different in form, materials, solar strategy, and heritage is a recently completed winter house. Located on higher grassland studded with pin oaks between Tucson and the Mexican border town of Nogales, the Hydeman house is reminiscent of

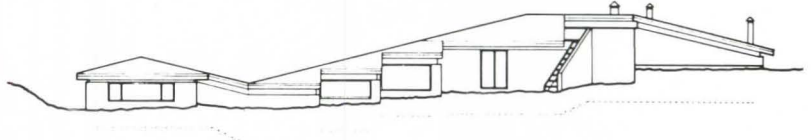
local ranch houses, a building form introduced in the area by settlers a century ago. Like neighboring ranches, the Hydeman house has a corrugated metal roof. But this one extends over a connecting greenhouse—where corrugated metal becomes corrugated glass fiber—so that the house seems to hug the ground. Excess solar heat can be vented or stored in a rock bed to be circulated through the house on frigid winter nights. Because the house is remote from Tucson, Chafee minimized required construction skills, designing a structure of poured concrete incorporating native rock. The interiors are concrete and wood.

*Chafee's Johnson house, above, steps back for ambient light from shelves at clerestories. Her Hydeman house, right, reminiscent of ranch houses, hunkers low in accordance with a covenant respecting nearby Indian ruins. Interiors are rough-hewn, solid.*

© Carla Brezze



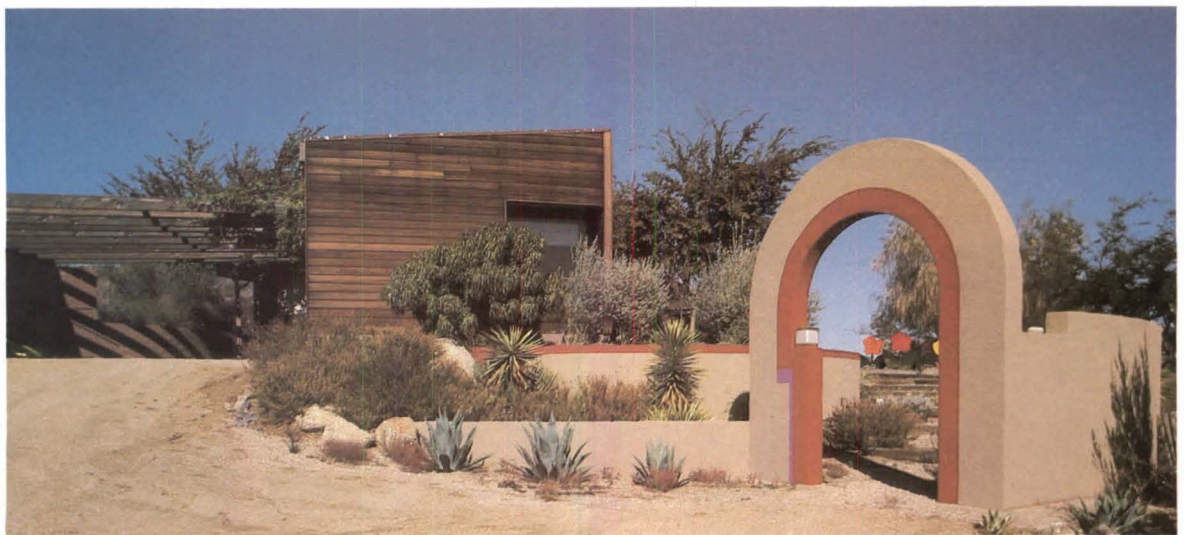
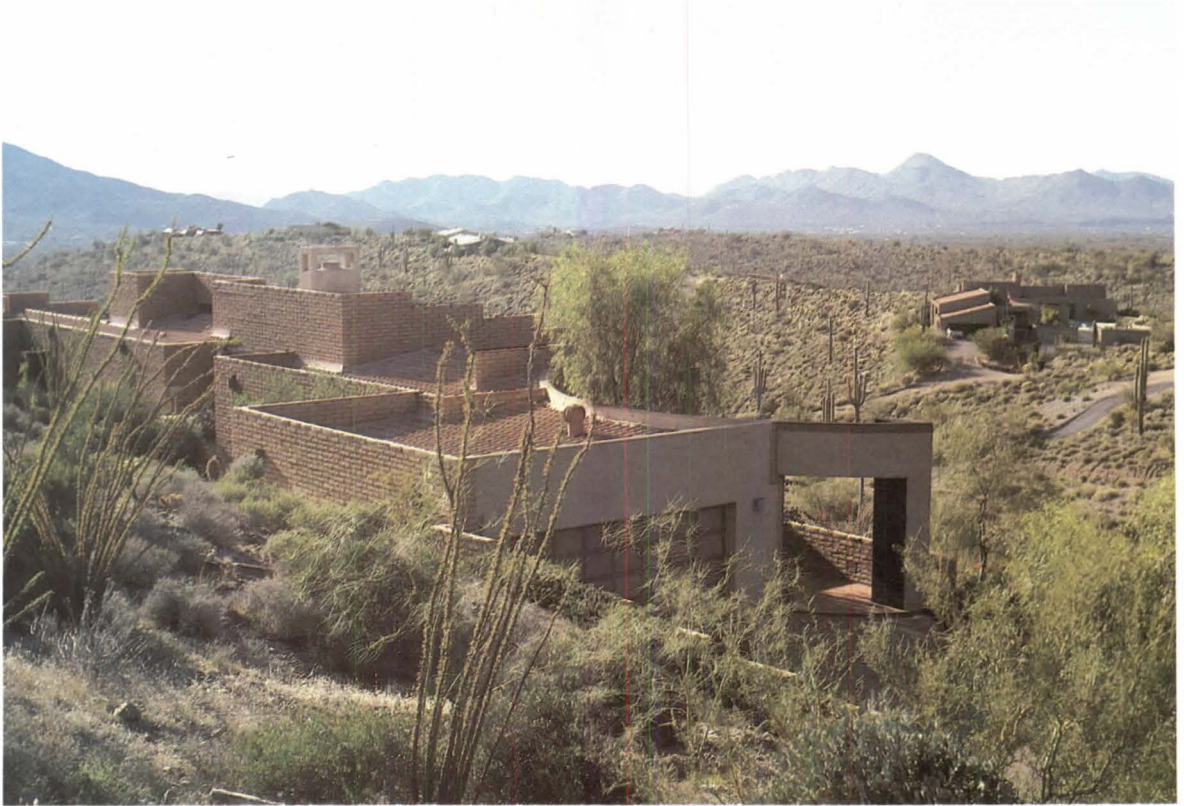
South elevation



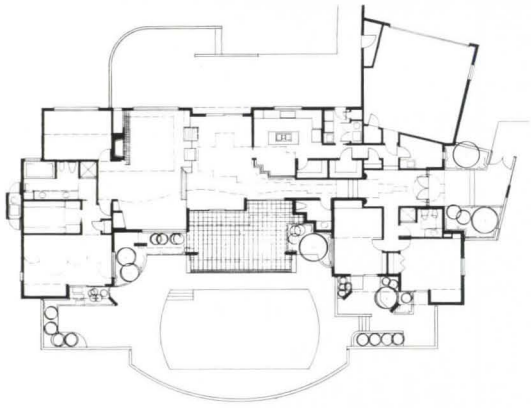
East elevation

© Carla Brezze









## Soft houses that recall the pueblos.

In contrast to Chafee's robust applications of varied materials, Fred Osmon's desert vocabulary is restrained and consistent. For his houses in and around Carefree, a community north of Scottsdale, the main material is masonry, frequently mortar washed or stuccoed to yield a smooth, pueblo-like surface. Set in a rolling desert terrain for which Osmon shows great respect, the houses generally read smaller than they are, with low profiles, soft contours, muted colors that blend with nature. They have intriguing plays of sunlight and shadow, pleasing juxtapositions of solids and voids, carefully considered spatial enclosures and

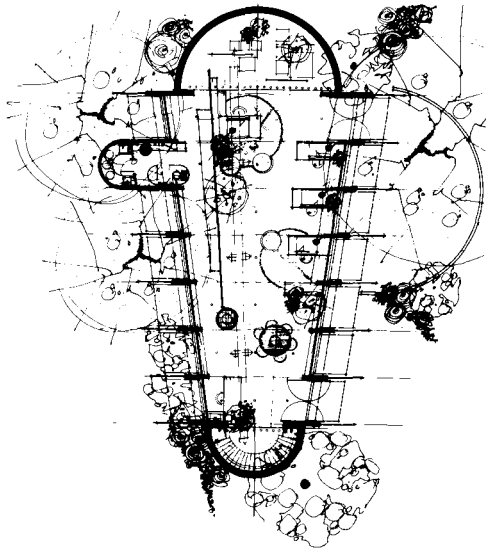
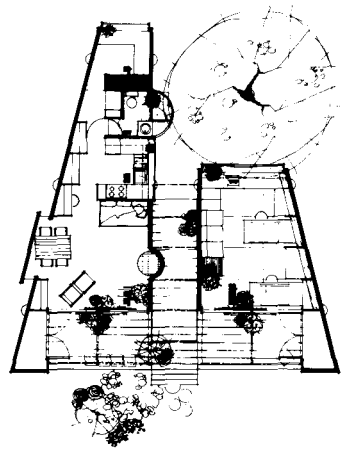
*Opposite page: top, two houses by Osmon face each other across an arroyo near Carefree, the nearer one constructed of slump block (tan colored concrete made to look like adobe) with smeared mortar. Osmon's own house, center and bottom, is the setting for his garden of plywood flowers. His Zahn house, above, is tucked into a narrow lot with orientation toward pool on the south.*

framed views. Their landscaped surrounds are small and clearly defined by walls and terraces.

Osmon is something of an intellectual maverick who came to the desert a dozen years ago after studying under Louis Kahn at Penn and teaching for five years at Berkeley. Mexico's Luis Barragán and Ricardo Legorreta are acknowledged influences, but so are Robert Venturi and Claes Oldenburg. "I want an architecture that can handle good and bad taste," Osmon says.

During the desert's dormant seasons, Osmon sets out huge, cartoonlike flowers and trees in front of his house, a wry comment on the logical extremes of nonindigenous landscaping. The plywood garden is one expression of Osmon's laid-back approach to design and the environment. "The arts have become so elitist that the only way to combat this is to introduce a certain amount of humor," he says.

Plywood posies aside, Osmon is quite serious about minimizing man's destructive effects on the desert, as is Will Bruder. "The desert is not like a forest where the land heals easily," says Bruder. "Scars on the land here take a long time to come back."





## Expressing the extremes of the desert.

Bruder is a former Midwesterner who moved to Arizona 17 years ago to work with Paolo Soleri (see "Six from the '60s," Jan., page 80). Many of Bruder's current ideas about desert buildings are embodied in his house and studio, two strong presences with subtle relationships to their site in the open desert of New River, Ariz.

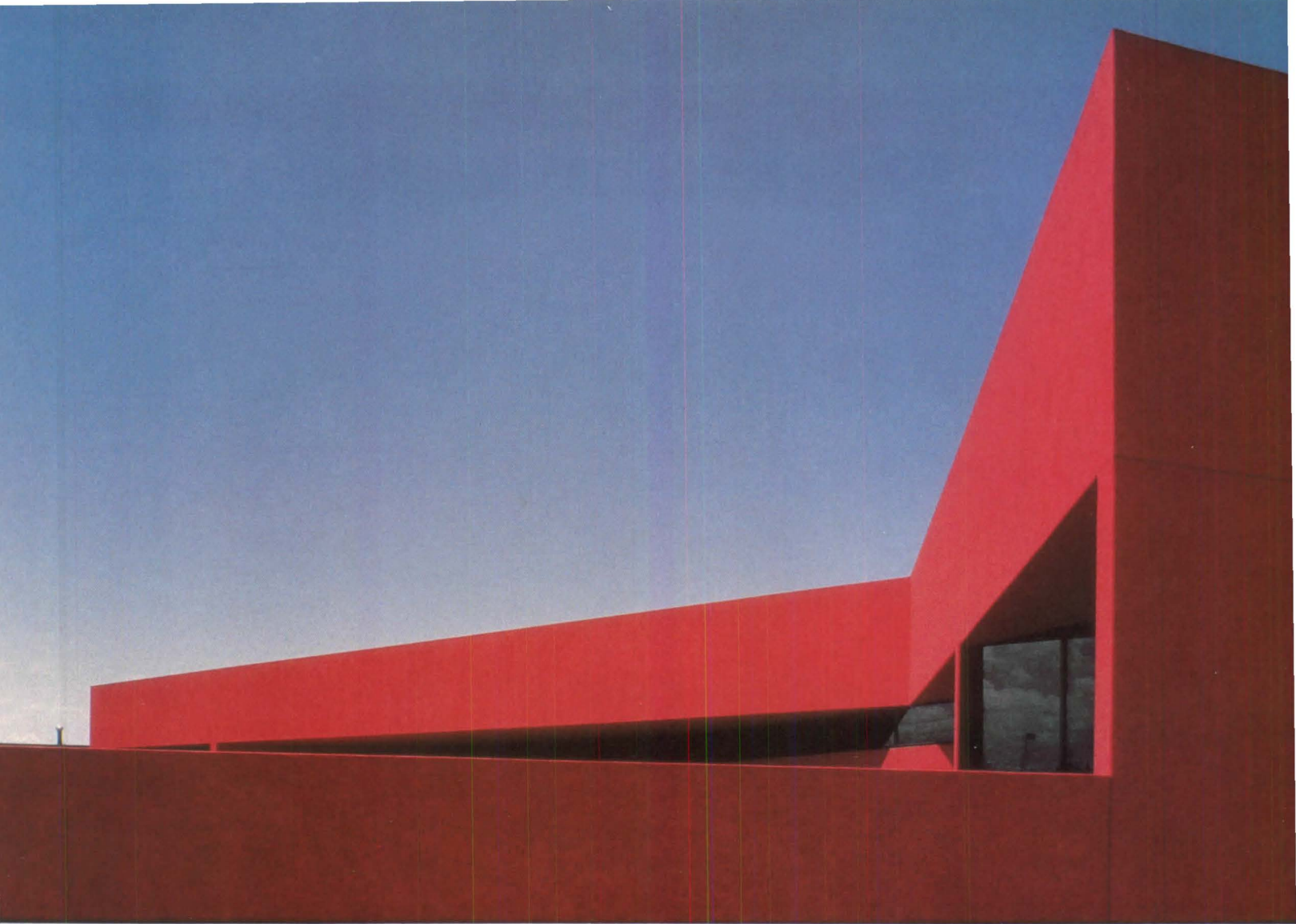
Bruder's house was built in 1975, functioning as a combination dwelling-studio until the separate studio was completed nearby four years later. Clad in a dull, corrugated sheet metal over a wood frame, it perches on a slight grade of undisturbed desert. In plan the house flares from the south like a bell and is bisected by a north-south axial breezeway. The southern exposure, from which it is approached, is closed to the sun except for horizontal slit windows. As you walk through the narrow breezeway, reminiscent of 19th century Southern farm houses, the view to the north widens to reveal what the compact building's curious form is about: The house is a framing device for the view to the north, a restful panorama of unspoiled desert. Extending across the north side is a deck shaded by twin trellises casting gridded shadows on the floor and extensions of the east and west facades. From the deck you double back through glass doors to enter either the living space or the studio space, the latter now used by his wife, an archaeologist. Simple but not simple-minded, it is an inexpensive house geared to unpretentious desert living.

*The corrugated metal walls of Bruder's house, above, project beyond its enclosed space to frame the deck. His studio, left, flares in plan and profile, its western elevation protected from late afternoon sun by a nearby rise. The studio interior is bathed in soft light through the glazed northern wall.*

Bruder's studio is oriented toward the same northern landscape, and, like the house, it flares in plan and section. But here the longer axis is east-west (kicked five degrees to the northeast). The east wall, a large, concrete half-drum, shelters a client-conference nook from which the rest of the metal-framed structure seems to grow. A corrugated metal shed roof extends over clerestories on the south wall to control the sun, while the north elevation is glazed floor-to-ceiling. Protruding beyond the glass wall are concrete, buttresslike fins and extensions of the metal rafter elements. There are definite references to Wright's drafting room at Taliesin West.

Like the house, the studio is cut into the desert with no re-landscaping; plants grow four inches from the foundations. Bruder wants to draw nature into his buildings and at the same time express some of its extremes, such as intense summer heat and then sudden electrical storms followed by flash floods. "I like the energy of the desert," he says. "I want to combine the natural environment with expressive, creative use of structure and materials."

Bruder, Osmon, and Chafee are grappling with a difficult and subtle proposition, that of giving appropriate expression to a very particular place. Each has a strong voice in the desert different from any other's, but on one point they agree: The quest should be catholic in scope. Bruder is enthusiastic about a wide range of architecture, including that of Soleri, Wright, Bruce Goff, John Andrews, Arthur Erickson, Carlo Scarpa, and Paul Schweikher, the former architecture dean at Carnegie-Mellon now living in Sedona, Ariz., about whose work Bruder is writing a book. Osmon says he wants an expression that is inclusive rather than exclusive. And Chafee, writing in *Artspace*, a quarterly of Southwestern art, asks: "Is my place or my sex less universal because I am not? . . . This region is as far-reaching and as deep as my comprehension and understanding can make it." □



# Reinterpreting Regionalism: New Mexico

*Three firms whose work bespeaks the Southwest in varied ways. By Michael J. Crosbie*

New Mexico's landscape and architecture coexist in a sometimes friendly, sometimes uneasy alliance. The region holds the stillness of the desert next to the bustling urban character of its cities, most notably Albuquerque. Approaching this city by air and at night, you see strands of lights floating on a field of black desert, as if a prospector's hand had pushed away the sand to reveal a luminescent mother lode.

Contrasts in geography and climate abound. Mountains rise against the flatness of the desert and sky, while temperatures may vary as much as 40 to 50 degrees between night and day. Designing for this climate, say the architects whose work appears on these pages, is an automatic "given." The desert has such a strong presence that ecological design is done unself-consciously; relating buildings to the environment is part of the region's building heritage.

A sense of history is also part of this region's architecture. Strict preservation and restoration laws in Santa Fe protect and replicate that city's tradition of adobe structures. But in Albuquerque, history holds on by a tenuous thread. Commercial strips zip through bits and pieces of the old city, while in the outlying areas history is daily manufactured. Ruins of adobe houses are hot pieces of real estate for restoration, and local entrepreneurs now build bogus ruins for unsuspecting buyers.

Contrast and allusion to the landscape mark the work of two of Albuquerque's architects who use regionalism as inspiration, while historical continuity distinguishes that of a third.

The buildings of Antoine Predock, FAIA, attempt to meld the region's diverse elements. "Every city and landscape involves a sense of place and history, which gives it its power," says Predock. "I relate to the desert, the commercial strips, and everything in between."

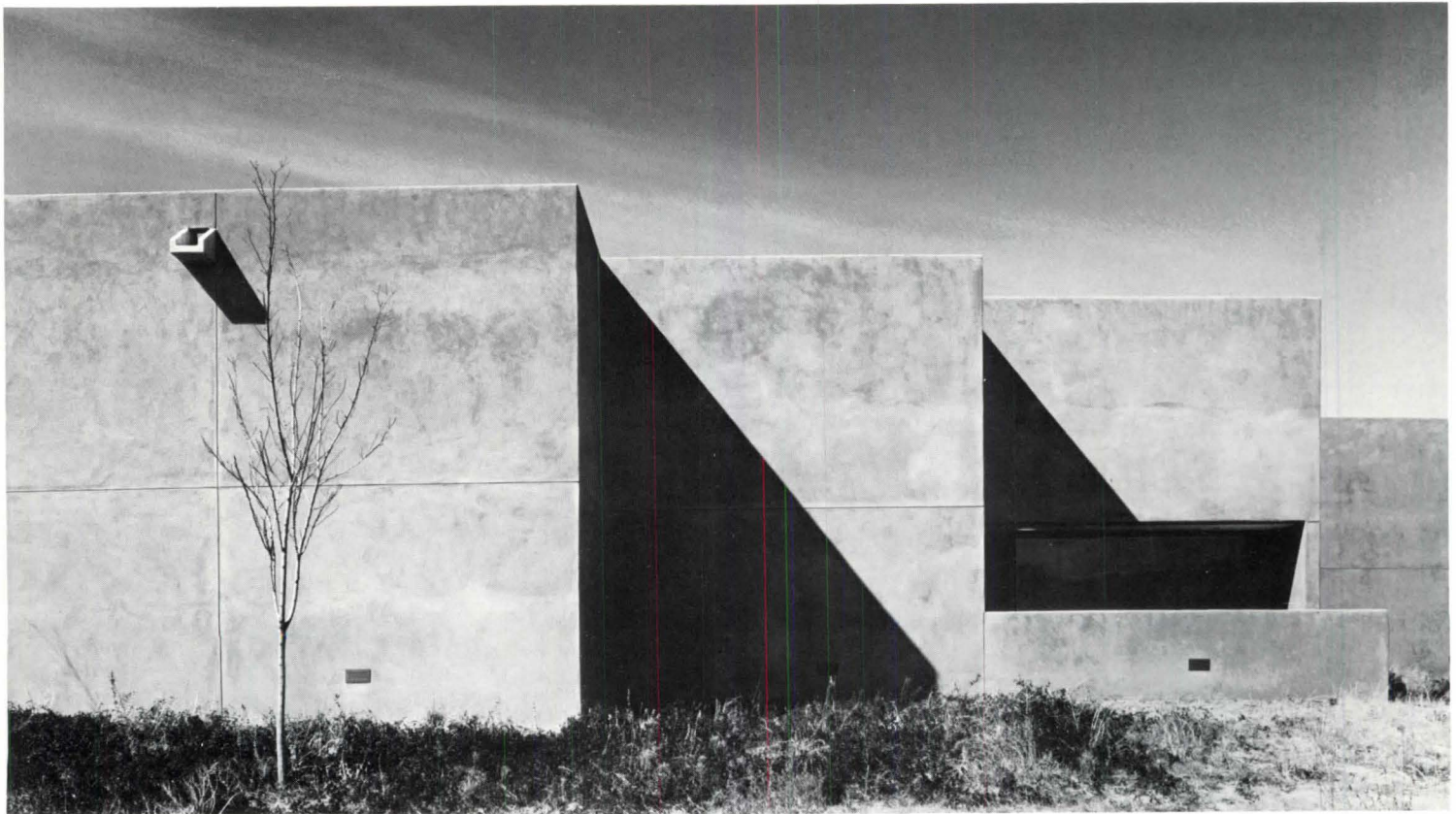
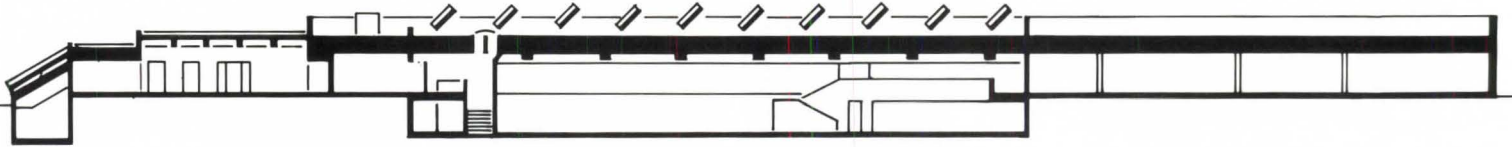
Predock is a native of the Southwest. He studied architecture at the University of New Mexico and at Columbia in New York City, returning to this area in the mid-1960s. He says that an awareness of the desert influences his work: "I see my architecture as an abstraction of the landscape." This is evidenced in his preoccupation with long horizontal lines and large blank surfaces.

His design for a volunteer donor blood bank in Albuquerque combines a sense of the abstracted landscape with an acknowledgement of the building's location on a commercial strip. The color is obvious in its symbolism, *but it is also functional*. As a shelter for donation it pops out against a neutral field of commerce, visible for miles away. The blood bank's interior contrasts favorably with its exterior. A quiet, contemplative setting is provided for the donors, who can relax with a perfectly framed view of the mountains. Summer sun is diffused, while winter sun is admitted directly through south-facing clerestories.

*Above, detail of blood bank corner. Across page, top, the blood bank from the highway takes its place in the desert landscape; bottom, contrasting interior of green and sunlight.*

Photographs by ©Timothy Hursley/The Arkansas Office

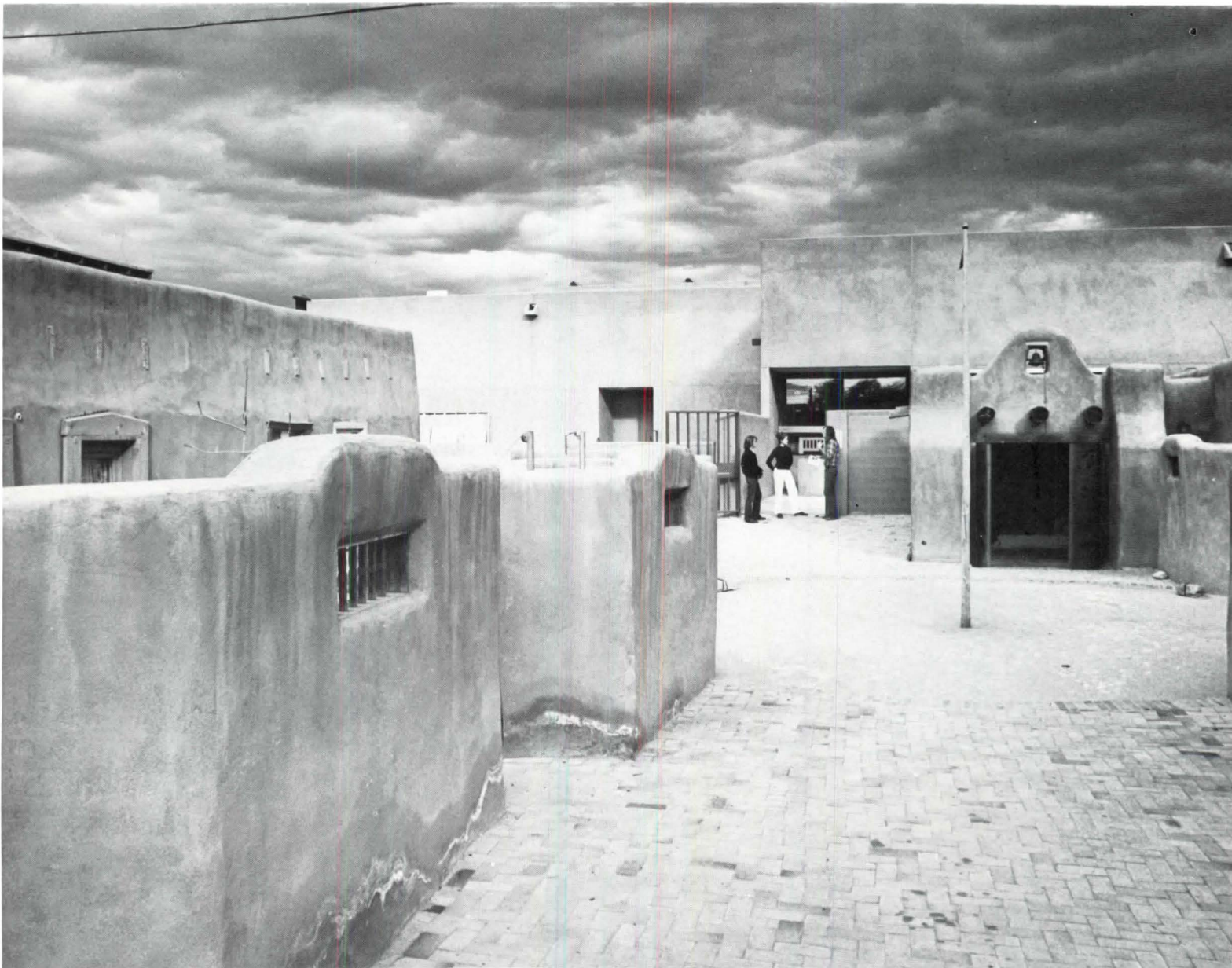




## A friendly, affinitive neighbor to Old Town.

Predock's design for the Albuquerque Museum, on the other hand, is an exercise in historic accommodation. The museum is located right next to the city's "Old Town," whose small adobe structures date from the 18th century. The museum's elevation, facing Old Town presents a long, uninterrupted brown stucco wall, creating a backdrop (practically a stage set) for the older buildings. The museum's bulk of 65,000 square feet is visually minimized by depressing its central exhibit space into the ground. The building melds itself with the landscape, its entrance angular while the face presented to its elder neighbor is much more rectilinear in character. The interior uses wood beams, white walls, and brown brick floors. A wooden ceiling grid in the exhibition spaces is used for track lighting and panel installation. Glass ended corridors frame views of Old Town and the mountains.

*Across page, top, approach to museum: bottom, simple forms with regional accent. Below, museum as backdrop to Old Town.*

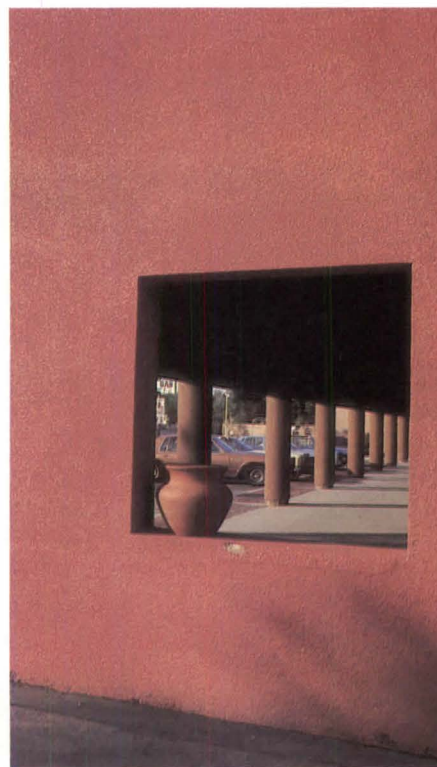




Robert W. Peters, AIA



Robert W. Peters, AIA



## Luis Barragán and tradition as influences.

The traditional architecture of this region has a spare palette of materials and construction methods, but it is powerful in its expression of volume. Robert W. Peters, AIA, of Albuquerque values this architecture for its limitations as well as its opportunities. A native of Minnesota, Peters studied under Paul Rudolph at Yale and then worked for Skidmore, Owings & Merrill in Chicago in the 1960s. While in Mexico he met Luis Barragán, whose work made an impression on Peters' own approach to regional design. In the early-'70s he moved to Albuquerque, seeking an opportunity to work in a city "that was still in the process of becoming."

"I was impressed with the natural way in which the traditional architecture responds to climate and energy conservation," says Peters. "You're very conscious of the cardinal points of the compass." The regional architecture is also distinguished by the manipulation and expression in simple forms of mass and volume. For an architect trained in the modern idiom, Peters says that there are opportunities for translating these formal qualities in new ways.

His renovation of a small neighborhood shopping center in Albuquerque's North Valley certainly shows Barragán's influence. The original lacked a sense of coherence and enclosure,

says Peters, so he placed a reddish terra cotta colored stucco wall with a cutout at the end of the center's arcade, which serves to contain the building and the parking lot. It also symbolizes a gateway into and out of the city to the south. A smaller cutout at the end of the arcade frames a view. Steel columns in round stuccoed enclosures support a new wood frame roof covered with tile. Planting and low walls of earthtone colors further contain the space and partially conceal parked cars.

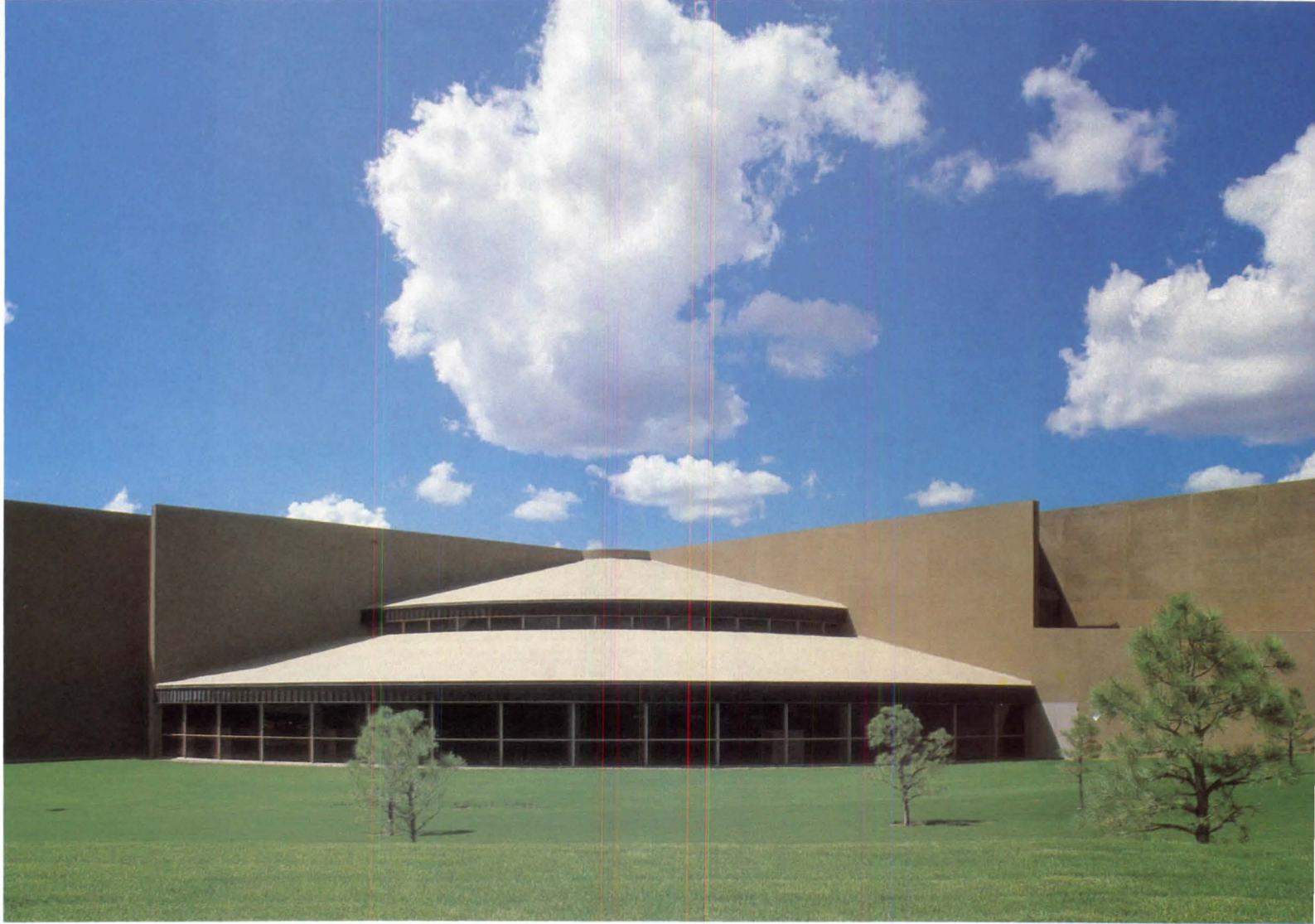
The Grants campus cultural facility of New Mexico State University (completed in two phases, one with Peters as director of design for Schaefer & Associates and the other with Peters as partner in charge for Addy & Peters) shows the manipulation of volume and mass carried out in a traditional fashion. The building's T-shaped plan sets the longest leg to the northwest against the backdrop of a mountain range. To the northeast a curved element containing a library uses bands of windows on two levels to frame views of Mt. Taylor, 11,300 feet in elevation. A second curved element to the southeast, this one a study lounge, opens itself to the spectacular desert.

*Top, new wall in shopping center renovation provides closure to parking lot and arcade and symbolizes gateway to and from the city; above left, stucco enclosed column and roof detail; above right, window at the end of the arcade frames a view.*



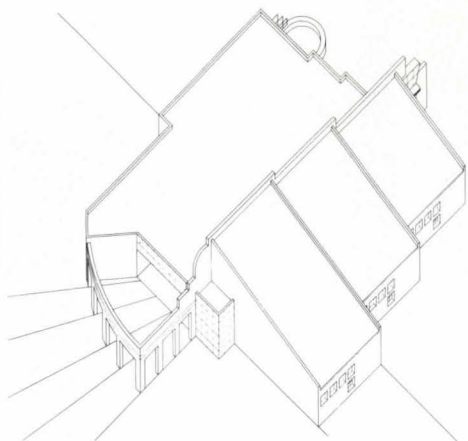
*Below, view of curved roofed library that provides two bands of windows to frame views of Mt. Taylor; bottom, curved roofed study lounge, the library's counterpart on the other side of T-shaped plan, opens itself for views of the desert.*

© Peter Aaron/ESTO



© Peter Aaron/ESTO





*Above and right, department of human services office and its entrance court; across page, colors brighten as they code functions of office interior; below, abstractions of regional ornament decorate the exterior of a research laboratory in varying shades of stucco, complete with entrance court.*



Michael J. Crosbie



### **'An esthetic that is anything but machine-made.'**

Establishing a sense of historical continuity through architecture that shows evidence of being crafted by human beings is a theme in the work of Westwork Architects of Albuquerque, comprised of Lawrence W. Licht, AIA; Glade Sperry Jr., AIA; and Stanley G. Moore, AIA. All three are natives of the Southwest, studied architecture at the University of New Mexico, and previously worked in Predock's office.

Licht says that Westwork's architecture attempts to "bring back some of the qualities that were lost in modern architecture," specifically a connection to the history of the building's time and location, and an esthetic that is anything but machine-made. "We want our projects to pay homage to the old, and in their

own way to become part of that history," says Licht.

Sperry explains that the firm's work is conscious of the craft level of local builders and serves to challenge and hopefully raise that level. "Most builders here say that they are tired of building boxes," says Sperry, "and that they see our designs as challenges that they like to meet." Reflecting human craft is part of the history, adds Sperry, "something that the traditional Southwest architecture of adobe readily shows."

Having lived in the region for most of their lives, the architects say that they have grown up with the building forms and decorative motifs, and in their work attempt to reinterpret them. Says Moore: "We're conscious of the variations of the tradition. When we see these differences in the region we note them and then use them in our own interpretations."



Westwork's design for the exterior of a research laboratory at the Lovelace Medical Center in Albuquerque uses a number of elements derived from the region's heritage of decorative ornament. Here, a run-of-the-mill Butler building has been wrapped with a surface that alludes to the stepped walls usually seen in adobe construction. A light tan color is contrasted with brown, wedging its way between square windows (another element of the regional vocabulary). An entrance court is created by a bending wall that passes through a stair tower and ends with an eroded edge. This wall is punctuated by little square openings at its top, signifying in void the wooden vigas that commonly project just below the parapet of adobe structures.

Derivative forms and a personable scale distinguish Westwork's design of a state office building for the department of

human services in Bernalillo. Situated back off the town's main road, this 7,000-square-foot building has a simple form that diagrams its interior spatial arrangement. Its south side is composed of three stepped volumes of brown stucco and blue painted metal roofs (a common roofing material in this region), with modulated square openings similar to those of the houses nearby. Other office spaces, restrooms, and waiting areas are located in the building's north section, which has a flat roof. A light tan stucco wall slices through the building and bends around to create an entrance court. Color is used to provide a lively interior (a relief in comparison to other government buildings) and also codes the functions of different offices. In the traditional manner there is a brick floor, and the interior's brightest colors are used on window and door frames.



### **A more modest reflection of the past.**

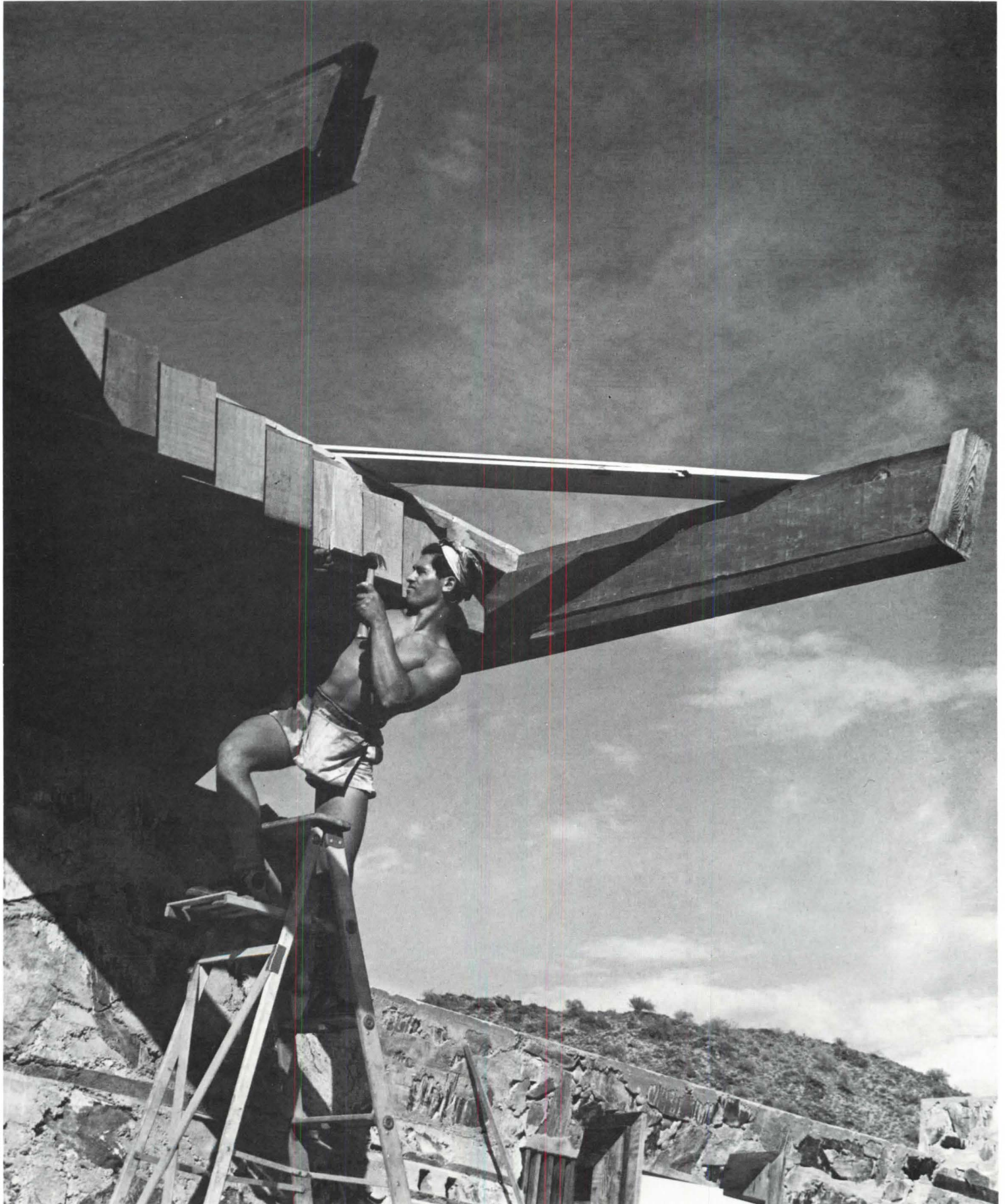
Relating to a different part of the region's history is the North Barelas housing for the elderly, a HUD project in downtown Albuquerque. The units' small scale, pitched roofs, profile, colored stucco exteriors, and diamond shaped vents under the soffits refer directly to the houses in the surrounding neighborhood, which blossomed with the arrival of the railroad in the early-1900s. The distribution of the 60 units on a four-acre site helps to keep the high density from seeming so. All of the units face south (gaining solar warmth through a sunporch) and are angled and stepped to allow views into the public spaces, discouraging the uninvited.

The work of Predock, Peters, and Westwork illustrates how the architectural traditions of the region are open to new and inventive interpretation. Predock concentrates on what he calls "the desert's poetic force," abstracting the landscape and tempering it with the special characteristics of the site. Peters abstracts as well, using broad planes, volumetric forms, and color to anchor his buildings in the landscape. While more literal in its interpretations, Westwork's creations reveal a richer historical consciousness, attempting to bridge yesterday's architecture with that of today. □

*Above, two views of Barelas housing for the elderly, showing sensitive streetscape and view through one of the site's communal area.*

# Taliesin, Then and Now

*Rare photos that recall its genesis and change. By Bernard M. Boyle*



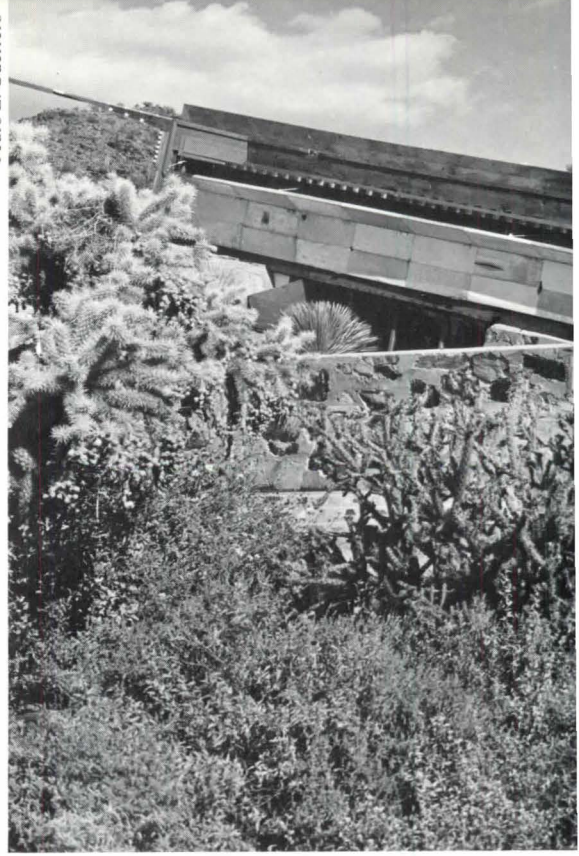
*In 1940, apprentice Alfred Bush works on dining room trim.*

Pedro E. Guerrero

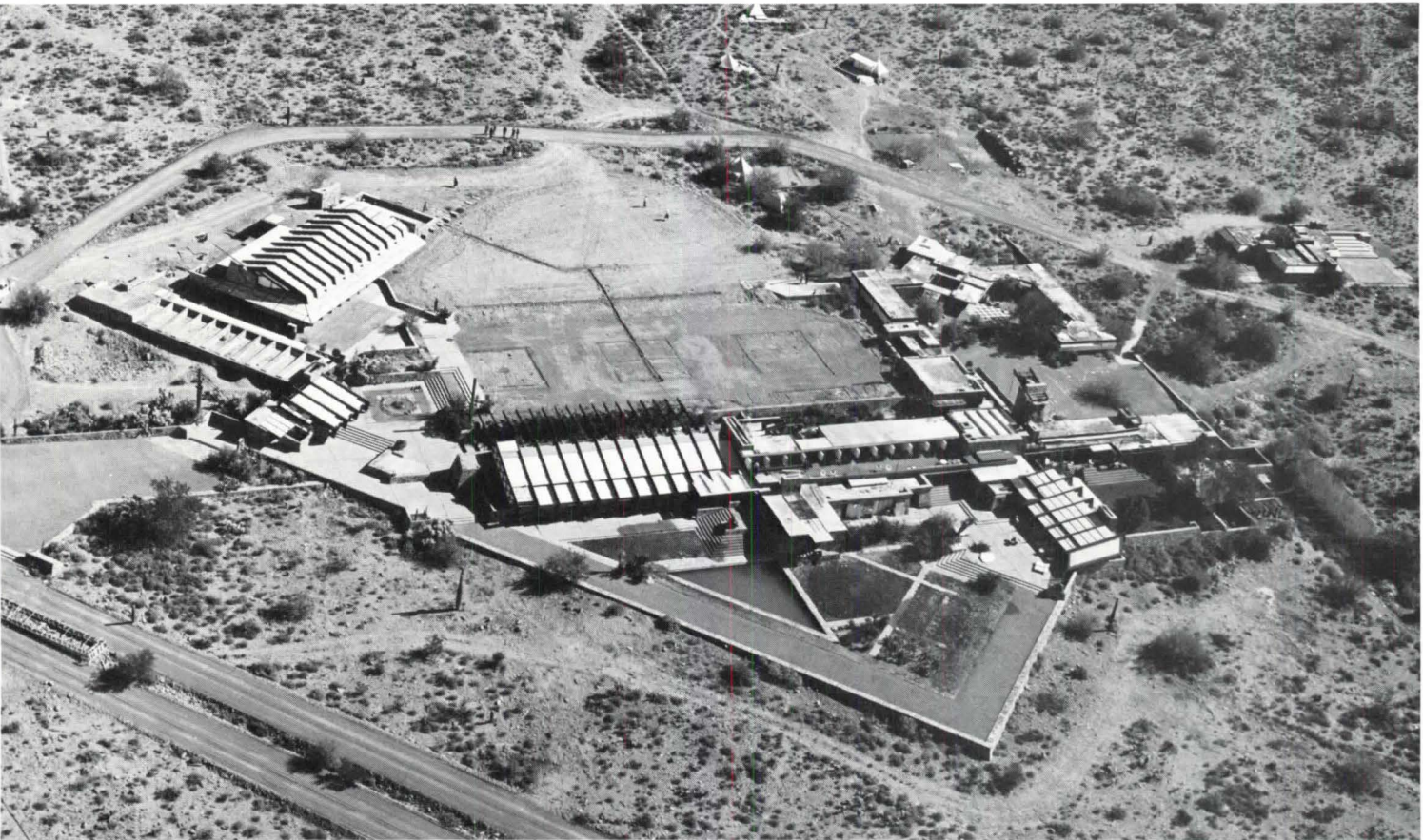
Allen Freeman



Pedro E. Guerrero



Pedro E. Guerrero



“Frank Lloyd Wright stood on the concrete separating the desert from his civilization. He was waving goodbye to departing guests. ‘Au revoir!’ he called out. ‘Come back and see us!’ Mr. Wright was wearing a pair of loose-fitting khaki shorts, a white polo shirt, white ankle-length socks, and white Cuban-heeled shoes. On top of his magnificent head was a tan porkpie hat. He leaned jauntily on a cane.”

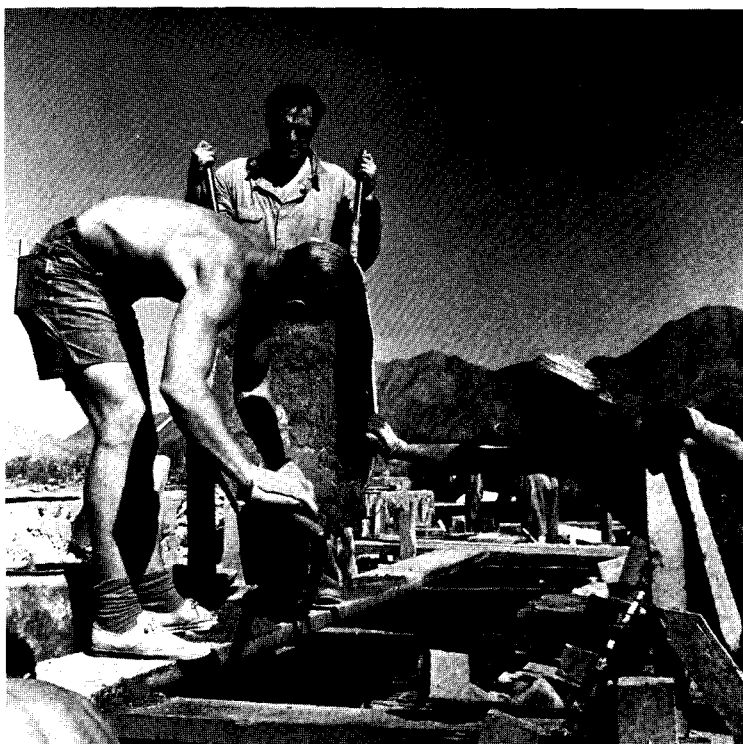
**Mr. Boyle**, professor of planning at Arizona State University, is editing a book of recollections and photographs by Pedro Guerrero of three buildings by Frank Lloyd Wright in Arizona. Text copyright 1984 by Bernard Michael Boyle.

With this descriptive vignette, Pedro Guerrero opens his reminiscences of his introduction to *Frank Lloyd Wright*, *Taliesin West*, and the *Taliesin Fellowship*. As the photographs on these pages show, Guerrero was present at the birth of an American masterpiece. *Taliesin-in-the-Desert*, as it was known at first, was conceived in 1938, but construction of the first phase was to occupy the next several years. It was in the winter of 1939-40 that Guerrero began to make his photographic record of the work, part of it already completed, part then still in progress.

What initial impression all this made on the 22-year-old Guerrero can be gauged from the words of his recollections: “All around was a great confusion of activity. The dedicated bustle



Pedro E. Guerrero



Pedro E. Guerrero



of so many young people was impressive. . . . Outside, forms were being built, cement was being poured, stones were being barrowed—all the functions of construction were being undertaken by the 'boys,' as Mr. Wright would forever refer to us. . . . Everyone appeared to work very hard, and everyone participated in all the aspects of what it took to make the organization function. And they all seemed to enjoy it."

However, Guerrero's role at Taliesin West, at least at first, was to be less that of participant than that of observer and recorder. A native of Mesa, Ariz., he had completed two years as a student of photography at the Art Center School in Los Angeles. He arrived at Taliesin West at the precise moment when

*'Mr. Wright wanted Taliesin photographed from the air,' says Guerrero, who took the aerial, opposite, and the drafting room photo above in March 1959, shortly before Wright died. Wielding a wheelbarrow, top right, is Wesley Peters in 1947, the same year that the drafting room exterior was photographed, top center. Top left, the ensemble today, with drafting room left in photo.*

Wright was in need of a photographer, and was put to work immediately. What resulted was a series of photographs of considerable artistic quality and documentary value. Some of the photographs later became well known, but many have never been published.

Pedro E. Guerrero



Pedro E. Guerrero



Allen Freeman



Guerrero's images not only give information on the process of construction, emphasizing strongly, as do Guerrero's words, the sense of community and participation. They provide as well a record of details and stages of the building that have since disappeared, as additions were made and older components subsumed.

Originally, the complex consisted of the entrance court, followed by the private office, the main drafting room, the dining and kitchen areas, a small row of bedrooms and last, separated from the rest by a partially covered terrace, Mr. and Mrs. Wright's private apartment. The apprentices' court to the northeast and

small theater to the northwest completed the first phase of the project.

With these elements the main lines of the plan and the principal themes of the architecture were established. Redwood frames and planking separated and supported hinged panels of stretched canvas, the whole rising above slabs and walls of concrete studded with stones from the desert itself. The stretched canvas panels were applied both horizontally and vertically, and could be opened to admit a graduated light or the breeze from the desert. Brilliantly colored spots and spikes, pennons, and hanging decorations flashed against the dark masses below and the glitter-





*Above, the view in 1940 over an open canvas flap in the drafting room. The '47 photo at top left shows an outside view of the same area, since subsumed in the big room. Left, living room today.*

ing sky above. The man-made forms simultaneously echoed and defied the natural. Even more, the powerful contrast between massive base and floating superstructure created one of the most poignant statements in all architecture.

As Guerrero's photographs reveal, in some cases for the first time, many features of the original conception vanished long ago. Walls were removed as spaces expanded. Additions here

and there altered the original silhouette. Varieties of direct and reflected light were replaced by fixed illumination. The desert air was controlled by machinery. The rough conflict of natural materials in vivid juxtaposition with one another and the desert was smoothed away. Much of the original colored decoration disappeared, and so on. What was once moving and evanescent has been accorded a kind of stasis.

Taliesin West's challenging forms are still imbued with the spirit of their designer. In Guerrero's words: "He touched my life as he had touched the lives of so many others; I have never met one of us that was left unchanged by the experience." □

# Cities Sprawling on the Desert

© Landis Aerial Surveys





## Phoenix:

There are times when traffic lightens up, the sun is brilliant, the weather turns benign, and the buildings flash by that Phoenix appears to be much that its boosters claim: clean and comfortable, where growth and the good life meld into a pleasant vision of the post-industrial city. Then there are times when the traffic gridlocks, the sky turns a pernicious hue of smog, the heat blisters, and the buildings seem quite inadequate. Then Phoenix appears to fulfill the predictions of its doubters: an ungainly city where the desire for growth and profit are grinding any hope for the good life into the desert dust.

The vision often simply depends on if one is walking around the city's downtown or driving through its affluent northeast section. And if driving, as almost everyone does, the vision would further depend in what type of car one is in, what time it is, and where is it headed. Phoenix is an automobile-oriented society, where development depends on access and status. And status, to a degree, depends on where one lives and what is parked in the driveway. The scene is very nouveau suburban and mobile.

If anything is constant in the Phoenix area, it is growth. Spectacular growth. Speculative growth. Slovenly growth. Over the last decade, Phoenix has been the fastest growing metropolitan area in the nation. The population of metropolitan Phoenix is nearly 1.6 million, about half of whom live in the 329-square-mile central city and the other half surrounding it over a 3,000-square-mile region of modest mountain ranges and river valleys defined as Maricopa County but popularly called The Valley of the Sun. A decade ago its population stood at 971,000. Forty years ago it was 186,000. One hundred years ago it was 1,700 hearty souls.

The growth lends the area the flavor of a frontier boom town, albeit with a 20th century facade of condominiums, shopping centers, and corporate campuses laid out in a tedious grid. To be sure, the facade is broken, like gaps in a pumpkin's smile, by used car lots, gasoline stations, fast food outlets, and vacant assemblages studded with signs announcing in the near or distant future the construction of some

*High-rise development has skipped out from downtown, in foreground, along Central Corridor to a second cluster directly north. East of the high rises in the distance is Camelback Corridor, a string of office complexes and shopping centers. Camelback Mountain is at right on horizon.*

commercial or residential landmark. Nearly 40 percent of Phoenix proper is vacant, a mark of growth that has leapt-frogged out of downtown and, in particular, toward the northeast, Camelback Mountain and beyond.

This type of growth has created a problem downtown, leaving it somewhat lifeless, despite it being the seat of the city, county, and state governments. The government chambers and office buildings are surrounded by a mix of some proud, dated office buildings interspersed with a incongruous collection of ordinary corporate structures that look as if they have been transported from some bland city in the Midwest. Meanwhile, in an area in the northeast known as the Camelback Corridor, there is a real estate boom, with constant pressure on the city to ease zoning restrictions for a host of retail, commercial, and residential proposals. Few days go by without an announcement of yet another proposal, ground breaking, or opening along the corridor, which with its up-scale shopping centers marching east toward exclusivity and Scottsdale resembles a burgeoning Beverly Hills, without the sidewalk scenes.

Off of the major highways behind a surfeit of golf courses is a low-density sprawl of shaded streets lined with homes of every conceivable style and taste. They, too, look as if they have been imported from other regions, including Cape Cod, Scarsdale, Virginia horse country, and the Loire Valley in France, showing little respect for the scale, materials, and climate of the Southwest. The melange makes it hard to identify something that in a glance you can say "that's Phoenix." When pressed to offer a symbol of their city, Phoenicians call attention to the weather and sun and sky. They note that one of the nicest things about the city is how easy it is to get away from it, into the surrounding deserts and up into the nearby mountains, where the spirit, if not the serenity, of the old West somehow survives.

What the first pioneers in 1867 found along the Salt River and inspired them to settle there was an abandoned canal system of the Hohokam Indians, who apparently left the area at the end of the 13th century when the soil became unproductive. The tribe's name translated means "the people who have gone." Homesteading on the remains of the Hohokam civilization, the settlers named their town site Phoenix, after the ancient legend of a bird consumed by fire only to rise reborn from its ashes every 500 years. Soon the canals were renovated and expanded, crops planted, nearby army posts and mining camps supplied, and a railroad built,



bringing to the town new wealth, settlers, and the designation as the territorial capital.

Just when Phoenix was beginning to feel comfortable at the turn of the century, advertising itself as "the Denver of the Southwest" and promoting its first subdivisions, disaster struck in the form of a drought. Crops wilted, as did the town's population. It was obvious that if Phoenix was to grow it needed to guarantee a steady source of water. Just like it did a few decades earlier in the form of the calvary, to the rescue came the federal government, which under the National Reclamation Act of 1902 funded the construction of the Roosevelt Dam. That and subsequent other water projects stabilized the region's agriculture while statehood in 1912 and the nation's expanding transportation network spurred its tourism and growth. By 1940 the population of Phoenix was 121,000, respectable but giving no hint of the boom to come.

Again to the rescue came the federal government, a historical fact that the city, whose favorite son is Barry Goldwater and whose residents over the years have showed a decidedly conservative bias does not like to readily admit. With the onset of World War II, the government established in the Phoenix area numerous army camps, air force bases, and defense plants. The decision was prompted by the region's fine

*Cosanti, Paolo Soleri's home, studios, bell foundry, and gallery, is an unexpected presence in residential Scottsdale.*

weather and the government's desire to decentralize military production, aided by the state's then-influential U.S. Congressman Carl Hayden. When the war ended, Phoenix had earned the reputation as an attractive location for light industry and research and development, attracting more and more new residents. The new people weren't the retirees the city had tried to attract before World War II. They were now highly skilled, highly motivated electronics technicians, engineers, and sales managers—now known as the "yumps," young upwardly motivated professionals. Also aiding the region's growth was the advent in the 1950s of airconditioning, which has made the long, broiling summers bearable. Those who knew the area B.C., "Before airConditioning," say that its discovery and reasonable installation ranks with water as the two most critical elements in the flowering of the Valley of the Sun.

As it has grown in population over the last 30 years, the city itself has tried to keep pace by annexing as many of the surrounding communities as local politics has allowed. From 1950 to 1980, the size of the city grew from 17 square miles to 329. The city said at the time that the

annexations were motivated by the need to keep in step with the movement of its residents and tax dollars, while also being able to develop more comprehensive plans. The plans have been slow in coming and even slower in implementation, though, of course, nearly everyone has declared a need to somehow control and shape the area's growth, even the most rambunctious developers. They realize, as do others, that growth has outpaced services and improvements, in particular the need for a transportation plan. What few freeways there are in Phoenix are grossly inadequate, creating horrendous rush hour traffic jams daily. With 95 percent of residents insisting on driving to and from work, mass transit in the form of buses has not been very effective in reducing the crush.

The most ambitious and imaginative plan to date to deal with the city's checkerboarded landscape is something called the Phoenix Concept Plan. Dividing up the city into nine satellite communities or "villages," the plan calls for each to have its own distinct center, marked by high intensity retail, employment, and residential development. Given the area's fragmented growth, the plan makes sense, though one wonders if it will exacerbate parochialism and pit one village against another in a city already substantially segregated by race, color, creed, and income.

While the plan has yet to go very far beyond a statement of general goals, it has generated a healthy debate throughout the city over what form growth should take, if at all, and how it should be handled in particular "villages." It is this heightened awareness of growth that is said to have prompted the election of Mayor Terry Goddard, who took office this year with the promise to be more sensitive to planning issues. That statement in itself already has slowed the flow of proposals in and out of the planning commission, which in the past had been considered just a rubber-stamp operation. Now they are actually asking questions of their city staff and developers concerning traffic, building design, and landscaping.

Another check to growth is water, the area's life blood. Though water from the Colorado River is scheduled to flow through the Central Arizona Project into Phoenix within the next few years, projections are that there will not be enough to serve developments already proposed. Other new sources will have to be found or, simply, development curtailed. Nevertheless, land speculation continues and development schemes keep being proposed, consistent with the infectious optimism that has marked the history of Phoenix. SAM HALL KAPLAN

*Mr. Kaplan is urban design critic for the Los Angeles Times.*

# Tucson:

One of Tucson's great assets is its setting. As in Phoenix, suburban development skips willy-nilly across the desert landscape, bringing all the problems attending rapid growth. But Tucson lies in a valley formed by the Tucson Mountains to the west, the Catalinas and Tortolitas to the north, the Rincons to the east, and the Santa Ritas to the south, and the mountains visually contain the sprawl.

Situated 120 miles down Interstate 10 from Phoenix, Tucson lies only 65 miles from the Mexican border—a short distance by Western standards—and well within Mexico's cultural gravitational field. Compared to Phoenix, Tucson is slower in pace, more manageable in size, and more imbued with a sense of place and history. There is less ostentatious wealth. In some important ways, Tucson is to Phoenix as Fort Worth is to Dallas.

Tucson has a relatively compact downtown core, unfortunately robbed of some of its former vitality by suburban centers. It is dominated by half a dozen mid-rise office buildings, the most prominent of which is rotated 45 degrees from the compass-oriented street grid so that two sides instead of one receive the maximum solar load. With a few exceptions, like the tile-domed Pima County Courthouse, the buildings seem interchangeable with those in Rochester, N. Y., or Knoxville, Tenn. Interstate 10, the artery that skirts downtown and takes you up to Phoenix or down to Mexico, so far has the city's only high-speed lanes.

Close by the core are several neighborhoods of varied character. There is Armory Park, a well-kept middle class section dating from the late-1800s when the Southern Pacific Railroad brought a first infusion of affluence. The impoverished Barrio, by contrast, was once a densely built area of adobe row houses sitting cheek by jowl in Mexican fashion but is now a gap-toothed ghetto for Mexican-Americans and other minorities. Then there is the Presidio, where classic rehabilitated adobes, some built 130 years ago, are interspersed with Anglo-territorial houses built on a grander scale 80 years ago. Three of the latter were designed by regionalist architect Henry Trost in his most expansive mission style. Within the Presidio neighborhood lies the site of the original adobe fortress or *presidio*—now all but vanished—that the Spanish built in 1775 on the northern frontier of New Spain as protection from the Apaches.

Tucson seems fairly resistant to capitalizing on its own history for the sake of tourism. One still finds inexpensive restaurants with great quantities of spicy Mex-

*Downtown Tucson, with development extending up to the Santa Catalina Mountains.*





ican food selling at prices geared to local clientele. For better or worse, what you see is a real place, if somewhat ragged around the edges.

From 1775 until 1920 when it was eclipsed by Phoenix, Tucson was the largest and most important settlement in Arizona, although a somewhat rough hold in the desert. Tucson of the 1850s was remembered by an eyewitness as "a place of resort for traders, speculators, gamblers, horse thieves, murderers, and vagrant politicians." (A recreated frontier Tucson of 1860 exists 12 miles west of town. Old Tucson, as it is called, was first built in 1939 for the movie "Arizona." Today when film and television crews aren't there on location, it is an amusement park where employees dress as desperados and stage shootouts.) Later, in the first half of this century, Tucson became a resort for health-seekers hoping that their tuberculosis, asthma, sinusitis, rheumatism, and arthritis would yield to its warm, dry climate.

Today, a city with a population approaching 350,000, Tucson is still "a great refuge" for people from the East and Midwest "who decided they couldn't take it anymore, landed in the valley, and drug themselves back on their feet," says Rory McCarthy, who landed there himself 14 years ago and is now earning a national reputation as a furniture designer.

For serious artists, Tucson is a good

*The Pima County Courthouse of 1928, above, by Tucsonan Roy Place; below, rehabilitated adobe row houses in the Presidio.*

place to work but not a great place to find an audience. "Nobody here has cared much what's hot in Tucson, although that is changing somewhat now," according to McCarthy. There is little institutionalized support for the arts, he says, and, "If you come to town looking for galleries with worthwhile and interesting works, you'd be hardpressed to find them." In fact, Tucson artists Jim Waid and Nancy Tokar Miller (see page 90) are represented by galleries in Scottsdale, New York, and Los Angeles.

A potentially more serious problem for Tucson is the city's total reliance on two aquifers of unknown quantity for its drinking water supply. These sources must supply the city at least until 1992 when the federally funded Central Arizona Project is to channel Colorado River water to Tucson. Although water consumption for irrigated landscaping is less prevalent in Tucson than Phoenix, there have been few attempts by the city to promote conservation.

In its pursuit of roadbuilding, on the other hand, city hall has been more diligent. One plan, to run a limited access road from downtown to the rapidly developing southeast, would cut along the northern edge of the Presidio neighborhood. After two years of talks with city hall, a neighborhood group has won such concessions as a 10-foot-high noise barrier and a strip park. Says McCarthy, who lives in a renovated adobe within several hundred feet of the right-of-way: "Although it can be perceived that we lost the issue inasmuch as the road will intrude, I found it possible to get in the middle of the city hall mechanism, talk to the people who have control, and find them responsive to things other than exploitative concerns. It is not like Chicago." A.F.

## Albuquerque:

Albuquerque airport makes one of America's great first impressions. Visitors step off a plane into a cool pink adobe-style building, with ornate beamed ceilings, cactus gardens, and walls decorated with Indian sun and cloud symbols. The waiting rooms are furnished in territorial-style benches and chairs, and from virtually every window there's a glimpse of the Sandia Mountains and the mesas stepping up gradually toward Arizona. You know immediately that you're not in Dallas or Atlanta.

And yet the longer you remain in Albuquerque, the more it begins to look like Dallas or Atlanta, a kind of *reductio ad absurdum* of national urban development trends. Downtown is anchored by a block-long convention center, solid and windowless, that opens onto a bleak, overscaled civic plaza that is seldom used. Neighboring streets are lined with banal modern office buildings occupied by government agencies and utilities companies, many with security cameras in their lobbies and cold blank walls along their sidewalks. And for a city with such splendid weather and glorious views, Albuquerque has a surprising number of hermetically sealed environments: underground shopping concourses, enclosed malls, a spate of buildings, new and renovated, that compete for tenants on the basis of the height and glitter of their skylight atriums. The one area with any pedestrian character is Central Avenue, old Route 66, which despite losing most of its stores to the suburban malls has retained the gritty, raw-boned look of an authentic Southwestern Main Street. In addition to an assortment of bars and pawnshops and second-hand furniture stores, it has two superb buildings by Henry Trost—the First National Bank and Occidental Life—along with the remarkable KiMo Theatre, a 1927 "atmospheric" movie palace that the city has restored as a community cultural center (Stan Getz one night, YWCA variety show the next).

In an effort to revive its moribund downtown, the city recently commissioned Enterprise Development Corporation, the business arm of James Rouse's Enterprise Foundation, to do a feasibility study for a festival market. The proposed market, a Southwestern version of Rouse's enormously successful Harborplace and Quincy Market, would be located on the site of the old Alvarado Hotel, an Albuquerque landmark demolished in the early '70s. The goal, simply put, is to give downtown Albuquerque a marketable identity.

"All the things that we've got downtown now don't make a real center," says Pat Bryan, former city attorney and an enthusiastic supporter of the festival market concept. "We're not talking only about





shops, but about a return to Main Street USA. We need a meeting place for the community.”

“The city has not attempted to restrain office development in downtown Albuquerque since the early-1970s,” says Signe Rich, associate director of planning for the city. “The result has been a very one-dimensional environment. One of the objectives of our new downtown plan is to develop mixed-use retail.”

In addition to keeping some of Albuquerque's 20,000 office workers downtown after 5 P.M., supporters of the festival market see it as a catalyst for new hotels, a performing arts center, and downtown housing. A Houston developer, with assistance from the city, is about to start a 210-unit apartment project on Sixth Street, the first inner-city housing in decades. Twenty percent of the units are reserved for low-income tenants (less than \$9,000

*Albuquerque's street grid meets the Rio Grande, at bottom in photo.*

annual income), while the rest are aimed at the singles and young marrieds who are so conspicuously absent from downtown at night.

The festival market study won't be finished until mid-May. Regardless of its conclusions, it's obvious that Albuquerque's growth patterns are changing dramatically. Between 1950 and 1960 the city's population grew from 96,000 to 201,000. City officials predict that by 2010 the population of metropolitan Albuquerque will go from 450,000 to nearly 760,000. Until recently, most of growth took place in the Northeast Heights, a no-man's land of shopping centers, campus office development, and expensive residential subdivisions that crept relentlessly into the foothills of the Sandias. Over the years traffic

jams have become a fact of daily life in this area, along with the sort of pallid yellow haze that one associates with downtown Los Angeles.

But with the Sandias to the east, and Indian and military reservations to the north and south, additional development in the Heights will be limited. Albuquerque's future lies to the west, a shift the city is trying to anticipate by annexing vast tracts of land on the West Mesa, across the Rio Grande from downtown.

The city has already annexed 750 acres around the Paradise Hills development and is now negotiating to annex an additional 82 square miles, doubling the size of the city. Most of the land is owned by a half-dozen ranchers and developers who want the city to guarantee capital improvements such as streets and sewers and commit to a specific zoning plan before they will agree to the proposal.



## Santa Fe:

Ask Santa Feans to discuss the future of their city these days and they will surely mention the First Interstate Plaza building—and shudder. This large office building, completed last year by the Trammell Crow Co. of Dallas and designed by Dorman/Nelson of Santa Fe, has become a cause célèbre in a city that thrives on them.

It complies with zoning for downtown, it is an acceptable color (brown), an acceptable height (42 feet), has shops at street level, and setbacks on the upper floors. In a suburb of Dallas or Houston it would go unnoticed among dozens of look-alike structures. But Santa Feans have splattered it with eggs and worn T-shirts bearing an image of the building overprinted with the word “ugly.” Last fall the building became the butt of the annual Santa Fe Fiesta melodrama, an honor traditionally reserved for bumbling politicians and scatterbrained socialites.

Such impassioned interest in a single building obviously transcends matters of esthetics and design: It reflects a growing fear among Santa Feans that they are losing control of their city.

“Santa Fe has always been a refuge for oil and real estate money from Texas and Oklahoma,” says Lewis Thompson, director of an advertising agency and longtime resident, “but it was always quiet money. Now it’s getting very loud and flashy. There are 10 gallery openings a week here during the summer. People just like to be seen.”

“There’s a strong feeling here that we need to focus Santa Fe more on ourselves and what we want than on what outsiders want,” says Jack Kolkmeier, former head of downtown planning for the city.

Until recently, that was reasonably easy to do. Historically, Santa Fe has been a relaxed, intimate city of narrow streets and small, hand-formed buildings, many with long porches and lush interior gardens. None was taller than 65 feet, the height of architect John Gaw Meem’s La Fonda Hotel, and most were only 15 or 20. Roofs were flat, windows were small, walls were mud, and anyone who thought differently had to contend with the city’s tough historical styles ordinance.

“Architects who fussed a lot about the ordinance wanted to be Frank Lloyd Wrights but didn’t have the ability,” says Santa Fe architect William Lumpkins, one of the designers and guardians of the ordinance. “They all went through the universities when the Bauhaus was in vogue and thought that was the only way to do things.”

In Santa Fe, life centered around the plaza, with its mixture of Indians, Chicanos, Spanish grandees, and refugee millionaires from Texas and Oklahoma. There

“We’d like to complete annexation by the end of this year,” says Jack Leaman, Albuquerque’s planning director. “But we’re being cautious because we have to know when and how we can deliver city services. We want to create a coherent land use policy, not respond only to individual requests.”

While the annexation proposal is not being actively opposed, it has its critics. Conservationists, for example, would like the city to take care of downtown before expanding across the river. Development of the West Mesa would also require more bridges over the Rio Grande (currently there are four), a move that is opposed by some Mesa residents who believe it would ruin the rural quality of life. These critics, known locally as “folks who want to live in Santa Fe but can’t afford to,” have found a powerful ally in New Mexico Speaker Raymond Sanchez, who has managed to postpone discussion of the controversial bridge issue until next year.

Unlike Phoenix or Santa Fe, Albuquerque has enough water to make these expansionist fantasies work. At the present growth rate of 1½ percent per year, the city’s water supply will last until the year

*Mostly low-rise downtown Albuquerque.*

2050, at which point Leaman says he’ll “start to get worried.”

Like Phoenix, Albuquerque became a center for military bases and weapons research after World War II. Sandia Laboratories and Kirtland Air Force Base are still the largest employers in the area. Of late, the large pool of scientific and engineering talent in the area has been attracting major computer and electronics firms, such as Digital, Sygnetics, Intel, and Sperry. Some futurists have predicted that in another 10 years Albuquerque will be a serious rival to Southern California’s Silicon Valley.

City planning director Leaman sees this new development as a plus, provided the city doesn’t lapse into the kind of “bigger is better” thinking that has created planning nightmares in Phoenix. “I’m concerned about being able to provide services,” he says, “and also about being able to preserve the quality of environment that we all came here for in the first place. We’re going to get our fair share of growth because of the water and the climate. We don’t have to beat the drum.”

DAVID DILLON





© Steve Nordinup / Black Star

*The impressive Sangre de Cristo Mountains rise above Santa Fe.*

was no downtown traffic problem because there were no large office buildings to attract cars. Nothing upstaged anything else, in fact. Santa Fe looked and felt like a city that knew what it was about, even if it wasn't to everyone's taste. The birth of the Santa Fe Opera in the '50s and the arrival of the Chamber Music Festival and related activities in the '70s brought touches of high culture to an already rich native tradition, yet without disrupting the balance.

About three years ago, that began to change. Some locals blame a spate of romantic "City Different" stories in national magazines such as *Esquire* and *People* for drawing hordes of bored socialites away from Aspen and Carmel to Canyon Road and the Old Santa Fe Trail. Others say that Santa Fe is the victim of the cloudless days and crystalline light so ardently promoted by its chamber of commerce. In any case, this city of 50,000 people suddenly became a destination for 2.5 million visitors annually. Expensive condos began sprouting like junipers all over the surrounding hills. John Ehrlichman, Truman Capote, and Madeline Kahn could be seen walking around the Plaza, where galleries, boutiques, and

fancy continental restaurants are driving out the drugstores and coin laundries and hardware stores that have served the community for generations.

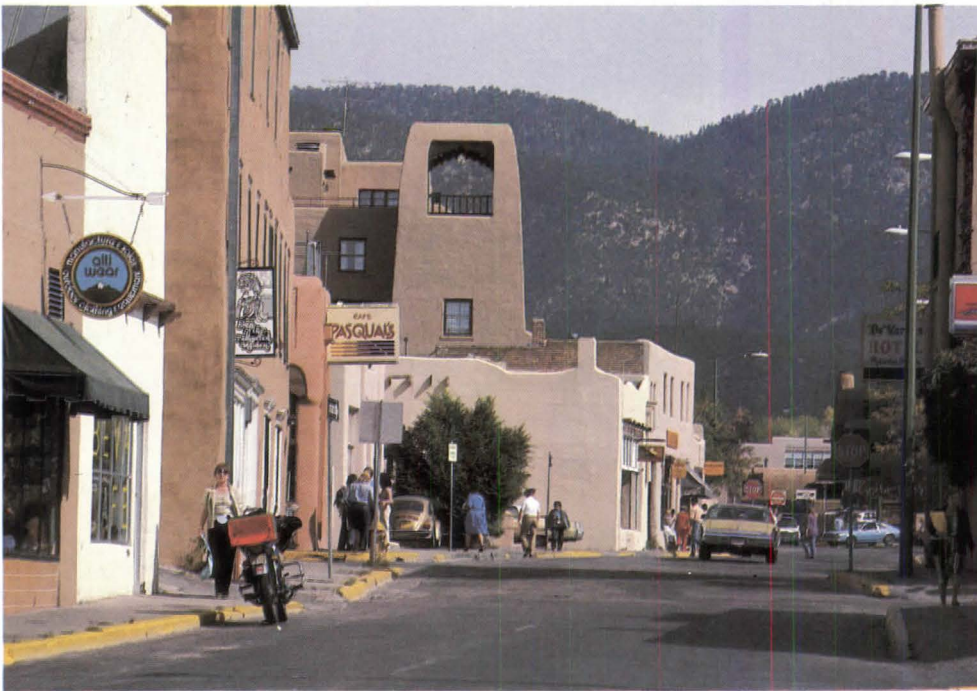
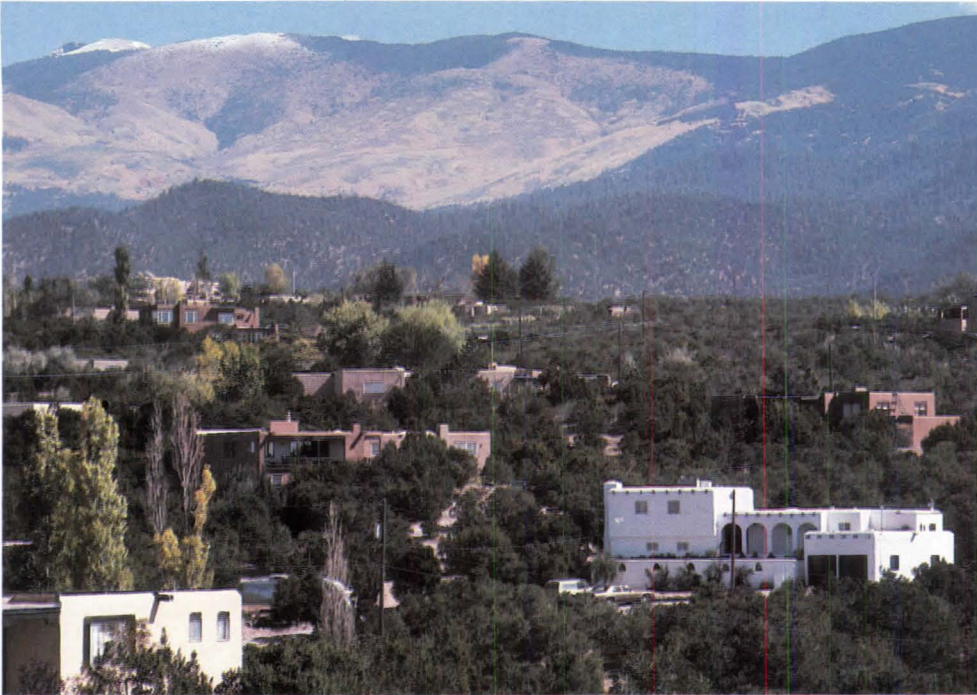
Big Joe Lumber Co., a Santa Fe institution, is being demolished to make room for the 210-room El Dorado hotel, a massive building that may offend local sensibilities as much as the First Interstate Plaza. Sears Roebuck is reportedly moving to a new regional shopping mall on Cerrillos Road. This project, in the works for several years, may trigger the kind of uptown/downtown retail battle that cities the size of Santa Fe rarely experience. In the meantime, rents on the Plaza have soared to \$20 and \$25 a square foot—comparable to Downtown Dallas—and humus has replaced guacamole as the favorite *plato nativo*.

"It's unfortunate that we've lost the basic service stores downtown," says Lumpkins. "But there may be a washout of the cutesy shops, at which point the basic stores may come back." "We don't want to kill off development when other cities are fighting to get it," says Santa Fe Planning Direc-

tor Harry Moul. "But we also have to restore some kind of balance. The problem is how to go about getting it."

To get more control over new development the city has proposed a new zoning ordinance that would limit building heights in downtown Santa Fe to 36 feet, tighten regulations governing setbacks and landscaping, and add an incentive system, whereby developers could increase the height and density of their buildings if they provided such amenities as housing. Also, the historical styles ordinance has been broadened to deal with larger contextual and urban design issues as well as the specifics of materials and styles.

Housing remains a sticky issue in Santa Fe. City officials estimate that downtown Santa Fe has lost 40 percent of its housing in the last five years. And with the flood of luxury housing in the hills, most of it in the \$250,000-\$350,000 range, land prices have escalated to the point that a person of average means can no longer afford to build in Santa Fe. Condo has become a dirty word, particularly when arranged in self-contained clusters behind metal gates and guard houses. To native Santa Feans, proud of their community's longstanding tolerance of artists and



eccentrics, such compounds expressed a contempt for community rather than an understandable desire for privacy.

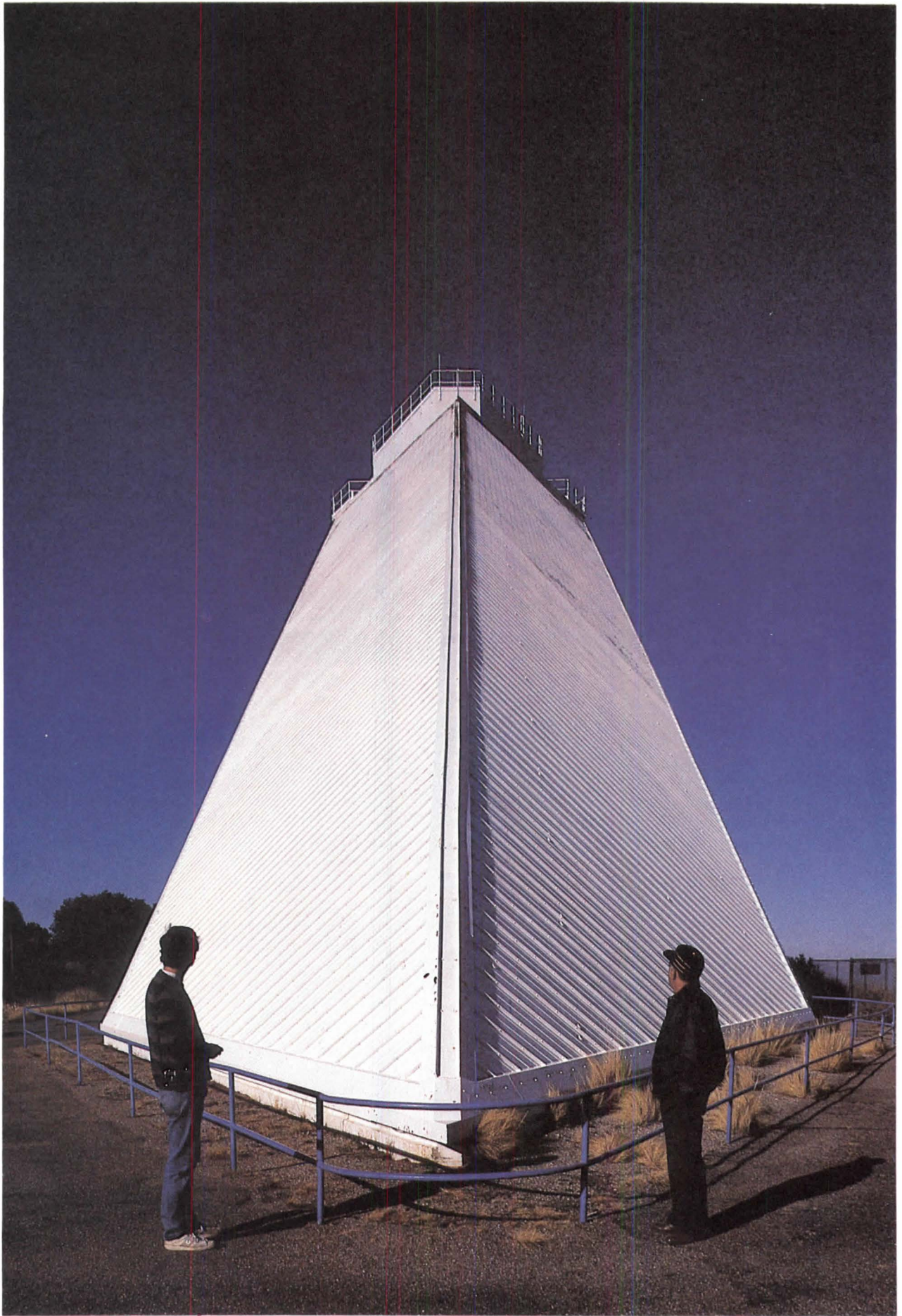
Now that the bottom has fallen out of the Santa Fe luxury condominium market, at least temporarily, contractors are turning their attention to the low- and medium-priced market. The mayor recently formed an "affordable housing task force," and the city is contemplating selling off additional parcels of raw land for low- and moderate-income housing and arranging for loans and various types of tax-exempt financing to stimulate construction. A private contractor plans to build 110 units, ranging in price from \$38,000 to \$53,000.

Unlike Albuquerque, Santa Fe has no easy answer to its water problems. Only one-third comes from local aquifers; the rest must be piped from distant rivers and

*Valley houses and Santa Fe's downtown, above, with squared-off cathedral tower.*

holding tanks. "On paper, we have enough water to support 125,000 people until the year 2000," says planning director Moul. "But we have a bit of a problem getting it here. We won't run out, but we have some of the most expensive water in the country."

Meanwhile, the development that Santa Fe is getting now ranges from oversized commercial parodies, to adobe Pizza Huts with vigas (roof timbers) poking out of all four walls, and globetrotter adobe condos fitted out with hot tubs and Victorian stained glass windows. Such additions mock the rich architectural heritage of Santa Fe by making the parts seem more important than the whole. It's the reverse that has made the city special. D.D.



# Mountain of Modern Icons

*The exhilarating experience of Kitt Peak. By Reyner Banham*



The road to Kitt Peak Observatory west of Tucson—Highway 86—is a strange road, bordered in places by clusters of burial crosses wreathed in flowers at appropriate times. Only in the last few miles, as it loses itself in the foothills of the Quinlan Mountains, does one begin to get glimpses of the white geometries of the various telescope housings, seemingly tucked into the folds of the peak's summit. Then they are lost to view again until just before the cutoff for the gated road that leads up to the summit. This is no ordinary mountain road patched together out of earlier *ad hoc* trails, improved here, realigned there, patched back into place after rock falls. This is a purpose-built road, knowing and sophisticated, conceived and engineered in the full flowering of U.S. parkway art in the early-1960s. Detail after detail reveals its design superiority.

And increasingly as the road climbs, one comes to suspect that every turn and alignment of the road has been set out in full awareness of the incredible views that are opening out on the right, northward over the Comobabi Mountains and the inward fastnesses of the Papago reservations, most spectacular in waning afternoon light when each successive range of hills shades down from smoky purple at its crest through sandy browns to mist-brown at its base, and the farthest ranges seem to float detached in seas of pearl-brown mist.

Then, like all the best mountain roads, it pulls off a great *coup de théâtre*, passing between the sawteeth of the mountain's cresting and emerging on the other side to reveal two more stunning spectacles. One, straight ahead as the road climbs hard up the back of the mountain, is the whole range of observatory buildings, each a brilliant white geometric form caught between the pure staring blue of the sky above and the tumbled brown of the mountain below. They are spread along the top of the

ridge, from the four-meter Mayall telescope like a giant pepper pot at the left, to the big oblique form of the McMath solar telescope seemingly crouched down on the mountain slope at the far right.

The other stunning sight opens up farther to the right, a great basin of the ridged plain, far below, artfully creased with blue shadows as the sun turns west. Again it cannot be as vast as it looks, but who will care at this dizzy height (over 6,500 feet) with the unmistakable turret head of sacred Baboquivari commanding the basin from behind. It is worth stopping for, and wondering at, that view, but not enough people do. They are too intent on reaching the top.

But this cunning road has another trick to play before the summit—passing through the crests once more to open up the northward prospect from a viewpoint almost twice as high as the last time one saw it. It then turns round the last knob of the mountain, under the Mayall telescope, and delivers one, elated and visually punch drunk, into the parking lot by the visitor center. With average visitor's luck, one will finish up with the car's windshield framing a view of the most extraordinary of all the Kitt Peak installations—the solar telescope—closing the far end of the ridge.

With its one vertical leg, and the long oblique leg that rises to join the vertical at its top, all staring white in the brilliant, saturating sunlight, this is to my mind and eye, the most marvelous and moving of all mankind's works in the desert. It was the only reason for my coming to Kitt Peak in the first place—the architect of the design is an old and much-admired Chicago acquaintance of mine [Myron Goldsmith of Skidmore, Owings & Merrill]—and with the wariness of my age and race, I was quite prepared to be disappointed by the physical presence after years of optical indoctrination by craftily hyped-up color photography. Too many of the wonders of this world cannot match up, in actuality, to the long-stored artificial images that one has stacked up in one's memory banks; the reality proves to be too small, too tawdry, the foreground too cluttered, the background too squalid when seen in sharp focus for the first time.

**Dr. Banham** is professor and coordinator of the history of art program at the University of California, Santa Cruz. This article is excerpted from his *Scenes in America Deserta*, a Peregrine Smith Book, now in paperback, published by Gibbs M. Smith, Inc., Layton, Utah. Used by permission.



*Whitewashed by the desert sun, the observatories appear and vanish in the mountain ridges upon approach. Right, the visitor center and tip of the McMath solar telescope atop Kitt Peak.*

The solar telescope, however, did not disappoint—it exceeded the photographic memories because no photograph I have ever seen seems able to represent the awesomeness of the empty space behind the white cipher of the telescope. It is the same great southward view toward Baboquivari that one has seen on the way up, but the form of the ridge poses the telescope so high against the horizon that the eye connects only with that distant horizon, not with the ground of the basin out of sight below. Its huge abstract gesture, like one letter from an unknown Cyclopean alphabet, is silhouetted against an emptiness of air that is almost palpable.

Unbelievably, it gets better as one walks toward it. At first, this is by contrast with the other buildings along the way. The average level of architectural quality on Kitt Peak is as abysmal, affected, and dated as one can see in any federally funded landscape in North America. In contrast to the heroic simplicities of the dams and structures of the Tennessee Valley Authority, or even the average overpass on any Interstate, the buildings of Kitt Peak have been senselessly “decorated”—decently plain and business-like telescope housings, for instance, have their service yard fences, or the windows of their ancillary buildings ornamented with colored diamond patterns in a style that has long disappeared from even the cruddiest motels.

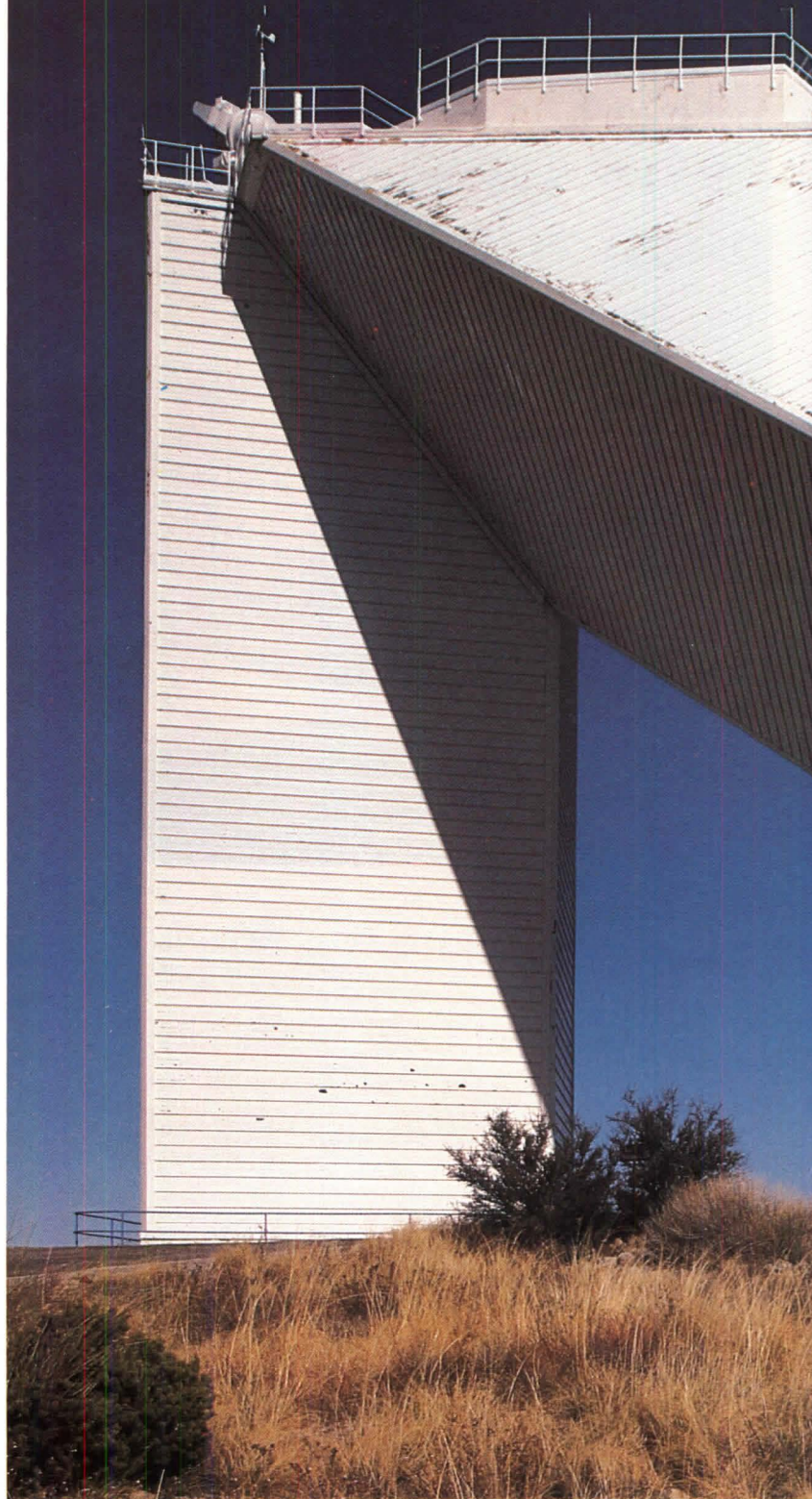
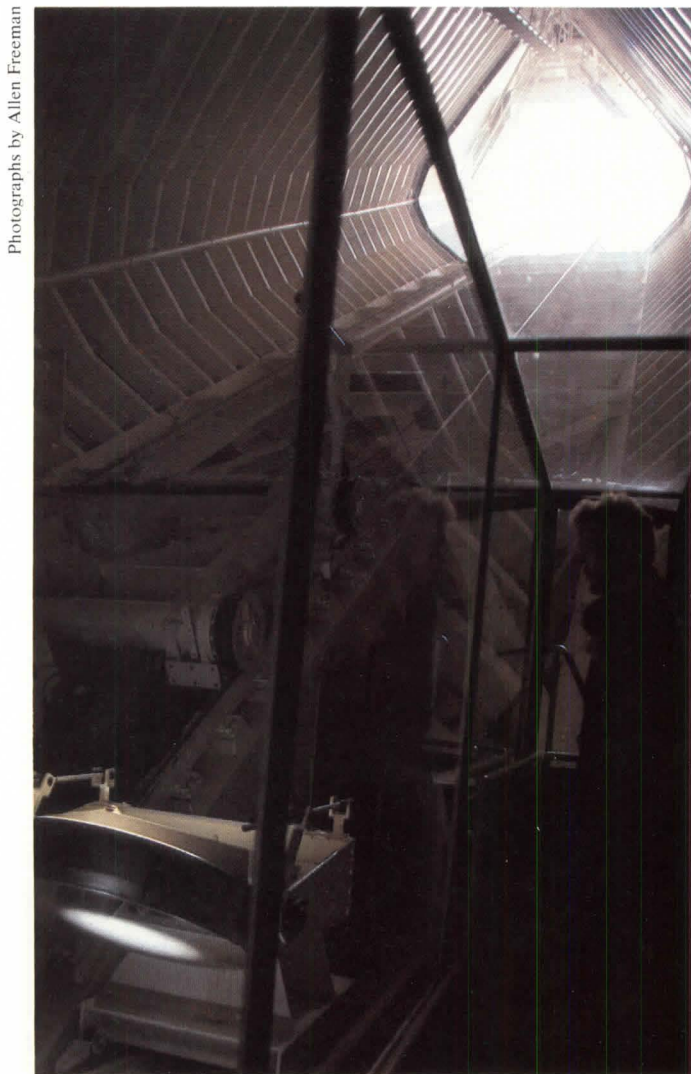
The solar telescope scorns such “detailing.” Each of its legs is a very plain, very large, hollow square tube. They are both set diamondwise to the long axis of the plan, so that they meet, not flat to flat, but corner to corner at their apex where the great mirror sits to collect the sun’s light. The vertical leg is about 100 feet high, visually 50 feet thick, the mighty hypotenuse of this monumental triangle slopes away for 200 feet to the right and, having buried itself in the mountain top, continues for another 400 feet out of sight in the rock, down to the second mirror that receives the image of the sun from the collector



mirror on top of the vertical leg, returns it back up the tube to a focal point near ground level, whence a third mirror delivers a usable yard-wide portrait of the sun onto a flat table in a laboratory where it can be studied in an atmosphere of academic calm.

Also at ground level is an observation room where the likes of you and I are admitted to the margins of the inner mysteries of this great solar machine. It is an awkwardly shaped room with a stepped down floor and strangely faceted upper parts of glass, like a hurriedly assembled Victorian winter garden cowering back into the angle of the walls of the long sloping leg. A deep way down to the left, you may think you can see the focusing mirror buried in the darks of the mountain; at eye level is the elegantly white painted chassis of a rail-mounted service trolley for the third mirror; but the nearest visitors are likely to get to a sight of the image of the sun’s face is on the little television screen mounted on the wall of the observation chamber.

*Below, the interior of the solar telescope from the observation room at ground level. Right, the four-sided shaft, angled up 32 degrees from ground and pointing north.*



Photographs by Allen Freeman

If you look up to the right, however, up in the diamond-shaped opening at the top of the tube is the primary mirror, the heliostat, squat in the massive arms of the trunnion mounting that brings its face always to the angle that sends the beam of sunlight square down the center of the tube. It does not reflect that beam directly into the visitor's eyes—mercifully the observation chamber is just out of the direct beam; but even so, one is close enough to the edge of the beam for some of the surplus light, as it were—scattered by minute irregularities of mirror and atmosphere—to spill in our direction. Looking up at the mirror, you seem to be looking—only this is *not* seeming because a photograph shows the same effect—into a tipping bowl full of the light of the sun, a bowl spilling the most astoundingly white light that you will ever see emanating from a man-made object,

the pure essence of the white light that glows on San Xavier.

It is a humbling sight. Not eerie, like the cold Cherenkov light in the depths of an atomic reactor, nor spectral like the luminescence of the glowing mist over the Great Soda Lake. This is the raw, outspoken glare of the giver of energy and light, to be looked upon only because one is not staring quite directly back into this frightening eye of power, but near enough for that five-foot disc of raw light 200 feet above one's head to trouble the sight and disturb the depths of the consciousness.

In that bowl of light we see the sun trapped for the purposes of modern science, much as men of earlier civilizations tried to trap the image of the sun for their no more arcane purposes and magics. We, of course, do not see our rituals as arcane; it seems perfectly proper to spend huge sums of money to create a device



that enables us to lay out the sun's face flat on a table and then scrutinize its features, marks, and blemishes in order to haruspicate next year's weather or scry the ultimate substances of the universe. No doubt it seemed equally proper to the ancient Indians—to whom this, like Baboquivari, was a sacred mountain—to scrutinize this same sun through their own artifacts and concepts in order to come to terms with their own very different universe.

However, I still have a slightly queasy feeling about the arguments and casuistries that were apparently used to persuade the Papagos that the Kitt Peak installations were not a sacrilege upon their sacred peak—"It's pretty much the same thing really, our way of looking at the sky and yours"—because it is not only untrue, but because it desperately undervalues the magnificence

of what the solar telescope is, and what it does.

I cannot find it in me to apologize in any way for the solar telescope. It is a supreme product of the culture to which I belong—the culture of scientific inquiry, technological enterprise, and engineering precision. I identify with it, not just because one of its designers is known to me, but because it belongs to my generation and people, the clever folks who came out of World War II determined to make over Western culture according to a different rationality, however terrifying some of its byproducts might be. If we seemed naive and sounded glib, then look upon what we have wrought on Kitt Peak, which is neither slick nor silly. And it is not so much that it seems to lord it over other, more "primitive" cultures, but that it really does put down some of the more meretricious or hermetic aspects of our own. □

*Overleaf, view from the giant Mayall telescope. Photograph by Allen Freeman.*









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# Architecture: Three Relationships

*They help raise building to the level of art. By Stanley Abercrombie, AIA*

The three relationships at the heart of architecture are that of a building to the earth, of a building to man, and of a building to itself.

By relating to the earth, we mean that a building must acknowledge, in some perceptible way, the size and power of the earth. The most obvious manifestation of the earth's power is gravity, and no building becomes architecture without conveying some sense of gravity. That sense may be demonstrated by a visible concession to its pull, or by a visible reaction against it, by the sturdy mass of a ziggurat, the insouciant acrobatics of a tensile structure, the calm calculation of post and beam, the sweep of an arch, or the bravado of a cantilever.

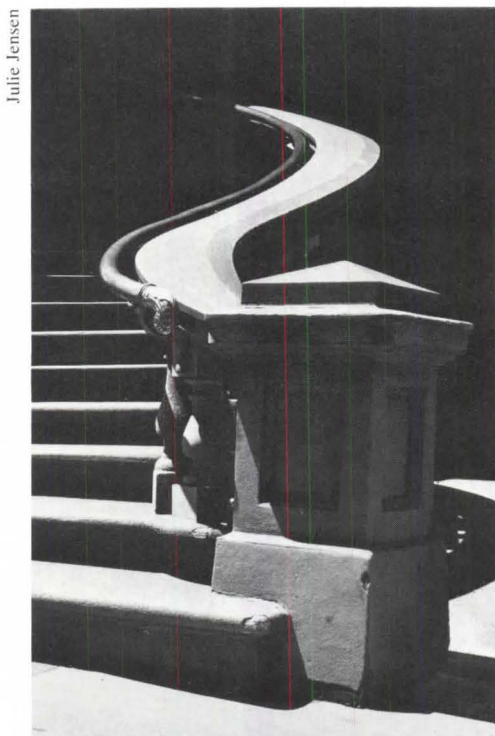
Gravity, of course, is not the only force the earth exerts. Others—wind, rain, lightning, volcanoes, earthquakes—sweep over its face and erupt beneath us. Architecture is an art that cannot be packed away when conditions are difficult; it must be appropriate for all seasons, all times of day, all types of lighting, all weather. Like the response to gravity, the response to these conditions can be made into a visual, as well as a practical, asset. A building is most alive when it exhibits change, when the patterns of its shadows reflect the seasons, and when, over many years, its weathering and staining occur so that we know they were expected and planned for.

The earth's spinning and orbiting vary the light that falls on our buildings, and one of architecture's greatest potentials for delight is the way it displays it through such variations. One of photography's shortcomings in presenting architecture is that it cannot convey these changes. "Our eyes are made to see forms in light," Le Corbusier wrote. "Light and shade reveal these forms."

Architecture must also relate to the earth by exhibiting an awareness of earthly resources and their relative values. This requires a sense of worth as well as a sense of cost, for the most economical solution is not always the best, and neither is the most costly. Opulence is often called for, but a sense of waste spoils our admiration for art.

The relationship of building to man is more complex. At the simplest level, this is a matter of size and shape. All building elements—rooms, doors, doorknobs, and a thousand others—must be designed with an awareness of the physical characteristics of the users. In this respect architecture differs fundamentally from sculpture. We may walk inside some sculpture just as we would walk into a building, but the sculptural space does not need to house an activity. Even a sculpture that has the human figure as its subject matter need not be life-size. The building-man relationship is a correspondence, not a representation.

Considerably more subtle are the ways in which buildings relate



Julie Jensen

to man's psychological state. They do so by manipulating that state, by inducing reactions of release, claustrophobia, recititude, pomp, security, festivity, and so on. Buildings can also embody and reflect both physical and psychological states. Geoffrey Scott said of the classic and Renaissance styles that "the center of that architecture was the human body; its method, to transcribe in stone the body's favorable states; and the moods of the spirit took visible shape along its borders, power and laughter, strength and terror and calm."

Sometimes architecture manipulates states and embodies them simultaneously, and sometimes it is hard to say which it is doing. But it is at its best when some sort of rapport with human form, human movement, and the human condition is evident. A stair can bring us from one floor to the next with mere efficiency, while another can sweep us from floor to floor with great flair. We do not need to see a human figure using the stair to understand what the stair is saying to us;

in our minds, we see ourselves there. Nor do we need to distinguish between the provision of movement and the celebration of movement; there is both.

Such an attitude toward human users is something we detect in the work of the very best architects, and it is something not at all equivalent to mere function. Frank Lloyd Wright's architecture (for all his writing to the contrary) was not, at heart, particularly concerned with function, yet it exhibited this attitude toward users to an exceptional degree. His houses, George Nelson once wrote in *Fortune*, "enclose space as if it were precious not for the sake of the space itself, but for the life that goes on within it."

If they are to produce architecture, building and building elements must also be designed with an awareness of their users' perception. The architect must know exactly how his building will be seen. A building with a reentrant (or concave) corner above a salient (or convex) corner is a case of a form that is visually indeterminate: Not being able to see where the upper form meets the lower, we are unable to judge precisely its size or even its location. The architect may have reasons for wanting to produce such a disturbing effect, but he should not produce disturbance unintentionally.

Architecture must also be aware of its users as fellow actors against the backdrop of nature. The pairing of man and building is inevitable, and the relationship only awaits proper expression. Despite its size, architecture is man's more intimately than any other art, for man apprehends it not as a remote object but as a close accomplice in his own reality. Man shares his world with buildings, not by choice but by necessity.

We have said that architecture is both a utility and a communication, both of the world and about the world. It is more: It is a world. Every successful work of architecture is a new and coherent whole. New, no matter how similar to how many other buildings, because it is a unique creation that has been brought into being in its own particular time and place. Coherent because we must be able to understand its meaning and also

**Mr. Abercrombie** is editor of *Interior Design* magazine and a former senior editor and contributing editor of this magazine. This essay is taken from *Architecture as Art*, © 1984 by Stanley Abercrombie, to be published in May by Van Nostrand Reinhold.

because, in another sense of the word, it must hold together, part to part and parts within the whole.

This is the third relationship, then, the relationship of a building to itself. More than the first two, it is a relationship shared by the other arts; even here, though, architecture has some special ways, for our apprehension of building detail has a timing unlike that of our seeing brushstrokes in a painting (always after we have seen the whole painting) or the passages in a novel or symphony (always serially, before we have any knowledge of the whole). Architecture and its constituent details coexist for us. We cannot predict which will be seen first; we can only say that this art cannot be comprehended until we have developed some knowledge of both the whole and its parts and understand that they belong together.

Having isolated three relationships that are particularly important keys to the art of architecture, we are left with the final question of how to use these keys. For architects, they are relationships to be considered in the process of design. For observers of architecture, they are relationships to be questioned in the process of evaluation. We can say that a work of architecture is a building that successfully deals with all three of them. If a work fails in any of these ways, it must fail, at least partly, as art.

No building needs to be spectacular and certainly no building needs to be original in its resolution of any of the three. (Although a building that is absolutely taciturn in its approach to all three is likely to be taciturn indeed.) What is needed is not relationships that startle or impress but relationships that convince. And what they must convince us of is simply that they have been investigated and resolved. To be convincing, of course, the resolutions must be clearly communicated; in this, no arcane references, self-indulgent tricks, or private jokes will suffice. There is a place for jokes and indirection, but it is a place nearer the surface of art, playing a less critical role. Certainly there is ample proof from other arts that serious esthetic achievement can be presented with a lighthearted, even a flip-pant tone—"Cosi fan tutte," for example, or "The Importance of Being Earnest." Art need not be dour, but, in its fundamentals, it needs to be sincere.

Our three relationships can be resolved in the most simple and straightforward ways. In some cases (in the relationship of building to earth, for example, when the building and earth are

*Stairs both provide and celebrate movement, as in John Fraser's Union League, Philadelphia, opposite. Below, brackets merely imply support on Abner Pratt's 1860 'Honolulu House,' Marshall, Mich. Below right, Clarence Schmidt's house near Woodstock, N. Y.*

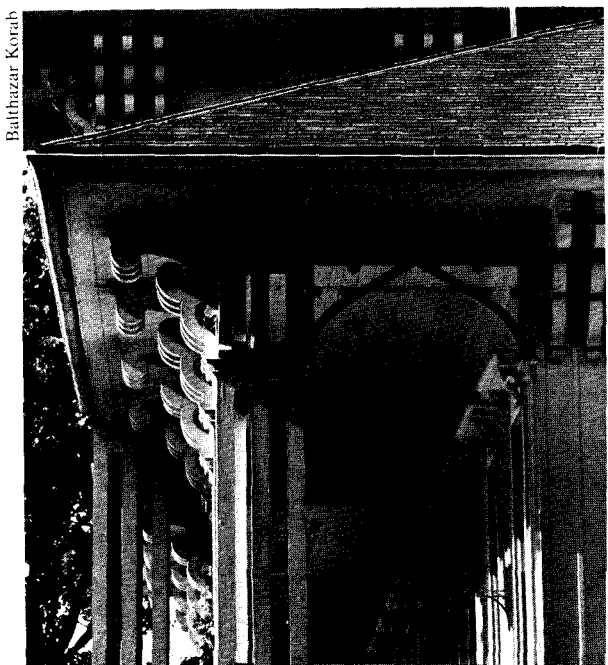
both devoid of irregularity or eccentricity), the simple and straightforward relationship is the only one that *can* convince us. In other cases, the architect can only succeed by means of a surprising, unpredicted, and bold leap of the imagination. This latter approach produces the most exciting architecture, of course, but there is a temptation that the architect must avoid in choosing this path: He must not pretend to solve problems when none exists. A great leap across a chasm is thrilling; a great leap across a level field is a waste of energy. Having raised our expectations by calling attention to a dramatic event, the architect must leave us with more information, not less, than we previously expected. His surprises, as we have said, must leave us not asking "Oh?" but saying "Aha!"

To suggest three relationships as the keys to the process of raising building to the level of architecture is obviously not equivalent to offering a three-ingredient recipe that the architects can follow for sure esthetic success nor a three-question test that the observer can apply for the identification of such success. For something as complicated as architecture, no such shortcuts could be credible.

Therefore, despite all our efforts at common sense, we leave the subject of architecture, as we came to it, a subject with an element of mystery. In the process of design, the architect confronts a multitude of competing and often conflicting demands. How he makes the decisions, sometimes studiously, sometimes in an inspired instant, that will simultaneously satisfy several of these demands while denying none of them—that remains a mystery of the creative mind. The creative process, unlike the scientific process, produces results that are not specified in advance; we cannot expect to find complete directions toward a goal that is unpredictable.

How we respond to the architect's work is similarly mysterious. There are logical processes of looking at architecture, and our looking will be better informed if we know them and have practiced them, if, first of all, we discriminate between the esthetics of a building and its many other attributes, and then discriminate between fundamental form and surface embellishments. Yet, however well informed, our acceptance or rejection of architecture is often spontaneous; by mental processes far quicker than any conscious logic, we can know immediately that one building is good, another bad.

So there remains in the art of architecture something that evades analysis, something that touches us in the most secret parts of our minds, something not only beyond utility but also beyond all that is rational and everyday. It could not be otherwise for our biggest, toughest, most complex, and most powerful art. □



# Architecture: Three Imperatives

*'An exhortation' based on a rich variety of sources. By John M. Johansen, FAIA*

If you were to ask Reyner Banham, as I have, which of the present trends is most likely to endure, he will say with utter calm, "high-tech." If you were to ask Charles Jencks, as I have, the same question, he will say with equal conviction "postmodern," whatever that may be. Ada Louise Huxtable has played it more cautiously, attacking only the extremes of pomposity on the one hand and the "orgies of rediscovery" on the other. Bruno Zevi takes a more political and moral position of democratic liberalism and free inventiveness of spirit, as opposed to authoritarianism, the orders and rules of the classic and neoclassic tradition.

A cursory view of recent architectural history clearly indicates a trend from the Beaux-Arts, to the technical austerity of CIAM, through the humanizing period of Team 10 and metabolism, to the current preoccupation with symbolism and psychic content: four attitudes within 50 years, or within the time span of a single professional life.

Today some architects are reported as being so violently antimodern as to be anti-architecture, as conventionally defined. Some architects are known to forgo any responsibility for the performance of a service. Others are indicted for lack of scholasticism, for treating architecture as fashion, for revivals of historic styles whose symbols have long since lost meaning for us. As I sometimes put it in Biblical terms, "He who lives by the style shall die by the style."

However, we should be equally critical of those architects who don't have the courage to accept and incorporate in their works our ever-advancing technology, who in this respect are utterly unaware of the times in which we live. Others have little regard for humanistic values and our cultural heritage. And we should be saddened by the alienation of many architects from nature shown by their work. Generally there is felt a loss of direction and dedication that was so strong in the '50s, '60s, and early-'70s. Josep Lluís Sert spoke to me in the late-'70s of a loss of faith; Moshe Safdie sees currently the need for a new professional ethic. With the present confusion, controversy, and chaotic pluralism we observe in the architectural profession today, we might do well to search for essential qualities, basic ingredients, and derivations for an architecture that can better perform its rightful service to the physical and psychic well being of our society.

First and last, architecture is a service art. For, "without performing a service," says Lewis Mumford, "there can be for architecture, no purpose, no meaning, and no value." I believe we can take this truth to be self-evident. With this as a basis, I wish to devote this article to the identification and clarification of those basic resources at our disposal with which to perform these services. This is no small task. And although I see that this confusion may run deeper as symptomatic of a confused and permissive society, I do believe the architect can and should be somewhat of a force for the public good—as a solver of problems certainly, but also as philosopher, and even therapist.

After foundering for some time in this professional slough, I have singled out three aspects of the human condition in which mankind has for some 6,000 years, is now, and probably always will be, inextricably bound, and whose influences upon mankind are so compelling that it seems appropriate to apply to them, the term "imperative." The three aspects then, as I see them are the technological imperative, the organic imperative, and the psychosocial imperative.

**1** *The Technological Imperative.* By definition, technology represents "the practical and industrial arts, applied science." It has been "the method or process of dealing with technical problems, problem solving," and it has been the "system by which society provides itself with those material things it needs and desires."

Man, from the very start has been the inquisitive animal; the animal that makes tools; the animal with a compulsion to search, invent, construct, and improve his physical environment; the animal uniquely equipped not only with memory but with a sense of anticipation and vision of the future.

Although there may be today some deplorable aspects of what Mumford has described as the "mega-technic wasteland," there can be no question as to what technology has achieved in the service of man—in medicine, transport, communication, education, industry, and exploration. Overwhelmingly, the response to technological advance throughout history has been that of immediate and extensive dissemination, broad public interest and enthusiasm, its prompt application to marketable commodities, and even its inspiration to artistic endeavors.

As for its challenge to humanistic standards and for the finer qualities of human life, we may be reassured by the following statements: R. Buckminster Fuller, the technologist, observed that the higher the technology, the greater the diversity of product, and the greater the range of choice for society. Margaret Mead, the anthropologist, said, "We need low, middle, and high technology to solve the problems of various peoples in this world community." Marshall McLuhan, the social observer of this electronic age, said, "In order to control technology we must first accept it and understand it." Norbert Wiener, in his book *The Human Use of Human Beings*, writes that "technology is simply the extension of the human mind and body." The microbiologist and humanist Rene Dubos was of the opinion that "technology need not be incompatible with nature and humanism" as long as we "make technology conform to human needs and aspirations." Finally, Pierre Teilhard de Chardin literally reconciled these two apparent opposites when he said that "technology is an extended form of humanism."

Whatever is true of technology in general may be said to be true of building technology in particular, whether it be the brute fact of its specific performance as an engineering feat or its concern for human sensibilities and aspirations as a work of architecture. Architecture, by its very nature and through its performance in each period of history, has been inseparable from the building technology of that period. All buildings are, ipso facto, structures. With few exceptions, all important buildings in history made full use of the highest technology known in that time. Whatever the building technique—be it trabeations in stone as at Stonehenge, the Temple at Luxor in Egypt, or the Parthenon in Greece; the stone vaults of the Roman baths, Romanesque Vézelay, or Gothic Chartres; the Renaissance dome of St. Peter's; or the cast iron and glass of Paxton's Crystal Palace—architects have seized upon every means available to them. High technology was displayed as a matter of pride by patrons representing the church, royalty, great families, municipal governments.

Structure has always been the essential ingredient of architecture. Structure was either nakedly revealed, revealed with modification for its dramatic and expressive qualities, or symbolized. But the compelling nature of structure, with its dynamic, continually acting, transferring forces of compression and ponderability, and later in combination with tension, is felt not

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**Mr. Johansen** practices architecture in New York City.



only by those of professional interest but by lay people capable of nothing more than gut response.

Computers have made possible new structures and forms heretofore incalculable. From our industrialized building processes involving prefabrication, we no longer construct buildings but assemble them from parts. And we think in terms of systems: closed, open, and mixed systems; systems of structure, of communication, of surveillance, of transport; systems superimposed upon other systems; systems within systems. Kinetic devices are offering to architecture new and heretofore unexploited possibilities for public service, and following the lead of kinetic sculpture, are enriching our architectural vocabulary.

But however rich this array of structures and devices may seem, building technology, formerly in the lead, is in our time clearly way behind in comparison to that of other fields. Architects and urban designers impatient with the limitations of conventional construction are borrowing from achievements in more advanced fields, such as the automobile industry, marine and aviation design, theater and expo techniques, and from the field of electronics. By serendipitous processes, useful ideas are found and applied to building construction. Machines, already in design, which can turn out trusses of any length for platforms in outer space, may find their use back here on earth. In the future we may expect more synergistic development in building technique, coordinated and interactive with research in other more advanced fields.

In 1966, the *American Scholar* published my article, "An Architecture for the Electronic Age," in which I discussed the various influences upon architecture, not of the building technique, but of another field of technology altogether, electronics. I believe these influences are strongly active today and will continue in the future. Briefly, these influences appeared to me as follows: (1) imitation of electronic equipment, as of the machine in the 1920s; (2) adoption of the organizing principles of electronic systems comprised of chassis, components, subcomponents, and circuiting, as carried out in my Oklahoma Theater Center; (3) use of computer graphics, mapping, and image processing, which will leave its mark upon the end product, architecture, as surely as that of the machine tool upon an industrial product or chisel on a sculptor's marble; (4) communication itself, which as McLuhan predicted, is causing an implosion of personal, social, and business contacts, allowing for a reciprocal explosion of corporate headquarters, educational institutions, and general urban extensions; (5) the constant exposure to television (some 20 percent of man's waking hours), use of electronic business equipment, and now games and home computers, have noticeably retrained the perceptive habits of the current generation of our citizenry and the younger architects who are currently serving it; (6) cybernetic techniques, in which a computer is used to cybernate some control system so as to eliminate the role of a human supervisor.

Buildings, by taking on the role of monitoring its HVAC performance and decision-making in its corrections, are adding to their conventional physical performance a self-regulatory capacity found heretofore only in living organisms, an intelligence that is truly a new dimension for architecture today. Robots are appearing not only on the automated assembly lines in Detroit, but actually deliver mail daily at certain large corporations—in drag, I am told. We may consider building technique as an extension of the human organism. For it is rather easy to accept structure as supplementary support, transport as more effective animal locomotion, insulated walls as epidermis, HVAC as extensions of our breathing apparatus, acoustics, lighting, intercom, data-mation, and other electronic equipment as assists to our sensory and mental processes. The analogy comes to be rather convincing. And technology, as Norbert Wiener said, is, indeed, "the extension of the human body and mind." Or, as Teilhard said, "Technology will see the development of a bio-tech species," and here connection is made between the technological and the organic imperative.

Beyond the actual operative role of technology in architecture there is the inspirational spin-off; that romantic response, that poetic attitude, that "zeitgeist," or that spirit of the times. Nor is technology any more detached from the human psyche than from the realm of organics. Although high-tech buildings certainly cannot claim to satisfy all our range of psychic needs, there is no doubt of the powerful impact, persuasive imagery, purity and directness of solution, and hold upon our memories as Expo-Osaka, Pompidou, Foster's Hong Kong Bank. Add to this romantic excursions into techno-esthetics and fantasies of the future as we draw further upon science fiction, or more correctly, technology-fiction.

It would be unnecessary to build this case for technology if it were not for the confusion we find in the profession today. Some look upon building technology with disdain, giving it no presence, no expression, no symbolism, and obscuring any evidence of the building process. Architects of this persuasion stand strangely apart from all history. As for technology, it is impossible to conceive of a society without it, or to develop in any time an architecture without it. Unlike the more constant derivations of architecture, i.e. nature and the human psyche, technology is the factor that undergoes constant change, prompts new discovery, invention, improvement in the performance of this service art, architecture. As a fact of historic record, it has in each time not only profoundly affected the general outlook of the society but in each time initiated a new architectural vocabulary. Alvin Toffler, the futurist, sums it all up by saying that "technology is the common heritage of the human race."

**2** *The Organic Imperative.* The conviction, established in the life of primitive man, existent in the present, and inevitably continuing in the future, is the awareness that man is part of nature. Primitive concern with shelter for survival, in the beginning the cave and now our sophisticated urban developments, brings into focus the relationship of man to his environment within this biosphere. Shelter is the fundamental purpose for which buildings are made. This timeless experience of being sheltered against adverse elements of nature, with all its technical solutions throughout history and in spite of all superficial styling, remains strongly with us.

We find awareness of this relatedness to nature in the philosophers Rousseau, Thoreau, Walt Whitman, and de Chardin, in the architects Frank Lloyd Wright, Gaudí, Soleri, McHarg, in environmentalists such as Commoner, in the naturalists. The membership is legion. Some architects have imitated natural form, i.e. biomorphics. Some build solar houses recycling nitrogen so as to be more closely involved in nature's processes. Some, however, look deeper into how nature organized herself. At this point we should be reminded that the word "organic" is defined as "involving the basic makeup of a thing," as "that which is made up of systematically interrelated parts." We speak of things being "organized." And surely this applies to architecture.

Being part of nature we cannot but perform in nature's ways. Being a human animal with investigative faculties, we examine nature from the microcosm of the macrocosm. We look each way from our middle dimension, into the small and large dimensions to find out more about ourselves and how we might better conduct ourselves in the entire natural scheme of things. We find, whether we wish to or not, that inescapably we are swathed in a total process. And architects in various periods, and notably today, have been strongly aware of this and have wisely come to incorporate organic principles into their design.

In the recent past architecture has been strongly guided by organic principles. A younger generation within C.I.A.M., which came to be known as Team 10, added important increments of humanism. This movement concerned itself with the involvement of the occupant in the design process and allowing themselves to be guided by natural principles as in the use of circulation, movement, growth, and change as organizing devices in the design of their buildings and cities. They endorsed the ideas

*continued on page 160*

# An Outsider's Inside View of Architecture

*An ex-AIA public director looks at the profession in a context of change. By Harold Fleming*

I came away from my stint on the AIA board with the conviction that architects are about as authentic a cross-section of professionals in America as you could wish. I found them highly individualistic, preoccupied at the same time with self-interest and idealism, impatient for results, prone to involvement in fine details that often might better be left to day-to-day staff work, impatient with bureaucratic constraints, and absolutely convinced that the profession is undervalued—not to mention underpaid—by the society it serves.

I also discovered a pronounced siege mentality. There was a strong sense that the profession is being manipulated by social forces that are beyond the control of its members. During my brief tenure, I served on three committees that were wrestling with issues created by such outside pressures.

One of these was state regulation of licensing and registration. In response to consumerist pressures, some legislatures were threatening to water down existing requirements, and, in the case of California, to eliminate them entirely. Elsewhere, the objective was to transfer control of the registration machinery from architects to so-called public interest representatives. This struggle is still far from over.

A second issue was the code of ethics as a whole. Under the pressure of regulation and antitrust litigation, such venerable prohibitions as those on advertising and supplanting could no longer be maintained. And so the ethics were repealed and replaced by a general and unenforceable statement of principles. Many of the architects I talked with were deeply resentful that the profession had been stripped of the power to set its own ethical ground rules.

These issues are reflections of powerful trends that are reshaping our society as a whole. These trends grew out of the events of the last 25 years, and they will strongly influence, for better or worse, the developments of the next 25.

The soothsayers among us are pretty much in agreement about the main currents that are flowing in America today; the disagreements arise over how longlasting these currents are likely to be, and how they will affect the society. A popular summary of this thinking is the best-selling book *Megatrends* by John Naisbitt, who happens to be the outgoing public director of AIA. Although Naisbitt is almost invariably upbeat, it seems to me that the megatrends he identifies are as full of peril as of promise. I would like to comment briefly on some of them that have special implications for the future that architects, along with all the rest of us, will have to adjust to. We are told that in the next two decades we will see radical changes in the makeup of the population, an accelerated transition from an industrial to an information society, decentralization of decision-making, increasing emphasis on group diversity and self-determination, and self-help rather than reliance on institutions and experts.

Most obvious and unarguable are the population trends. Someone has said that demography is destiny. An overstatement, but one that carries a useful message. In the years ahead, more of us are going to be older, single, black, Hispanic, Asian, one-

parent, and working wife. This means, of course, that more of our reduced number of young people are going to be minorities. The implications of these projections are many—for Social Security, for the work force, for the marketplace, for the educational and health care systems, for the unity of the society itself. Clearly, there will be a need for different kinds of dwelling units—less expensive, more compact, with more shared facilities. Certainly, there will be a near moratorium on the kind of expansive and expensive—large-lot, multiroom private residence that has characterized so much of our suburban residential development since World War II. I have no doubt that these facts of demographic life are well perceived by architects, along with planners, zoners, builders, and governmental housing officials. But it will take a while for all of us to re-adjust our thinking and our creative impulses to the reality that the standard nuclear family is going to represent only a fractional part of the new housing demand for some years to come.

Another implication of these demographic realities affects the whole vocational field, including the professions. In the past 25 years we could afford to be profligate with our human resources. The post-World War II baby boom gave us a surplus of reasonably well educated entrants to the job market, and more recently large numbers of working women have been added to the supply. College degrees became as common as high school diplomas were in the prewar era.

We could afford to ignore the fact that a sizable proportion of our young people were regarded as disposable. Millions of them have been consigned to inferior schooling, an environment in which drugs and crime are the norm, and a home situation in which the single parent is herself a child who has not been equipped intellectually or emotionally to deal with the realities of contemporary life. It is a sheer arithmetical fact that, in the years to come, our society is going to be increasingly dependent on these cast-off elements of our population for the capacity to operate an increasingly high-tech economy that must compete in a sophisticated world market.

Aside from a kind of fashionable hand-wringing, I see few signs that we are gearing our policies and resources to meet this challenge. The architectural profession has probably been as enlightened as any other in its attempt to open the doors of opportunity to those who in the past have been discouraged from entering the profession. Yet the fact remains that architecture is still overwhelmingly a white male preserve. Ideology aside, purely in terms of practical self-interest, the time is not far off when this will be a serious liability for the profession. The remedy will not be easy to accomplish, but it will become increasingly essential.

There is a bright side to the population trends. The changes in store are going to force us to reconsider our neglect of America's human material. The well-being of older Americans will grow more important as their skills and experience are needed. Women will find a more secure and equitable role in the workplace. And we will no longer be able to shrug off the shortcomings of our educational system or the perpetuation of an "underclass" whose main choices are crime or dependency.

That we are experiencing a crisis in education no one is permitted to doubt. Every week, it seems, a new study commission or education expert warns us that the educational performance

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**Mr. Fleming**, president of the Potomac Institute in Washington, D.C., served in 1978-79 as the first public director on AIA's board. This article is adapted from his address at Clemson University as part of the 25th anniversary celebration of Clemson's college of architecture.

of our student population is seriously deficient and may still be declining; that the Germans, the Japanese, and the Russians are preparing their children and young people far better than we are preparing ours; that there is widespread lack of interest in math and science studies. It is all very similar to the alarm that swept this country in the late-'50s. The sense of crisis then was inspired by our humiliation at the hands of the Russians, who had launched Sputnik, the first satellite to orbit the earth.

Today's sense of crisis grows out of the technological revolution and our fear, once again, that we will be outdistanced by our ideological and economic competitors. We are confused and divided over what to do, if anything, about our public school systems—and, for that matter, our institutions of higher education, beset as they are by skyrocketing costs and inadequate revenues. There are those, including some in high places, who appear to feel that our existing educational system is not worth additional public investment. In support of this view, they point to declining SAT scores, high school graduates who are woefully lacking in literacy, and teachers with inadequate skill in the subjects they are supposed to teach. They also find confirmation in such revelations as that of the California professor who recently surveyed the state of knowledge on his campus. He reported that he found not a single student who knew the years of World War II, to say nothing of World War I.

One current response to these problems is insistence that our young people acquire "computer literacy" and that mathematics and science courses should be compulsory. These would be steps forward, but only if they are accompanied by effective efforts to develop literacy in its primary meaning. Computers and math courses won't be of much help to students who lack such basic skills as the use of language, the ability to reason, and some understanding of the history that produced them. This should be a matter of first priority in the years immediately ahead.

I am glad to see that your program features the uses of the computer in architecture. Like a great many other people, I used to be a compuphobe, one who regarded the computer culture as an alien and dehumanizing influence, not to be resisted perhaps, but not to be encouraged either. I have undergone a conversion. I'm now convinced that we should all, young and old, become familiar with these electronic wonders. This change in opinion came about partly because I was talked into acquiring a computer, which I use mainly for word processing, and to which I have become hopelessly addicted. I am so far gone that I have even learned to write primitive programs in BASIC that do more or less what they are supposed to do. It's much more satisfying than crossword puzzles. Those of you who have acquired this addiction will understand my condition.

But my personal exposure is not the only, or even the main, cause of my change of views. The more important reason is that I have come to realize that the computer technology is going to revolutionize the way we do things to a degree that we can't yet imagine. If we are going to use this technology in ways that will enhance creativity and improve the quality of life, there must be broad public understanding of what it can and can't do—and broad public participation in determining how it should and should not be used.

Much has been said and written about the computer's potential for mischief: big brotherism, violations of privacy and security, electronic theft, mechanical and power failures that can immobilize essential services, even the national defense. These are real potential problems, no doubt. But I'm inclined to think a bigger danger is that we will find ourselves swamped in an ocean of polluted information—or more likely misinformation. For example: The burgeoning computer networks can transmit electronic mail instantly; I read the other day that some subscribers were complaining that their home computers were being flooded with junk mail. The new communications satellites are capable of beaming a hundred television channels into one's home through a small dish antenna; but there is a good chance

that 99 of the channels will be showing reruns of "Wonder Woman" or "Leave It to Beaver."

In a bad moment, I had an unnerving vision of an architectural application of computerization. Computer graphics were being used to create dozens of replicas of the Rayburn House office building in Washington. People who complained were told it was the result of computer error.

Another trend the professional analysts tend to agree on is a major shift away from centralized authority and decision-making, whether in politics and government, choices of life style, moral values, or whatever. This means movement away from the "melting pot" theory, big government, large hierarchical institutions, uniform national standards, and deference to the superior judgment of credentialed experts. There is plenty of evidence that we are, in fact, moving in that direction. The Vietnam war, Watergate, the rise of consumerism, the civil rights and women's rights movements all contributed to the momentum of the trend. The perceived arrogance of "the best and the brightest" in the Kennedy and Johnson Administrations, followed by the revelations of corruption in the Nixon White House, dealt a mighty blow to national respect for authority. Nader's Raiders, the follies of the auto makers, and Japanese competition did similar damage to the American corporate image. And, finally, the self-assertion of women and minorities left the white male still shakily in control, but an emperor dressed only in his skivvies.

**T**he challenges this trend poses for professionals are all too clear. Professional status no longer provides a cloak of infallibility; it may just as readily serve as the stimulus for a liability suit. The right of professional societies to prescribe the qualifications of practitioners has been seriously eroded and probably will be further diminished. The medical profession seems to be the primary target; nurses, midwives, and assorted paraprofessionals are on the offensive, and they are winning important concessions. But architecture, too, is facing less publicized challenges from related practitioners in the design and construction fields. Many architecture graduates are chafing at what they regard as the excessively stringent prerequisites for licensure posed by the internship and the qualifying examination.

The question in my mind is whether popular rejection of centralization and accreditation represents an irreversible trend. I am impressed by the phenomenon of those who inveigh loudly against big government, but then cry out for the strongest kind of federal action when their own interests are at stake. For a current example, one need only consider those airlines that clamored for deregulation but have taken a 180 degree turn as competition threatens their survival. More basically, one can question whether our nation can survive in a turbulent and competitive world if the mandate of the national government extends, as some would have it, only as far as military defense, tax collection, and issuance of the currency.

Nothing is healthier than challenging authority—when the purpose is not to destroy it but to harness it to the common good. The excesses of bigness and centralization ought to be curbed. But it should be recognized that local self-determination and self-help are no substitutes for national standards that seek to protect equally every citizen's access to health care, safety, basic economic survival, and constitutional rights. The outcome I hope for is that the expanding individual freedom and group diversity we are experiencing will be balanced by a heightened sense of self-discipline and restraint in the interest of national unity.

Architects can play a tremendously important part in this process—not just as public spirited citizens and civic leaders, but as practitioners. Architecture at its best is more than a craft, more than the art of designing pleasing and functional buildings. The structures and spaces we surround ourselves with are symbolic expressions of our aspirations and our ways of relating to each other and to our environment. As individuals, we may be what we eat. But, as a people, we are also what we build. □

**Imperatives from page 157**

of "life generated design" and of a new human order using organic processes in place of previous static finite relationships of function and space. Specifically, they spoke in biologic terms. The root, branch, node, tissue, spine, and pod are now commonly understood references in our profession. Organic processes were rediscovered and put to use. The essential connective tissue into which man and nature are woven was recognized and celebrated.

Another response to the organic world, contemporary with that of Team 10, has been that of the Japanese metabolists. This group, quite separately, found a relatedness to nature through Buddhist traditions, in the principles of growth, change, flux, movement, a sense of life's purpose, "the way" or "the tao," and finding for it an expression in our present time of advanced technology.

In 1967, the Archigram Group spoke of their romantic high-tech images as "giant organisms reshuffling their parts," and of "animative forces" determining a building's design. More recently, in a 1980 edition of Japanese *Architecture and Urbanism*, Peter Cook and Kristine Hawley speak of elements of their buildings as: eggs, cocoons, nests, orifices, sponges, layered skins, prepared landscapes, and of buildings undergoing metamorphosis. A dimension even more deeply organic was revived by Louis Kahn. Going beyond the notion of the building as animal, i.e. "animaliam," he spoke of buildings as possessing an "existence will," what psychiatrists call the "anima," what the philosophers call the life principle or soul. Kahn, in what I believe was his most creative period, spoke of buildings as capable of self-knowledge and power of will, which at a certain stage of its design, would assume the authority to dictate to the architect just how it willed to be completed.

Still another major effort to forge a connection between man, his technology, and nature was put forth by Teilhard de Chardin.

A deeply religious man, he was concerned with how man should conduct himself following God's intentions in the face of our ever-advancing technology. In his name there has been established in London the Teilhard Center, "dedicated to a civilization increasingly responsible for its own evolution." This is a stunning statement, for, up to now, nature has exclusively been in charge of evolution.

In *The Phenomenon of Man*, Teilhard presents the fundamental theory that an understanding of the development of society demands that we regard the whole of mankind as an organism, which obeys the general laws of biology, and that these laws express themselves throughout the history of man as a "single great creative process." Teilhard sees urbanism as a positive factor but says that "one of the first and greatest problems of this introvert or introspective time for our society is to formulate new principles of urbanization and to create urban patterns according to natural law, as concentrated human environments." The city then must be regarded as a living system and to this purpose built up according to the rules applying to living (for example biological) systems.

A significant recent book is *Regional Urbanisms* by the Swedish architect Peter Broberg. Released by the *Teilhard Review*, this book is an interpretation of Teilhard's principles mentioned here, but in architectural terms. Consistent with Teilhard's line of thought, Broberg says that the regional urban landscape will be described as "a living macrosystem," or as "a super-human creature." This urban creature, or urbanism, is in fact seen as "the next stage in our evolution." Urbanisms are further defined as organically planned regional centers and are to be regarded as members of "a new bio-tech species." He states that the urban system should "exhibit the behavioral principles found in all living creatures," that "with the technological extension of man's functions, we begin to discern the formation of major bio-

*continued on page 162*

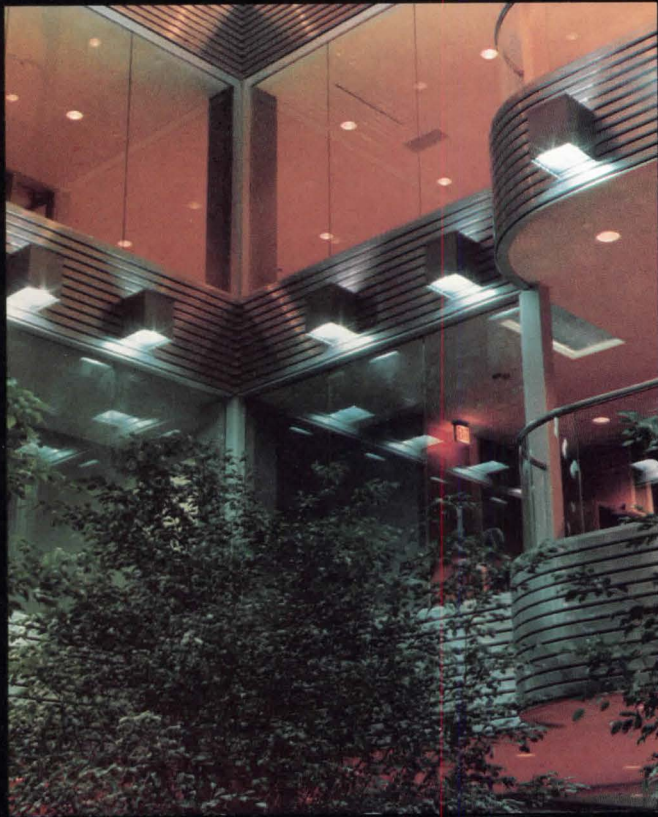
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### Imperatives from page 160

technical systems consisting of interwoven organic and inorganic components." Using our current technology, "urban development must begin to follow organic laws." As Soleri presents his urban model in the "City in the Image of Man," Broberg presents "The Organic Urbanization Model." From this he develops the term "Organic Imperative," which I had adopted. The principles of this model draw from the natural sciences, and those applicable to architecture and urban design are eight in number: open form, hierarchical systems, cell structure, generality, linearity, compactness, balance, and scale. Broberg concludes that "the laws of nature apply equally to man as to the structure and process of urban mechanisms," that, drawing upon the biological terminology, studies of the city henceforth may be called "urban genetics."

Literally, as in nature, buildings and urban developments are to be based upon systems of circulation, communication, structure, distribution, metabolism—even management and decision making. The hierarchy, as in nature—the cell, tissue, organ, organism, and culture—are to find their equivalents in the man-made environment. The new physics now accepted as a force in our lives has discarded the mechanistic universal model of Descartes and Newtonian physics and replaced it with the concept of organic interrelatedness, of ecologic wholeness.

The organic "ecological" world view of Eastern philosophies "is one of the main reasons for the immense popularity they have gained in the west," says Capra. "There appears to be a growing belief that the new physics, technology, and social patterns may be brought together into some sort of organic unity." Our failure to feel our relatedness to nature in our lives, and in our architecture, cannot be forgiven as oversight, stupidity, or even arrogance; the indictment is even more severe. It is a denial of what connects this humanity to the greater cosmos of which we are all part.

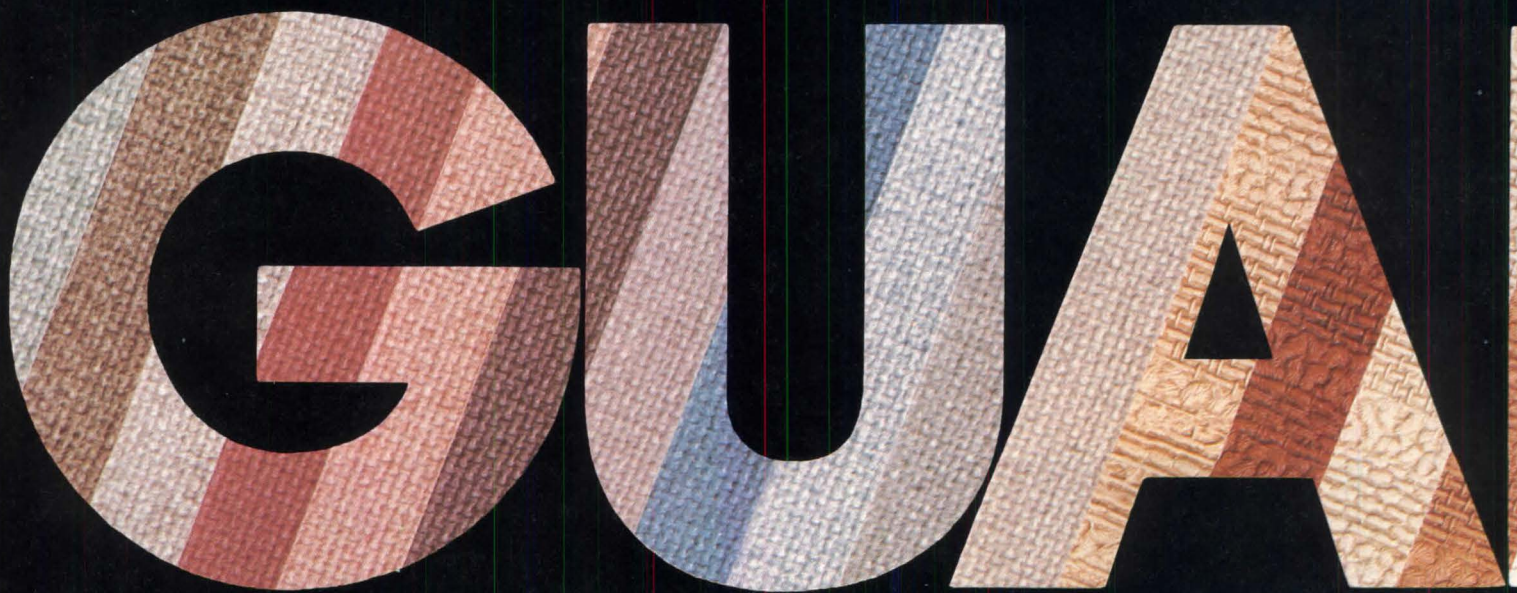
**3** *The Psychosocial Imperative.* Whereas in the time of Vitruvius one might have spoken of the esthetic aspects of architecture as "delight" or, as conventionally defined, as "that philosophy dealing with principles of beauty and good taste," we in this psychoanalytic age speak of esthetics in terms both more precise and more profound. The psyche, as the dictionary notes, "although part of the mental operations, is not simply a physically functioning entity, but that which has complex processes of its own, which govern the total organism and its interactions with its environment."

Today we know more about ourselves and our processes. And the architect is obliged to develop an awareness of that psychic interaction between human beings and their environment, understanding the meanings implicit in the man-made environment he designs and the effect it exerts upon the occupants.

The simple distinction that sets architecture apart from mere building is that in the process of serving human needs and events it celebrates them as well. Be these events personal, familial, societal, professional, cultural, military, or religious, the architect, quite aside from keeping the rain off, is working through our current symbols to satisfy some psychic need. This need is in the self of the poet, artist, and architect, and through that self he satisfies the needs of his society as it acts out its myths.

In his most recent book *Myths to Live By*, Joseph Campbell makes these two central points: that all mythologies of various cultures and times in history, we now consider as one, and that even in our complex scientific age we are still living out and forever will live out the mythologies of birth, quest, love, and death. Whereas it was earlier believed by Sir James Frazer and Sigmund Freud that the scientific truth would replace myths as explanations of natural phenomena, because myths were regarded as primitive and superstitious, both Carl Jung and Joseph Campbell more recently agree that mythology will always be with us because it explains to us things about life that science

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cannot. As the philosopher Niels Bohr says, speaking of science and art, "they are separate truths which are different but compatible."

Myths are telling us, says Campbell, that the powers of the psyche are to be recognized and integrated into our lives, powers that will be common to the human spirit forever, and which represent that wisdom of the species by which man has weathered the milleniums." Campbell goes on to state the importance of rites in our lives today, not only the formal rites of the church, diplomacy, the government, and the corporation, but in family functions within the home. "The socially transmitted forms are imprinted during what is known as the formative or impressionable years. . . . Rituals are the recognized means of such imprinting. . . . Myths are the mental supports of rites; rites the physical enactment of myths."

If this be so, then I wish to present as my central thesis that architecture has always been, is now, and forever will be the setting for the enactment of these rites. The urban centers and buildings serve not only as shelters but, as it were, "theaters." Our public squares, city gates, inaugural platforms, shrines, churches, civic buildings, corporate headquarters, and most particularly houses, are all, in a sense, theaters.

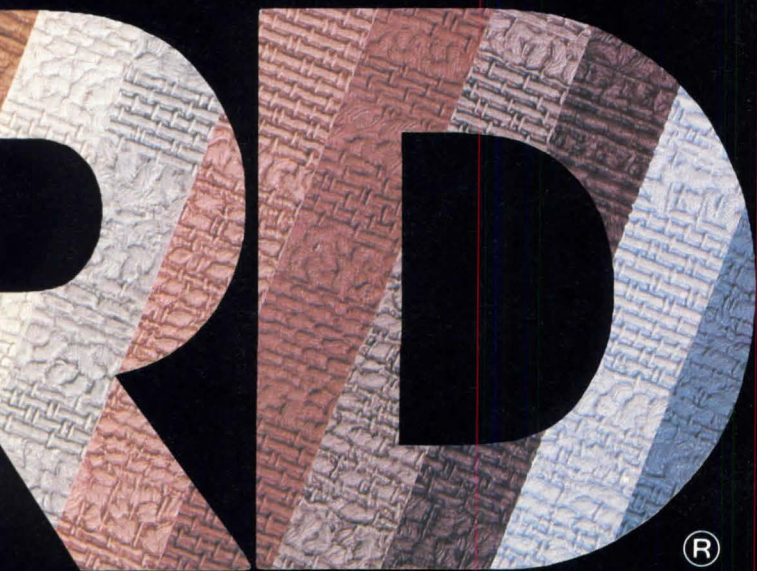
In ancient Greece, the word "persona" meant mask; the theater prop, the false face held against the true face (per), or through which (sona), or sounds of the voice were transmitted to the public. In the psychoanalytic field, "persona" means those images of ourselves we wish others to know us by. The persona, of course, takes the familiar forms of manner, dress, social memberships, possessions, and the buildings we occupy. The mask, then, may be held not only to the face but to the building representing us, and thus we may explain and validate, to this extent, the "facade" on the exterior, and the "period room" on the interior, as well as ornamentations of doorways and rooftops. It is amusing to find the updated version of this in

Peter Cook's "instant facade" and "room liner," which may be a serious proposal for a current architecture, but also biting satire.

However, a serious distinction must be made between the true self and the contrived self, between fact and make believe; as psychiatry would explain, between the reality principle and the play principle, or the "inner and outer realities." And a serious concern is justified as to what is a healthy balance in our lives between escapism or make believe and the hard facts of our existence. Architecture is that art that in its finest performance should bring into balance these two principles; if not in each individual building, then in the collective or composite building performance in any one time. Today, with the bombardment of images from television, even normal human beings find it difficult to distinguish between a true news report and fiction. And in our awareness of time we are equally unable to distinguish between a realistic re-enactment of history, a current event, or a simulation of the future. This may well be a serious destabilizing factor in our lives. Again, as Hartwig Fritch reminds us, in our "technic society" there is no time to form new tradition. We see a fragmentation of past cultures but are, in exchange, stabilized as the life of new "socio-man" by information exchange of these fragments, woven together with the lives of all mankind. These observations may give explanation if not justification for much of the allusion and illusion in postmodernism.

It must be noted, however, that the persona or contrived image, though prevalent, is a mark of insecure identity in the adolescent person, adolescent institution, or nation. Psychiatrists agree that as adulthood advances there develops a greater self knowledge, a finding of our identity, in which process one is less dependent upon the persona. We may conclude then that buildings representing mature people or institutions would be more direct statements or accurate expressions of what that individual occupant, or corporate occupant, more truly is.

*continued on page 164*



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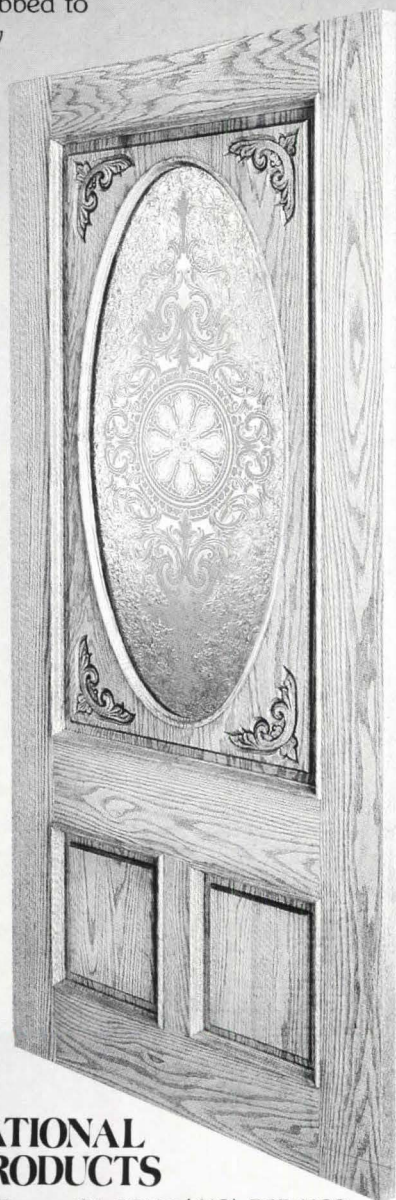
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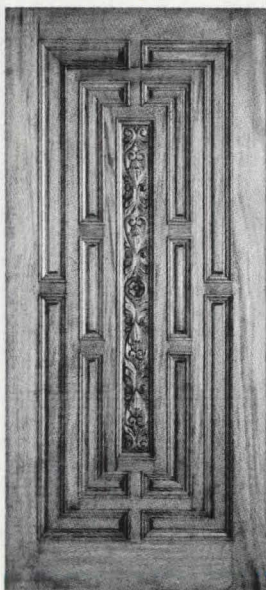
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## Imperatives from page 163

When our concern is for architecture, it is important to make the distinction between personal introvert symbols and those that have meaning to others, to society, and to all mankind. There is in fact some doubt in our profession today as to whether the images used by the so-called postmodernists are really accessible to the public at all. "The true symbol," says Thomas Merton, "does not merely point to something else. It contains in itself a structure which awakens our consciousness to a new awareness of the inner meaning of life and reality itself. In the presence of true symbols, one is coming into contact with one's deeper self and with that deeper self in others."

In architecture then, we cannot simply deal in personal effects nor mannerisms nor in stylistic trappings, but must seek deeper meaning and communicate this meaning to a broad public. As Campbell says, "The first conditions, therefore, that any mythology must fulfill if it is to render meaning to modern lives, is that of cleansing the windows of perception to the wonders, at once terrible and fascinating, of ourselves and the universe of which we are the ears and eyes and mind." Architecture of any serious intent has always drawn from deep psychic roots and has been able to communicate with a large public.

Let the postmodern architects be reminded that no one, much less architects, can create symbols, which have taken many centuries to develop. All they can do is recognize, understand, possibly restate in current terms, and use them appropriately. For symbols live only if people believe in them. Over a period of time updated expressions of symbols may become compelling while others no longer speak to us.

Another characteristic of the craft, architecture, is that although it can, as we said, support a considerable amount of decoration, its most effective and essential qualities are obviously those of form and space. It is then not decorative symbols, but the spatial symbols that will always most strongly affect us.

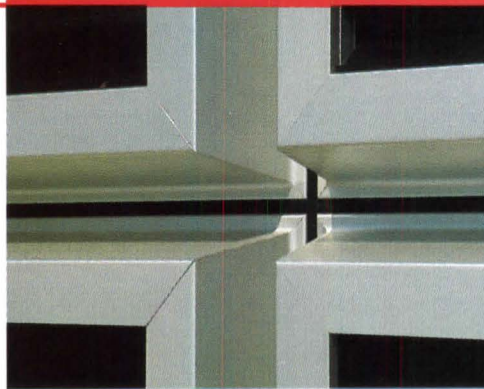
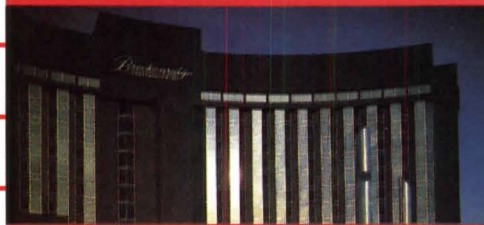
It should therefore be of no surprise that the great primordial experiences have always been spatial and that the most vivid of these have always been expressed in architectural terms. In the collective unconscious, in dreams, and in legends are repeated the same fundamental images, and attached to them are the same meanings. These images appeared to prehistoric man some 6,000 years ago, appear to us today, and will appear to man forever. These images are described in a number of books on psychiatry. The *Dictionary of Symbols* by I. E. Cirlot lists as the most essential the following: The cave, which rather obviously represents a return to the prenatal state, and one's forthcoming as an experience of rebirth. The house, which is feminine, is the repository of wisdom; its interior rooms and passages represent various levels of the psyche. The forest, of trees, or columns, or today perhaps the megastructure, reminds us of mystery, adventure into the unknown. The labyrinth likewise is the adventure of life, in which we grope our way, unaware of the consequences of our decisions, as higher powers (in ancient Greece, the gods, today the cosmic laws) preside over our successes and failures. The tower, in our time the corporate skyscraper, can represent aspiration above (the common condition) or an overwhelming pride, or Hubris; also in the image of the rocket, an escape from the earthly or mundane to the realms of greater knowledge of our universe or of the divine.

The realms of the psyche, their vast implications for architecture, are far too important to the profession to be neglected in favor of the personal indulgences, esoteric references, and the meaningless decoration appearing about us. We would do well to be guided by great minds such as Jung, Campbell, Merton, and others who understand the workings of the psyche so as better to deal in architectural terms of space and form with the psycho-social needs of our time.

Short of any practical applications to professional practice, what I offer in these three imperatives is a philosophic base, a moral support, an awareness of broader choice of derivations from which we may feel free to draw. □



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## An 'Indispensable' Guide to Phoenix

**A Guide to the Architecture of Metro Phoenix.** James W. Elmore, FAIA, Editor. (Central Arizona Chapter/AIA, \$10.34.)

Extending nearly 40 miles east to west and roughly 30 miles north to south, the metropolitan Phoenix conurbation now includes the formerly isolated communities of Mesa, Tempe, Scottsdale, and Glendale, and is closing fast on Chandler, Sun City, and Carefree. Its most important architectural shrine, Taliesin West, and desert lands still farther to the north, were annexed last year into Scottsdale—itsself now larger in area than Detroit. This ambitious guide catalogs over 300 of the most important structures of this vast temporal region, home to numerous desert resorts, the burgeoning campus of Arizona State University, and only one freeway.

Indicative, perhaps, of how one must "see" Phoenix, the horizontal 6x9-inch format does indeed fit into a glove compartment. Aiding the effort is a series of aerial photographs complete with identifying street arterials with numbers keyed to each building listed in the book.

Much to its credit, the guide includes a crisp, if diminutive, photograph with each and every entry, limiting the frustration often encountered with similar sources. Packed into 200 pages, the accompanying descriptions tend to be brief, often leaving the reader guessing at the significance or reason for inclusion for many of the buildings. And, not unlike most guidebooks commissioned by AIA chapters, the monumental effort provided by the editor is perhaps far more inclusive than serious historians and critics of architecture might think appropriate. Undoubtedly, deciding what should *not* be included becomes a risky business. Helpful to those readers for whom judgments do not come easily, the guide conveniently provides notational symbols for buildings listed on the National Register of Historic Places and for those that are past recipients of various AIA design awards.

The guide also includes insightful essays (also with excellent accompanying photographs) on the works of Arizona's two legendary personalities of this desert climate: "Paolo Soleri" (by Jeffrey Cook, AIA) and "Frank Lloyd Wright" (by Charles Montooth, AIA). Other useful and carefully written chapters are devoted to the historical development of the metropolitan area and a summary of future urban designers strategies for Phoenix.

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*Detail of Paolo Soleri's Arcosanti.*

The built environment of the "Valley of the Sun" (the oft-used description popular with the natives—few in number though they may be) is, for the most part, extraordinarily recent. An architectural richness resulting from a long heritage—usually commonplace in older cities (including, even, the greater Los Angeles area with which Phoenix is often inappropriately compared)—is comparatively limited here. But diversity, fragments remaining from previous cultures, numerous architectural surprises, and even a few jewels can be found by the diligent, if not intrepid, visitor. Toward this rewarding pursuit, *A Guide to the Architecture of Metro Phoenix* is absolutely indispensable. ROGER L. SCHLUNTZ, AIA

*Mr. Schluntz is chairman of the architecture department at Arizona State University.*

**Bruno Taut and the Architecture of Activism.** Ian Boyd Whyte. (Cambridge University Press, \$59.50.)

One of the results of the postmodern movement has been a renewal of interest in the architecture of the decade before World War I, especially in Germany. Expressionism, first viewed as a precursor of modernism, later scrutinized for its own sake and as an element in the reform movements of the prewar world, has recently come to seem like a redemptive force in the Germany we experienced as the scourge of Europe in the era of

World War II. We respond sympathetically to its subjectivity and are uncritical of the soft-headed anarcho-socialist alienation that underlies its optimism.

Whyte points out that architecture in this period aimed to reform not only design and building, but the entire society. Bruno Taut was a chief proponent in this architecture of activism. He wavered between a career as an architect or as a painter, and he worked always to hold to both structural clarity and artistic fantasy in a kind of visual science fiction. His buildings from 1909 to 1914 in Berlin showed how he tried to reconcile the two aspects of his gift. Adolph Behne wrote about his "artistic realism," calling attention to Taut's freedom from academicism. When Taut used color on his facades, it was considered a futuristic gesture, though it was actually what he called "the lost tradition of colored architecture."

The movement collapsed by 1920, partially from being assimilated into the mass culture, partially from its leaders' adoption of the mystique of function. Replaced by the international movement, Taut was scorned and forgotten for almost 50 years. Whyte recalls and describes his work, but there is a decided lack of empathy or enthusiasm in his account. A systematic catalog of works would have been helpful, as would a more sympathetic interpretation and fewer phrases such as "chiliastic eschatology." Perhaps we must still await the definitive work on Bruno Taut.

SARA HOLMES BOUTELLE

*Ms. Boutelle is founder/director of the Julia Morgan Association in Santa Cruz, Calif.*

**Architecture as Theme.** Oswald M. Ungers. (Rizzoli, \$25.)

Oswald Ungers proposes a way to create buildings that "satisfies the demands of man, which goes further than pure need, than the everyday, grasping him in his totality as a spiritual cultural being." This vision takes a stand against the materialistic idea of architectural form as an expression of spiritual content. Ungers' approach uses an architectural theme to explore building content, the theme being seen as that which "helps transform the environment from pragmatic reality to the metaphysical world of ideas, i.e., to sensitize the world of everyday affairs, causing it to emerge from triviality." The book is organized around themes that are described and illustrated with examples: transformation, assemblage, incorporation,

*continued on page 170*

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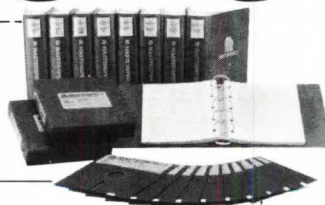
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**Books from page 167**

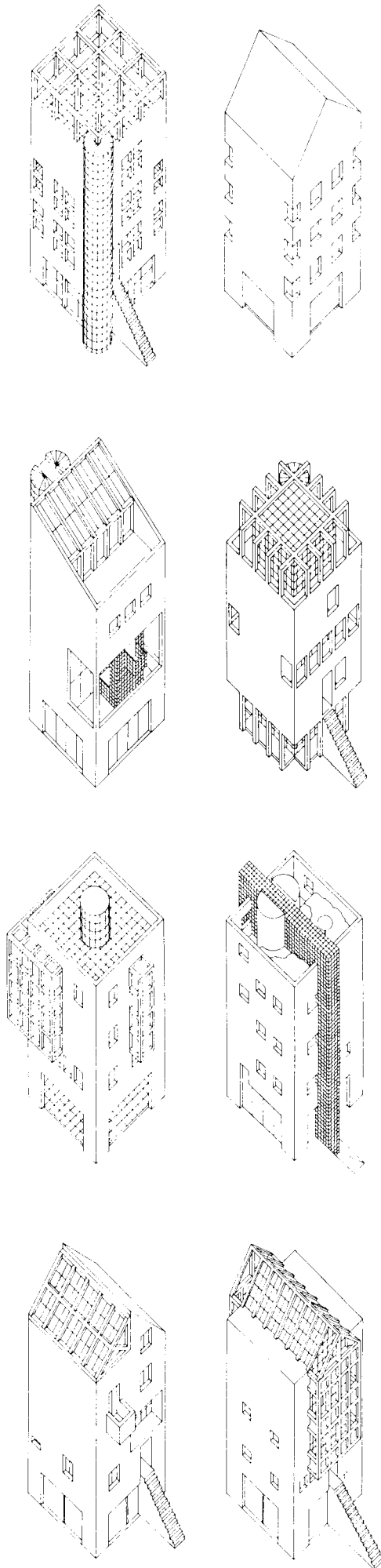
assimilation, imagination. The examples are primarily Ungers' own work, in the proposal form rather than completed projects.

The reader is challenged to take a stand relative to the fundamental intentions of architecture. Three issues are basic to the work discussed here. First is Ungers' interpretation of architecture's status as an art form; second is his definition of the appropriate content of architecture; third is his willingness to test the ideas behind architecture with proposals rather than completed projects.

His ideas about architecture as an art form are significantly flawed. He criticizes the Bauhaus for calling architecture an applied art, because it is thus placed "not among the genuinely creative arts." Making a distinction between pure art and applied art is a mistake. It seems more useful to differentiate that which is art from that which is not art, and to do this based on the existence of esthetic content. Thus, not all built form would be called art—only that which engenders an esthetic response. To describe, as Ungers does, pure art as more "genuinely creative" increases the error. Creativity is not related to the type of activity, but to the nature of the activity, the way in which the activity is carried out. What distinguishes architecture from the other plastic arts is that it combines the practical and the esthetic. Otherwise, there would be no difference between architecture and sculpture.

Ungers' criticism and description of the current state of architecture is in great measure valid. But to imply that this state of affairs derives directly and intentionally from the Bauhaus is not justified. Our cultural setting has distorted the original ideas espoused by the Bauhaus, finding in them a false justification for economy over quality, for innovation in form over concern for human habitation. Rather than attribute the existing architectural situation of an overzealous concern for functionalism, it seems more valid to attribute it to the willingness of architects to submit to undesirable cultural attitudes, displacing their concern to artistic expression of new technologically advanced materials, and justifying their preoccupation with esthetics by describing their work as functional. The failure of the Bauhaus movement was not in the ideas proposed nor in the failure to evaluate the designs in terms of the intentions. Thus, what was called functionalism has turned out to be to a large degree dysfunctional, becoming an esthetic movement rather than one concerned with fulfilling human purpose.

*At right, Ungers' design variations for a detached apartment building, all based on 'a constant underlying grid.'*



There are several elements to consider with regard to Ungers' approach to testing architectural ideas. First, it is important to applaud his concern that architects consciously deal with the ideas that are at the roots of design. If such ideas are stated and understood, they can be used more wisely and effectively. And in proposing alternative approaches, it is valid to present projects in the form of proposals as a greater variety of ideas can be presented. The difficulty is that an alternative approach presented theoretically remains untested.

The use of themes to develop architectural content is an interesting idea. Ungers presents us with a sound explanation of why his approach is valid, but the method used to present the idea is one of presenting the products and not the process of thinking. Case studies are used to illustrate the use of theme. The challenging part of this method is selecting the appropriate theme and the relevant precedents. Why, for example, use a traditional orphanage as a precedent for a hotel?

The most successful cases are the housing projects. In particular, the project for a group of houses at Marburg presents a set of residences that respond to a town context where the indigenous housing pattern is highly developed but where each house has a unique form within the given parameters. Ungers' housing illustrates the variety and individuality possible within a framework, and has an architectural expression that is lively and appropriate to housing. His criticism of the Bauhaus for ignoring history is one of his important points, and this small project exemplifies a sensitivity to historical context.

The least consistently successful projects are the large ones in which several buildings are placed in the urban setting. A nonarchitect who glanced at the book said that the large scale architecture looked like computer circuits. Upon reflection, I agree. It is interesting that the Bauhaus movement's formal expression of industrialization, the use of machine imagery, took place almost a hundred years after the Industrial Revolution. Insofar as Ungers' work is an expression of the technology of the information era, it is worth noting that in contrast to the Bauhaus this expression is taking place concurrently with the information revolution. It is ironic, however, that Ungers, who criticizes the Bauhaus for consciously using nonarchitectural themes to develop forms, seems unconsciously responding to his era in a similar way. As a result, many of the urban designs, in contrast to the buildings, seem generalized, without a sense of scale or history.

Ungers' book is thought-provoking. His descriptions of current architectural problems are insightful. His proposed alterna-

*continued on page 172*

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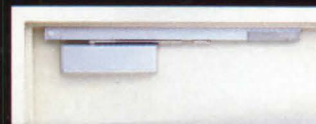
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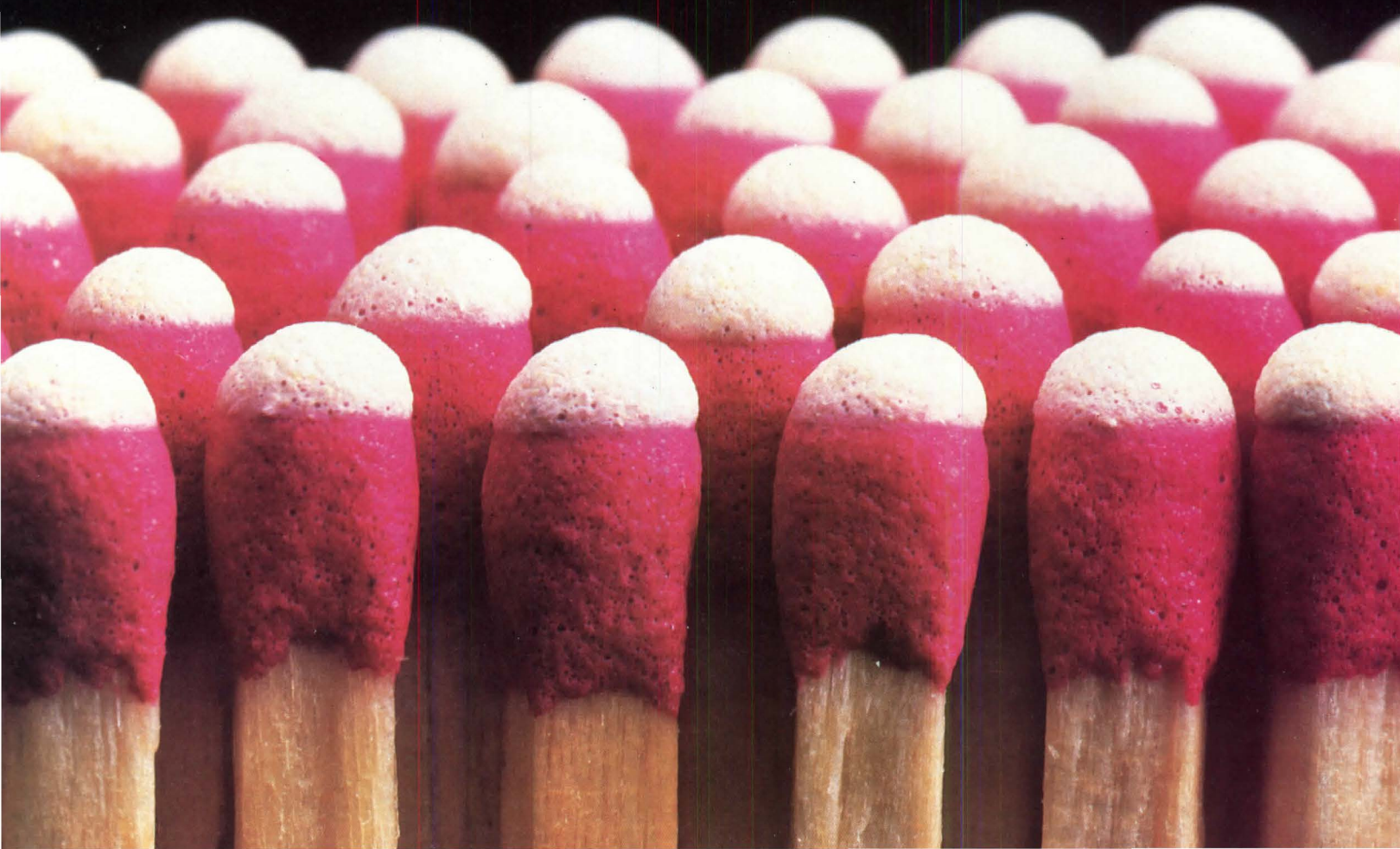


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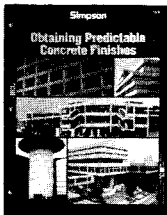
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## Books from page 170

tives are not completely successful, but offer an abundance of formal ideas and insights. The limitation of his approach lies in his willingness to continue to focus on formal and esthetic considerations without investigating the premises that are at their foundation. In rejecting the idea of architecture as an applied art, he perpetuates the fallacy of architecture as esthetic object apart from its human purpose. He sees the need for concern with the spiritual and cultural aspects of humanity, but in looking away from purpose to achieve this, he is looking in the wrong direction. An architecture that causes the environment to "emerge from triviality" must concern itself with pragmatic aspects of the design so that these become part of the background, allowing the foreground to be esthetic content. This approach would create an architecture supportive of Ungers' ambitious vision, sensitizing "the everyday world of affairs." JULIA W. ROBINSON, AIA

*Ms. Robinson is assistant professor of architecture, school of architecture and landscape architecture, University of Minnesota.*

**Style and Epoch.** Moisei Ginzburg. (Published for the Graham Foundation for Advanced Studies in Fine Arts and the Institute for Architecture and Urban Studies by MIT Press, \$30.)

This first English edition of a book first published in 1924 is a contribution to the American architect's understanding of Soviet architecture. Translated by Anatole Seskevitch, with an introduction by the translator and a foreword by Kenneth Frampton, the volume provides the reader with an understanding of Ginzburg's place in the theory of architecture. The work, of great contemporary interest in and of itself, seems all the more remarkable because the time in which it was written is not our own.

Ginzburg provides a general discussion of style and style cycles, illustrating these ideas with a discussion of what he calls the Greco-Italic classical system of thought. He then explains what conditions are necessary for a new style to evolve. Finally, he presents the ideas and other influences that he sees as the prime forces in creating the constructivist style of architecture, culminating in illustrations of Soviet examples of the style.

Perhaps the key idea that Ginzburg presents is that stylistic revolution incorporates elements of both continuity and change. Styles have a cycle. "The youth of a new style is primarily constructive, its mature period is organic, and its withering away is decorative." The constructivist phase takes place gradually. Ginzburg uses the example of the Doric temple's gable roof to illustrate how structural sty-

listic characteristics that are unnecessary to the new context are carried over nonetheless, and become part of the new style. New ideas become accepted and used, and a pattern of use or esthetic system defines the style—becoming in the mature phase an organic whole.

As the patterns are explored and repeated with endless variations, the desire for embellishment gives rise to the development of decoration. At first, the decoration is integral to the organic structure, but Ginzburg sees as inevitable the use of the decorative elements themselves "becoming transformed into a new system for organizing surface or space," until the "decorativeness as an end in itself becomes the only justification for a design." While he states several times that the historian and the viewer can appreciate each phase of a style when the context of its development is understood, for Ginzburg the phase of stylistic development that he envisions himself to be in—the constructivist—interests him most.

He finds eclecticism, or the use of style from another era, to be "genetically barren in most instances." He says that "such tendencies as the 'moderne' and the 'decadence' [a Russian equivalent to eclecticism], as well as all our 'neoclassicisms' and 'neo-Renaissances,' cannot in any way stand the test of modernity." Further, this "superficial esthetic crust represents an idle invention that appealed for a time to the taste of a narrow circle of connoisseurs but did not reflect anything other than the decadence and impotence of an obsolescent world." The interest in eclecticism, then, heralds the change in the style, but is not the style's source; the source comes from elsewhere and plants its seed within the decaying system.

What is fascinating is that so many of Ginzburg's comments about the era of the beginning of the constructivist movement apply to our present circumstances. If we accept the symptoms of a dying style as diagnosed here, we find a similar concern with decoration that is unrelated to the original dynamic organizational ideas. Surface and material are manipulated, but do not always correspond to an underlying conceptual idea. This is countered by an interest in eclecticism, says Ginzburg—a sign of a dying style.

The accuracy of his diagnosis is lent credence by the way his vision of constructivism, shared by others as well, has been realized. The ideas embodied in the design of machines that he sees as applicable to architecture are (1) the use of "everyday utilitarian materials," (2) the development of "a new system for the architectural organization of space," (3) the standardization of building production, and (4) the need for the architect to "construct his problem" in order to "exploit all the qualities and potentialities of

*continued on page 174*



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### Books from page 172

building materials and the best, most perfected constructions of the present day [i.e., machines]."

A large number of the materials used in construction today are used for non-architectural purposes as well. The organization of space we use today is primarily based on economic rather than esthetic principles. We use a standardized building production. And while not consistently done, programming provides one way to "construct" a problem. However, in our current realization of the limits of the machine, we are finding that architecturally we are entering a decorative phase, and turning to eclecticism. But the current paradigm for evolving stylistic change is not obvious. Perhaps it is information processing where the emphasis is on interpretation; perhaps it is consumerism where the user's ideas are paramount; perhaps it is biology where growth and change are the compelling ideas.

The machine had been in existence for many years before architects saw it as a source for new architectural style. In previous eras, the stylistic changes seem to have taken place less consciously. Which ever way the path takes us, Ginzburg assures us that the cycle will continue, and from our present situation a new and

most likely vital architectural style will develop. That this book is applicable today, 60 years after it was written, is evidence of the soundness of Ginzburg's ideas. JULIA W. ROBINSON, AIA.

**Heavenly Caves: Reflections on the Garden Grotto.** Naomi Miller. (Braziller, \$22.50.)

This is the third volume in Braziller's "World Landscape Art and Architecture" series and, like its predecessors, is a valuable contribution to the history of international landscape architecture. Naomi Miller, professor of art history at Boston University, has written a comprehensive and illuminating study of the grotto, one of the most fascinating and complex elements in the history of Western garden design.

Miller envisions her work as an "introduction" intended to "provide inspiration for others to explore the theme and to penetrate beyond form to meaning." As such the book is eminently successful, and is the first specifically devoted to the grotto in the history of garden design.

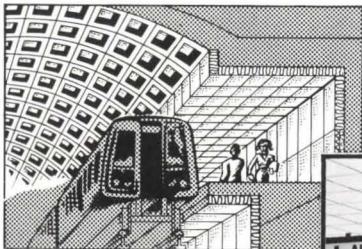
Miller demonstrates that the grotto, like the gardens in which it occurs, is a most revealing mirror of culture. In eight succinct, chronologically structured chapters,

she traces the form and cultural meaning of the grotto from its roots in classical antiquity to its present adaption in 20th century architecture. Her well-documented and meticulously researched study shows the grotto to have undergone a series of revivals and transformations that reflect profound cultural values.

To name but a few of the grotto's many forms, it has served as a sacred place to venerate the divinities of water sources (ancient Greece), a place of burial for venerated ancestors (ancient Israel), a summer retreat for the contemplation of the splendor and secrets of nature (the Grotto Grande of the Boboli Gardens), as theatrical scenery intended to arouse wonder (Giacomo Torelli's 17th century Venetian sets), a place for the stimulus of the creative imagination (Pope's grotto at Twickenham), as a fantastic setting for Wagnerian opera ("Mad" Ludwig's castle, Linderhof), and a locus for religious meditation (F. Kiesler's 20th century grotto for the New Being in New Harmony, Ind.). Miller documents one "leit motif" in this plethora of forms—namely variations on the theme of nature versus art. She also demonstrates that in the deepest sense the grotto is "a metaphor for the cosmos," hence, its significance as a barometer of

*continued on page 177*

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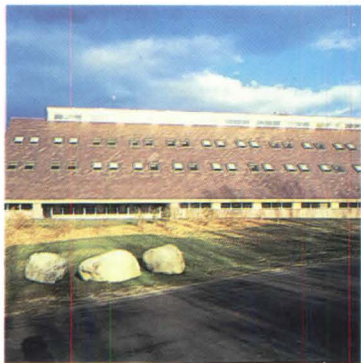
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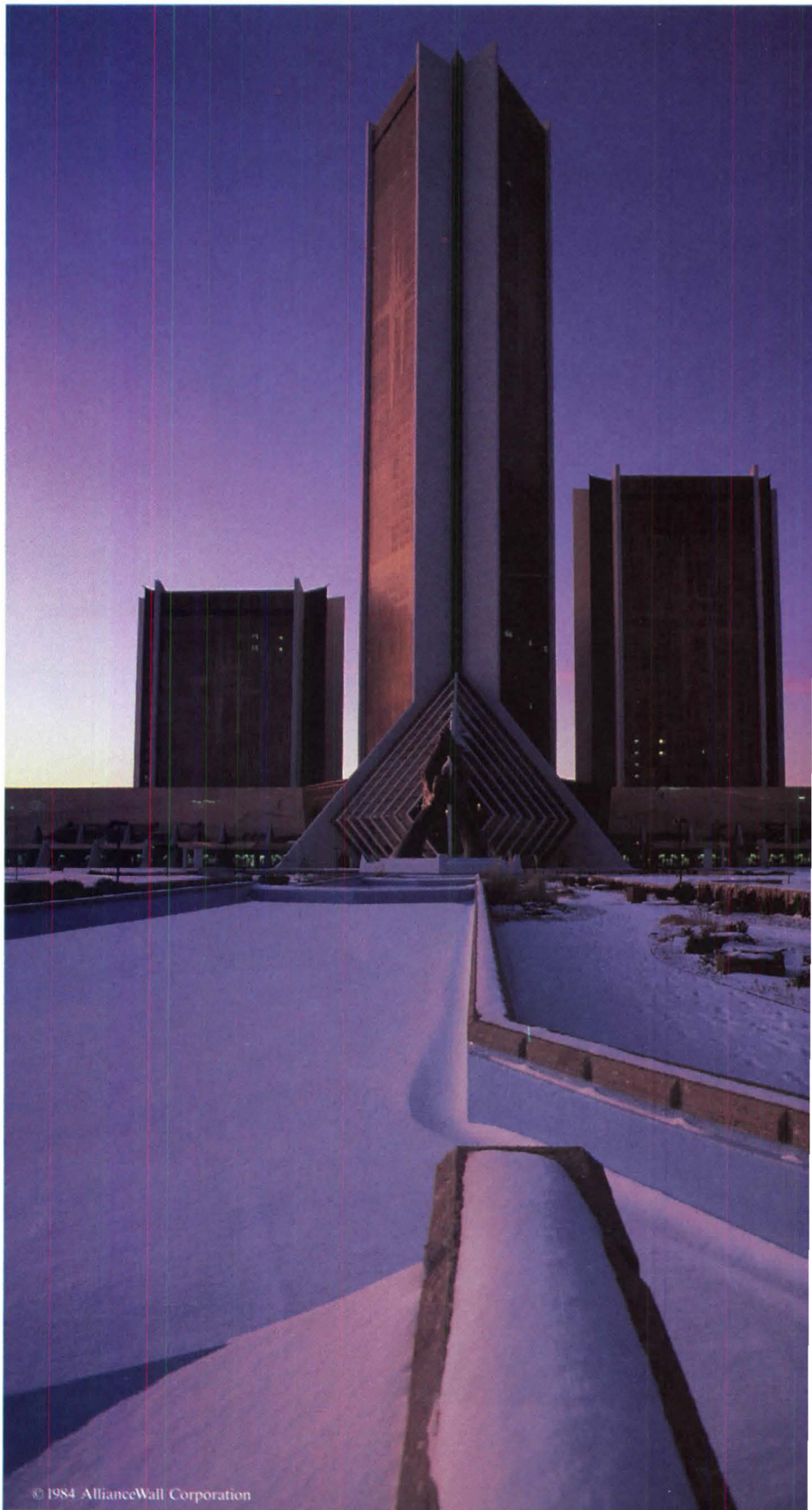
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**Books from page 174**

culture. What a far cry from Samuel Johnson's laconic evaluation that a grotto was a "fine place for a toad!"

This is a demanding work to read. Those unfamiliar with the history of Western garden design will have difficulty, for Miller presupposes a basic knowledge of the subject. On occasion, her case studies of individual grottoes in their garden contexts are somewhat lacking in clarity. For instance, her treatment of the Villa d'Este and Villa Lante in chapter four and Stourhead in chapter six would have been more lucid had she discussed their iconographical programs in more detail. Also, there are some minor errors in her garden descriptions: The Fountain of the Dragons at the Villa d'Este is not on the cross axis of the Oval Fountain and the Fountain of Rome. One looks from the stunning grotto at Stourhead not at the Chinese Bridge and Alfred's Tower, but at the Palladian Bridge and the Bristol Market Cross. Such minor descriptive slips, however, in no way vitiate Miller's subtle and insightful interpretations.

The book's illustrations are generally well chosen and serve to clarify the text. However, additional plan views, particularly in chapter four, would have clarified the spatial organizations of the gardens discussed. One also wishes that the fasci-

nating remarks of the "recasting" of the grotto in 20th century architecture in the last chapter had been developed more fully.

In her useful bibliographical note, Miller observes in referring to the work of others that the history of garden art is "embarking on a new era." Her distinguished study is to be welcomed as a decisive contribution to this development.

REUBEN M. RAINEY

*Professor Rainey is chairman and assistant professor, division of landscape architecture, school of architecture, University of Virginia.*

**The Library of Congress: Its Architecture and Decoration.** Herbert Small. Edited by Henry Hope Reed. (Norton, \$19.95.)

The fresh visual interpretation given by the photographs of Anne Day of the stupendous Library of Congress building is not acknowledged on the title page of this book, but it cannot be overlooked by anyone at all concerned with this rediscovery. The text is an updated version of the 1901 edition of Herbert Small's admirably written *Handbook of the New Library of Congress*. Why should this building, now nearly a century old, be important to us today?

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the legislative service indicated by its name, the Library of Congress is the American equivalent of other great national libraries. After two disastrous fires and a long existence stuffed into odd corners of the Capitol, the inspired genius of Ainsworth Rand Spofford (appointed librarian by President Lincoln in 1864) led the library into appropriate quarters. In 1865, and again in 1870, the copyright law was revised to require that two copies of every copyright work be deposited in the Library of Congress. Here was a whole new ball game. Spofford was fully aware of the significance of this change. His long effort to realize an appropriate building for the library commenced with an architectural competition in 1873, in which the firm of John L. Smithmeyer and Paul J. Peltz was chosen from among 28 entries. Smithmeyer was from Vienna and Peltz from Silesia. They were in the mainstream not only of the horde of mid-19th century German immigrants but of the architectural school that included Detlef Lienau and important design centers like Indianapolis and Chicago. Miraculously, their selection was honored (despite the lobbying of Mrs. Henry Adams for H. H. Richardson and other candidates). In 1886, Congress finally authorized construction and the necessary appropriations were made in 1889.

*continued on page 178*

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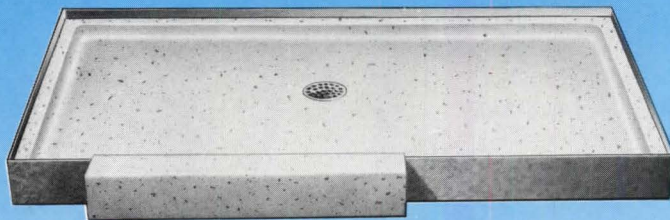


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## **Books from page 177**

The building was completed in 1897.

What is remarkable about this flamboyant, self-confident, Renaissance-styled building is its richly redeveloped art, which is detailed in this book. Fifty painters, sculptors, and plaster, mosaic, and other craftsmen worked on it in a closely orchestrated team. American mural painting was born here. Not until the Public Works Art Project of the New Deal era would any public building attempt such an integration of art and architecture.

This is a valuable and well presented account of a major building. It could well have included more historical references, particularly of the writings of John Y. Cole, that further illuminate Spofford's work. Without more evidence, it is difficult to imagine Pierce Rice's chronologically backward attribution of this 1873 design: "A now almost forgotten world's fair at Chicago in 1893 had provided the example of painter, sculptor, and architect working side by side." The two events marched together. Closer to the mark is his recognition that the art and decorative features are inseparable from "the particular spot for which it is prepared," because this gets us to what the architects did. Further, the library was not sited "on the Capitol grounds," and it should be noted that its location blocked the Pennsylvania Avenue vista from the east.

More about the architecture would be welcome. Under this welter of decoration is an admirably clear and practical plan, balancing the centrally accessible reading room and the numerous specialized elements of the library at the periphery. The building belongs with the New York Public Library and other 19th century examples of what Siegfried Giedion called "constituent architecture" (railroad stations, department stores, etc.).

Henry Hope Reed, as editor, certainly dragged Small's earlier work from the shadows, but one wishes his own contribution had been more clearly identified in this edition. The glossary of architectural and decorative terms occupying 36 pages is a work of unique and general application, of value to everyone working with classical and Renaissance architecture. A second appendix gives biographical details of the architects and artists who worked on the library.

Probably few other buildings have been so closely scrutinized over the years by a large and admiring public, a public which the library has not lost its capacity to surprise and delight with its fulsome allegorical references to printing, the art of the book, literary and cultural traditions, and the historical personalities who made this history. In its detailed presentation this volume has captured some of that charm.

We can also contemplate this building,  
*continued on page 180*



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# FIVE LEVELS IN 13 WEEKS

**Books from page 178**

now called the Jefferson building, in the sequence of its two successors, the Adams and the Madison buildings, a discouraging degradation of the will to architecture. FREDERICK GUTHEIM, HON. AIA

*Mr. Gutheim is a Washington, D.C., author, critic, and professor.*

**The Museum Interior: Temporary and Permanent Display Techniques.** Michael Brawne. (Architectural Book Publishing Co., \$33.95.)

In his discussion of museums in the book *A History of Building Types* (Princeton University Press, 1976), Nikolaus Pevsner observes that the first "special setting" for the display of antique sculpture occurred at the Vatican in about 1506 when Bramante designed niches in an open cloister. Soon thereafter, collectors began to build structures to house art, and long galleries were so frequently used that the word gallery became a synonym for museum. Much has happened in the design of museums, of course, in the intervening years. Indeed, there have been so many developments since Michael Brawne's earlier book, *The New Museum*, was published nearly two decades ago that further discussion, he says, is useful, and

he can explore new questions that have arisen meanwhile. His purpose now is to look "at the more detailed aspects of museum design."

The two primary functions of any museum, says Brawne, are preservation and display. In a sense, these functions are contradictory "and thus provide no immediate clues to building form." Objects on display suffer from exposure to light and air, atmospheric pollution, and dirt tracked in by visitors; the best place to conserve such objects would be to keep them in dark rooms at constant temperature and relative humidity, but civilized society would suffer if the objects could not be seen and understood. "All museum design must as a result help in some way to reconcile the conflict," he says.

In order to be seen and understood, the objects must be displayed to best advantage, of course, and Brawne devotes great detail to the display within the museum interior of museum treasures. He describes solutions found by leading museums worldwide in the arrangement of both temporary and permanent displays, giving guidelines on walls, screens, floors, ceilings, supports and pedestals, showcases.

Of special interest to the architect of museum interiors is the section of the

book on "Preservation and Communication," where attention is given to the object and its environment. Here, Brawne covers lighting; temperature, humidity, and air pollution; security; verbal communication; and audiovisual media.

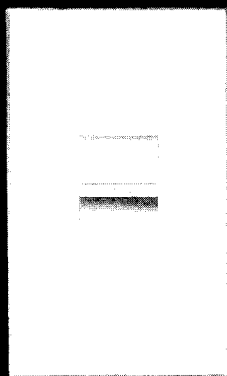
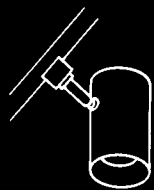
The concluding section of the book, on "The Museum Experience," discusses the Yale Center for British Art (Louis Kahn); the Oakland Museum in California (Kevin Roche John Dinkeloo & Associates); Deutsches Schiffahrtsmuseum in Bremerhaven, West Germany; and the Yoruba Religious Cults exhibition at the British Museum in London (British Museum Exhibition Office).

Brawne, a practicing architect who has designed many museums and exhibitions, has written a most useful book, and any architect who designs museums will want a copy of the book for permanent reference.

**Bench Mark Villas—A Demonstration of Affordable Housing.** Published by the Orange County Chapter of the Building Industry Association of Southern California Inc., 2001 E. Fourth St., Santa Ana, Calif., 92705. (52-page executive summary, \$20. Executive summary and 498-page workbook, \$50.) Documentation of a 124-unit demonstration project. □

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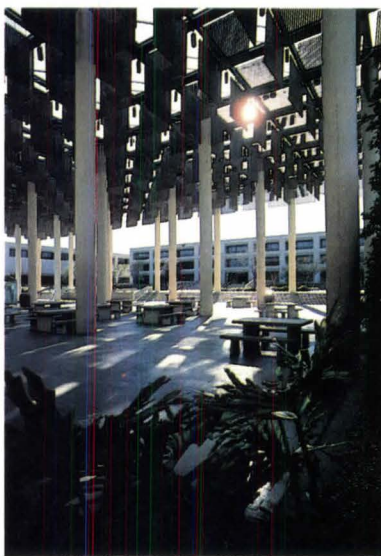
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 Fred Turton, San Marino, Calif.  
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## BRIEFS

### Conservation Inquiry Service.

The Department of Energy's Conservation and Renewable Energy Inquiry and Referral Service provides free information about energy conservation and renewable sources of energy. The service provides fact sheets, bibliographies, and referrals to other energy organizations. Contact Renewable Energy Information, Box 8900, Silver Spring, Md. 20907.

### Student Prize Winners.

The Southern GF prize program at Georgia Tech's college of architecture has awarded a \$6,000 travel study fellowship and a bronze sculpture to Carleen B. Waller, a second year graduate student from Nashville, in its 11th annual awards program.

### Sun-Reflecting Window Films Studies.

National Bureau of Standards' studies comparing six different solar films and clear glass affects on the annual heating and cooling requirements of an office building in seven U.S. cities showed that in all cases energy used for cooling decreased while the energy used for heating increased. The cost effectiveness of solar films, say NBS researchers, depends on the cost to purchase, install, and main-

tain the films, plus the cost of energy for heating and cooling; and different combinations of costs will give different results. For more information contact Jan Kosko, (301) 921-3181.

### Humanities and Technology as Topic.

The department of English and history of Southern Technical Institute is sponsoring, in conjunction with the Humanities and Technology Association, the eighth annual conference on interface of the humanities and technology, in Marietta, Ga., Oct. 25-26. Papers are sought covering the ramifications of technology in ethics, public policy toward science and technology, responses of literature and the arts to technology, and other topics relating to the integration of humanistic concerns and technological growth. One-page abstracts are due by April 27. Contact Becky Kelly, Department of English and History, Southern Technical Institute, Marietta, Ga. 30060.

### Architecture Study Tour.

Preservationist James Marston Fitch, Hon. AIA, will lead a study tour of the art and architecture of Rumania, June 6-25. The tour will include lectures by architects, slide presentations, and visits to artisans' studios, historic landmarks, and renova-

*continued on page 187*

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### Briefs from page 184

tion projects. The cost, including airfare, accommodations, and meals, is \$1,495. For more information, contact Carol A. Walsh, Thomas Cook Travel, 18 E. 48th Street, New York, N.Y. 10017.

### Masonry Awards Program.

Nine architects were cited for masonry design excellence in the ninth annual awards program sponsored by the Masonry Institute of Michigan in cooperation with the Michigan Society of Architects. The winning firms are: Hobbs + Black Associates, Ann Arbor; William Kessler & Associates, Detroit; Straub Associates, Troy; Design Plus, Grand Rapids; Harley Ellington Pierce Yee Associates, Southfield; Abraham Kadushin Associates, Ann Arbor; Kenneth Neumann/Robert Greager & Associates, Southfield; Rossen/Neumann Associates, Southfield; and TMP Associates, Bloomfield Hills.

### Student Competition Winners.

All top four winners of a nationwide design competition for a cultural center in Columbus, Ind., which emphasized the "utilitarian and decorative properties" of ceramic tiles and was sponsored by the ASC/AIA and the Ceramic Tile Distributors of America, are from the University

of Illinois at Champaign-Urbana. They are: Tom Vecchio of Elmhurst, Ill., \$3,500 first place; a joint project by David A. Graham of Decatur, Ill., and Dan Anderson of Champaign, Ill., \$2,000 second place; and Mark W. Pashke of Brookfield, Wis., \$1,000 third place. Four honorable mentions of \$500 were also presented.

### International Design Competition.

Shinken-chiku-sha and A+U Publishing seeks entries in a design competition that explores the styles that will influence architecture of the 21st century for publication in "A Style for the Year 2001." Submission proposals may take any method of expression in any media including standard drawings of plans, isometric drawings, sections, elevations, axonometric drawings, color drawings, and photographs. A written description of no more than 1,000 words should accompany the entry. Submissions must be received by Sept. 3 at the Editorial Department, c/o "A Style for the Year 2001," Shinken-chiku-sha Co., 2-31-2 Yushima, Bunkyo-ku, Tokyo, 113, Japan.

### Viet Memorial Design Competition.

The New York Vietnam Veterans Memorial Commission is seeking entries in a design competition, open to all U.S. resi-

dents 18 years or older, for a monument to honor New York veterans of the Vietnam era. Mar. 15 is the deadline for entry form requests, and completed submissions are due by April 14. For more information, contact the New York Vietnam Veterans Memorial Commission, 110 Church St., Suite 1700, New York, N.Y. 10007.

### Interiors Competition.

The Institute of Business Designers and *Interior Design* magazine have set April 19 as the deadline in their 11th annual contract interior design competition. Projects completed in the past two years may be submitted in 10 categories. Winners will be announced in June and published in the November issue of *Interior Design*. For more information, contact Karen Guenther, IBD, 1155 Merchandise Mart, Chicago, Ill. 60654.

### Marketing for Landscape Designers.

A reference volume on marketing professional design services, *Marketing Design Services: Principles, Management and Strategies for Landscape Architectural Practice* by Richard Sulzinger and Robert Clements, is available for \$23.95 prepaid from the American Society of Landscape Architects, 1733 Connecticut Ave. N.W., Washington, D.C. 20009. □



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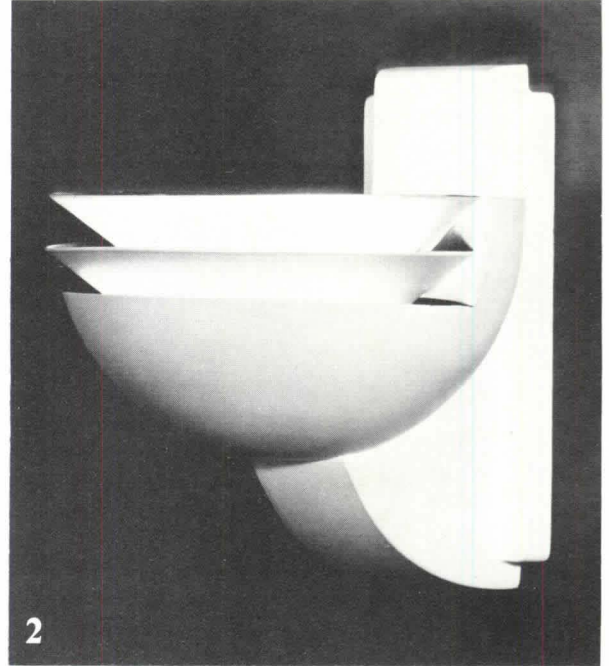


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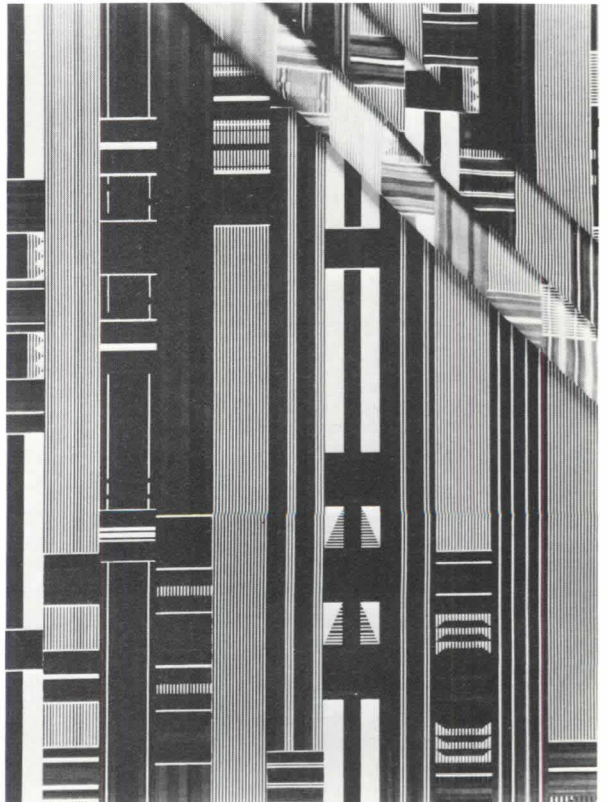
# Furnishings

*As resources for design and objects of design. By Nora Richter Greer*



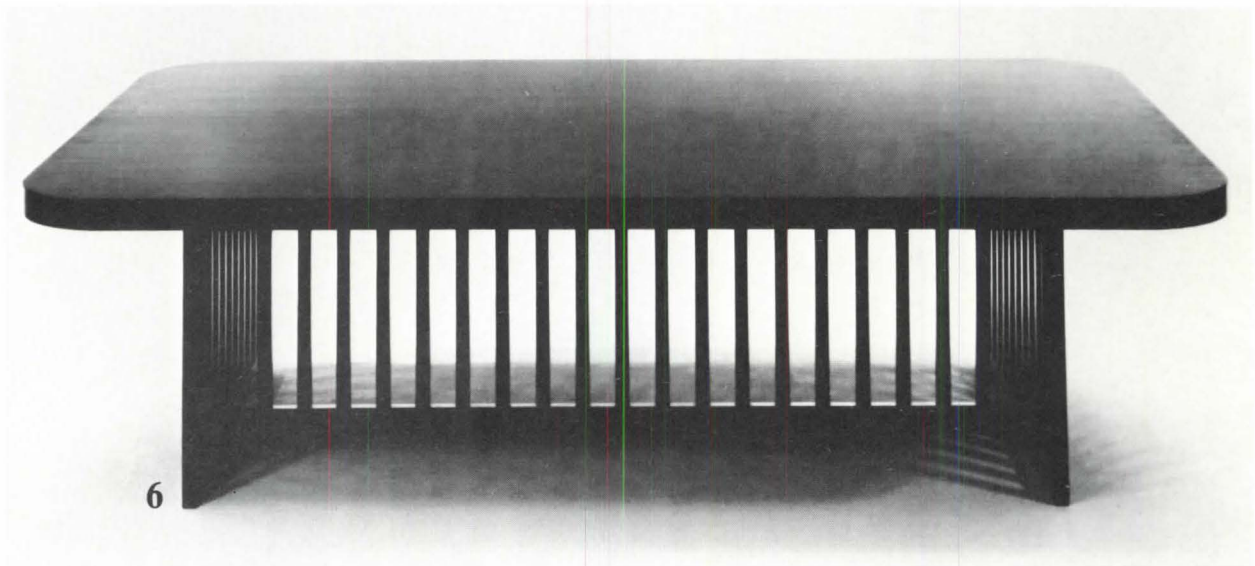
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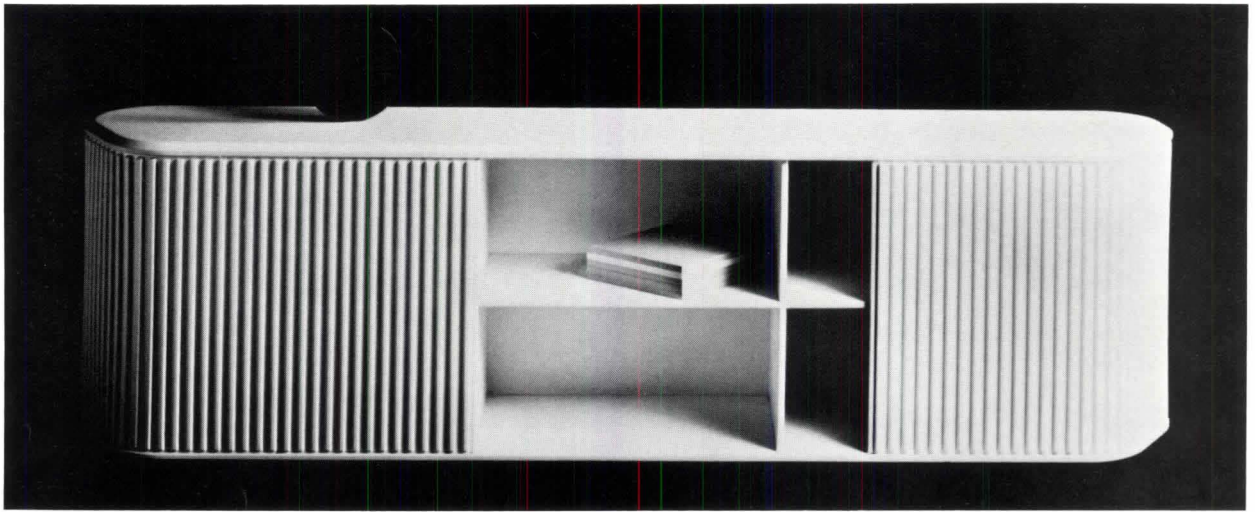
For the past 13 years the Resources Council, Inc., has presented "Roscoe" awards to furnishings manufacturers/distributors and designers for "outstanding creative achievement and for significant contribution to the total environment." One of the winners is Knoll International's rocker (1), designed by Barcelonan Carlos Riart. The rocker comes in the finest of materials: ebony or holly frames with, respectively, mother-of-pearl or ebony inlays on the arms and tops. A variety of seat and back fabrics is offered; the rocker seen here has burgundy velvet. Another Knoll "Roscoe" winner is a dining table, designed by Richard Meier (6). Of black, white, or natural maple, the table stands 60x90x27½ inches and is part of a collection that includes three other tables, a chair, telephone stand, low stool, and high stool. All are distinguished by either vertical or horizontal wooden strips. The Resources Council also recognized LeeJofa Design Studio's Kumasi fabric (4), which is distributed by LeeJofa, Inc. The fabric, along with two companion prints, is an adaptation of an Afri-

can tribal weave. It is 100 percent cotton, with a spot resistant finish, and comes in four color schemes—wood ash, currant, juniper, and cobalt.

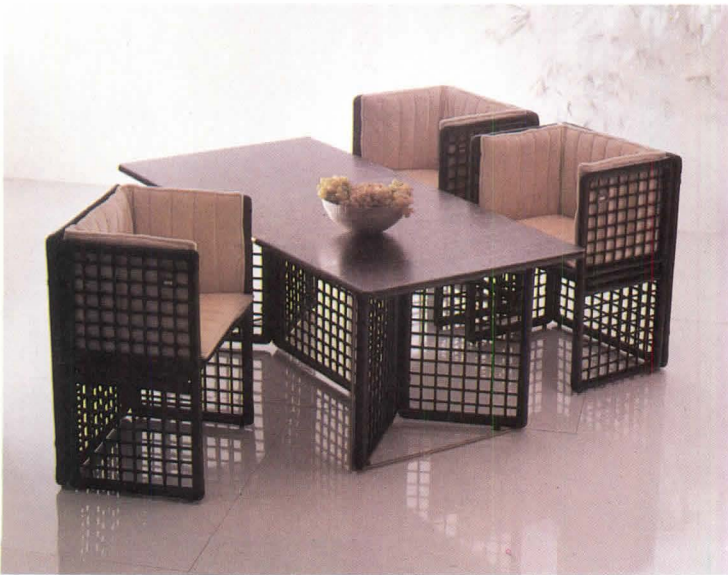
The popularity of the art deco revival is reflected in Rambusch's reintroduction of the Model TF-360 urn (2). The lamp was produced in the '30s and '40s by the thousands, but disappeared from the company's line in the '50s. The overall height is 10½ inches, with a total projection of 10⅛ inches. The bowl and louvers are spun aluminum, the bracket is cast aluminum, and available finishes are brushed aluminum, matte white, or a custom color. A different lighting concept is expressed in Eleusi's colorful Cosimo floor lamps (3). Manufactured in Italy, a cylindrical light box sits atop a long transparent pole that is supported by a cone-shaped metal base. From Denmark is Erik Krogh's easy chair (5), manufactured by Arne Kristensen. The long, slightly arched seat and backrest of beech is covered with canvas cushions. The feet and frame are of galvanized steel.



1



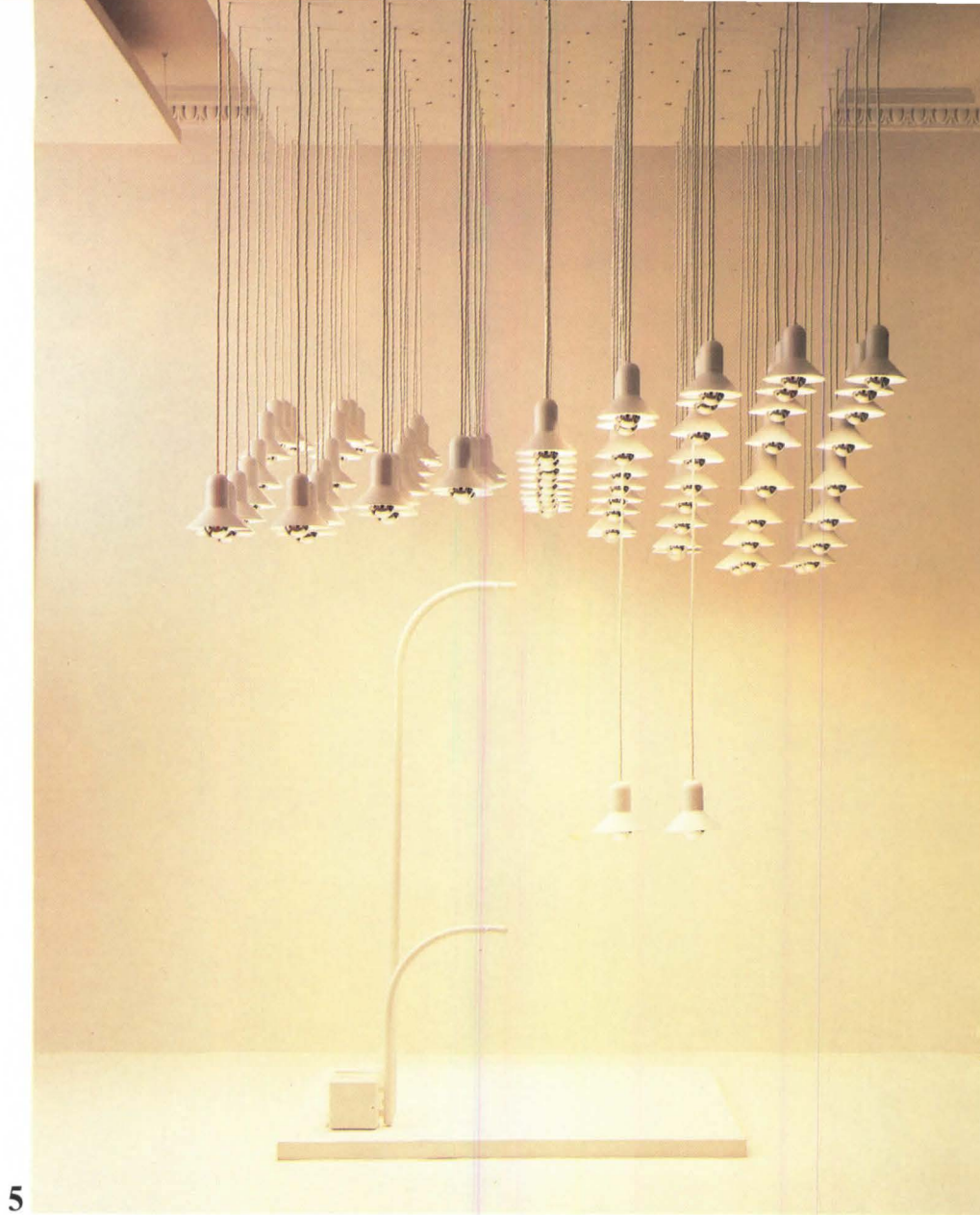
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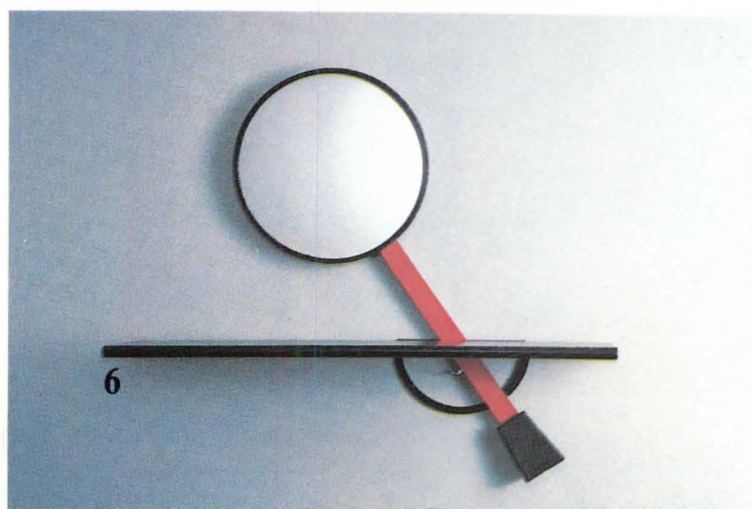
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5

The menhir—a stone monolith firmly fixed in the ground—was the inspiration behind the I Menhir tables (1), designed by Lodovico Acerbis and Giotto Stoppino and manufactured in Italy by Acerbis International. Each has a steel base, steel column (offered in varying lengths), and steel disk-supported glass top (available in a variety of shapes). The bases are exquisite marble—pentelic white, red alicant, black marquinia, gray carnic, beige Roman travertine—again, offered in various dimensions and heights. A more subtle statement of geometry and variety is made by Aldo van den Nieuwelaar in his Space System (2) for Beylerian Ltd. The medium-density fiberboard units are offered in 27 shapes with numerous internal organizations—bottle racks, drawers, pullout shelves, desk organizers, etc.—all of which are delicately concealed by sliding shutters.

B&B Italia's Basilian 1° furniture is made of Rattan from lianes harvested in the Philippines. The tropical material is woven into panels, which are then connected, forming frames for arm chairs and dining room tables (3) and bed frames and end tables (4). Manufactured in Denmark by Focus Form and designed by Torsten Thorup and Claus Bonderup, Confetti lamps (5) can be mounted low or high, singularly, or in pairs or clusters. Also from Focus Form are the Tablelamp and Floorlamp (5), the design of which centers around a gently curved tube with a tiny halogen bulb at the tip. Each lamp's transformer is housed in the aluminum box at the base of the tube. Acerbis International's Solemior mirror with shelf (6) has the appearance and flexibility of a railroad signal. The back-lit mirror can be placed in any position above or resting on the unimposing shelf. Shelf and mirror are white, black, or red. □



6

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# Products

A selection of notable offerings and applications.

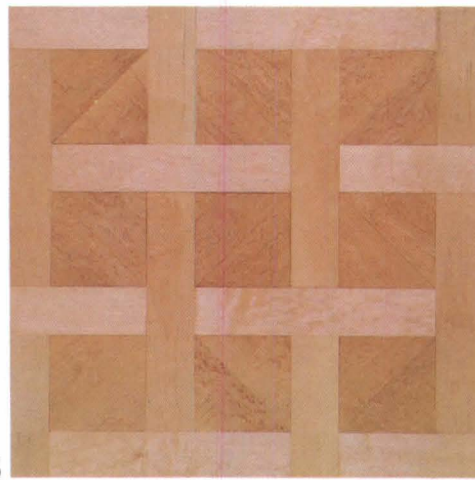
By Lynn Nesmith



2



3



Woodform lighting fixtures (1) by Columbia Cascade Timber are constructed of laminated California redwood with incandescent, fluorescent, or high pressure sodium lamps in wallmount, postmount, and bollard configurations. The fixtures, available in 84 styles, have opal white glass, clear prismatic, or white acrylic globes. (Circle 161 on information card.)

Waterworks Berkeley pedestal sink (2) is made of traditional white glazed china with chrome fixtures. It is 24 inches high with a 19½-inch basin. (Circle 162.)

Kentucky Wood Floors 30-inch-square modules (3) have a geometric pattern of bird's-eye maple centers with plain maple bands. Panels measure ¾-inch thick and are available unfinished or prefinished. (Circle 163.)

The entrance of the Westin Hotel (4) in Dallas by Hellmuth, Obata & Kassabaum has three curved Super Sky Products custom skylights. The segmented vault units are constructed with flushed glazed cross rafters, weatherstripping, insulated backing, an aluminum endplate, and curved aluminum support frames outlined with decorative lighting. (Circle 164.)

*Products continued on page 196*



### Clad Casement Windows.

Curved radial bay windows are constructed of Western pine and extruded aluminum exterior cladding with reinforced corners. Units are assembled with weatherstripping and hardware and are available in nine heights and four, five, and six window widths. (Caradco Corporation, Rantoul, Ill. Circle 235 on information card.)

### Solar Absorber.

Sunstrip absorbers, constructed of aluminum or copper fins with a corrosion-resistant integrated copper waterway tube, are available with black nickel anodized surface, black chrome on nickel substrate, or black paint finish. The absorbers may be installed as separate units or joined together and riveted onto angular corrugated aluminum roofing panels. (Sunstrip International, Pine Brook, N.J. Circle 234 on information card.)

### Glassless Mirrors.

Mirrorlite unbreakable mirrors, made without glass, are designed to provide a resilient reflective surface for hospital and institutional installations. Mirrors are available in 15 standard sizes and custom sizes as large as 10 feet in length. (Kamar Products, Irvington-on-Hudson, N.Y. Circle 233 on information card.)

### Window and Blind Unit.

Window system with integral Venetian blinds has a steel exterior frame, an aluminum access panel, and one-inch slat blinds adjusted by an external control. Factory mounted groove weatherstripping provides thermal protection. (Hope's Architectural Products, Jamestown, N.Y. Circle 231 on information card.)

### Commercial Wallcoverings.

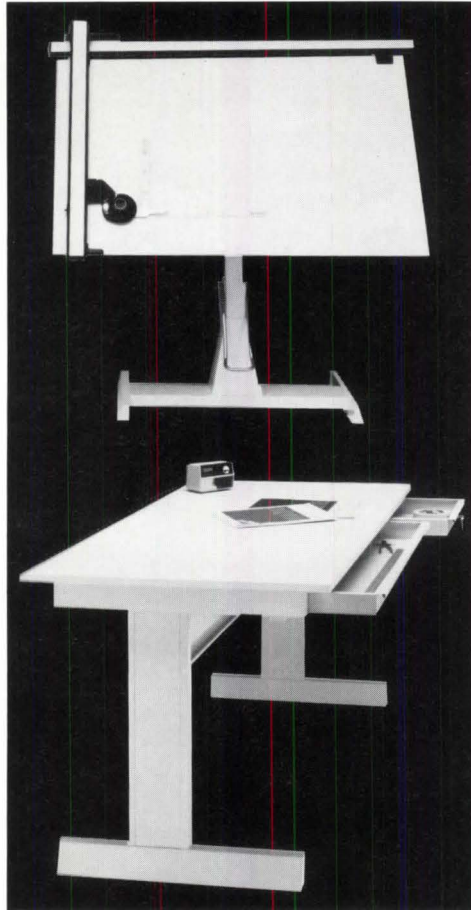
Fireproof fabric wallcoverings are made of a glass fiber weave with an asbestos free backing. Available in 11 colors, they are washable, antistatic, and stain resistant. (M. Switzer, Inc., New York City. Circle 232 on information card.)

### Metal Grid Ceiling.

Continuous aluminum grid ceiling has a concealed integral suspension system designed to provide a modular appearance. Louvers measure one-half-inch wide and two inches deep with three-, four-, and six-inch square cells. Ceilings are available in white, bronze, silver, and bright aluminum, in addition to custom colors. (Forms + Surfaces, Santa Barbara, Calif. Circle 229 on information card.)

### Resilient Flooring.

Synthetic rubber flooring, available in 39 standard colors, is designed for high traffic commercial and institutional installations. It is self-waxing and slip resistant. (Nora Flooring, Madison, Ind. Circle 238 on information card.)



### Drafting Station.

Hi-Tech matching drafting and reference work tables (above) are constructed of steel with a white baked enamel finish and have a white laminate work surface. Optional drawers with locks can be added for flat storage as large as 24x36 inches. (Plan Hold Corporation, Irvine, Calif. Circle 179 on information card.)

### Passive Solar Controls.

Solar control sunshades are designed to block out the sun's heat and glare in summer but provide natural lighting and admit solar energy in winter. They are available with fixed or operable shades for retrofit and new construction. (Construction Specialties, Cranford, N.J. Circle 230 on information card.)

### Exterior Lighting Fixture.

Residential outdoor lights are constructed of natural finished redwood timber with preassembled plastic conduit and junction boxes. Units are offered in two heights and three styles of prewired globes. (Landscape Structures, Delano, Minn. Circle 228 on information card.)

### Wiring System.

Multiple cable wiring system for residential and commercial installations accommodates power, telephone, and video from a single outlet. It has an aluminum shield designed to cause a circuit fault if penetrated by a foreign metal object. (Brand-Rex Co., Willimantic, Conn. Circle 239 on information card.)

### Bay Windows.

Sun Bay windows have 90-degree angled side units and sloped glazing of one-inch insulating or optional tripane glass. Constructed of fine-grained ponderosa pine, units have a five position lever lock. (Marvin Windows, Minneapolis. Circle 240 on information card.)

### Surfacing Material.

Stainless Steel-O-Bond material, for exterior and interior applications, is made of two thin sheets of stainless steel with a polyethylene core that can be shaped or formed to exact specifications. Available in widths up to 48 inches and lengths up to 20 feet, panels can be installed by using extrusions, continuous edge grip, or custom application methods. (Consolidated Aluminum Corporation, St. Louis. Circle 237 on information card.)

### Patio Door.

Four Seasons patio entry door is constructed of ponderosa pine with a triple-sealed door bottom and double-paned insulated glass. It has a brass lever and a one-inch deadbolt lock adaptable on standard hardware. (Maywood, Inc., Amarillo, Tex. Circle 236 on information card.)

### Hardboard Planks.

Prefinished hardboard planks, measuring 16 inches wide, have a tongue-in-groove installation system with clips that attach to the tongue. Designed for commercial interior applications, planks are available in eight woodgrained patterns and a number of textured finishes. (Masonite Corporation, Dover, Ohio. Circle 200 on information card.)

### Roofing System.

Single-ply roofing system of Hypalon synthetic rubber is designed to be adaptable to a variety of roof shapes and substrates with fully adhered, mechanically fastened, or loose laid installation. It is available in a variety of colors, including reflective white that reduces heat transfer into the building. (Du Pont Co., Wilmington, Del. Circle 208 on information card.)

### Quadruple Glazed Window.

Double-hung thermal replacement window is constructed of three panes sandwiched in a vinyl-clad aluminum master frame and an aluminum thermal panel joined to the exterior of the unit with a vinyl thermal break. It has a tilt-in sash, self-storing screen, and a triple lock security system. (Air Master, Bensalem, Pa. Circle 220 on information card.)

### Wall Cladding.

Tech Wall solid aluminum panel has a two-joint sealing system and a drainage system designed to guide internal condensation to the outside. Panels are

*continued on page 198*

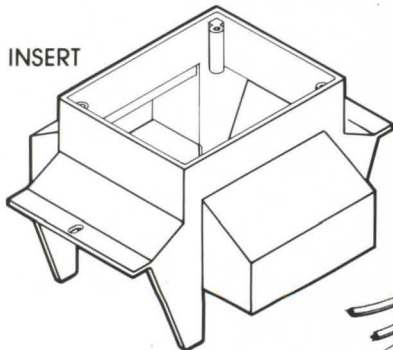
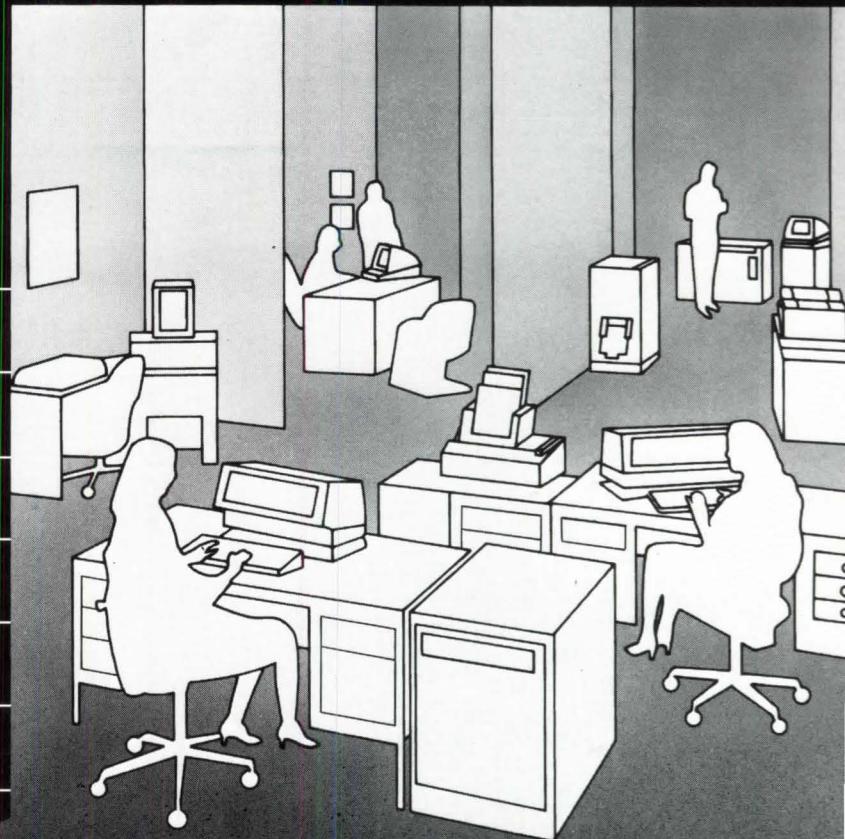


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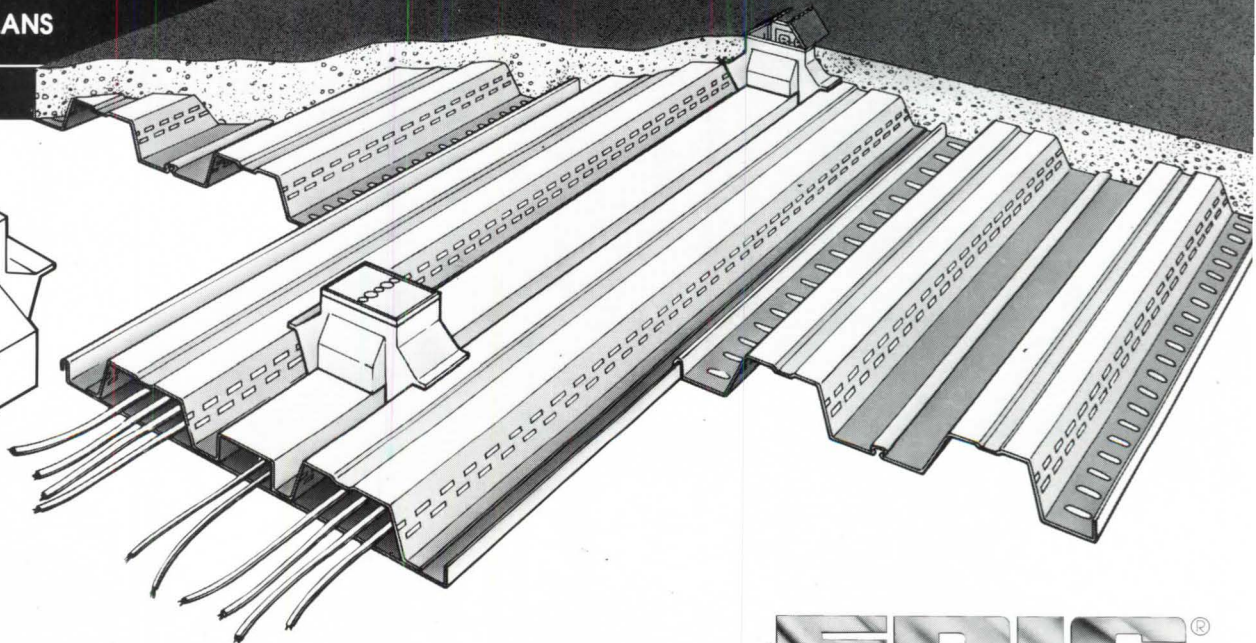


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**Products from page 196**

formed and contoured prior to finishing to prevent cracking, crazing, or micro-splitting. A variety of architectural finishes and colors is available. (Conspec Systems, Cranford, N.J. Circle 219 on information card.)

**Reflective Surfacing Material.**

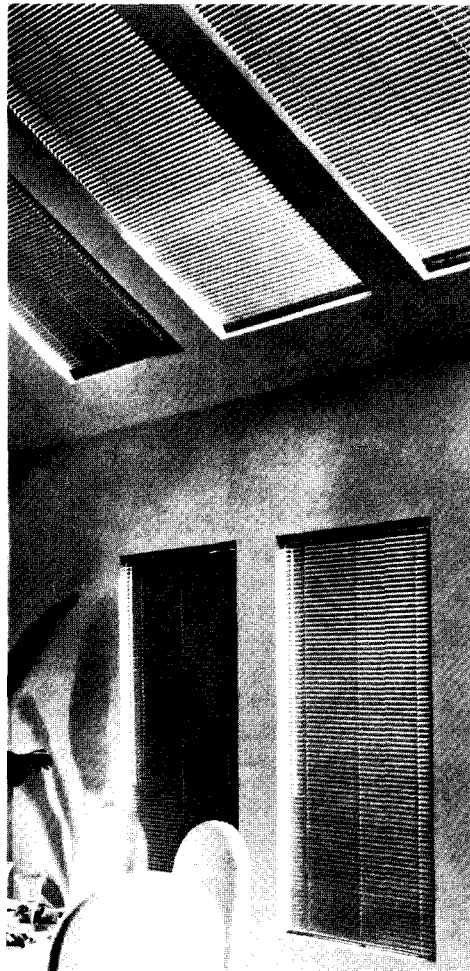
Reflexx laminated composite surfacing material is constructed of two sheets of aluminum alloy with a thermoplastic core designed to be used on flat surfaces, ceilings, or in curved vertical applications including furniture, columns, fixtures, and wall accents. Standard size is 36x72 or 36x36 inches, with chrome or bronze mirror, and chrome and bronze pattern finishes. (Nevamar Corporation, Odenton, Md. Circle 218 on information card.)

**Overhead Blinds.**

Adjustable overhead blinds (right) have aluminum mini-slats coated with Thermo-stop, a finish designed to reflect heat and infrared energy. A variety of colors is available to coordinate with Hunter Douglas standard Venetian mini-blinds. (Hunter Douglas, Inc., Maywood, N.J. Circle 191 on information card.)

**Building Management System.**

Tracer 10 microprocessor-based energy management system schedules equipment



starting and stopping at preset times with an automatic override cycle pattern. It is programmed to anticipate electrical demand peaks and turn off selected equipment until the peak subsides. The control panel can be connected to a CRT, cassette tape player, or a printer. (The Trane Co., La Crosse, Wis. Circle 215 on information card.)

**Task Lighting.**

Fluorescent lighting system provides specialized task and ambient lighting from a single lamp. The system, designed to be adaptable to any open office furniture, is said to be compatible with the lighting requirements of visual display terminals. (Elliptipar, West Haven, Conn. Circle 217 on information card.)

**Ceramic Tiles.**

Eight-inch-square high gloss Italian ceramic tiles, designed for wall and bathroom floors, have an embossed floral pattern in taupe or off-white. Corresponding solid colors are also available. (Italian Tile Center, New York City. Circle 216 on information card.)

**Exterior Insulation System.**

Prefabricated panels are constructed of expanded polystyrene rigid insulation, a woven glass fiber reinforcing mesh, a dis-  
*continued on page 200*

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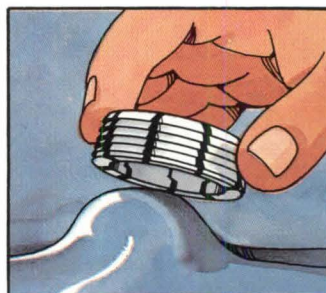
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### Products from page 198

persion adhesive, and a 100 percent acrylic finish coating. Panels, weighing approximately seven pounds per square foot, are suitable for retrofit and new construction. (STO Industries, Tucker, Ga. Circle 212 on information card.)

### Lighting Fixtures.

Stainless steel fluorescent luminaires have seamless, air-tight housing, tempered clear glass lens, one-piece silicone gasket, and stainless steel door frame, latches, and exposed hardware. Units are suitable for pendant, stanchion, or wall mounting in both interior and exterior installations. (LPI, Inc., Highland Park, Ill. Circle 192 on information card.)

### Granite Surfacing Material.

Permetage granite tiles are reinforced with resins in a bonding process designed to provide a stain resistant finish. Lightweight tiles, 3/8-inch thick, are suitable for walls and floors in interior and exterior installations. A variety of patterns and colors is available. (PermaGrain Products, Media, Pa. Circle 198 on information card.)

### Moisture Detection Instrument.

Tramex Leakseeker, an electronic instrument designed to trace the source of leaks

in built-up roofing, operates by transmitting electronic signals through the roof surface to identify moisture concentration. It is fitted with two ranges for use on smooth surfaced and gravelled roofs. (Tramex Electronics, Topango, Calif. Circle 194 on information card.)

### Protective Entrance Mat.

Foyer, a carpet tile walk-off mat made of nylon fiber and a GlasBac backing system, is designed to absorb as much as 10 pounds of soil and seven quarts of fluid per square yard. Modular 18-inch sections, available in brown and gray, are installed without adhesives for easy removal. (Interface Flooring Systems, LaGrange, Ga. Circle 213 on information card.)

### Masonry Stain.

Geotone Stain, a blend of acrylic resins and inorganic pigments, is designed to provide color uniformity and act as a repellent against ultraviolet light, acid rain, alkalies, and pollution, for concrete and masonry surfaces. It is available in eight standard colors and custom color matching for application to new and old surfaces. (Qesco Corporation, Elkhart, Ind. Circle 214 on information card.)

### Ceiling Panels.

Modular ceiling panels are made of in-

combustible glass fiber reinforced gypsum with teak, walnut, fruitwood, oak, or white finishes and a coordinating color T-grid. Curved frames, grilles, lattices, rectangles, squares, and octagonal designs are offered in three sizes. (Levolor Lorentzen, Lyndhurst, N.J. Circle 195 on information card.)

### Roof Exhaust Fans.

Centrifugal roof exhaust fans have a backward inclined aluminum wheel, ballbearing motor, aluminum curb cap, disconnect switches, and direct drive with hinged access to the drive and motor assembly. Standard construction is corrosion resistant, heavy gauge aluminum in 10 sizes from 6- to 12-inch wheel diameters. (Greenheck Fan Corporation, Schofield, Wis. Circle 193 on information card.)

### Exterior Marble Tile.

Vermont marble tile light-weight wall system is made with an aluminum clad substrate, a silicone adhesive, and silicone joint sealant. Only seven pounds per square foot, the tile can be attached directly to light weight steel studs, is designed to accommodate differential movement of the structure due to thermal expansion and contraction. (Vermont Marble Co., Proctor, Vt. Circle 199 on information card.) □

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# Résumés des Articles Principaux

## L'Architecture Indienne des Pueblos.

Page 98: Dans la haute région désertique du Sud-Ouest les vestiges des grandes villes de pierre s'élèvent comme des sentinelles silencieuses d'une race disparue, les Anasazi, un peuple qui s'était installé sur les plateaux, ont prospéré puis mystérieusement ont disparu. Leur culture franchit 1200 ans, atteignant son zenith au canyon de Chaco à Pueblo Bonito où se trouve un exemple provoquant d'oeuvres en pierre, survivance d'une époque révolue.

## Les Missions Espagnoles.

Page 102: Les églises du 17<sup>ème</sup> siècle au New Mexico ainsi que l'ensemble des missions plus complexes établies plus d'un siècle plus tard dans le Nord du New Mexico et dans la région Sud-Ouest de l'Arizona, nous donnent plusieurs des exemples les plus beaux et les plus intéressants de l'architecture indigène de la région. San Xavier del Bac près de Tucson, est la mission établie la plus au Nord par le Père Eusebio Francisco Kino.

## Les Villes Minières.

Page 106: Les villes minières pittoresque du Sud-Ouest forment un chapitre important de l'histoire de l'architecture urbaine américaine. Leurs formes étaient toujours compactes et pittoresques, leur échelle aux dimensions humaines et leur population aventureuse et variée. Beaucoup ont disparu mais quelques unes existent encore comme: Bisbee, Jerome et Globe.

## L'Architecture d'Arizona.

Page 112: Il y a trois architectes en Arizona parmi un très petit nombre qui respectent le désert plutôt que de tenter de le modifier, qui interprètent les constructions traditionnelles plutôt que d'imiter leur motifs visibles à la surface. Les oeuvres de Judith Chafee répondent en grande partie à la topographie variée de la région, son climat, et sa construction traditionnelle; la gamme de l'architecture désertique de Fred Osmon est restreinte offrant une continuité rappelant les oeuvres de l'artiste Mexicain Luis Barragán, alors que Will Bruder attire et incorpore la nature dans ses édifices, reflétant plusieurs de ses extrêmes.

## L'Architecture Régional du New Mexico.

Page 120: Trois architectes du New Mexico retirent du panorama de la région et

de ses traditions de construction l'inspiration pour leurs oeuvres. Antoine Predock s'inspire du paysage, tout en l'adaptant aux exigences du terrain; Robert Peters utilise les formes traditionnelles dont il soutire leur expression de masse et de volume; alors que les architectes de Westwork, incorporent leurs propres interprétations des ornements historiques.

## Taliesin West, Hier et Aujourd'hui.

Page 129: Le Photographe Pedro Guerrero était présent à la naissance de Taliesin West en 1939-1940, le Chef d'oeuvre du désert de Frank Lloyd Wright, près de Scottsdale Arizona. Guerrero a produit un ensemble photographique couvrant une période de 20 ans, donnant des informations sur la procédure de construction, et la participation par la communauté, et une revue de détails des différents stages de constructions qui ont depuis disparus au fur et à mesure que des modifications ont été faites.

## Phoenix, Arizona.

Page 134: Depuis plus de dix ans la ville de Phoenix et ses alentours s'étendent avec une rapidité plus importante que toute autre ville aux Etats-Unis, créant aujourd'hui une grande métropole dont le centre malgré qu'il soit le siège du Gouvernement de l'Etat d'Arizona, reste sans vie et sans animation. Alors que les problèmes de circulation augmentent et que les réserves d'eau diminuent atteignant presque l'insuffisance, les projets de développement et de constructions par le secteur privé continuent.

## Tucson, Arizona.

Page 137: Historiquement un refuge pour les bandits et les hors-la-loi, les personnages excentriques, Tucson retient aujourd'hui une saveur historique. Située au Sud-Est de l'Etat à moins de 100 miles (160Km) de la frontière du Mexique, elle adopte un style de vie détendu comprenant des communes variées proches du coeur de la ville qui est un centre compact. Tucson doit faire face à une croissance qui sera nuisible à ses qualités uniques.

## Albuquerque, New Mexico.

Page 138: Pour une ville avec un climat splendide et une vue exceptionnelle, Albuquerque a un nombre surprenant d'enclaves hermétiquement fermées: des centres de shopping sous-terre, d'autres tour-

nent leur dos à la nature et s'emmurent et d'autres comprennent des cours intérieures. La ville se prépare à une croissance importants, elle négocie actuellement l'annexion de 82 milles<sup>2</sup> (212 km<sup>2</sup>) qui doublera sa superficie.

## Santa Fe, New Mexico.

Page 140: Un grand nombre de ses habitants craignent de perdre leur pouvoir d'exercer un contrôle sur cette ville historique au train de vie détendu, avec son intimité de petites rues et d'édifices sans hauteur et ils ont exprimé leur mécontentement envers les immeubles tels que ceux qui veulent étaler leur fortune, et d'autres sont concernés par les construction qui se moquent du riche héritage d'architecture que possède la ville.

## L'Observatoire de Kitt Peak.

Page 143: Situé à l'Ouest de Tucson, Kitt Peak à une collection d'observatoires dont aucun n'est plus intéressant que le télescope solaire créé par Myron Goldsmith de Skidmore, Owings & Merrill et construit dans les années 60; il a une forme triangulaire, le support vertical à 30.48 mètres de hauteur et le support oblique à 60. 96 mètres de longueur avec 121. 92 mètres de plus le long de la montagne ou la lumière du soleil est reflété à travers une série de miroirs.

## Les Trois Rapports dans l'Architecture.

Page 154: L'Architecte Stanley Abercrombie dans un rapport extrait de son livre, *L'Architecture l'Art*, discute les trois rapports au coeur de l'architecture— celui de l'édifice vis-à-vis de la terre; celui de l'édifice vis-à-vis de l'homme et celui de l'édifice vis-à-vis de lui même.

## Les Trois Impératifs de l'Architecture.

Page 156: Etant donné la confusion, les controverses et le pluralisme chaotique dans l'architecture d'aujourd'hui, d'après John Johansen "On ferait bien de chercher les qualités essentielles, les ingrédients de base, et dérivations". Ici il mentionne et discute trois impératifs auxquels nous avons et continuerons toujours à être liés-le technologique, l'organique et le psycho social.

## Les Directions de la Profession.

Page 158: D'après Harold Fleming, les exigences d'inscriptions, les nouvelles inventions de la technologie des ordinateurs ainsi que la révocation du code moral mandataire, indiquent que la société et la démographie de la population influencent la direction future de la profession.

# Resúmenes de Artículos Principales

## **Arquitectura de los pueblos indios.**

Página 98: En la región desértica alta del Suroeste, grandes pueblos de piedra se elevan como sentinelas silenciosos de una raza desaparecida, los indios anasazi, pueblo que habitó las planicies, se desarrolló y luego desapareció misteriosamente. Su cultura abarcó 1,200 años y alcanzó su máximo apogeo en el Cañón de Chaco, donde un ejemplo elocuente de la labor en piedra sobrevive en Pueblo Bonito.

## **Misiones españolas.**

Página 102: Las iglesias del Siglo XVII de Nuevo Méjico y la cadena de misiones más elaboradas establecidas más de un siglo después en la región septentrional de México y la región meridional de Arizona propoecionan algunos de los ejemplos de arquitectura autóctona más bellos e interesantes de esta región. San Xavier del Bac, cerca de Tucson, es la misión más sententrional establecida por el Padre Eusebio Francisco Kino.

## **Localidades mineras.**

Página 106: Las policromas localidades mineras del Suroeste forman un capítulo sustancial de la historia urbana y arquitectónica americana. Esta forma siempre fue compacta y pinturesca, su escala humana, y sus poblaciones aventureras y diversas.

## **Arquitectura regional de Arizona.**

Página 112: Tres arquitectos de Arizona figuran entre un puñado de quienes respetan el desierto en vez de tratar de modificarlo y de quienes interpretan las tradiciones regionales de la construcción en vez de imitar sus motivos superficiales. La labor de Judith Chafee responde en gran medida a la topografía, clima y tradiciones de edificación diversas de la región; el vocabulario sobre el desierto de Fred Osmon es moderado y consecuente, y recuerda al del mejicano Luis Barragán, mientras que Will Bruder introduce la naturaleza en sus edificios y expresa algunos de sus extremos.

## **Arquitectura regional de Nuevo Méjico.**

Página 120: Tres arquitectos de Nuevo Méjico utilizan el panorama y tradiciones de edificación de la región para inspirar su nueva labor. Antonine Predock abstrae el paisaje, y lo templea con los requisitos especiales del emplazamiento: Robert

Peters utiliza formas tradicionales abstraídas para expresar el volumen y masa; mientras que los arquitectos de Westwork incorporan sus propias interpretaciones del ornamento histórico.

## **Taliesin West, entonces y ahora.**

Página 129: El fotógrafo Pedro Guerrero estuvo presente en el nacimiento en 1939-40 de Taliesin West, la obra maestra de desierto por Lloyd Wright en las proximidades de Scottsdale, Arizona. Guerrero produjo un registro fotográfico que abarca 20 años, dando información sobre el proceso de edificación, la participación de la comunidad, un registro de pormenores y etapas de construcción que desde entonces han desaparecido a medida que se han hecho adiciones y han quedado asimilados componentes más antiguos.

## **Phoenix, Arizona.**

Página 134: En el curso de la década pasada, la zona metropolitana de Phoenix ha crecido más rápidamente que ninguna otra en el país, produciendo una expansión que ha dejado sin vida al centro de la ciudad, a pesar de ser la sede del gobierno local. Aunque el tráfico se convirtió en un problema y escasea el agua, la especulación del terreno continúa y siguen proponiéndose planes de construcción.

## **Tucson, Arizona.**

Página 137: Históricamente refugio de bandidos, expatriados y otras figuras coloridas, Tucson retiene hoy cierto sabor histórico. La ciudad, situada en la región sudoriental del estado a menos de 150 kilómetros de la frontera mejicana, tiene una vida tranquila con vecindades diversas próximas al compacto núcleo urbano. Pero, Tucson espera un crecimiento continuo que amenaza a su carácter singular.

## **Albuquerque, Nuevo Méjico.**

Página 138: Para una ciudad con un clima espléndido y un panorama maravilloso, Albuquerque tiene un número sorprendente de ambientes herméticamente sellados: centros de tiendas subterráneos, almacenes cerrados y edifocios con atrios. Se prevé que la ciudad seguirá creciendo a un ritmo acelerado y ahora está negociando anexar 82 millas cuadradas, con lo que duplicará su extensión.

## **Santa Fe, Nuevo Méjico.**

Página 140: Muchos de los residentes de la ciudad temen estar perdiendo control de su ciudad íntima e históricamente relajada de calles estrechas y pequeños edificios, y han expresado su desaprobación a la construcción de nuevas oficinas del tipo que pudiéramos encontrar en Dallas o Houston. Algunas personas consideran que Santa Fe está siendo cambiada por personas que desean hacer ostentación de su riqueza, mientras que otras se muestran preocupadas por un desarrollo que tergiversa el rico legado arquitectónico de la ciudad.

## **Observatorio de Kitt Peak.**

Página 143: Kitt Peak, emplazado al oeste de Tucson, alberga una colección de observatorios, ninguno de ellos tan destacado como el telescopio solar, diseñado por Myron Goldsmith de Skidmore, Owings & Merrill y erigido a principios de los años sesente. El soporte vertical, de forma triangular, tiene 100 pies de altura y el soporte inclinado tiene 200 metros de longitud, extendiéndose por otros 400 pies a la montaña, donde la luz solar se refleja mediante una serie de espejos.

## **Las tres relaciones de la arquitectura.**

Página 154: Arquitecto Stanley Abercrombie, en un ensayo sacado de su nueva obra titulada *Architecture As Art* (La arquitectura como arte), analiza las tres relaciones fundamentales de la arquitectura: la del edificio con la tierra, la del edificio con el hombre y la del edificio consigo mismo.

## **Los tres imperativos de la arquitectura.**

Página 156: "Con la actual confusión, controversia y pluralismo caótico" de la arquitectura contemporánea, afirma el arquitecto John Johansen, "sería aconsejable buscar cualidades esenciales, ingredientes fundamentales y derivaciones". Aquí identifica y debate tres imperativos con los que siempre hemos estado y seguimos estando vinculados: el tecnológico, el orgánico y el psico-social.

## **Derroteros en la profesión.**

Página 158: Harold Fleming comenta sobre la forma en que los requisitos sobre inscripción, los adelantos en la tecnología de las computadoras y las comunicaciones, y la abrogación del código obligatorio de ética son prueba de la forma en que la sociedad y dinámica de la población están influyendo en el derrotero futuro de la profesión arquitectónica. □

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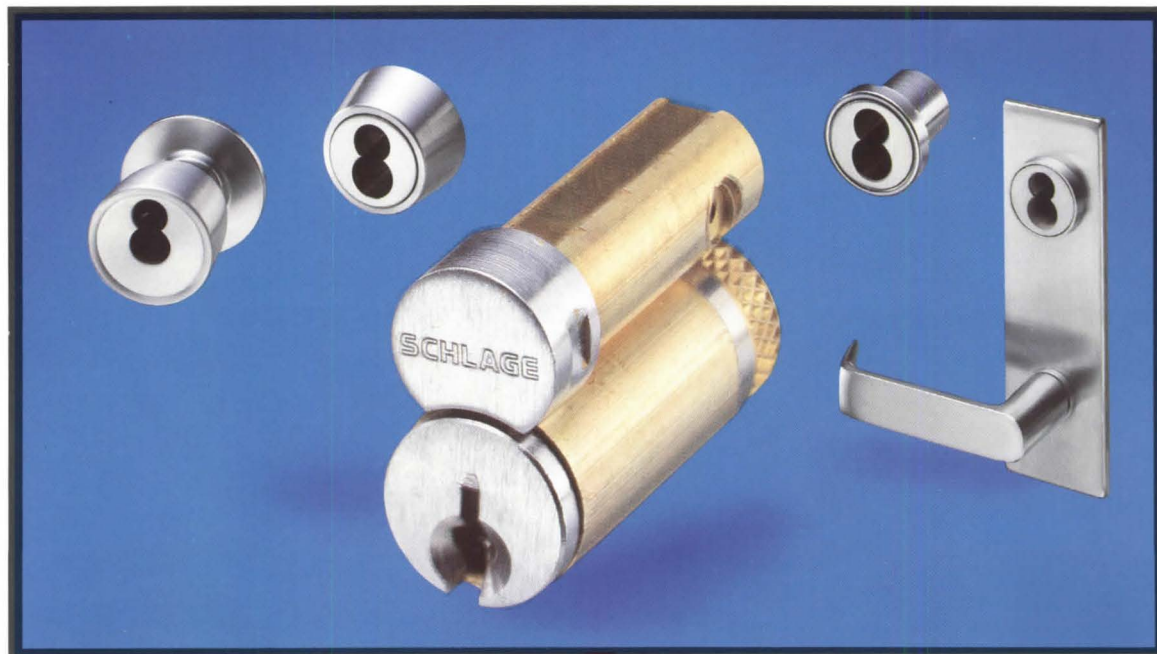
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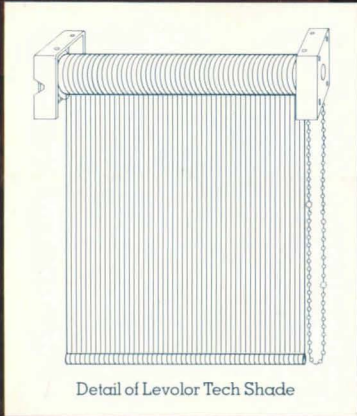
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