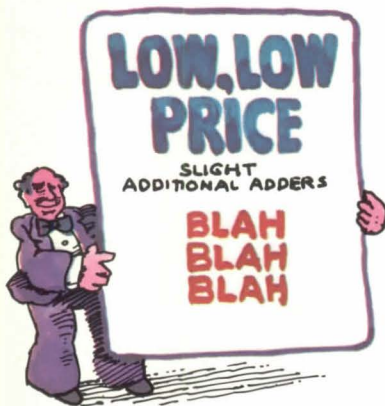


AVANCE

SAN DIEGO



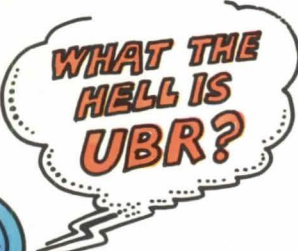
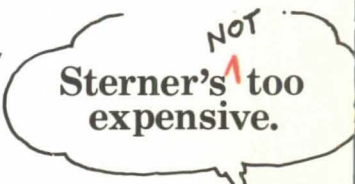
The low, low price.



It could prove to be the most expensive part of your lighting purchase.

Look...you could buy a bunch of components, sweat out their arrival, return what's damaged and assemble what's left. Or you can buy a complete lighting system from Sterner.

"But," you're probably saying, "Sterner's too expensive." Well, get ready for a surprise. When you come right down to the bottom line—your actual **installed cost**—we're as low as, or lower than the others. And you'll be getting the very best quality, plus exclusive features like Sterner's U-B-R.



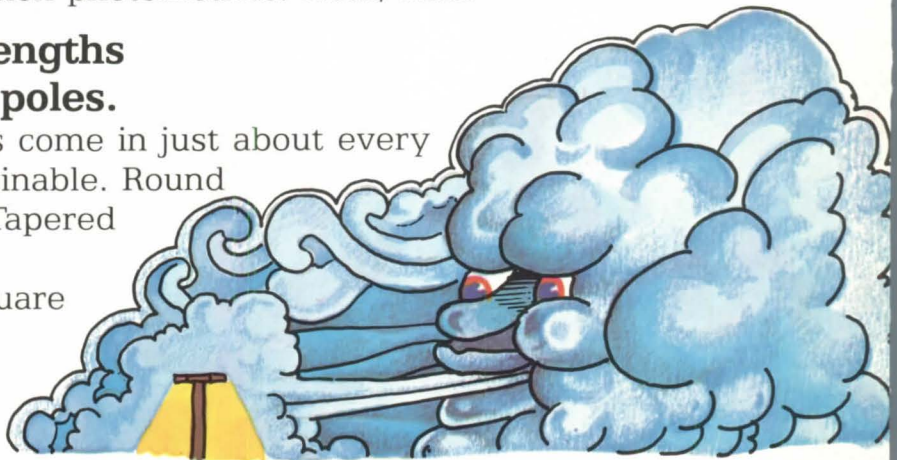
What the hell is a U-B-R?

Sterner's Unitized Ballast/Reflector assembly. It's a complete system that includes capacitor, ballast, socket, lamp, and hydro-formed reflector in a single, hinged, removable module. It contains a quick connect and disconnect system, and also provides easy access for installation and maintenance. All this plus precision photometrics. Neat, huh?



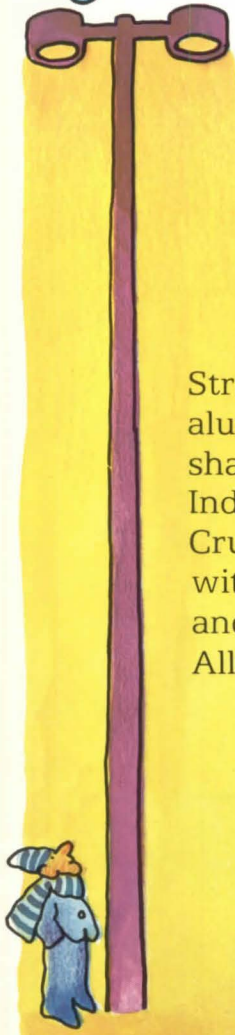
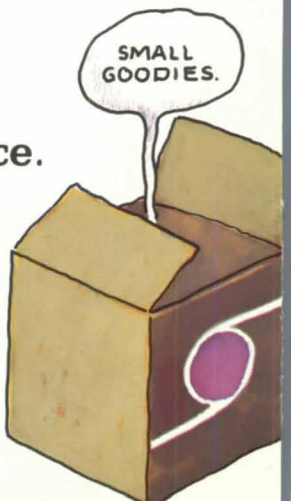
We go to great lengths with our light poles.

Sterner light poles come in just about every size and style imaginable. Round Tapered and Square Tapered in steel and aluminum. Round Straight and Square Straight in steel and aluminum. Plus special shapes in aluminum; Indented Corner, Cruciform, Octagonal, Hexagonal, and H-Form. Even aluminum poles with wood accents. If you can't find what you need, give us a call and we'll build it for you. All poles are engineered for a wind load of 100 MPH.



Small goodies that can make a big difference.

Prewiring is an excellent way to save time on the job site. Our prewired poles and luminaires contain premium electrical wire, a ground wire and lug, a strain relief, multi-tap CWA ballastry, stainless steel hardware, and waterproof fuse holders for HID systems with base ballastry. Then, just to make sure your life is not complicated by problems, we test all systems before shipment.





Man-hours mean money.

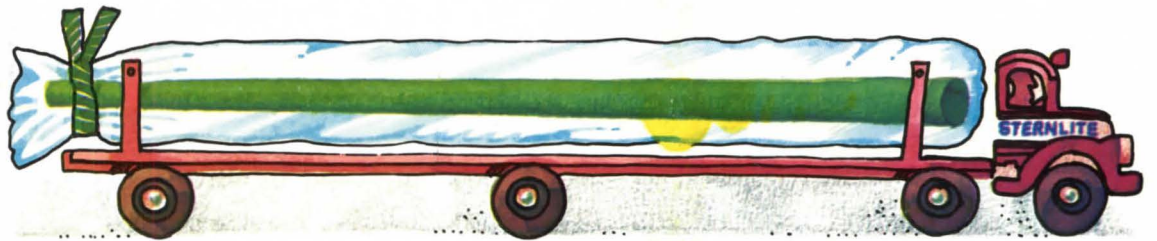
One of the most time consuming jobs is painting poles in the field. By the time two men apply two coats of paint (don't forget to figure in the drying time), you could have bought a sophisticated, longer-lasting factory finish. And probably saved money to boot.

Who else do you know who can bake a finish on a one-piece 40-foot pole?

We operate a 120,000 sq. ft. plant that does nothing else but apply finishes. Exotic finishes. Like KYNAR 500* (fluoropolymer), DURACRON Super 850* (silicone polyester), or IMRON* (polyurethane). Most of our poles and luminaires are baked acrylic enamel over an epoxy primer.



Electrostatically applied. Tough stuff. That's why Sterner offers the best warranty in the business. When our products look good, you look good.



The 40-foot-long "baggie"

It should come as no surprise that, after building the best product on the market, we take great care to protect it in transit. So we put all factory-finished poles and luminaires in big polyethylene baggies, box them in cardboard, and load them on our company-owned, air cushioned truck trailers.

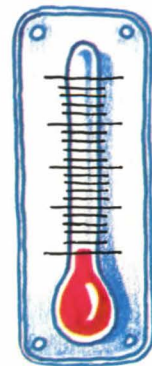
Tell us where your anchor bolts are.

Sternlite is a separate corporation that runs a fleet of tractors and trailers for the express purpose of expediting delivery directly from factory to job site. But that's not all. We have actually delivered each unit right to its anchor bolt location. And we **deliver** on time! That fact alone can eliminate 90% of the headaches on your next job.



The bottom line.

As we said at the beginning, it's your **installed cost** that counts and we believe you'll find Sterner as low as, or lower than the others. Think about it. Then give us a call.



OUT OF SIGHT
STILL TOO HIGH
WELL, MAYBE
THAT'S MORE LIKE IT
STERNER!

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DURACRON Super 850 is a registered trademark of DuPont Industries.
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LETTERS

The Client Speaks: Lo-Yi Chan's article on Hospice in the Dec. '76 issue was a most satisfying reinforcement of the clients' judgment in 1973 to select Prentice & Chan, Ohlhausen as architects for the project. Though I have often been professionally concerned with architect selection during the past several years, my experience with the process for Hospice was unusual not only for the composition of the group making the search, but also for the criteria they set for themselves to differentiate among the several excellent firms interviewed. My feasibility study for Hospice in 1971 had indicated little if any data on the architecture of a facility for the dying, a complex but hardly trivial matter in the U.S.

With little to guide the search committee, they decided to focus on human qualities, though not entirely neglecting traditional professional characteristics. The search group included nurses and clergy, two disciplines with important concerns in care of the dying; lay persons with personal experience involving relatives who had met difficulties at the end of their lives within existing systems, and a teenager, both of whose parents had died of degenerative diseases within the previous three-year period. Needed was an architect sensitive to the many dilemmas in a developing care for the dying, one who could work through a stressful period with a client with much programmatic material yet to be developed, and one who could design an effective physical setting from often quite subjective criteria of the complex human-societal-economic system. In addition, the client was to learn with the architect.

Chan and his firm translated rather soft data into a sympathetic and creative solution for patient-family care. It represents only one modality in an American health care system trying to find ways of survival, but the solution may have applicability to patient care in other settings than Hospice.

*Henry J. Wald
Director of Program & Facilities Planning
Yale-New Haven Medical Center
New Haven, Conn.*

Clarence Stein: The description in the December '76 issue of Clarence Stein and his contemporaries should inspire and inform our work today.

Lewis Mumford's account mentions Stein's appointment in 1921 as secretary of the newly formed AIA community planning committee, the predecessor of the present urban design committee. Stein shortly became chairman of the committee, which included among its members

such distinguished architects as F. L. Ackerman, Frederick Bigger and M. H. Goldstein, as well as Henry Wright. Mumford modestly omits saying that it was he (Mumford) who "gave literary form" to the committee's report, adopted by the 1924 AIA convention and published in the *AIA Journal of Proceedings*.

The design of cities and regions was taken by the community planning committee to be a primary responsibility of architects. The 1924 report states that "plainly, [community planning] is not a task for one group, one profession. . . . Its aims and its techniques are of such a nature, however, that architects, because of their training and experience, should be fitted to take a leading and not a subordinate part."

Has enough time gone by, enough mistakes made, for us to take up the responsibility that Clarence Stein and his committee charged us with?

*Arch R. Winter, FAIA
Mobile, Ala.*

Congratulations on the wonderful commemorative articles on Clarence Stein. How right Mumford and Haskell are to point out Stein's great humanistic ideals and farsighted planning concepts. I'm not sure that with systems approaches we will ever get as close to understanding what is now called "user needs" as Stein came in his work.

Although I only met Stein once at an AIA convention party, he impressed me with his disarming kindness and the direct communication of his admirable philosophy. It was good to read about Stein again at a time when we have to bemoan the destruction of valuable land by endless square miles of speculative developments.

Architects may well profit from the study of political economics in order to brace themselves for the moment when we will have reached the dead end of self-destructive planning policies.

*H. H. Waechter, AIA
Creswell, Ore.*

Regulatory Standards for Barrier-Free Design: Michelle Morgan's "Evaluation: The National Air and Space Museum as Barrier-Free Design" in the December '76 issue is invaluable to all concerned practitioners and public administrators of current handicapped standards.

Many architects, desperately trying to work within program and budget constraints, fail to evaluate the needs of handicapped users early enough in the beginning stages of design to practically and economically build into a project the critical accessibility standards required by applicable codes.

We find all too often that design factors and project budgets are set without con-

Continued on page 81

EVENTS

Apr. 6-8: Short course on Solar Heating and Cooling Systems, University of Colorado, Boulder.

Apr. 6-9: Symposium on Progress in Criminal Justice: By Whose Standard? (AIA a sponsor). Fairmont Hotel, New Orleans. Contact: Elmer F. Edwards, Conferences & Institutes, 116 Illini Hall, Champaign, Ill. 61820.

Apr. 14-June 16: Course on Advanced Solar Energy Systems Design, Hartford Graduate Center, Hartford, Conn.

Apr. 19-21: Symposium on Trends in Fire Protection, Sheraton Inn-Madison Gateway, Madison, Wis. Contact: Society of Wood Science and Technology, P.O. Box 5062, Madison, Wis. 53705.

Apr. 20: Seminar and workshop on barrier-free architecture, sponsored by Long Island chapter/AIA, New York Institute of Technology, Old Westbury, N.Y. Contact: Samuel Scheiner, 1926 Oakland Ave., Wantagh, N.Y. 11793.

Apr. 20-23: American Society of Consulting Planners annual conference, Crown Center Hotel, Kansas City, Mo. Contact: ASCP, 1750 Old Meadow Road, McLean, Va. 22101.

Apr. 25-28: Conference on the Changing American Courthouse (AIA a sponsor). Hyatt Regency Hotel, Chicago. Contact: Institute of Continuing Legal Education, Hutchins Hall, Ann Arbor, Mich. 48109.

Apr. 30-May 4: Exhibit and conference on the solar industry, cosponsored by the U.S. Department of Commerce and the Helioscience Institute, Palm Springs, Calif. Contact: Helioscience Institute, Northrop University, 1155 W. Arbor Vitae St., Inglewood, Calif. 90306.

May 6: Seminar on Quality Control in the Design Professional's Office, Boston. Contact: Jack McKee, National Society of Professional Engineers, 2029 K St. N.W., Washington, D.C. 20006.

May 15-19: National Fire Protection Association annual meeting and fire safety exhibit, Washington Hilton Hotel, Washington, D.C. Contact: NFPA, 470 Atlantic Ave., Boston, Mass. 02210.

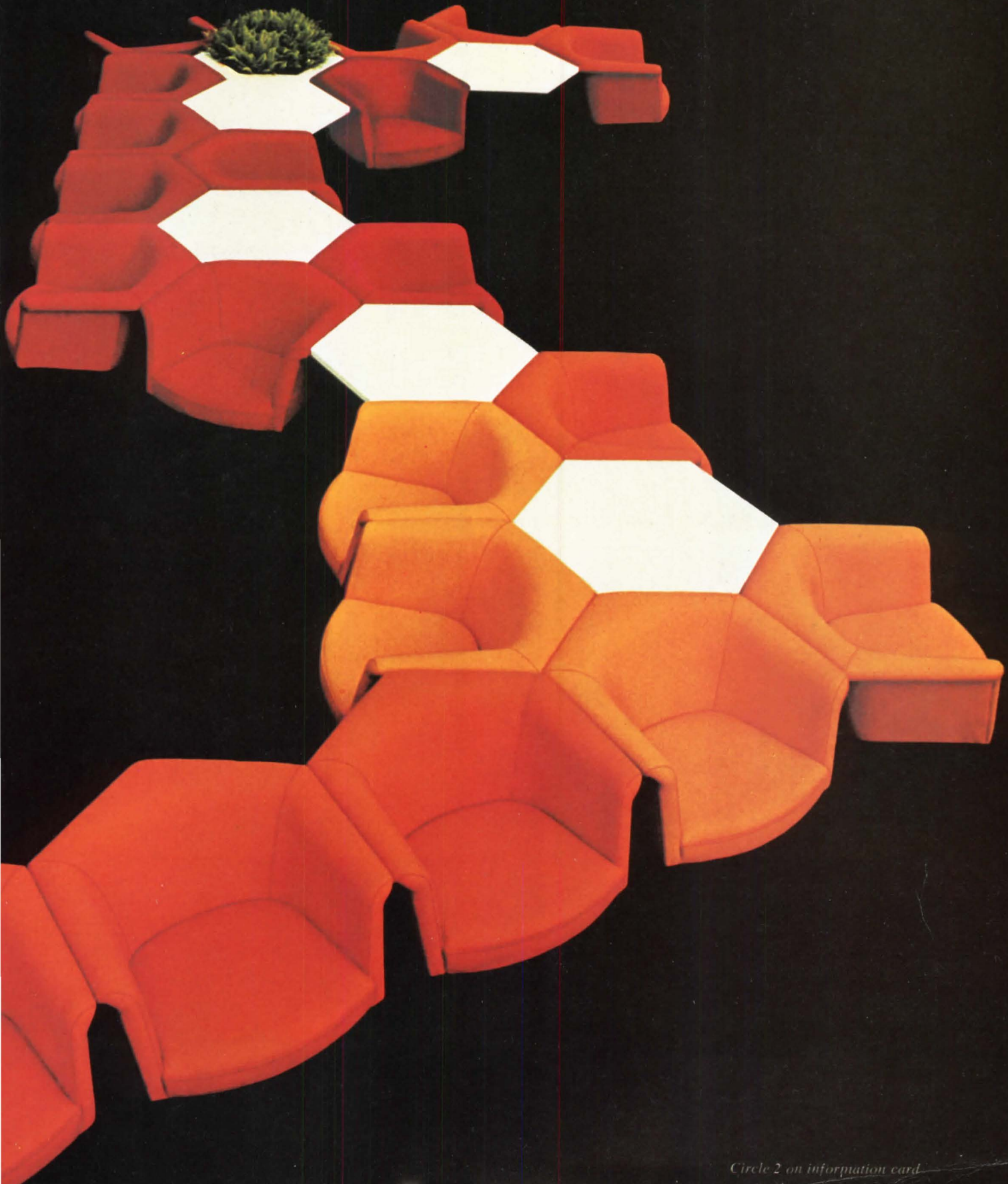
May 22-27: International Federation of Hospitals international congress, Tokyo. Contact: IFH, 126 Albert St., London NW1 7NG, England.

June 5-9: AIA convention, San Diego (reconvened convention and study mission to Guatemala and the Yucatan and Cancun, Mexico, June 9-19).

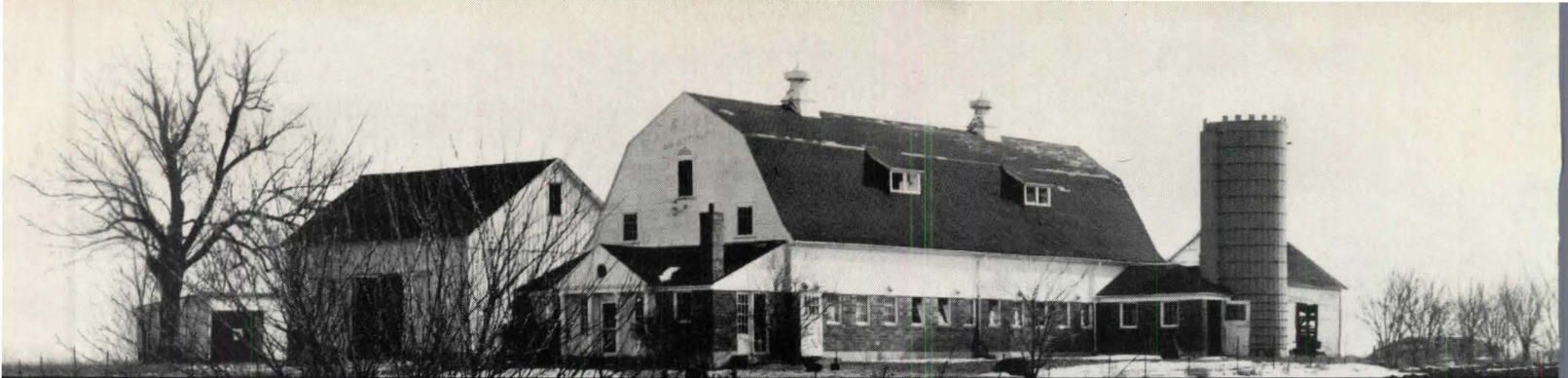
June 5-9: Architectural Secretaries Association annual convention, U.S. Grant Hotel, San Diego. Contact: Marjanne Pearson, Robinson & Mills, 1005 Sansome St., San Francisco, Calif. 94111.

IMAGE TO THE HEXAGON! #620 SHOWS A "SIXTH SENSE" FOR THE PERFECT MARRIAGE OF DESIGN AND FUNCTION. SEATING, TABLES AND PLANTERS SUPPORT EACH OTHER. THEY'RE WEDDED BY STEEL RAILS TO FORM LIMITLESS VARIATIONS OF HONEYCOMBS... WITH SEATING IN FABRIC, LEATHER OR VINYL. TRADE INVITED TO REQUEST BROCHURE ON LETTERHEAD. TURNER LTD., 305 EAST 63RD STREET, NEW YORK, NEW YORK 10021. TELEPHONE (212) 758-4744. DESIGNED BY ARTIFORT OF HOLLAND.

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Circle 2 on information card



Red cedar shakes help a church convert a barn.

How do you convert a structure of different exterior elements into a form that offers both a warm appearance and consistent scale?

The architect of this Illinois church, originally a barn, specified a natural solution. Red cedar handsplit shakes.

"I chose handsplit shakes for a couple of reasons. First, to bring visual

unity. The only other surface product is the original brick, with which the shakes blend handsomely.

"Also, cedar shakes require practically no maintenance, which was an important consideration."

The warmth offered by the shakes is more than visual, since red cedar is a superior insulator as well. And, by the fact that the courses are overlapped and nailed together, the shakes have actually strengthened the original frame.

For your next project, consider the natural advantages . . . give red cedar shingles or handsplit shakes an opportunity to convert you.

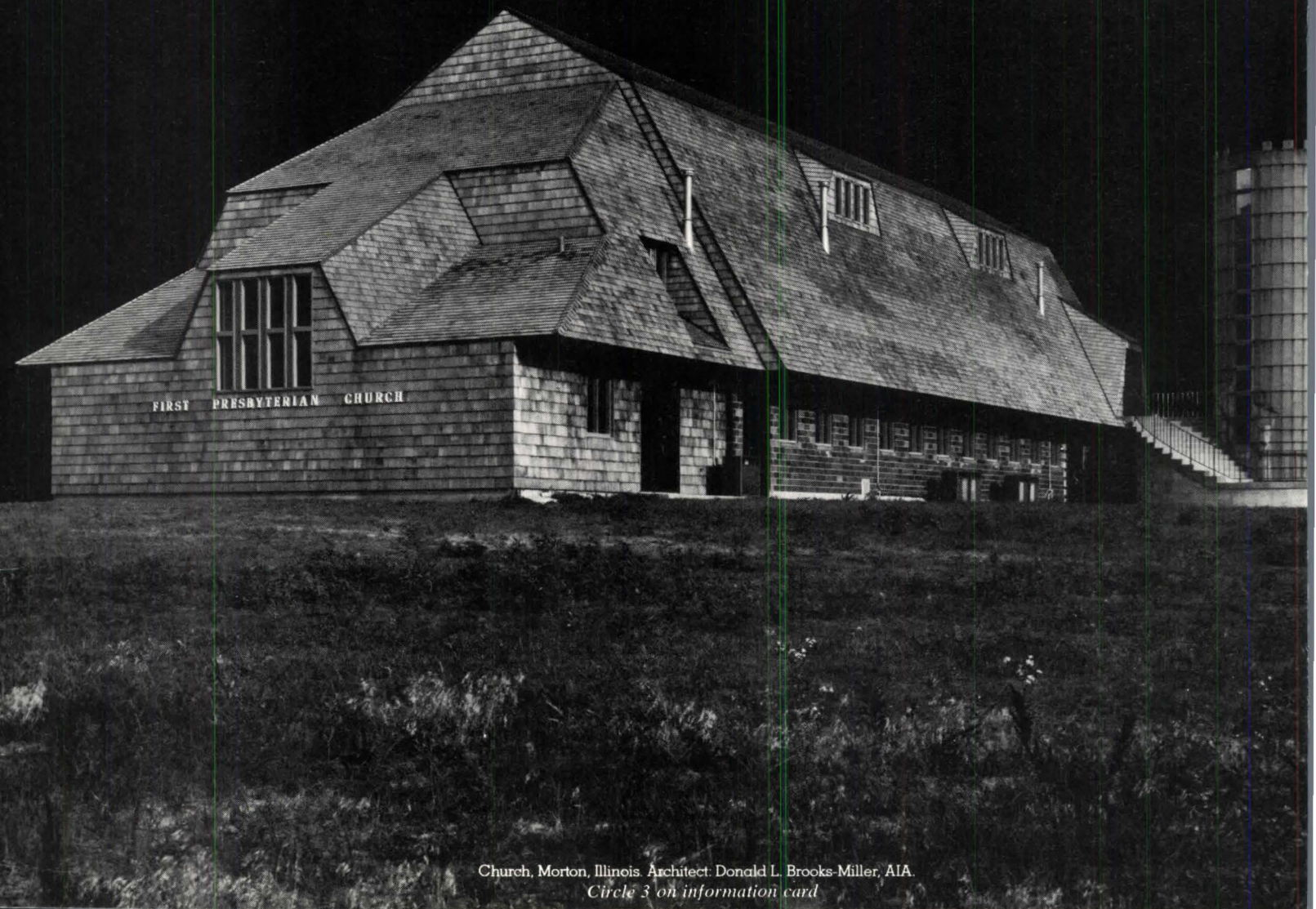


These labels on red cedar shingle and handsplit shake bundles are your guarantee of Bureau-graded quality. Insist on them.

For information on "How to Specify," write

Red Cedar Shingle & Handsplit Shake Bureau

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Church, Morton, Illinois. Architect: Donald L. Brooks-Miller, AIA.
Circle 3 on information card

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AIA JOURNAL

San Diego: Visiting a Good Place to Live

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AIA's 1977 convention city, now California's second largest, is blessed with an unusually attractive climate and a spectacular natural site

America's Finest City?—James Britton II

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The eventual answer may depend on beginning efforts to shape growth in a framework of urban design

Evaluation: Louis Kahn's Salk Institute After a Dozen Years—Allan Temko

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A work of art but only a fragment of the original concept

San Diego Pays New Attention to Her Neighbors to the South—Angeles Leira

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In many ways, she and Tijuana form a single region

Richard Neutra, AIA's 1977 Gold Medalist—Thomas S. Hines

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'As important to southern California as Wright and Sullivan had been to the Middle West'

A Photographer's Perspective on Neutra—Julius Shulman

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An appreciation in words; an interpretation in pictures

Cover: Photo by Ward & Williams of the California State Building tower by Bertram Grosvenor Goodhue, part of the 1915 Panama-California Exposition, now Balboa Park

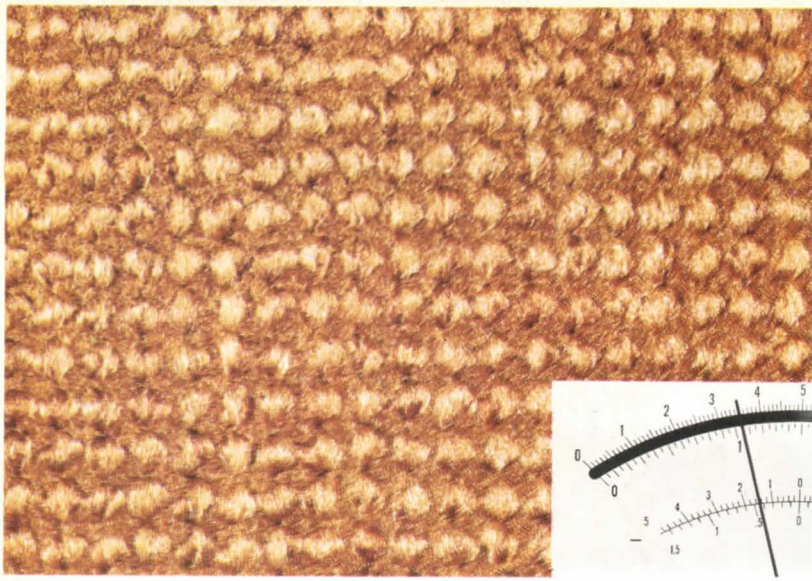
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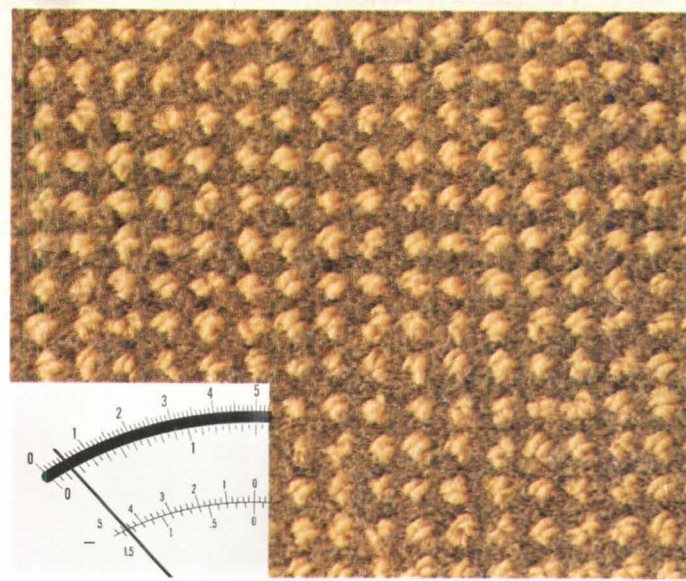
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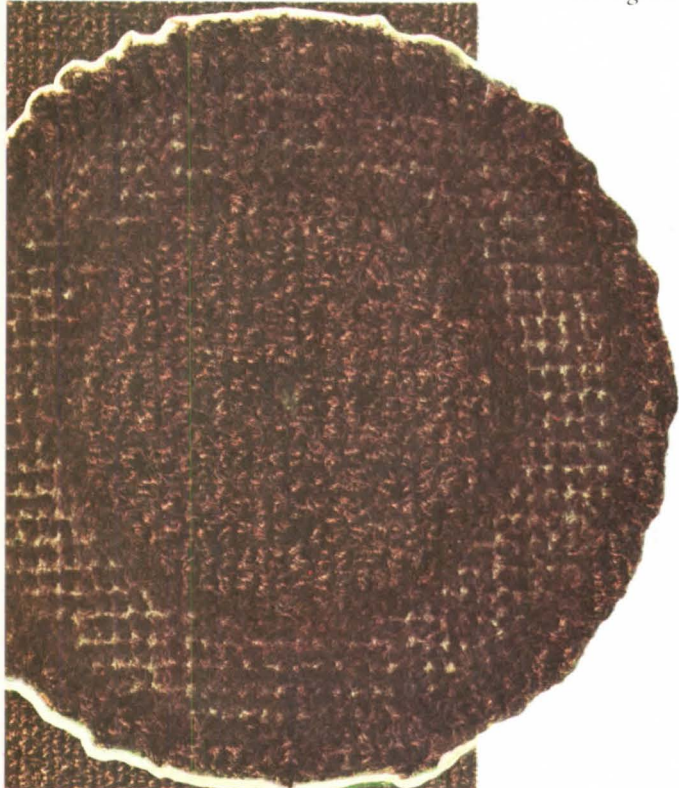




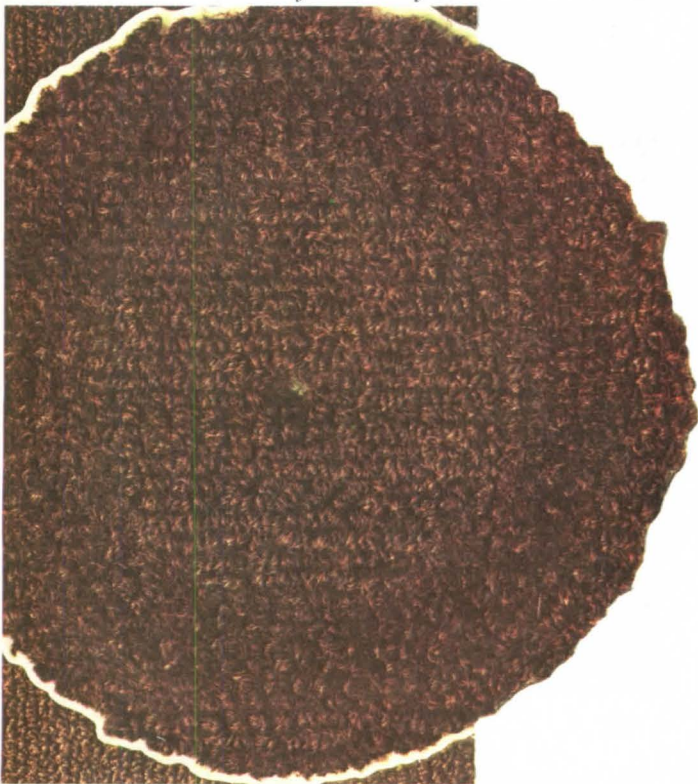
Static generated by nylon.



Static generated by Fortrel PCP



*Acrylic after 1,800 cycles on a Taber Abrader.
Fortrel PCP after 1,800 cycles on a Taber Abrader.*



Which carpe

You're looking at photos of the actual results of three tests conducted by Certified Testing Laboratories, Inc. on carpets of Celanese Fortrel PCP producer colored polyester, and commercially available carpets of similar construction in different fiber.

Fortrel PCP outperforms them all.

More Durable.

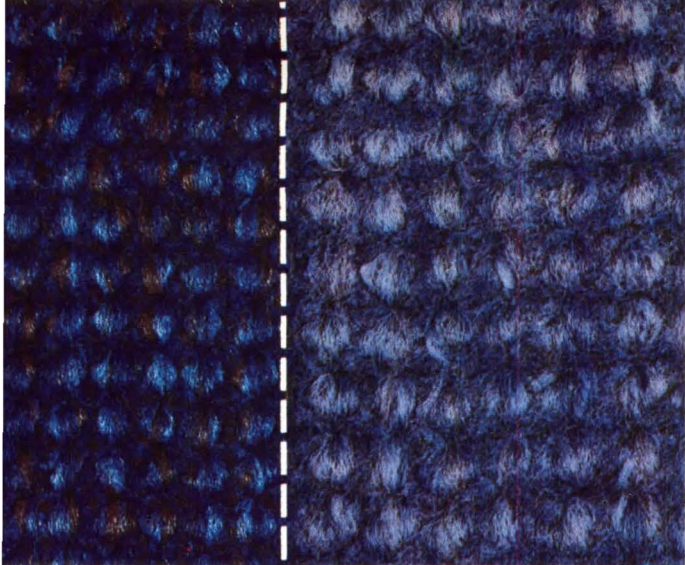
After only 1,800 cycles on a taber abrader (taber abrasion test ASTM D-1175), the carpet of acrylic fiber reached the breaking point (abraded to the backing) and registered a pile weight loss of 11.6%. The carpet of Fortrel PCP polyester didn't reach the breaking point until 22,000 cycles! And didn't lose 11.6% of its pile weight until 29,900 cycles.

Less Static.

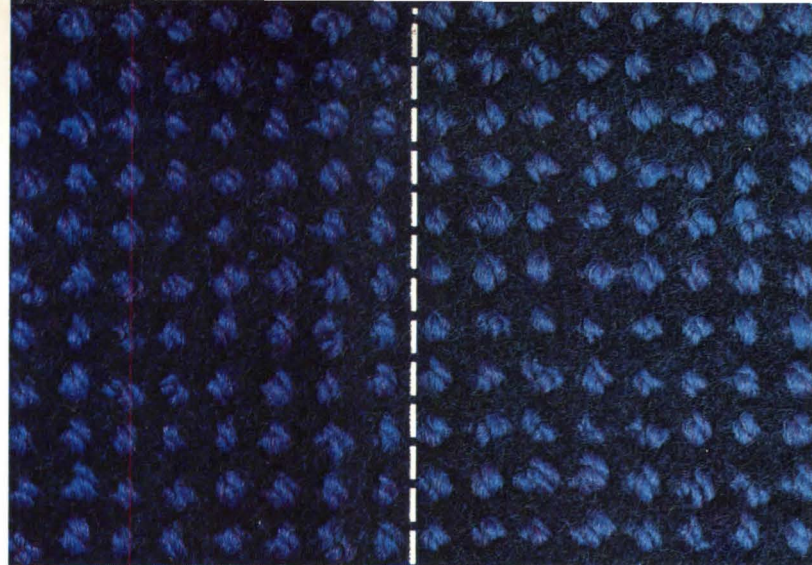
In checking static generation, the AATCC Walk Test with Neolite Soles (134-1969) was conducted. Carpet of Fortrel PCP polyester generated a mere 0.5 kilovolt, well below the threshold of human sensitivity (Even below the level necessary for such delicate applications as computer rooms and hospitals.) The carpet of Antron II, even with metallic protection, generated seven times as much static—3.5 kilovolt.

No Fading.

In the AATCC Colorfastness to Light Test (Test Method 16E), the carpet of Fortrel PCP polyester showed no evidence of fading or color change after



Nylon before & after exposure to 1500 hrs. of Xenon-Arc lamps.



Fortrel PCP before & after exposure to 1500 hrs. of Xenon-Arc lamps.

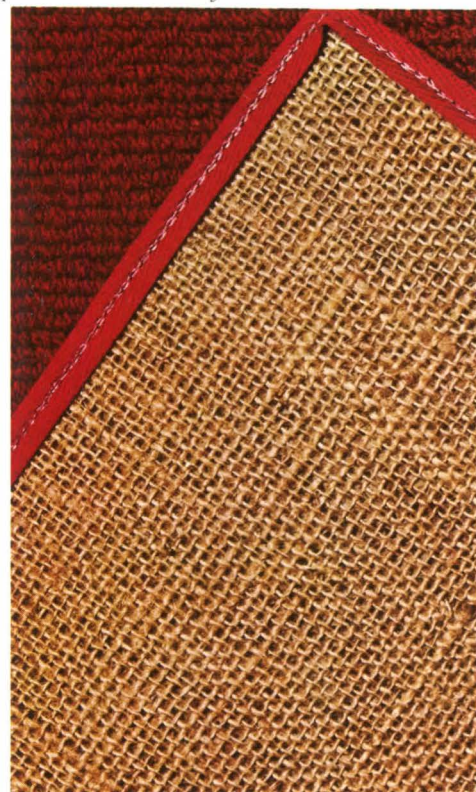
Do you want on your floor?

1000 hours of exposure to Xenon-Arc lamps. (That's 10 times the industry standard.) The carpet of nylon faded substantially well before 1500 hours.

Wear Guaranteed.

These are only three of twelve acting standards that every carpet of Fortrel PCP polyester must meet before it is awarded our five-year wear guarantee. It's the *only* wear guarantee available anywhere on contract grade polyester carpeting and it guarantees that "if the surface pile of the carpet wears more than 10% within five years from the date of initial installation, Celanese will replace the affected area with equivalent carpeting absolutely no cost to you."

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The back of most carpeting.

The back of carpeting of Fortrel PCP polyester.



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FORTREL PCP**

This time do it right.

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Circle 4 on information card

Convention: Media and Message With a Good Look at San Diego

If all goes to plan, guest speakers at this year's AIA convention will perch in a "cherry picker" bucket high above the floor of the San Diego Convention Center while multimedia screens illustrate their remarks with custom-tailored graphics. The media setup will include a large television projection screen, video tape, film, computer programmed slides and special effects with stage lighting and a sophisticated sound system.

On the floor of the convention hall, two intimate theaters will seat 85 and 40 people at a time for workshops, seminars, demonstrations, thematic presentations and debates. Sharing the floor with the theaters, a limited number of companies will exhibit in hexagon-shaped display areas. These compact "pods" are designed to eliminate the monotonous rows of traditional convention booths (model below).

Most presentations will be videotaped so that those unable to attend presentations will be able to catch a later replay.

In line with the use of advanced presen-

tation ideas, the convention theme will be "Tomorrow." Theme sessions will be held on three consecutive afternoons. Monday's session (June 6) will be concerned with "response to crisis." Ray L. Kappe, FAIA, a partner in the Santa Monica firm of Kahn, Kappe, Lotery, Boccato, and founder and director of the Southern California Institute of Architecture, will speak.

On Tuesday, Donald P. Greenberg, professor of architecture and director of the program of computer graphics at Cornell University, will speak on the topic "tools for change." Greenberg, formerly a consulting engineer with Severud Associates of New York City, has written for *Scientific American* and is on the editorial board of *Computers and Graphics*.

The final afternoon theme presentation will be "scenarios for the future" by F. M. Esfandiary, a futurist whose articles have appeared in the *New York Times Sunday Magazine*, *The Futurist* and *New Times*. Author of several books and formerly

with the United Nations, Esfandiary since the 1960s has lectured at the New School for Social Research in New York City, the University of California at Los Angeles and the Smithsonian Institution.

Topics for convention workshops include earthquake design, client presentation, Masterspec and financial management, drafting techniques, international opportunities and issues, recertification and how to get a federal contract.

The San Diego chapter/AIA, this year's host, is planning its activities with families in mind. Events include a golf tournament (June 9), tennis tournament (June 3-5), a beach party/fish fry, parties for teenagers and for preteenagers, a performance by the Mexico City Ballet de Azatlan Folklorico and, on Tuesday evening, four simultaneous host chapter parties: a south-of-the-border fiesta in a Mexican inn featuring mariachi music, folk dancing and a Mexican dinner; a party in the Fine Arts Gallery in Balboa Park with an exhibit of winning entries in the chapter's chair design competition and dinner in the gallery court; a cruise around San Diego harbor followed by dinner and a luau on Shelter Island, and a "big bash" at Sea World, including shows, dinner and dancing.

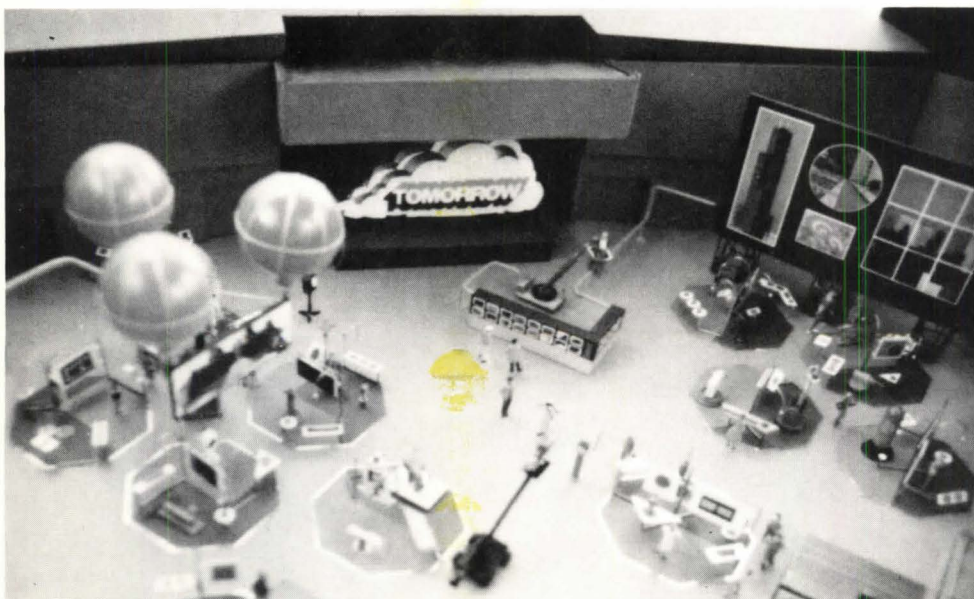
The host chapter is producing a guidebook of the city, and the emphasis will be on accessibility. The book, which will be distributed at registration, will contain a section listing shops, restaurants, cultural activities and entertainment, and will include price information.

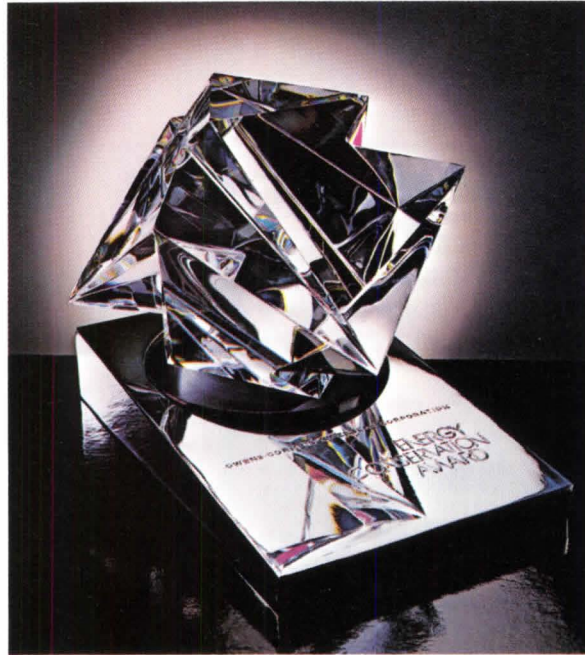
The region's tourist attractions will be made accessible, too. Buses will take people to Disneyland, San Diego Zoo, Tijuana, Sea World, San Diego Wild Animal Park, La Jolla, the coastline, Balboa Park, Salk Institute and Coronado Island.

For the final evening (Wednesday), the San Diegans have planned small and medium-sized parties in the homes and offices of architects instead of the traditional ball.

The postconvention tour from June 9-19 will be an architectural study trip to Guatemala, the Yucatan and Cancun, Mexico (see Feb., p. 66).

Going On continued on page 12





"Triangles" — a multi-faceted Steuben Crystal sculpture

Announcing the 1976 winners of the Owens-Corning Energy Conservation Awards

Winner, Institutional category

Allen and Miller, Architects, Santa Ana, California, for the Fremont Elementary School, Santa Ana, California

Winner, Special category

Stephen B. Jacobs & Associates, New York, N.Y., for the Printing House, a former loft building in New York City

Winner, Governmental category

Kansas Architects and Planners Associated, Lawrence, Kansas, for the Federal Office Building, Topeka, Kansas

Honorable Mention, Governmental category

Unthank Seder Poticha Architects, Eugene, Oregon, and Marquess Engineering Company, Springfield, Oregon, for the Lane County Public Service Building, Eugene, Oregon

Honorable Mention, Commercial category

Taylor and Collum, Architects, Atlanta, Georgia, for the Shenandoah Solar Community Center, Shenandoah, Georgia

Honorable Mention, Institutional category

Arthur Cotton Moore/Associates Architects, Washington, D.C., for the Science Classroom at Madeira School, Greenway, Va.

The 1976 Energy Conservation Awards Jury

This year's winners were selected by: John Street, chief architect, John Portman Associates, Atlanta, Ga.

William C. Louie, vice-president, Smith Hinchman and Grylls, Detroit, Mich.

Charles Schaffner, senior vice-president, Syska & Hennessy, Inc., N.Y.C.

Nathaniel Curtis, partner, Curtis & Davis Architects and Planners, New Orleans, La.

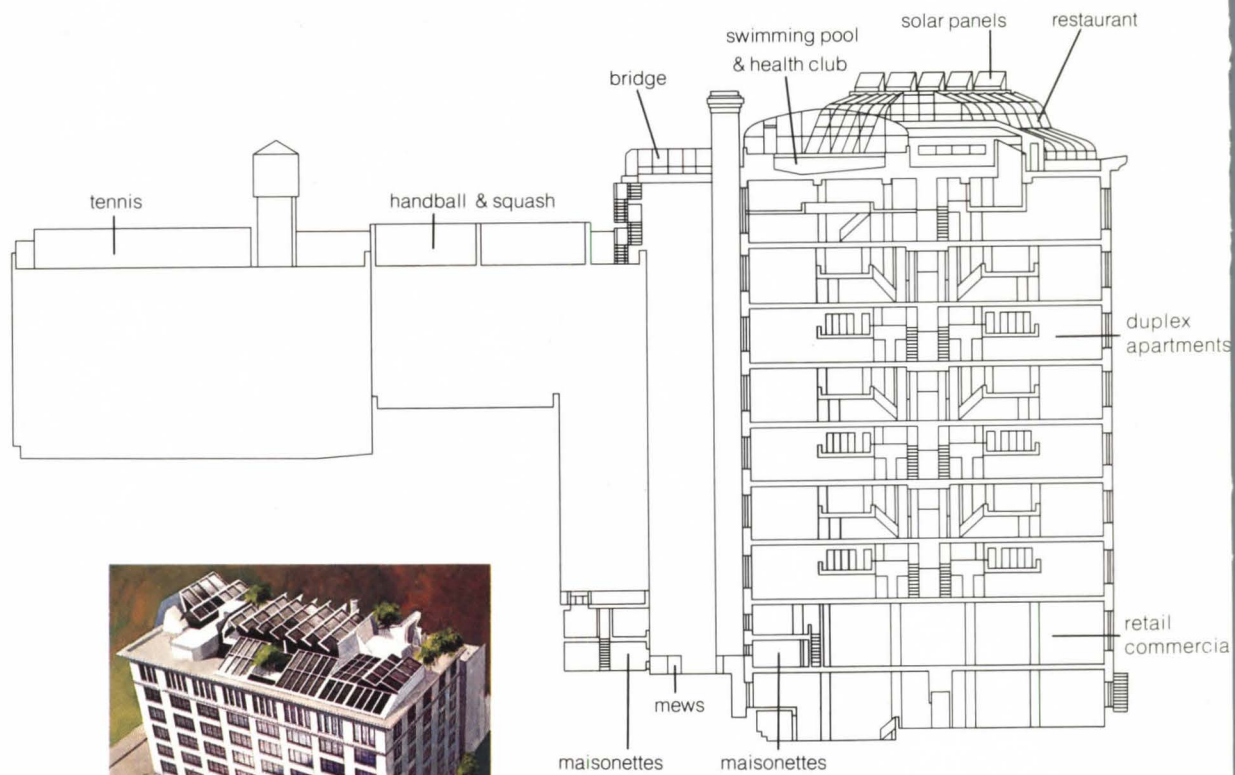
C. Herbert Wheeler, professor of Architectural Engineering, Pennsylvania State University, University Park, Pa.

Samuel Hack, director of facilities and construction management, U.S. Energy Research and Development Administration, Washington, D.C.

For a look at three of the winning designs, turn the page.

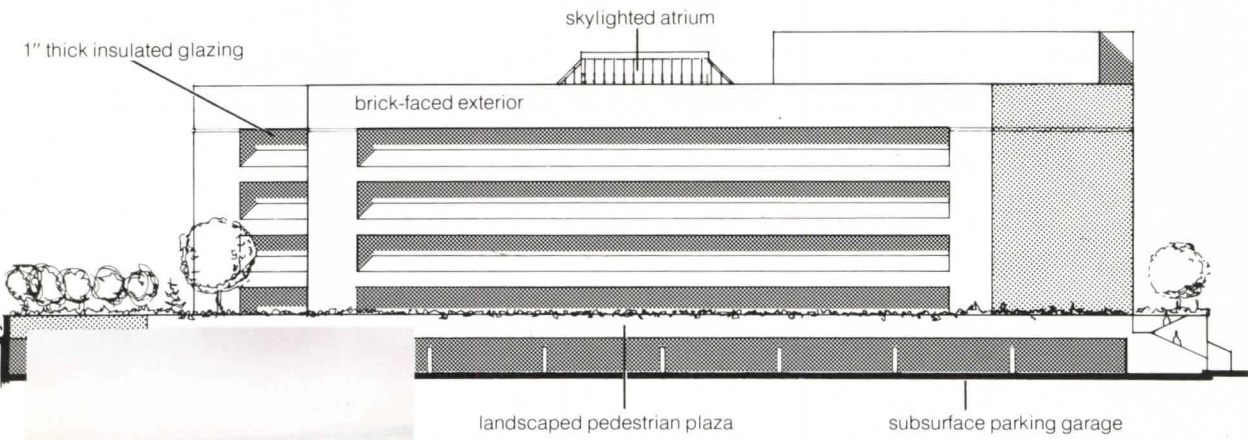
Three winning designs, and why they won

These buildings won top honors in the Owens-Corning Energy Conservation Awards Program for 1976. Look them over. They show how new and not-so-new thinking can produce outstanding energy-saving designs. For more information about all the 1976 winners, write to K.S. Meeks, Owens-Corning Fiberglas Corporation, Fiberglas Tower, Toledo, Ohio 43659.

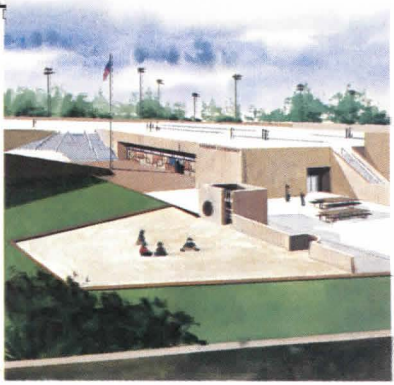
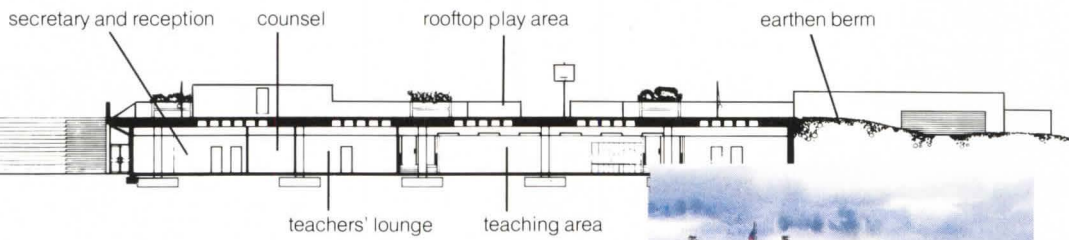


Printing House, New York City. Recycles an obsolete industrial building to create unique urban style housing. A vertical heat pump provides heating and cooling. Solar panels provide energy for domestic hot water. All insulation standards are upgraded. All windows are $\frac{5}{8}$ -inch insulating glass.

©O.-C.F. 1977



Federal Office Building, Topeka, Kansas. Uses mass plus heavy insulation in walls and roof to create an energy-conserving envelope. Open, skylighted interior atrium allows minimum exterior glazing. Windows comprise only 17% of exterior wall area. Glazing is recessed or shaded to reduce heat gain in summer. Lighting is 2.3 watts/sq. ft. Estimated saving on heating costs: \$2,600/year.



Fremont Elementary School, Santa Ana, California. Poured-in-place concrete construction stores heat in the structure, causes a lag in heat transfer to occupied spaces. Subsurface design and earthen berms reduce heat gain and loss through walls. Total cooling load is cut 20%, electrical consumption is cut by 42.5 kw/hr for annual savings of \$2,142.

Owens-Corning is Fiberglas



Institute Awards, the Arts: Nevelson and Oldenburg

Louise Nevelson and Claes Oldenburg, two of America's most critically acclaimed sculptors, will receive AIA medals for artistic achievement related to architecture at the Institute's annual convention.

Nevelson's sculpture, strongly architectural in its imagery, is sited in many American cities, a recent work being "Bicentennial Dawn" located at the James A. Byrne Federal Courthouse in Philadelphia. "Atmosphere & Environment XII" in Philadelphia's Fairmont Park and "Sky Covenant" at Boston's Temple Israel are among her abstract sculptures of weathering steel created for outdoor sites.

"Architecture is everywhere order is," Nevelson says. "There is an architecture about our bodies, about the things we build, and it does not have to be a house."

Many of Oldenburg's sculptures have been created for architectural environments, such as the colossal clothespin at Philadelphia's City Hall and "Lipstick on Caterpillar Tracks" at Yale University. (See Oct. '76 for examples of both sculptors' work.)

The statement nominating Oldenburg for the AIA medal says that his work provides a "perception of ourselves and the world which has many levels of importance and relevance to the design of the environment. An architect could do no better than to aspire to produce works with the depth, dignity, style, grace and humor of Mr. Oldenburg." The sculptor himself says that the subject of his work "has been the space of my surroundings. My art is about spaces: a street, a room, insides."

Recording Architecture: Drexler, Buildings Survey

AIA has chosen Arthur Drexler, who directs the department of architecture and design at the Museum of Modern Art in New York City, and the Historic American Buildings Survey, a collaborative effort of the National Park Service, the Library of Congress and the Institute, to receive the Institute's 1977 medals for significant achievement in recording architectural accomplishments. The medals will be presented at the AIA convention in June.

Drexler, who joined the MOMA staff in 1951 as curator of architecture and design, has headed the department since 1956. He has organized numerous architectural exhibits on the work of such architects as Frank Lloyd Wright, Antonio Gaudi, Louis I. Kahn and Ludwig

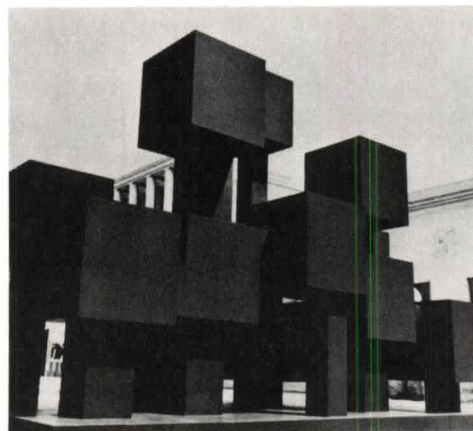
Mies van der Rohe. In 1975, Drexler directed the installation of an exhibit on "The Architecture of the Ecole des Beaux-Arts." His many other exhibitions and catalogs include "The Architecture of Japan," "Buildings for Business and Government" and "Built in the U.S.A.: Post-war Architecture" (with Henry-Russell Hitchcock).

Begun in 1933, the Historic American Buildings Survey was the federal government's first major step toward the identification and preservation of historic structures. During the '30s, thousands of measured drawings, photographs and written documents were collected and deposited in the survey's archives at the Library of Congress. The program ceased during World War II but was resumed in 1957 and continues its work today under the direction of John Poppelier. The AIA jury on Institute honors praised HABS as being of "immeasurable importance to the history of architecture in this country."

Influencing the Profession: Ward, Perkins, the Walker

Barbara Ward, one of the world's most widely respected authorities on economic and environmental development, and G. Holmes Perkins, FAIA, dean of the graduate school of fine arts at the University of Pennsylvania from 1951 to 1971, have been chosen to receive AIA medals in recognition of their achievements in inspiring and influencing the architectural profession. Also honored is the Walker Art Center in Minneapolis.

Ward is the author of such influential books as *Space Ship Earth*; *The Home of Man*, an unofficial report of the Habitat conference held last year in Canada; *The*



Because of the French government's program of 1 percent for art in public school construction, architecture is enriched by the work of artists. Shown here is American sculptor Zoe Greene-Mercier's cube composition in black and red painted steel, erected recently near a school in Arras, France, under the arts program. The sculpture, 24 feet long and 12 feet high, stands in the school's entrance court.

Rich Nations and the Poor Nations, and *The International Share-Out*. She was a leader in the organization of the Habitat conference, earning the praise of Enrique Penalosa, secretary-general of Habitat, who said of her: "With her dedication and personal energy, and her ability to state her case free of official constraints, she has become the rallying point of a growing movement which demands that the international community reset its priorities and come to grips with real rather than the cosmetic problems of mankind."

Under the direction of Perkins, the division of architecture, school of fine arts, at the University of Pennsylvania attracted such notables for its faculty as Lewis Mumford, Hon. AIA; Edmund N. Bacon, FAIA; Romaldo Giurgola, FAIA; Robert LeRicolais, Hon. FAIA, and the late Louis I. Kahn, FAIA. Perkins led the way for the faculty in his active participation in civic affairs, playing a major role in the development of many organizations responsible for Philadelphia's revitalization. From 1958 to 1968, he served as chairman of the Philadelphia city planning commission. His influence, said the AIA jury on Institute honors, "was instrumental in developing a whole generation of outstanding architects."

Minneapolis' Walker Art Center is being recognized for its continuing efforts to support and promote quality design through its program of exhibits, lectures and publications. Its *Design Quarterly* has become a national institution, publishing information about design and architectural trends and reflecting the center's concern about art and architecture.

The quarterly is edited by Mildred S. Friedman; its graphic designer is James E. Johnson.

Furthering Urban Goals: Boston, Pittsburgh Efforts

"Decay and abandonment have been checked, new commercial and residential life has been achieved and new reality has been given to Boston's pride as the 'Liveable City,'" said the jury on Institute honors in selecting the City of Boston to receive an AIA medal in recognition of outstanding urban projects related to architecture.

Also honored is the Pittsburgh History & Landmarks Foundation (PHLF) for its successful efforts to preserve landmark architecture in Pittsburgh and Allegheny County and to educate the public about the significance of its architectural heritage.

Boston's downtown renaissance, executed over the past 20 years, has encompassed both new construction, such as the government center complex, and rehabili-

continued on page 17



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Annual Air Conditioning Costs	28,473	12,018	16,455	
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Going On from page 12

ation, such as the major efforts to restore to new use the Faneuil Hall market and the city's waterfront.

PHLF has stressed historic architecture as a community resource, restoring inner city residential and commercial areas for low- and moderate-income families and assisting in the obtaining of low-interest loans and grants for the improvement of properties. Other noteworthy PHLF projects include the recycling of the old post office into a community museum, the restoration of Phipps Conservatory and the development of the Architect's Workshop to give design assistance to neighborhood communities interested in restoration. Its educational and restoration programs have had national impact; consulting services on historic preservation have been provided to more than 60 U.S. cities.

Proposed Road Threatens Taliesin West Landscape

The Scottsdale, Ariz., city council recently passed a resolution supporting a local developer's request for a 60-foot right-of-way across lands leased from the state by Taliesin West. In order to give developers access to property surrounding the architectural landmark, the proposed public road would be located at Taliesin's present entrance, designed by Frank Lloyd Wright.

The council asked that an alignment be designed "in a manner which is sensitive



to the natural terrain and to the Taliesin West complex." Spokesmen for Taliesin, however, say that they are concerned that a public road "will obliterate Frank Lloyd Wright's road, open the door to a wider right-of-way and an eventual four- to six-lane freeway." They also fear "increased vandalism and abuse of the desert and mounting pressures for development."

The Taliesin people also note that a transit plan adopted for Scottsdale provides for access to the property by means

of a six-lane crossing north of Taliesin on a canal now being constructed by the U.S. bureau of reclamation as part of an irrigation scheme to bring water to the desert from the Colorado River. The mountainous area bordering Taliesin West is indicated as mountain preserve on the Scottsdale plan.

AIA's national committee on historic resources has urged that the most careful consideration be given to access to Taliesin and that thoughtful attention be paid to what an access as proposed could do to the architectural landmark. The city council request for the access is now under consideration by the Arizona land department.

National Trust Purchases Former AIA Headquarters

The National Trust for Historic Preservation has purchased a national landmark structure on Massachusetts Avenue near Dupont Circle in Washington, D.C., for its national headquarters. The building, now called the Mellon Apartments, was used by AIA as its national headquarters in 1971-73 while its present headquarters building was being constructed.

The five-story Beaux-Arts structure was designed by Jean de Sibour and completed in 1917. It was once the home of such famous personages as industrialist Andrew Mellon who occupied the building's fifth floor apartment from 1922-37. He served as Treasury secretary under Presidents Harding, Coolidge and Hoover.

The National Trust bought the building from the Brookings Institution and will spend about \$3 million on purchase and adaptation. The Washington, D.C., architectural firm of David N. Yerkes & Associates, with Nicholas A. Pappas, AIA, as partner-in-charge, has been commissioned to perform the adaptive use design work. Occupancy by the National Trust is set for about October 1978.

Environmental Priorities Proposed by Task Force

Discontinuance of an expanded interstate highway system, with funds diverted to railroads; priorities shifted from a search for cancer cure to cancer prevention; a ban on the use of tobacco; removal of tax discrimination against childless couples and single people; control of pet populations; an overhaul of utility price structures—these recommendations, and more, which would touch the lives of nearly everyone in the country if they became U.S. policy, are made in a recent report entitled "The Unfinished Agenda: The Citizen's Policy Guide to Environmental Issues."

The report, prepared by a task force of 63 leaders from the nation's 12 largest membership environmental organizations and developed under the auspices of the Rockefeller Brothers Fund, provides a blueprint for debate on such controversial issues as population control, land use, genetic engineering, pollution and the energy economy. It also discusses the role of the two "major decision centers of society" on environmental matters—government and industry.

Pointing to the interrelationship of environmental problems, the report says: "The environment is a complex mixture of factors which interact constantly with each other: People need food; raising food requires energy; energy production utilizes materials from the earth's crust; the extraction of these materials demands energy; and all of these activities depend upon the labor and ingenuity of people, who need food. Thus when any single factor in the environment is altered, either intentionally or accidentally, the repercussions are felt throughout the system." The welfare of every person on earth is threatened by "ill-considered changes," which may have "irreversible consequences."

Calling upon the U.S. to be a "conservative society," the environmentalists note that this nation must acknowledge its "unique responsibility of leadership," using its resources and knowledge to show that "quality of life can be preserved . . . even in an era of scarcity."

A leading item on the "unfinished agenda" is population growth, and the environmentalists recommend a "national goal of population stabilization or gradual population decrease." They suggest, among other things, increased funding of family planning programs in this country and abroad; the removal of the "root causes of immigration" in those countries which are "significant sources of illegal aliens," and the elimination of tax benefits for those with three or more children.

Linked to population control is the continuing world food problem. To increase total food production, the report recommends such goals as increased soil conservation programs at federal, state and local levels; biological methods of pest control; less reliance on chemical fertilizers and more on the recycling of organic nutrients, and cessation of converting prime agricultural lands to other uses.

For the preservation of natural resources, the task force suggestions include, to name a few: uniform legislation promoting recycling of goods; mandatory minimum standards for automobile durability; special measures for the conservation and recycling of scarce materials. The report also suggests that there be better monitoring systems "for the nation's very

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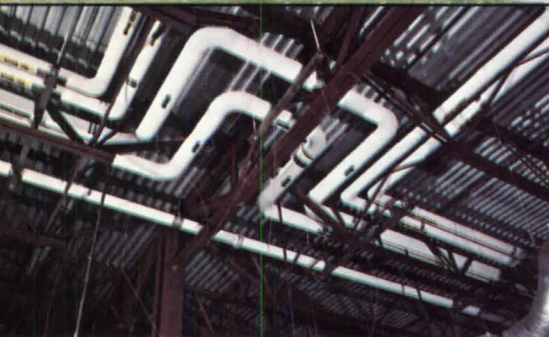
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Going On from page 17

significant investments in air and water pollution control"; that the nation's air pollution research budget "be increased drastically"; that the 1872 mining law be reformed "or replaced with enlightened legislation," and that Congress pass pending wilderness legislation.

Much more land is owned privately than publicly in the U.S., and most land use decisions are made on the local level. The task force says that most states "have done little to exercise their authority over private land use," primarily because they have been unable to acquire federal funds for the carrying out of such authority.

It is inevitable that land use problems in the U.S. will increase. One challenge, says the task force, will be to allocate land for housing while minimizing environmental impact. Desired results will not likely come from the private market system alone, and the task force recommends that a federally funded land use program be instituted which "would require participating states to inventory, designate and regulate areas of critical environmental concern," such as shorelands, historic sites, natural hazard sites and prime farmlands.

The environmentalists also recommend: the protection of land "adjacent to parks, historic landscapes and sites, small towns and rural areas"; the encouragement of urban restoration rather than demolition; standards for privately owned forests, and increased coastal zone protection.

The report points out that "energy problems are global in scope," emphasizing that the U.S. must be a leader in the solution of these problems. Among the basic recommendations for a "viable energy policy" are:

- To recognize that nuclear fission is rapidly dying as an energy option because of its high capital, environmental, social and energy costs.
- To avoid the formidable economic and political costs of further electrification. . . .
- To move rapidly from dependence on depletable energy capital to renewable energy income."

Among the items that should be given high priority, says the task force, are "intelligent coal technologies," "solar space-conditioning," "rejuvenation of urban mass transit and intercity railways" and "an overhaul of energy-intensive agricultural practices." If these measures are conceived as purely technical, they will not succeed, says the task force. Hence, those institutional barriers "such as utility practices, mortgage regulations and building codes" must be overcome.

In turn, energy reform rests upon public understanding of its importance, and the task force recommends "substantive" public participation. It suggests as well: a

progressively increasing tax rate on gasoline to reduce the ill effects of automobiles; an enforcement nationwide of the 55mph speed limit; the withdrawal of subsidies to nuclear energy industries, and the enforcement of antitrust and securities laws, "so that alternative energy sources are not deprived of the benefits of competition and entrepreneurial vigor."

For long-term solutions to the nation's environmental problems, the task force recommends a "full and active national discussion" concerning how the U.S. can "best develop long-range planning capability"; the development of controls over the "application of existing technologies," as well as a consideration of the "full sociological implications of nascent technologies," and a national recognition that the environment is a priority "on a level with defense, employment, health, education and commerce."

The report, edited by Gerald O. Barney, is available in paperback for \$3.95 from Thomas Y. Crowell Co., 666 Fifth Ave., New York, N.Y. 10019.

McGinty Restates Goals For Federal Architecture

John M. McGinty, FAIA, president of the Institute, told a Senate subcommittee on public buildings and grounds recently that Congress should move forward in a "collaborative effort toward achieving a built environment which is commensurate with the goals and needs of all citizens." The federal government, which expends more than \$15 billion annually on facilities, should be a leader "in establishing high design standards," McGinty said.

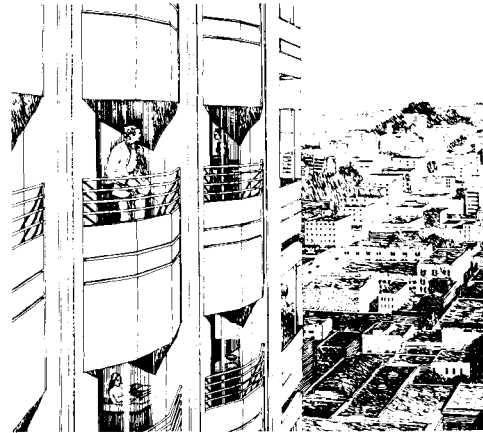
He referred to the 1962 "Guiding Principles for Federal Architecture," a document prepared by an ad hoc committee on federal office space created by President John F. Kennedy. The first principle in the document calls for the provision of "requisite and adequate facilities in an architectural style which is distinguished and shall reflect the dignity, enterprise, vigor and stability of the American national government." Such design should make use of "sound construction practice," using "materials, methods and equipment of proven dependability."

The buildings, accessible to the handicapped, should be "economical to build, operate and maintain," McGinty said, and for today and tomorrow the structures also "must be energy-conscious."

The second principle states that "design must flow from the architectural profession to the government, and not vice versa." McGinty emphasized that the A/E procurement method set forth in the so-called Brooks bill passed by Congress in 1972, must be adhered to.

The third principle calls for federal architecture that fits into regional and urban fabrics. Public buildings, said McGinty, "should be sited to enhance the community's plan and objectives."

These principles coupled with the Public Buildings Cooperative Use Act (PL 94-541), which encourages mixed use of federal buildings, would do much to improve federal design quality, McGinty said. Good design does not need to be "more expensive, or monumental," he said. Architecture "is simply space for people . . . and federal architecture becomes . . . an even more important space, for federal architecture belongs to all of us."



Workers in highrise office towers who long for an occasional breath of fresh air will consider this structure almost revolutionary in concept. Designed by William L. Pereira Associates, it will be San Francisco's first highrise office structure since World War II to have openable windows. They are an integral part of the energy conservation system, say the architects. The 19-story building, estimated to cost about \$12 million, will stand adjacent to the Transamerica pyramid, also designed by the Pereira firm.

Student Design Awards

Attila Demeter, a University of Illinois Chicago Circle student, won a first place award of \$2,000 for the design of a low-rise residential structure in the 1976 student awards programs for architectural precast concrete sponsored jointly by the Prestressed Concrete Institute and the Canadian Prestressed Institute.

The winning Canadian student was Vito Wong, University of Toronto, who was awarded \$1,500 for the design of an office/housing/commercial complex. Laurent Myers, University of Cincinnati, received \$1,500 in second place for the design of an apartment building for the elderly, and the third place award of \$1,000 went to Stephen L. Jager, Miami University at Oxford, Ohio, for the design of a medical office building.

Honorable mentions went to Neville Bosfield, James Carr, Kenneth Ogletree,

continued on page 25

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Going On from page 20

Robin Peters and Brian Turnbull, a team from Hampton Institute, and to Chaidej Vachirakornvatana, University of Michigan.

Deadline for the 1977 awards program is June 1. For information, write: Director, Student Awards Program, PCI, 20 N. Wacker Drive, Chicago, Ill. 60606, or telephone (312) 346-4071.

Slayton Advises Congress On Energy-Saving Goals

Federal funds should be expended on energy-efficient public works in order to meet two pressing national priorities: increased employment and decreased energy consumption, said William L. Slayton, Hon. AIA, executive vice president of the Institute to a House subcommittee on economics. Testifying that AIA supports an extension and increase in the authorization of the Local Public Works Capital Development and Investment Act, Slayton said that an amended accelerated local public works program would both stimulate the economy and contribute to increased energy conservation in the built environment.

"We understand," Slayton said, "that the economic development administration has already received more than enough

applications to account for the additional \$2 billion proposed for the accelerated public works program in fiscal 1977." Unbuilt for lack of funds, such projects "may not reflect the need for increased energy efficiency," he said.

Therefore, AIA recommends "that the prospective grantees be permitted to amend their applications by submitting statements of intent to redesign where energy savings are possible." In a formula for ranking projects worked out by EDA, extra points should be given for conservation efforts, Slayton said. "Review and modification of plans by design professionals will require some additional expenditure, which should be a reimbursable expense within the total amount of the grant," he testified. Extra points should be given as well to any project whose completion will reduce the community's overall energy consumption, Slayton said.

Grants for the rehabilitation of existing buildings should also give priority to energy-conscious redesign and retrofitting, Slayton said. In fiscal 1978, Congress should emphasize "rehabilitation and retrofitting over the construction of new facilities."

It has been demonstrated time and time again, Slayton told the subcommittee, that the nation's prosperity depends upon the construction industry. "We are confident,"

he said, "that the construction industry can and must lead the nation out of the recession and, at the same time, bring lasting public improvements to communities in every part of the country."

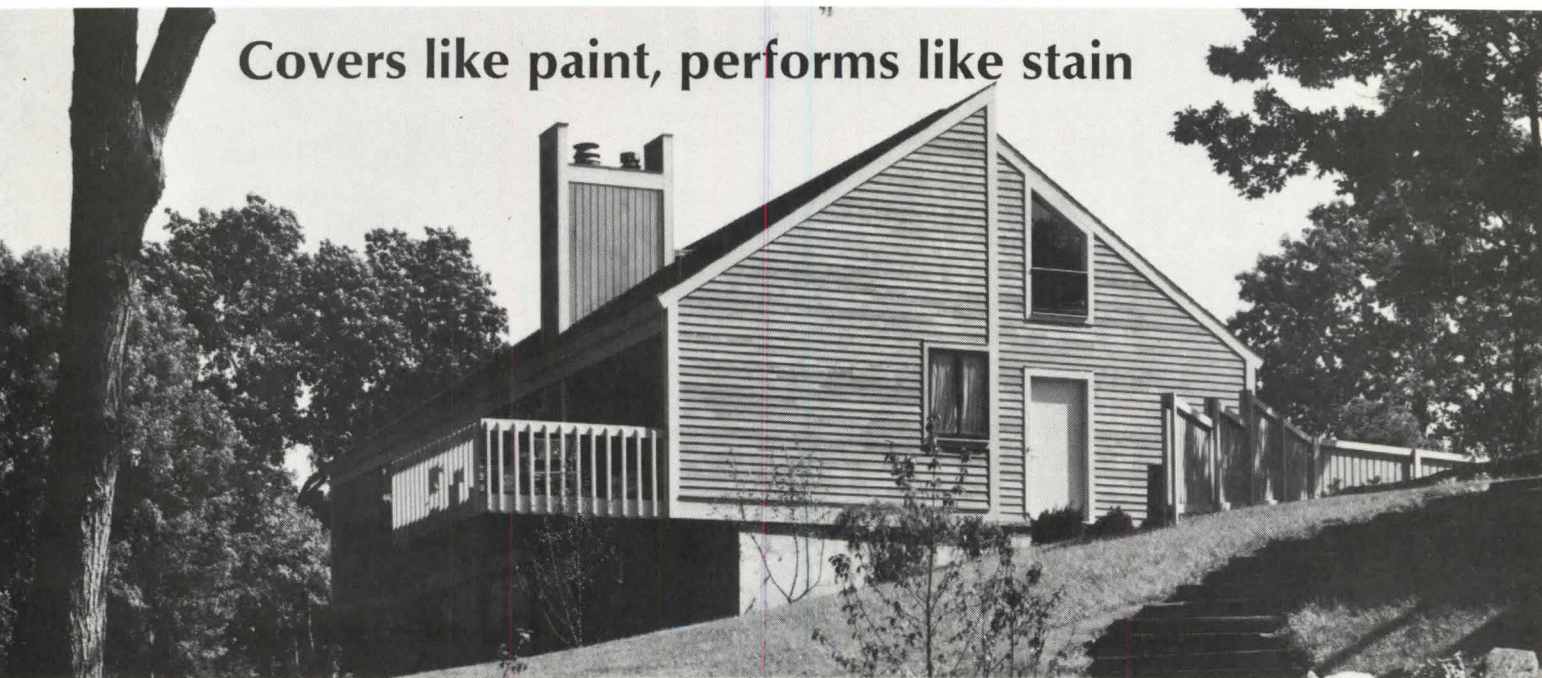
Encouraging Good Design For U.S. Transit Systems

"A substantial portion of the capital construction funds spent in the U.S. goes for building transportation systems. There is no reason that these systems cannot incorporate art and reflect the best in American architecture when they are designed and constructed," said then-Secretary of Transportation William T. Coleman Jr., in a policy statement issued on Jan. 14. Coleman announced that a special departmental task force had been named "to explore ways to encourage good design and art when building transportation systems and to report its findings to the secretary of Transportation within six months."

The task force is to consider the creation of a national advisory board on design, art and architecture in transportation. It also will weigh how the cost of design and artwork may be eligible for DOT aid at a certain level of funding, "based on a formula of a project's total

continued on page 78

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1.2 inches - thick Thermax Roof Insulation boards give approximately the same insulation value as 3 inches of cellular glass, 2½ inches of perlite or 1⅝ inches of

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Lightweight. Compared with other FM-rated roof insulating materials providing the same insulation value, Thermax boards are 3 to 6 times lighter. That's up to 75% less deadload factor. The advantages are obvious: you can reduce the size and gauge of roof supports, have greater flexibility in choosing heating and air-conditioning equipment, reduce the size of metal or wood fascia around roof perimeters. And still have that Class I fire rating.

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The gap between knowledge and documentation had to be closed.

And building designers and others had to be provided with a way to easily use the new proof.

Not easy tasks. But critical ones in an era when the energy performance of buildings is a matter of the highest priority.

For thousands of years people have *known* that buildings with masonry walls were more easily kept warm in winter and remained cooler in the summer. The reason was obvious: masonry walls both stored and slowed down the passage of heat, making interior climates more stable. A simple, observable fact. But no longer sufficient.

Designers and owners needed to know *how much better* masonry conserved energy than did competitive materials and systems. And they needed a simple way to calculate the differential.

Only then could masonry's superior thermal performance be reliably taken into account in meeting energy conservation goals and requirements. Only then could heating-cooling equipment be more accurately sized to save money on both initial and operating costs.

Disdaining "claims" without documentation, the masonry industry began a broad research project to quantify the relationship of the mass or weight of masonry walls to the transmission of energy. The masonry industry engaged a highly qualified firm of consulting engineers (Hankins & Anderson, Inc.) to conduct the study. Ten different walls ranging in weight or mass from four pounds (19.5kg/m²) to 116 pounds (567.5kg/m²) per square foot were specified for analysis in 10 widely varying climatic conditions. And in eight solar orientations.

Researchers used a special computer program built around the "response factor" method adopted by the National Bureau of Standards Load Program along with other computer programs. They analyzed U.S. Weather

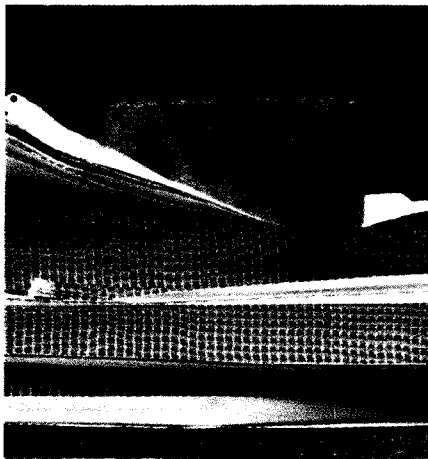
Bureau data and considered the effects of many variables, including the weight of walls, on thermal performance.

Results of the computer analysis showed:

- Traditional "U" value measurements of the thermal performance of walls are inadequate. They are based on the incorrect assumption that energy transmission occurs in a "steady state". Contrarily, the process is dynamic and varies greatly in relation to many factors, one being the weight of walls.
- Steady-state "U" value measurements therefore may often result in the oversizing of heating equipment for buildings with masonry walls (and the undersizing of such equipment for buildings with lightweight walls).
- The difference between steady-state and dynamic measurements can be accounted for by the use of a *correction factor*—the "M" factor—in making heat gain and loss calculations.

The consulting engineers' report and data consisted of 460,800 numbers on 1,200 pages of computer print-out. Important as this proof of the superior thermal performance of masonry walls was, it was not enough.

The task of developing a tool for the easy use of the findings remained. Masonry industry engineers began



studying and correlating the data to provide a simple *correction factor* for dynamic analysis.

The result: An easy-to-use "M" factor graph or curve.

Only two numbers are required in order to use the graph: the number of "degree days" in the locale (obtainable from the U.S. Weather Bureau) and the weight per square foot of the wall. The graph can then indicate the appropriate "M" factor modifier, or correction factor, to be applied to steady-state "U" value measurements. A more accurate measurement of the dynamic thermal performance of walls results.

The graph shows that in all cases, masonry walls perform better than lighter weight walls with the same "U" value rating. The heavier the wall, the greater the differential.

Results of the masonry industry study and the "M" factor graph have been submitted to the Conference of American Building Officials (CABO). And CABO has agreed that the effect of mass should be considered in making heat gain/loss calculations.

The "M" factor study findings are contained in a new Masonry Industry Committee publication, *Mass. Masonry, Energy*. With the findings are graphs and charts, and an explanation of how to use them. An all-in-one booklet—everything you need to know in order to take advantage of the superior thermal performance of masonry walls.

We're proud of the new proof that masonry walls save more energy than walls of competitive materials with the same "U" values.

We're proud of the fact that the masonry industry decided to produce this proof, rather than simply make a claim.

But our pride isn't important to you. What matters to you is that we've made it possible to design, build and operate buildings that will save energy and money.

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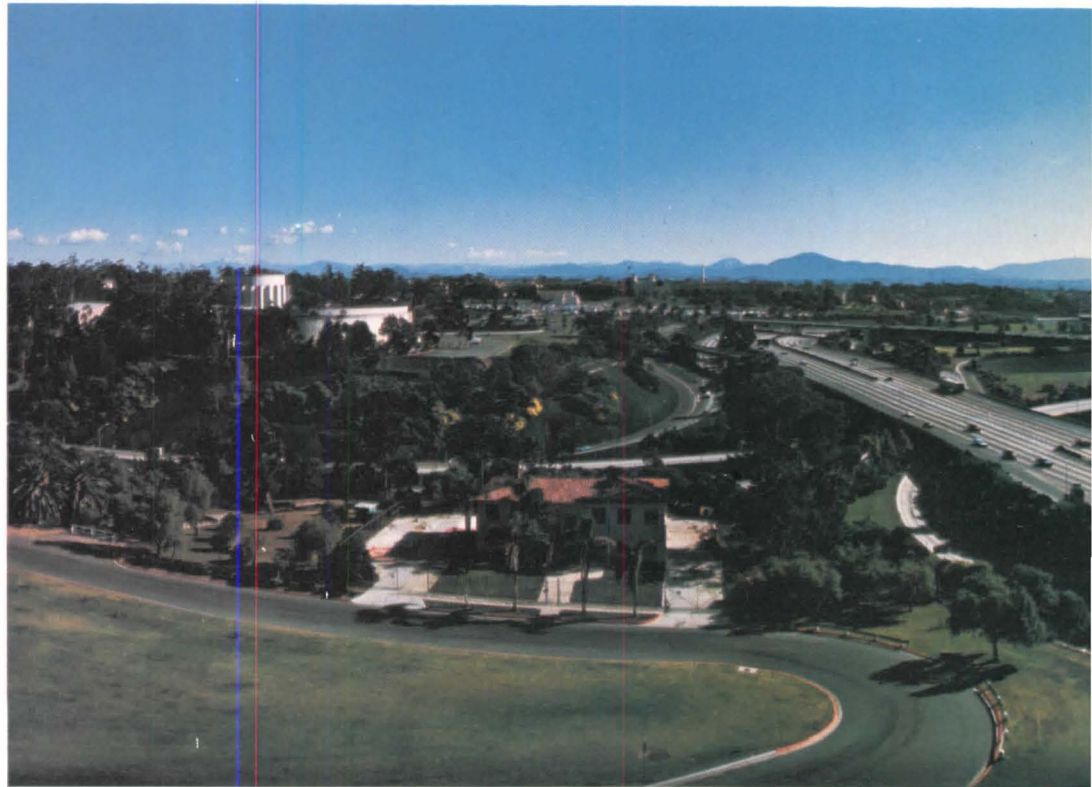
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San Diego?

Question marks appear with surprising frequency in discussions of this city. One follows the title chosen by the author for the lead article in this issue. A remarkable 1974 report on the San Diego region by urban designers Kevin Lynch and Donald Appleyard was called "Temporary Paradise?"

In large part the tentativeness of the punctuation reflects the fact that there is more becoming than being about San Diego—despite the fact that it is one of California's oldest communities (having been founded by Spanish missionaries in 1769) and has since grown into the state's second largest city (population 17,700 in 1900, 147,995 in 1940, 334,387 in 1950 and 772,591 in 1975).

One fact that no one questions is that the growth is far from ended. Lynch and Appleyard suggested that San Diego is in approximately the same position today in regard to growth potential as was Los Angeles a century ago. A major issue in San Diego and the major focus of this





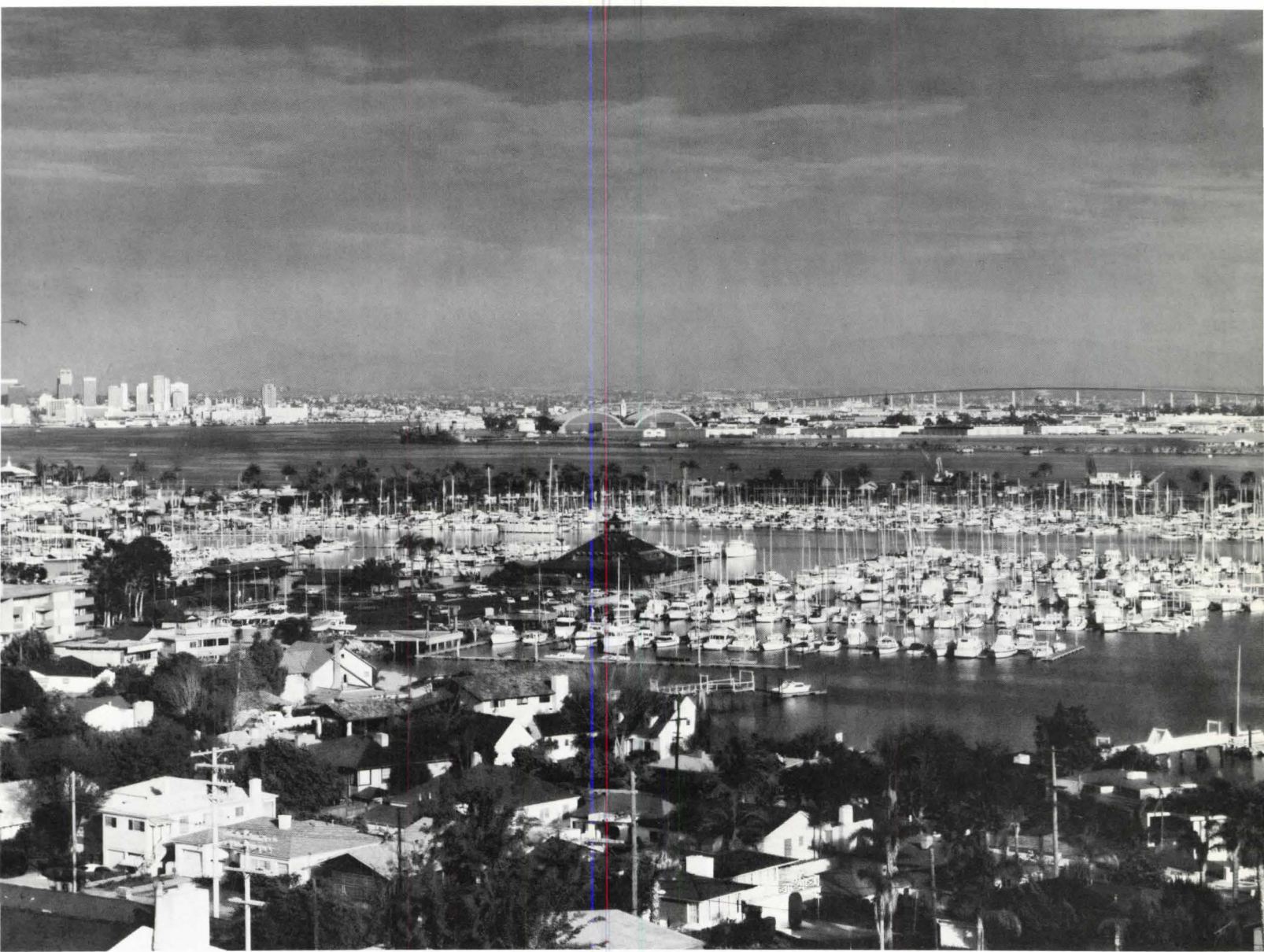
issue of the JOURNAL is what form (note use of the designers' term) this growth will take.

Another undisputed fact about San Diego is that one reason for its growth, past and anticipated, is that it is a remarkable place to live as well as visit. The photos on these pages tell some of the story: This is a place of striking natural beauty and variety, with mountains, desert and, above all, the sea, close at hand. What the photos cannot describe, but which San Diegans invariably do, is the climate: an average temperature of 71 degrees whose extremes occur within a narrow range of benignity.

The ultimate question, then, is whether in coming years San Diego will fulfill its self-proclaimed promise to become . . .

Photo by Michael Lawton, Polanski Associate





America's Finest City?

The eventual answer may depend on beginning efforts to shape growth in a framework of urban design. By James Britton II

San Diego's Mayor Pete Wilson won an honorary AIA membership last year for his "imaginative leadership in developing a phased program of urban growth for the city." He won the mayoral chair in the first place (in 1971) largely because he intrigued two-thirds of the electorate with the notion that "this city at this time can become America's finest."

In the years since he took office, the phrase "America's finest city" has been seized upon as though it were indisputable fact requiring an annual celebration of "America's Finest City Week." This article will evaluate that gold-stake claim and, in the process, attempt to show how the city stands as a piece of man-made environment.

There is no doubt that the "given" environment of San Diego is a masterpiece by the inscrutable Master Planner in the sky—a superb site for a city, if you disregard its uneconomic location in a far corner of the U.S., tucked behind mountains, not easily in touch by wheel with the main streets of American trade except through Los Angeles (which doesn't leave many customers unplucked). San Diego's leading wordsmith, *Evening Tribune* columnist Neil Morgan, put the environmental situation in a Southern Baptist nutshell when he said: "The best things about San Diego so far are things God put there."

The site invites, and gets, a great deal of appreciation. Its Pacific Ocean bay is one of the world's most fetching—not heroically rugged and temperamental like San Francisco's but placid and supine, like a beautiful woman in a sexist's dream. She invites rape—lying there so relaxed and gorgeous—and she has been molested, of course, though she has not hardened into a hussy nor lost her native beauty yet. San Diego is marked by numerous richly moist and vegetative canyons—again in contrast to San Francisco where hills are the more notable features and where official policy encourages high-rises to accentuate the elevations.

Mr. Britton is a writer and editor based in San Diego who has specialized in architecture and urban planning.

The big concern among San Diegans today is to prevent the Losangelization of their fair place—the proliferation of mindless sprawl. However, there is also rising consternation at the cost of the necessary controls, especially the cost to developers and consumers of housing. No small political warfare is brewing, and thereby hangs the fate of Wilson's "imaginative leadership."

Wilson is typical of the more eutenic San Diegans in that he is a relatively recent arrival who fell in love with the Sleeping Beauty and married her in his mind as though she were his very own discovery. He came by way of Yale University, University of California law school and a beginning in politics as an aide to Richard Nixon at the time (1962) of the latter's abortive shot at the governorship of California. It was Nixon's right right arm, Herb Klein—then editor-on-leave of the *San Diego Union*—who urged Wilson (above) to establish his political base in San Diego. As state assemblyman and as mayor, Wilson proceeded to lay so firm a foundation of ability and party respectability that he became one of Presidential candidate Gerald Ford's final round of possibles for vice president in 1976. Currently, he is a top contender to run for governor—to run, that is, the toughest course since his days as a U.S. Marine.

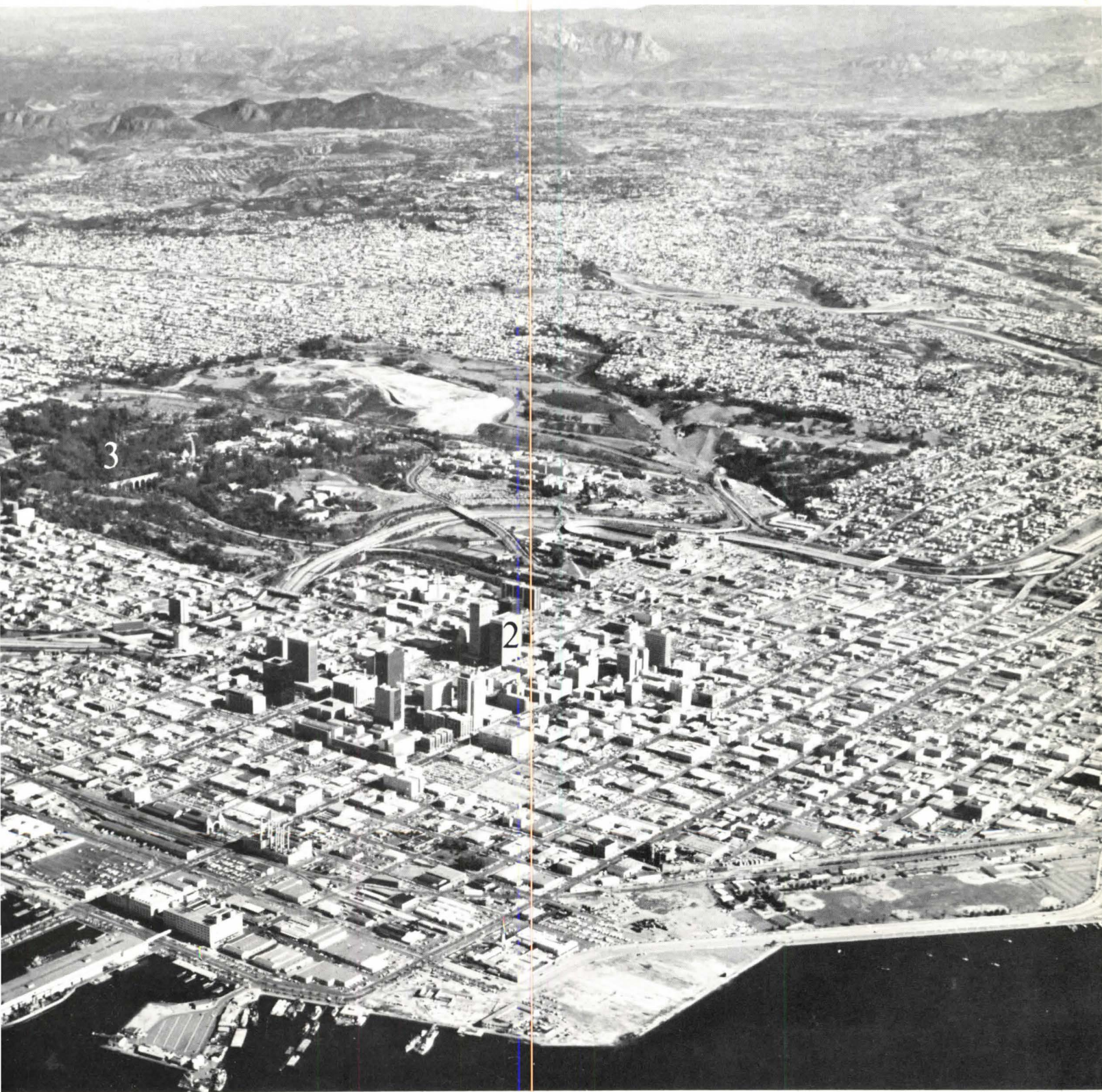
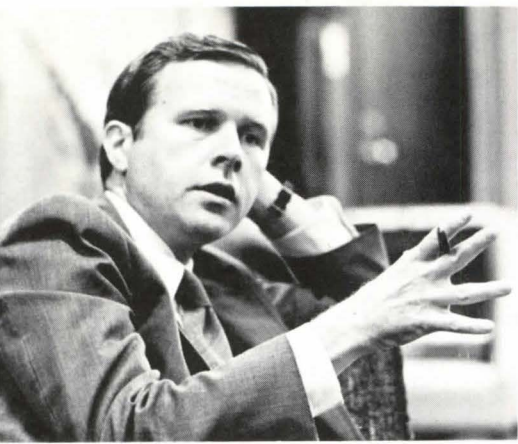
Wilson still looks boyish at 43, but is a fully-in-charge father figure when he presides over the city council. He's dull in his set speeches but given to witty repartee in conversation, courteous yet willing to fight such powers as the police and firemen in wage negotiations.

Though, or because, he is the son of an ad man, Wilson when barely settled in as mayor launched a bold campaign to rid the Finest City of billboards—totally. A stiff ordinance was passed in 1972 which indeed would have cleared the city of the rude rectangles by now except that a superior court judge ruled such rudeness to be protected by the First Amendment as a form of free speech.

The billboardsmen promptly redoubled their efforts to Venturify the city, and made it known that they would use the courts again if the city presumed even to

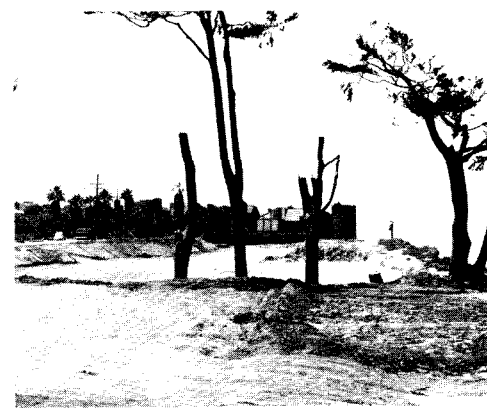


1. Mission Valley
2. Downtown
3. Balboa Park





Left, some of San Diego's still plentiful open land; below, developers at work and one of the city's also plentiful freeways. At right the fruition of the freeways' and developers' influence in the commercial clutter of once verdant Mission Valley.



regulate them. Meanwhile, the idea of a total ban was pressed by the city in the state court of appeal, which supported the lower court's ruling in favor of the free boarders. Logically, the Finest City should be the first to take this issue of urban design to the Supreme Court but, bedeviled by budget restrictions, it may decide not to incur the cost.

Mayor Wilson's rise in state and nation, as a Republican exceptionally concerned with urban quality even in the face of business opposition, parallels the rise of San Diego herself. It is unfair to keep repeating, as hucksters do, that San Diego is now the second largest city in California just because her population exceeds that of San Francisco. Sprawling San Diego is almost 10 times the area of the incorporated city of San Francisco. If you map out the metropolitan area around each, you find that San Francisco is the central city for at least five times as much population.

Thin-stretched as is the city of San Diego, she still finds herself surrounded by pockets of population which ought to throw in their lot with the central city but prefer to grow in their own way, often at odds with San Diego—not merely as suburbs but sometimes as though Big Sister weren't there. All are within one county and could gain substantially in environmental benefits if they formed one metropolitan government, but there is no prospect of this, and probably won't be until changes in Washington require it as a prerequisite to federal money flow.

There is now at least a show of getting local governments together on planning issues, in San Diego as elsewhere, because both federal and state moneybags are held



up unless this is done. San Diego County's comprehensive planning organization is, however, too often only an exercise in shadow-boxing. Studies of mass transit, for example, went on at great length and high cost only to end in veto by the delegates, as did relocation of the main airport, which sits on vast acreage almost in the lap of downtown.

Great stretches within San Diego's boundaries are still pastoral, unsupplied with urban "improvements," and Wilson wants to keep the pattern that way as long as possible in order to make the most of available tax dollars. "Intensify your building in areas that already have streets and sewers, schools and fire stations," he preaches, "because these things in new areas cost more to install than the new taxpayers contribute."

Such "densification" is increasingly sought as a means of budgetary relief in cities that are not already too dense, but is subject to fierce challenge in San Diego just because she has so much vacant, far-out land yearning for the caress of profiteers. If it ever takes hold, the process of densification could cause San Diego to achieve something like the compactness of San Francisco rather than the endless looseness of Los Angeles, so it is a key question as to the urban design of the Finest City, as well as her efficiency.

As with the billboards, even more so on this issue, business opposition is strong against the Republican mayor (who nominally was elected as "nonpartisan" with a high proportion of his support coming from Democrats, though he hardly hides his Republican standing).



Wilson's mounting opposition, then, is mainly in his own party. His strongest challenger has been a city councilman who also happens to be a wealthy concrete contractor and a partisan of the developers who would like to continue building on the cheaper raw land rather than tackle the more difficult leftover sites close in.

The easy riders of the bulldozer are now intensely active just outside the borders of San Diego where the smaller cities are usually glad to accommodate them, and where there is plenty of agricultural land to be despoiled in the process.

So, even if San Diego may tend to densify like San Francisco, she may be surrounded by another Los Angeles, or, rather, a megalopolitan extension of the old Los Angeles. For, just as surely as the agricultural Orange County filled up with the L.A. mix southward to the border of San Diego County (and this really happened only in the last decade), the mix will continue southward to the Mexican border, unless it is counteracted by the urban design vitality of Mayor Wilson's intentions.

The mayor has been gaining support, and enemies, for a growth management program (GM) formulated by Robert Freilich, the University of Kansas professor of urban law who won Supreme Court

approval of growth controls in the case of *wee Ramapo*, N.Y.

Freilich's wordy 1976 report on San Diego amply fleshed out in legal complexity a policy already clearly stated in a 1972 city council declaration which said: "The issue of residential/commercial/

Great stretches within San Diego's boundaries are still pastoral.

industrial development, particularly its timing and location, is of crucial importance to the long-range future of San Diego. . . . There is need to assist the private sector in more intensive development and redevelopment in areas previously urbanized."

Even earlier, in 1967, the general plan had proposed to foster "a greater intensity of land use in and near the central area."

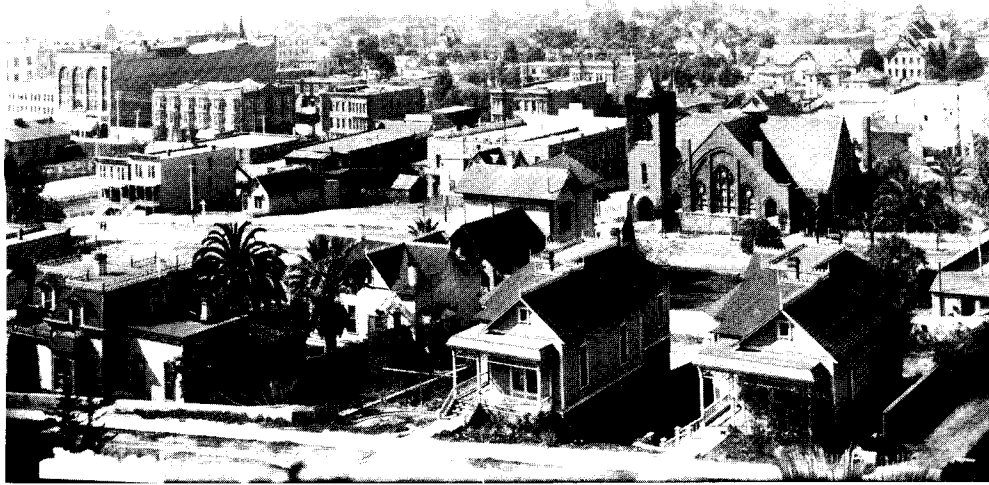
Thus there is a history of urban design sensibility in San Diego predating Mayor Wilson, and developers should have been prepared for its ripening into the Freilich growth management program. But when Freilich presented the GM case to a chamber of commerce seminar in late 1976, a savings and loan executive, Marc Sand-

strom, denounced the program to the doctor's face as fascism, and won a vigorous round of applause from an audience seething with developers and their allies. A contractors' spokesman drew a big laugh when he proposed a motto for growth management: "We've got you by the sewers."

Chamber pottage aside, there is a larger economic worry that GM may inhibit the effort to settle substantial employers in San Diego. Few companies have any reason to consider the place other than the exceptional quality of life which still prevails in many respects, so the mayor heard himself telling the chamber: "Let us add the word 'residential' in front of the title 'growth management program.' . . . It is not intended to discourage the location of businesses."

Once again, this is a sign that the urban design of the Finest City may be the loser in games of chance. Furthermore, the mayor heard himself say: "It may not be wise but we'll probably have to reduce the amenities of housing." He was referring to a proposed reduction of lot sizes.

Architects know, of course, that lot sizes have little to do with the quality of housing. And architects sometimes stretch their minds to consider whole cities as design projects. So it is that in 1975 the San Diego chapter/AIA came up with an



Above, downtown San Diego from the same vantage point in 1904, 1928, 1955 and 1977. Across page, the city's recently acquired and scarcely distinguished skyline.

'Downtown deserves to be offered to only the most creative architects.'

urban design task force which the planning department gladly accepted as reinforcement in preparing an urban design program for the city. The task force comprised an urban psychologist, an urban design critic, a professor of urban geography and a landscape architect, as well as two architects.

After a year, the urban design task force was sure that the planning department should assign eight of its best people (it has 70 professionals) right away to comprise an urban design "section" full-time. As with any design project, their overriding concern would be to watch out for the relation of the parts to the whole. More specifically, they would work at (1) saving and enhancing all the worthwhile environmental features, large and small, including buildings, and (2) pulling together all design-related city functions so that new construction could proceed soundly and with minimum delays consistent with the objectives of quality.

Clearly, the creative mind would have to believe that urban design is more important than growth management, and that GM should be but a tool to carry out the conceptions of UD. But GM has the higher political urgency, and Mayor Wilson's planning director believes that the urban design function of the planning department should be introduced only gradually, as the growth management program is put into effect. Hence urban design in San Diego is as yet mostly rhetoric.

The danger of insufficient attention to design is seen in the moves being made to revive the old downtown. The mayor is banking on this area to become the center of centers for the entire metropolis, even though it is off on one edge of the urban fabric and is now avoided by most people simply because they don't need it.

It is, however, a site so ideal for architecture that it deserves to be a prize held out only to the most creative architects. Though some instances of good design can be found among the few new buildings, the prevailing tone is so mediocre that it caused eloquent looks of dismay to register on the visage of a veteran critic of architecture who drove through with this writer. If nothing else, the confusion of traffic in guess-which patterns of one-way and two-way streets wrapped around too-small blocks is repulsive to visitors. Only a grand design revamping the whole downtown could make it attractive enough to hold its own against the unreasonable tendency of people to gather in more convenient centers.



The marvelous thing about the site, unique and precious, is that its 1,200 acres rise gently in the form of a shallow amphitheater focused on the most exciting show in town: the bay, with its everlasting kaleidoscopic mix of industrial, naval and recreational activity, presided over by one of the most graceful bridges this side of Maillart. (Photo, page 30.)

A glimpse of the bay and its wonders should be accorded to as many people downtown as possible, especially those in the streets. Because of the easy climate with little rain, and the waterside setting, this downtown, more than most, deserves to be designed for outdoor urbanity. Yet the prospect right now is that the value of view will be used to sell houses and hotels along the bay, leaving the rest of downtown to get along as best it may behind a wall of preferred perches.

If this happens, it will be because the restlessness of leaders in an economically hurting city traps them into accepting an underfinanced program. However, the head of the Center City Development Corp., Richard Silberman, a bold investor himself, claims that there is a surplus of investment capital in the world and, "I can't think of a better place to apply it than downtown San Diego. . . . We should be getting projects in the \$50-100 million

'A glimpse of the bay should be accorded to as many as possible.'

class instead of 5 and 10. . . ."

Silberman has design sense himself. He had a row of windows knocked out of a glass-walled highrise in order to provide his offices with recessed balconies, as though to proclaim: "Who needs airconditioning in San Diego?" And he converted an old motel into the region's most popular disestablishment-type shopping center (not downtown).

The biggest downtown project actually to hit the drawing boards so far—though only in the form of conceptual sketches and models—is a shopping center geared cautiously to the needs of three department stores (none of which will actually build until new housing is well along to supply customers). The developer, Ernest J. Hahn, is very successful at assembling shopping centers to match projected customer loads, but his activity in this case could stamp the downtown with a provincial, not to say suburban, cast entirely out of keeping with the significant center that ought to be born there. Mayor

Wilson's planners made a considerable effort to assert unusual urban design standards, calling in the San Francisco firm of Rockrise Odermatt Montjoy Amis for the purpose, but Hahn's requirements forced a scheme that was less than pleasing to members of the planning department most concerned about urban design.

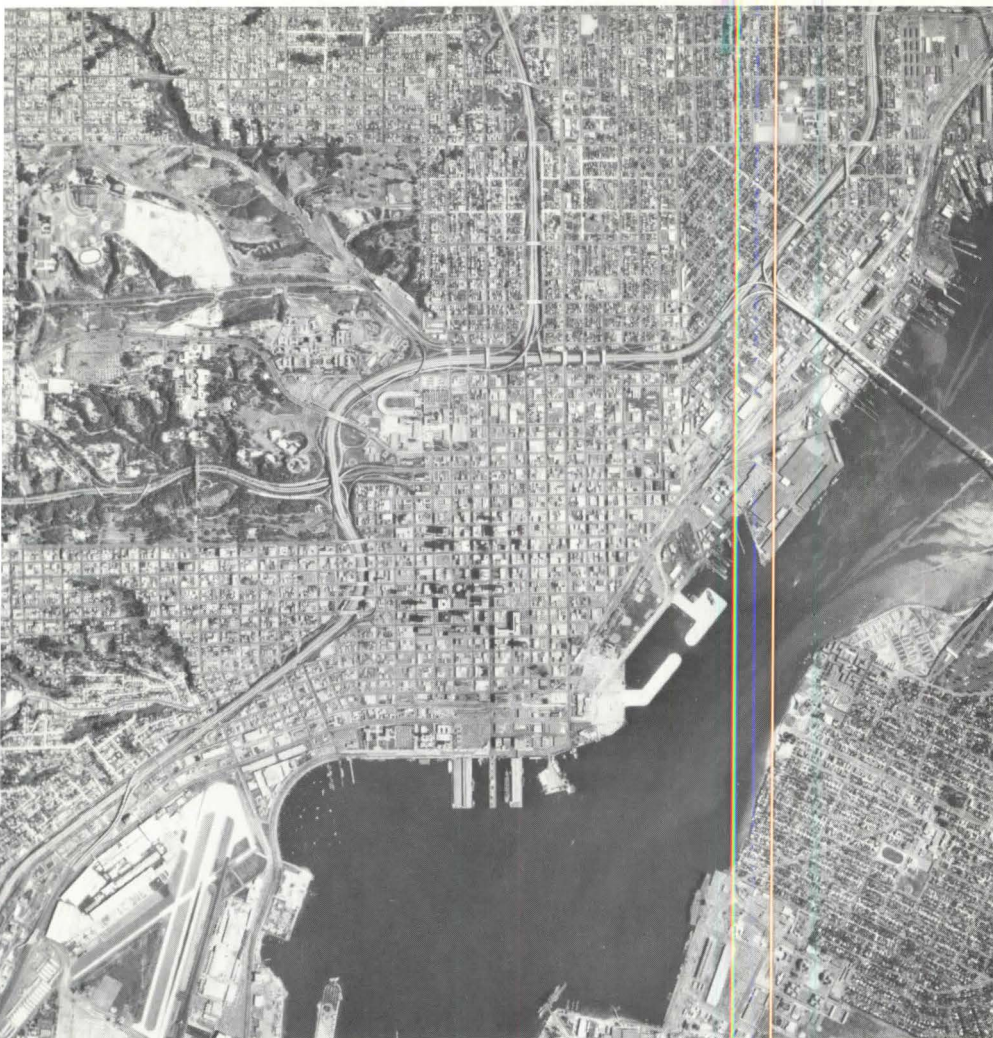
The development plan for downtown adopted last year (but subject to mauling by events) is a document that exhibits the informed ingenuity of planners in the employ of the city, though it also shows the weight of compromise which diminishes their efforts. For example, it talks of cultivating "elevated pedways" here and there as conditions permit, whereas some planners would have preferred to argue that elevating pedestrian traffic *throughout* downtown was fundamental to lasting success. (Others would refine the mix of cars and people.)

Emphasis should be given here to San Diego's early history of comparative successes in "urban design"—long before that term came into use. Balboa Park (1,400 acres) was set aside near downtown at about the same time as New York City's Central Park, over 100 years ago, when the town itself was hardly bigger than the park. Today, Balboa Park is laden with civic goodies including the



The uses of nature: above, canyon houses; at right, the water- and landscape of Mission Bay Park. The dark area in the upper left of the aerial photo across page is bounteous and beautiful Balboa Park.





world's most populous zoo and a group of well-endowed museums. Since 1945 there has grown up on the coast Mission Bay, an intensely used marine park of 2,400 acres (half water), supplementing the numerous beaches.

In a city that is exceptionally outdoor-oriented year-round, all those acres of heaven are still not enough; so the present plan is to create a new park which will not only be five times as large as Balboa Park (and thus the largest city-owned park in the world) but will be connected to Mission Bay by eight miles of recreational land.

San Diego has a freeway system that is extremely convenient and comparatively free of jams, so far. Perhaps that is why there is little interest in mass transit, so the city may be among the least prepared when the gas pumps run dry.

Speaking of pumps, San Diego is essentially desert country, though modified in climate by the Pacific. Imported water has caused it to flourish and to flower, but the wealth of growing things must seem like a mirage—an oasis that might vanish—to the counter of gallons who knows that San Diego could be among the first to suffer from future shortages of water.

Is it any wonder that when two urban design professors, Kevin Lynch of the Massachusetts Institute of Technology and Donald Appleyard of University of

Balboa Park was set aside when the town was little bigger than the park.

California, studied San Diego they titled their 1974 report *Temporary Paradise?*, complete with question mark. The Lynch-Appleyard study is one of the best fruits of Pete Wilson's reign as mayor. It happened because the Republican leader was broad-minded enough to eagerly accept a grant from a leading Democrat, Hamilton Marston. (Marston's grandfather started business life in San Diego and prospered as a Republican but ended up voting for Socialist Norman Thomas after many years of struggle to impart class to his city.)

If the Carter Administration wants to upgrade the character of American cities, it should promote the writing and publication of reports similar to the one Lynch and Appleyard did for San Diego. The professors went up in a helicopter and almost fell out when they beheld the vicious straight line dividing the metropolis into two halves, halves which hardly understand each other, let alone work together. The line is the Mexico-U.S. border, and the less lucky half of the total population pool in the region goes under the name of Tijuana, Mexico—a place hated

by most mainland Mexicans. Americans cross the border for fun and to test their wits against bandits, but Mexicans cross increasingly to escape the desperate poverty. The article beginning on page 50 discusses the "Mexican connection" as it affects urban design and urban life.

Getting back to the moist and vegetative canyons that lie about in the San Diego terrain yearning to be loved: San Diegans are so obsessed by them that some of the most satisfying structures in town—with or without the intervention of architects—are houses which finger their way into the canyons and cast endlessly feasting eyes upon them.

The richness of the canyons comes from natural drainage, not of sewage (except in Tijuana and San Diego's back country) but from choice waters bought and paid for to nurture the stage-set scenery that abounds on the tablelands. One knows instinctively that even after the table water and its wonders have shrunk from high cost, the canyons will retain the memory and the residuals of the easy green years.

The sense of psychic security and personal renewal to be gained from living on a canyon's edge increases as insecurity and personal degradation increase in the city streets. Most of all, there is soul-mending value in the fact that the best canyons never show a trace of the auto-

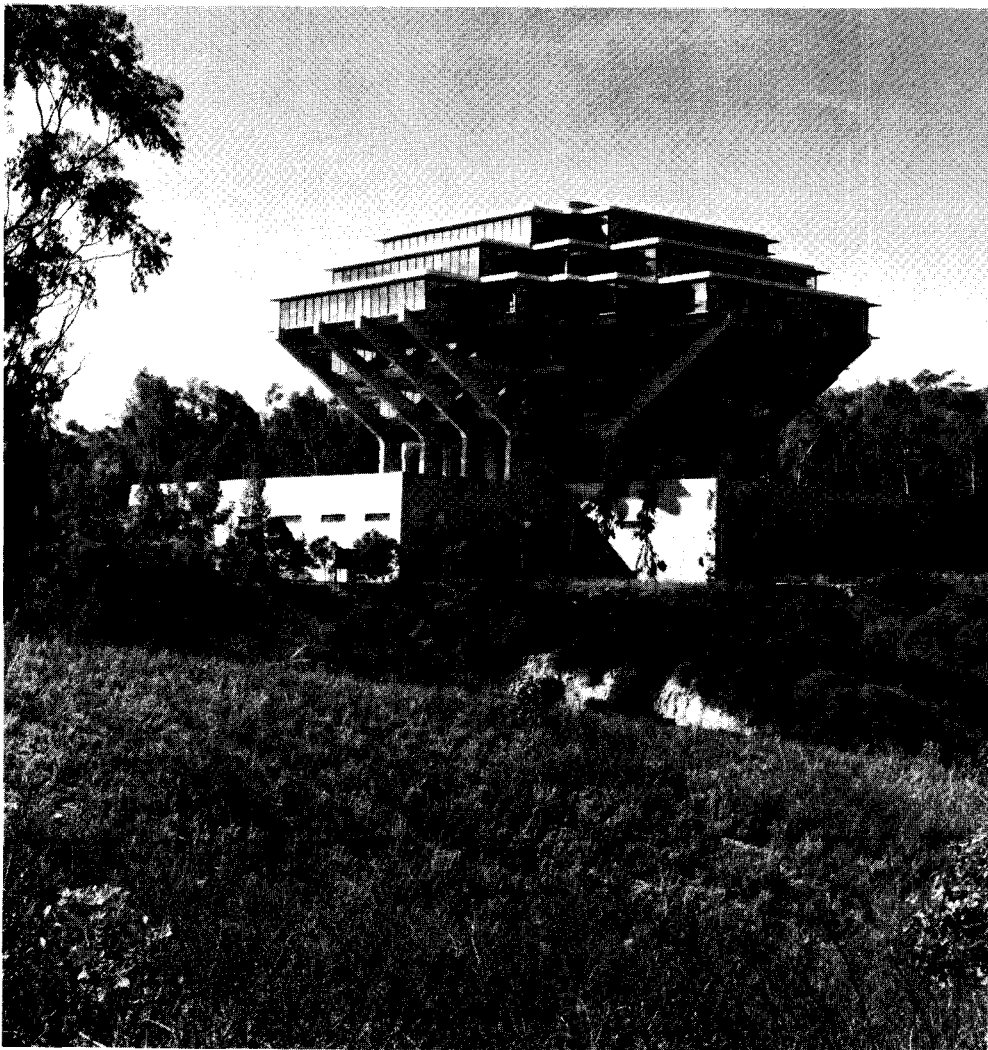
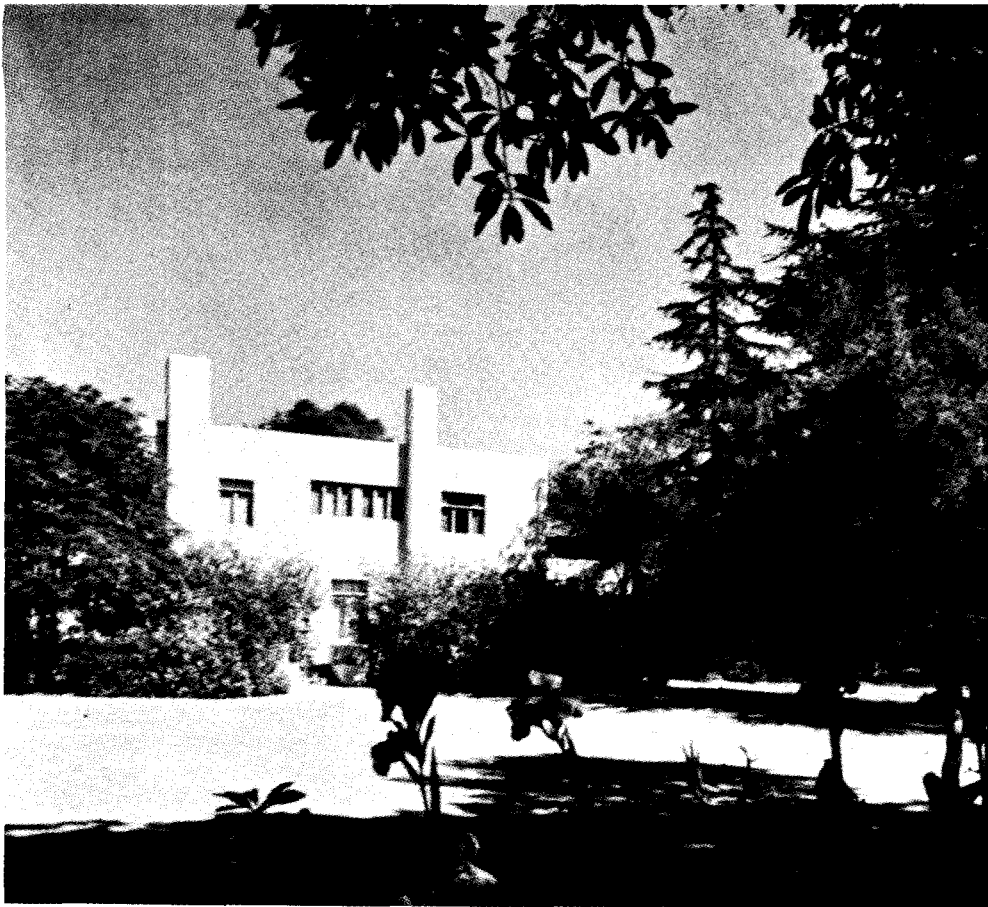
The best architects have creatively used the splendid topography.

mobile and its relentless aggressions. (Saving of canyons has been actively pursued in Mayor Wilson's time, not always with success.)

A visionary architect of San Diego, Lloyd Ruocco, FAIA, now retired, tried to translate the miracle of the canyons into a pattern that would improve the work of bulldozing developers on raw land anywhere, though the few he spoke to brushed him off as one more interference with profits. What he did was a variation upon Clarence Stein's Radburn. First, he treated the roads as mere access to the houses. Of course, he abolished side yards as obvious waste. The houses were linked together with soundproof masonry walls (which might furnish many jobs to the poor Mexicans who seem to have masonry in their bones). The "rears" of Ruocco's houses were really the fronts, opening out on wooded "kinderpaths," so named because they were scaled to the natural wonderment of childhood, and they lead to the elementary school and the community park without autointoxication. Adults had the option of walking through the woods or rushing out the *back* door to join the wheely wicked world. Ruocco's is an idea that deserves fulfillment on a wide scale.

The grandest recognition of a canyon by an architect in San Diego came in 1915 when Bertram Grosvenor Goodhue (with a young Clarence Stein in his employ) conceived the installations for the Panama California International Exposition in Balboa Park. The combination of the Cabrillo Bridge and the California Tower—modeled after the bridge and cathedral in El Greco's "View of Toledo"—has entered the psyches of San Diegans old and new, fogy and mod, ever since. It is by far the most significant large-scale architectural statement made in San Diego until recent years.

Of the big-name architects of our day who have had hefty commissions in San Diego, the two who registered most powerfully are those very opposite personalities, suave William Pereira and unsuave Louis Kahn. Pereira's contribution is uncharacteristic of him and probably the best design to bear his name: a library that seems to hang in the trees of the University of California campus like a godly lantern of enlightenment. Kahn's Salk Institute broods as the master brooded, and implies new ideals of awareness as it rests at the edge of the Pacific, anchored in a deep history of man's best efforts (see page 42). □



Top, a 1916 example of the work of San Diego's early master architect Irving Gill; above, the University of California library; right, the Goodhue bridge and tower.





Evaluation: Louis Kahn's Salk Institute After a Dozen Years

What it is and what it might have been. By Allan Temko

Eighteen years have passed since Louis I. Kahn began the design for the Salk Institute of Biological Studies in 1959, and a dozen years since the completion of the famous laboratories overlooking the Pacific in 1965 established his reputation as a great architect. For although Kahn was

Mr. Temko, an architectural historian, is author of *Notre Dame of Paris* and *Eero Saarinen*. For many years he was architectural critic of the *San Francisco Chronicle*.

then nearly 65 years old, he had previously finished only two or three buildings, most notably the Richards Laboratory for Research in Medicine at the University of Pennsylvania, which could be taken very seriously as architecture. Except at the more precious Ivy League schools, Yale for instance, where a pictorial and literary approach to architecture made Kahn an idol of academic veneration, he had been almost unknown to the profession during the 1950s; and in places such as Chicago the Miesian heirs of a rational building

tradition regarded his mystical idiosyncrasies with mistrust, if not outright scorn, for his labored compositions, with their constructivist melodrama, cumbersome detail and irresolute scale.

The Salk commission changed all that. The twin laboratory blocks, confronting one another across a powerfully drawn central court, were Kahn's first fully realized works of art. That they were also the finest biological research facilities in the world, thanks mainly to the floor-sized mechanical spaces which surmounted each of the three laboratory levels, permitting unprecedented flexibility of hook-ups with the equipment below, seemed almost incidental to the formidable emotional presence of the buildings themselves. This was the first time, too, that Kahn had been able to put into practice his longstanding idea of "wrapping the ruins about the building," in the triangular forms of the scientists' studies that jutted



into the court from the laboratories as huge concrete uprights when seen from the east, but presented astonishing facades of teakwood and glass to the wind blowing from the sea on the west.

Thus Kahn finally had a real chance to show "what a building wants to be." Yet before an appraisal can be made of how well the architecture has performed over the past decade, it must be understood that the laboratories, grand as they may seem, were only part of a far grander—not to say, grandiose—concept that in every respect has been a failure.

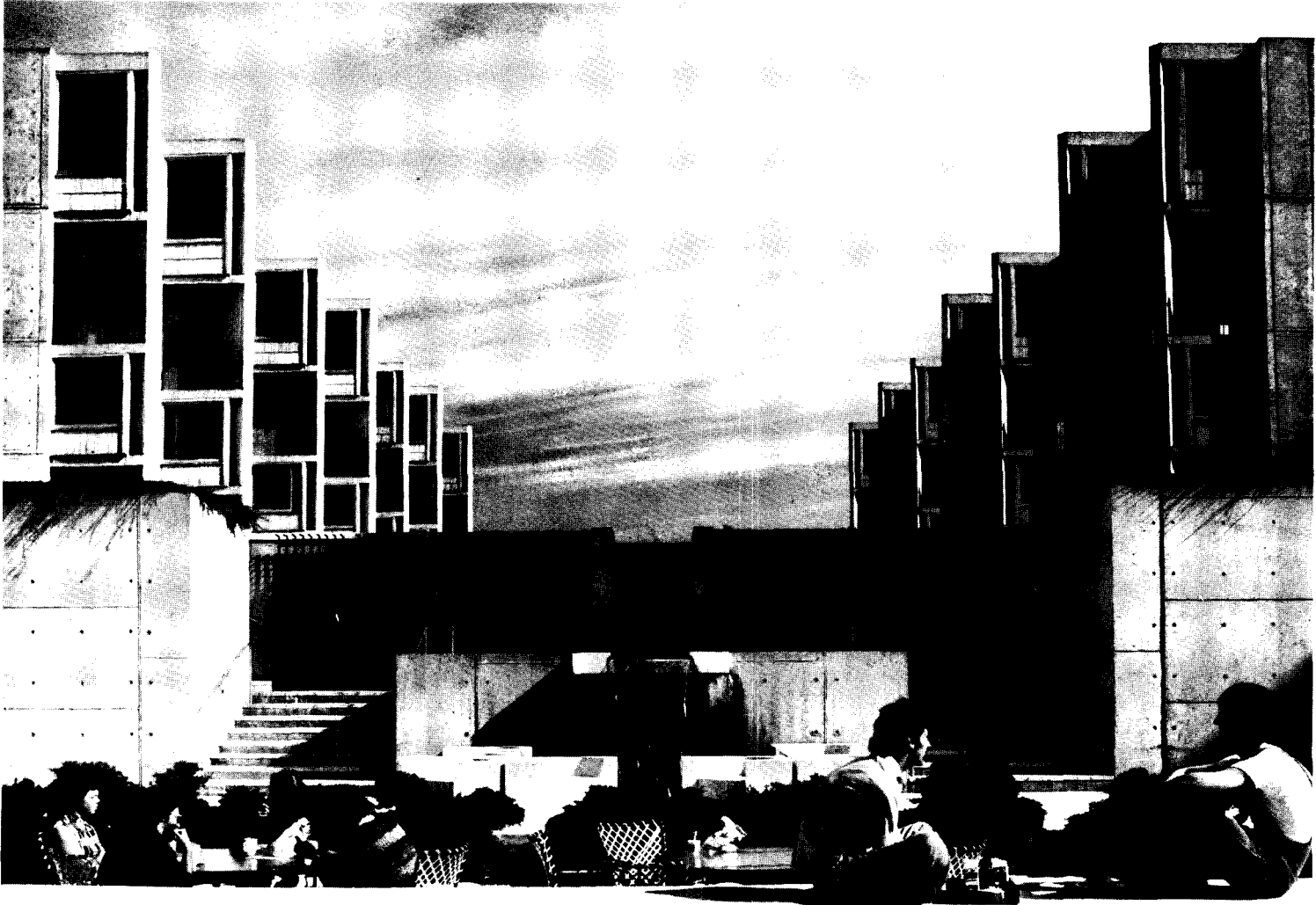
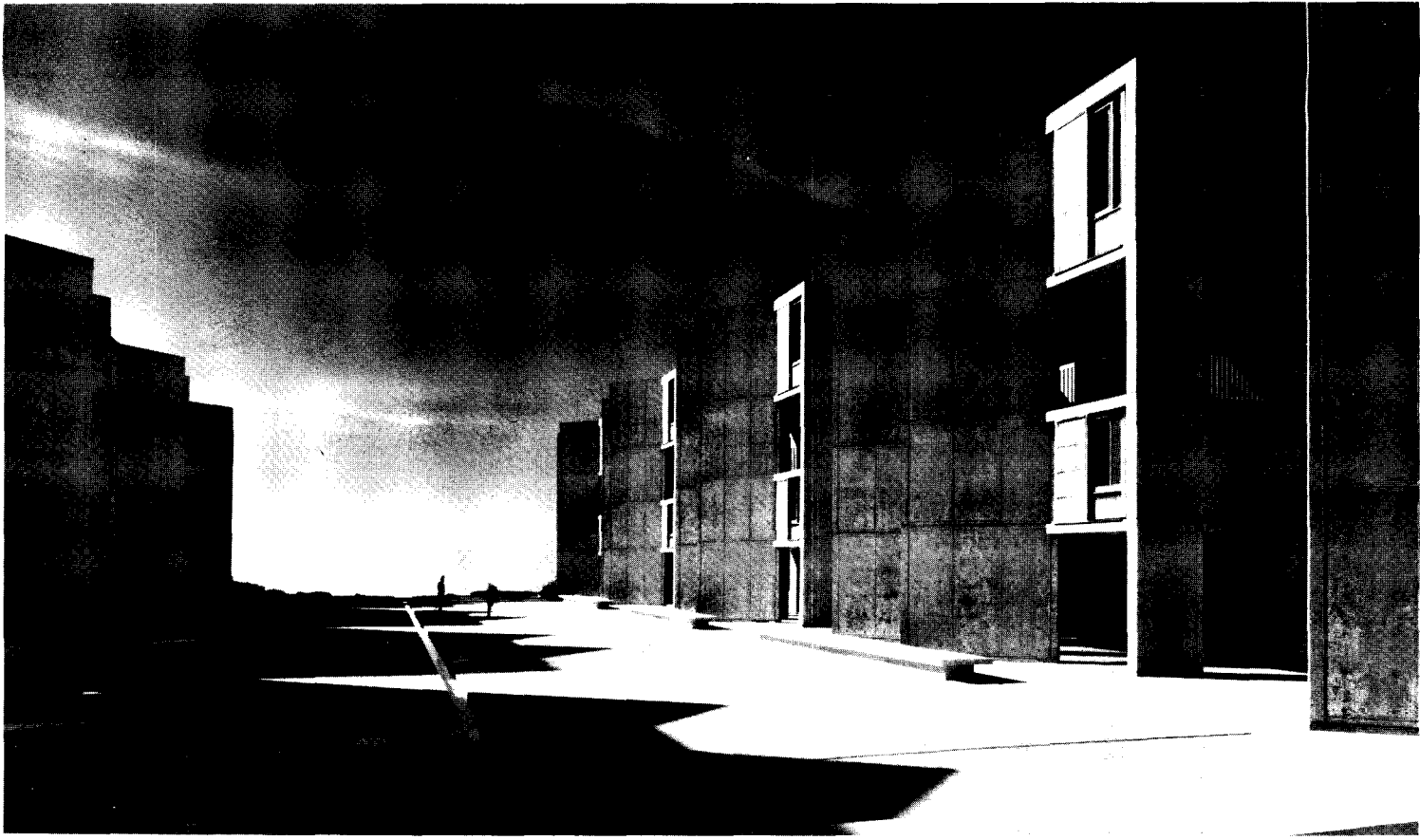
In Dr. Jonas Salk, Kahn at last had a client with seemingly ample means who not only wanted a masterpiece, but who challenged the architect with a supreme spiritual and intellectual problem: the need to reconcile humanism and science at a time when C. P. Snow described them as "two cultures," tragically divided and even at odds because of ignorance of each

other. What was more, Dr. Salk immediately became a close friend, and in some ways virtually a codesigner with whom Kahn could talk all night about architecture and other high matters.

In these heady conversations the conqueror of infantile paralysis, a national hero who had not yet been openly assailed by his eventually victorious rival Dr. A. B. Sabin, asked Kahn to create nothing less than a new kind of scientific cultural environment, a place where Picasso might come. Salk reasoned that his institute, for which he had some \$20 million for construction from the March of Dimes, could not truly fulfill its ongoing scientific purpose unless the architecture transcended narrow technical requirements, and, on a loftier plane, gave *form* to an integral community of creative minds. In this little city of the intellect, Salk hoped, all aspects of contemporary humanism—the fine arts and music as well as philosophy

and letters—would be cordially at home with science.

It was an assignment after Kahn's heart: Salk had given him the chance of his romantic lifetime. Consequently, he developed a plan with three major elements, which coincided with the triangular configuration of the site, which fans out to the west, cleft by a ravine, as the land drops to the distant beach. On the high ground to the east, Kahn placed the monumental laboratory blocks, separated from the approach road and parking area by a garden. Originally there were to have been four double-decked structures, pressed closely together, with meager spaces between them. In a crucial decision Salk vetoed this scheme at the last possible moment. Kahn then designed the far superior pair of three-level laboratories, much less bombastic in profile, and containing about the same total square footage, which were actually built around the



The unbuilt meeting house would have been pivotal in Kahn's career.'

great court that is the centerpiece of the institute today.

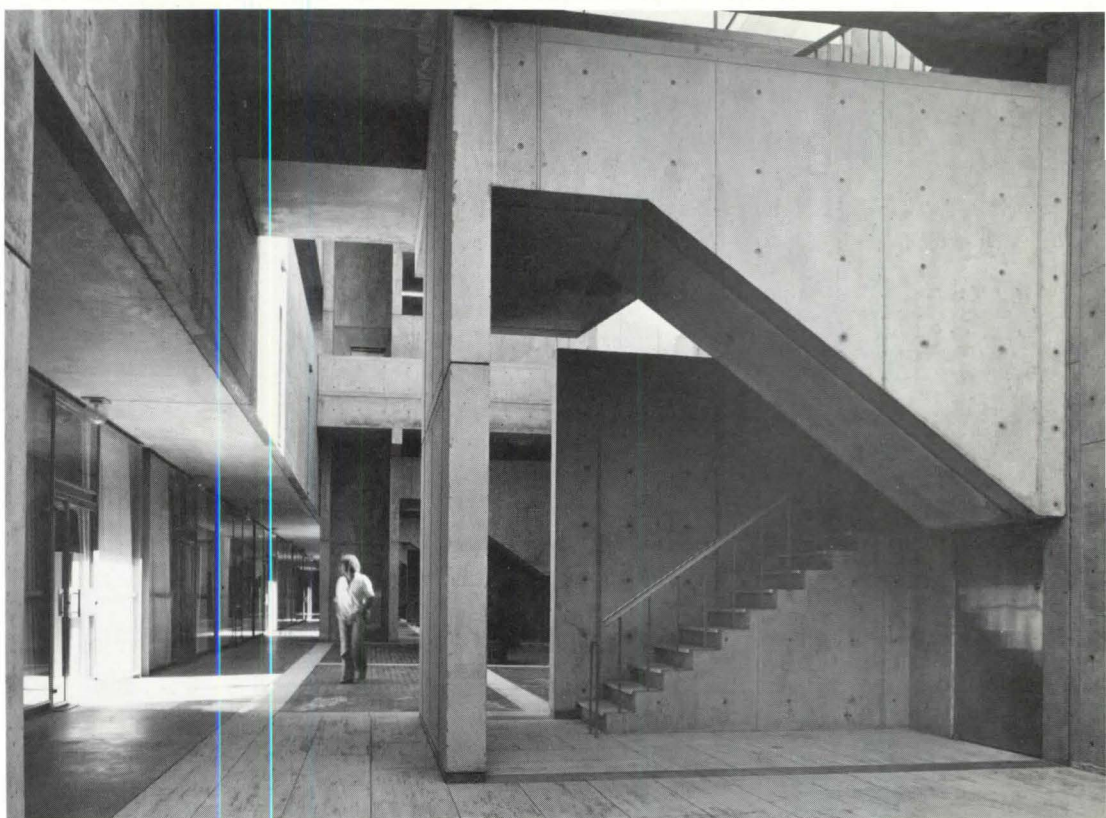
But it had not really been meant to hold this central focus, and surely not to serve as the principal ceremonial entrance to the institute as it does now. Kahn's emphasis was further west, where he asymmetrically sited the two other main elements of the plan, unequal in importance, but both indispensable to the concept.

On the ridge south of the ravine he foresaw a loosely strung "village"—quite Mediterranean in mood—which was to house unmarried fellows and visitors. Across the ravine on the north, where he would have welcomed the world to the institute, was the part of the whole project that was dearest to him: the "meeting house"—a scientific Abbey of Thélème where the community and its guests could dine and converse, read and reflect, assemble for conferences, hear poetry, enjoy art, play and listen to music, and above all respond to architecture, in lordly and complex spaces on which Kahn lavished all his love.

Here is not the place to recount the history of the institute's planning and design, which has never been properly told. It deserves a book of its own, which perhaps Salk alone could write. But there can be no question that the meeting house, whose design was carried very far before it was abandoned, would have been a pivotal work in Kahn's career, a harbinger of the eloquent autumnal buildings of the end of his life. It was here that he first convincingly devised an extraordinary personal geometry of interacting forms—reversing patterns of circles within squares, and contradictory squares within circles which, although very complicated, for once did not seem arbitrary and forced, but by paradox made unusually good sense of what he and Salk were trying to achieve, or rather—in Kahn's metaphysics—"what the building wants to be."

Alas, except on paper, the meeting house was fated to be nothing at all; and this had disastrous results for the whole future operation of the institute. Salk's personal star, never in any case brilliant enough to figure in the constellation of Nobel prize winners, was no longer ascendant in the mid-1960s; and after the laboratories were completed, construction ceased as money ran out. The March of Dimes continued to support Salk's re-

The travertine courtyard, first planned as a lushly landscaped garden, is an often glaring and seldom used space.



search in immunology; and the work of his senior colleagues was generously financed by the government and the big foundations.

So far as architecture was concerned, however, there weren't funds even to landscape what remains partly an unkempt site. Plans for the meeting house and the village were shelved, so that the staff, scattered through suburbia, shares almost no searching common experience except work in the labs. With these losses disappeared the proud expectations for the arts and humanities, over which the late Jacob Bronowski, the wonderfully civilized author of *The Ascent of Man*, presided as best he could. Occasionally, a philosopher such as Karl S. Popper (*The Open Society and Its Enemies*) visited the institute, but Picasso never came.

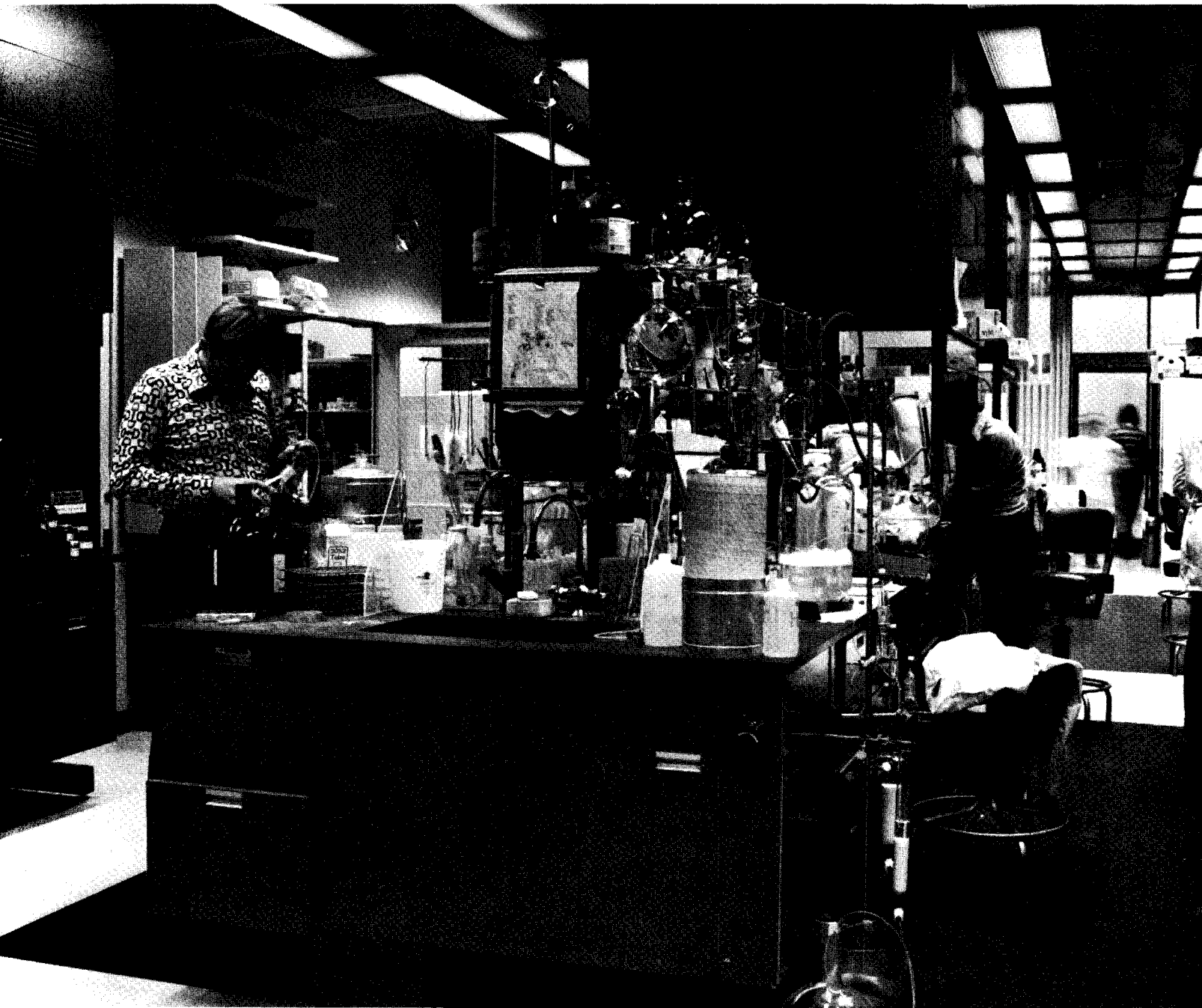
All this had a devastating effect on the mood of the institute, and it explains the poignant sense of incompleteness and broken hopes that a stranger soon detects. If Louis Kahn wanted tragedy in architecture, he got it here, in ways he never anticipated. Whereas he and Salk wanted to create an environment of such humane richness that its virtues could be weighed only in the scales of the archangel on the final Saturday night, the institute in fact has become a conventional stronghold of Big Science where success is measured in Nobel prizes. Without question it is a superb laboratory, performing at the highest levels of international science, but scarcely in a class by itself.

"They are not that strong," says an eminent life scientist, "although they are very good. Cal Tech, MIT, Berkeley, a few other places, are stronger." This is



not bad praise for an establishment with little money of its own that opened 12 years ago. For its size, indeed, the institute competes well in the Nobel league. Thus far it has had three laureates (a fourth, Francis Crick, is visiting this year, and may stay on); and two or three of the six senior fellows who direct the principal research groups currently are enough in the running to grow edgy when the Nobel jury meets in October.

Surely such prestige, a magnet for new talent, is due at least partly to the still unsurpassed quality of the laboratories, which belong to the empyrean of technological architecture. Even when scientists and technicians with whom I spoke had sharp reservations about other aspects of the buildings, amounting in some cases to animosity, virtually all of them considered the great clear-span spaces—16,250



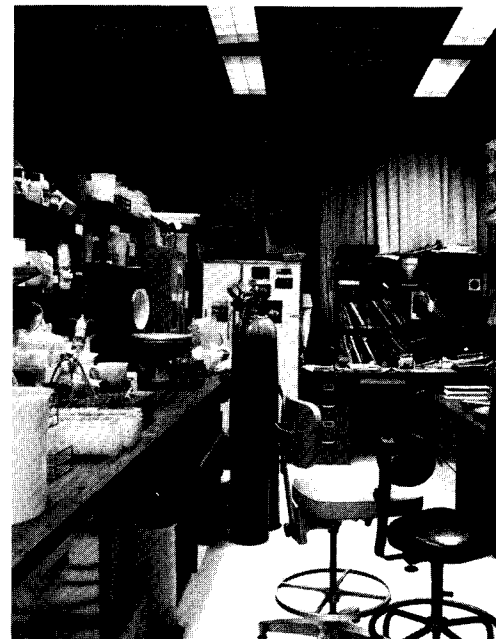
square feet on each level, which is usually divided equally between two research teams—to be the most handsome, pleasant and altogether practical laboratories in which they have ever worked or visited, either in this country or abroad.

The scheme is basically so lucid that it may be fairly called Miesian. The long, unobstructed spaces, 65x250 feet, are spanned by structural ceilings, Vierendeel trusses nine feet deep, which provide the most logical “servant” spaces ever conceived by Kahn. They easily contain the elaborate and remarkably beautiful support systems, including huge Pyrex vents for toxic fumes, which are hooked up with the “served” areas below by “umbilical” connectors that can be dropped through apertures on five-foot modules anywhere they are needed. The prodigality of the mechanical lofts, which by now have repaid their cost many times over, enables changes and repairs to be made quickly

Labs (this page) alternate with 9-foot-high ‘servant’ spaces (top right), as shown in the section drawing.

and economically, although not so inexpensively as those unfamiliar with exacting experimental procedures might think. Of course, the “universal” space on both levels also permits each scientist to lay out his own laboratory, choose optimal equipment and later modify the arrangement if he wishes, with virtually absolute freedom.

Thus, after a decade of hard use, the verdict of the users is overwhelmingly favorable; and on the available evidence it is confirmed by results. Yet the flexible efficiency of the labs, unprecedented for their time, may be less surprising than their air of complete reasonableness in buildings of the 1960s by Kahn. For an architect who himself was as old as the century, yet woefully inexperienced in actual building, he belatedly came of age



Overwhelming approval of lighting, mechanical lofts and 'universal' spaces.

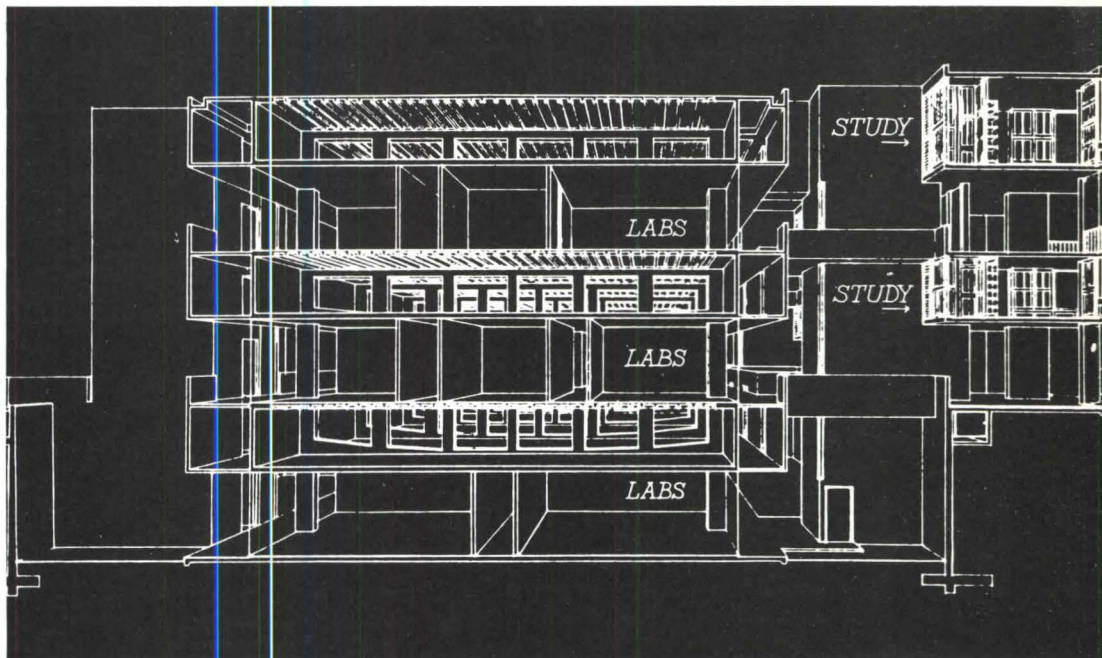
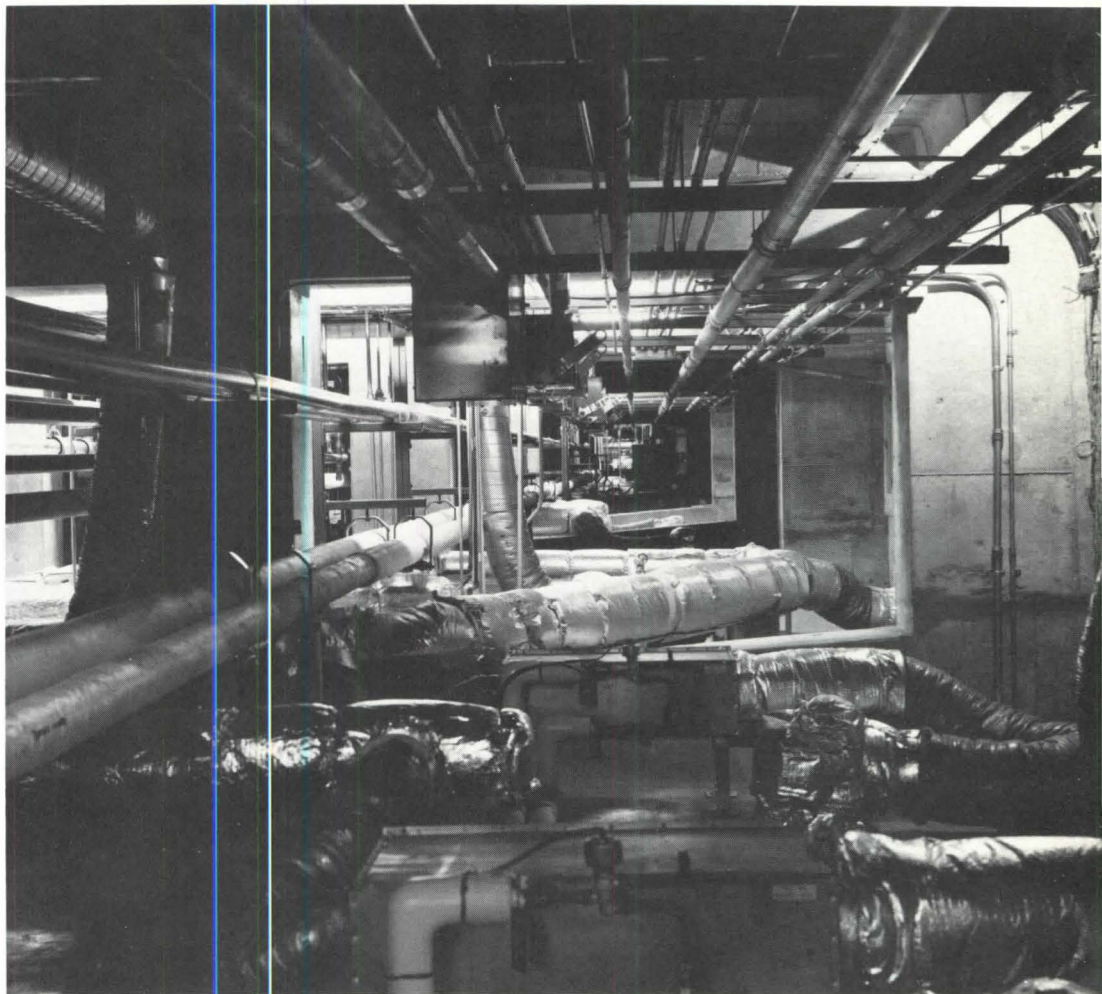
in the Salk project, which is quite beyond comparison with earlier works which, had they been done by a younger architect, would have been dismissed as immature.

The absurdly overstructured tetrahedral ceilings of the Yale art gallery, for instance, coarsely contending with the art they are supposed to enhance, cannot be put in the same architectural class with the powerfully calm, but tactfully concealed, post-tensioned trusses at Salk. In the same way the theatrical exhaust stacks at Penn, like stage sets of San Gimignano, deprive the dark and cramped lab spaces of flexibility and room for expansion.

Except for purposes of contrast, they are not comparable to the unobtrusive and infinitely finer venting system at Salk.

How can this sudden deepening of Kahn's art be explained? Much credit obviously belongs to engineers, inventors and other consultants, as a group by far the most gifted he had yet worked with, including August E. Komendant, who was responsible for the exemplary structure, and Fred Dubin, the author of the superlative mechanical system. The exquisite low-brightness illumination, which has nearly the quality of fine natural daylight, and is one of the first features everyone at Salk mentions enthusiastically, has been so widely imitated that it is now commonplace in good laboratories. It was devised expressly for this project by Edison Price, in company with the job captain, Jack MacAllister, and other members of Kahn's office. By now, too, as the meticulous refinement of details indicate, Kahn's staff had been expanded and improved; and although Kahn was still a chaotic mismanager of his affairs, his young architects—some of them former students—were intensely loyal and sensitive, and executed his ideas with devotion.

Yet none of this ultimately explains the unique place of the Salk Institute in Kahn's career. For never before and rarely after, perhaps only in the splendid Kimbell Art Museum in Fort Worth and certainly not in the mighty, half-barbarous structures of brick and concrete that somehow went up in India and Bangladesh, would Kahn so sanely grapple with a prototypical problem—the problem of the great scientific center of thought—whose solution could be applied, as none of his other designs really could, to the full range of modern architecture. But an achievement on this order was impossible unless Kahn subdued those autocratic impulses (he never could abandon them completely) which, as Lewis Mumford



said of Frank Lloyd Wright, often reduced clients to the status of guests in their own buildings.

Dr. Jonas Salk was not such a client. Could not the greatness of the laboratories then be explained perhaps, to a degree that neither he nor Kahn would concede, by the role played by this fascinating man whose intelligence influenced the concept at every stage of its development?

"I could not sleep the night before the first design was to go to bid," he said,

looking to the Pacific from the tremendous office of concrete and teak Louis Kahn made for him. "Something seemed terribly wrong. The buildings were too crowded. They seemed to crush the spaces between them, which, even if they were beautifully planted, didn't seem liberal enough. I thought, too, that if there were four buildings, the institute would be split into northern and southern halves, with each pair of buildings looking into separate gardens. I didn't want to destroy the sense



of wholeness we were seeking; and as soon as I could in the morning, I telephoned Lou, and told him that there should be only two buildings, facing on a single court."

There. That is how architecture decides "what it wants to be." Yet the discarded preliminary design, in which Kahn had taken considerable pride, was nevertheless breathlessly overpraised by his acolytes and exegetes, at New Haven and elsewhere.

Salk also had the purely functional requirements of biological research to worry about: everything from fume hoods to cold rooms, animal storage to electron microscopy, computer printouts to cabinets for common chemicals. Perhaps there was no one in the world who could have been a more discerning and sympathetic critic of the design as it developed, if only because of the very abilities and practical experience that made him one of the leading immunologists anywhere (but by paradox denied him, as Pasteur had been denied, the highest distinction as a theoretical scientist). Salk has a remarkable command of laboratory technologies in innumerable specialized fields.

Here again a simple grand principle prevailed: The building was only to provide enough, in basic enclosure and mechanical services, for each senior fellow and his/her research team to design their own working environment. Consequently, the individual laboratories can be seen as a series of user-designed minienvironments within the monumental symbolic world Kahn created around them. Almost surely there is a profound analogy to be drawn between these buildings and great cities. For the scientists have exhibited an astonishing range of individual choices, in both the mood and physical arrangements

of their laboratories, offices, conference rooms and private studies, varying from almost compulsive neatness and clinical severity to easy informality and occasional scenes of happy squalor: books tumbling on floors, furniture pushed every which way, snacks on laboratory tables and enormous sheets of aluminum foil (in a couple of cases, white paint) masking big windows where the sun strikes between the projecting studies and service towers—"ruins wrapped around the building" that Kahn, as a supposed master of luminous design, intended to provide solar protection for what otherwise would be a multistory Miesian cube of glass.

Some of the scientists, none more re-



ligiously than Salk (above), take pains to "respect" the architecture, ordering their assistants not to block interior or exterior views, or not to store cartons, oxygen bottles and other paraphernalia in the outdoor service corridors, loggias and sunken courts, which originally—like the central court—were meant to be gardens. In the end, however, they were paved, and a few potted plants, not very carefully placed, stand there disconsolately. Perhaps the shade of the great Philadelphia mystic is unappeased. But the institute is a big place, and all sorts of unpredictable, irresistible events occur in out-of-the-way places, and some not so far out-of-the-way, such as mischievous flirtation through the noble sheets of plate glass, so that a pretty secretary or a lovely, cerebral lab assistant draws her blinds, or tapes up a travel poster, while a bearded young scientist laughs, and winks like Silenus.

Possibly, as some of the older scientists complained to me, they have no culture. The younger scientists come from schools like Baylor and West Virginia, as well as Princeton and Stanford. Hardly any of them have heard of Virginia Woolf or Marcel Proust, and at least one had not read a novel since *Silas Marner*. They live in the nondescript outer regions of greater San Diego, and on weekends they surf or sail. Their clothes are awful, and their

'At sunset the great court, deserted and silent, assumes a mythic grandeur.'

elaborate hi-fi sets may play country music as frequently as Bach. They do not seem to miss Bronowski, even though the older people speak wistfully of "Bruno" and how much he meant. They are aware that Salk is married to a beautiful woman named Françoise Gilot, and that the buildings were designed by a man named Kahn, but their interest does not extend far beyond that. The brightest ones all hope one day to receive Nobel prizes.

Thus they work in the buildings, wondering why the laboratory tables in the spaces installed by Kahn are topped in teak, rather than stone. Teak is charming, but stone is less absorbent and easier to clean. They either bring lunch from home, or buy a sandwich in the lunch room that has been improvised in office space in the still half empty south wing, just as the library has now been located in what should have been office space in the north wing. Both must serve instead of the patrician spaces Salk and Kahn had planned for the meeting house. Now the laboratory buildings, which Kahn intended to be quiet places, meant primarily for exacting research and solitary contemplation—a monastery—have to make do for whatever social activities occur. After 5 o'clock people begin to drive off.

But at sunset the great court, utterly deserted and silent, assumes a mythic grandeur. To the west, beyond the open terrace, the land falls steeply to the wine-dark sea; and the sky is swept by a cosmic battle of Giants and Gods, wild purplish reds and blues warring with gold, so that the travertine pavements take a fierce golden radiance from the dying day. On the north and south the massive enclosing forms darken as they fold back from the court, one after the other, like great tablets of architectonic law, hard and vivid when they strike the light, then vanishing richly into confused shadows.

A noble and holy sadness covers all, as in ancient citadels. Stars appear: Swift Hermes races overhead before brilliant Aphrodite, while Herakles resumes the struggle with the Lion. The stone fountain at the eastern entrance has become an altar, from which a silver line of water flows westward in a narrow channel, severing the long space like the ideal line of Plato, into halves that are equally true, but never truly the same. At the far end the stream pours solemnly into a pool below, flanked by circular thrones, where heroes and kings could look out in the moonlight, above the sounding sea, to Mycenae and hallowed Troy. □



San Diego Pays New Attention To Her Neighbors to the South

She and Tijuana comprise a single region. By Angeles Leira

Many visitors to San Diego are surprised to learn that it is an international city. For the most part, San Diegans ignore their southern neighbors. Mexico is just the place beyond the end of the line, noted casually by a standard green and white sign on I-5 that says "International Border 1½ Miles."

As you cross the border, a lower living standard becomes immediately apparent. But behind this first facade of poverty lies one of North America's last frontiers, the Baja California peninsula, a finger of land pointing south into the Pacific Ocean and forming the Gulf of California off the Mexican mainland. Baja California stretches 800 miles from San Diego to the Tropic of Cancer and averages 75 miles across. Prehistoric man left a prized art legacy of cave paintings there and the first missions of Europeans were established there almost 100 years before the San Diego Mission was founded. Baja's resources include fertile land, minerals and labor potential of the people.

Several interests are investing in the peninsula, including the Mexican government which has undertaken both new projects and rehabilitations. Private entrepreneurs with both Mexican and U.S. capital are also investing in projects for tourists and retirees. One Mexican developer summed it up: "Other countries would consider themselves highly fortunate if their tourism industry was within driving distance of the U.S. border with 40 million automobile crossings a year."

The two centers of dramatic growth are the peninsula's major cities: Tijuana, just below San Diego, and Mexicali, capital city of the Mexican state of Baja California Norte and also located on the U.S. border. Tijuana, once considered mostly just a stepping stone for northbound transients, is now attracting more middle- and upper-class professionals. The quality of development and goods likewise is improving in Tijuana, while some of the seamy tourist spots have died out and other attractions of greater family orientation, like sport fishing, are growing.

Ms. Leira is associate planner for the City of San Diego.

San Diegans have opened their eyes to Tijuana in recent years, with the help of two outsiders who focused publicly and dramatically on the fact that Tijuana is very much part of the San Diego region. Professors Kevin Lynch of the Massachusetts Institute of Technology and Don Appleyard of the University of California at Berkeley related Tijuana to San Diego in their regional reconnaissance work, published in a report entitled *Temporary Paradise?*

"All the official maps go blank at the border," the report says. "The U.S. maps are white below the line, while the Mexican maps are white above. . . . To see the border from the air is a visual shock. The fence runs ruler-straight and heedless across valleys and mesas: open fields on one side, crowded settlements pressed right against the fence on the other."

Appleyard says, "Tijuana got the worst of the deal, in a sense, when the border was drawn. They did not get the valley, their river is not theirs when it goes into the sea, and they have very little flat land.

'All the official maps go blank at the border. To see the border from the air is a shock.'

San Diego got it all, the harbor, the access to the flat land and access to the coast."

San Diego and Tijuana are part of the same geographical region, but some of the area's worst problems are intensified by the more affluent north at the expense of the south. For example, of the region's 1,075,000 automobiles, the highest contributors to air pollution, a million are owned by San Diegans. In other words, a car for every 1.5 inhabitants in San Diego versus one for every six in Tijuana.

Both cities have water availability problems. San Diego gets its water from the Colorado River, the local river reservoirs and even the Tijuana River fluvial network which is tapped upstream on U.S. territory. As a result, Tijuana has a river with insufficient water. The Presa Rodriguez Reservoir holds 5.2 percent of its capacity because upstream the Barrett and

Morena dams control the waters on the U.S. side. Tijuana gets some water through a Colorado River aqueduct, but it is hardly enough. To expand the resource, Tijuana has a desalinization plant and also taps fresh water wells nearby. The lack of water results in ubiquitous dust and a general barrenness which make the Tijuana side seem poorer than it really is.

Solid waste is another regional problem of disparaging difference. San Diegans, who produce three times more waste than Tijuans, are always concerned about the sanitation treatment of sewer overflows in Tijuana, yet they fail to recognize the immense problem of pumping the effluent through the deep canyons and steep hills of Tijuana.

Desperate conditions at times produce resourceful and ingenious solutions, however. Tijuana's political climate and its more unstructured social system allow for more imaginative and unorthodox solutions.

For regional problems, Professor Appleyard recommends a "mutual aid program that would seriously consider what things San Diegans and Tijuans owe each other." And in the past six years, efforts have been made on both sides of the border. Such public works are more important to Tijuana, however, simply because the Mexican side is less developed. They include:

The transpeninsular highway: Among recent projects with impact upon Tijuana is the highway that begins at the border and extends to the tip of the peninsula. As mineral products, produce, livestock and other goods move throughout the peninsula, communities will no longer have to subsist on their own meager resources. The highway also has opened up the area to tourism, and this has brought problems. Architect Fernando Sepulveda of the Mexican environmental protection agency says, "The use of off-road vehicles is destroying vegetation that takes 50 years to grow. A weekend outing can efficiently destroy an area for the next half-century."

Other resources are also endangered. Great deposits of fossils are being raided and destroyed by souvenir hunters, and even old missions are falling to them. In recent years, several missions have been stripped to their bare foundations, and vandals have even chipped off pieces from prehistoric rock paintings.

The Tijuana River project: One of Tijuana's worst slums—Cartolandia—which once housed in cardboard huts the immigrants who hoped to move northward, was cleared away for this complex undertaking, which includes a flood-control channel, a major highway and large building sites. The concrete-lined channel, constructed in the best tradition of the U.S. Army Corps of Engineers by



Mexican counterparts, is a heartless disruption of the urban scene, but it sports some redeeming human features, such as handmade stonework on its sides, walkways and planting areas. Similarly, the massive highway project features craftsmanship in the design of side areas, the pedestrian crossways and the traffic circles and arterial crossings with statues of Mexican national heroes.

Two major buildings and a civic plaza have been sited in the area. The civic center, monumental and freeflowing, contains a semiopen central courtyard which takes advantage of the region's climate. And a new hospital, which provides free care, has clean lines, an inviting entrance and easy public transit accessibility. The plaza and gardens in the civic center are expressive of the strength and colorfulness of Mexican art, still very much influenced by Rivera, Orozco and Siqueiros.

The project did not ignore social planning: Families in the old slum were offered new housing at affordable prices in a new site. But by the time relocation took place, three times as many families as had been provided for applied for new housing. A second and later a third site had to be provided.

Mesa de Otay: One of the Cartolandia replacements is located in the Mesa de Otay, near the airport. Each housing unit, designed as a single room with kitchen and bath areas, was allotted a small land plot. The development has a school, playgrounds, community center and clinic. Social workers are still working to help the former Cartolandia residents readjust. Some families had to be taught how to use the conveniences of their new houses. Today, the resettled people show pride of ownership in their homes and gardens.

Relocation has brought some economic hardships. Many settlers of Cartolandia performed menial service jobs close to downtown; others had successful home industries, such as the makers of cloth flowers who sold their wares along the Avenida Revolución, Tijuana's main thoroughfare. They can no longer walk to their jobs or selling points, and bus fares make inroads into meager budgets.

In bluffs west of the center of Tijuana, a second site for displaced Cartolandia families was established. For lack of money, only concrete slabs were provided on which wood sheds could be built. Common sanitary facilities are centrally located, and no social center facilities are provided. The settlement is less successful than the one at Mesa de Otay.

Architect/engineer Rodolfo Chavez Carrillo, who headed the Cartolandia relocation project for 10 years from planning to completion last August, was cited last November, along with the sponsoring government agency, by the San Diego chapter/AIA.

Development of the Mesa de Otay for housing has not pleased everyone. The land had been planned as the site for an expansion of Tijuana Airport to make it a binational, regional facility serving both San Diego and Tijuana. Existing development precludes the expansion as originally envisioned. Still planned is a nearby second international border gate.

INFONAVIT housing: Established by Mexico in 1971, INFONAVIT is a housing development institute designed to produce dwellings for blue collar workers. A small percentage of a worker's salary is deducted and matched by his employer, and this sum is paid to the institute, which in turn builds housing and offers units at reasonable prices to the workers. The institute's project in Tijuana includes a community center, clinic, central plaza, park and school. Sited on one of the city's numerous hills, the project's blues, whites and pinks brighten the otherwise barren hillside. It is reminiscent of medieval cities.

High purpose social planning is less evident here than in the relocated Cartolandia, and unusual gardens, fences and

'Mexico's first goal, perhaps, is development of a rational growth policy.'

even dramatic changes to facades reflect residents' desires to humanize the project.

Private entrepreneurs: With joint U.S. and Mexican financial connections, developers are building apartments along the Baja California coast, particularly in areas close to the border. The developments have controls to ensure design quality, privacy and protection of the view. Other private developments designed to complement government programs are located in Rio Tijuana and Mesa de Otay.

Rehabilitation: With major government investments and a growing middle- and upper-class population, much rehabilitation work is going on in central Tijuana. More permanence is apparent in the buildings, as well as better care in design.

In studying the San Diego-Tijuana region to understand its future, one is struck by the similarities of problems, goals and objectives. Governments on the U.S. side seek a clean environment, pollution-free industrial development, open space conservation and rational growth. The issues conceived by Mexican authorities and voiced in published plans are much the same, although stated differently. Mexico's first goal, perhaps, is the development of a rational growth policy.

Despite political and economic differences and mistrust due to ignorance, there is a bountiful richness that can be shared by both parts of the San Diego-Tijuana region. □



Richard Neutra, AIA's 1977 Gold Medalist

As important to southern California as Wright and Sullivan had been to the Middle West.' By Thomas S. Hines

Richard Neutra, like many other architects, had a great affinity for music. He, himself, studied piano as a child, and he valued his wife's talents as a singer and cellist. And when asked once, late in his life, which music he most identified with, which composers he would most want the users of his buildings to think of when they experienced his architecture, he replied, without hesitation: Schoenberg and Bach. It was a chic juxtaposition, and yet however calculated the answer, it was probably the right one in evoking in musical and poetic terms the essence of his architecture—the tension of contrasts working together, old and new, classical and “modern.”

He was born Apr. 8, 1892, in imperial Vienna, the capital of the over-ripe, far-flung Hapsburg Empire. “The entire plan of Vienna,” he wrote years later, “is still in my blood when I talk of city planning. The Baroque palaces are still in my blood too. . . . I love it, I may write about it with a lusty pencil, but I shrink from seeing it imitated. We live too late for that.” This heroic stance of his own early 20th century architectural generation perhaps overstressed the value, the need and even the possibility of infinite architectural originality” and “revolution”—frequently to the detriment of historic texture and continuity. Yet our own currently fashionable “post modern” revisionism with its valid, convincing call for “architecture with a memory” must not deaden our memory of that architecture called modern.”

Neutra was the son of a small artisan-industrialist whose Jewish heritage had been tempered by several generations of agnostic secularism. His sister and brothers moved in sophisticated Viennese cul-

Mr. Hines teaches urban and architectural history at the University of California at Los Angeles. Author of *Burnham of Chicago: Architect and Planner* (see Jan. '75, p. 53), he is currently writing *Richard Neutra and the Search for Modern Architecture: A Biography and History*. Portions of the above essay appeared in his sketch of Neutra for *The Encyclopedia of American Biography* (Harper and Row, 1975).

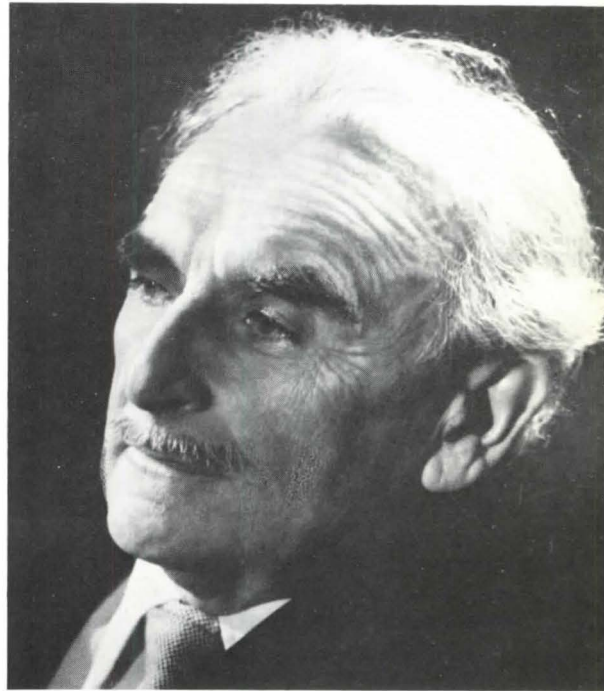
tural circles, and through them the young Neutra knew and was influenced by Gustav Klimt, Arnold Schoenberg and Sigmund Freud. He was early impressed with the architecture of Otto Wagner, but a more direct influence was the architect Adolf Loos, whose motto “Ornament is crime” turned Neutra's mind from traditional styles and formulas. During World War I, he served as an artillery officer in the Balkans, but he returned to Vienna after the war to graduate *cum laude* from the Technische Hochschule.

Leaving Austria in 1919, Neutra worked briefly in Switzerland for Gustav Ammann, the noted landscape architect, before moving to northern Germany, where he served in the office of the city architect of Luckenwalde. In 1922, he joined the great Berlin architect Erich Mendelsohn as a draftsman-collaborator. Here he worked on the remodeling of the Berliner Tageblatt building and on the Zehlendorf housing project.

Neutra emigrated to the U.S. in 1923, worked briefly in the East, and then joined the large Chicago firm of Holabird & Roche. In Chicago, he met Louis Sullivan dying in poverty and neglect, and at Sullivan's funeral in 1924, he met Sullivan's disciple Frank Lloyd Wright. Wright then invited him to Taliesin to work and study through the fall and winter of 1924.

Indeed, of the many Europeans who came to the U.S. and became American citizens in the 1920s and '30s, Neutra was one of the earliest to emigrate voluntarily. Unlike Walter Gropius and Ludwig Mies van der Rohe, who came as exiles from Nazi Germany, Neutra arrived in 1923 to make contact with the world of Sullivan and Wright. In fact, Wright and Neutra shared many personal characteristics—of intellect, charm and occasional arrogance. Like most other young European architects, Neutra was greatly moved by the German publication of Wright's work in 1910, and had become convinced, with the encouragement of Loos, that America was by then the capital of modern architecture.

Yet by the time Neutra met his idol in 1924, most of Wright's then meager practice was centered in Los Angeles, and Neutra, attracted by the possibilities



Richard J. Neutra (above); Singleton house, Hollywood Hills, Los Angeles, 1959 (across page).

of the area's climate and topography, decided to migrate there. With the encouragement of Wright and of Rudolph Schindler, a Viennese school friend and former Wright associate then in California, Neutra set up a practice in Los Angeles. Ultimately his architecture became as important to California as Wright's and Sullivan's had been to the Middle West, and it continued through mid-century to dominate the California scene. Gregory Ain and Harwell Hamilton Harris were among the first of numerous talented architects who would work in Neutra's office, or imbibe his influence in a less direct way, before moving on to distinguished careers of their own.

Neutra's basic architectural structure was the timeless post and beam, with frequently cantilevered roof slabs extending into space. His favorite material was glass, which he valued for both its transparent and reflecting qualities. (His and his contemporaries' reliance on glass would come to be questioned during the intense energy crisis of the 1970s.) Above all else, Neutra's architecture iterated the

interpenetration of inner and outer space. As a student of Wright *and* of the new architecture of Europe, Neutra's work bridged, perhaps better than any other's, the frequently polarized worlds of Taliesin and Bauhaus. Unlike the highly idiosyncratic work of Wright, there was in Neutra's architecture a combination of both Neutra personality and benevolent neutrality, a neutrality which tolerated and encouraged the user's own vision and creativity. Neutra was especially concerned that good design be available to people of modest means and that even his most expensive architecture be translatable into less costly forms. Yet Neutra not only studied each individual client and adapted his own ideas to individual needs; he was also, no doubt, of all 20th century architects, the most interested and knowledgeable in the biological and behavioral sciences. He wrote and lectured extensively on the psychological, physiological and ecological dimensions of architecture. His best known book, *Survival Through Design* (1954), had an especially wide influence. Yet ultimately, it was the buildings themselves that best illustrated his ideas.

Neutra's first major effort was the Jardinette Apartments (Los Angeles, 1927), one of the earliest buildings in America to be constructed in the Interna-



Julius Shulman (above left) and Richard Neutra; the Lovell house, Griffiths Park District, Los Angeles, 1929 (across page).

tional Style. In 1929, he became internationally famous with his steel-framed, prefabricated Lovell "health" house, a building widely published, admired and emulated. Both the Jardinette Apartments and the Lovell house were featured in the epochal 1932 exhibit of modern architecture at the Museum of Modern Art in New York City, which gave the International Style its name.

Neutra became an American citizen in 1930 and was a delegate that year to the Brussels meeting of the *Congres Internationaux d'Architecture Moderne* (CIAM). In the 1930s, he was especially noted for his modern California houses of glass and metal and for innovative ideas in school and apartment design (Van Der Leeuw research house, 1932; Beard house, 1935; von Sternberg house, 1936; Strathmore Apartments, 1938; Corona Avenue School, 1935). Scarcity of industrial products during World War II forced him to use the warmer, more available materials of brick, stone and redwood (Nesbitt house, Los Angeles, 1942) which he continued to use in tandem with synthetic industrial materials.

Always conscious of the broader social obligations of architects and planners, Neutra served as a member and chairman of the California State Planning Board (1939-41). In 1939 he became a con-

sultant to the U.S. Housing Authority. His Channel Heights housing project for California shipyard workers was an admirable example of social and architectural community planning. In the 1940s and '50s, he and his partner Robert Alexander designed large projects as consultants and architects to the governments of Puerto Rico and Guam.

Neutra's most celebrated buildings continued to be his California houses (Kaufmann house, 1946; Tremaine house, 1948), many of which won AIA and other prestigious awards, but he also built for commercial and institutional purposes throughout the world (Lincoln Museum, Gettysburg, Pa., 1960s; American Embassy, Karachi, Pakistan, 1960s). After the termination of the Alexander partnership in the early 1960s, Neutra's son, Dion, became his partner and chief associate, and now heads the firm that carries his and his father's name.

Like the work of most ambitious, experimental architects, Neutra's achievement was, at times, uneven. Yet his best architecture was vital and significant. Simple and practical, yet full of esthetic interest and variety, it provided the two essential functions of all great building art: a protective shelter from the woes of the world and a stage and pronos for confronting and enjoying life. □

A Photographer's Perspective on Neutra

Expressed in both words and pictures by Julius Shulman

It is a mind-boggling experience to review a lifetime association with Richard Neutra. I find it difficult to be objective because of my long personal relationship with that great designer.

Neutra's work was not earth-shattering nor avant-garde. His place is assured in the annals of architectural history, however, because of his significant and lasting influence on contemporary architecture.

His abundant versatility impressed me most as I reviewed the thousands upon thousands of photographs I have taken of his work. I really had never evaluated his work previously as I did when I went through my files to make a selection of photographs shown in these pages.

Neutra's work covers a tremendous range—from the design vernacular of a 1936 desert house to the elegance of the 1948 Tremaine residence in Montecito. The simplicity and directness of the 1952 Moore house in Ojai makes an interesting comparison with the more spacious and

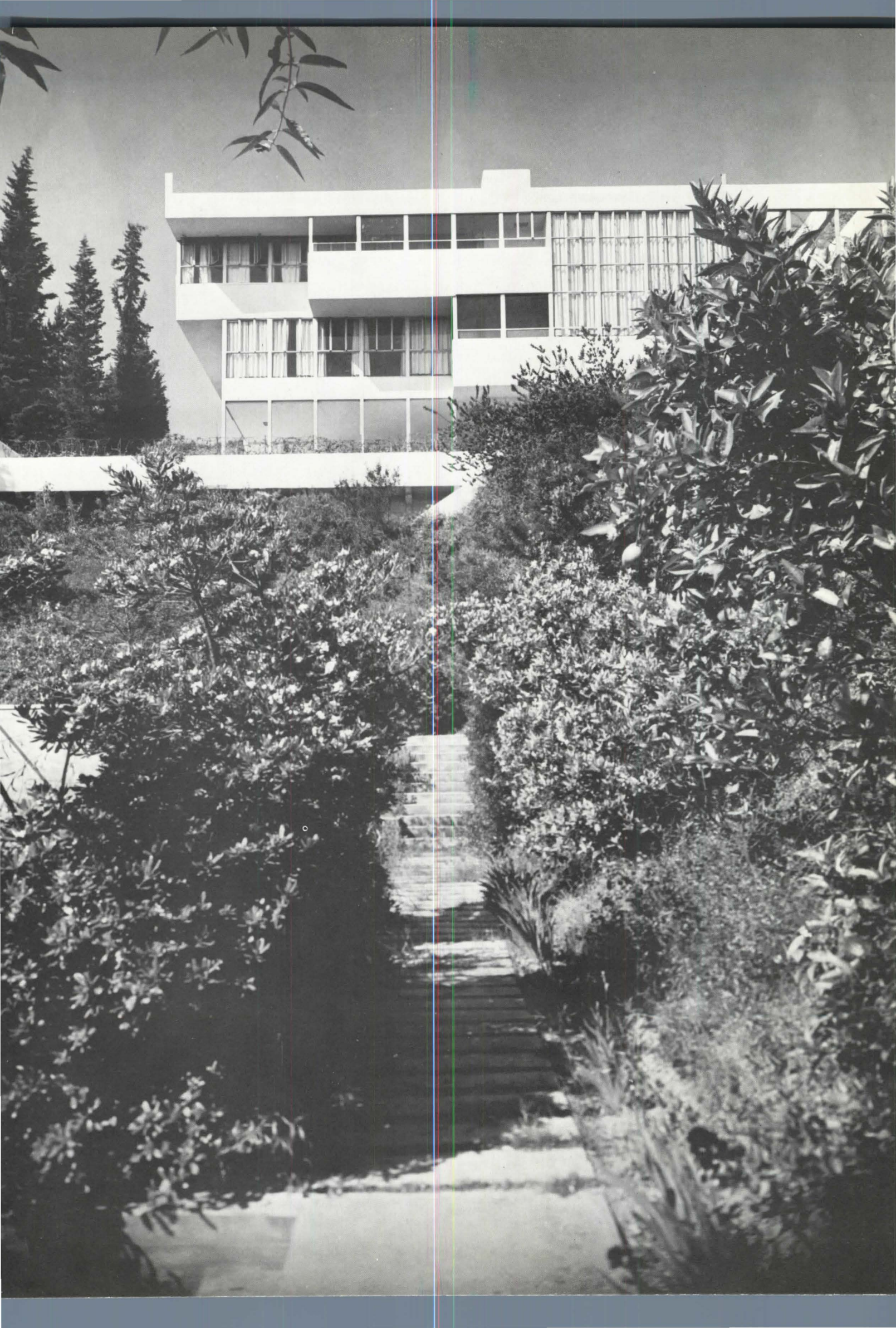
versatile Nesbitt house of 1942 in Brentwood Park, Los Angeles. How strange as well to observe the all-steel 1936 house of Josef von Sternberg in Northridge in light of Neutra's more open and expanded 1959 Singleton house in Los Angeles (*see* page 52).

The first house I photographed for Neutra was the 1938 Kun residence in Los Angeles, which is as attractive today as any of his succeeding work. I pass it quite often, for it is not far from where I live. I like to contrast it with Neutra's 1942 wartime, low-cost Channel Heights housing project in San Pedro, which is still considered one of his major works.

To many critics, Neutra's work has a sameness, but we cannot fail to acknowledge the man's absolute contribution to an orderly progression of architecture for our time.

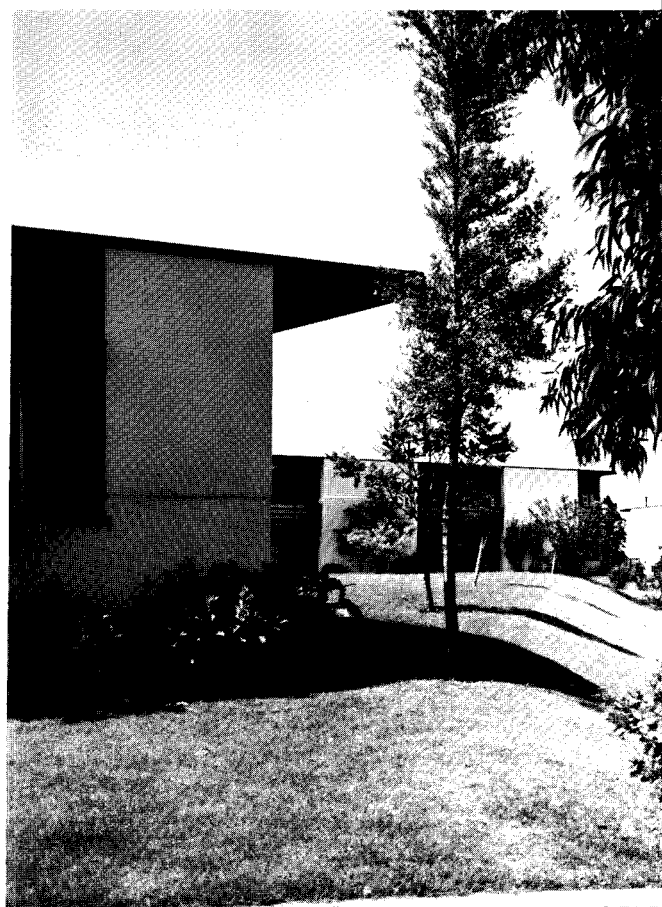
Welton Becket once told me, as we flew across the Atlantic to the opening of the Hilton Hotel in Athens, Greece, that a considerable part of his distinguished firm's work could be attributed to Neutra's influence on the architecture of the period from the '30s and '40s through the '50s. My own life also was influenced by him. □

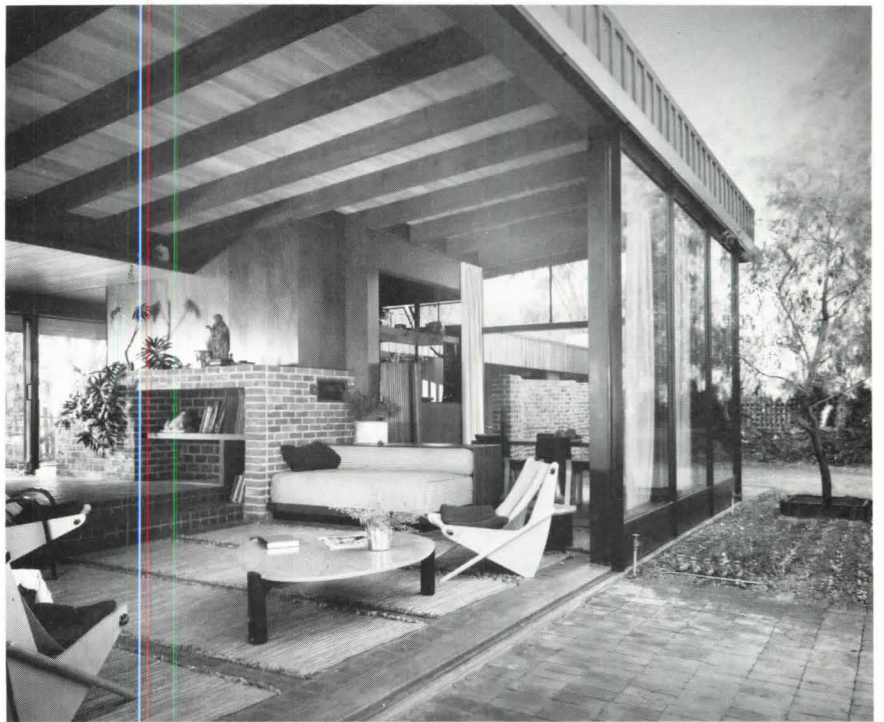
Mr. Shulman, whose photographs are interpreters *par excellence* of Richard Neutra's work, practices the profession of architectural photography in Los Angeles.



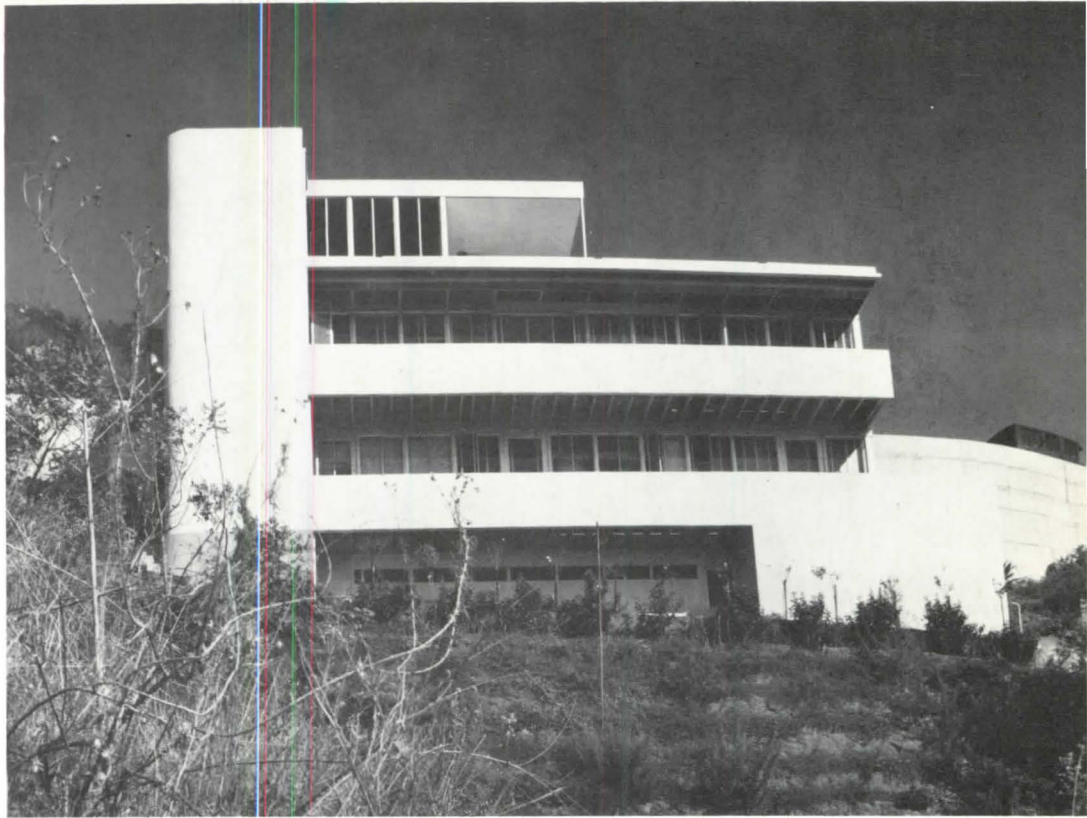


Strathmore Apartments, Westwood, Los Angeles, 1938 (above); Channel Heights public housing, San Pedro, 1942 (immediate right); Nesbitt house, Brentwood Park, Los Angeles, 1942 (top right); Tremaine house, Montecito, 1948 (far right).

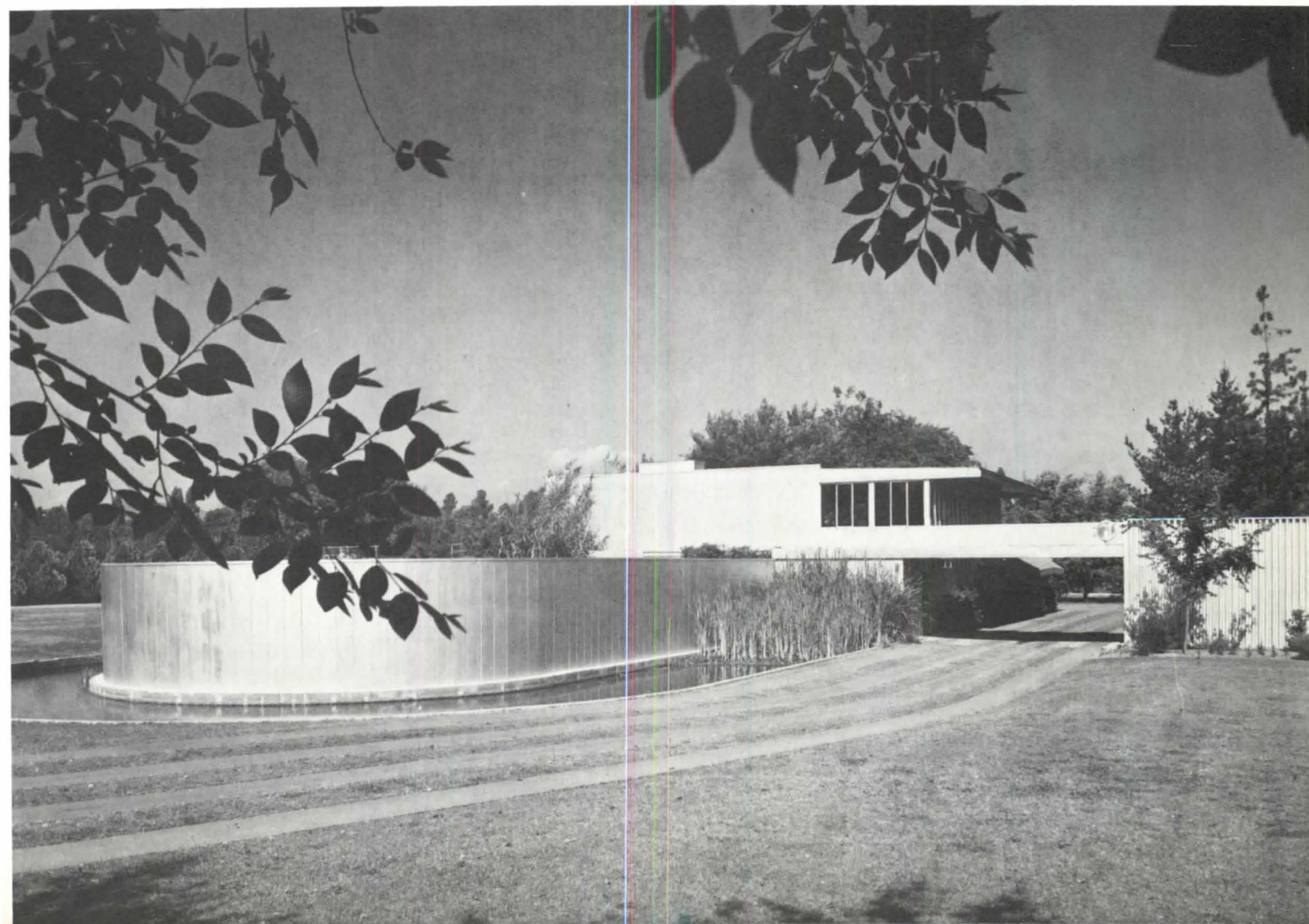






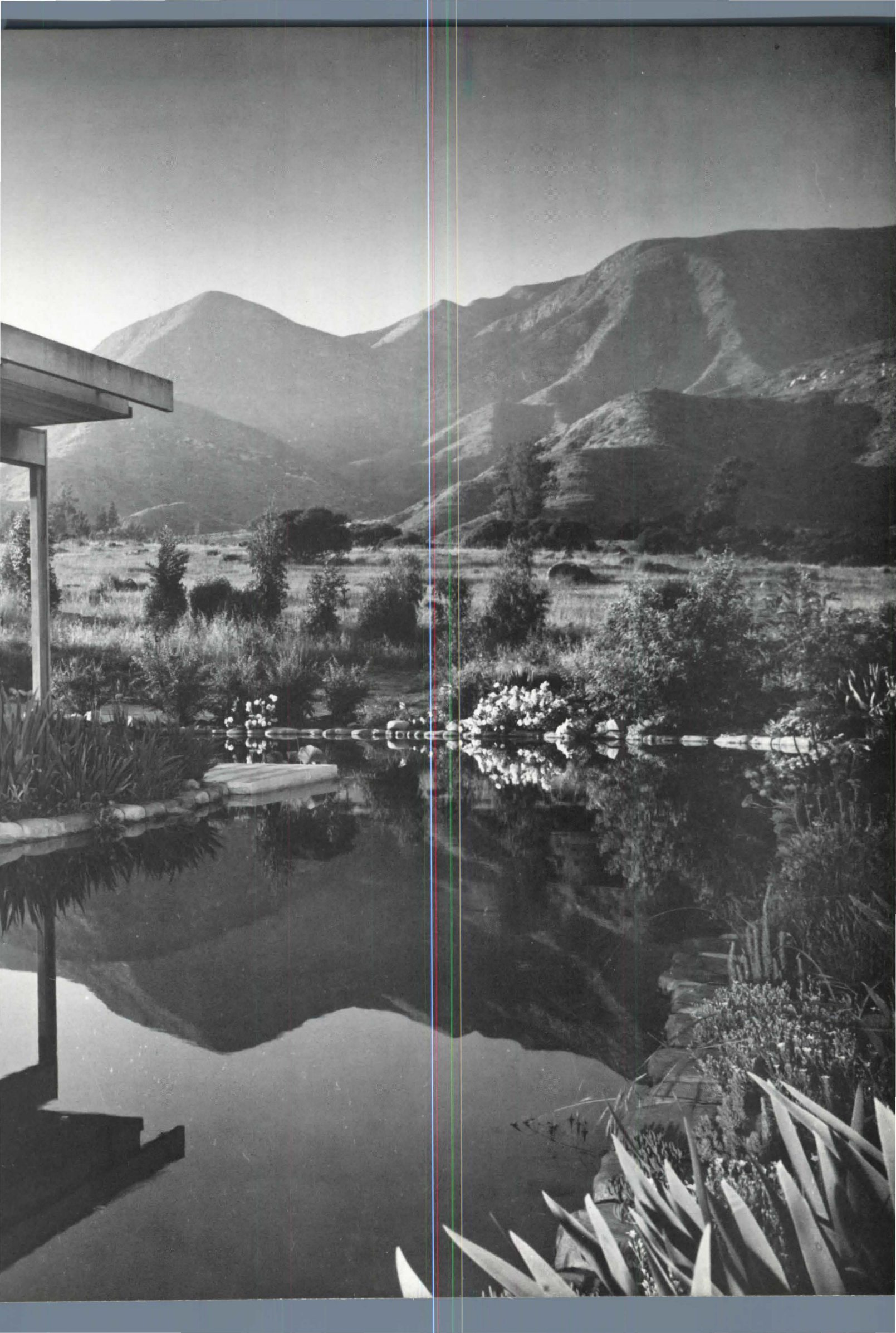


Neutra house, Silver Lake District, Los Angeles, 1933, burned 1963, rebuilt 1964 (left); Kun house, Hollywood Hills, Los Angeles, 1938 and 1950 (right); von Sternberg house, Northridge, 1936 (below).

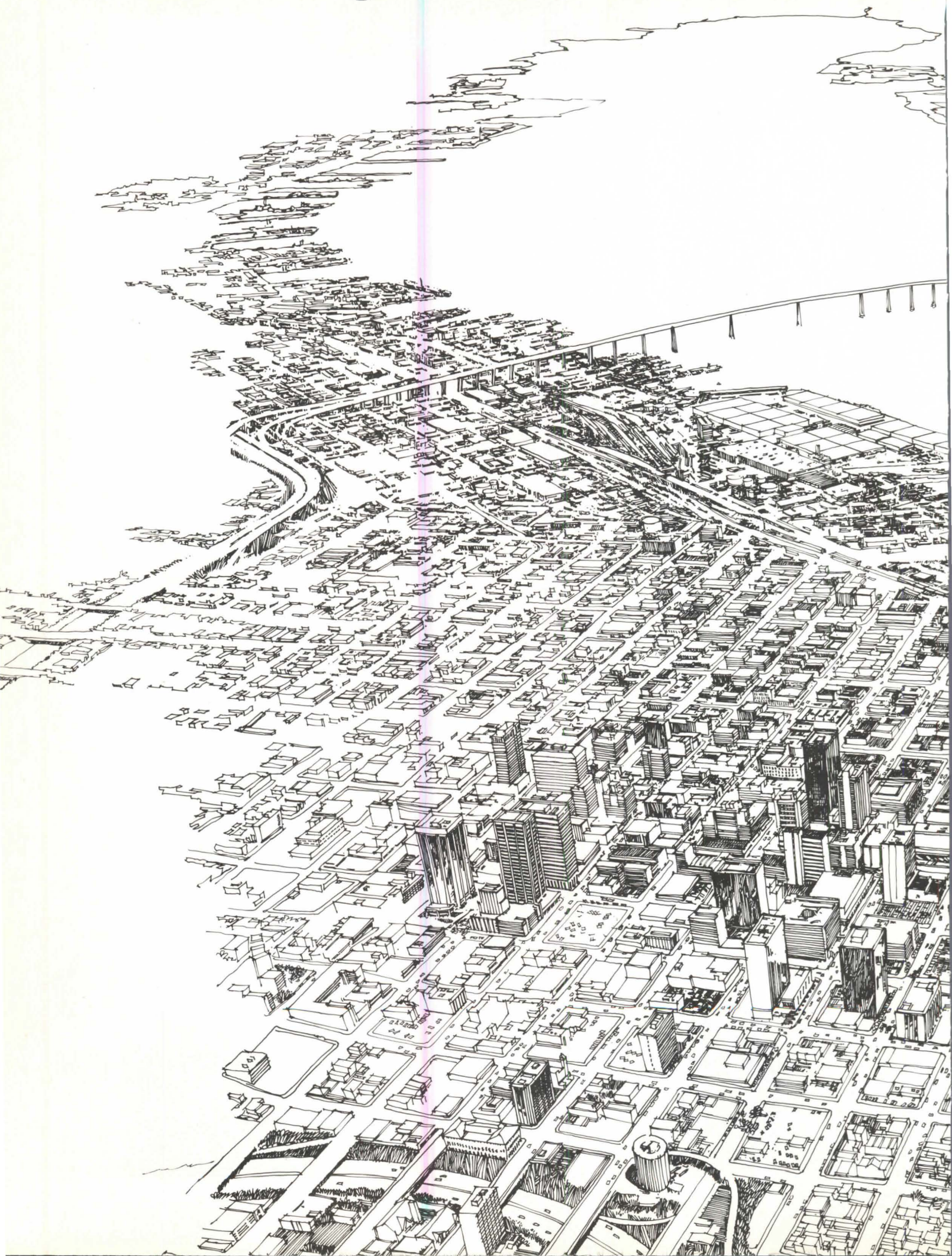




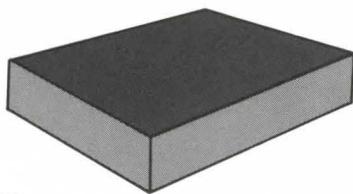
Moore house, Ojai, 1952.



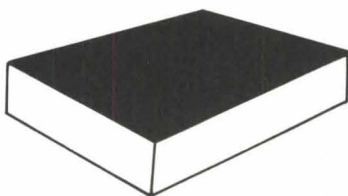
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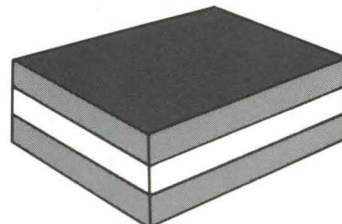
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A 'Charming and Definitive' History of the Octagon House

The Octagon, Being an Account of a Famous Washington Residence: Its Great Years, Decline & Restoration. George McCue. Washington, D.C.: American Institute of Architects Foundation, 1976. 101 pp. \$4.50, at the Octagon; \$6 post-paid.

George McCue's informative and well-written account of the Octagon is the perfect capstone to the enhancement of this famous house, following its ultimate restoration in the hands of the American Institute of Architects Foundation. The interpretation extends from a full account of the Tayloe family of Mount Airy, Va., who in 1800 required an in-town establishment and were persuaded by President George Washington to locate in the then-new capital city, on to its occupancy by AIA, commencing in 1899.

Naturally, emphasis is given the architecture of the building created by William Thornton, gentleman-architect and polymath, best known for his design of the U.S. Capitol. Here McCue's deft critical analysis supplements his historical account, adding greatly to the appreciation of the building, which is clearly the aim of the book. It is a goal successfully achieved, and few who have known the building or come now to visit it as a museum will not find this experience enlarged or will not want to acquire this profusely illustrated book, particularly at a price that even a visitor of the most modest means can afford. After praising the author, one would like most to commend Gerard Valerio, the book's designer, but a large cast of others contributed to the research, editing and illustration of this charming and definitive monograph.

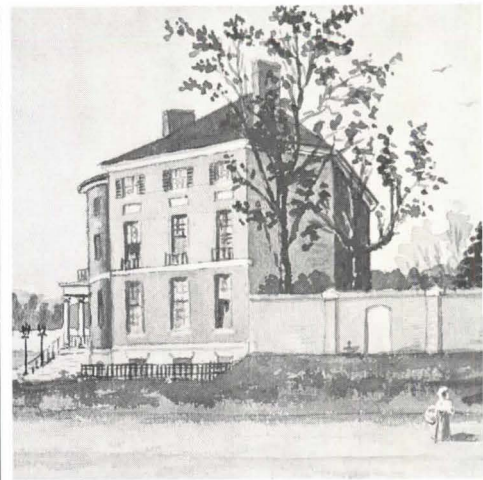
John Tayloe III was a fourth-generation Virginia planter and member of the Virginia establishment. It is his life style that is illustrated in the house he commissioned Thornton to build, complete with its large family accommodation, its

provisions for entertainment on a lavish scale, its servants, horses and carriages, furnishings and garden. It is a splendid and important example of what came to be known as the federal style, just as the family seat on the Rappahannock River illustrated what McCue terms the "Georgian colonial" architecture of Virginia.

"The first problem faced by William Thornton in preparing the architectural design was the same one that many a Washington architect has had to deal with since—to plan a house for an eccentric site, and to provide rational orientation with the streets." "He dealt with orientation by relating the house equally to both streets, with identical side walls made parallel with New York Avenue on one side and with 18th Street on the other." "The Octagon's inner spaces are arranged with such clarity that there is only momentary consciousness of shifts in axis from one side to the other, and no feeling that the flanks are marching to different drummers." In these three sentences I have telescoped McCue's far more detailed analysis to show his skillful handling of the building's design.

In the account of the building of the Octagon—which is not an eight- but a six-sided building, and whose name has never been satisfactorily explained—McCue draws on the extensive earlier investigations by members of the Tayloe family, restoration architects Glenn Brown, William Dewey Foster, Milton L. Grigg, J. Everette Fauber Jr., and architectural historian Samuel Allen Chambers Jr. Much of the data is new, the Tayloe papers describing the building operation having but recently come to light, and the remainder having been left in manuscript reports. But the scholarship is worn lightly, and it is the presentation we must admire.

Viewing the entire building operation, one is most impressed by the high quality of the work, the care lavished on its de-



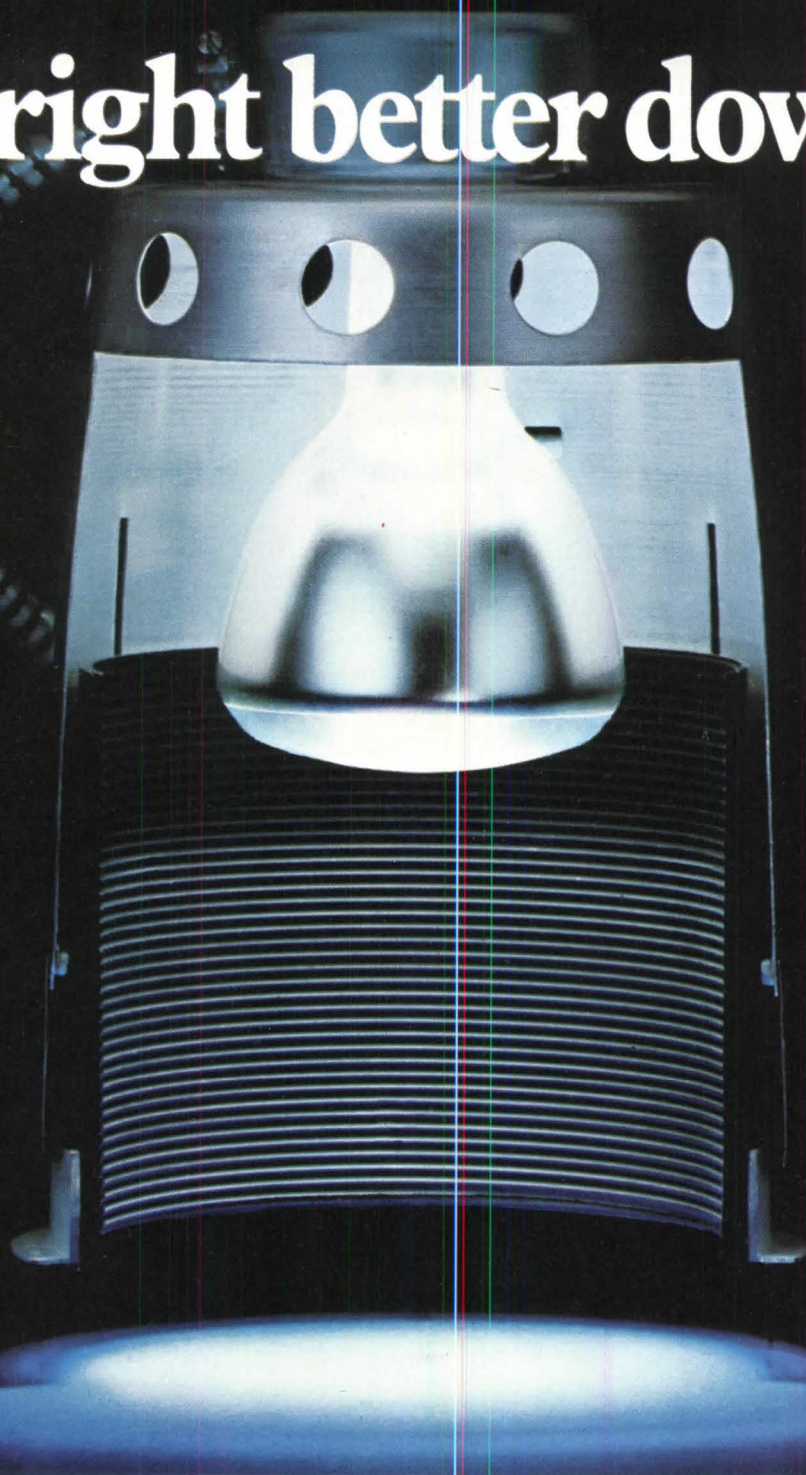
sign and execution—but also with sympathy for John Tayloe's anguished comment at the end: "The Expense of it already alarms me to Death, whenever I think of it." Like the architectural description, the account of the building operation adds greatly to the luster of the Octagon as one of the best documented as well as the most significant buildings of its time.

Within this account of the building is an equally important description of the restoration. When Charles Follen McKim then president of AIA, was first interested in the building by Glenn Brown, Institute secretary, it was not much more than a slum dwelling, occupied by a number of families and feet-deep in debris. Still it was sound and intact and unmarred by vandalism and—as Brown described it—"one of the best examples of work done in the year 1800 . . . ; its plan, character of design and workmanship, and location make it peculiarly suitable for the headquarters . . ." of the Institute which then, in 1898, was moving from New York City to Washington, D.C.

From the first tidying-up, AIA and an increasing number of Octagon admirers confirmed Brown's judgment and took the bit of restoration in their teeth. Brown prepared an extensive portfolio of measured drawings. No less than Frances Benjamin Johnston undertook the photographic documentation. The building was carefully organized for office use, and even the tenants of the surplus space

continued on page 66

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seemed chosen to contribute to the historic character of the building: the American Federation of Arts, the National Council for Historic Sites and the National Trust for Historic Preservation among them.

Yet the burden was heavy for AIA in the years when its membership numbered in the hundreds, and restoration activities were less sought out than thrust upon it, chiefly by structural weaknesses. By 1949 those weaknesses could no longer be ignored. Once commenced, the restoration effort proceeded hand-in-hand with the provision of additional space for the growing organization; by 1953, this had extended to the stable, the most important of the plantation-like dependencies that were associated with the Octagon, which was adapted to use as the Institute's library.

Historic preservation did not come easily to many members of AIA's executive committee, and the stable was lucky to have had supporters such as Thomas Reed and Fiske Kimball, the latter authority whom I remember crumbling a bit of the stable door with his toe and remarking to a hopeful audience of AIA officialdom, "Prime antiquarian condition." Guilty feelings over the later demolition of the stable in order to build the AIA headquarters building may have fueled the major restoration effort at the Octagon which commenced in 1968 with the purchase of the building by the AIA Foundation for \$1 million, and the take-over by "preservation professionalism," as McCue describes the historians, archaeologists and other specialists who then addressed the building. This fascinating story matches the interest of earlier episodes.

Nor does this account omit the ongoing endeavor to complete the furnishings of the principal rooms with authentic pieces, many of them associated with the Tayloe family, that have "come home again" as the result of efforts by AIA chapters and individual architects.

As it stands today, the Octagon is a valuable object lesson to institutional sponsors of restoration, and McCue's book provides the inspiration and encouragement and, in outline, much of the direction such work requires. If he does not spare the difficulties and costs that must be contemplated in such effort, it is made clear that when significant architectural values are at stake, they can be preserved and enormously enhanced by skillful restoration. This assertion of the benefits of restoration is badly needed in a field that too often has dealt only with the costs.

But then, how often does one come by a building designed by the architect of the U.S. Capitol, a prime example of the

first native American architectural style, with an owner's pedigree equaling any James River plantation, that has been occupied by a sitting President of the U.S. and has served as the French embassy, that has been associated with the greatest figures in American architectural history for nearly two centuries, and that has been carefully reconstructed and restored as an historic house museum? *Frederick Gutheim, Hon. AIA, Director, Graduate Program in Historic Preservation, George Washington University*

Standard Cantilever Retaining Walls.

Morton Newman. New York: McGraw-Hill, 1976. 648 pp. \$27.50.

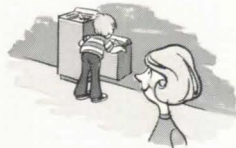
Related to the economics of cantilever retaining wall construction, says Newman, are the design and construction methods,

the degree of accuracy in design and the efficient use of materials. A trial and error method of procedure is not only time-consuming, but also lacks accuracy for the optimum use of materials. The architect will find the book most useful in verifying structural calculations for an accurate design and in preparing preliminary cost estimates to reduce time and costs. Newman provides in this reference book a step-by-step guide for design calculations, as well as information on construction methods, soils and building.

The first chapter is a discussion of the general types of retaining walls, the shapes of cantilevers, soil pressures, surcharge loads, construction materials, drainage and other basic information. The remaining eight chapters deal with property line retaining walls, undercut footing retaining



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walls and general retaining walls. There is a series of examples, tables and drawings.

Newman says there are four basic structural requirements for cantilever retaining walls: material shear and bending capacity, foundation soil pressure, the wall's ability to resist overturning and the soil's capacity to prevent lateral sliding. These considerations and relevant building code requirements were used to develop a computer program for the structural design of different stem loading conditions and stem heights. The computer-generated tables in the book give the designer a way to check on structural considerations. The three appendices give design data tables, building code requirements and design equations and tables in addition to the 24 separate design examples in the main body of the book.

Color for Architecture. Tom Porter and Byron Mikellides. New York: Van Nostrand Reinhold, 1976. 151 pp. \$20.

Published simultaneously in the U.S. and Great Britain, *Color for Architecture* is an unusual and original work. Not many books in recent years have been issued on the subject of color in architecture. Waldron Faulkner, FAIA, did one in 1972, with emphasis on color standards and architectural materials. Most works in the field have been "picture books," usually of interiors and usually written as legends to illustrations.

This work by Porter and Mikellides is different. While both authors are English, a large part of their interests has been in America and in American architectural expression with color—and exterior color at that, which is quite singular.

Color for Architecture is well written, scholarly and meant for intelligent readers and viewers. In addition to a well-considered story by the coauthors, there are essays by and about a group of truly eminent architects and authorities. There is pleasure in browsing through the book before beginning again and absorbing the text and illustrations in greater detail. Many fascinating viewpoints and striking color plates bob up for attention.

There are, of course, definite historic precedents for the use of color on architectural exteriors which trace from Egypt to Asia Minor, Greece and Pompeii to the colorful facades of Gothic churches. Oscar Newman in an essay refers to the conservatism of leading schools of architecture and the dominance of form over hue and the black and white visualizations and gray cardboard models. He observes, with justification: "Much of contemporary architectural education is actually a form of brainwashing," with color looked upon suspiciously. He recites his own experience with color on a New York City housing project which, criticized by the architectural profession, was quite approved by the residents.

So it goes. Much of exterior American architecture is white, gray, brown or bronze-brown, homes excepted. Prejudice against color may be due to the fact that it is likely to distract from form, and be emotionally rather than intellectually judged. In effect a coat of paint may be more compelling to the public than the edifice it covers, and this may be irritating.

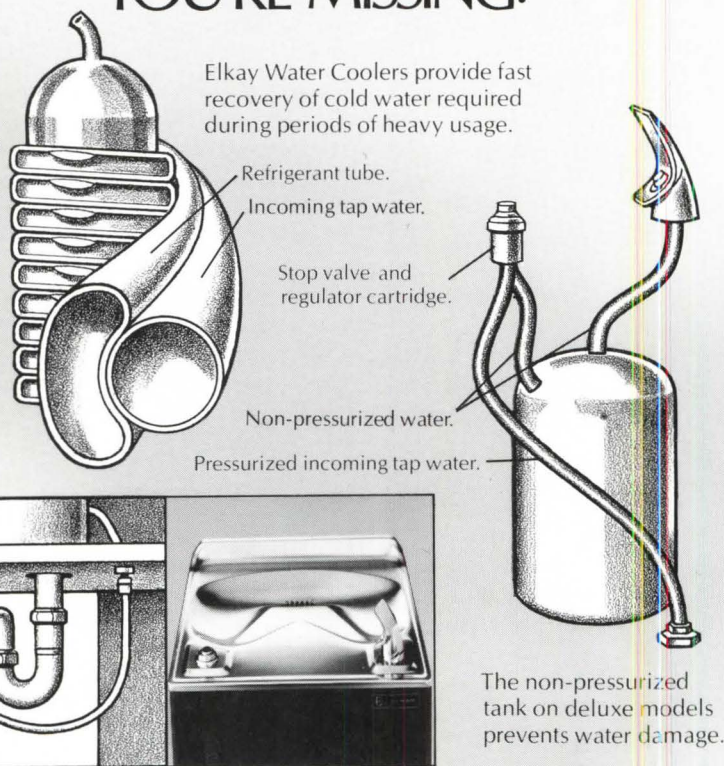
Victor Vasarely of France pleads in the book for "plastic beauty" and has worked with color and graphics in architectural settings. Victor Pasmore of England points to the fact that "one of the principal features of the revolution in the visual arts of the 20th century is the freedom and independence of color."

Colorful buildings by Joseph Esherick, FAIA, are described and illustrated. So also are the accomplishments of other American, British and European architects. Indeed, the scores of full-color examples of exterior color use on apartment houses, factories, office buildings, storage tanks, subway stations, supergraphics, all delight the eye and make the book quite a treat to behold.

Remarkable is the color approach of Jean-Philippe Lenclos of France. Rather than pick architectural colors through personal fancy, academic training, from color systems or abstractly, Lenclos developed palettes derived from the local soil, sand and clay of a region, "which establishes a close link between the earth and the dwelling." Through such strategy, exterior color palettes would differ as different regions differ—and any building

continued on page 70

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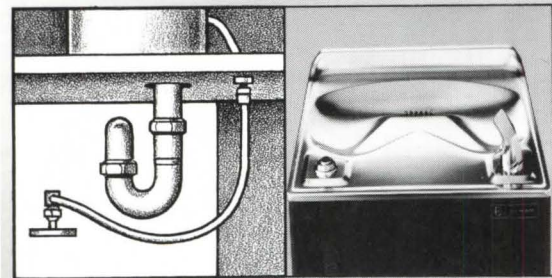


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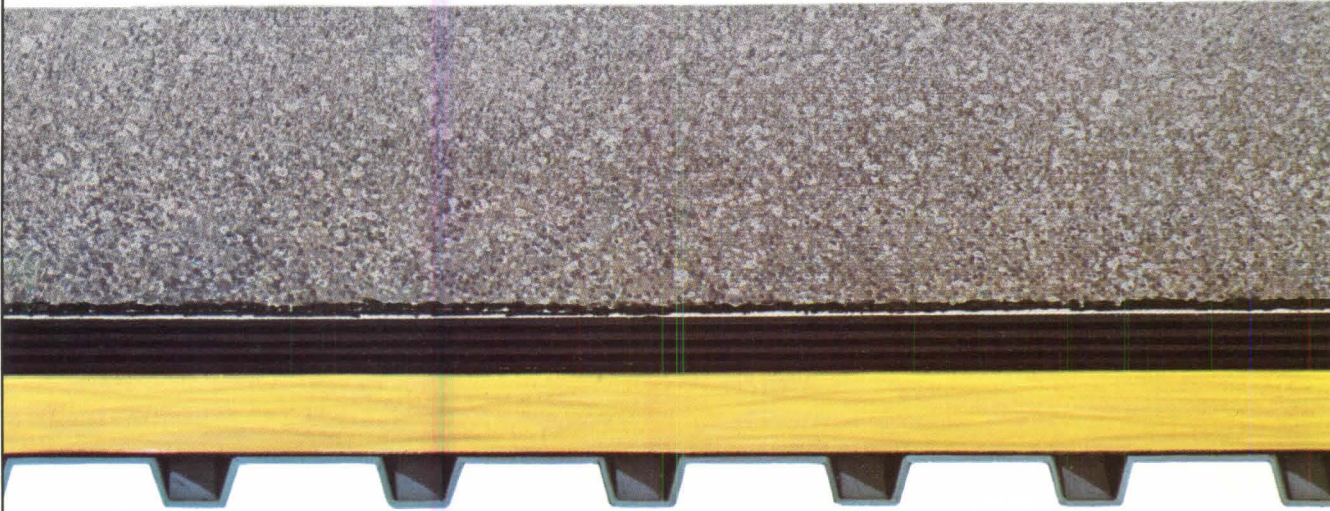
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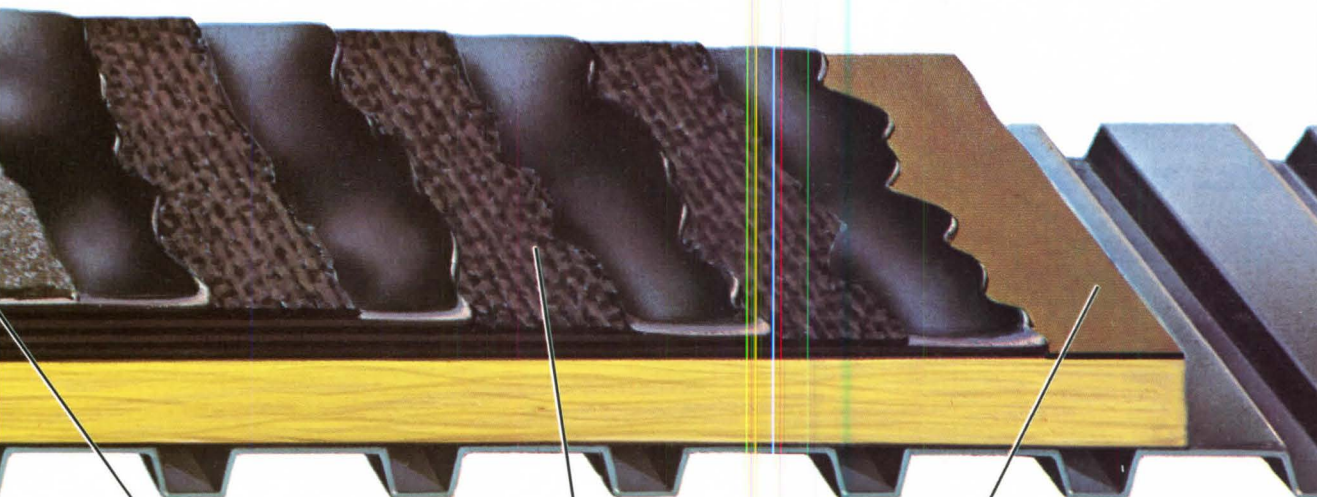
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would quite naturally harmonize with its surroundings.

There are notes on color in "extra-terrestrial habitats" (spacecraft), on various emotional and mental color associations and on a little-known (in the U.S.) "natural color system" developed in Sweden.

Ruskin noted generations ago that architecture was in no wise perfect without color. One wonders if the widespread lack of color on the exteriors of American buildings is due to prejudice or timidity. Where people seek a happy time, as in an amusement center, omission of color is unthinkable. If the Parthenon of Athens was colored outside as well as inside, and if its forms have been reversed ever since in eclectic temples across the land—

without color—something must be wrong somewhere.

This reviewer is partisan, being a color consultant by trade. I feel that architecture needs color and have good reason to believe (and hope) that this book will, for its excellent text and superb illustrations, convert others to the same courage and inspiring viewpoint. *Faber Birren, prolific writer whose expertise is color, Stamford, Conn.*

Magnificent Derelicts: A Celebration of Older Buildings. Ronald Woodall. North Pomfret, Vt.: David & Charles, 1976. 149 pp. \$29.95.

Don't look for architectural masterpieces in this beautiful book, but delight your soul anyway with the 76 full-color paintings by Ronald Woodall of old rural

buildings. Woodall says that the book "does not really deal with history, sociology or architecture; it is more emotional than intellectual; it scratches but the surface of a subject which is diverse and inexhaustible, and the opinions and feelings expressed will crumble in the face of economic logic and contemporary priorities. It is little more than the sharing of a private obsession."

Woodall is modest, however, for the book speaks eloquently, visually and verbally, for the preservation of some of the empty prairie farmhouses, decrepit country stores, molded cabins of hired hands, vacant barns, pewless churches. Woodall paints and writes engagingly of his love affair with country architecture, a love pursued across North America.

Small Castles and Pavilions of Europe. Jerome Zerbe. Introduction by Cyril Conolly. New York: Walker & Co., 1976. 183 pp. \$14.95.

Here assembled are exterior and interior photographs of some 50 of Europe's *petits châteaux*, and brief comments about them. A fairly typical example is the Reynery, near Toulouse, France. There are four photographs and a page of information about the structure. We are told it was the home of Guillaume du Barry, "the complaisant husband of la du Barry, with whom he never lived. After her execution, he married his mistress of many years, Madelaine Lemoine, and they made the Reynery their summer home." There's a bit more about its present condition and such things as its water sources. For the most part, little is gained about the architectural style of the buildings or about their designers. It's a fitting insight into another era and a glimpse of some architectural gems.

Cyclical Maintenance for Historic Buildings. J. Henry Chambers, AIA. Washington, D.C.: National Park Service, Office of Archeology and Historic Preservation, 1976. 125 pp. \$2. (For sale by the U.S. Government Printing Office, Washington, D.C., under stock no. 024-005-00637-1.)

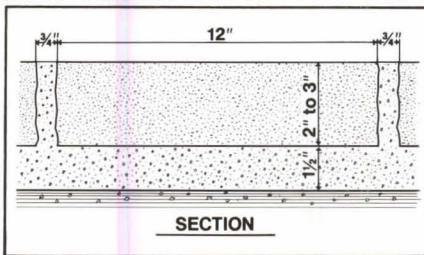
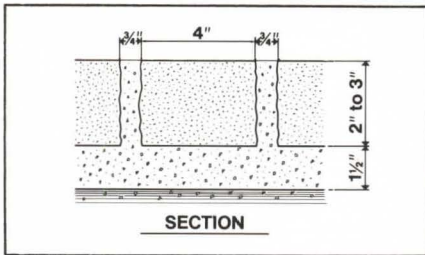
Vital to any building is its proper maintenance, but historic properties, especially, need skilled care. Maintenance workers require managerial support to carry out their responsibilities, and this book is invaluable for supervisors who must train workers. Among the topics discussed: supervision, employee training, preparation of a maintenance manual, cleaning materials, insect control, vandalism.

Although the book is directed to administrators, architects and others involved in the proper maintenance of historic properties owned by federal agencies and state and local governments, it is applicable as well to any structure.

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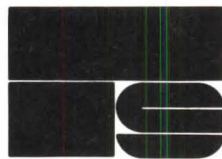
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Beaux Arts to Bauhaus and Beyond.

Harold Bush-Brown, FAIA. New York: Whitney Library of Design, 1976. 128 pp. \$12.95.

The author, a distinguished educator, scholar and architectural practitioner, began his career in 1911 with an apprenticeship in the firm of McKim, Mead & White. For over three decades, during which the modern movement usurped the pre-eminent position of Beaux-Arts principles, Bush-Brown headed the department of architecture at the Georgia Institute of Technology. Now, he has used as a springboard a recent experience, while in retirement, of adding a modern wing to a library in the classical style in his home town of Duxbury, Mass., to unroll the years "with the wisdom and detachment of someone who lived through many changes," as Hugh Stubbins, FAIA, writes in the foreword to this book. It includes personal anecdotes about such giants of this century as Wright and Fuller, and has much to offer the layman as well as the architectural professional.

The Virginia Eastern Shore and Its British Origins: History, Gardens & Antiquities. H. Chandler Forman, FAIA. Easton, Md.: Eastern Shore Publishers' Associates, 1975. 416 pp. \$25.

A mind's-eye picture of Virginia's eastern shore is not always easy to conjure up, even for those who know it well and affectionately. With Maryland and Delaware, the Virginia eastern shore shares the great peninsula sheltering the Chesapeake Bay from the Atlantic. The Virginia portion projects about 72 miles south from the Maryland line toward



Norfolk and is only about 20 miles at its widest point.

This is a land of inlets and bays, marshes and tidewater, watermen and farmers—the almost pure Anglo-Saxon descendents of the English who settled here beginning in 1614, seven years after Jamestown and six before Plymouth.

About this unique region, its heritage and its antecedents in England, Forman has written a big book that will have considerable fascination for all of those who are deeply interested in American history and culture. No one should be misled by

the title, which should have included the word architecture, the most important subject in the book.

As might be expected from an author who is a scholar—architect, archaeologist, professor and historian—the book is packed with information, not the least of which is to be found in the great number of photographs, plans and details of buildings and gardens from the earliest primitive dwellings to those of the mid-19th century. Surprising, perhaps, is the leisurely, easy-going style of the writing. From the early cave dwellings, the earth forts and palisades, the bothies and the wattle-and-daub to the simple first real houses, with little or no furniture inside them, to the great manor houses of clapboard and brick, elegantly detailed and furnished, the book covers its subject most thoroughly. *William Dudley Hunt Jr., FAIA*

New Glass. Otto B. Rigan; photographs by Charles Frizzel. San Francisco: San Francisco Book Co., 1976. 117 pp. \$14.95.

The art of stained glass has been revived on the West Coast, with people from many professions and trades creating handsome works of art. In addition to painters and sculptors, there are such unexpected artists working in the medium of stained glass as a physicist, a railroad switchman and a body-and-fender man. This book is a look at the work of 24 glass artists, their methods and esthetic aspirations. About half the book is a portfolio of 102 photographs in full color of examples of the new glass located in such diverse places as an architect's office, a bagel shop, a library and a church.

Practical Hydraulics. Andrew L. Simon. New York: Wiley, 1976. 306 pp. \$14.95.

In his fight for survival, civilized man has always tried to control water supply. Yet despite great progress in the past century in coming to an understanding of hydraulics, it is "still as much an intuitive art as a science," Simon writes. This is because so many "ill-defined variables" enter into even simple practical problems.

The intent of this book is to present hydraulic design concepts to those who want practical answers. The topics presented in the book, says Simon, are "as

they appear in practice and not as examples of the application of certain theoretical concepts." There are chapters devoted to the physical properties of water, the law of fluid mechanics, water pressure, flow in pipes, pumps, seepage, elements of hydrology, etc.

Kalamazoo: Nineteenth-Century Homes in a Midwestern Village. Written by Peter J. Schmitt, photographed by Balthazar Korab. Kalamazoo, Mich.: Kalamazoo Historical Commission (241 W. South St., Kalamazoo, Mich. 49006), 1976. 240 pp. \$10 hardbound, \$7.50 paperbound.

James Fenimore Cooper wrote in 1848 that Kalamazoo was "an unusually pretty village, on the banks of the stream of that name." He praised the "taste" of those "who laid out this place, some 15 years since." The houses, he wrote, "are particularly pleasant to the eye." This book, copiously illustrated with beautiful photographs by Balthazar Korab and reproductions of old drawings, maps and photographs, bears out Cooper's assessment. It was published as a community bicentennial project but goes beyond the history of the architecture of a single village. The text by Peter Schmitt affords an insight into the 19th century architecture in general and into small village life everywhere in America. The book is commended to those who are interested in this country's architecture.

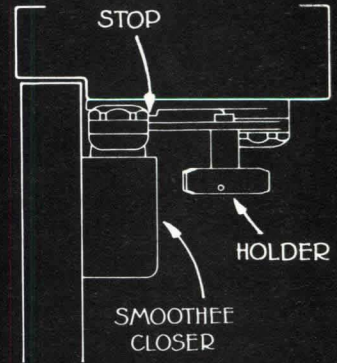
The Architecture Book. Norval White, FAIA. New York: Knopf, 1976, 343 pp. \$15 hardbound, \$8.95 paperbound.

This "miniature encyclopedia of the builder's art and craft" is intended for the layman. Its more than 1,400 entries cover, in alphabetic order, such terms as abutment and fenestration; styles and period of architecture; "pocket essays" on architects, beginning with Alvar Aalto and concluding with Dominikus Zimmermann, and brief notations on the architectural spectrum from abbeys to ziggurats. Hundreds of photographs and drawings illustrate the book.

Prestressed Concrete Designer's Handbook. 2nd edition. P. W. Abeles, B. K. Bardhan-Roy and F. H. Turner. London: Viewpoint Publications (distributed in the U.S. by Scholium International Inc., Flushing, N.Y.), 1976. 548 pp. \$30.

Despite the demand for the out-of-print 1969 edition of this book, a revised edition was postponed until the American building code and the new British code on structural use of concrete had appeared. The text has been completely revised, and many chapters rewritten. There are two new chapters, one on the criteria for analysis and design and the other on design for fire resistance. Part 2, with charts on design data, has also been revised. □

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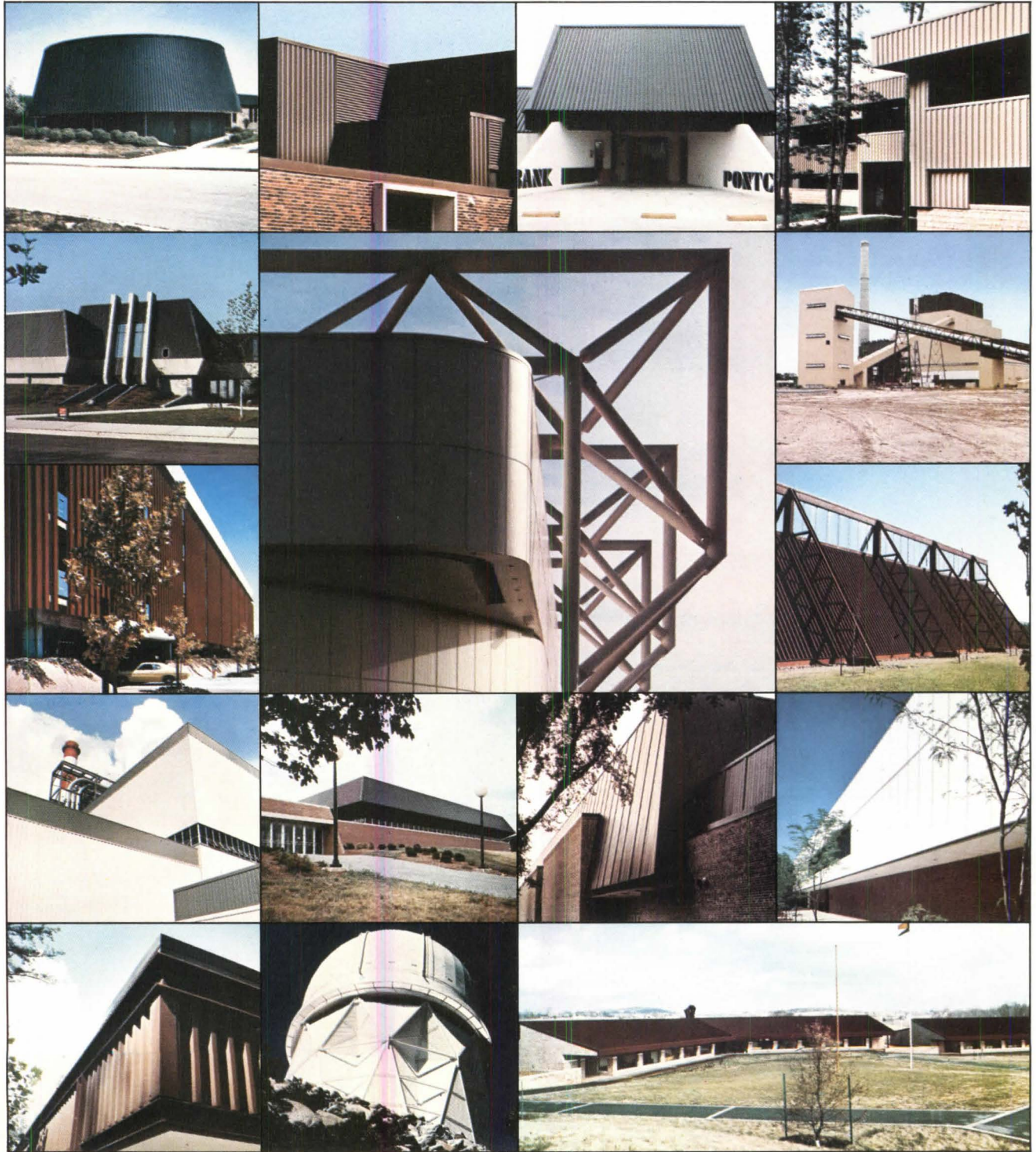
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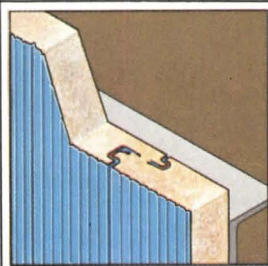
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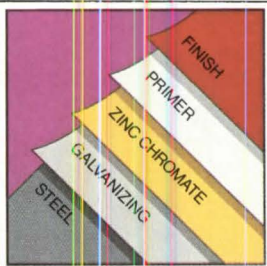
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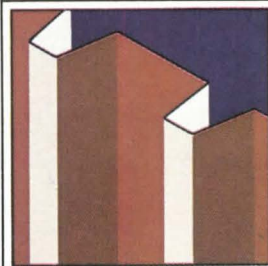
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Going On from page 25

budget." The task force is also directed to discuss the establishment of an annual awards program to give recognition to outstanding examples of art and architecture in transportation systems. A spokesman at DOT says that the task force also will consider selection processes for the procurement of artists and architects.

More complete information may be obtained from: Charles Ansbacher, Special Assistant, OST S-9, Department of Transportation, Washington, D.C. 20590.

Engineers Are Underpaid, Says Professional Group

The National Society of Professional Engineers recently stated that "most engineers are not paid as much as they should be." Further, NSPE said, engineers in responsible positions which require greater experience "suffer most."

NSPE compared median salaries obtained in its latest salary survey with its "1976/77 Recommended Income Ranges for Professional Engineers" in reaching this conclusion. The recommended income ranges, developed by NSPE's professional employment committee in furtherance of the society's policy "to periodically develop minimum recommended income levels," were compared with a 1975 salary survey, adding "an arbitrary 10 percent . . . to approximate inflation occurring since the survey was made."

The recommended income ranges start with a base salary of \$14,300 a year ("the going salary for new engineering graduates") and suggests recommended minimum and maximum income levels for each of eight employment grades. The eighth category includes engineers with "positions of considerable complexity and responsibility."

The comparison shows, says NSPE, that engineers "in jobs requiring considerable skill, experience and critical judgment in most cases are paid far less than the minimum proposed by NSPE for those levels." For example, NSPE says that an engineer in grade eight ("typically a public works director, a senior consultant or dean of engineering") would be paid between \$42,900 and \$64,350 according to NSPE recommendations, but the median income is \$36,652.

An engineer in category six ("a position of high authority in both technical and administrative areas and responsible for the entire scope of complex engineering projects") should be paid between \$31,460 and \$42,900 by NSPE standards, but the median salary, according to the survey, is \$28,578. An engineer in grade three (who has passed the entry-level

stages and has begun to apply "independent engineering judgment") should be paid between \$17,160 and \$24,310, depending upon various factors such as experience and qualifications, says NSPE. The salary survey, however, shows the median income in this grade to be only \$16,929.

Engineers in the first two entry-level grades have a median salary of \$14,927, which falls within NSPE's recommended range of \$12,870 to \$18,590.

The recommended income guidelines, endorsed by the American Association of Cost Engineers, is available from NSPE, 2029 K St. N.W., Washington, D.C. 20006. Single copies are free; price for quantity orders will be given upon request.

Staff Additions, Changes For AIA and the Journal

"The single individual who will have the most contact with the average AIA member in the future is new staff member James A. Schuping," says J. R. Kirkland, administrator of Institute and component affairs at AIA headquarters. Schuping, who has been appointed director of local component affairs, has two primary missions: to assist local chapters in the delivery mechanism of national Institute programs and to strengthen the local chapter's ability to better perform its own services and programs.

Schuping, who is available upon request to visit any local AIA chapter to review its needs and to lend assistance, has worked with architects previously, having recently been the technical representative of a major architectural materials manufacturing firm. He has had a varied experience in marketing and sales in the insurance industry as well, and is familiar with the membership activities of various civic associations with which he has been associated. Schuping, who is a graduate of Bowling Green State University, will work closely with Tom Bennett, who has been assigned an expanded role with state AIA components.

Another new staff member is Arthur F. Duncan, assistant director of the AIA codes and regulations center. He worked for the past several years with the National Bureau of Standards' office of building standards and code services. Duncan, who holds a bachelor of architecture degree from the University of Illinois and a master of environmental design degree from Yale University, has also been an assistant professor at Fisk University, construction management engineer for the General Services Administration's public building services department and a project director for VISTA.

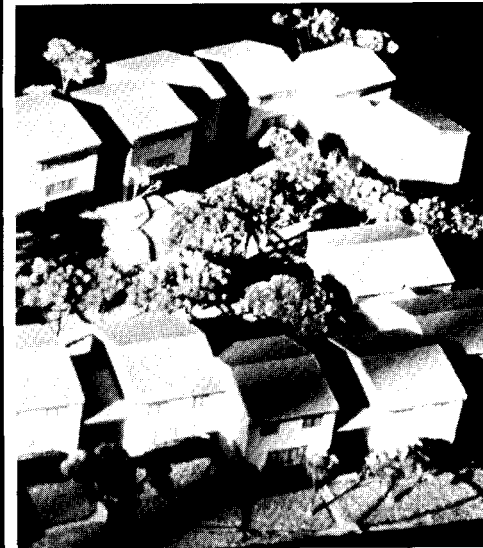
Linda Williams has been named editorial assistant for the AIA JOURNAL. She

is well-versed in Institute affairs, having served previously as an editorial assistant in the AIA public relations department.

Minneapolis Architects Sponsor Housing Project

Architects in Minneapolis are sponsors of a housing project, now under construction. "It is the first time that a nonprofit professional organization has undertaken the responsibility for the design and development of a public housing project," says a spokesman for the Minnesota Society of Architects.

The project, called Windslope, is financed under the HUD Section 8 pro-



gram in which qualifying tenants pay one-fourth of their annual income toward rent, with any incurred difference subsidized by the federal government. All profits from the venture will be ploughed back into the development.

The concept, first envisioned by the members of the Minneapolis chapter/AIA in 1969, is for a 168-unit townhouse complex within the boundaries of The Preserve in Eden Prairie, Minn. The design, by the Minneapolis architectural firm of Close Associates, Inc., integrates the townhouses into the natural environment.

Engineers' Society Urges Curb on 'Salary Busting'

The 95th Congress is expected to consider a new federal procurement law for the services of professionals. In anticipation of this, the National Society of Professional Engineers urges Congress to enact a new procurement law that would prevent "salary busting" practices in government technical service contracts.

Some contractors, says NSPE, receive a "competitive advantage" and are able to underbid in renegotiated technical service contracts by reducing compensa-

continued on page 84

Nearly two decades have passed since the late Frank Lloyd Wright's comment on Follansbee Terne was first published. No comparable product has ever received such an endorsement from such a source, and we reprint his statement here in the belief that time has not lessened its fundamental impact or its relevance to contemporary design.

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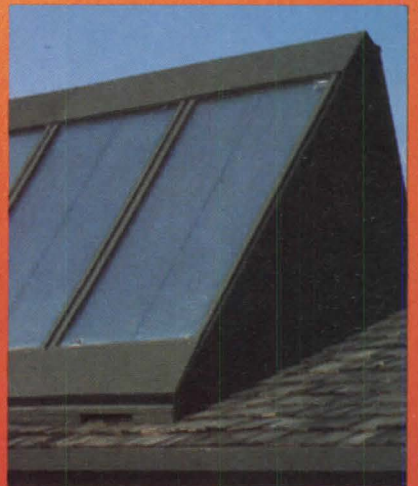
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A handwritten signature in white ink, appearing to read "F. Lloyd Wright", is written across the bottom of the page. The signature is stylized and somewhat abstract, with a long horizontal line extending to the left and a long diagonal line extending downwards to the right.

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Letters from page 2

Considering these regulations. When these projects are reviewed by the public agencies, architects and owners feel hassled by public architects who must enforce the codes. The incredulous "Is this really necessary?" reactions can be avoided if architects would place themselves in the position of handicapped users throughout the design process.

Although most codes specify minimum requirements, many private practitioners believe the codes place unnecessary hardships on them and their projects. It is my hope that more architects will educate themselves in this critical area so that they are not inadvertently denying a segment of the public by whom they are employed the right to use any privately or publicly funded building with comfort and ease.

I might add that owners' awareness of the needs of handicapped users is as vital as the architects'. The example in Ms. Morgan's article of accessible doors being used for egress only might illustrate a case of owner expediency versus architect-designed handicapped ingress.

It is apparent that much more must be done in educating the general public in this area. Perhaps those of us who write and enforce these standards are the persons with whom the challenge and responsibility for this education lie.

We, together with AIA's continuing education programs throughout the country, can address ourselves not just to the wording of regulatory standards, but, more importantly, can inculcate their value among architects, owners and users.

*Kathryn C. Vernon, AIA
Utah State Building Board
Salt Lake City*

Nebraska Capitol: The Nebraska state capitol story by Henry-Russell Hitchcock and William Seale in the Oct. '76 issue properly expands our knowledge of an important change in American architectural development.

Lee Lawrie and Hildreth Meiere were working at the New York World's Fair of 1939 where, as a young man, I had the joy of making models of their fine works and of receiving their charming attentions.

Beyond that scene, I believe that H. B. Alexander, described as the wordsmith for the capitol sculptures, was also a summer in Taos, N.M., anthropologist and brought his talents to the symbolism of Lawrie's works. Lawrie later brought Alexander to New York City in the same role at Rockefeller Center.

I lecture on architecture occasionally and particularly enjoy screening the capitol, using a pointer that was once the front section of Bertram Goodhue's billiard cue. I bought it for a dollar per section many years ago from the estate of his widow in Santa Barbara. *Robert Ingle Hoyt, AIA
Santa Barbara, Calif.*

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The steel-framed, 400' high granite-clad towers are coupled to the atrium space frame, which serves as shear walls and resists lateral loads in both directions. The space frame also minimized the building's drift and allowed maximum design flexibility resulting in 85% usable floor space in the towers. The use of this unique design was estimated to have saved a quarter million dollars when compared to a conventional frame and resulted in a structural steel frame weighing only 15.5 pounds per square square foot.

Hennepin Center is another example of the design flexibility and practical economy of using structural steel.

For more information regarding structural steel applications, contact a USS Construction Representative through your nearest USS Sales Office or write to P.O. Box 86, (C700), Pittsburgh, Pennsylvania 15230.

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Associate Architect: Peterson, Clark and Associates; Minneapolis, Minn.

Engineer: Ketchum-Konkel-Barrett Nickel-Austin; Denver, Colorado

General Contractor: Knutson Construction Co., Minneapolis, Minn.

Fabricators: Paper Calmenson & Company
St. Paul Structural Steel Company
The Maxson Corporation

All of St. Paul, Minnesota.



United States Steel

TRADEMARK

Going On from page 78

tion and benefits of professionals. To eliminate such a possibility, some professionals have recommended that the government set minimum professional compensation levels. NSPE rejects this approach, however, stating that the "merit system of compensation determination for professional employees best serves the interest of the public and the professional status of engineers."

"If the federal government sets a minimum salary for engineers as a remedy for this unpalatable situation, it would open the door for a complete salary structure for *all* engineers working on *any* federal contract—a classic case of a short-term solution causing greater long-term problems," says Edward E. Slowter, president of NSPE. The rights of professionals who have been "subject to compensation abuse at the hands of a few contractors" can be protected, he says, without placing most professionals "under some form of governmental salary control or restraint."

The specific language recommended by NSPE for a new procurement law would state: "In the award of contracts for services, the head of an agency shall not base an award under rebid or recompetition procedures of such contracts for substantially the same services on the basis of lower salaries or wages or fringe

benefits proposed by competitive offerors compared to those salaries, wages or fringe benefits being paid by the predecessor contractor."

PSFS by Howe-Lescaze Given Landmark Status

The Philadelphia Saving Fund Society building on South Street in Philadelphia has been designated a national historic landmark by the National Park Service. Structures built during the last 50 years are not usually accorded this honor (PSFS was completed in 1932), but the building was judged "to possess significance for all Americans." Landmark structures are automatically placed on the National Register of Historic Places and are protected against damage by federal projects.

The tallest office structure in Philadelphia, PSFS was designed by George Howe and William Lescaze. It placed high among the American works of architecture judged to be this nation's "proudest architectural achievements" in a poll conducted by the AIA JOURNAL and reported in its July '76 issue. One poll respondent called PSFS "as seminal as any building in the skyscraper's evolution." The landmark designation says: "It has not aged nor become old-fashioned."

Among the building's technological in-

novations were electronically controlled elevators, and it had one of the first total airconditioning systems in the U.S.

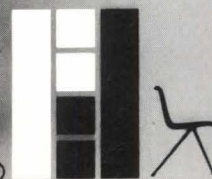
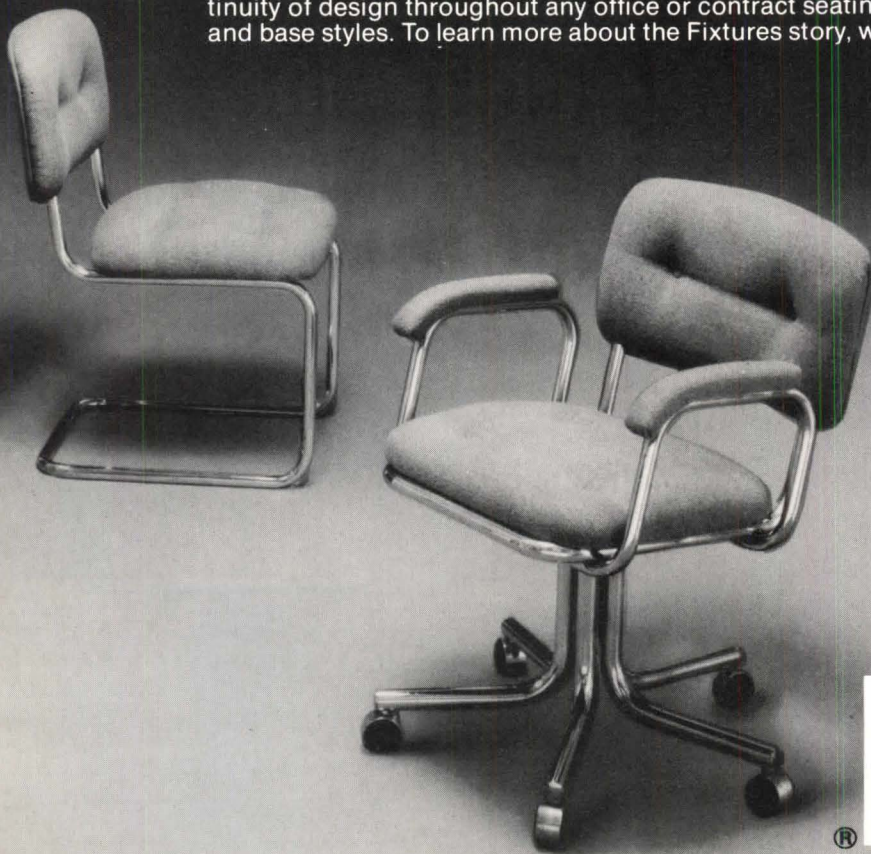
In a brochure on the building, published in 1976, Robert A.M. Stern, AIA, said: "PSFS is a key monument in the history of the modern movement; and the story of its design . . . offers unique insights into the cultural and economic circumstances which enabled the forms of European modernism not only to be transmitted to but also transformed by the American context. . . . PSFS is much more than a superb marriage of function and technological innovation within the constraints of a new vocabulary of form. It is a superbly crafted object, refined in its every detail."

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Going On continued on page 92

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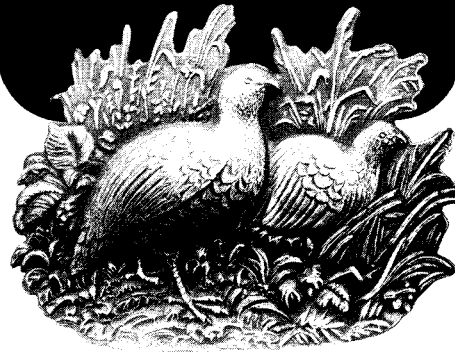
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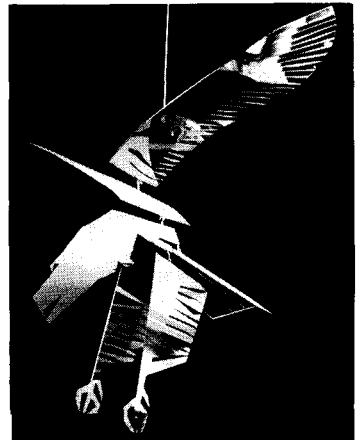
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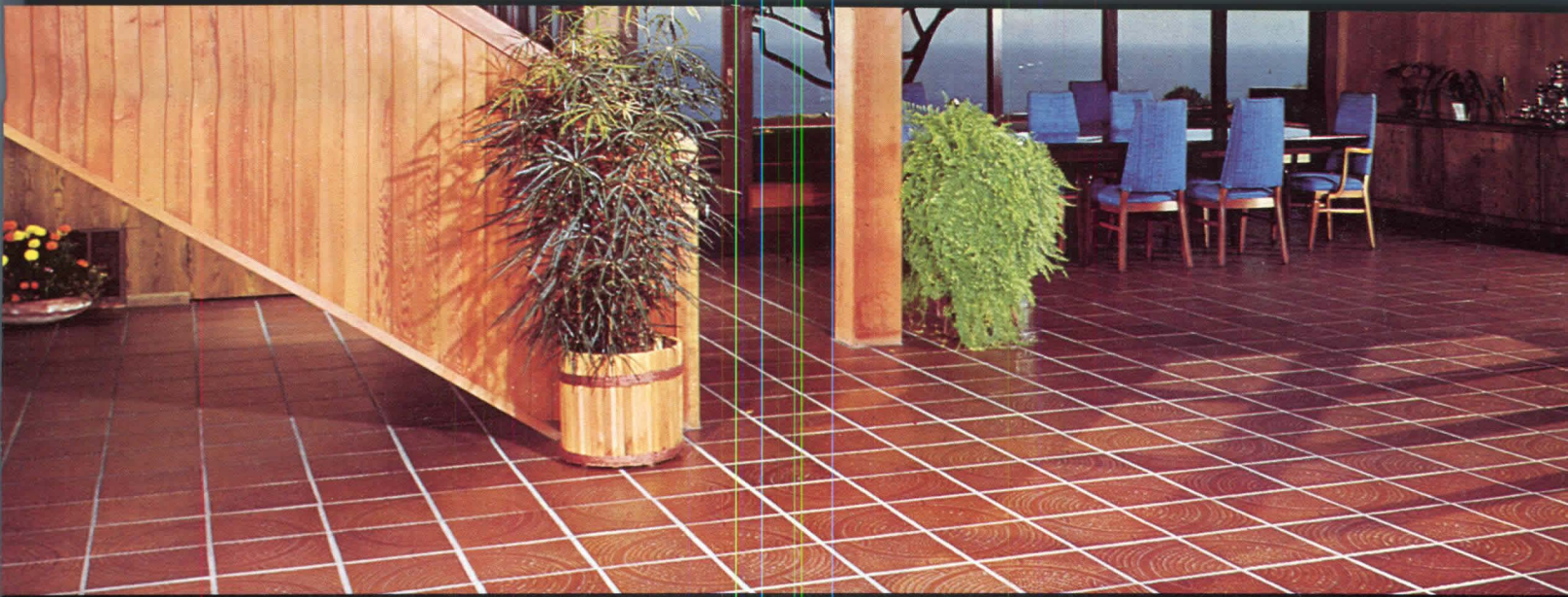


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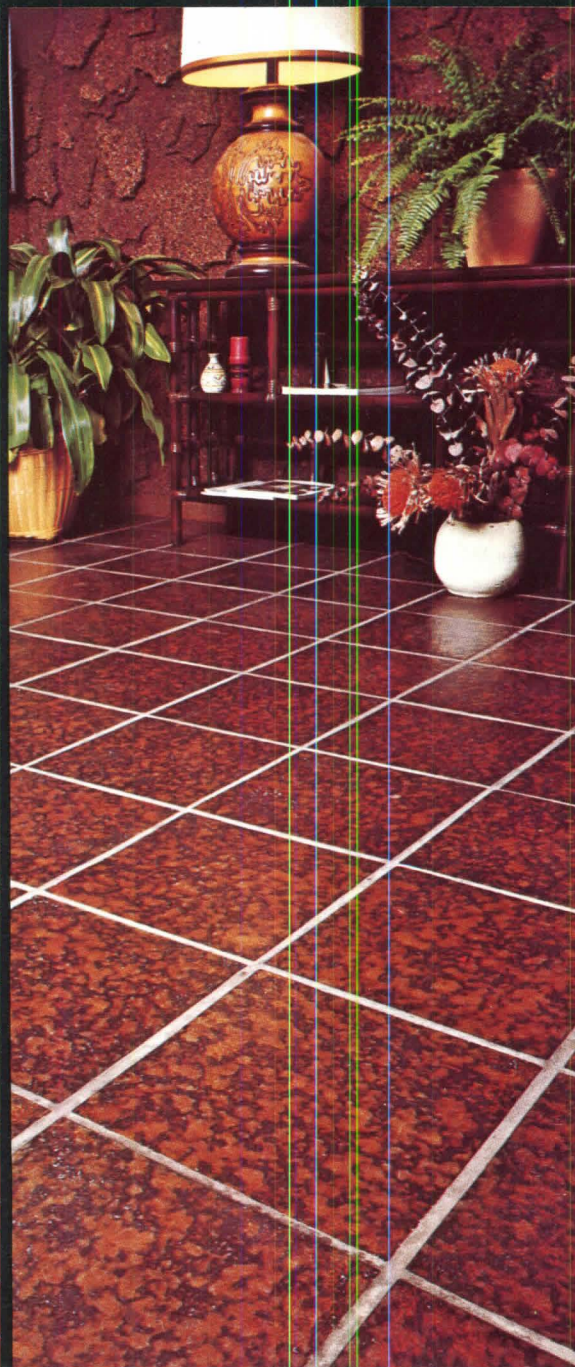
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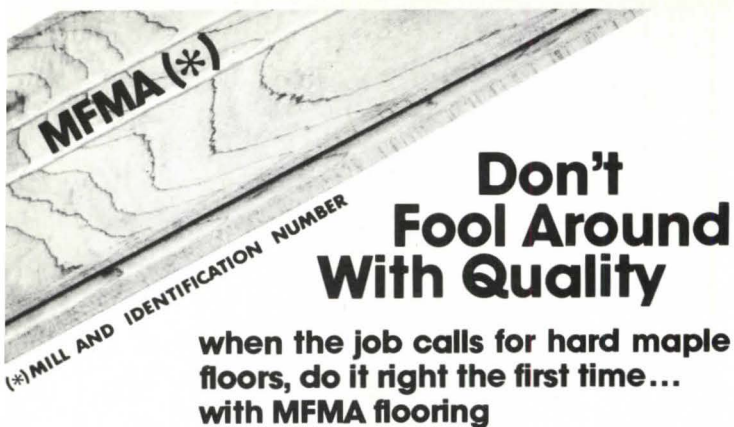
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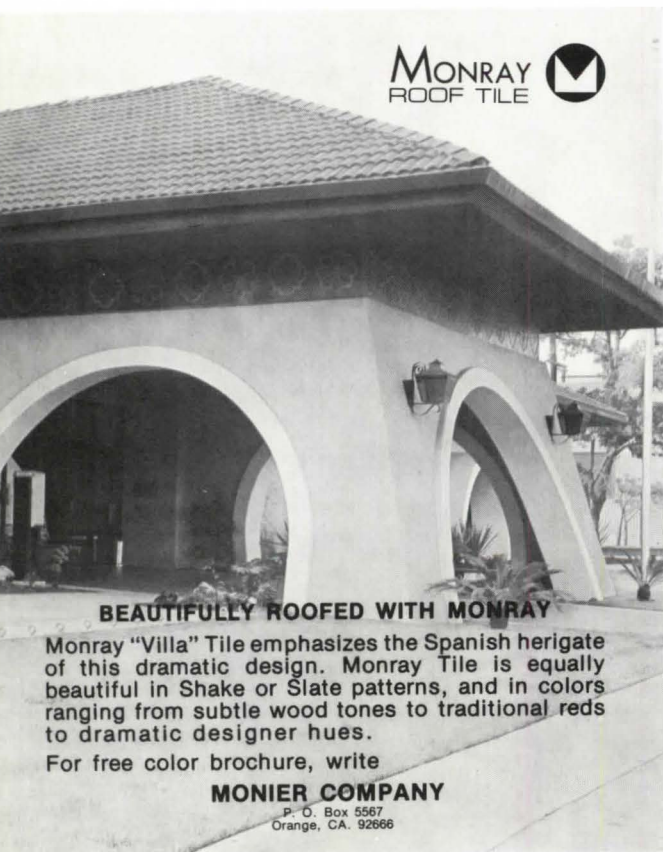
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AIA JOURNAL/MARCH 1977 89

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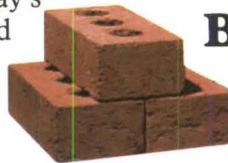
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Deaths

E. Geoffrey Bangs, Piedmont, Calif.
Lawrence S. Martz, Lyme Center, N.H.
Peter B. Mayo, Laguna Hills, Calif.
Leo L. Sheinfeld, Brookline, Mass.
Roy W. Spence Jr., Miami

Jacques Carlu, Hon. FAIA: Described by an AIA fellow as "one of the greatest teachers of design this country has ever known," Mr. Carlu was professor of architecture at the Massachusetts Institute of Technology from 1924 to 1934. He also taught at the Ecole des Beaux-Arts.

Mr. Carlu, who died on Dec. 3, 1976, at the age of 86, was the architect of many world-famed buildings, including the Palais de Chailott, NATO headquarters, Paris, and the extension of the Palace of Nations, Geneva. His honors included the premier grand prix de Rome and the Legion d'Honneur.

Burr North Boutwell, AIA: A former director and treasurer of the Portland chapter/AIA, Mr. Boutwell was graduated from the University of Oregon's school of architecture in 1955. Afterwards, he practiced in Portland, Ore., with the firms of Lawrence, Tucker & Williams; Harland Nelson & Associates, and Skidmore, Owings & Merrill. In 1969, he

became a partner in the firm of Rudat/Boutwell, and last year the firm became Boutwell, Gordon, Beard & Grimes.

Mr. Boutwell, who died on Jan. 20 on the eve of his 46th birthday, was the designer of many downtown structures in Portland, including Standard Plaza, Boise Cascade and Town Center, as well as major buildings on the campuses of the University of Oregon, Linfield College and Portland State University.

Albert Miles Davis, AIA: Both architect and artist, Mr. Davis is said to have always had a sketch book in his pocket. His paintings have been exhibited to critical acclaim in such places as the Pennsylvania Academy of Fine Arts.

Mr. Davis, who died on Oct. 24 at the age of 73, was eulogized in the *Philadelphia Evening Bulletin* as "an artistic, cultured gentleman, and as fine an artist, as he was an architect." He retired in 1973 as senior partner in the Philadelphia architectural firm of Davis, Poole & Sloan, of which he was a cofounder. He designed many buildings, including the Pennsylvania State Police Administration Building on Monument Road in Philadelphia, the Fairhill Apartments of the Philadelphia Housing Authority, numerous hospitals, bank buildings and schools. His best-known work, perhaps, is the design of parts of the Philadelphia Civic Center.

Newslines

Ronaldo Giurgola, FAIA, partner in the firm of Mitchell/Giurgola since 1958, has been elected to membership in the prestigious American Academy and Institute of Arts and Letters, considered the highest formal recognition of artistic merit in the U.S. Also among those to be inducted on May 18 are architect Charles Eames, winner of AIA's industrial arts medal in 1972, and Ada Louise Huxtable, Hon. AIA, a member of the *New York Times* editorial board.

Major General S. Scott Ferebee Jr., a past president of AIA, has retired from the U.S. Army and Army Reserve after 34 years of service. A ceremony was held in Charlotte, N.C., to mark his retirement, at which time he received the distinguished service medal, one of the Army's highest awards.

The University of Kansas' school of architecture and urban design is seeking an associate professor of architecture. Contact: Dean Charles Kahn, School of Architecture and Urban Design, UK, Lawrence, Kan. 66045. **Carnegie-Mellon University** has three faculty openings in graphic design, design technology and craftsmanship. Contact: Joseph H. Bailey, Department of Design, C-MU, Pittsburgh, Pa. 15213.

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Skidmore, Owings & Merrill has received a Royal Institute of British Architects' award for the design of the W.D. & H.O. Wills tobacco manufacturing factory and corporate headquarters in Bristol, England. SOM was associated with the British firm of Yorke Rosenberg Mardall in the project.

A NATO conference on the human consequences of crowding will be held in Antalya, Turkey, Nov. 6-11, 1977. Persons interested in submitting papers may contact: Robert B. Bechtel, Environmental Research and Development Foundation, Suite 116, 2030 E. Speedway, Tucson, Ariz. 85719.

A new continuing education program to allow on-the-job engineers to take graduate courses for credit without leaving their places of employment has been announced by the Massachusetts Institute of Technology. Videotapes made during regular graduate classes at MIT will be distributed to companies participating in the program, and a tutor (usually a company employee) will lead discussions, having been prepared for the role on the MIT campus.

The architectural renderings of Herb Greene, professor of architecture at the University of Kentucky, were exhibited

recently at a New York City gallery. The drawings ranged from prairie houses designed by Greene to "visions and concepts." Critic Ada Louise Huxtable has said of Greene that he "draws like a demon on a permanent high."

"Designing Fire Protection for Steel Trusses" is a 16-page brochure prepared by the American Iron and Steel Institute. It contains up-to-date information on applications, building code requirements, fire protection design procedures and exposed steel assemblies. Write for a free copy from: Engineering Division, AISI, 1000 16th St. N.W., Washington, D.C. 20036.

The Council on Tall Buildings and Urban Habitat is the name of the organization previously called the Joint Committee on Tall Buildings. The new name "recognizes the multiprofessional nature of its membership and the scope of its activity." AIA is one of the council's members.

Free-loan, 16mm color films on energy are available from the Energy Research and Development Administration's film library (P.O. Box 62, Oak Ridge, Tenn. 37830). "Challenge of the Future," appropriate for junior and senior high school students, considers new energy sources for the future. "Energy: The American Experi-

ence," suitable for grades four-nine, introduces the subject of energy, the problem and some of the solutions.

The Republic of Algeria is recruiting professors to teach at various Algerian universities. There are vacancies in the following subject fields: equipment of buildings, geotechnics, reinforced concrete, urban planning and construction site planning. For further information, contact: Embassy of Algeria, 2118 Kalorama Road N.W., Washington, D.C. 20008. Applicants should be able to teach in French or Arabic.

Donald J. Vigneau, AIA, of East Hartford, Conn., has won the American Wood Council's design for better living award. He was cited for his "creative design and innovative use of wood" in Castle Rock, a residential development in Branford, Conn.

An international competition for films on housing, physical planning, environmental problems and related issues is being sponsored by the International Federation for Housing and Planning. The eight best films submitted will be shown continuously during IFHP's congress in Geneva, Switzerland, Sept. 5-10. The film awarded first prize will be shown in a special con-

continued on page 94

ENERGY TECHNOLOGY FACULTY POSITION

The Department of Architecture, University of California, Berkeley, seeks candidates for an Assistant Professor appointment in energy resource management and environmental control. Applicants should be able to assume the diverse responsibilities of teaching at the undergraduate, graduate and doctoral levels, and of administering and conducting research programs. Previous teaching experience, research work, and professional achievement are desirable. Applicants should have had experience in aspects of building design concerned with energy resource management and environmental controls. Applicants should have the capacity to work with other faculty in related areas of design.

Interested persons should contact the Secretary of the Faculty Search Committee, Department of Architecture, University of California, Berkeley, California 94720, for further information and application forms. The final date for filing completed applications is April 1, 1977. Minority and women candidates are encouraged to apply.

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Newslines from page 93

gress session. Films eligible for admission must have been released after Jan. 1, 1973, and produced on 16mm width. Entries will be limited to two per country, with total running time per country of 60 minutes. Nominations must be received before May 1. For further information, contact: IFHP, 43 Wassenaarseweg, The Hague NL-2108, The Netherlands.

"Streets" is the title of a curriculum package for children in grades three through eight to help them understand why their streets look as they do and how they got that way. The program encourages children to observe and draw buildings on the street and the places where people congregate. Materials provided let them translate their observations into "street models," helping them change the way their own street looks. A product of two years' effort by The Architects Collaborative and the Cambridge, Mass., school system, the program encourages teachers "to use local architects and other design professionals to help in the classroom." For more information, write: Harwell Associates, P.O. Box 95, Convent Station, N.J. 07961.

"The Construction Education Directory," published by the Associated General Contractors' education and research foundation, is now available in a second edition.

It lists 83 colleges with construction programs and 45 with A/E programs containing construction courses. Department head, college address, a summary of construction courses offered and hours required at each college is provided for each listing. The cost of the directory is \$2.50; it is available from AGC Education and Research Foundation, 1957 E St. N.W., Washington, D.C. 20006.

The "Annual Fire Protection Reference Directory," now available from the National Fire Protection Association, is a useful reference for architects. The 1977 directory lists 900 product items alphabetically and gives names, addresses and phone numbers of 600 manufacturers. The opening editorial section explains the use of fire protection standards, lists fire research laboratories and supplies information on the metric system as used in fire protection products. Copies are \$5 each from: NFPA Publication Sales Department, 470 Atlantic Ave., Boston, Mass. 02210.

Programs in continuing architectural education have been initiated at Kent State University's division of continuing education. The inaugural program, scheduled for May 9-31, is a seminar on architectural design in Rome and Florence, Italy. Total cost for the program, with depar-

tures to and from Cleveland, is \$1,175. For further information, contact: Division of Continuing Education, 329 Rockwell Hall, Kent State University, Kent, Ohio 44242.

"The Rehabilitation, Recycling or Restoration of an Old or Historic Building" is the subject of this year's Hiron prize awarded by the National Institute of Architectural Education. The competition is open to all persons in the architectural field under 35 years of age on June 1 and who are not enrolled "full time" in an architectural academic program. Entries may be completed any time between Jan. 15 and June 15. For a copy of the program, write: Howard H. Juster at NIAE, 20 W. 40th St., New York, N.Y. 10018.

There are about 4,000 students in architectural schools in Australia, about two-thirds the number of registered architects. A publication of the Royal Australian Institute of Architects says that the country is "producing more graduates than can be absorbed into the profession . . . at a time when . . . services required for architects have declined dramatically." RAIAs suggests the development of "new tasks within the framework of the profession," worked out by the profession and the new graduates, "for the architect to undertake in our communities." □

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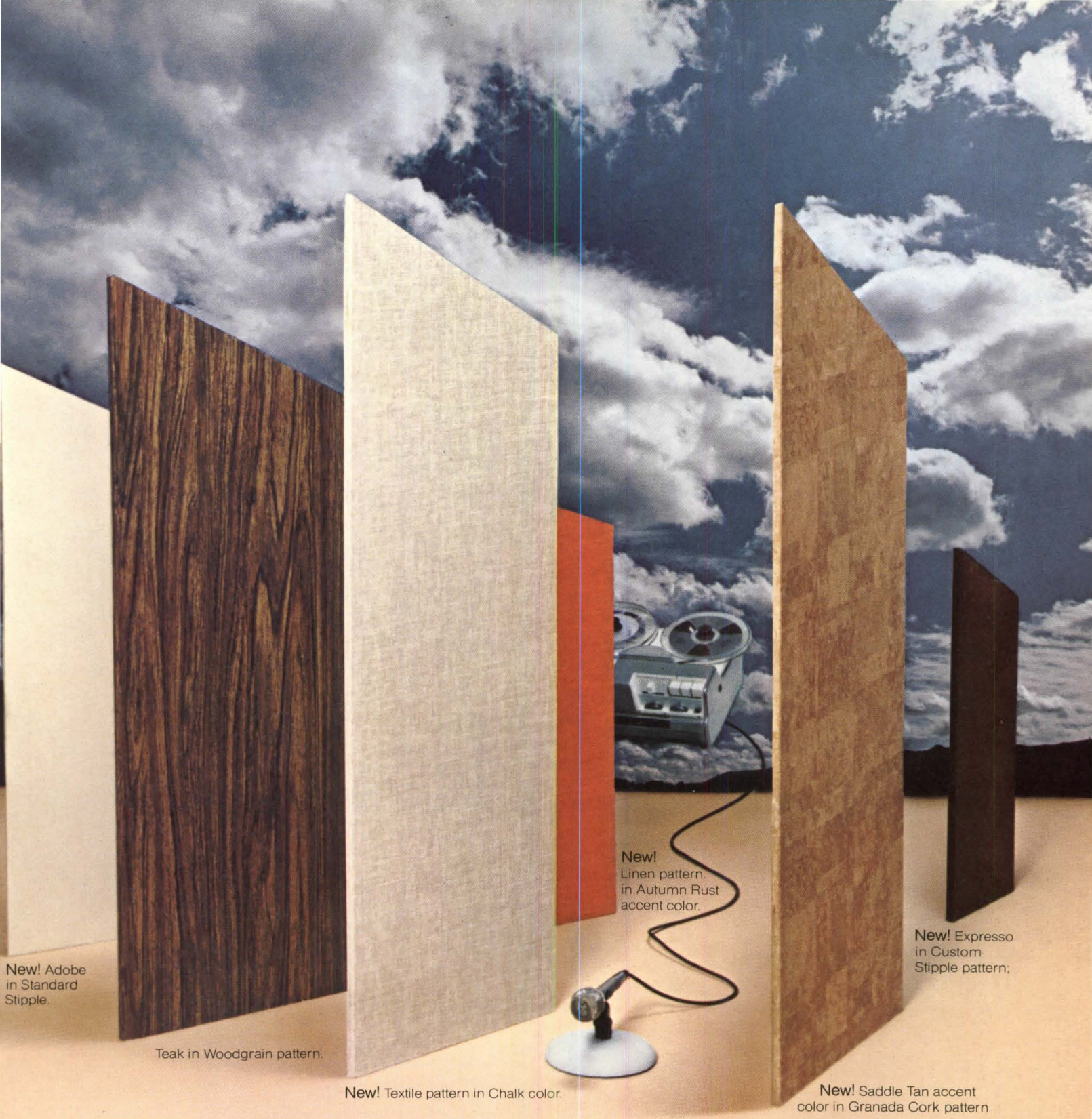
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ARCHITECTURE/ENVIRONMENTAL DESIGN FACULTY POSITION

The Department of Architecture, University of California, Berkeley, seeks candidates for a senior faculty position in the area of architectural design. The applicant should be a broadly experienced person able to teach in the graduate program and in joint programs with the City and Regional Planning Department, and able to supervise graduate and doctoral students. The Department seeks a person who can contribute to solutions to significant problems of architectural design. A full time commitment to teaching and a continuing engagement with real problems is required.

Interested persons should contact the Secretary of the Faculty Search Committee, Department of Architecture, University of California, Berkeley, California 94720, for further information and application forms. The final date for filing completed applications is April 1, 1977. Minority and women candidates are encouraged to apply.

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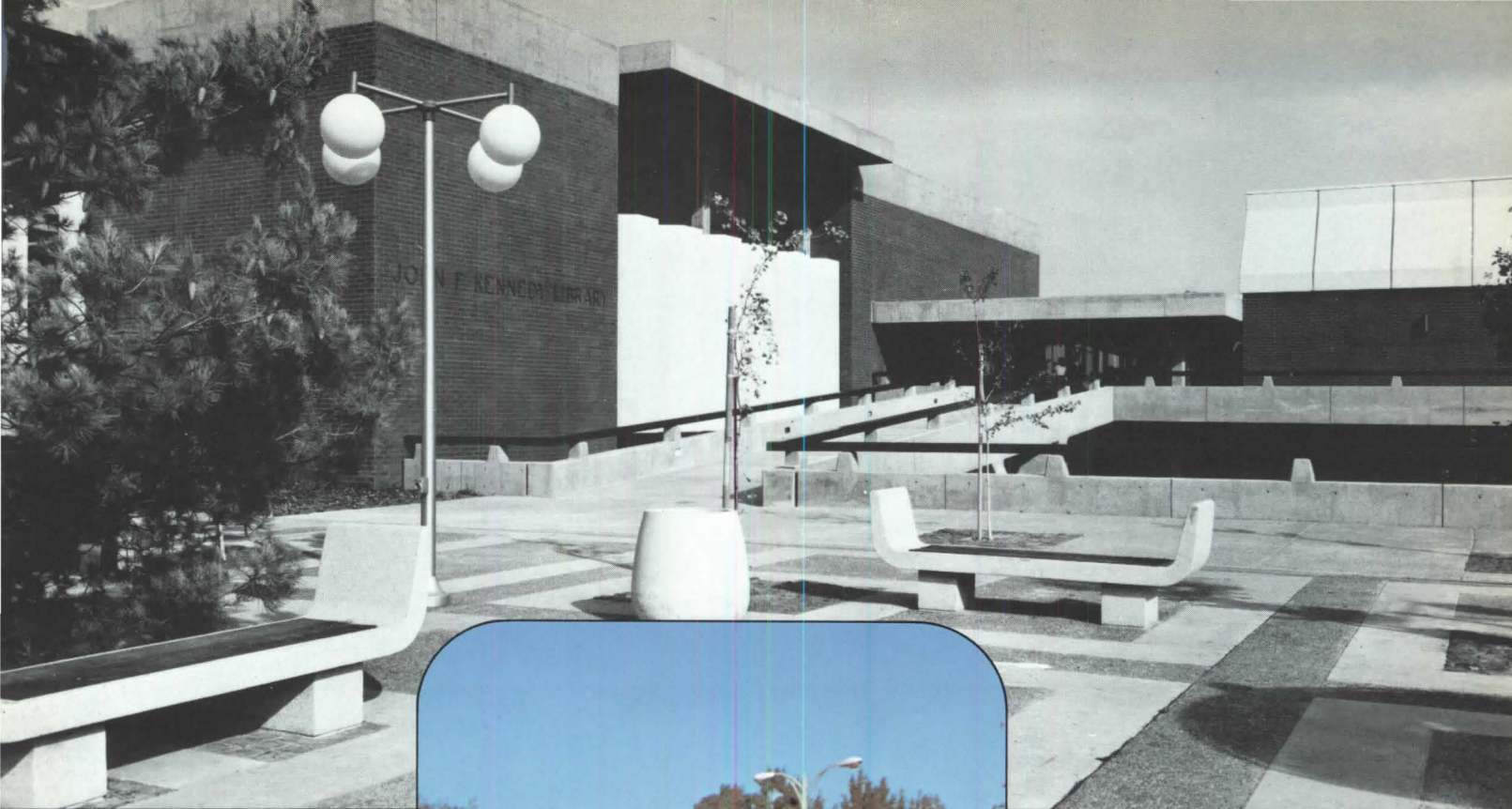
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