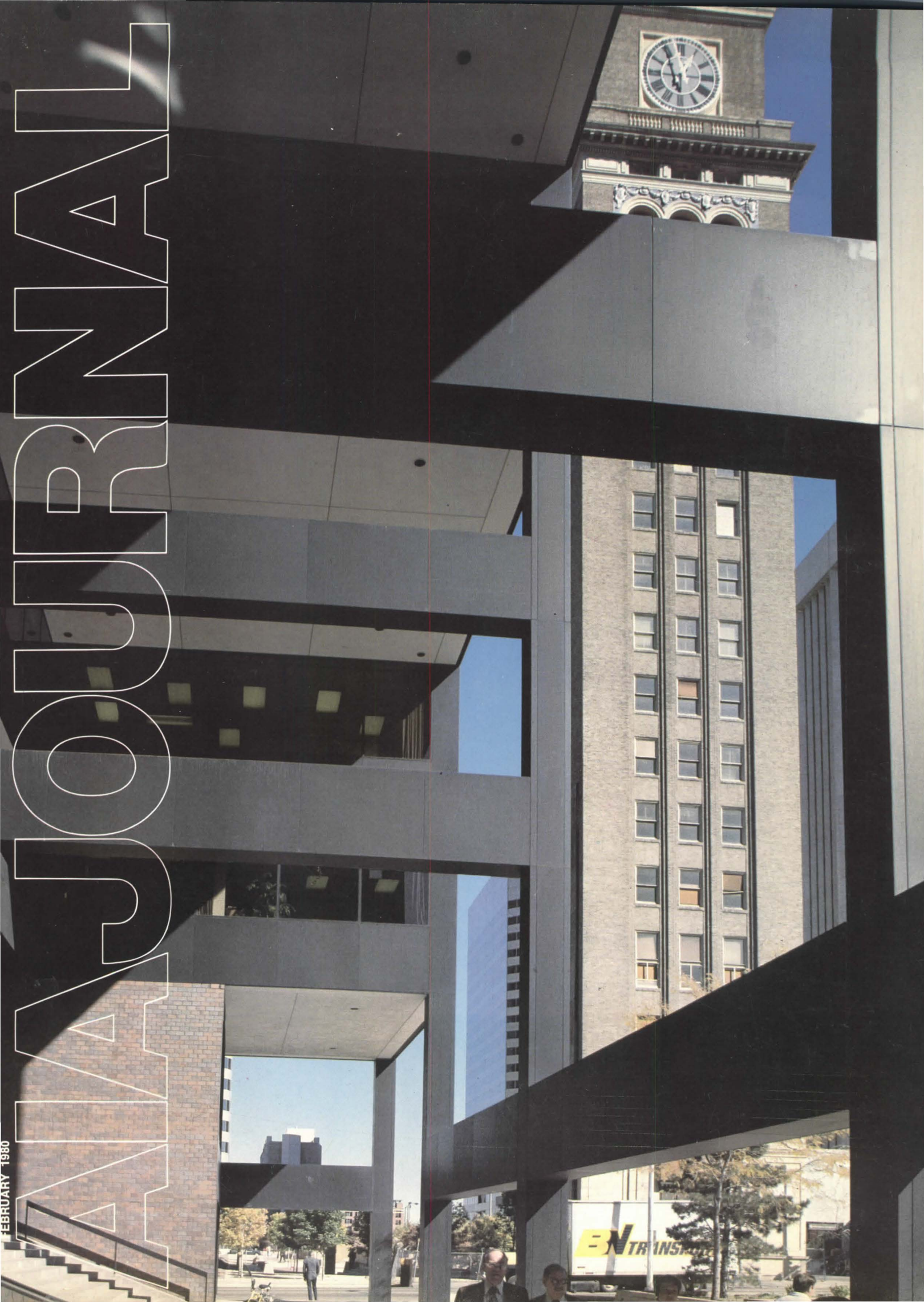
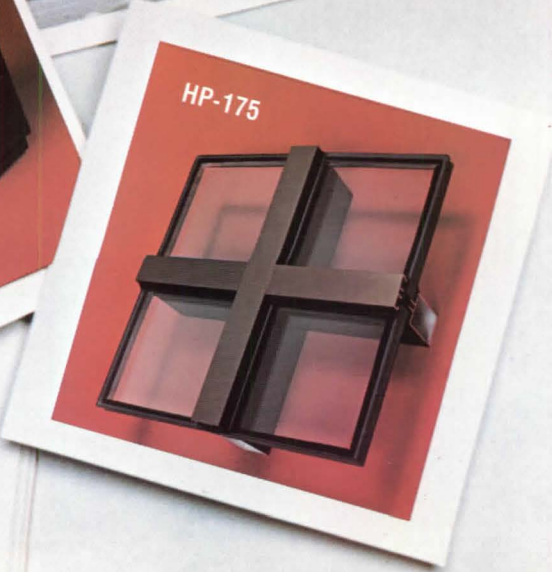


ANNUAL

FEBRUARY 1980



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Cover: Photograph by John Pastier of W. C. Muchow & Partners' Park Central building, Denver (see page 30).

Donald Canty, Editor; **Suzy Thomas**, Art Director; **Carole Palmer**, Associate Art Director; **Stanley Abercrombie**, AIA, Senior Editor, Architecture; **Mary E. Osman**, Senior Editor, Departments; **Andrea O. Dean**, Senior Editor, Articles; **Allen Freeman**, Managing Editor; **Nora Richter**, Associate Editor; **Michael J. Hanley**, Publisher; **Michael M. Wood**, National Sales Director; **George L. Dant**, Production and Business Manager; **Gladys O. McIntosh**, Circulation Manager; **Lisa Moore**, Administrative Assistant.

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EVENTS

Mar. 3-7: National Association of Corrosion Engineers annual meeting, Palmer House, Chicago. Contact: NACE, 1440 S. Creek, Houston, Tex. 77084.

Mar. 4-5: Course on Construction and New Trends in Building Design, Hartford Graduate Center.

Mar. 4-6: Course on Controlling Concrete Quality in Production and Construction, Cement and Concrete Center, Skokie, Ill. Contact: Portland Cement Association, 5420 Old Orchard Road, Skokie, Ill. 60077.

Mar. 5-6: Institute on Practical Applications of Earth-Sheltered Architecture, University of Wisconsin, Madison.

Mar. 10-11: Conference on Synthetic Fuels: The New World, Shoreham Americana Hotel, Washington, D.C. Contact: Energy Bureau, 41 E. 42nd St., New York, N.Y. 10017.

Mar. 10-13: Course on Commercial/Industrial Energy Auditing, University of Wisconsin, Madison.

Mar. 13: Course on Roof Systems for Commercial Buildings, University of Texas, Austin.

Mar. 16-18: Construction Industry National Legislative Conference, Sheraton Washington Hotel, Washington, D.C. Contact: National Association of Plumbing-Heating-Cooling Contractors, 1016 20th St. N.W., Washington, D.C. 20036.

Mar. 18: Course on Contracts Disputes Act of 1978, Hartford Graduate Center.

Mar. 18: Conference on Formwork and Shoring, Houston. (Repeat conferences: Mar. 27, Columbus, Ohio; Apr. 16, Edison, N.J.) Contact: American Concrete Institute, P.O. Box 19150, Redford Station, Detroit, Mich. 48219.

Mar. 20: Seminar on Legal Problems Affecting Practice, New York Institute of Technology, cosponsored by the Long Island Chapter/AIA. Contact: Perry G. Goldstein, AIA, 600 Old Country Road, Garden City, N.Y. 11530.

Mar. 20-22: South Carolina Chapter/AIA annual meeting, Columbia.

Mar. 21-26: Associated General Contractors of America annual convention, Honolulu. Contact: AGC, 1957 E St. N.W., Washington, D.C. 20006.

Mar. 24-26: Energy Technology Conference and Exposition, Sheraton Washington Hotel, Washington, D.C. Contact: Government Institutes, Inc., 4733 Bethesda Ave. N.W., Washington, D.C. 20014.

Mar. 24-27: National Design Engineering Conference, McCormick Place, Chicago. Contact: Clapp & Poliak, Inc., 245 Park Ave., New York, N.Y. 10017.

Mar. 24-27: Architects' Workshop, Maxwell House Hotel, Nashville, Tenn.,

sponsored by the Church Architecture Department, Southern Baptist Sunday School Board. Contact: Howard McAdams, Church Architecture Department, 127 Ninth Ave. N., Nashville, Tenn. 37234.

Mar. 26-27: Air Pollution Control Association annual government affairs seminar, International Inn, Washington, D.C. Contact: APCA, P.O. Box 2861, Pittsburgh, Pa. 15230.

Mar. 26-29: Association of Collegiate Schools of Architecture annual meeting, San Antonio, Tex. Contact: ACSA, 1735 New York Ave. N.W., Washington, D.C. 20006.

Mar. 27-28: A/E Federal Marketplace for the '80s, Sheraton Harbor Island Hotel, San Diego, sponsored by the Committee on Federal Procurement of A/E Services. Contact: Government Affairs Department, AIA Headquarters.

Apr. 12-May 4: Architecture and Gardens Tour of Japan. Contact: Kenneth M. Nishimoto, AIA, 147 S. Los Robles Ave., Pasadena, Calif. 91101.

June 1-4: AIA annual convention, Cincinnati.

LETTERS

Competitions for Public Projects: The report of George Kassabaum's appearance for AIA before Congress, condemning competitions in awarding A/E contracts (see Nov. '79, p. 36), must have curdled the turkey dinners of 75 percent of our membership. Stale chestnuts, the arguments are answerable by new competition procedures which an AIA committee has been developing (see Oct. '79, p. 80).

Are we to assume during our "Celebration of Architecture" that Mitchell/Giurgola will now withdraw as finalists in the Australian competition? (See Nov. '79, p. 11). *Robert L. Bliss, FAIA
Salt Lake City*

I was most intrigued by George Kassabaum's testimony which condemns architectural competitions for complex federal projects. Whereas I thought his comments most interesting, perhaps his insightful criticisms can be taken one step further.

I for one would propose that all federal buildings be made out of a one-color standardized masonry unit. By omitting competitions and only going with the standardized masonry unit, many gains can be made. The client should have a pretty good idea of what he is getting, even before the design process takes place. Review boards will not be startled by new and unorthodox designs and perhaps, even more importantly, the time spent on design can be radically reduced. In this period of "time is money" and inflation, some sacrifices must be made.

Now it may be in some ways that this process is unfair. If your firm has been working with the chosen masonry unit—you're in. Your competence is standing right there on the wall. If you haven't been using the masonry unit, you're probably not very good at it anyway and really don't deserve to be involved.

Also, Kassabaum suggested that government architects act in the role of client, and, by reducing the numbers of qualified architects permitted to engage in federal work, they will all get to know each other better, and this should save some time. Perhaps after a few buildings are underway, the federal architects can get the concepts down and take over.

I suppose the big question remains: How do we choose the right masonry unit? We could have a competition.

*Allan Nichol
Occidental, Calif.*

I did not trust my eyes when I read the headline, "AIA Opposes Competitions." I do not believe that this is representative of the opinion and best interests of the membership. It is rather disconcerting if the representative of a special minority expresses its opinion before a Senate subcommittee as the opinion of AIA.

Competitions are not just "beauty contests" nor do they "emphasize the cosmetics of design." They can do a lot more. This has not been tested sufficiently in recent years in this country, but a track record exists in other parts of the world. Excellent examples exist in Europe where important works by Alvar Aalto, the Olympic Stadium in Munich, much of Egon Eierman's and Hans Sharoun's work and literally hundreds, if not thousands, of public buildings have been done on the basis of competitions. They are, in fact, a major vehicle to get work for excellent architects, both unknown and well established.

I strongly plead that we give the newly revived national AIA committee on architectural competitions a mandate to develop workable guidelines to conduct national, regional and local architectural competitions. And I strongly recommend that AIA and all of its components take a position in favor of competitions—not in opposition.

Competitions do not have to be expensive to architects if the principals know what they are doing and are guided by well established programs. The cost

continued on page 71

Correction: The photographs illustrating the article about Israel M. Goodovitch's housing scheme for the Hatikva neighborhood of Tel Aviv (Dec. '79, pp. 44-46) were incorrectly credited. The photographer was Ran Erde.

ANNOUNCING THE OWENS-CORNING ENERGY AWARD WINNERS FOR 1979.



FOUR WINNERS. Seven honorable mentions. In all, eleven designs as efficient with their environment as they are with energy.

Designs representing the labors of an elite corps of architects and engineers. Individuals who realize that the need to create exciting, energy-efficient buildings is not just a noble gesture but a necessity.

On the following pages are the four winning designs. Their creators. And the environment with which each structure will coexist.

THE AWARD JUDGES: C. William Brubaker, executive vice-president of Perkins & Will, Architects, Chicago/ G. Day Ding, head of the Department of Architecture at the University of Illinois/ David L. Grumman, president of Enercon, Ltd., Energy Consultants, Evanston, Illinois/ George E. Hartman, a partner in Hartman-Cox Architects, Washington, D.C./ Roderick R. Kirkwood, a partner in John Graham and Company, Architects, Seattle/ Mortimer M. Marshall, Jr., director for Construction Standards and Design, Office of the Secretary of Defense, Washington, D.C.

PROJECT: Solar Energy Research Institute, Golden, Colorado.

This research center is a perfect example of practicing what one preaches.

A steplike complex of two-, three- and four-story buildings interspersed with greenhouses and solar courts. All nestled in a natural "sun bowl" on the south slope of a Colorado mesa. Protected from the winds, yet open to the full force of the sun.

Over 80 percent of the building's power is passively and actively supplied by energy systems using renewable resources.

In total, this "tribute" to solar power will consume less than a quarter of the energy required by comparable buildings.

MR. DING: *This structure not only houses energy research facilities, but also demonstrates state-of-the-art technology in solar and other renewable energy sources.*



Paul Kennon, Caudill Rowlett Scott, Archt., Houston, Tex.; John Anderson, John D. Anderson & Assoc., Archt., Denver, Col.; Vic Langhart, Rogers Nagel Langhart, Archt., Denver, Col.; Fred Dubin, Dubin-Bloome Associates, Eng., New York, N.Y.

Helmut Jahn, C.F. Murphy Assoc., Archt.; Frank Bridgers, Bridgers and Paxton, Eng., Albuquerque, N. Mex.; James Goetsch, C.F. Murphy Assoc., Archt., Chicago, Ill.



PROJECT: Department of Energy/Argonne National Laboratories Program Support Facility, Argonne, Illinois.

It's four-fifths office building. And one-fifth water retention pond.

Circular and compact. A design that's perfectly tuned to the nondirectional nature of the building site. And one that offers minimum exterior wall space; maximum office space.

Skylights are interspersed across the undulating roof providing up to 65 percent of the interior lighting.

On the southside overlooking the pond are three canted, vertical rows of solar collectors.

The mechanical system utilizes solar for heating and cooling, internal heat recovery and a low-velocity air distribution system.

MR. GRUMMAN: *This building has a projected energy consumption of slightly over 27,000 Btu's per square foot per year. And that's quite an accomplishment in a northern climate.*

Sam Davis AIA, Berkeley, Cal.; Vladimir Bazjanac Ph.D., Berkeley, Cal.



PROJECT: Summertree Housing Development, Sacramento, Cal.

Think of this development as 144 individual energy-conserving dwellings. All existing on eight acres of suburban Sacramento soil.

The quintessential housing project. Combining some of the best architectural features of the single-family house with energy efficiency.

Each unit is equipped with both active and passive energy components. Including solar collectors with individual computer controls.

Landscaping and site planning contribute heavily to the development's energy performance as well as to its livability.

Each unit has a southern orientation. Double-glazed windows. And clerestory windows for natural lighting and ventilation.

MR. MARSHALL: *The project is architecturally compatible with the environment. It's refreshing to see a residential developer who is concerned with the integration of energy conservation and architecture.*

PROJECT: California Farm Bureau, Sacramento, Cal.

When completed, this two-story structure will be recessed into the earth. With the appropriate sides utilizing screen planting; the west side being bermed out.

The heating, ventilating and air-conditioning systems are designed to save 74 percent of the heating and cooling energy as compared to a conventional plan. The energy savings will be achieved through the evaporative cooling at night of chilled water which is stored and utilized for cooling. Also by computer room heat recovery, and a solar-assisted domestic hot water heater.

MR. HARTMAN: *Here is a very careful pairing of a simple energy-conserving design with sophisticated controls of conventional mechanical equipment.*



Bill Hutcheson, John Pflueger, Pflueger Architects, San Francisco, Cal.; Arthur Zigas, Shlomo Rosenfeld, Syska & Hennessy Inc., Eng., San Francisco, Cal.

HONORABLE MENTIONS—Commercial: Central Pre-Mix Concrete Co., Spokane, Wash.; Walker McGough Foltz Lyerla, P.S./Commercial: Sunstructure Office Building, Albuquerque, N.Mex.; The Burns/Peters Group./Institutional: Milford Reservation Environmental Center, Pike County, Pa.; Kelbaugh & Lee Architects./Commercial: North Spokane Branch, Seattle First National Bank, Spokane, Wash.; Walker McGough Foltz Lyerla, P.S./Institutional: Gloria Floyd Elementary School, Miami, Fla.; Saez/Pacetti Architects/Planners./Special: Solar House, Lake Tahoe, Cal.; MWM, Mackinlay/Winnacker/McNeil AIA & Assoc./Commercial: San Francisco Downtown Airlines Terminal, San Francisco, Cal.; Jacques de Brer, AIA, John Ellis, RIBA. ©1980 O.-C.F. Corp.

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Architects: Thompson, Ventulett, Stainback & Associates, Inc., Atlanta

General Contractor, One Commerce Place: Ira H. Hardin Co., Atlanta

General Contractor, Radisson Plaza Hotel: Paces Construction Co., Inc., Nashville (A subsidiary of the Ira H. Hardin Co.)

Dover Elevators installed by Nashville Machine Co., Inc.



Energy

Conservation Is Major Priority In Academy of Sciences Report

The first major government-sponsored study to conclude that conservation offers the greatest potential for easing the nation's long-range energy problems has been issued by the National Academy of Sciences. "Conservation should be given the highest priority in a national energy program, although it alone cannot solve our energy problems," says the report based on the study. "To meet our electrical energy needs for the next 30 years, the nation will have to rely on coal and nuclear power."

In June 1975, the Energy Research and Development Administration (forerunner of the Department of Energy) commissioned the academy to assess the role of nuclear energy in light of other energy sources. The study turned into one of the most extensive energy analyses to date, drawing from the work of more than 250 economists, scientists, engineers and industry leaders and resulting in the 784-page report, "Energy in Transition: 1985-2010." The committee on nuclear and alternative energy systems conducted the study, cochaired by Harvey Brooks, professor of technology and public policy at Harvard University, and Edward L. Ginz-

ton, chairman of Varian Associates, a California electronics company.

"As energy prices rise, the nation will face important losses in economic growth if we do not significantly increase the economy's energy efficiency," say Brooks and Ginzton in a letter published with the report. Over the long run, the report says, technical efficiency measures in buildings, appliances, automobiles and industrial processes could cut energy consumption in half.

"Energy demand of buildings in 2010 could be below today's level of 16.8 quads," the report concludes, "despite a projected 30 percent increase in population and a 63 percent increase in residential buildings." This could be accomplished solely by conservation measures such as heat pumps, better insulation, larger heat exchange surfaces for air conditioners and refrigerators and passive solar building design. In addition, the report suggests that retrofitting buildings could reduce heating requirements by as much as 50 percent, with somewhat smaller savings on airconditioning.

However, conservation measures alone cannot solve our energy problem, the report says. Although solar energy, other than hydroelectric power, will probably not contribute much more than 5 percent to the energy supply in this century, the report states, its contribution could be increased dramatically (up to one-fourth of the nation's energy needs by the turn of the century) with a massive government intervention to penalize the use of nonrenewable fuels and subsidize the use of renewable energy sources. But members of the committee warned that this could potentially lock the U.S. into obsolete and expensive technologies. In the long run, solar energy could provide heat, electricity and fuels. Among the near-term solar candidates for widespread use are domestic space heating, domestic hot water heating and production of hot water

or low-pressure steam for industrial and agricultural processes, says the report.

The committee stressed the "importance of investing now in research and development [of renewable resources] to ensure the availability of a strong range of new energy options sustainable over the long term."

Our most critical near-term problem in energy supply for this country is fluid fuels, concluded the committee, which supported the conclusion that world supplies of petroleum will be severely strained beginning in the 1980s. "Therefore," say Brooks and Ginzton, "next to demand-growth reduction, highest priority should be given to the development of a domestic synthetic fuels industry, for both liquids and gas, and to vigorous exploration for conventional oil and gas."

As fluid fuels become scarcer and are phased out for production of electricity, says the report, the only economic alternatives for large-scale application for the remainder of the century will be coal and nuclear power. To begin with, a balance in the use of coal and nuclear is called for. But after 1990, says the report, coal will be increasingly required for the production of synthetic fuels. The use of coal for the generation of electricity will also have to be cut back because of a possible build-up of carbon dioxide in the atmosphere. Then, says the report, the nation will have to look to nuclear energy for electricity, although the risks and other negative aspects involved in nuclear energy—catastrophic accidents, waste management and nuclear weapons proliferation—are acknowledged. In light of this, the report says, "the U.S. must continue to develop the fast breeder nuclear reactor."

"It is important to keep in mind that the energy problem does not arise from an overall physical scarcity of resources," said Brooks and Ginzton. "There are several plausible options for an indefinitely sustainable energy supply, potentially accessible to all the people of the world. The problem is in effecting a socially acceptable and smooth transition from gradually depleting resources of oil and natural gas to new technologies whose potential are not now fully developed or assessed and whose costs are generally

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Energy from page 11

unpredictable. This transition involves time for planning and development on the scale of half a century. The question is whether we are diligent, clever and lucky enough to make this inevitable transition an orderly and smooth one."

Eleven New Projects Are Cited For Energy Conserving Design

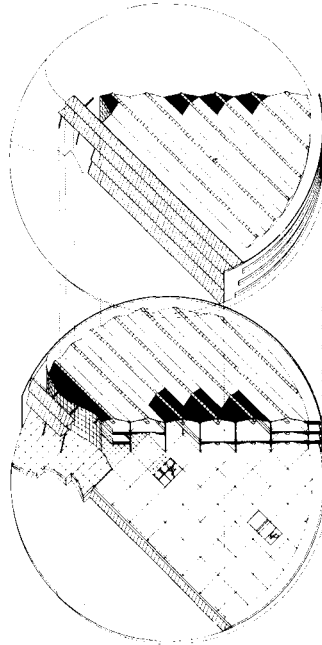
There are 11 winners of awards and honorable mentions in Owens-Corning Fiberglas' eighth annual energy conservation awards program.

The top award in the commercial category went to Syska & Hennessy, Inc., and Pflueger Architects, both of San Francisco, for the headquarters building of the California Farm Bureau Federation in Sacramento. When completed, the building will consume 74 percent less heating and cooling energy than a comparable conventional structure, the architects and engineers estimate. This will be achieved by use of earth berms, natural ventilation and sunlight and high-performance mechanical systems. Mechanical systems for the building will take advantage of the region's temperature fluctuations: Cool night temperatures will enter the building from the garage underneath; window overhangs will block the summer sun. Natural light will filter into the building from a north-facing skylight. Solar energy from a roof collector will be used to heat the building and provide hot water, along with the heat drawn from the electronic data processing facility.

One of the top winners in the governmental category was C. F. Murphy Associates, Chicago, for the Department of Energy's national laboratories program support facilities in Argonne, Ill. The design was based on a circle (drawing above) to provide 215,000 square feet with a minimal amount of exposed wall. The building will be a 255-degree arc with the south-facing segment cut away to provide a flat wall for solar collectors. The collectors will be stepped and angled between strips of windows. The light from a large skylight will be integrated with a task/ambient system. Beneath the skylight will be a three-story atrium. The projected total annual energy consumption is 26,350 Btus per square foot.

The other winner in the governmental category was the joint venture of Caudill Rowlett Scott, Houston; Dubin-Bloome Associates, New York City; Rogers-Nagel-Langhart, Denver, and John Anderson Associates, Denver, for the Solar Energy Research Institute permanent facilities complex, Golden, Colo. Housing research laboratories and offices, the buildings will demonstrate passive and active solar-conscious design and uses of

renewable solar energy sources, such as natural lighting and ventilation, rock beds, nighttime cooling, sun receptors, a biomass-fueled steam boiler, solar-powered Rankine engines, a solar pond, a wind powered generator and a photovoltaic solar system. Solar devices will supply between 400 and 800 kilowatts of power for the complex. The two-, three- and four-story buildings will run in parallel rows down the southern slope of South Table Mountain. Portions of each stepped wing will be underground. Glass-roofed



"solar courts" with operable louvers between the buildings will capture and store radiant heat.

The winners in the special category were Sam Davis, AIA, and Vladimir Bazjanac, Berkeley, Calif., for the design of the 144-unit Summertree housing development, Sacramento. Each unit will have its own solar collector system, computer controls, water storage tanks and concrete radiant floor slabs. The solar systems will provide approximately 70 percent of the heating requirements for each unit. The complex will consist of one- and two-story dwellings, with individual courtyards, clustered in groups of 16 to 20, with parking areas between the clusters. The units are oriented to the south, with southern windows recessed to block out the hot summer sun yet allow the low winter light to enter. High northern windows will collect summer breezes and create cross ventilation and skylights will provide natural lighting.

Four honorable mentions in the commercial category went to: the Burns/Peters Group, Albuquerque, N.M., for the Sunstructure Office Building in Albuquerque; Jacques deBrer, AIA, and John Ellis, San Francisco, for the San Francisco downtown airline terminal; to Walker McGough Foltz Lyerla of Spokane, Wash., for the First Seattle National

Bank's North Spokane branch, and also to this firm for the Central Pre-Mix Concrete Co.'s corporate headquarters, Spokane.

In the institutional category, there were two honorable mentions, won by Kelbaugh & Lee, Princeton, N.J., for a reservation environmental center in Milford Township, Pa., and by Saez/Pacetti, South Miami, Fla., for the Gloria Floyd elementary school in Miami. Mackinlay, Winnacker, McNeil of Oakland, Calif., won an honorable mention in the special category for a solar home in Lake Tahoe, Nev.

The jurors were: David L. Grumman (chairman), president of Enercon, Ltd.; C. William Brubaker, FAIA, executive vice president of Perkins & Will; G. Day Ding, chairman of the department of architecture, University of Illinois; George E. Hartman, FAIA, of Hartman-Cox; Roderick R. Kirkwood, of John Graham & Co., and Mortimer M. Marshall Jr., AIA, director, construction standards and design, Department of Defense.

The 11 winners also received awards from the Department of Energy for "their leadership in the national effort to conserve energy resources."

A Consumer Solar Reference

More than 2,400 architects, 2,600 engineers, 3,330 builders and contractors, 2,700 designers of solar systems and 1,000 energy consultants are listed in the National Solar Heating and Cooling Information Center's computerized data base as a referral service for consumers who want to contact professional experts in solar building. "Professionals who have experience in solar energy and who want to have their names available to the public are encouraged to contact the national center," says Marcia Ballen, manager of information service.

"The solar field is developing so rapidly that our original sources of solar professionals are overwhelmed. We receive information from the state energy offices and the regional solar centers, but we need to hear from the professionals directly as well," Ballen says. Listing with the center, she says, "should be an asset to any professional who wants increased referrals from consumers."

The center, created by Congress in 1976 as the nation's principal clearinghouse for solar information, is operated by the Franklin Research Center for HUD in cooperation with the Energy Department. For information, contact the center at P.O. Box 1607, Rockville, Md. 20850, or call toll-free in business hours: (800) 462-4983 in Pennsylvania; (800) 523-2929 in the rest of continental U.S.; (800) 523-4700 in Alaska and Hawaii.

News continued on page 17

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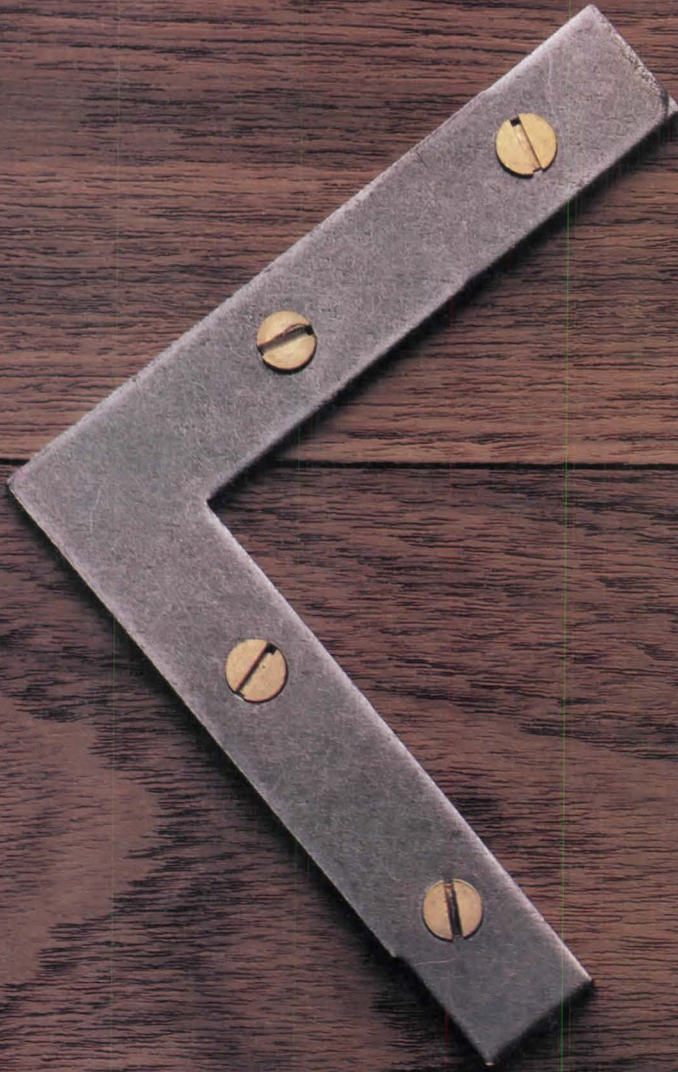
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By Way of Introduction: AIA's Just-Installed President Schwing

Like the nation, AIA now has a president from the Deep South, one who, in a speech in Alabama last August, offered his Southern neighbors "the prospect of a presidency that has no accent." But the soft speech of Charles E. ("Chuck") Schwing, FAIA, couches some unusually tough ideas. And there may be tough days ahead that require them.

First of all, Schwing is a realist on financial matters. His previous AIA work has often dealt with such matters—he has been secretary/treasurer of his local (Baton Rouge) and state (Louisiana) chapters, a grassroots member of the national dues structure committee, the finance committee and the dues study task force, and he has been treasurer of the Institute, the AIA Research Corporation and the AIA Foundation. If the year's concerns—both of the Institute and of individual members—are going to be largely economic, AIA has a president unusually well equipped to deal with them.

Although he's not expected to be a big spender (Schwing has already admitted that in developing the Institute's 1980 budget, "good programs were left on the cutting room floor"), he points out that the fiscal responsibility he demands is more than simple tightfistedness. In at least two areas, in fact—energy concerns and government affairs—he has actually added staff, and he sees a future "not of less, but of better."

Schwing also promises toughness in resisting governmental erosion of individual and Institute self-determination. Federal authorities have been plaguing professional organizations on many fronts lately; specifically, AIA has felt federal influence in matters of fee structure, advertising and supplanting ethics. Increasing federal interest in previously private affairs, Schwing maintains, challenges U.S. architects' integrity and individualism. Spreading bureaucracy "can just gobble you up," he warns.

Part of Schwing's self-reliant stance may come from his own working experience in the small firm (three architects and a secretary) which he founded in Baton Rouge 19 years ago. He knows at first hand the battles of small firms and independent practitioners, and he perceives them to be often more difficult than those of the large firms. "Everyone needs AIA, but some, like the I.M. Pei's, don't need AIA as much as guys like me."

But, of course, AIA needs its I.M.



Schwing presiding at board meeting.

Pei's. Was the Institute on the right track last year with its design-conscious "celebration of architecture" decreed by past president Mitchell? Schwing believes it was, and foresees no conflict between the design emphasis and his own special concerns. "Instead of shelving the momentum and enthusiasm" of the celebration and of 1978's theme of competency, he says, his 1980 program and budget "build on both."

His own background and views will not and must not, Schwing insists, lead to any big-little, firm-individual or North-South squabbles within the Institute. "Regionalism has its place in architects' design," he says, "but not in architects' thinking." *Stanley Abercrombie, AIA*

Mrs. Johnson, Friedberg, Harris Will Receive Institute Medals

At its convention in Cincinnati, June 1-4, AIA will bestow medals upon individuals "who have inspired and influenced the architectural profession": a former First Lady of the U.S., a landscape architect and an architectural acoustics authority. The persons cited are Mrs. Lyndon B. Johnson, wife of the 36th President of the U.S., universally and affectionately known as Lady Bird; M. Paul Friedberg, partner in the New York City firm of M. Paul Friedberg & Partners, and Cyril M. Harris, professor of architecture at Columbia University. Mrs. Johnson will also be made an honorary member of AIA.

The jury on Institute honors said that Mrs. Johnson's role in fostering and influencing the architectural profession has been "inestimable." In particular the jury said, she has been "greatly influential in the development of a sound and successful public attitude toward the conservation and rehabilitation of historical architectural resources in this country. Through

her contributions, she has enhanced the role of the architectural profession as a whole, and the environment in which we live."

Upon entering the White House in 1963, Mrs. Johnson stated publicly that her first priority on the list of human problems was the improvement of the environment. In her leadership of the Committee for a More Beautiful Capital, she helped transform Washington, D.C., into a city of flowers, improved public parks and playgrounds and contributed to the creation of action groups in all parts of the country to improve their cityscapes.

An active supporter of efforts to preserve natural resources and the cultural and architectural heritage of the nation, Mrs. Johnson hosted the first meeting of the President's Advisory Council on Historic Preservation. Her efforts in preservation and beautification of the built and natural environment contributed to the passage of significant preservation and highway beautification legislation, the jury noted. In 1966, AIA presented to Mrs. Johnson a special citation in "recognition of her determination to restore beauty where it has been forgotten; to preserve beauty where it exists, and to protect our natural resources."

Friedberg, recognized by the AIA jury on Institute honors as "an individual who has inspired and influenced the architectural profession," has designed many urban spaces, including New York City's Riis Plaza and Amphitheater, Police Plaza Municipal Area and Superblock in Bedford-Stuyvesant; Niagara Falls' Rainbow Center and Minneapolis' Peavy Plaza.

The jury said that throughout his career Friedberg "has been able to introduce a new dimension of life for different ages and social groups in the urban environment. His work, which is a testimonial of his dedication to architecture and the human environment, should be taken as a parameter for the future."

Cyril Harris is honored, as well, as "an individual who has inspired and influenced the architectural profession." He has served as acoustical consultant on more than 100 major projects, among them, Salt Lake City's Symphony Hall, New York City's Avery Fisher Hall and Metropolitan Opera House at Lincoln Center; Minneapolis' Orchestra Hall, and Washington, D.C.'s John F. Kennedy Center for the Performing Arts. Harris is the author of books and technical articles on architectural acoustics, noise control and related subjects. His works have been translated into Chinese, Japanese, French, German, Spanish and Romanian. He was the first American to lecture on architectural acoustics and noise control in the People's Republic of China.

The AIA jury said that in Harris it

recognized the "ingenuity and dedication of a unique personality and teacher, not only to the progress of a science, but also to the development of sound within the human environment and architectural space."

AIA will also give a medal to the annual awards program of *Progressive Architecture* in recognition of an "organization that has inspired and influenced the architectural profession." The P/A competition, initiated in 1953, is open to any building project, not yet executed, which has been undertaken for clients by design professionals located in the U.S. or Canada.

The AIA jury said that the P/A awards program has been the "watchword of the

evolution of architecture. It has been the catalyzer of the best talent and work in this country . . . producing a lively contest between, and a valid platform for, both young and older professionals."

Institute Will Honor Rouse Co. For Faneuil Hall Development

The Rouse Co., a major developer of retail centers and marketplaces, will receive for its role in development of Boston's Faneuil Hall Marketplace an AIA medal in recognition of a "group responsible for specific accomplishments demonstrating the integration of several disciplines related to architecture." Working

in conjunction with Benjamin Thompson, FAIA, of Cambridge, Mass., the Rouse Co. developed deteriorating buildings in Boston's downtown into a "vibrant example" of adaptive use, the jury on Institute honors said. The jury maintained that it was "not only proper to reward the conceivers and designers of this outstanding achievement, but also the implementors who on the whole represent—with their initiative, risk-taking and enterprise—the spirit and aspirations of the community."

Faneuil Hall Marketplace, the winner of an AIA honor award in 1978, contains restaurants, boutiques, food stalls, bakeries and markets within its three-building complex. It is visited daily by between 30,000 and 50,000 people. The three Greek revival buildings were originally designed by Alexander Parris between 1824 and 1826 after Mayor Josiah Quincy decided a new market should be constructed adjacent to the original Faneuil Hall, enlarged by Charles Bulfinch in 1805.

The Rouse Co., headquartered in the new city of Columbia, Md., which it planned and principally developed, is also the developer of the Gallery complex in Philadelphia and a major retail redevelopment in downtown Milwaukee, among many other complexes. The nomination's citation of the Faneuil Hall Marketplace cites the Rouse Co. "for the position of leadership and control, for the financial abilities, for the assembly of a fine design team and for the spirit and boldness to redevelop a major area of downtown Boston." The medal will be awarded at AIA's convention in Cincinnati.

Nine Foreign Architects Named Honorary Fellows of Institute

AIA has selected nine foreign architects as honorary fellows, a title reserved for architects of "esteemed character and distinguished achievement" who are not citizens of the U.S. and who do not practice in this country or its possessions.

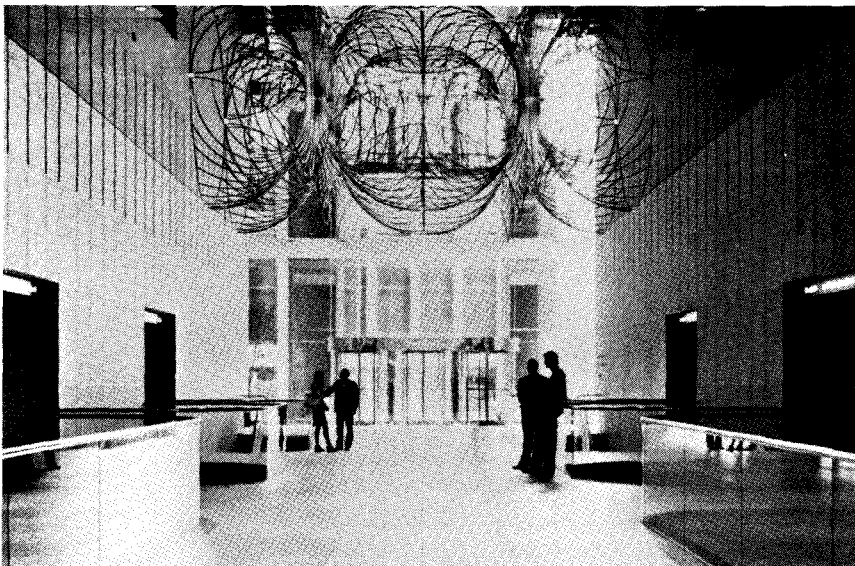
The newly elected honorary fellows are:

- John Hamilton Andrews, who before establishing his firm in New South Wales, Australia, practiced architecture in Toronto, where he was also chairman of the department of architecture at the University of Toronto from 1962 to 1969. A native of Sydney, his work has included projects in Australia, Canada and the U.S. His design of Gund Hall for Harvard University's graduate school of design received an AIA honor award in 1973. He is a fellow of the Royal Australian Institute of Architects and the Royal Architectural Institute of Canada.
- Gilbert R. Beatson, senior partner of Beatson, Finlayson & Partners of Calgary,

continued on page 21

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The Institute from page 18

Alberta, Canada, and currently president of the Royal Architectural Institute of Canada. His firm has been responsible for many design projects across Canada.

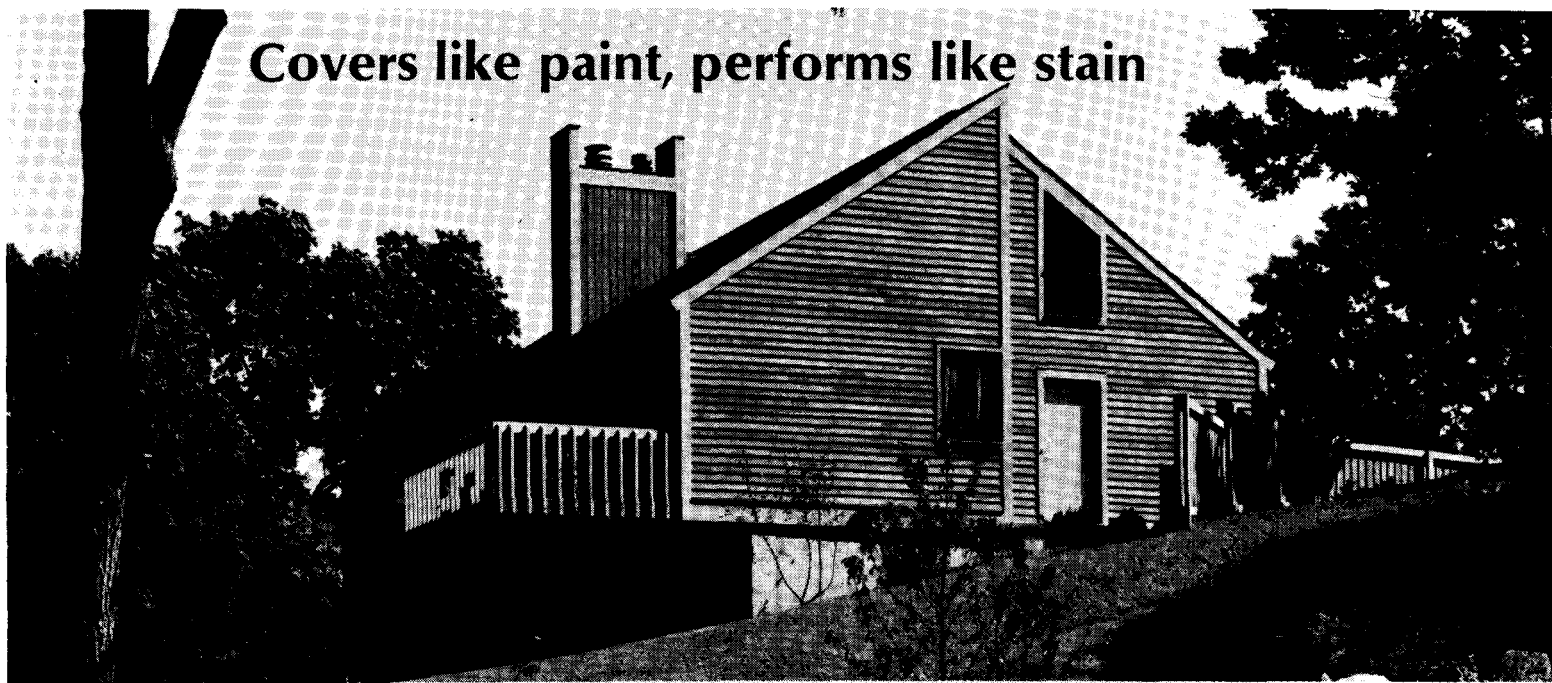
- Adolf Ciborowski, who has received worldwide recognition for the reconstruction of cities destroyed by war and earthquakes. A native of Warsaw, where he now teaches, he served as inter-regional adviser on urban development with the United Nations in New York City from 1964 to 1973. The author of many publications and articles, he was a member of the International Architecture and Town-planning Congresses from 1953 to 1963. During the occupation of Warsaw in World War II, he was instrumental in the operation of an underground university, organizing the documentation of drawings of the old city by his students. After the war, the drawings helped in the accurate rebuilding of old Warsaw under his direction as chief of the department of planning (1949-53), chief town planner (1954-56) and chief town architect (1956-64).
- Rafael De La-Hoz, who is general director for architecture and president of the board of architects of Cordoba, Spain, and an honorary member of the Mexican Society of Architects. He has designed governmental, commercial, educational and residential facilities throughout Spain.

The author of many publications, he is the recipient of many awards and honors.

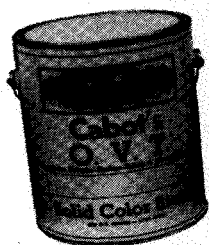
- Norman Foster, principal of Foster Associates, with offices in London and Oslo. He is the only architect to have twice won the R. S. Reynolds memorial prize for the distinguished use of aluminum (in 1976 and 1979). His firm has won many other awards for its multiuse, flexible high technology buildings.
- Leandro V. Locsin of Manila, who is noted for his design of structures which reflect the multicultural heritage and tropical climate of the Philippines. His principal works are illustrated in the book *The Architecture of Leandro V. Locsin* by Nicholas Polites. He received the Pan Pacific architectural citation of the Hawaii Chapter/AIA in 1960, the Philippae Rizal centennial award for architecture in 1962, the Philippine Republic cultural heritage award in 1970 and the Philippine Institute of Architects gold medal of merit in 1978.
- Kingston Loo, who is past president, a council member and chairman of a special task force on professional practice, Malaysian Institute of Architects, and the chairman of the Architects Regional Council of Asia. He has designed a wide range of projects in his country, including airports, hotels, offices and the national zoological park in Kuala Lumpur. The recipient of the Alcan award in 1975 and

the first special award for service to the profession from the Malaysian Institute of Architects, he is also a fellow of the Royal Institute of British Architects and of the Royal Australian Institute of Architects.

- Fumihiko Maki of Maki & Associates in Tokyo, who has worked in this country with Skidmore, Owings & Merrill and Sert Jackson & Associates. The author of four books and many articles in international professional publications, he is currently a lecturer in the University of Tokyo's department of urban engineering. He has lectured at universities throughout the world, and his many projects have received worldwide attention.
- Richard Joachim Sahl of West Germany, who is a specialist in health care and hospital planning. He has been executive director of the German Hospital Institute for almost 25 years. In that capacity, he has participated as an adviser to hospital boards in several countries. He is permanent secretary of the public health work group of the International Union of Architects. A participant in many international hospital congresses, he has fostered strong links with the World Health Organization and the International Hospital Federation in order to disseminate information about the organization of health and hospital care in developing countries.



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Nine New Honorary Members Named for Induction in June

The AIA jury for honorary members has selected nine individuals to receive honorary membership in the Institute at the AIA convention in June. The individuals, chosen for their "distinguished contributions to the architectural profession or its allied arts and sciences," are:

- Ise Gropius, wife of the late Walter Gropius, who "has introduced hundreds of people to a knowledge and love of architecture," said the jury.
- Mrs. Lyndon B. Johnson, former first lady of the U.S., whose "leadership in preserving and improving the quality of life" has set an example "from which the whole world can learn."
- Paul Mellon, who as president of the National Gallery of Art and chairman of its building committee responsible for the gallery's East wing, has made "design excellence of the highest order possible in a building," the jury said. (I.M. Pei & Partners, architect.)
- Maria Fay Murray, director of AIA awards programs for 15 years, who has served the Institute with the "fullest measure of professional concern and conscientiousness. . . ."
- Walter F. Pritchard II, director of consulting architecture and engineering, Southern California Edison Co., who has worked with AIA components to apply energy conservation techniques to architectural design.

- Mario G. Salvadori, structural engineer and prolific author, who has taught three generations of architects and engineers at Columbia University and whose work with the children of East Harlem, N.Y., has "revolutionized the approach to teaching structure. . . ." (See Sept. '79, p. 116.)
- Julian B. Serrill, executive director of the Iowa Chapter/AIA since 1965, who was cited by the jury for the chapter's "steady growth."
- Mary Chapman Smith, executive director of the Arizona Society of Architects/AIA since 1975 and former executive secretary for the Central Arizona Chapter/AIA, "whose professional administrative ability and leadership" was noted by the jury.
- Mrs. Gerald H. Westby, Tulsa, Okla., civic and humanities leader, who "has provided leadership to make the arts and architecture a central part of life."

New, Revised Documents Ready And More Expected by May

Seven new or newly revised AIA documents are now available, and 11 more will probably be ready for distribution by May, including three additional documents on aspects of interior architecture (scheduled for publication in March) and a package of eight documents on construction management (expected to be ready in May).

One of the entirely new documents is

C161, "Standard Form of Agreement Between Architects and Consultant for Designated Services." It is intended to be used primarily in conjunction with document B161, "Standard Form of Agreement Between Owner and Architect for Designated Services," and B162, "Scope of Designated Services."

Among the changes in C161 from previous standard provisions of AIA agreement forms between architects and consultants are the following: Provisions pertaining to payments and collections from the owner have been deleted, and space is provided under a separate article for payment provisions between architect and consultant as to conditions, contingencies, time, etc.; the consultant may be required to meet a time schedule for the performance of services, and, upon request, both architect and consultant are to provide for the mutual exchange of evidence of insurance coverage.

Related to C161 is the newly revised C141, "Standard Form of Agreement Between Architect and Engineer," which is now coordinated with the most recent editions of AIA architect-owner agreements. It is still intended primarily for use with B141 and the "traditional services" approach. This new edition of C141 differs from the 1974 edition in both format and content, with changes made on the basis of past experience with the document and recommendations by AIA members and committees and by legal and insurance counsel, as well as suggestions by representatives of engineering societies.

Among the changes: Payment provisions are left to the parties involved, the provisions relative to payments and collections from the owner having been deleted; the architect is required to disclose to the engineer any contingent or other special provisions relating to compensation included in the architect's understanding with the owner (the amount of the architect's compensation need not be disclosed), and provisions are made for the mutual exchange of insurance coverage, upon request.

C801, "Joint Venture Agreement," is also newly revised. It can be used by architects or engineers or combinations of professionals. Whereas the 1972 edition only provided for a division of profit/loss, this edition is more flexible. It provides for a division of compensation alternative, and the parties can choose in each instance.

Another of the entirely new documents is A171, "Standard Form of Agreement Between Owner and Contractor for Furniture, Furnishings and Equipment." It is for use where the basis of payment is a stipulated sum and has been prepared for use with the 1977 edition of document A271, "General Conditions of the Contract for Furniture, Furnishings and

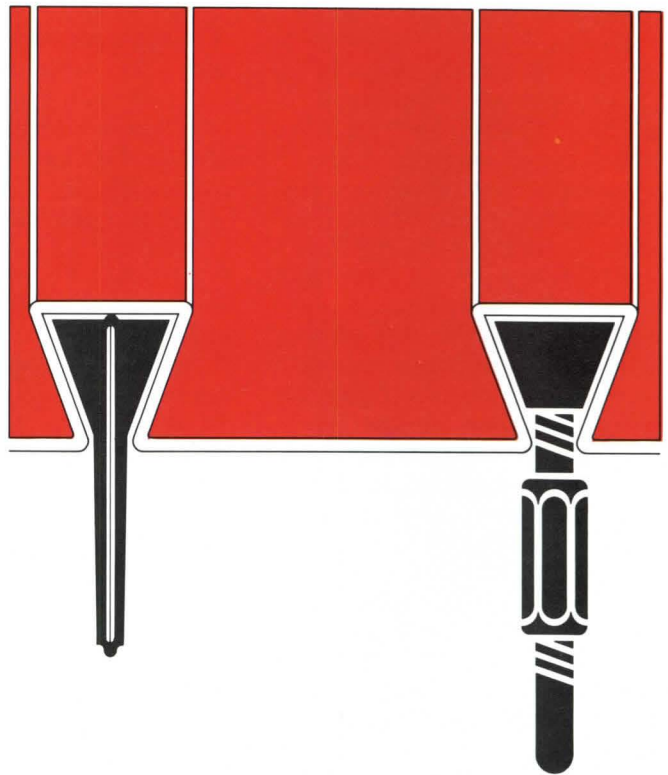
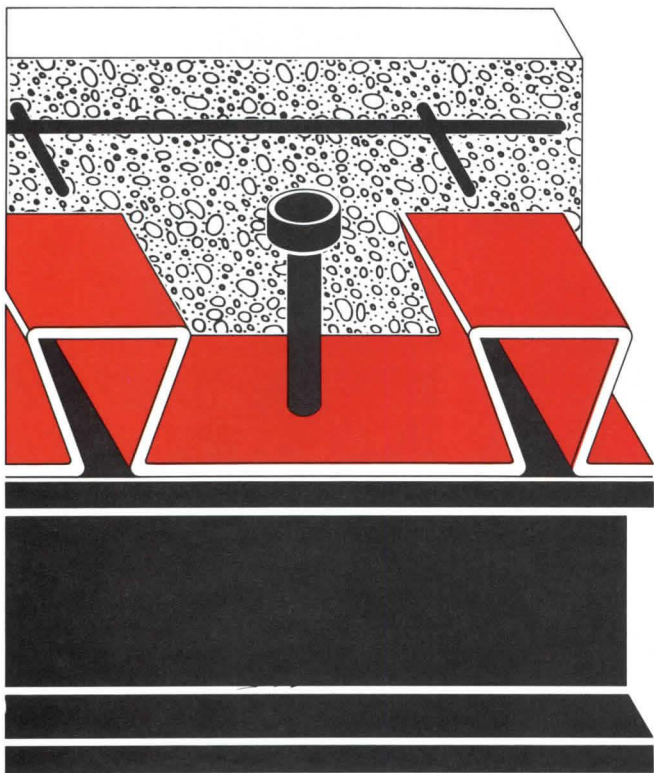
continued on page 24



Fabric Roofing: The 1979 international achievement award for "new and unusual designs and applications for industrial fabric" was awarded by the Industrial Fabrics Institute to Taiyo Co. Ltd. of Tokyo for a roof over an open air restaurant at the Suntory Yamanashi winery in Japan. A series of polyester fabric domes form the restaurant's only roof. Motorized, they open down the center, allowing diners to view blue sky or starlight. Entries were judged on concept, design and manufacture.

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The Institute from page 22

Equipment." Paralleling standard A101, A171 is appropriate for use in any arrangement between owner and contractor where cost has been set in advance either by bidding or negotiation.

Newly revised D101, "The Architectural Area and Volume of Buildings," changes the treatment of interstitial space. The document defines the architectural area of a building and the architectural volume.

Also newly revised are the related documents G601, "Land Survey Agreement," and G602, "Soil Investigation and Engineering Services Agreement." G601 is a request for a proposal and an agreement form for surveying services. Among the changes in this new edition: Provisions in the request for a proposal have been expanded for better definition of requirements; site access is defined, and land (boundary) survey requirements and topographical survey requirements have been modified and expanded.

Document G602 is a request for a proposal and an agreement form for soil investigation. As with G601, provisions for a request for proposal have been expanded. Also, the insurance provisions have been revised from the 1974 edition. Liability insurance is no longer mandatory, since such insurance coverage is not available in all the states. However, the soil engineer is required to state his insurance coverage in the proposal. An added provision in the revised edition is an article which provides a checklist for information provided by the architect.

AIA's documents division notes that "as with all AIA documents, users of these new documents are encouraged to consult an attorney with respect to completing forms and any modifications that are proposed."

The documents may be obtained from AIA's department of publications marketing. Prices are: A171, C141, C161 and C801 (50 cents to AIA members; 70 cents to nonmembers); D101 (20 cents to AIA members, 30 cents to nonmembers); G601 and G602 (\$3.35 to AIA members; \$5 to nonmembers).

Education Staff Position Open

AIA is seeking a director of continuing education at national headquarters. Candidates should hold a college degree in or closely related to the disciplines of architecture, education or business administration.

Among the responsibilities: the creation of new and expanded continuing education resources, including architectural training laboratories, regional and convention workshops, subject cassette packages, correspondence programs and supplementary education guides for intern-

architects; administration of the national AIA continuing education network and program approval procedure; assistance to AIA components and liaison with other continuing education resource producers, and organization and direction of AIA's continuing education division staff and support of the AIA continuing education committee.

The position is to be filled immediately. Résumé, references and salary requirements should be sent to James E. Ellison, AIA, Administrator, Department of Education and Professional Development, AIA Headquarters.

Application Deadlines Near For Scholarships, Fellowships

AIA sponsors annual scholarships and research fellowships which are available on a competitive basis to persons engaged in architectural programs in accredited schools of architecture in the U.S. and Canada. Qualified individuals are invited to apply for the following in the 1980/81 academic year:

- AIA/AIA Foundation scholarships, available to first professional degree candidates and for study and research beyond the first professional degree program. Awards vary in amount from \$200 to \$2,000.

Awards to first professional degree candidates are based on academic performance, recommendations and need, with application made through the office of the head of an accredited school of architecture or its scholarship committee. Awards to candidates beyond the first professional degree are based on the merits of the proposed program of study or research. Candidates may apply by writing to the director of education programs at AIA headquarters. The postmark deadline for application is Mar. 1.

- AIA minority disadvantaged scholarships, established to provide aid to students who would not otherwise have the opportunity for architectural study. Awards vary according to individual need. Awards are available to students who have finished high school (or its equivalent), students in junior college or technical school who are transferring to a professional program or students who during the year of application are enrolled in a first year of professional study.

Students initially must be nominated by one of the following: an individual architect or firm, an AIA component, a community design center, a guidance counselor, the dean or administrative head of an accredited school of architecture or the director of a community or civic organization. The postmark deadline for nominations is Apr. 15. After screening the nominations, the AIA program

director will send qualified nominees application forms and instructions. The postmark deadline for applications is May 15.

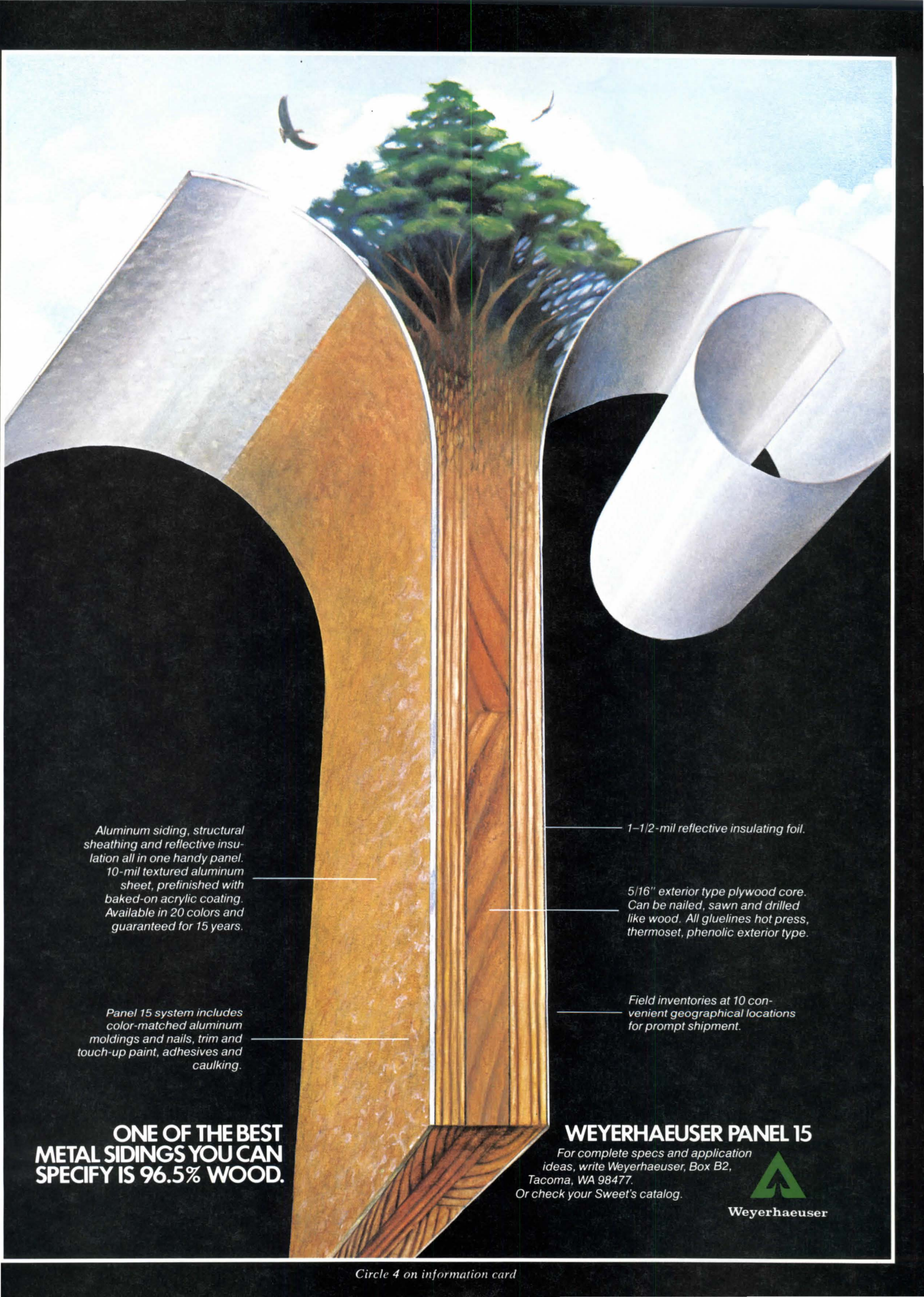
- The William H. Scheick research fellowship for an original investigation into the subject of human needs and requirements in low-income housing of the multi-family type. The annual fellowship of \$2,500 is awarded a graduate student in architecture and is given conditionally upon the recommendation of the editorial review board of the *Journal of Architectural Research* to AIA's scholarship committee. The fellowship is confirmed upon the nominee's acceptance into the graduate program of his/her choice. Application instructions and proposal guidelines are available from AIA's director of education programs. Proposals must be postmarked no later than Mar. 15.

- The AIA research communications fellowship established in response to the need for better communications between the research community and practicing

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Art on a Park Bench: Life-size bronze sculptures of figures sitting on benches in a park next to the new Fourth and Blanchard Building in Seattle (Chester L. Lindsey, architect) are causing not a few double-takes. The 500-pound sculptures were commissioned by Martin Selig, who has developed 12 other office buildings, all of which use art as an integral part of the decor. Sculptor is Howard Garnitz of Washington, D.C., who claims the figure's shopping bag is probably the only bronze shopping bag ever to be cast. Garnitz says it was hard to say good-bye to the figures, but "they'll have lots of friends in Seattle and will be happy there."



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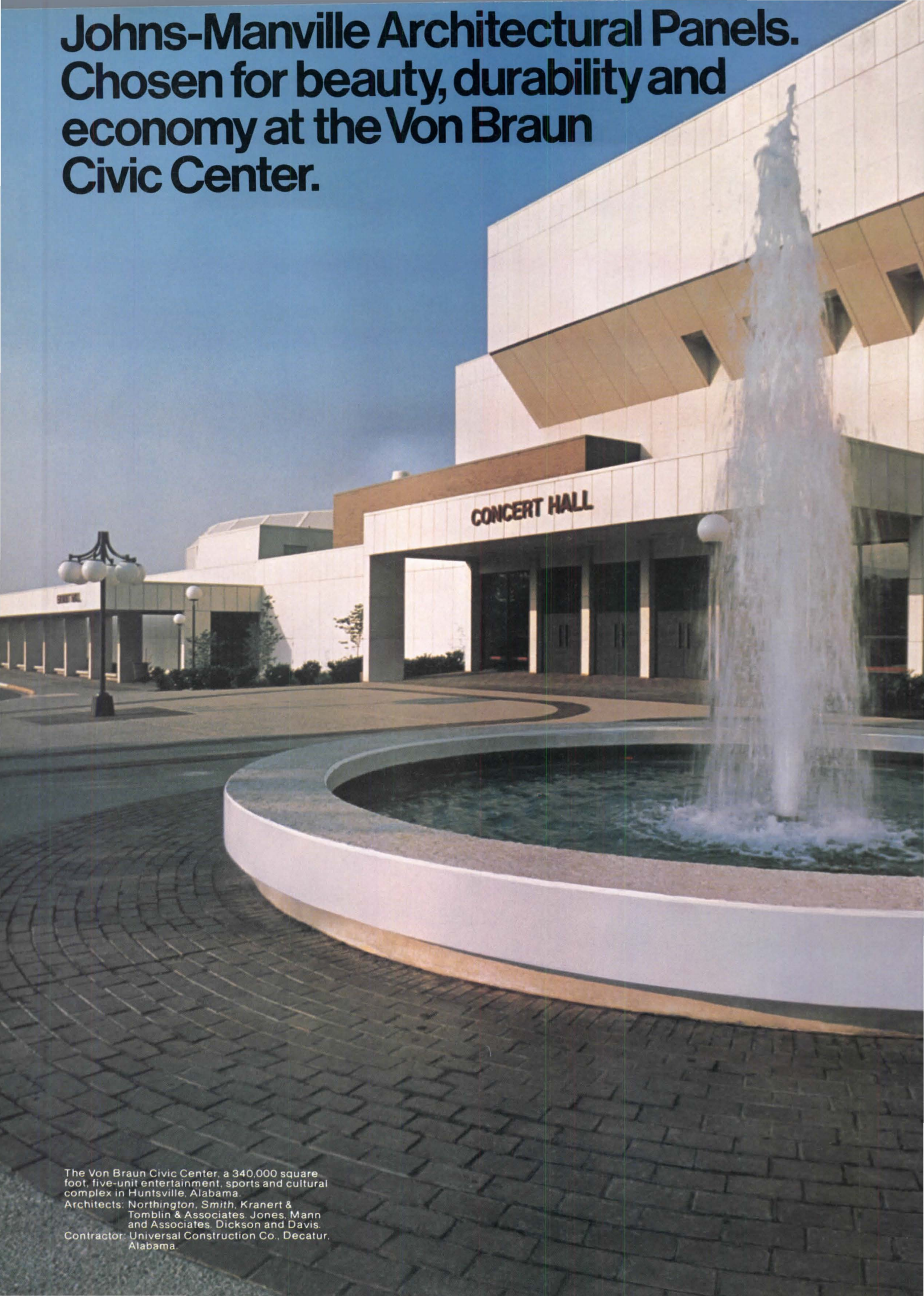
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The Von Braun Civic Center, a 340,000 square foot, five-unit entertainment, sports and cultural complex in Huntsville, Alabama.
Architects: Northington, Smith, Kranert & Tomblin & Associates, Jones, Mann and Associates, Dickson and Davis.
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Circle 13 on information card

The Institute from page 24

architects. The annual award is in the amount of \$3,000, and applicants are required to be enrolled in a graduate level architectural program during the year of the fellowship. Eligible are students currently enrolled in undergraduate programs in architecture, graduates who are in an intern-architect or professional status or students with nonenvironmental design backgrounds who will be enrolled in a graduate level architectural program during the year of the fellowship.

Awarded conditionally upon the recommendation of the editorial review board of the *Journal of Architectural Research* and confirmed upon the applicant's acceptance in a graduate program of his/her choice, the fellowship requires applicants to submit a detailed proposal of the objectives of the study to be undertaken. Application instructions and guidelines are available from the director of education programs. The postmark deadline for proposals is Mar. 15.

- The AIA-American Hospital Association fellowship in health facilities design offers one or more graduate fellowships in a total amount not to exceed \$6,000. Fellowships are available for graduate study for one academic year in an accredited school of architecture with a school of hospital administration and/or area hospital resources; for independent graduate level study, research or design in the health facilities field, to be completed in one calendar year, or for travel with in-residence research in selected hospitals in a predetermined area, to be completed within one calendar year. All applications are reviewed by a joint AIA/AHA evaluation committee, with selection of fellows made principally on the basis of the proposed study program. Applicants must have a professional degree from an accredited school of architecture or be in the final year of undergraduate work leading to such a degree.

Applications are to be submitted, with a postmark no later than Mar. 15, to AHA, Department of Health Facilities & Standards, 840 N. Lake Shore Drive, Chicago, Ill. 60611.

Preservation Proliferation

The number of firms undertaking restoration, rehabilitation and adaptive use projects increased 100 percent over the past 10 years, according to a survey conducted jointly by the AIA committee on historic resources and the technical preservation services division, Heritage Conservation and Recreation Service, Department of the Interior.

The survey was mailed to 9,600 AIA firms; 1,478 (15 percent) responded. The intent was to determine the trends in the level of preservation projects and the

needs of architects for information. Some findings of the survey include:

- 4 percent of the firms responding indicated that they had undertaken more than 20 projects or spent more than 75 percent of their effort on preservation projects during the past two years;
- approximately 50 percent indicated that they undertook one to five projects or spent less than 25 percent of their efforts on preservation during the same period;
- work on buildings recognized as significant historic structures or part of a historic district accounted for 45 percent of the preservation projects during 1977-78.

More than 50 percent of the respondents indicated a need for additional information on technical preservation, tax incentives for the rehabilitation of historic buildings, energy conservation, structural stabilization, photographic recording, financial evaluation and feasibility, laws pertaining to preservation, among other things. The respondents' choice of format for this information was a workbook issued annually, costing between \$25 and \$50. In addition, 46 percent of the respondents indicated an interest in a one-day architectural training laboratory conducted regionally.

Competitions Will Be a Topic At A/E Procurement Conference

Representatives of more than 500 A/E firms, government officials and members of Congress are expected to attend the conference on "A/E's Federal Marketplace for the '80s" on Mar. 27-28 at the Sheraton Harbor Island Hotel in San Diego. Sponsored by the Committee on Federal Procurement of A/E Services (of which AIA is a member), this eighth annual conference on the federal marketplace will focus on such issues as level three competitions, new procurement laws and regulations and selection criteria in a time of increased professional competition.

Two general sessions will present an overview of prospects in 1980 and '81 for federal design starts. In addition, concurrent smaller workshops will consider such issues as small business/minority opportunities, overseas opportunities, solar and passive energy conservation, construction and facilities management and military construction. Of special interest will be an open "marketplace" to permit detailed discussions of agencies' design and construction budgets. Time will be allowed for interaction among A/Es and government administrators.

All U.S. architects and engineers are invited to attend. For additional information, contact AIA's government affairs department, (202) 785-7375.

News continued on page 72

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AIA JOURNAL

Any magazine worth its salt must speak for itself, issue by issue. Nevertheless, it is helpful from time to time for the editors to share their concept of what they are trying to do.”

So began an essay in this space four years ago, when the JOURNAL had been under its present editorial management for two years. It seems time for another accounting, and it turns out that most of what was said in 1976 is still appropriate. It went in part as follows:

“Our basic concept of the JOURNAL is that it is an AIA service to the profession. As such its mission is to enrich the literature of the profession, bringing to its readers ideas and information not available elsewhere.

“While in this sense the JOURNAL is an AIA program, it is also a magazine. As such, if it is to be read and respected, it must speak with its own voice, and speak directly to the readers and their interests. We are grateful to the AIA leadership for its recognition of this fact, and for the independence with which it has allowed us to operate the JOURNAL.

“The readers’ interests, as best we can fathom them, constitute the basic criterion by which we choose the contents of each issue. Since architecture is an enormously diverse profession, so are the interests of our architect-readers, and so must be the magazine’s content.”

The essay went on to note that “we pay particular attention to the visual impact of the magazine, architecture being primarily a visual profession. But we also work hard at making the magazine literate, on grounds that one reason that architects have the reputation of being nonreaders may be that they aren’t given enough that is worth reading.”

And now, back to letting the magazine speak for itself. *D.C.*



Evaluation: Singular Structure in Denver

W. C. Muchow & Partners' Park Central building. By John Pastier

Denver is rare among boom towns in that it has learned how to do an encore. During the last century, the city's birth and feverish growth were based on nearby gold and silver, and its Rocky Mountain hinterland supplanted California as the American mining mecca. Now, a dozen decades later, it is aiming to overtake Houston as the energy industry center, and its downtown, already bristling with recent highrises, is currently the scene of more than \$1 billion worth of new commercial construction.

With this frenetic expansion, plus its truckstops, far-flung suburbs, legendary Coors brewery, two-mile high altitude and spectacular mountain backdrop, Denver seems the quintessential Western city, the place where the Marlboro man would inevitably head to spend his paycheck after a hard month on the range. Yet from a Pacific vantage point it seems an Eastern outpost lying in the late afternoon shadow of the Continental Divide on an extension of the Kansas plains. Unlike typical Western cities, it is solidly built, largely of brick and stone, and is compact not only at its core but in the first ring of its residential districts as well.

Mr. Pastier is a teacher and free lance writer in Los Angeles.



David Cupp/LENSMAN©

Just as it blurs the distinction between East and West, Denver can be simultaneously naive and knowing, provincial and cosmopolitan, and its postwar downtown architecture is equally bipolar.

On the one hand, it boasts an extensive collection of Early Speculator Neanderthal skyscrapers, but on the other it includes some well-crafted highrises, including two of I.M. Pei's early essays in that genre. It is not yet a major league city culturally, yet its buildings for the arts comprise adventurous works by such designers as Gio Ponti, Kevin Roche and Hardy Holtzman Pfeiffer. Its dependence on the automobile is sufficiently severe to yield the worst air quality in the country, but it is also embarking upon an innovative transitway mall designed by I.M. Pei & Partners. It has unthinkingly discarded many buildings marking its early development, but it has also preserved individual landmarks and clusters of workaday structures dating from the last century.

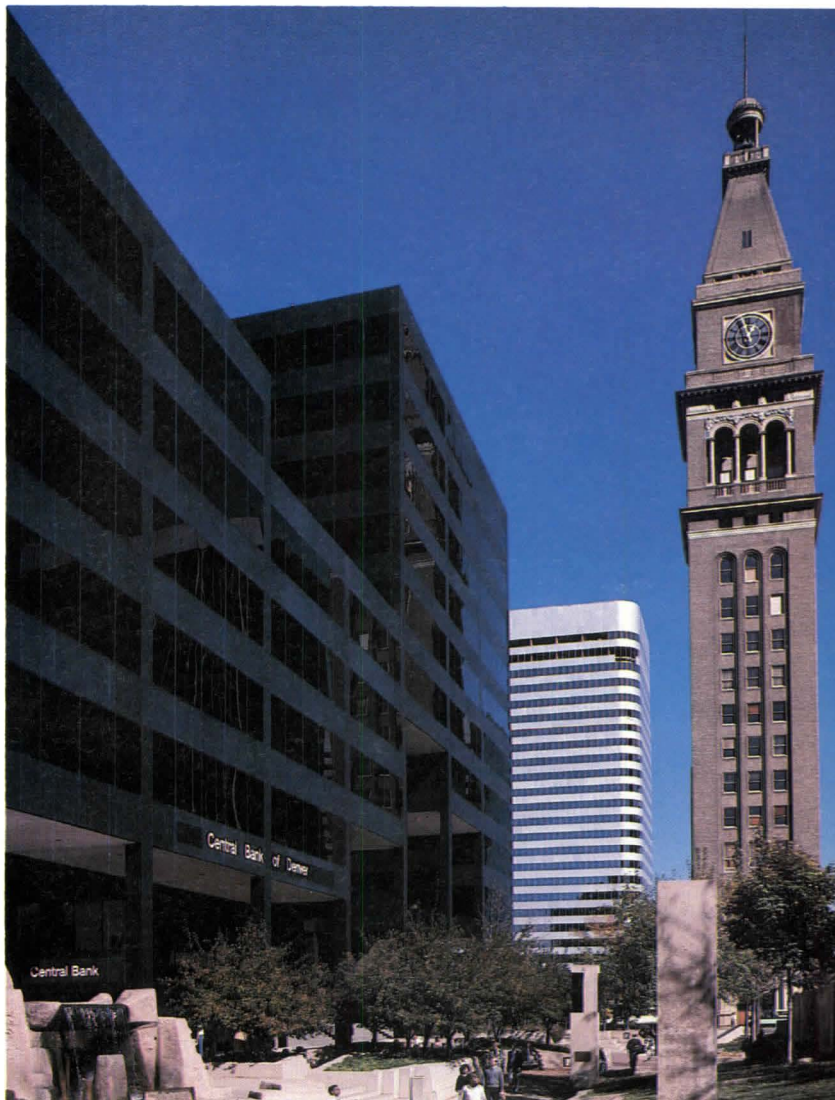
Within this unstable and contradictory downtown context there is one building that demonstrates remarkable poise and clarity of concept. W. C. Muchow & Partners' Park Central is both specific to its circumstances and a potentially promising

urban prototype. It lies in the older north end of downtown, and when completed in early 1973 was one of the first buildings in the city's Skyline urban renewal project. Both its timing and location placed unusual obligations on the design: It was expected to demonstrate a level of quality not yet established within the renewal project, and it adjoined two of the key elements in the project's master plan. Across 16th Street, the city's major retailing spine and site of Pei's future transitway mall, rose the 1910-vintage Daniels & Fisher Tower, modeled after the Campanile San Marco in Venice and Denver's tallest building for nearly a half-century. And sharing Park Central's block would be the linear Skyline Park, an open space preserving the axial view of the D&F Tower along Arapahoe Street.

Beyond the formal and symbolic requirements implicit in this urban context, there were also explicit physical criteria formulated by the Denver Urban Renewal Authority's urban design consultant, Marvin Hatami. These involved reserving nearly 40 percent of the 266x400-foot site for the park, providing three office and retail structures at specified locations and with varied height limits, and creating a raised diagonal pedestrian circulation network that would later connect to other renewal blocks via bridges.

The building's client, Leavell-Rio Grande-Central Associates,

Downtown Denver is characterized by mostly undistinguished highrises of recent vintage and some older brick and stone survivors. Below, the dark presence of Park Central and the Venetian-inspired Daniels & Fisher Tower are distinctive landmarks on the core's northern edge.



John Pastier



James Maxwell

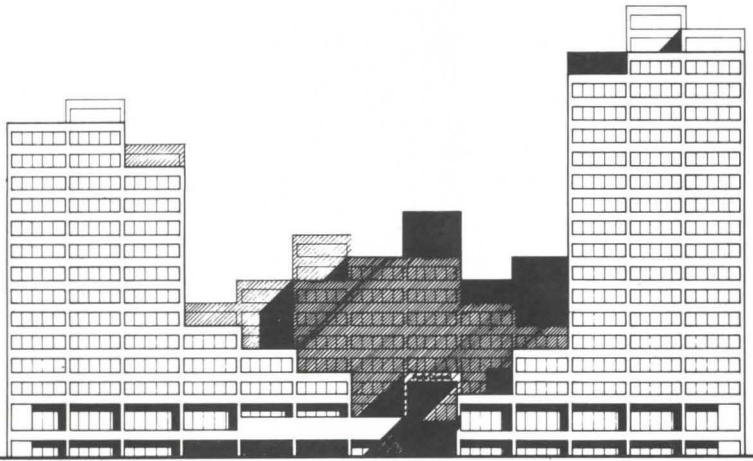
Surprising complications within a regular grid.

wanted 600,000 square feet of mixed commercial space plus parking for 650 cars. To these agency and owner specifications the architects added their own: The design was to provide a series of varied and humanly scaled spaces within a single building and single system design. Taken together, the three sets of demands were complex and, in such instances as Hatami's stipulation of three buildings vs. Muchow's desire for just one, seemingly contradictory. The solution, however, was as simple and consistent as a set of giant *Lego* blocks.

In spirit, if not in strict practice, Park Central is a completely

modular building, based on a 30-foot square structural bay 12 feet, 9 inches high. This module is manipulated with a directness and freedom that is encountered often in children's building sets but rarely in actual structures. Taking a horizontal prismatic mass as the starting form, units are removed irregularly from the entrances and central courtyard and are piled up higher and more neatly at the ends. The resulting volume is clearly a single building, as the architects wished, but it is (albeit less obviously) also three, in accordance with the urban design guidelines.

Its irregular massing and silhouette are at once a formal microcosm of the American downtown, a visual pun on the word *Skyline* and a black-anodized aluminum metaphor for the



A Lego blocks profile and a Miesian skin. At left, an early design proposal (unbuilt) with extra bays on the end towers. Immediately below, the rear facade with the D&F Tower at left.

granitic mountains a dozen or so miles to the west. An earlier stage of the design brought these points home even more handsomely by stepping the tops of the end towers, but a tight budget—excluding the garage, Park Central was built for about \$20 a square foot—led to the blunt top of the built version.

Of course, the placement of solids and voids is not as casual as it would be in child's play. The process of three-dimensional addition and subtraction is carefully and subtly calculated, much as though in midcareer Mies van der Rohe had decided to design a Mediterranean hill town for the prosperous Great Plains.

In the manner of Mies, Park Central is clad in a simply detailed dark metal curtain wall and shows extraordinary respect for the structural grid and the right angle. But combined with Miesian rigor and chastity is the spatial and volumetric articulation of Mediterranean village vernacular: Arcades, plazas, meandering streets that evolve into stairs, building elements spanning the outdoor pathways, dramatic changes of level and a concern with varied and strongly contained outdoor space are some of the more prominent elements that have been borrowed from hilly southern Europe and put to surprisingly good use on a flat Colorado site. The characteristically intimate scale of the hill towns could obviously not be applied to a 16-story, block long building, so that in this respect Park Central mediates between its two prime influences: While it achieves a more human scale than Mies' large public works, it is appropriately more monumental than Mykonos or Alberobello.

Although it hews almost totally to the 30x30 grid—the only major deviations are on the lower floors where the skin pulls away from the columns to form arcades or to create outdoor passages of less than a full module's width—the building's form and surface is surprisingly complicated. There is no strict pattern or simple formula for this shape, but the tabulation below gives an idea of the wide variations in geometry that occur at a few sample floors.

Floor Level	Enclosed Bays	Separate Parts *	Number of Corners	Perimeter Length (ft.)
Two	approx. 34	5	36	1,930
Three	49	2	26	1,860
Six	54	1	12	1,440
Eight	44	2	20	1,560
Ten	38	3	12	1,260
Eleven	36	2	8	1,080
Twelve-Sixteen	18	1	4	540
Theoretical Full Floor	78	1	4	1,140

* Number of disconnected sections at each level



Reginald Wade Richey



James Maxwell

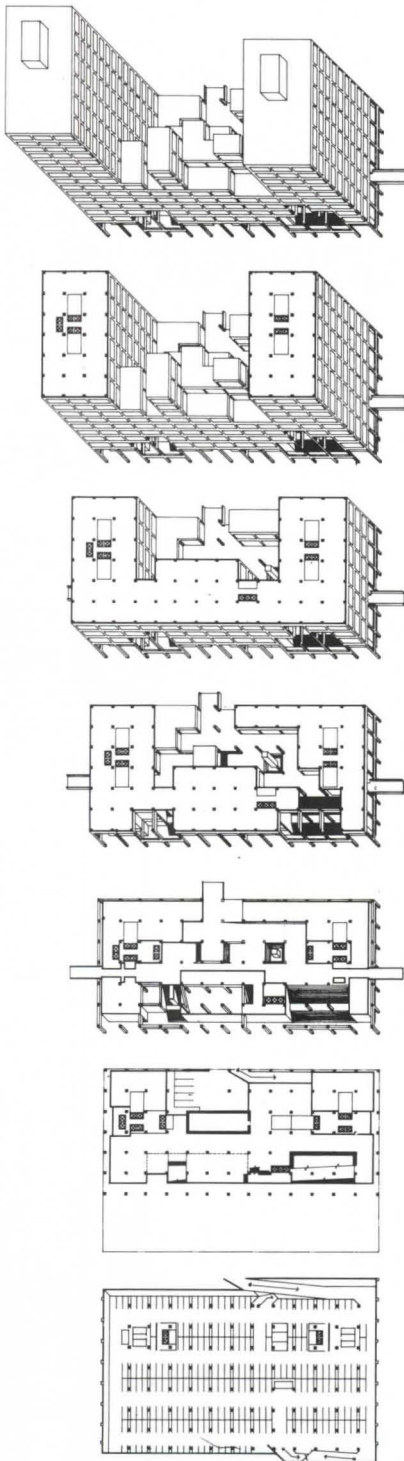
A walk upward into an elevated court.

This extreme diversity, seemingly random when reduced to numbers on paper, is quite coherent when experienced in space and time. On the lower floors, closest to the observer, the building footprint of a six by thirteen bay rectangle (180x390 feet) is always apparent since an exterior cage of columns and beams frames the outer volume even where modules have been removed to emphasize the entrances or to animate the lower walls. Only above the sixth floor (on the park side) are any bays carved away without some of the structural grid remaining as a reminder of the "original" form. By the time the eye has reached that height, the basic volume has been sufficiently well established so that any further jogs and zags are accepted as variations on the original theme. This fragmented ensemble, with its three elevator cores, 14 roof areas and dozens of wall surfaces, reads as a coherent whole, thanks to the Miesian discipline of its clearly expressed structural grid, easily perceived volumetric module and simple, consistent curtain wall. Just as in a Bach toccata or a Wagner overture, there is a counterpoint of rock-steady bass line and freely flowing melody that reflects a carefully judged balance of these potentially disparate elements.

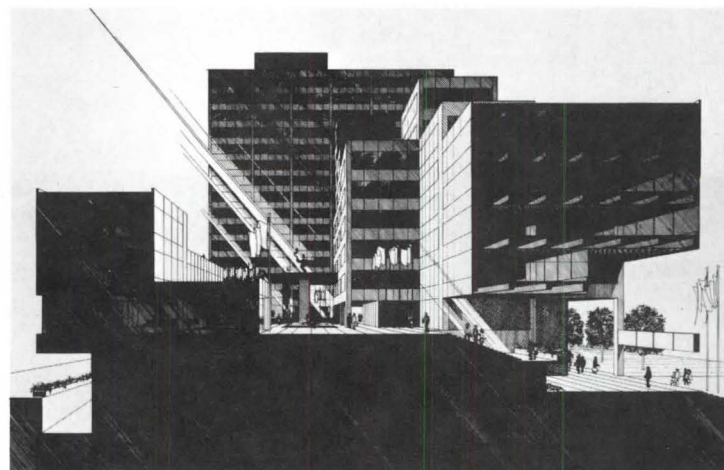
Although highly successful, Park Central's capitalization on mass, volume and surface is not unusual among office buildings—even the worst ones must somehow come to grips with those elements. Its involvement with space, however, is exceptional. Some spatial concern was inevitable: Skyline Park at its front and the interior plaza were both mandated by the urban design guidelines. Much of it, however, was the result of the architects' initiative. (William Muchow, FAIA; George Hoover, AIA, and Michael Jacoby, AIA, were the three primary contributors to the design.)

The front arcades not only gain ground area for the project by enabling a 180-foot-wide structure and a 100-foot-wide park to fit into a 266-foot-wide block, but also create a clearly articulated pedestrian environment that effects a deft transition between the generous expanse of park and street and the smaller spaces within the building. At the entrances the arcade becomes taller and penetrates farther into the building mass, drawing people upward along broad flights of stairs through a space that is strongly punctuated by the structural frame and then suddenly expands into the upper plaza. Actually more a courtyard than a plaza, this irregularly shaped space measures more than 75x180 feet and sharply indents the north end of the building in strong contrast to the modulated flatness of the park frontage.

At its base two stories above street level, the court is contained by building elements on all four sides. One level higher, half of one bounding surface drops away, and above that the space is totally open on its north side. A few floors higher the southern rampart begins to dissolve, then the eastern slab terminates after 11 floors to leave only the western 16-story tower. This yin and yang of space and solid is remarkable in a building



Top, a perspective of the completed building, with, respectively, plans of the tenth, sixth, third, plaza, street and garage levels. At right, a cutaway and, far right, main entrance. The court, (top photo) is surrounded by the building's irregular walls.



John Pastier





James Maxwell

type that is normally treated as a monolithic solid within a spatial vacuum. In Park Central, space is treated as a positive substance and is given equality with building mass. Above the first floor, which serves as a podium, even the largest floor leaves 24 modules of its potential 78-module envelope open, and at the second level the open space is 30 percent larger than the built area. For all 16 stories, more than 51 percent of the potential building modules have been left open.

Not only is this space plentiful, but it is intelligently distributed and architecturally shaped. If one were to take the 16-floor envelope of six by thirteen bays, reverse the location of solids and voids, and then turn the whole arrangement upside down, the transformation would still make a credible building: The equality of solid and void is not just statistical but also sculptural. And when one considers the adjoining linear park, it seems fair to say that Park Central's genius resides in its ability to mold outdoor urban space.

Of course, the building's economic purpose is to house 14 acres of commercial space, some of which is in the form of a generously tall first-floor banking room. Essentially, the building is developer-grade office space where the ambience is better or worse depending on the intentions and resources of individual tenants and the skill of their space designers. It is a building like almost all other recent large office buildings where, regardless of the quality of its architectural concept and detailing, most people work for large, competitive and hierarchical organizations,



A crippling change in the renewal plans.

in a hermetically sealed environment under debilitating fluorescent lights set in a ceiling of uniform height, performing tasks that are not so much inherently fulfilling as they are a means of economic existence.

No architect can begin to deal with the issue of work in our society, and, in a speculative office structure, an architect cannot even deal fundamentally with the environmental problems of anonymous space, lighting quality and mechanical ventilation. While Park Central is doubtless above the average for an "investment" building, it is also below the standard of a refurbished turn-of-the-century commercial building such as the one that Muchow & Partners occupies just a few blocks away.

For its 9-to-5ers, lunch hour is a high point of the day and Park Central gives them a good place to spend it. Skyline Park is part of a view corridor centered on the 70-year-old D&F Tower. It is certainly well-shaped for that purpose but, at 85x400 feet (excluding the area under the arcade) its configuration is not an easy one to work with. Lawrence Halprin Associates produced a design that is pleasant and respectable but one which lacks the force and panache of the firm's Portland fountains or Seattle freeway park. But like those more daring works it seems well used, judging from the turnout on a sunny autumn day. People recline and converse on the tree-dotted grassy berms farthest from the building, eat lunch sitting on the benches that flank the planters and pathways and walk through on the way from one downtown point to another as well as to and from the building itself. The park's fountain and geometry have been criticized as being somewhat out of synchronization with the architecture, but the disparity is not a fatal one.

Indeed, too much consistency can be just as bothersome as not enough. Park Central's elevated courtyard is a careful and tidy analogue to the building's geometry, yet the result is somewhat flat and lacking in vitality. Much of the problem was not the architects' doing, since the DURA guidelines virtually mandated a space that would be in shadow most of the time, even in summer, and there is a conspicuous absence of people because the plaza is a dead end. It was designed to be a crossroads between three elevated walkways to other blocks and the two grand stairs that pierce the building and lead to the park. So far, none of the bridges has been built, and the one that is imminent represents a crippling change of plans on the part of the renewal agency. Rather than leading to another elevated plaza on its



At left, banking floor entered from the street and court sides. Above, negative volumes define the off-center main entrance under the tower.





John Pastier

journey to Denver's "old town" Larimer Square, it will merely cross the street and descend to the sidewalk where further progress will be deflected by a long building. As a result, the plaza that DURA demanded will be effectively diminished in its purpose, and the store space designed to front on this crossroads will continue to languish for lack of traffic.

In yet another sense the unfolding—or is it unraveling?—of the Skyline redevelopment project has compromised the good start achieved by Park Central, in that later development has generally not approached its quality. Perhaps this was inevitable, since the urban renewal process in most other cities has also tended to stress expediency and economic determinism over urban design gains and architectural accomplishment. Nevertheless, it is disappointing to see Park Central's pioneering not upheld by most later efforts.

For the Muchow office, the project has been a valuable experience since it seems to have been the seed for a design orientation in later buildings. Dravo Plaza, a smaller office structure two blocks away (Muchow has buildings in place or under design on six contiguous blocks) represents a variation in precast concrete of the modularly irregular massing first tested at Park Central. And in the downtown financial district, the maroon-

enameled aluminum Metrobank building is a further exploration of the dance of skin and structure that worked so well on Park Central's lower floors.

In this sense, the building has been influential. But surprisingly, its ingeniously simple modular pattern language has not become very visible elsewhere, even though it represents a rational method of design as well as an effective visual style. Earlier, and on another Midwestern downtown redevelopment site, John Johansen invented a more radical kit-of-parts system in his dramatic and whimsical Mummies Theater, hoping perhaps against hope that others would adopt his catalog of tubes and cubes to form a varied but integrated multipurpose structure striding from block to block.

Park Central is a less flamboyant and more realistic cognate of Johansen's Oklahoma City device, just as it is a more pragmatic and citified relative of Archigram's 1960s visions of plug-in architecture. Far less astonishing than either of these, and strongly compatible with the fabric and finances of existing American cities, this is a building that should have attracted both imitations and innovative offspring. So far, it has been an individual monument rather than a model, which is both surprising and something of a disappointment. □



William Watkins

Evaluation: Admiring Glance at a Celebrity

'It has architecture students like other places have mice.' By R. Leonard Miller, AIA

Since its completion in 1965, Venturi & Rauch's Guild House in Philadelphia—now properly Guild House East, Friends' Housing for the Elderly—has become a famous building, and it is hard to treat famous buildings with equanimity. Theoretically, even St. Peter's Basilica can be evaluated purely in light of the architect's objectives versus how these are fulfilled in use ("... 74 percent of respondents reported feeling overwhelming awe, while 11 percent noted moderate awe and 9 percent minimal awe. Several priests complained of inadequate votive candle storage..."). The lack of such a study confirms that some buildings are exempted from ordinary criticism. A six-story brick apartment building in center city Philadelphia would not appear to be such a building, and to compare St. Peter's would be unthinkable absurd—had not Vincent Scully already done so in the introduction to Robert Venturi's *Complexity and Contradiction in Architecture*. Almost 15 years later, some critics continue to make equally cosmic comparisons, while others have pursued their accusations of Nixonian cynicism or patent, willful ugliness.

Add to this my own prejudices as a onetime student of Robert Venturi, FAIA, and Denise Scott Brown, and a confessed admirer of Venturi & Rauch's buildings. Social scientific objectivity,

whatever its virtues, will not get far here. As Philip Johnson, FAIA, points out, "One cannot not know history," and, as defense lawyers often argue persuasively, one often cannot even not know news. A building's fame ultimately becomes part of the way that building feels and functions, and winds up getting evaluated along with everything else.

Like any conscientious celebrity, however, this building asks to be taken on its own terms. Herewith, then, some notes on the star's childhood, and on the star at work and play.

Almost exactly 100 years ago, Philadelphia Quakers started the Friends' Neighborhood Guild, part of the national settlement house movement that sought to plan a wide range of social services in the immigrant-swelled slums of major U.S. cities. With its first goal that of creating and strengthening community institutions in its own northeast Philadelphia neighborhood, the guild sought little direct involvement in housing before the '30s. Even then it began by developing tools, such as cooperative management, rather than building buildings.

Francis Bosworth, now retired from leadership of guild housing affairs, and who more than any individual was the "client" for Guild House, recalls a change of emphasis in the 1950s, the result of urban renewal, new federal programs and the seemingly irreversible decline of existing housing for old people. "I went down to Washington and testified [on behalf of the 202 pro-

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gram] and we made it clear that we wanted to be the first to make use of such a program." The guild's objectives, however, hewed to orthodox settlement house strategy: Create a prototype, enlist community support for future action and then move on to the next problem.

In its first 80 years, the Friends' guild had seen wretched, privately owned tenements partly replaced by only slightly less wretched public housing. It hoped that its prototype would show how design, construction and management of new housing could be done better. The guild established an autonomous housing arm to consider rehabilitation (a later study of the local housing stock also involved Venturi & Rauch) as well as a first venture into new construction.

The result was not, as it turned out, the first new housing for the aged built under the 202 program, nor was it quite the first in Philadelphia. The history of the guild's dealings with the federal housing establishment remains a topic for some future researcher, but it is not hard to imagine what complications were added to the Quakers' accustomed straightforward, no-nonsense approach to social action. Ultimately a private consultant acted as expeditor, and the guild set about acquiring land and raising the federally required 3.5 percent of the anticipated construction cost.

Selection of two local architectural firms, Venturi & Rauch in association with Cope & Lippincott, depended at least in part on good connections to the Quaker establishment. From all accounts, Venturi and Bosworth got on famously, and a very traditional architect-client relationship emerged over those decisions not already made by the federal standards writers.

The reader of 1980 looks for evidence of user participation in the design process, forgetting the considerable—and general—naiveté of 1960 on the subject of setting living standards for persons other than one's self. What was then the Federal Housing Administration imposed thoughtful, but rigid, guidelines which effectively prescribed what could be spent on most program items. Neither these standards, nor local building codes, recognized much in the way of extraordinary needs on the part of aged residents. Except for wheelchair-width doorways and a few extra grab bars, Guild House was seen as an ordinary apartment house that would happen to house, as the still-fresh euphemism had it, "the elderly." For its own part, the guild, while it had never built any sort of building, was hardly inexperienced on the subject of inner city life, nor were Venturi & Rauch's perceptions confined to sociological theory; no doubt architect and client felt considerable justification for a "seat-of-the-pants" approach. Venturi, Bosworth and others did visit the settlement-organized groups for senior residents of the neighborhood. Bosworth, himself now advanced in years, is candid in pointing out that old people, especially those inured to discomfort and skeptical of change, are not often the most cogent or forthcoming of critics. Reactions to the first plans tended to be poignantly basic: "You mean I'll have a toilet?"

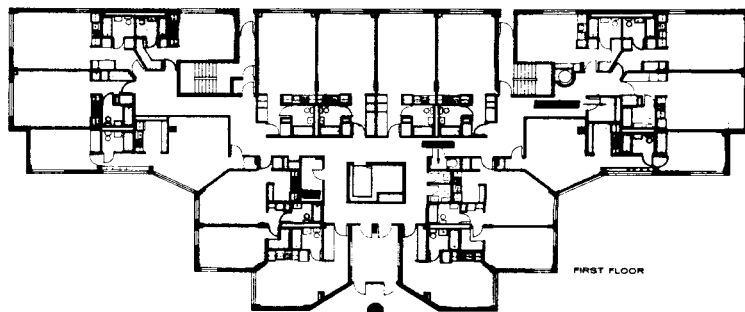
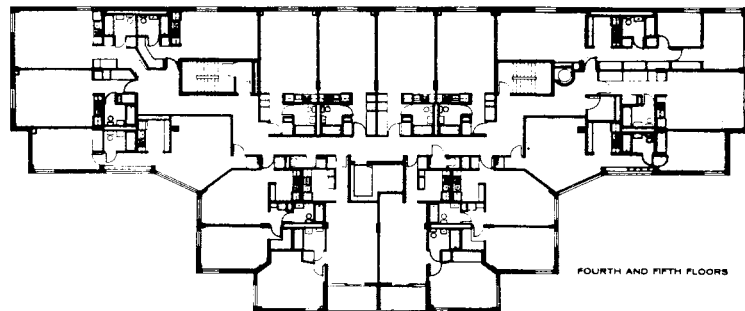
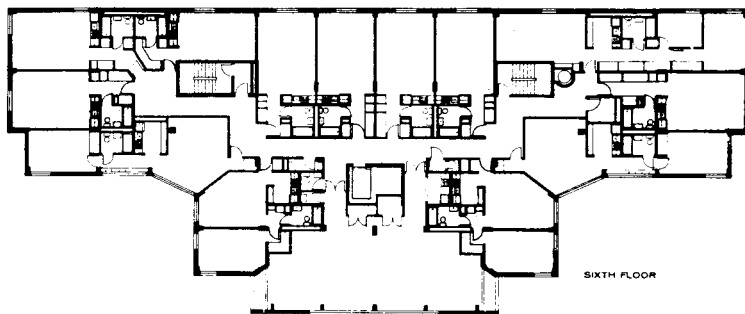
In addition to social challenges, the new venture not untypically faced the tightest of financial and physical constraints, including unpromising, if not hostile, surroundings. Despite the sponsors' initial thoughts of a small infill scheme, urban renewal, accompanied by on-site parking requirements and a taste for big, simple parcels, was already transforming the neighborhood into its present checkerboard of public housing, auto-parts stores, warehousing, light industry and parking lots. There was finally not much to infill, and the balance sheet favored economies of scale. The guild expanded its original site on Spring Garden Street, and, under a six-story height limit, the present irregular, T-shaped plan emerged as a way to give southerly (street) exposure to most of what became 91 units. At the same time, the "T" plan avoided long, straight corridors and defined sheltered outdoor spaces.

Simultaneously, the floor plans of a mix of efficiency, one-bedroom and a few two-bedroom apartments were being puzzled

into place. With the bar of the "T" hard against the rear building line, pushes and pulls of floor plan emerged only in the front wing. Except for the consciously formal entrance wall, the street elevations began to take on the shaggy, expedient air of the backs of Edwardian apartment buildings. When the early modernists called such alley elevations beautiful, they were indulging in a polemical dig at some neoclassical front; Venturi & Rauch here looked at their context, looked at their budget and decided to take the observation literally. But even with the common red brick and the oversize double-hung windows—Robert Venturi is especially proud of having made the latter specification in the early 1960s—this is clearly an image being evoked, not the real thing.

At the scale of interior planning and detailing, the design team faced some of its hardest choices. At the time a flat slab concrete structure was most economical. Since such a system allowed columns to "wander" considerably, individualized floor plans and irregular corridors were a logical amenity. Structure may also have influenced the location of the large community room on the top floor, although this was as much as anything a response to the site's broad, south-facing view over the Philadelphia skyline. Colorful glazed ceramic tile murals were planned to decorate the simply painted common spaces. Some elements, however, were irrevocably minimal: the thin wood parquet flooring and corridor carpeting, the unpainted stair tower interiors, the closet-like office, and the "temporary" omission of a second elevator.

The story of Guild House since its completion is best read in the building itself, with the help of background information from the architects, the guild staff and residents. Since 1965



Less a pilot than an occasion for polemics.

there has been little turnover. There is still a high proportion of original residents and a balanced mix of subsidized and conventional apartment rentals (61 and 30, respectively). Three current vacancies are said to reflect the difficulty of qualifying for subsidies under the current rate of inflation.

Guild officers and staff, by contrast, have seen an almost 100 percent turnover. In part this reflects a further change in philosophy: The guild is now in the business of managing its own housing and even office space, not, finally, producing prototypes. In the meantime, however, the building has felt the effects of an admirably humanistic but shortsighted policy of low rents and (to use a more recent euphemism) "deferred maintenance." It has more or less gracefully accommodated the tighter requirements of new codes. And, finally, it has come to suffer a sort of apples-and-oranges comparison with a new, larger Guild House West, an embodiment of much more lavish federal subsidies and standards, and of the tastes of Cope & Lippincott *sans* Venturi & Rauch, which runs toward the imagery of nursing-home-as-Holiday Inn.

Today, visiting architecture students look in vain for the famous gold-anodized TV antenna that once topped the facade. The owners were evidently unimpressed with this nonfunctioning (and to some, rather sardonic) flourish, and it became an early victim of deferred maintenance. (A fine brace of real antennae still graces the elevator penthouse, however).

Most other people seem to look first at the splash of pink petunias on the perforated steel balcony parapets above the entrance. "The railings always had a detail for flower boxes," says Venturi, "but it was a few years before people started to use them." Just below, the big block letter sign, GUILD HOUSE, which the architects once worried would also be removed, seems well maintained.

In fact, except for the discreetly painted grilles of new through-wall airconditioners, the building resembles its pictures of 1965, maintaining both good relations of scale, color and detail with its now rather gap-toothed neighborhood, and at the same time the slightly super-real distance of being a little brighter, a little cleaner, a little more generous in scale, a little more *definite*. Robert Venturi is, I think, justifiably proud of the subtlety with which the entrance facade is articulated and decorated to suggest a much longer, more important street elevation, without really separating itself from the rest of the building. The petunias are not the only comment that suggests that others share some of this pride in the building's sense of presence.

The entrance is disappointing, however, in not fulfilling the social function that the Jane Jacobs generation has come to expect. The nicely sheltered and shaded outdoor sitting areas remain behind chain link fencing, unrelated to the front door. There is no bench or stoop, outdoors or in the small entrance lobby, from which to watch people come and go. (The figure who appears in some photos is sitting on the Siamese connection.) This situation may also contribute to a perceived security problem. Under the original 202 program there was no money for the receptionist and electronic security system later provided at Guild House West. What was paid for was the miniscule and frequently maligned office, used for a half day by the social worker who necessarily functions as concierge as well as counselor. Residents must come downstairs to unlock the front door, and sometimes resort to simply tossing their keys to friends waiting in the street.

In retrospect one can question the location of the community room on the top floor. In the newer building a similar room was placed near the lobby, reflecting the staff's preference. A random visit to Venturi & Rauch's version reveals few people or intact pieces of furniture, but the view from the big arched window or from the two small side balconies is undeniably sweeping and sunny, and the room itself is characteristically interest-



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ing in shape. If it is not the ideal drop-in center, it can surely be justified as a warm, pleasant retreat.

The completed tile murals, while not great architectural decoration, likewise contribute to a sense of warmth. A horizontal strip on each floor incorporates both decoration and directional graphics. Opposite the community room a more ambitious version includes an elaborate scene on each main tile, including a depiction of the building itself. And, at the entrance, the guild's artists decided good-naturedly to frame a Beatrix Potter-like mural in a surround shaped like a TV screen.

The murals effectively convey a sense of community pride, likewise reflected in the cleanliness and high level of maintenance of all public areas. There are a few exceptions: deterioration of the hall carpets, minor leaks, chronic elevator breakdowns. The major defacement is the smoke/combustion detector system, a recent and mandatory addition that was necessarily surface mounted to the undersides of floor slabs, which serve as finish ceilings. At present completely exposed, the detector's as yet unfinished conduits also wind their way obtrusively into each apartment.

The smoke detector installation was perhaps the largest of a series of economic and maintenance hassles that give the present staff mixed feelings about Guild House. One source attributed about half of these problems to the physical plant per se.

The physical evidence, plus conversations with staff and residents, indicates that those who live in Guild House are much less critical. Within the apartments there is praise for the floor plans (except for the smallest efficiency, which is generally considered too tight), the opportunity for built-ins, the lack of sound transmission, the big operable windows. Elaborate, frilly, cluttered apartment decor conveys the clear message that this is home. True, some tenants may have had only an old, bad place to compare, but I heard no jealousy expressed for the glitter of nearby Guild House West. This despite the demise of some parquet floors, the smoke detector mess and other evidence of deferred maintenance. One harried employee reports having grown tired of hearing original residents talk about "how beautiful and lovely it was to begin with."

Perhaps the most proudly displayed area of all, though, is the basement, where FHA restrictions seem not to have applied. Here, in a large, immaculate space of poured concrete and concrete block reminiscent of Louis Kahn, a massive pool table stands practically alone under the obligatory low, hanging lamps. It is a solemn, almost monumental space well suited to the serious business of pocket billiards, and it seems quite popular.

A final, seemingly permanent feature of Guild House: To



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Facing page, an oblique view of the front facade. This page, a typical apartment as furnished by the occupant, a mural and (left) the community room on the sixth floor.

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paraphrase James Thurber, it has architecture students like other places have mice. This infestation ranges from the unescorted University of Maryland student whom I found wandering the halls, to a carefully arranged tour by an entire Belgian architecture school. The guild reports that the residents have mixed feelings about these visits, but, as mentioned before, I saw no narrowed eyes when I approached wearing such obvious equipment as tassel loafers and a single-lens reflex camera.

Again, the problem of the famous building crops up. Guild House after almost 15 years elicits satisfaction from its tenants and no more than the usual hostility from its management; it basically works. This ought perhaps to be the bottom line. But we should also be curious about what all these architectural visitors are making, or could be making, of what they see.

There is no lack of theoretical and critical writing about Guild House, by Venturi and many others. Understandably, little of this commentary relates to the completed building as an everyday, functioning place. Less understandably, there seems to be scant interest in Guild House as a prototype for a kind of urban housing and an approach to urban design, as Francis Bosworth and Venturi & Rauch must have hoped it would be.

In fact, Guild House has seemed to most observers to be an occasion for formal or social polemics, not a pilot project to be emulated, criticized and improved upon. Even the Friends' guild, despite awards, acclaim and their own basic satisfaction, de-

cidied 10 or so years later that the second time around, the best surprise was no surprise.

Fame, then, may be a deterrent to serious consideration of Guild House, although it has proved a powerful stimulant to rip-offs of its styling. Venturi & Rauch, eager to move on to other things and with such disappointments as the Brighton Beach housing competition to ponder, are perhaps understandably reluctant to do the considering themselves. For a long while their efforts in large-scale housing have been confined to theory and to planning studies, and here suburbia has proved a more fertile field. While they remain happy with Guild House, their design method today would include more extensive programming and a rigorous in-house evaluation after occupancy. For instance, Venturi mentions that today he would probably make the entrance "prettier" in response to residents' taste.

But, despite its intentionally somewhat boring design and its unintentionally boring notoriety, is not Guild House almost all right? Did its old-fashioned, nonparticipatory design not produce a livable building, within the limits of money and the law? Within more generous limits, could it not be a respectable and respectful prototype for many urban neighborhoods, an alternative both to slick modernism and to cute historicist infill?

Guild House could work better. Not as a stylistic fragment or as a social statement, but as a whole, architectural idea, it should, in some form, work again. □

Solar Access and Urban Form

by *Ralph Knowles*

Urgent calls to use solar energy in our buildings, towns and cities have made solar access a critical issue. A number of cities and states have passed legislation to protect existing solar installations and to ensure continued solar access to future development. The federal government has supported a number of studies to determine the most feasible, effective and enforceable way to establish "solar rights."

Amid the controversy over permits, easements, height limitations and solar zoning, the urban form implications of solar access have been naively or inadequately addressed. The notion that solar access is antiurban and antiproperty rights has gained currency without a full exploration of its implications for the design and growth of cities. To say that solar access will destroy cities because it won't allow a tall building to be erected amid low ones is hardly an argument for urban quality.

It is a simple fact that tall buildings cast long shadows. A 50-story tower in Los Angeles will cast a shadow 1,000 feet long between 1 and 2 P.M. in December. By 3 P.M., that building's shadow will be 1,800 feet long, with an area equivalent to two city blocks.

There is an ethical issue as well as an issue of urban quality here. While I may choose to stand in shadow, I resist a developer's mandating it. And if I occupy a building in the wake of that tower's shadow, I will resist that violation of my right to the sun's light and heat.

There is a number of recent examples of energy-conscious building designs that accomplish their efficiency goals at the expense of their neighbors. An office tower that publicizes its use of the sun to save energy but deprives its neighbors of the same opportunity is clearly on questionable ethical grounds.

Valuing solar access, however, does not eliminate the tall building from the urban future, nor does it argue for suburban densities.

Using a concept of solar zoning called the solar envelope, which describes the volumetric limits to development that will not shadow its neighbor, we have achieved floor area ratios as high as 7.5. This far exceeds suburban densities and would be consistent with the densities of most urban areas in the U.S., with the exception of such highrise centers as Manhattan.

Solar zoning does, however, have a scaling impact on urban growth that calls for new construction to relate to the old. Density can increase over time, according to public values, but violent disruption of city scale is avoided. Where highrise development already exists, solar zoning can be used to protect rooftop and upper-floor solar access.

Guaranteed solar access carries with it an implied moral obligation to use the sun and to formally relate to it. The designer is encouraged to differentiate building and urban form in graphic response to the sun's movement. One side of a building will not look like another and one side of a street will not look like another. Development will tend to be lower on the south side of a street than on the north, where southern exposure is thus preserved. Streets take on a directional character where orientation and cues to natural time and phenomena are clear.

The public value for the sun will influence the character of development. Buildings will tend to hold the street line. Large-plan buildings will encourage designers to cut into them, creating courts and terraces that bring sunlight and heat to the interiors. The concern with public and private spaces and the interface of open and closed spaces at urban and building scale again becomes an important design issue and urban resource. Solar access thus provides new dimensions to urban form.

Solar access is not the only zoning concept to have direct form implications, but it is unique in having implications of time as well as form. As

a framework for urban design, solar access introduces natural time as an element of urban form and thus a new element to our perceptions of quality in the urban environment.

These kinds of qualitative concerns, more than those relating to quantities of energy consumption, originally led me into the exploration of solar access and its implications for urban form and policy. The design values expressed through the important writings of such people as James Marston Fitch, A. E. Parr and Kevin Lynch provided impetus and direction to my inquiries and a sense of the formal potential. Much of this writing was published 20 and 30 years ago, and its significance continues to grow.

In *American Building*, Fitch clearly expressed our over-reliance on energy-intensive rather than architectural means of adaptation to natural variation. He complained that we were too willing to settle for an artificially processed environment when the basic qualities of life might be better provided by more sensitive architectural design.

Fitch's apprehensions were related mostly to buildings, but Parr, senior scientist of the American Museum of Natural History, related the quality of our built environment to the bases of our perceptions. His point was that the human species evolved with adequate mental and physical adjustment to a natural environment. But during the 19th and 20th centuries, "we have achieved the ability to alter our surroundings on an order of magnitude that leaves far behind the scale of individual mental and physical performance. . . ." His conclusion was that environmental change should be scaled

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or "adjusted to the real needs of those who must endure them."

Parr's anxiety about urban qualities was addressed in Lynch's *The Image of the City*, which developed the concept of urban legibility based on perceived properties of form. Lynch was concerned with the individual's ability to follow pathways by recognizing the shapes and structures of a city. He posited a notion of relating orientation to free movement and a sense of well-being.

In *Energy and Form*, I attempted to synthesize the concepts of these three writers. I hypothesized that an artificial system made in balanced energy response to nature would exhibit diversity useful to a sense of orientation and in expanding choice for improved life quality.

The notion of balanced energy response used Fitch's ideas about over-reliance on mechanical systems and developed strategies for architectural adaptation to natural variation. Location and form became design strategies for responding to and using the heat and light of the sun.

The idea of formal diversity is consistent with the ways plant and animal forms differentiate themselves as graphic adaptations to natural variation and recurrence. Parr had already suggested the scalar relationship between natural diversity and human perceptions. The final link was provided by Lynch's notion of urban legibility, thus completing a circuit that ultimately linked the concept of adaptive solar architecture to urban diversity for enhanced life quality.

An urban framework that could guarantee access to the sun was clearly missing. Yet without a universal covenant that ensured a right to the sun now and in the future, the promise of these ideas could not be fulfilled. I presented the initial development of such a framework in *Energy and Form*, and this concept, called a "solar envelope," has since been further developed through research and, most recently, has been tested in the architectural studio in collaboration with Professor Richard D. Berry of the University of Southern California.

The generation of the solar envelope is conceptually simple. It is a container to regulate de-

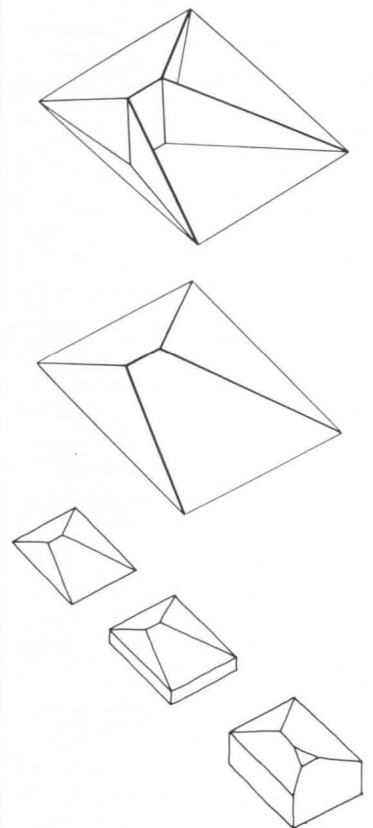
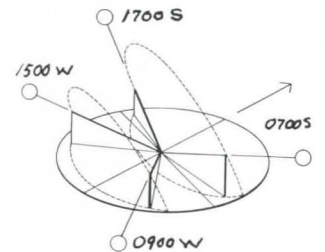
velopment, but its limits are a function of time as well as space. Its boundaries are a formal expression of the sun's relative motion. Development within these boundaries will shadow the surroundings during specified periods of the day. The envelope is therefore defined by the passage of time as well as by the more traditional constraints of property.

The time involved is a duration of solar access, or a period of direct, line-of-sight approach to solar heat and light.

The period of solar access may be conceived as some segment of an arc drawn to represent the sun's path. If access is required year-around two arcs may be used to represent paths of the sun during summer and winter.

If the resulting angles of the solar azimuth and altitude are transferred to the edges and corners of a land parcel, the consequence is a set of geometric limits that derive their vertical dimensions from the sun's slanting rays. If the entire volume implied by the vertical limits is drawn as an explicit form, the result is a container with surfaces representing the three-dimensional boundaries of development.

Depending on duration of solar access, land parcel location and configuration, and surrounding conditions, the size and shape of the envelope will vary. When the envelope is used in the context of urban development, where density is an important consideration, the specification of edge conditions becomes critical to realizing its full development potential.

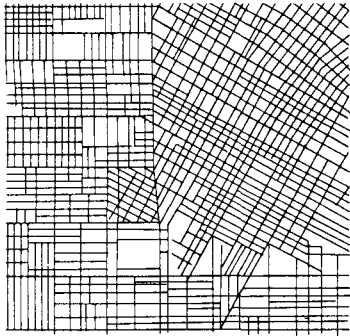


The Impact of Street Patterns On the Solar Envelope

The solar envelope's size, shape and orientation are greatly dependent on the patterns of urban settlement. In the U.S., that context is usually influenced by orderly subdivisions that have geometricized the land. Typically throughout the Midwest and the West, streets run with the cardinal points so that rectangular blocks extend in either

the east-west or north-south direction on the Jeffersonian grid.

Other grid orientations derive from climate, topography and geology. In Los Angeles, for example, a major exception to the Jeffersonian grid is the old Spanish grid, oriented nearly 45 degrees off the cardinal points. This diagonal orientation is an adaptation to sea breezes ordered by



the King of Spain. It now extends from the old pueblo over the land that is modern downtown Los Angeles.

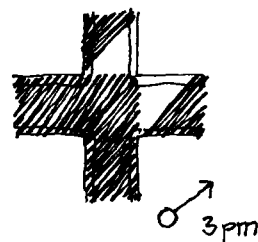
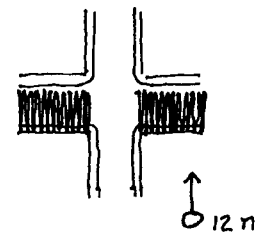
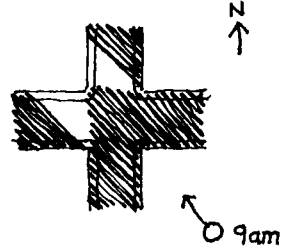
Before discussing the street grid's influence on the solar envelope and hence on development, I want to mention some important qualitative differences of the streets themselves derived from orientation. A comparison of the Jeffersonian and Spanish grids serves to demonstrate inherent properties related to shadows.

For example, streets that run east-west in a built-up urban area will tend to be shadowed all during a winter day. In most climates in the U.S., including Los Angeles at 34 degrees north latitude, the streets will remain dark and cold. By contrast, streets that run north-south will be lighted and warmed during the midday and will consequently be more pleasant during the busy noontime shopping period.

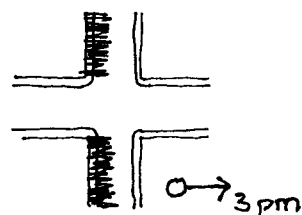
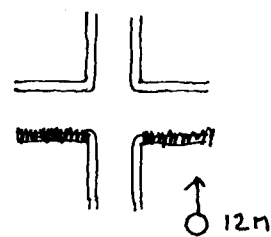
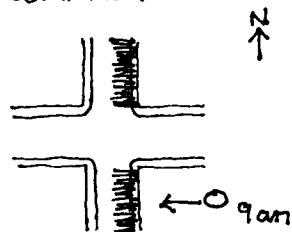
Summer presents an entirely different picture. Unlike winter, when the sun's rays come from the southern sky, the summer sun comes more directly from the east in the morning and from the west in the afternoon. At midday, it is nearly overhead. Streets that run east-west will receive a little shadow at midday, much less in the morning and afternoon—a sometimes critical factor on a hot afternoon. Streets that run north-south will be shadowed in the morning and afternoon, but will receive the full force of summer's midday sun.

From the viewpoint of solar orientation, the Jeffersonian grid leaves something to be desired. Its east-west streets may be too dark and cold in winter; its north-south streets too bright and hot in summer. In Los Angeles, the older Spanish grid seems to have some advantages regarding street qualities of light and heat.

WINTER



SUMMER



During the winter, every street receives direct light and heat from the sun sometime between 9 A.M. and 3 P.M., the most useful six hours of irradiation. It is true that during the midday all streets have shadows, but because of the diagonal orientation, the effective street width is very much increased, leaving more of the street in sunlight than would be the case for a street that ran directly east-west.

While every street in the Spanish grid receives direct sunlight and heat at some period of a winter day, every street has the advantage of some shadow during most of the summer day. Shadows are cast into every street all day long with the exception of a short period during late morning and early afternoon when the sun passes quickly, first one and then the other of the diagonal streets.

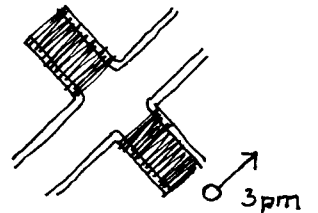
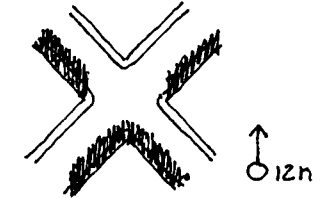
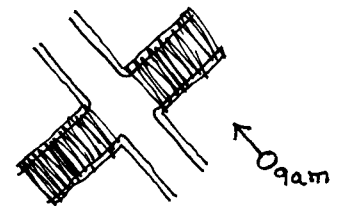
These differences in street quality that result from the solar exposure are felt, if only subconsciously, by people and they are even acknowledged by real estate experts. But street orientation is almost never considered as a basis for land use and planning decisions.

Urban Design Impacts of the Solar Envelope

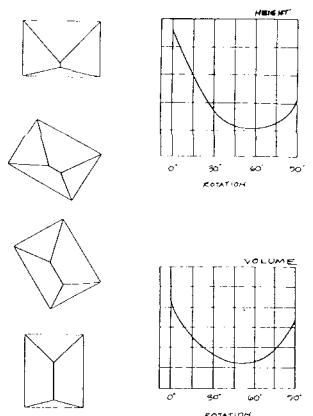
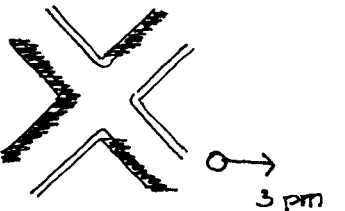
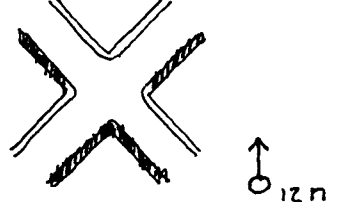
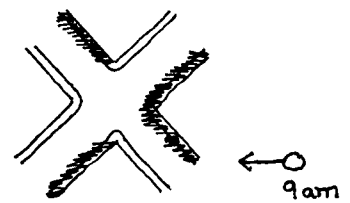
Street orientation has impact on the solar envelope in two ways. The first of these has important development consequences; the second relates more to urban design issues.

For a given set of time constraints, for example 9 A.M. and 3 P.M., the solar envelope over a city block oriented on the cardinal points will contain more developable volume than one over a diagonal block. Some sense of this can be gotten by comparing the height and volume of a solar envelope for a rectangular site by rotating it 90 degrees at 30-degree intervals. The most height and volume are attainable at either of the two possible block orientations within the Jeffersonian grid. The least volume is attainable at about the angular rotation of the Spanish grid.

WINTER



SUMMER



Graphs by Dan Reza—3 p.m.

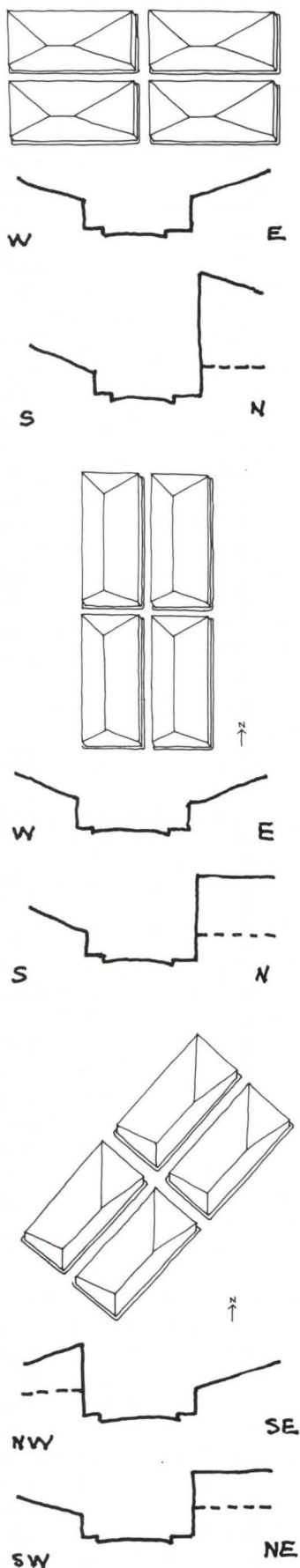
The street's gain appears to be the developer's loss and has made our studies in downtown Los Angeles more challenging from a development viewpoint. The urban design consequences of street orientation are important because they relate to legibility. Pathways, districts and directions take on clear perceptual meaning when the solar envelope becomes a framework for urban development. Another way of saying the same thing from a designer's point of view is that urban cues to orientation come more readily if solar access is included as a development criterion.

A comparison of three different block orientations demonstrates not only different envelope sizes, but different shapes as well. These differences would likely result in street asymmetries, district variety and clear directionality along streets. Such differences would tend to occur systematically, not randomly. They would therefore serve as dependable cues to orientation and free movement.

For example, solar envelopes over blocks that run long in the east-west direction contain the most bulk and have the highest ridges, generally located near the south boundary. Development that respects the envelope would tend to occur symmetrically on north-south streets and asymmetrically on east-west streets with high buildings on the north and low ones on the south to admit winter sun. Buildings along the north side of the street would tend to vary in height. They would be low at corners and then rise toward mid-block.

Solar envelopes on long north-south blocks would have less bulk and a somewhat lower ridge running lengthwise down the middle of the block. North-south streets would be symmetrical and, as in the first case, east-west streets would be asymmetrical, but would change in a different way with buildings along the north side constantly diminishing in scale toward the street corner from a peak at midblock.

A third orientation, that of the diagonal Spanish grid in downtown Los Angeles, would produce envelopes with the least



bulk and a ridge along the southeast boundary. All streets would tend to be developed asymmetrically with the northwest and northeast sides of the street higher and the southeast and southwest sides lower to admit the winter sun all day long. Intersections would always be marked with a potentially high building on the north corner surrounded by lower ones on each of the other three corners.

Development within such a differentiated framework as a solar envelope becomes legible and offers natural cues to pathways, districts and directions. Streets would be qualitatively as well as quantitatively different. They would have predictable sidedness. A change of street orientation would always signal a change of aspect. Corners would be unique events and would be visually announced as one approached by car or on foot. Street asymmetries, directional differences of streets and differentiation along streets would all add to the definition of pathways, districts and directions.

Just as the solar envelope is influenced by street orientation, the envelope itself has impact on the size, shape and structure of buildings within it. In this way, new construction must naturally scale itself to existing development. And, because the solar envelope guarantees future solar access, the combination of old and new development becomes the environment to which future development must adapt.

Thus, growth tends to be dynamically regulated by the solar



envelope in such a way that scaling is a continuing process and always relative to the current stage of growth, rather than to some constant height or floor area ratio. Adjacencies tend to occur between elements of nearly equal size with differences occurring incrementally, not abruptly. Over time, the city would be able to increase its density, but at a slower rate and without the discontinuities that disrupt neighborhoods.

The sequence of development also becomes important as each envelope successively becomes

the generating reference of the next. The envelopes are thus interdependent in an urban context and, if the sequence changes, so will the envelopes and the development potential within. Such interrelationships suggest an urban analogy to ecology.

If the sun is to be used as a source of energy and life quality, the fact of which comes first must inevitably make a difference, as it does in nearly all growing systems. The envelope may thus become a dynamic regulator for urban growth.

The rules covering such growth would need to vary regionally and from one set of urban conditions to another. They would need to respond to qualitative values as well as energy concerns and to respect urban form as an expression of human values. For that reason, the rules need to be determined at the local level and administered through local zoning. Once its conditions are set, solar access promises not only the potential for energy conversion, but the urban design benefits of legibility, human scale and a sense of time and place.

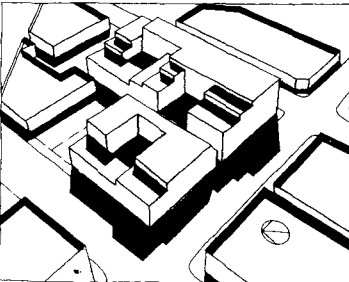
The anonymous highrise would start to give way to a lower mode of construction, especially in moderate density urban areas where the existing surround would have a scaling effect on new development and ease the transition. No longer could the desire to make a new building the tallest building allow a developer to cast major portions of the city in shade or obliterate human scale in favor of a more dramatic skyline.

The solar envelope has another set of urban design implications that enhance the potential for richness, variety and humanity in the city. The form of the envelope is a result of valuing the sun; that same value can be expressed in the design of individual buildings and their relationship to each other and the larger urban context.

The envelope tends to lower building profiles and take advantage of development potential near the ground, thus pushing buildings down and out toward the street. An urban design implication of this is that the street line is held and protected from random and disruptive patterns of development.

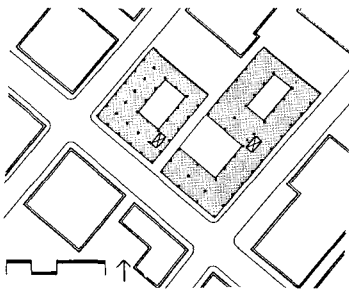
The envelope also offers the opportunity to re-examine the potential of courtyards and terraces at building and urban scale. Valuing the sun mitigates large-plan buildings that isolate their interiors and inhabitants from the natural world. It encourages designers to cut into the envelope and articulate open spaces that provide access to sunlight and heat. The direct or indirect connection of such spaces could enrich the city, providing a series of public-private spaces that could be shared by more people and add another way to experience the city.

Roof terraces usually result when the rectilinear geometry of conventional construction meets the sloping limits of the envelope.



The terraces may be open or closed according to function or climate, but in either case, if well designed, will provide an extension of the building and enhance the potential for recreation, agriculture and community.

Courtyards result when daylight is valued. Particularly in the case of office buildings with large plan dimensions, courtyards and atria, enclosed or open to the sky, provide an effective



combination of lighting quality and human amenity. The courtyard is also a way to expose the building interior to the heat of the sun, thus taking advantage of passive thermal design potential. Cutting into the building provides enriched spatial possibilities for the architect and, something more from an urban design viewpoint, an extra urban dimension.

Realizations

The solar envelope's general impact on development and design can be illustrated by some of the work emerging from the studio at USC, which has explored both residential and commercial development for a variety of sites in Los Angeles. The projects were completed during the academic years of 1977-1979 and are the work of undergraduate students.

Each of the two projects involved several land parcels. The first was a group of eight commercial sites on the Spanish grid near downtown Los Angeles. The second was a group of six residential sites along Wilshire Boulevard. The intent in each case was to explore a realistic, mid-density development potential within a presumed zoning policy of solar access for six hours (9 A.M. to 3 P.M.) each day.

The emphasis on development density was matched by an equal emphasis on livability and design quality. The solar envelopes, which the students generated, introduced a formal discipline that intimidated the students at first, but then provided the potential for great design freedom, variety and richness.

Within the general time constraints, a more generous attitude was taken about solar access to housing than to commercial development. In other words, the solar envelopes for the commercial sites allowed greater density, but also were allowed to shadow more of the surround. This attitude represents a value held by the student designers that can be debated, but it is probably a fair representation of many people's feelings.

Architecturally, the attitude may be appropriate as large-scale commercial structures in downtown areas tend to be buildings with many internalized functions for which passive design strategies may be more limited. Residential design, on the other hand, frequently involves a smaller structural increment where the location and form of the building can be used to greater advantage in gaining the heat and light of the sun.

These values were translated into rules for the generation of

the solar envelope. A solar envelope is site specific; simple rules need to be set to sufficiently cover the necessary conditions for each land use.

For commercial development, the rules for the solar envelope guaranteed access to all rooftops and to 70 percent of all existing and future window walls. Firewalls at the property line were not guaranteed access.

Adjacent lots could be included under a single large envelope so that buildings might be built side by side with a firewall between, thus providing for conventional urban densities. If there were a building adjacent to the land parcel, it would provide a useful reference for generating the envelope.

The rules did not guarantee solar access to streets and alleys, although the movement of the sun over time guarantees that shadowing would only be at certain times. If there were only a vacant lot across the street or alley and thus no structure to use as a generating reference, the envelope was allowed to shade up to 20 feet on a hypothetical structure at the property line. (This is the approximate height of a first floor retail development within an office building.)

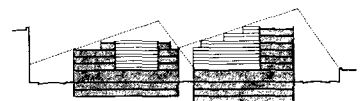
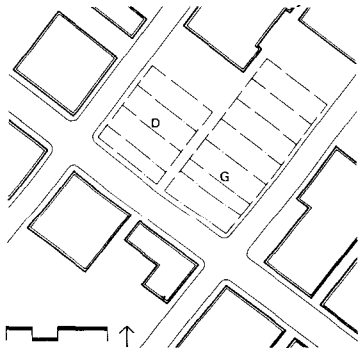
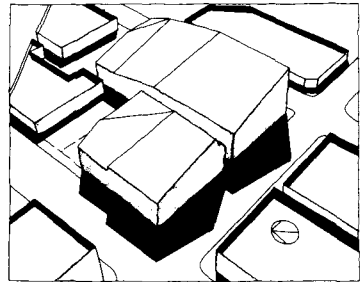
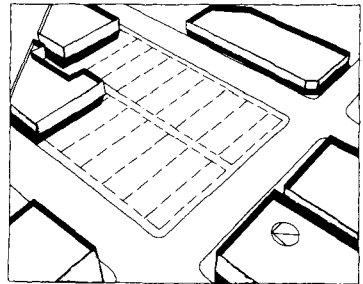
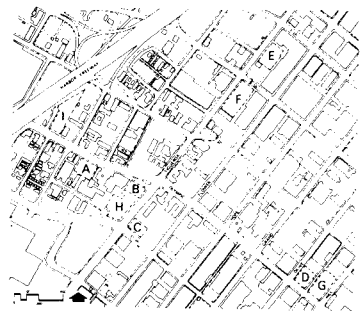
These specific rules are in some way arbitrary and it is important to note that rules for generating solar envelopes must be an expression of public values, implemented by policy and design at the local level. How these rules for the students' projects worked and their urban design consequences can be demonstrated by looking at two related commercial sites out of the original eight.

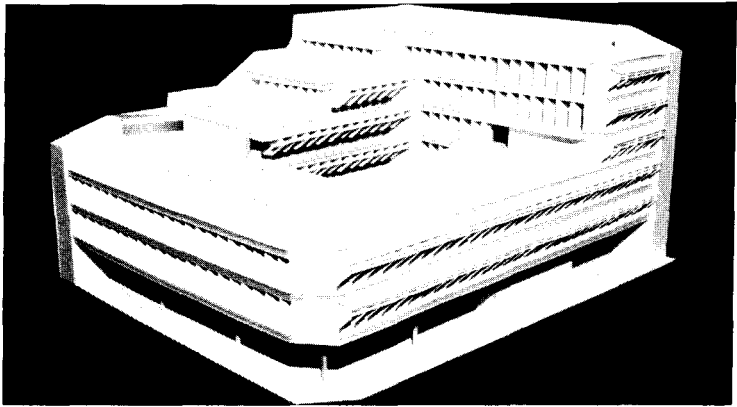
Site D, located to the northwest of Site G and across the alley from it, was developed as part of a first phase of the project. The order of development was arbitrary in our work and might have been reversed, but the envelopes are interdependent and the order in which they are generated is consequential.

Both envelopes had generating references on all sides except across the alley from each other. Here the question of sequence arose and we decided to take Site D first. Across the alley

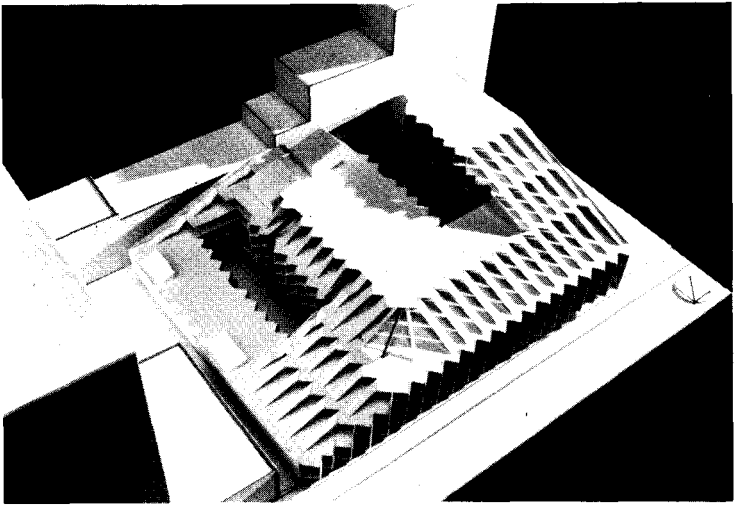
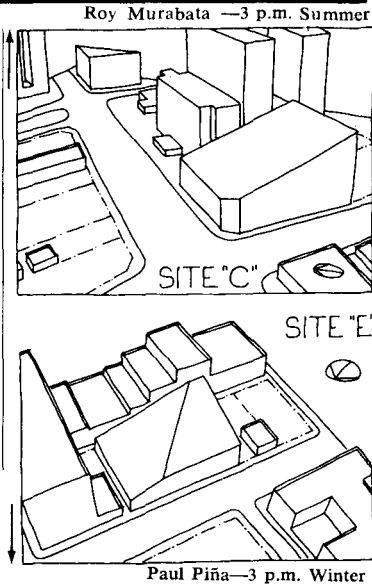
there was no building on Site G and a shadow line of 20 feet was therefore drawn as a generating reference for Envelope D.

The student's design for Envelope D achieved a floor area ratio (FAR) of 4.0. A second stage of the project then generated an envelope for Site G. Since the designer for Site D had not put windows on the alley and instead had opened his offices to an interior court, the envelope over Site G was made to protect only the roof of the building on Site D. The resulting design had a FAR of 4.5. Obviously, who came first made a difference.

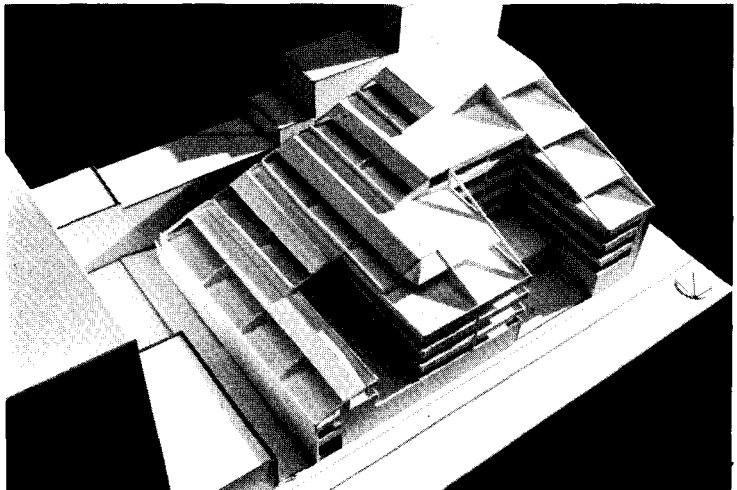




Within the envelopes, students generally took maximum advantage of sunlight and particularly explored the potential for daylight with courtyards and terraces. These aspects of design created some of the richest opportunities for design quality in the urban and building environment. The issue of public and private use of these spaces and the design issues attendant were only touched upon, but the urban design vocabulary was considerably broadened.



Dan Reza—3 p.m. Winter



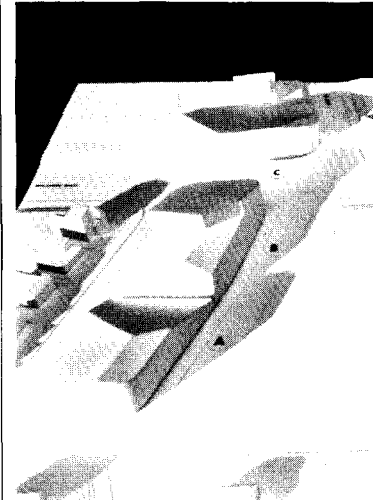
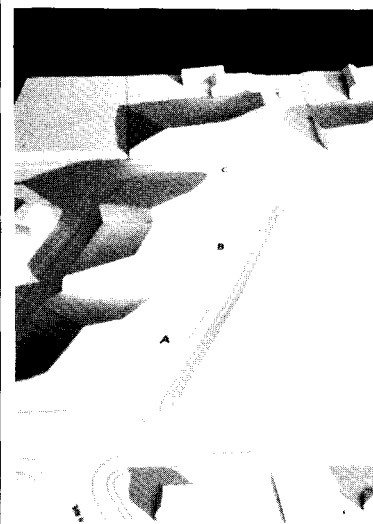
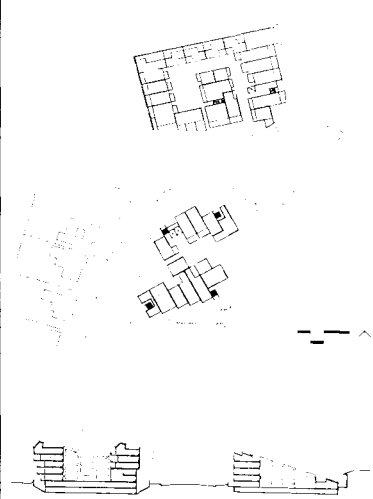
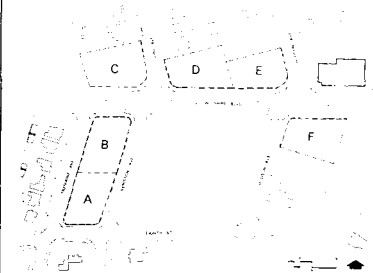
The residential studio work resulted in substantial density within the envelope and in housing projects that took qualitative advantage of the solar access provided. Solar access for housing was considered in relation to land parcel boundaries, rather than surrounding buildings. This involved more severe restrictions on development volume than the commercial rules, but guaranteed more access to the sun. The rules for generating the envelopes assumed a privacy fence at the perimeter of each land boundary, which is common in Los Angeles. Six hours of access (9 A.M. to 3 P.M.) were guaranteed above an eight-foot privacy fence.

The studio studied six sites, each averaging about 23,000 square feet. Major differences in envelope bulk appeared from one side of Wilshire Boulevard to the other. The three sites to the north were more constrained by the envelope because of the closeness of the adjacent, built-up properties. The sites to the south of Wilshire had the advantage of greater envelope bulk because shadows could be cast across Wilshire to properties on the opposite side, as demonstrated by development on Sites B and C.

Lesser differences in envelope size and shape resulted from the relationship between specific plans of land parcels and the sun's movements. The sequence of development was not a fact in this project because, unlike the commercial study, conditions were always the same at land parcel boundaries.

With a very few exceptions, winter was a more critical season than summer in determining the solar envelope on all properties. The final array of envelopes appeared in the model as a set of sculptural forms, each fitting to its surroundings and casting shadows to critical limits at prescribed cutoff times.

Winter shadows cast from the solar envelopes at 9 A.M. and 3 P.M. (models at right) touch specified critical boundaries of adjacent properties. On the sun machine, the moving shadows can be seen to trace, but never to cross, these boundaries.



How buildings fit this solar framework can be demonstrated by looking at two specific and related designs, one for Site C and a second for Site B.

Site C was the more constrained of the two and faced south to Wilshire with an existing house just to the north. The envelope was high on the south, low on the north and sloped to an eight-foot privacy fence at the property lines. The envelope also lost some volume where the sun's rays cut off portions of volume to achieve morning and afternoon access to neighbors on the west and across the street on the east.

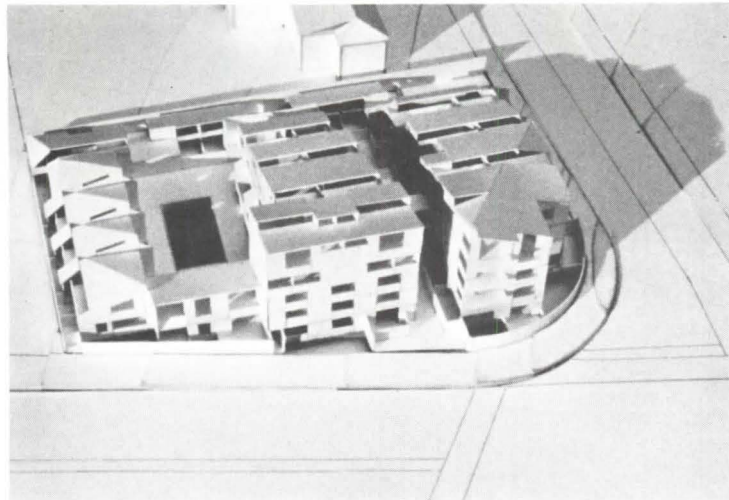
One of the designs for this site achieved a density of 45 dwelling units per acre with 55 percent land coverage and an average dwelling unit size of 1,200 square feet. Each unit had 370 square feet of private open space.

The designer valued cross ventilation, daylight and south exposure, which was achieved by a series of roof terraces and clerestories. Since the north slope of the buildings followed the envelope's slope, sunlight and heat could be had year-around between 9 A.M. and 3 P.M., even on the building's north side.

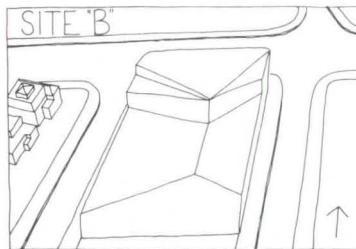
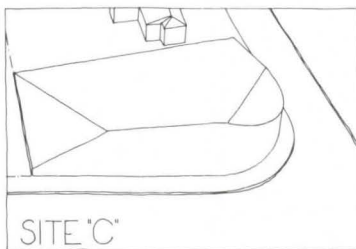
Across the street, on Site B, the designer had more envelope bulk to work with, but the shape was complicated. A shadow release across Wilshire produced a lump of volume over the envelope's northern portion.

The designer took as much advantage as possible of all available volume. He produced a design that, while it is not a duplication of the envelope's shape, does reach its critical boundaries. The building therefore casts a shadow almost the same as the envelope.

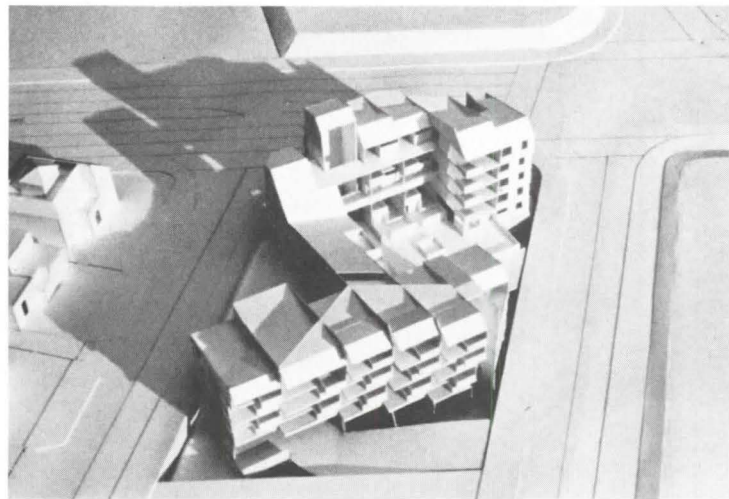
This designer also valued exposure for light, heat and air, and he managed to achieve a density of 58 dwelling units per acre. His land coverage is 43 percent. Units average 1,180 square feet and each has 145 square feet of private open space. Every unit has a south exposure to take advantage of the sun's deep winter penetration.



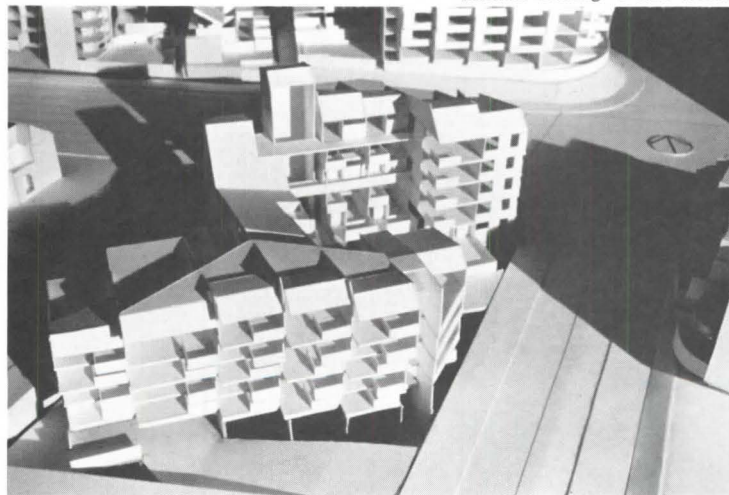
Paul Gutierrez—3 p.m. Winter



Michael Gerhing—9 a.m. Winter



Michael Gerhing—9 a.m. Winter



A look at both residential designs shows that the two are related in several ways. First, they are about the same height on either side of Wilshire as a result of the envelope. Site B has

the greater bulk, but each design is about five stories on the street.

Second, both designers have made good use of courtyards that harken back to an earlier

tradition of Southwestern building. The Spaniards used them and architects of the 1920s and 1930s developed them further into an extraordinarily rich vernacular. Only after World War II did that development give way to the single-family ranch house we seem less and less able to support.

Finally, both designs took great advantage of the solar envelope's volume. This was a characteristic of all of the student work and indeed a part of the program requirements in testing the design and development potential of the solar envelope.

The result along both sides of Wilshire was a series of projects related to each other by a common set of development values and by a uniformly applied zoning requirement for solar access. While the performances were uniform, the buildings were richly varied. They had the quality of a well-fit puzzle when viewed as a set of related works.

More revealing still was a view of several projects together on a sun machine where they were seen to be related in time as well as space. This aspect of time in the urban environment may finally be the richest element in an expanding urban design palette.

When solar access is guaranteed to cities, rhythmic change in the qualities of light and dark, warm and cool, become controllable design elements. The designer need no longer build indifferent boxes that are plugged into life support systems at huge energy cost. Guaranteeing solar access allows buildings to be tuned to natural recurrence and urban forms to be generated without fear that the light will be turned out by future development.

As the designer learns to use rather than fight natural variation, buildings and groups of buildings can reflect their relation to each other and to the natural environment as spatial elements and as events in time. The concept of rhythm as an urban design strategy supported by a policy guaranteeing solar access promises cities that provide cues to the natural environment. And it promises a new esthetic framework for urban design based on human values and perceptions.

Postscript: The Construction Of a Solar Envelope

A solar envelope is a container of developable volume that does not shadow its surroundings at specified times. Its construction requires data about the sun's movement (time) relative to the fixed geometry of a site (space). The solar envelope is therefore a formal and conceptual synthesis of time and space.

The time data for the solar envelope relate to specific periods of solar access that may be determined by design or policy. Useful periods of solar access may be defined by energy requirements, or they may be defined by a broader concern with life quality. They are expressed as cutoff times, before and after which a building surround will be subject to shadowing. These time data translate into volumetric limits. Specifically, the daily and seasonal paths of the sun as it appears to move across the sky describe the east, west, north and south limits for development within the envelope.

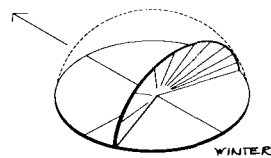
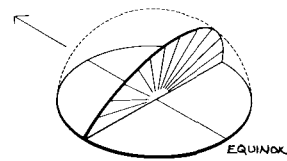
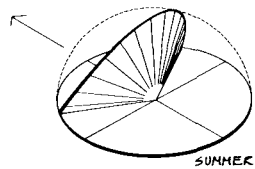
The space data relate to the specifics of the envelope site, including its boundary conditions and relation to surround. They include the size, shape, slope, orientation and latitude of a land parcel.

These relationships can easily be seen and manipulated with the help of a heliodon, or a machine to simulate the daily and seasonal movements of the sun and earth in relation to each other. Heliodons suitable for architectural models are available commercially and simple ones may be built with a light and camera tripod. They are useful not only for accurately describing the limits of the solar envelope, but for perceptual insights they offer a designer concerned with the rhythmic changes of sun and shadow on a building.

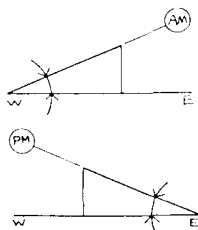
The relationship between the paths of the sun and the boundaries of the solar envelope can be understood by using a polar coordinate system as a visual reference for the movement of the sun. Such a reference is basic to the measure of any variable force.

The sun's geometry is measured in angles of altitude and

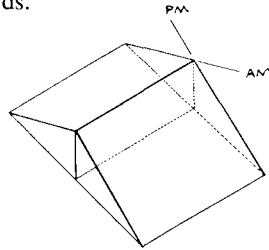
azimuth, measured clockwise from true north. A way to demonstrate these measures is to presume that all solar phenomena occur on the surface of a hemisphere. Where the hemisphere intersects the earth, a circle results, forming the horizon. The middle of the circle represents that point on the earth that concerns us, and is identified by the intersection of normal lines running north-south and east-west. In this construct, the sun moves in circular paths across the surface of the hemisphere. If we put a flag in the center of the circle, we can start to visualize the relationship between the daily migration of the sun and the east and west boundaries of the solar envelope.



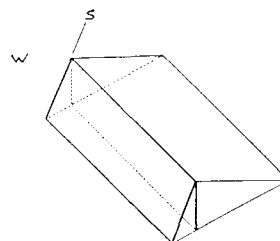
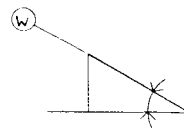
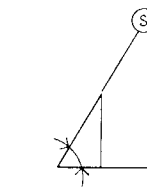
First, we must define the useful hours of solar access, or the hours during which we want to avoid casting shadows on adjacent land. If morning hours are specified, the shadows from the flag will be cast to the west. If afternoon hours are specified, the shadows will be cast to the east. The upper limits of developable volume would slope down from the top of the flag to intersect a western boundary in the morning; they would slope down to the east in the afternoon.



In order to define the upper limits of developable volume lying between parallel east and west boundaries, it would be necessary to use a plane that casts shadows in both directions. Morning shadows would intersect the western edge of the property; afternoon shadows would intersect the eastern edge. The combination of morning and afternoon limits would result in an enclosure that resembles a tent, open at both ends.

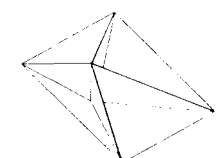
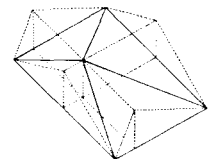


The seasonal migration of the sun described the north and south boundaries of the solar envelope. The winter sun would cast shadows to the north of the flag in the center of the circle. The summer sun, which appears higher in the sky and more northward in its path, would cast shadows to the south at certain times of day. The winter shadows therefore determine the north limits of the envelope; the summer shadows determine the southern limits. The northern limits are more gently sloped than the southern limits because they are determined during winter when the sun appears lower in the sky. The combination of summer and winter limits on a rectilinear property would produce a second tent-like structure, open at the east and west ends.



The combined effect of daily and seasonal migrations of the sun result in shadows that define sloping limits to all the boundaries of a rectilinear land parcel. The resulting form would be a solar envelope enclosed on all four sides.

Using the specified time and latitude of the Los Angeles studies as an example (cutoff times of 9 A.M. and 3 P.M. in winter and 7 A.M. and 5 P.M. in summer at 34 degrees north latitude), the daily north-south ridge of the envelope intersects the seasonal east-west ridge. The resulting envelope has a pyramidal shape if the land parcel is relatively square in shape. The vertex lies halfway between the east and west boundaries of the base, but closer to the south than to the north boundary of the site. The daily path of the sun has a symmetrical impact on the form of the envelope; the seasonal path has an asymmetrical impact. If vertical planes were passed through each edge of the triangular faces of the pyramid, they would form ridges from the vertex to each corner of the base.



The specific shape of the envelope changes with time and space constraints. The envelope just described involved a nearly square site, but a land parcel longer in one direction than another is more common.

If the longer dimension of the site ran north-south, the solar envelope would not have a single vertex, but would have a ridge running parallel to the long dimension of the land parcel. As with previous examples, the east-west migration of the sun can be described by casting shadows to the long edges of the site from a vertical plane running north-south. The result is a daily envelope. The north-south seasonal migration can be easily described

continued on page 70



Perspective by Gavin Macrae-Gibson and Charles Warren

Six Ways to Decorate a Shed

Commissioned by Best Co. and the Museum of Modern Art. By Donald Canty

Best Products Co. is a catalog retailer whose combination showrooms and warehouses grace 74 suburban shopping centers. They are of a standard design: two-story brick boxes 190x203 feet. Since 1972, however, some of them have been given decidedly nonstandard treatment at the hands of James Wines and New York City's SITE design group. Wines has seemingly partially destroyed one, peeled the facade of another part-way back and cut a notch from the corner of a third, in a process which he likes to call "de-architecturization."

More recently, Best commissioned Venturi & Rauch to festoon another of its boxes in what seems from a distance to be floral wallpaper. And last year, "at the suggestion of Philip Johnson and in collaboration with the Museum of Modern Art," Best asked six other architects to see what they could do with the box, sticking strictly to the exterior. The results are shown on these pages and were subject of a MOMA exhibition and catalog booklet with a foreword by Johnson, an introduction by Arthur Drexler and text by the six architects.

Most elaborate of the treatments is that of Robert A. M. Stern (above), who calls his vision a "temple of consumerism." Stretched across the facade is a huge pediment, at its center resting on the T of an equally oversized Best sign. Beneath stands a

series of cutouts, seemingly with arms linked, each symbolizing a category of merchandise.

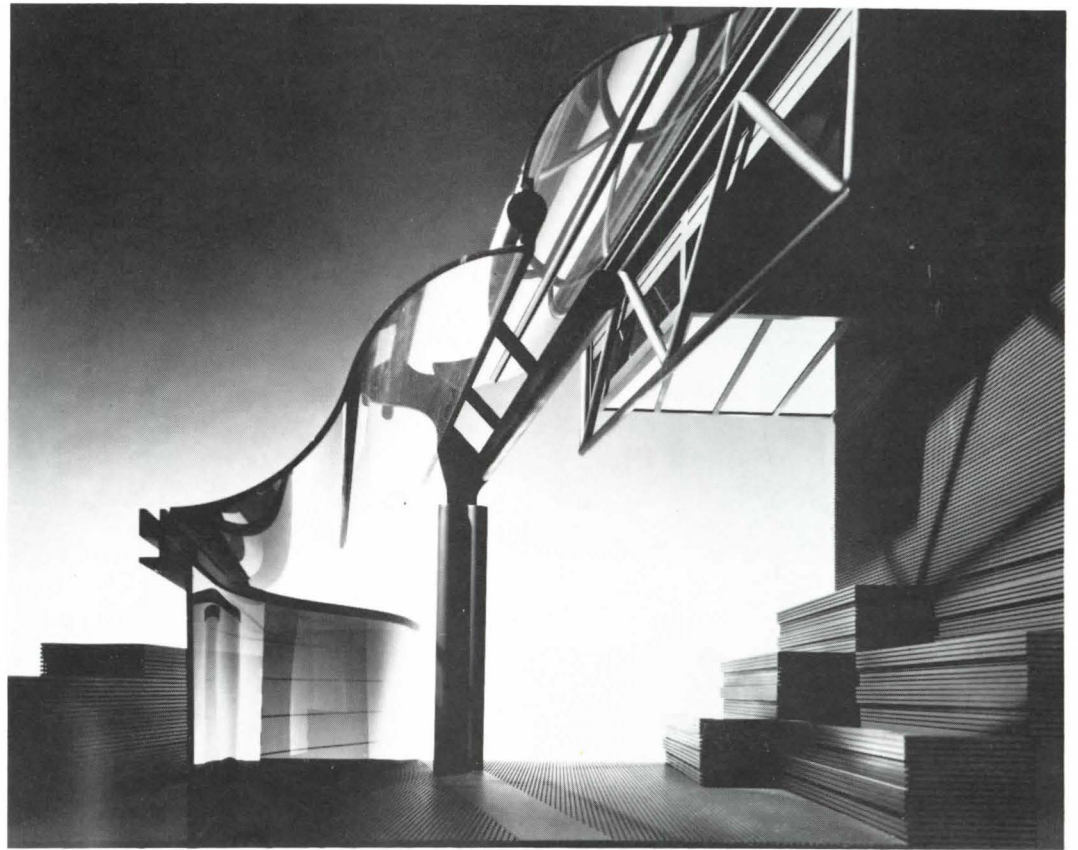
Stern stretches the temple metaphor to the breaking point: "The gold color refers to the sacrificial instruments of archaic rites, while suggesting the affluence of contemporary America." He is perhaps closer to the design's intention when he says that the pediment and sign, in particular, are meant to attract the attention of passing motorists. The "temple," then, is out to get Best its share of American affluence by being the flashiest object on the asphalt.

Stanley Tigerman has transformed the box into a huge replica of a suburban house (lower right). Its intended scale is indicated by the human figures huddled in the garage door, which would serve as the entry. The figure by the "front door" is a 22-foot replica of "a beckoning fair one as American and as wonderfully wholesome as Mary Tyler Moore." Tigerman's text is sneeringly condescending and heavily laden with puns: "The very Best thing about their new home lay in its neighborliness."

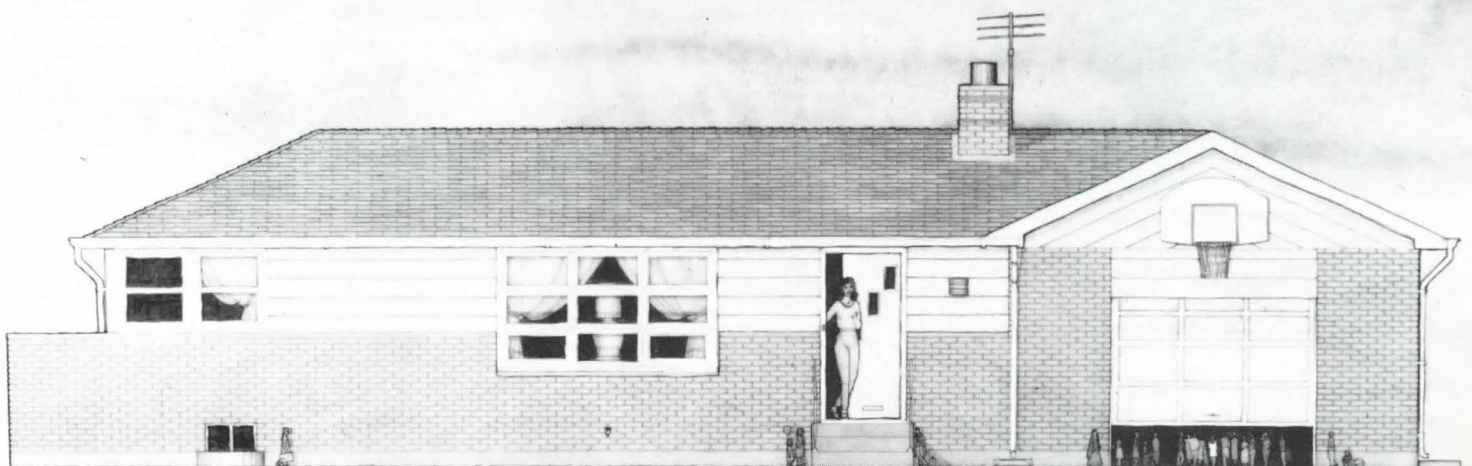
Anthony Lumsden's design (above right) is hardest to read from the exhibit materials, a problem Johnson obviated by calling it sculpture. Lumsden says, "The showroom box is slightly modified, its facade being expressed as an opaque plane articu-



Robert Stern



Wolfgang Hoyt/ESTO©



Processions of columns, and of elephants.

lated by recesses at the corners, which serve as entrances." The standard box has a very plain canopy over its entrance, for which Lumsden substitutes a soaring glass umbrella which he terms a "curved cyma rectacyma reversa form."

Charles Moore (with Jim Winkler and Robert Flock of the Urban Innovations Group) hides the box behind 12 "guardian elephants" of mirror glass (right). Drexler calls the result "a crystalline sculpture, a thick wall that fragments into a hundred facets." Why elephants? Because Moore has fond memories of the pachydermatous towers of the San Francisco World's Fair of 1939 and "surely a really good thing has the right to return to the planet after 40 years' absence."

Allan Greenberg, as is his wont, reaches even further back to replace the Best canopy with a classical colonnade (below). Colonnades and arcades, he notes, have been used since antiquity "to define shopping precincts and other places for people to gather." Argues Greenberg, "By following the example of the past and by using the forms and meanings of classical architec-

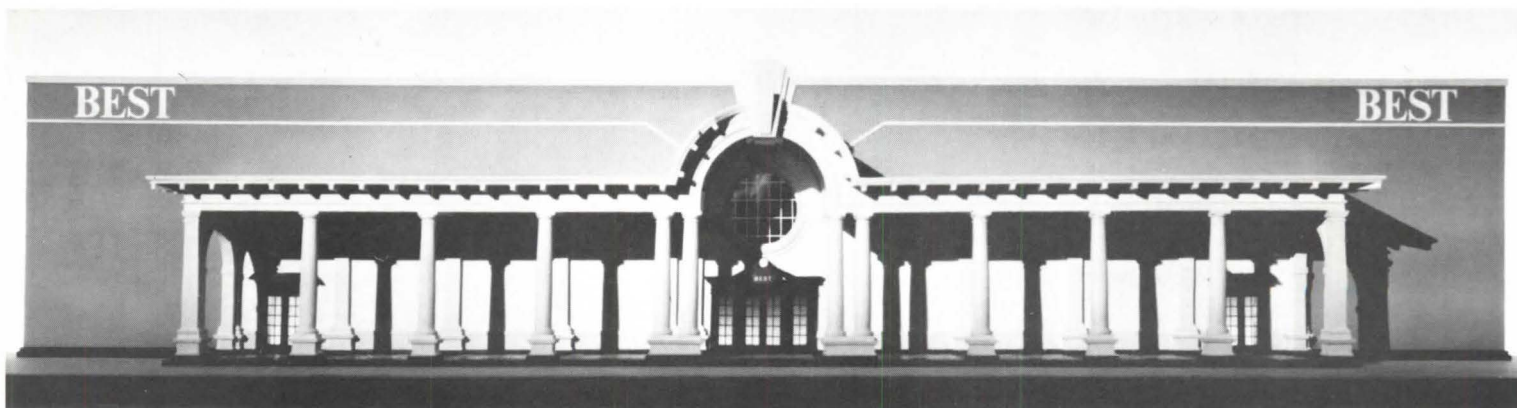
ture, we can make our shopping precincts and their buildings richer and more coherent works of architecture."

Michael Graves deals not only with the box but with its setting. Across the face of the box he puts an intriguing covered pergola of thick, striped columns (bottom). He extends it beyond the box on both sides.

Doing so is part of a strategy for turning the traditional shopping center inside out (see plan). Instead of a mall in a sea of parking, Graves would make the shopping spaces edges of parking areas. The pergola initially would form one such edge and later presumably would extend to form others.

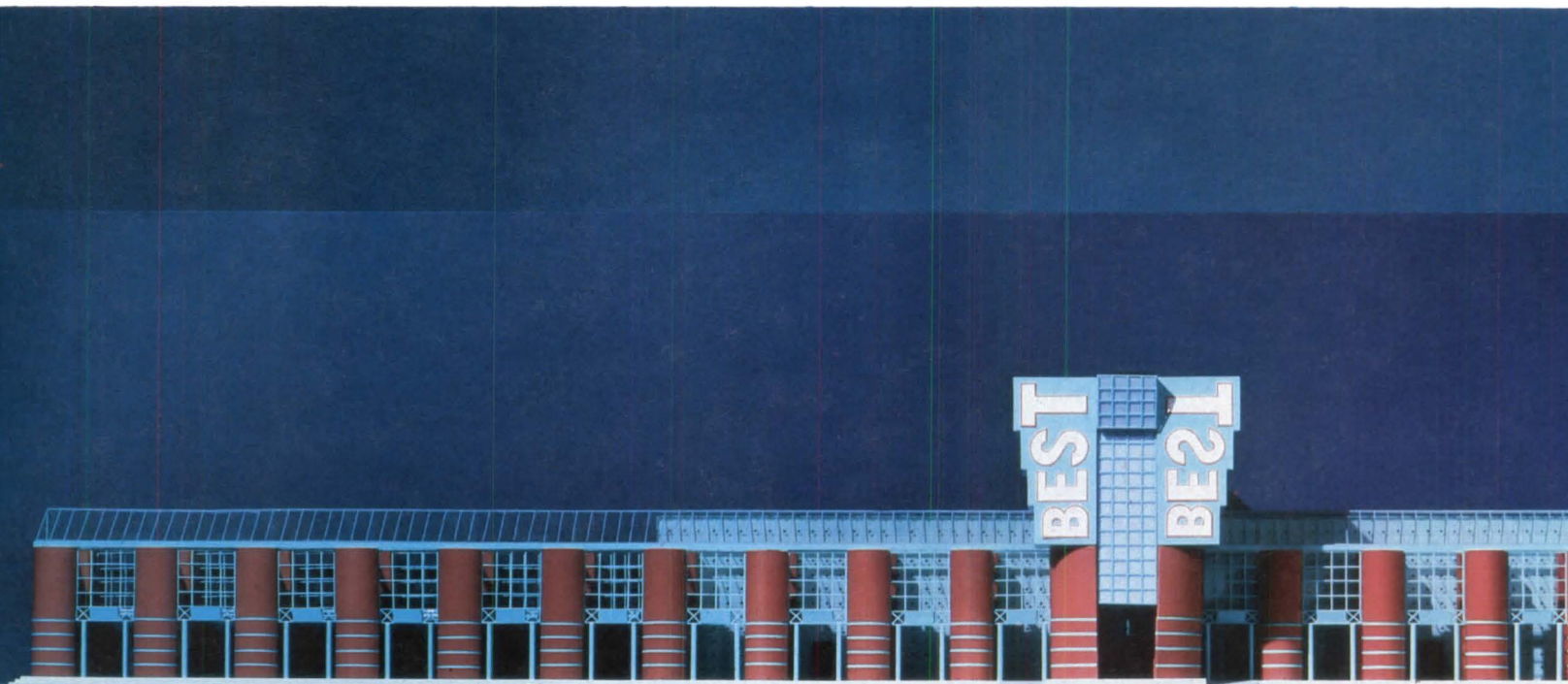
Graves is the only one of the six to go beyond facadism. The fact gives the entire exercise an unsettling symbolism. Johnson, in reviewing it, finds in it still more evidence of the death of modern architecture.

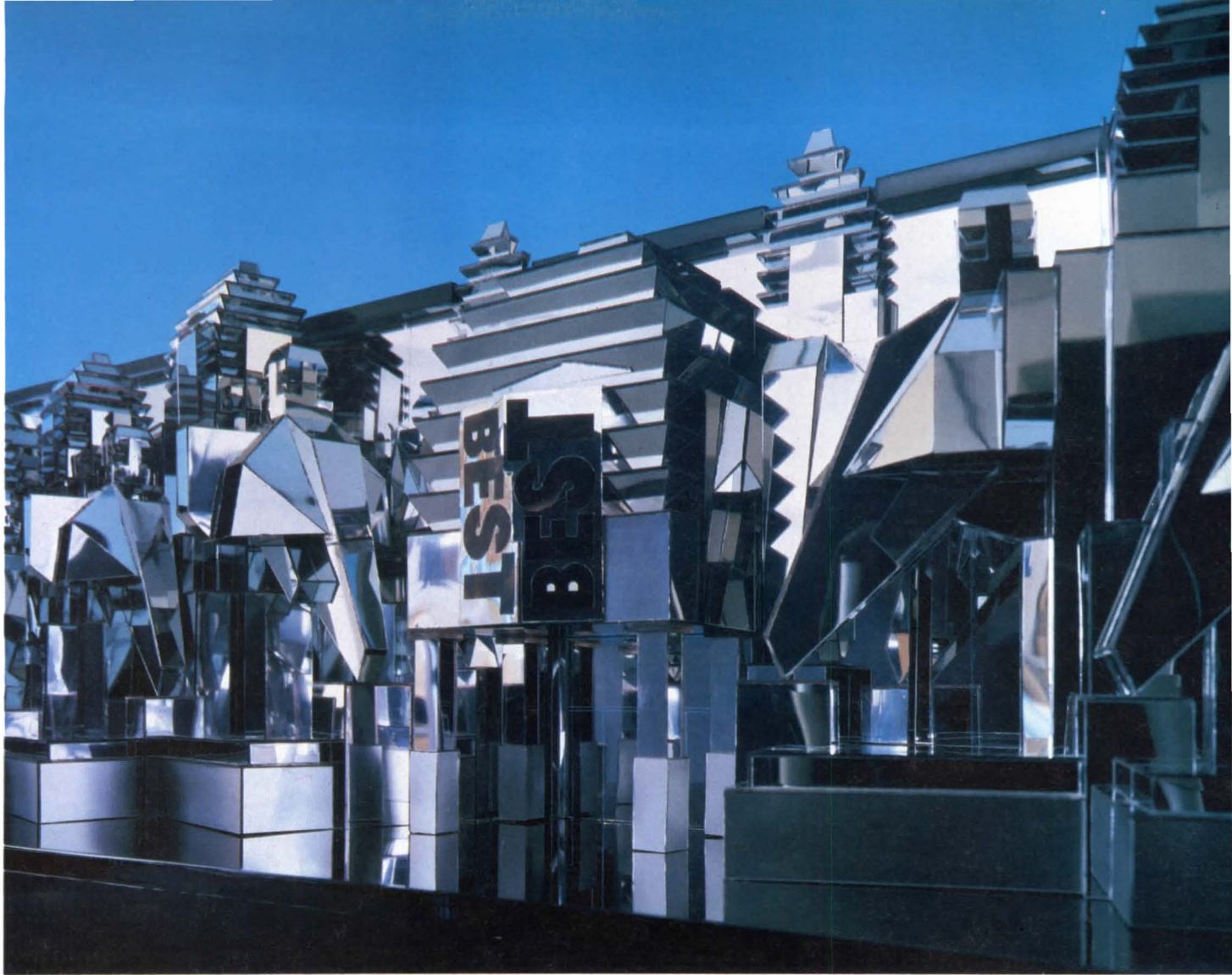
He is correct, of course, in noting that none of the participants resorted to the modern idiom (not surprising given the chosen six). Sadly, it is also true that there was very little architecture involved—mainly just a kind of exterior decoration. In the end, it is architecture itself that is being de-architecturized here. □



Model by Richard Wies and Suzanne Rutolf

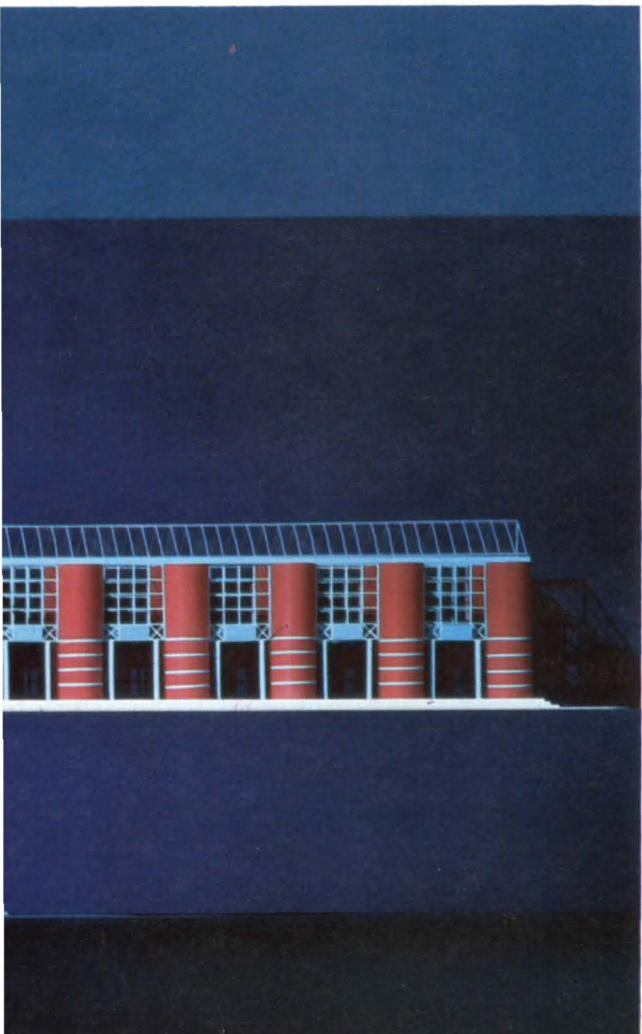
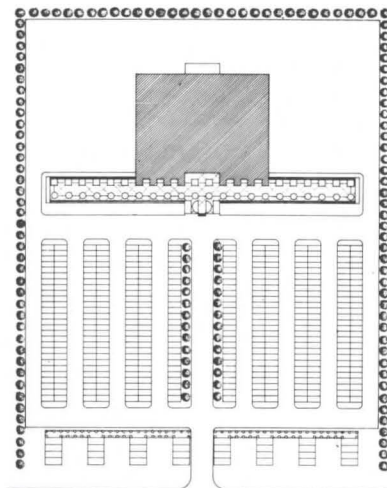
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Seeking an Agenda for Urban Design

An AIA committee summons expert help in a Boston conference. By Ellen Perry Berkeley

Faneuil Hall was the ideal place for the event—Faneuil Hall, which has heard so many words, over the years, about the problems of the awful present, and which has seen so many decades loom large in the awesome future and then recede into the more comprehensible scale of the familiar past. Faneuil Hall, a survivor from 1742, was both challenging and comforting as the setting for “An Agenda for the ’80s,” the conference and open meeting held late last October by the AIA’s national urban planning and design committee.

The event was actually three events, with three agendas. *First*, the presentations by the invited experts. Their agenda: What can be expected in the ’80s and what can be done about it? *Second*, the discussions between the experts and the rest of those attending (fewer than 70, most of them members of the committee). The agenda as it developed in these intermittent sessions was more concerned with daily practice: What does it mean to be an urban designer? *Third*, the efforts by this committee to define its mission, “to arrive at a new role in the Institute, and to achieve a greater impact than we’ve had,” as expressed by John Belle, AIA, a principal of Beyer/Blinder/Belle, and the program chairman of the conference. The agenda here: What message should be delivered to the AIA leadership, to the membership and to the outside world?

Each of these agendas could be only partially developed, given the time and circumstances. (It was a magnificent Indian summer in Boston on that Monday, Tuesday and Wednesday, and I wasn’t surprised to hear one man say, unwittingly, as he left for home, it had been a “great weekend.” We made required visits to the outdoor cafes of Quincy Market, and we sat in the sun on the grass at Waterfront Park a block away.) But significant ideas were transmitted and serious concerns were voiced. In this report, I will concentrate primarily on what I have called the first agenda, because it was most crisply enunciated, because I suspect it is of broadest interest, and because the realities of the 1980s—and our understanding of these realities—must be at the basis of all our subsequent agendas.

William Alonso was the first speaker, in the panel “People of the ’80s.” A planner and professor at Harvard’s center for population studies, he pointed out that “extraordinary changes” have occurred in families. The current postponement of marriage and child-bearing means that more people are spending more time living as adults without children. More people are heading their own households; the total demand for square footage is on the rise. The disappearance of servants had already changed middle-class homes and households; now the homemaker-wife is also disappearing, and Alonso predicts that the labor-intensive single-family home will be less attractive in the ’80s than the condominium and row house (partly because commuting will be less attractive). “The shape of housing is shaped to the family living in it; the ’80s won’t be like the ’60s.”

As the great wave of the baby boom goes through society, said Alonso, there will be more people in the ’80s. (Only a few parts of the country are losing population.) But the patterns of settlement are changing everywhere. The metropolitan areas are seeing more people leaving than entering; the rural areas are experiencing a rebirth. And the suburbs are caught between those

wanting a local no-growth policy and those wanting homes; new construction has not kept pace with new households. The composition, too, of many places is changing. Black suburbanization is accelerating, and the process known as “gentrification” (which involves *middle* middle class, not *upper* middle class, Alonso stressed) is having a displacement effect largely on blacks. New pushes, new pulls, in all directions.

Justin Gray, completing this panel, spoke from his long-time planning involvement with citizen groups, and from his recent job as a deputy assistant secretary of HUD (where, he summarized, “I was trying to get more grants for the poor and trying to keep hotels out of downtown.”).

In terms of the people of the ’80s, said Gray, “urban designers and architects have been peripheral to people’s needs and will continue to be peripheral, unless changes are made in three areas.” *One*: “You’ve got to deal with recruitment of women and minorities.” (Indeed, in this meeting, the blacks and women could comfortably have shared a small taxi.) *Two*: “There’s a cleavage between the high designers—the Ben Thompsons, if you will—and those concerned with social issues. You must proselytize to gain respect.” *Three*: “You must learn to believe in participation by the people, whether you like it or not. You’d better like it, because it’s here to stay. I am confident that society is moving in this direction. The democratic tradition in the U.S. is very much alive. There’s been a tremendous growth of citizen groups since the ’60s. Citizens have decreased their participation in voting and parties, but have increased their participation in the issues.” Gray predicted that architects, in the ’80s, will no longer be able to “superimpose their vision” on others. He closed by recalling Fiorello LaGuardia, the colorful former mayor of New York City, who said, “I’m corrupt, but in the public interest.” To this group, Gray said, “If you have to be tough, be tough in the public interest.”

A few questions, a gulp of coffee, then the second panel of the morning: “Urban Design: What We’ve Accomplished.”

David Wallace, FAIA, of Wallace, McHarg, Roberts & Todd, said, “What is relevant is not what we do. I don’t do what needs to be done in the gray areas of a city. But I can turn around, wear another hat, and get money into these underdeveloped ‘third world countries’ of our cities.” Wallace spoke of the “tremendous interest in recentralization”—14 million square feet of new office space in Los Angeles, in the Wilshire core alone, for instance, and a huge influx of money into Miami from all over the world. “There are rules we don’t know about, as in Baghdad where the land is worth 10 times what you put on it, or in Switzerland, where it’s worth six times.” He called attention to the “Big Bangs” in the public sector (completion of the interstate highway system, for instance) and huge projects such as the \$800 million expansion of EPCOT (the late Walt Disney’s Experimental Prototype Community of Tomorrow) in Orlando, and what he labeled Renaissance “Off-Center” in Detroit. The neighborhoods are lagging, he admitted. “HUD is irrelevant, *that’s* the problem.” (Applause.)

Wallace closed by pointing to what Sixtus V did for Rome: Yes, he placed all those obelisks, but he also fixed the aqueducts. “The difference between urban design of the ’60s and urban design today is that *we* know where the water comes from.”

Completing this panel was John Zuccotti, a lawyer who headed New York City’s planning commission during the late

Ms. Berkeley, a teacher and free lance writer in Vermont, was a senior editor on *Architectural Forum* and on *Architecture Plus*.

'60s—when urban design was putting NYC on the map, or was it the other way around?

Zuccotti described his first job after law school in the early '60s as a member of a team that was planning a new city for South America. "Urban designers then were groping for solutions that took them out of the restraint of architecture; they were trying to transfer social ideas into architecture." But urban designers weren't at the center of public policy at that time, he said. By 1968, when he was appointed by Mayor John V. Lindsay to the planning commission, "urban designers had come of age; their methods were useful in public planning policy and, in fact, urban design made good politics. The focus had shifted to neighborhoods, streets and parks, and urban designers were as positive and pertinent to that process as they had been to the big projects." Today, continued Zuccotti, "as a technique, as a methodology, urban design can be as useful to the public policy maker as any of the traditional tools."

From the floor came this sooner-or-later question: "Is urban design a more responsible role for the architect, or is it a *new* discipline, art, science, method?" Zuccotti's answer: "The question isn't particularly relevant. There is a discipline and it has proven its usefulness in dealing with urban problems and improving the quality of life. Most urban designers are architects, although they must relate to other problems, not just architecture." To the group as a whole, Zuccotti added, "You should stop this terrible introspection and get on with the job." (Relief. Applause. Lunch.)

James Marston Fitch, historian, writer and founding head of the nation's first university department of historic preservation (at Columbia), was the main speaker of the afternoon.

"Both our cities and our professions," Fitch began, "are in the most profound state of crisis since the Renaissance, and possibly in all history." (The group ate it up.) From the time of da Vinci and Michelangelo, Fitch went on, through the time of Gropius and Corbu, "we have subscribed to the fundamental theory that the city is an artifact, able to be fashioned and refashioned by a single artist, like a painting. Further in this theory, man has stood outside nature and could contemplate its conquest. This period is now closed. Architects didn't invent this view of the world, and can't be blamed for it, but we've accepted its implications, and architects continue to act with no more response or

respect for context than if they were designing for the Amazonian jungle."

"If we had benefitted from 500 years of science," Fitch continued, "we'd see that cities aren't inert agglomerations of artifacts; cities are living organisms, displaying all the characteristics of living organisms, including pathology." He mentioned his recent trip to Los Angeles: "The distinction between what is happening in the cherished node at the center of Los Angeles, and what is happening outside, is hallucinatory. How are we going to understand this environment as a whole, and ourselves as part of it, not detached and outside?" He answered, "How to do that is moot."

Then he talked about the historic preservation program at Columbia, and how it attracts students "of a certain psychological bent: They're caretakers, conservators. It's impossible that any single one could be the leader. These students "include architects, historians, chemists and others, and they're all necessary."

"What unites these students," said Fitch, "is that they're dealing with artifacts that have a phylogeny. A doctor would never say 'you need to be rebuilt from the ground up,' but very seldom in architecture do we behave this way. And now that it has become fashionable and economical to deal with old artifacts, the profession moves in with the same old misconceptions, manipulating the fabric the way *they* think it ought to be, and it's absolutely disastrous. We need new conceptual molds so that our interventions will be prophylactic, making things better than they were before, not worse."

Fitch delivered a number of other pronouncements. On the *real* preservationists: "The rediscovery of the past is the work of amateurs—they are snobs, elitists, egotists and neurotics, but they believe the habitat belongs to *them*. Our strongest allies are these concerned citizens. It doesn't matter whether we have the wit to ally ourselves with them; they're *doing* it."

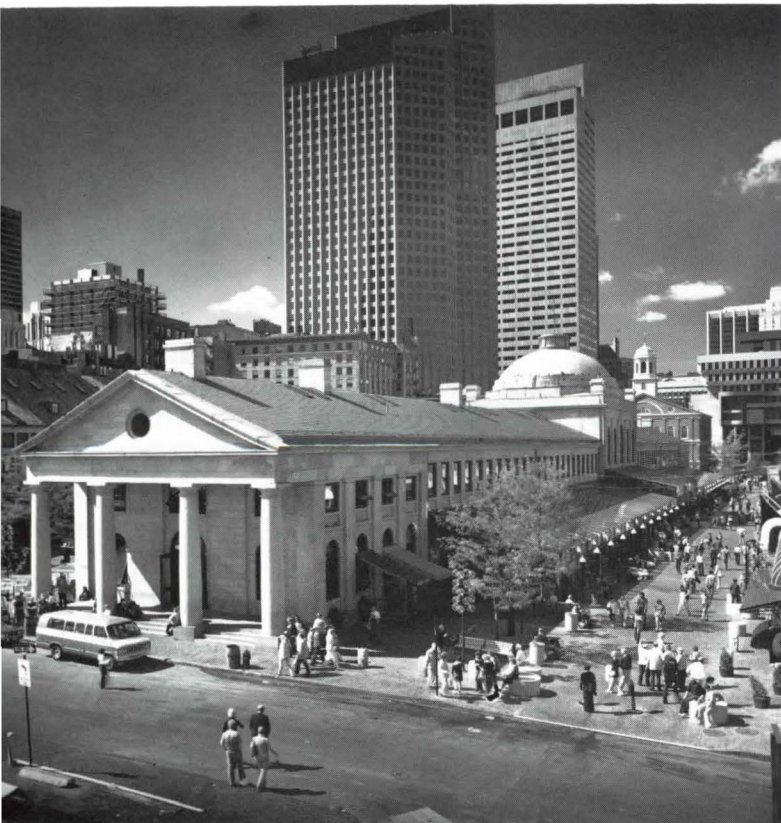
On the postmodernists: "It's preposterous to say that Gropius killed history; he simply felt that history shouldn't be taught in the context in which he was trying to free himself. We've never had more architectural historians than now, precisely because people have been freed from the dead hand of historicism."

Fitch was a tough act to follow, and the two discussion groups that met immediately afterward in the Alexander Parris room of Quincy Market were slow-moving. The earlier speakers made a few new statements, and the rest of the people asked a few new questions or made their own statements. But the discussions were fragmented—much went unanswered, and much went unquestioned. The groups adjourned for a predinner screening of "Where's Boston?" a splendid mixed-media presentation of urban life and urban problems created by Cambridge Seven, whose Charles Redmon, AIA, was local coordinator of this conference. The film is a vivid summary of many of the things that urban designers say to each other and to the public. Making these issues *real* to people who don't talk a professional's language is a special task, and a task well done in this film that has been showing for months to Bostonians and tourists.

On the second day of the conference, "Energy and the Built Environment" was the opening panel and Percival Goodman, FAIA, the opening speaker. "What is the fundamental problem that we architects are faced with in the U.S.?" he asked. His answer: There will be six billion people in the world in 20 years, two-thirds of them in the developing countries. By the year 2000, the developing nations will have achieved parity with us in their standards of living, Goodman said; our standard of living will have gone down, as theirs will have gone up. In 1975, the U.S. population, representing 6 percent of the world, used 33 percent of the world's energy production. What of 2000?

Goodman mentioned a 1975 study done by the city of Portland, Ore., (under a HUD contract) to determine future energy needs and to forecast possible reductions. Among the findings: Energy outlays could be reduced by as much as 45 percent in

continued on page 66



Steve Rosenthal

Hollin Hills: A Postwar Pioneer Reaches 30

How the Virginia development has met the test of time. By Eason Cross Jr., AIA



Robert Lautman



Robert Lautman

Hollin Hills, a post-World War II development of 440 contemporary merchant-built houses, was singled out in the '50s as one of "10 milestones in the future of American architecture" in a National Gallery of Art exhibit. One house received a national AIA merit award and was praised and published worldwide. Through the years, sociologists have studied Hollin Hills' exemplary community life and membership characteristics.

In the '50s, I was an "associate" in Charles M. Goodman Associates, Hollin Hills' architect/planner, and since 1956 I have been a resident of the community in Fairfax County, Va. (suburban Washington, D.C.). Now that the first baby born to a Hollin Hills couple is about to turn 30 (the first houses were occupied in 1950 and the last ones in 1971) and a new generation is becoming the majority, I decided to set down some of its history and report how it has stood the test of time. It has been more than 20 years since I first listened to complaints and comments of fellow residents and participated in the design process.

Goodman's Hollin Hills designs are remarkably free of the taint of fashion. One cannot tell by looking at any of the models when they were designed. They may need remodeled kitchens and new furnaces, the attics may need insulation and the glass replaced with double glazing, but the designs hold up, probably because they owe little to their contemporaries. The "look" of Hollin Hills consists of many details which, together, make a particularly complementary set of buildings. For instance, when 2x4 outriggers of roof overhangs would have been a more direct solution, Goodman sometimes had them shaved to 2x3s as being more in scale.

In his first attempts to get modern custom houses built in Washington after World War II, Goodman found it necessary to act as contractor himself. Prior to Hollin Hills, he had rethought the detail of wood house construction, developing a trimless, light and efficient adaptation of traditional house carpentry. Craftsmen who could use a bench saw and router could quickly adapt to his system. Hollin Hills houses benefitted from this prior work, and became the subject of more innovation. Windows became floor-to-ceiling window walls, bearing on their regularly spaced thin 2x6 mullions the weight of wall-to-wall roof trusses. Masonry was used in wall form, without corners, requiring less skilled masons. Stock industrial sash provided ventilation, placed low in the glass walls to work in combination with an attic fan. The first houses had huge brick fireplace walls on the entry end, an architectural statement which spoke to the tradition still alive in the hearts of those first purchasers. Once the tentativeness of Hollin Hills wore off and it seemed time to push for new ground, the developer put on the market flat-roofed cube houses, houses with bridge access, butterfly roofs both across and parallel to the long axis of the house mass and interlocking shed roofed houses some 25 years before that idiom became a national fad.

Goodman's deceptively simple plans were predicated on making small spaces seem larger. To that end, he avoided separate rooms for separate functions wherever reasonable. One such combination in the smaller houses—direct entry into the living-

Mr. Cross is now a partner in the architectural firm of Cross & Adreon in Arlington, Va.

Facing page, Hollin Hills when new: one of the first houses and a '50s 'contemporary' interior. Below, a well-maintained house on a choice lot as it looks today.



Allen Freeman

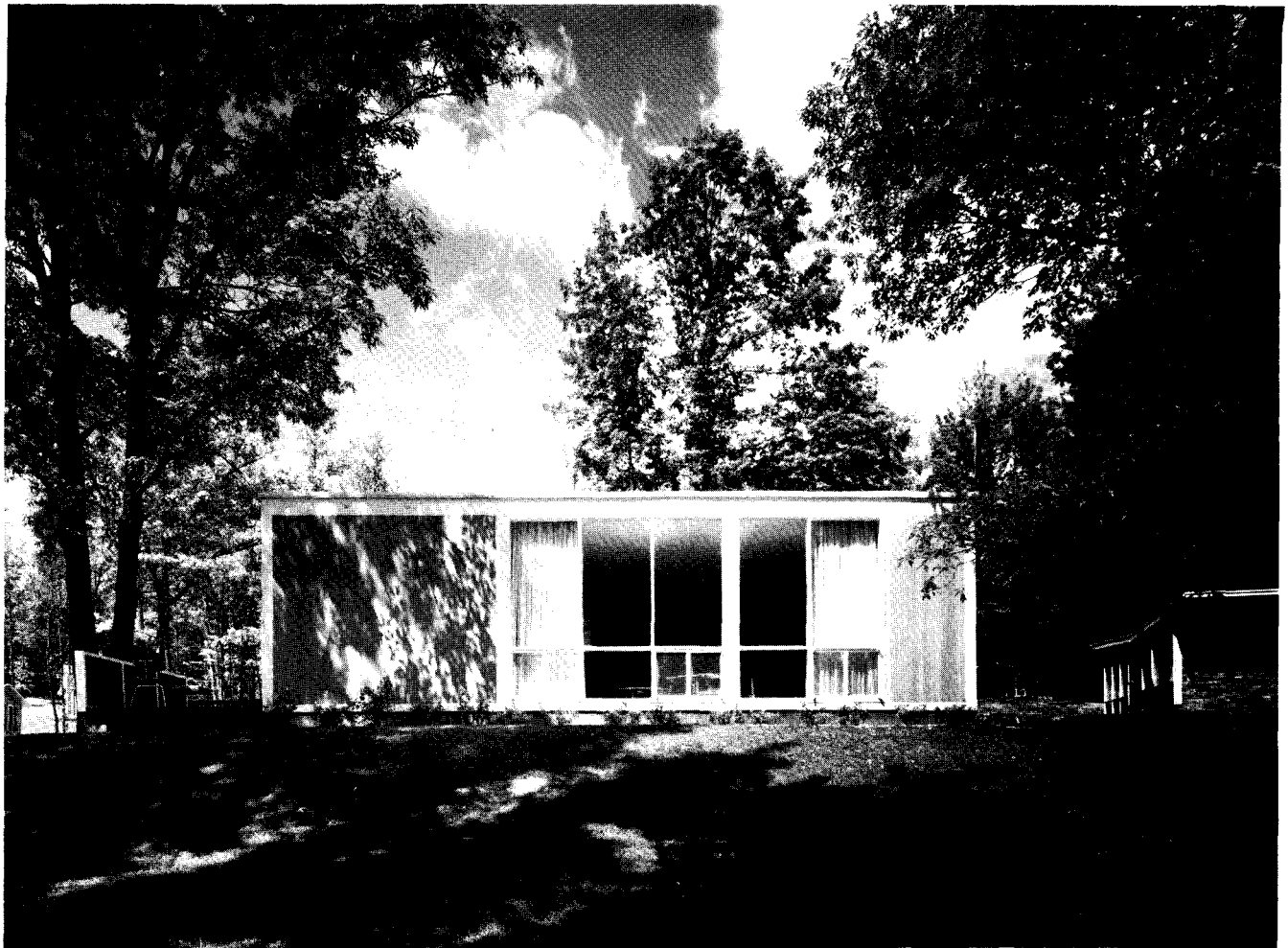
dining space—was acceptable only in the context of a low sales price and led to many entry additions as the owners chafed under the inconvenience and as they improved their income. Dining rooms as such disappeared, replaced by L-shaped living-dining rooms. Kitchens lost their doorways connected to dining areas by openings which let the ceiling run through uninterrupted but shielded the kitchen workplace from view. Stairwells lost one wall, their airspace added to the living room. One model, a 1,200-square-foot prefabricated house, has a plan with six “outside” corners in a single meandering major space, combining pantry, kitchen, entry, dining, living and study areas. Implied space is everywhere, including an invisible extension of the kitchen wall 50 feet away as seen from the living room. In one series, houses have “core” plans, with interior baths and utility rooms surrounded by a loop of space: Living-dining room, kitchen, bedroom hall and entry form one doughnut. There is implied space in both directions from any point of the loop.

These speculative houses were designed to meet a particular type of middle-income buyer’s needs, so no spectacular two-story space-flow devices were employed. (Goodman also designed two

custom houses within Hollin Hills with such space devices as variants of basic designs.)

Interior materials, as befits limited budget speculative housing, were chosen with a strict eye on installed cost. However, the choices were innovative for the time. The big chimney breasts, an early use of used brick, were exposed on a living room wall in many houses. The material was cheap and plentiful, salvaged in Washington’s and Baltimore’s postwar rebuilding surge. Wood paneling was installed one wall at a time. It was primarily waxed pine boards or wormy chestnut, then available and undervalued. Stock birch veneer doors were hung in dressed 2x6 frames with no trim; the junction between ceiling and brick or paneling was made with rabbeted molding, which put the dividing line one and one-half inch off the ceiling plane in a reveal, typical of the detailing Goodman developed in 1947.

Basic in slab-on-grade houses was asphalt tile in earth tones; wood parquet flooring was optional. Two-story houses had common oak strip flooring; hearths were brick and full-width; baths were ceramic tile; walls and ceilings were painted plaster (until the economics of plaster versus gypsum board shifted). Overall,



Robert Lautman



Robert Lautman

Top, one of the first 'core' houses; above, a two-level design that nestles into the rolling, wooded Virginia landscape, both views from the 1950s. Facing page, top, an unconventional addition that is nonetheless respectful of the original design.

'Building from reason rather than habit.'

the interiors were a recognizable high-level compromise between cost and design, with results often copied elsewhere.

The houses' design unity and skew sitings on 20,000-square-foot lots are central to Hollin Hills' esthetic. In fact, none of the 20-odd original house designs was specifically planned for expansion, though some have obvious connection points; Goodman's office developed no set expansion plans, though some were done for individual owners. Yet there is scarcely a house now without some sort of addition. So this community where people have chosen to add on rather than move out has been a spawning ground for young architects beginning their practices. Within the constraints of an architectural control committee of the civic association, the additions display three decades of architectural fashions, detracting from or enhancing the original designs depending on the skill and experience of the addition architect.

The first preliminary site plan study for Hollin Hills is dated 1946, and it is remarkably close to the plan actually built. It was developed into a suitable street layout; secondary design implications within it affected park locations, house siting and the economics of sewer and storm water runoff. The tract was hilly and forested for the most part. By setting out parks along the natural water courses and valley floors, and by following the contours, Goodman was able to present the developer, Robert C. Davenport, a plan with minimum cut and fill and one which could be built in stages. Mature trees grow beside the roads, an unusual feature in recent northern Virginia subdivisions. The way most of the streets climb the hills, a natural diagonal posi-



Allen Freeman

tion relative to the lot shape became endemic. This site condition became father to one of the most repeated house types in Hollin Hills, a "walk-out" finished basement version of the first house plan, open for two floors on one side and end, and on one floor on the opposite faces.

Despite opposition from county and postal officials, firemen and milkmen, Goodman worked into his plan as many cul-de-sacs as practical, convinced that they make a place to live rather than a place to be peered at and serviced from. The resultant pie-shaped lots, with small front yards and big rear yards, fit in with Goodman's efforts to build from reason rather than cultural habit. Front lawns got very little encouragement in Hollin Hills. The emphasis is on use of the space to the rear and on vistas across rear and side yards.

In a climate neither snowbound nor sunbaked, none of the original houses offered a carport or garage, and many houses have pull-in space off the street rather than a driveway. Eventually, the public works department of Fairfax County forced a change from the no-curb, no-sidewalk base level of street into the standard curb-gutter-sidewalk and skinned right-of-way prevalent in suburbia. One can see the sharp difference in engineering approach between the first sections of Hollin Hills and the last; I doubt there is any improvement save for the quality of the actual pavement.

As part of the sales package, a landscape architect was brought in to consult with each purchaser and to draw up a landscape plan for that house which would mesh with neighboring plans. Barney Voight began this process, and the present lush streetscapes are a measure of the diligence of homeowners as they implemented Voight's plans. The intent was to de-



Allen Freeman



Allen Freeman

Success measured by the people who stayed.

emphasize lot lines so that lines of planting flowed along the street, avoided the "fenced in" look and generated a natural landscape which opened vistas across lot lines.

After Voight's death, Eric Paepke and Dan Kiley continued the advisory process. For several years, Bob Davenport, the developer, gave a potted azalea to all homeowners at Christmas, thus encouraging the full execution of the landscape plans, engendering good will and ensuring maintenance of property values. Those plants are mature now and mask out much of the building when viewed from the street.

In the beginning, a model community-ownership concept was worked out legally so that parklands in the development plan could be owned and maintained by a civic association of residents. The pattern has been followed many other places. Hollin Hills, Inc., set up the community organization, first as a stock company, later transformed into a nonprofit corporate association. The dues and participation in this management association are still voluntary and it is a measure of the community's cohesiveness that the association functions on its own merits. This organization spawned a recreation association which built a swimming pool and bathhouse, a tennis club which built six courts and a monthly bulletin published continuously since 1950. The Hollin Hills civic association over the years has sponsored variety shows, social events and candidate debates and held scores of association meetings which have become proving grounds for young lawyers trying out their knowledge of Roberts Rules. The civic association has bought or traded for five parcels of additional parkland and gets involved in political, civic, zoning and environmental issues far beyond the level that might be expected. Now a new generation is attacking new issues and the process continues unabated.

The intense civic activity is indirectly connected to the architecture as the result of Goodman the planner, Goodman the architect and Davenport the developer setting out honey for the

A boardwalk provides street access to a two-story 'bridge house.'

bees. Hollin Hills mostly attracted people coming to Washington from somewhere else. Away from their hometowns and family ties and free of traditional cultural restraints, they bought imported Scandinavian furniture, started cooperative preschools, drove Raymond Lowey Studebakers, founded a Unitarian church, voted for Adlai Stevenson, lobbied for a branch library, initiated released-time elementary school French and read newspapers and then recycled them. In Hollin Hills, they found a sympathetic developer and architect who structured the alternatives they were seeking.

Developer Davenport was a low-key fellow. He seemed as interested in growing prize-winning beans and beef at his farm as in building suburban housing. In the later years of Hollin Hills development, he would come in from his country place on Monday and sleep nights in the old farmhouse/office until Friday, when he'd return to his farm and family. But he was tough, persisting through such obstacles as FHA appraisers in the early years who would, on assignment, walk into a Hollin Hills model and promptly quote a figure 50 percent of market value to the flabbergasted owner. There followed personal insults at Davenport and aspersions against these newfangled "cheeseboxes." Antagonism bred by unfamiliarity came from building inspectors, lenders, suppliers and even the masons and carpenters who worked on the first models. *With time*, Davenport overcame the scoffers and doubters.

There proved to be a market sufficient and appreciative enough to make Hollin Hills a viable business from the start. As time went on, that market became more sophisticated in its view of contemporary design. At first, there was much intramural moving of families from one-level to two-level houses as family size and/or income increased. Now we are seeing families whose children are up and out moving back to the smaller houses within the community. The success of this community and its design is attested to by the people who came . . . and stayed. □

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Stretching Eclecticism ‘To Its Farthest Point’

The Egyptian Revival: Its Sources, Monuments and Meaning, 1808-1858. Richard Carrott. (University of California Press, \$20.)

Of the many styles of the 19th century, the Egyptian revival seems to have stretched the process of eclecticism to the farthest point. Especially for Americans preoccupied with creating symbols for a new nation, the usage of Egyptian architecture is puzzling. It contained neither the associative qualities of democratic or republican governments as did the Greek and Roman, nor could it represent Christianity and faith as did the Gothic and medieval styles. The Egyptian preoccupation with death and sepulchral containers provided an obvious connection for the design of cemetery entrances and funeral monuments, but Egyptian forms and details were also used for courthouses, prisons, bridges, commercial buildings and railroad stations.

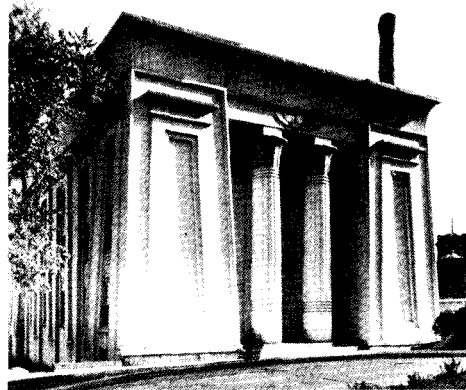
Revivalism or eclecticism is not necessarily a simple nor superficial method of design. For most of the past 40 years, the standard litany of architectural history and the architectural profession has been that eclecticism was merely a 19th century pause—an extreme reaction by men out of step with their time—and to be viewed with either detached amusement or extreme loathing.

The strong persistence of eclecticism at less than high levels of design, in tract homes and shopping centers, has been viewed as an aberration not worthy of serious consideration. The recent work of the postmodernists indicates a breaking of the shackles of modernism by whimsical and ironic references to the past. A central question still remains as to why certain styles were chosen in the past. Whimsy? Esthetic delight? Or symbols of communication? All these reasons certainly were operable in the 19th century, but at its most profound, eclecticism required an understanding of the original meaning of the buildings and forms and, second, a point of association or meaning that would allow them to be used again.

The major virtue of Richard Carrott's book on Egyptian revival lies in the area of treating eclecticism as a serious mode

of communication. The Egyptian revival in the U.S. provides an ideal study since it has the strict limits of a short time line (Carrott claims, 1808-1858), many of the prominent architects employed the style (Latrobe, Davis, Haviland, Strickland and others) and there are a comprehensible number of designs and projects (Carrott documents roughly 80). The Egyptian revival did not occupy the central stream of American architecture as did the Greek and Gothic revivals; rather it existed as a side eddy, but one of some consequence.

In the 17th and 18th centuries in Europe, a rise of interest in ancient Egypt occurred that culminated with the publications resulting from Napoleon's Egyptian campaign of 1798-99. Egyptian forms first appeared as ornament in much the same way Chinese and Gothic were



Medical College of Virginia, Richmond, 1844 (T. S. Stewart, architect.)

initially used in the 18th century. Around the turn of the century, the ornamental effect gave way, and forms with a strong resemblance to those of ancient Egypt appeared in the works of men such as Boulée and Ledoux.

The formal qualities of mass, simplicity, heaviness and solidity became part of the esthetic of romantic classicism. In the early 19th century, a third and final stage was introduced—the archeological, with more accurate representations of Egyptian forms and details.

In the U.S., the Egyptian revival took three major forms: a pseudo-Egyptian phase with motifs applied to a classical core; the horizontal phase with the specific usage of Egyptian forms and details, and the vertical phase where the Egyptian vocabulary merged with Gothic proportions. These formal subdivisions can be

further extended with subcategories of provincial works and buildings that, while containing no specific references to Egyptian architecture, still give the effect of weight and mass associated with Egyptian building.

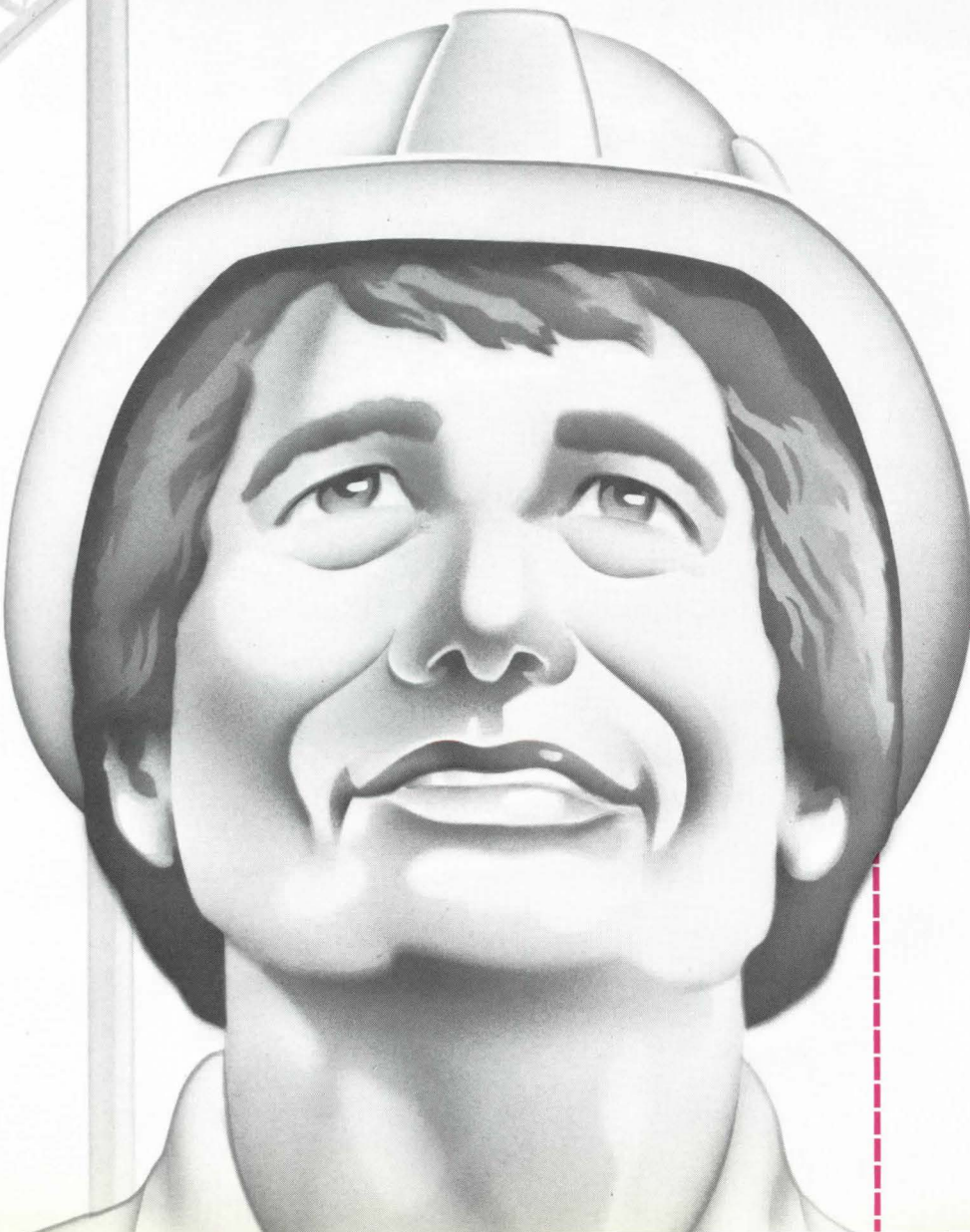
Benjamin Latrobe was probably the first to use the Egyptian style when, in 1808, he designed a Library of Congress with an Egyptian hall. The association undoubtedly lay with Egypt as the ancient land of wisdom and the Ptolemaic library at Alexandria. This type of association would lead to other buildings such as medical colleges, county buildings and schools.

The association of Egyptian architecture with solidity, strength and confinement provided some of the reasons for the impressive prisons in this style such as the New Jersey State Penitentiary at Trenton (1832-36) and the original "Tombs" in New York City (1835-38). The Egyptians as engineers accounts for the style appearance in the Croton Reservoir in New York City and various bridges. And, of course, the style appeared as funeral monuments and as memorials, reaching its apogee with the design of the Washington Monument in the nation's capital.

Carrott's book provides a full discussion of the Egyptian revival and the various reasons and interpretations it received in the first half of the 19th century. The causes of its demise about the time of the Civil War are not fully explored. Carrott simply asserts it failed to fit in with the new visual sensibility of the high Victorian. Maybe—but echoes of the Egyptian continued to turn up in interior decoration, Masonic lodges and later in the work of Frank Lloyd Wright, Art Deco and more recently in the work of Philip Johnson.

To have written such an extended treatment, however, would have resulted in a very different book, and Carrott's strength is the concentration on a definable era. The result is a new perception of eclecticism and its possibilities as a communicating device. As Carrott points out, the Egyptian revival flourished in a period "when architectural forms were loaded with intellectual as well as emotional content." *Richard Guy Wilson, Chairman, Division of Architectural History, University of Virginia, Charlottesville*
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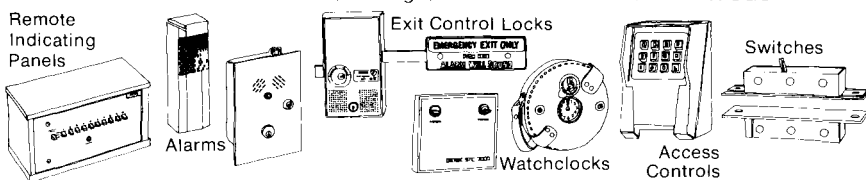


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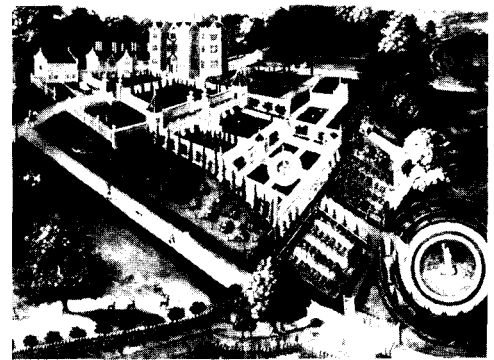
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The Renaissance Garden in England. Roy Strong. (Thames & Hudson, \$24.95.)

The French Garden, 1500-1800. William Howard Adams. (Braziller, \$19.95 hardbound, \$9.95 paperbound.)

These two books present, for pleasant study, an art form which has almost totally disappeared. In England, the Renaissance gardens were replaced by a newer vogue, the landscaped garden, after the Civil War of 1642 (a 1662 Jacobean garden at Massey's Court, Llanerch, is depicted below). In France, the collapse of the monarchy in 1789 left a void in the vision of paradise that had been carefully cultivated in the vast vistas of formal plantings, statuary and intricate waterworks made for the pleasure of rulers.

The gardens of England and France in the 16th and 17th centuries were a reflection of taste acquired through military



campaigns in Italy and the spread of Italy's renaissance in art. We can still visit the Villa d'Este at Tivoli to get some idea of what that garden must have been, but there is no trace in either England or France of what was once an important adjunct to the architecture of the time.

Both these books are well illustrated with old prints and plans to show the importance of the garden to the royal chateau, stately country home or palace built in Renaissance England and France. Royalty was busy providing a proper setting for itself and the result went beyond delphiniums. The landscaping of a variety of elevations, the building of grottoes, fountains, pools, collecting or reproducing sculpture to match the antiquities of Italy and the intricate design of plants in geometric or topiary arrangement of form and color resulted in astonishing pleasure places.

Since both these books cover the same subject from the perspective of two different countries, they can be enjoyed as insights into a simultaneous past. The disappearance of this past was the result of politics, economics, social change and a change in taste. The books reveal the importance of the Renaissance gardens in their time. While they were transitory, they were a significant addition to the art and architecture of the era. *Elizabeth Class, Washington, D. C.*

Structures: Or Why Things Don't Fall Down. J. E. Gordon. (Plenum Press, \$17.95.)

This is a witty introduction to structures—how they work and why things break. A sampling of some of the chapter titles and their subheads gives an indication of the humor: "Tension structures and pressure vessels—with some remarks on boilers, bats and Chinese junks"; "Soft materials and living structures—or how to design a worm"; "The mysteries of shear and torsion—or Polaris and the bias-cut nightie." The chapter on accidents, Gordon says, is a "study of sin, error and metal fatigue."

As Gordon says, this is a book about "modern views on the structural element in nature, in technology and in everyday life." He explains clearly such subjects as the science of elasticity, tension structures, compression and bending structures and efficiency and esthetics. While he is explaining bridges and beams, stress and strain and walls and arches, he brings in references to pterodactyls, medieval castles, birds' feathers, canned beer, Homer, Abraham Lincoln, the Bible.

Don't misunderstand, however, for this is a book of serious concern to engineer, architect and just about anyone who is interested in the world in which we live. He says, "It is true that the higher flights of elasticity are mathematical and very difficult—but then this sort of theory is probably only rarely used by successful engineering designers. What is actually needed for a great many ordinary purposes can be understood quite easily by any intelligent person who will give his or her mind to the matter."

Historic and Memorial Buildings of the Daughters of the American Revolution. Compiled by Mollie Somerville. (National Society, Daughters of the American Revolution, \$15.)

Published in answer to many inquiries from organizations concerned with the preservation and restoration of historic buildings, this book gives information on structures owned by the DAR. It is the first survey of such buildings and is a commendable project, despite the poor quality of the photographs. The book describes current and former DAR buildings, giving data on architectural styles, furnishings, historical events connected with each structure and reflections on the lives of those who lived in them or used them. Not covered in the book are such DAR owned properties as historic sites, cemeteries, parks, forests and monuments. Included are houses, schoolhouses, stables, taverns, log cabins, custom houses, courthouses and so on.

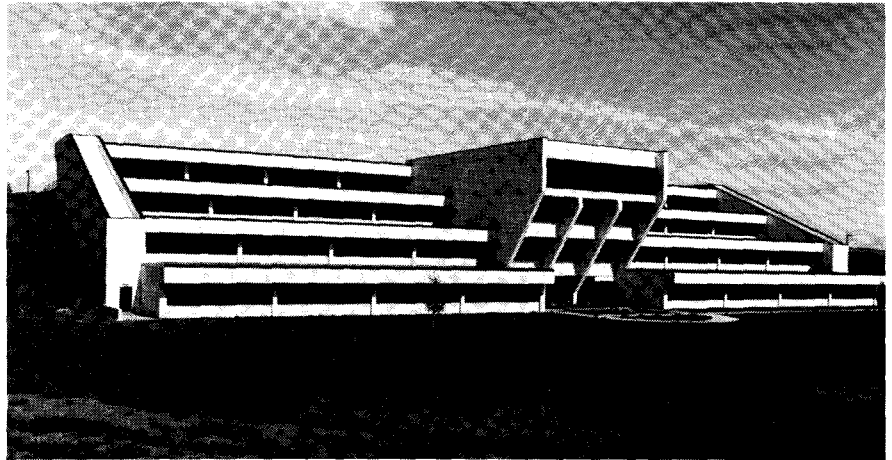
The book is available from the National Society of DAR, 1776 D St. N.W., Washington, D.C. 20006. □

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Portland's 128 city-owned buildings. The city's total energy outlay could be similarly affected, according to this study, by new policies in land use development, by residency requirements for city employees and by encouragement of the use of renewable energy sources.

Goodman also mentioned a 1974 study from the federal government, "The Cost of Sprawl," in which higher densities (15 dwelling units per acre) were calculated to bring 50 percent savings in energy and 52 percent savings in travel time. "It may well be that the suburbs will be emptied by the cost of fuel," said Goodman.

What about jobs for architects in the next decades? With a birth rate of .7 percent in America and a possible increase in housing of 1 percent a year, "it's pretty much a zero growth rate, and a lot of architects will be without jobs," Goodman predicted. On the other hand, with birth rates of 2.5 percent to 3 percent in developing countries and almost no housing stock, "those who can will be doing a pretty good business if they do work for the underdeveloped countries."

Institutional problems needing new institutional arrangements.

What will be built here? Goodman suggested that we're going to see less airconditioning (except for places like movie theaters, labs, operating rooms) and more stairs—in other words, the kinds of buildings we saw before this century. We have the land for lowrise development, he argued; all the urbanized areas of the U.S. would fit within the state of Florida. But we have the problem that we can't spread out too much, since we need to avoid travel. "Most of our problems can be opportunities, however," he concluded.

Next on the program: Jacob Kaminsky of the Department of Energy (office of community management services), whose optimism took a different tack. "We could save one-third to two-thirds of our energy," he said. "Our problems are institutional. We don't really have enough people who know where energy is wasted, so we don't know how much can be saved. We need to get the knowledgeable engineers to work with the designers. We need to put materials in the schools to train more people. We need to get developers and utility companies and municipalities working together; we have to figure out what kinds of incentives the developers and utility companies need. These are all institutional problems, needing new institutional arrangements." In addition, he said, we have to look more toward our nondepletable resources: wood, for instance, and underground water.

But it is the *whole* picture that needs our attention, said Kaminsky—conversion, distribution and storage, and consumption. Each locality will have its own framework, potential and capability. We don't yet have any examples of comprehensive energy management for communities, he said.

Kaminsky concluded with a cautious word: "People say, 'let's go back and redevelop our cities,' but I say let's be careful, let's make sure that it can be justified by numbers, not by hearsay." And he challenged another often-recommended direction: "We shouldn't suggest that we go back to old life styles. The job is to find new mechanisms and ways to provide energy to *improve* our standard of living," and he outlined them again—find new ways to conserve, find new ways to unblock institutional obstacles, build new partnerships between developers and municipalities, get new models for communities.

Richard Stein, FAIA, author of *Energy and Architecture*, spoke next. He, too, spoke of the vast population surge by the end of this century—the equivalent of 500 new cities of 5 million each: 2.5 billion more people. "We can no longer consider the low densities as a model," he said; "these people will have no sustenance except in cities." Stein didn't agree with the idea

of a low-density city—not only does it go against the reason for a city, he said, but the energy saved (from elevators) would be more than spent on transportation. "We can't make symbolic gestures," said Stein; "we have to look at *systems*."

Cities use less energy than suburbs and rural areas, said Stein, but cities will reach a "limiting density" because of their complex infrastructure. A reservoir, for instance, has to be outside a city, and it will be "enormously expensive in money and energy" to supply urban residents with basic utilities. "The urban design problem this poses is so fundamental that completely new physical forms will have to come from it."

Buildings, too, said Stein, cannot be subjected to "one-shot gestures" aimed at lowering the use of energy. In an office building, for example, we must think not only of the cost of heat loss through the exterior wall but also the cost of using the interior space. (Fully 50 percent of a building's energy outlay is for lighting, not for space heating, said Stein.)

Let's not forget the large amount of energy already in place, embodied in our tremendous stock of buildings, Stein urged. It may take 1.65 million Btus to build a square foot of office space, he said, but this same amount of energy will *run* that space for 20 years. Conserving energy must involve conserving all the products of previous expenditures of energy.

A short break—and then on to the second panel of the morning: "Urban Design, the Next Decade," opened by Moshe Safdie, head of Harvard's urban design department. "The cost of energy and the cost of land in the U.S. are approximately half what they are in other developed countries. I believe that the cost of land in this country will increase with the cost of energy. Much of the land that has been loosely developed will become compactly developed, and we will have much more land needing the intervention of urban designers." (Thus far, said Safdie, we have seen only an "infinitesimal intervention" by urban designers.)

Among the major developments of the '60s and '70s (along with the emergence of this new discipline of urban design itself) was the emergence of "the community," said Safdie. But, he asked, how do we make sure that the people thinking of themselves as the community actually represent some reasonable cross section of the community? And how do we organize the dialogue? He gave no answers.

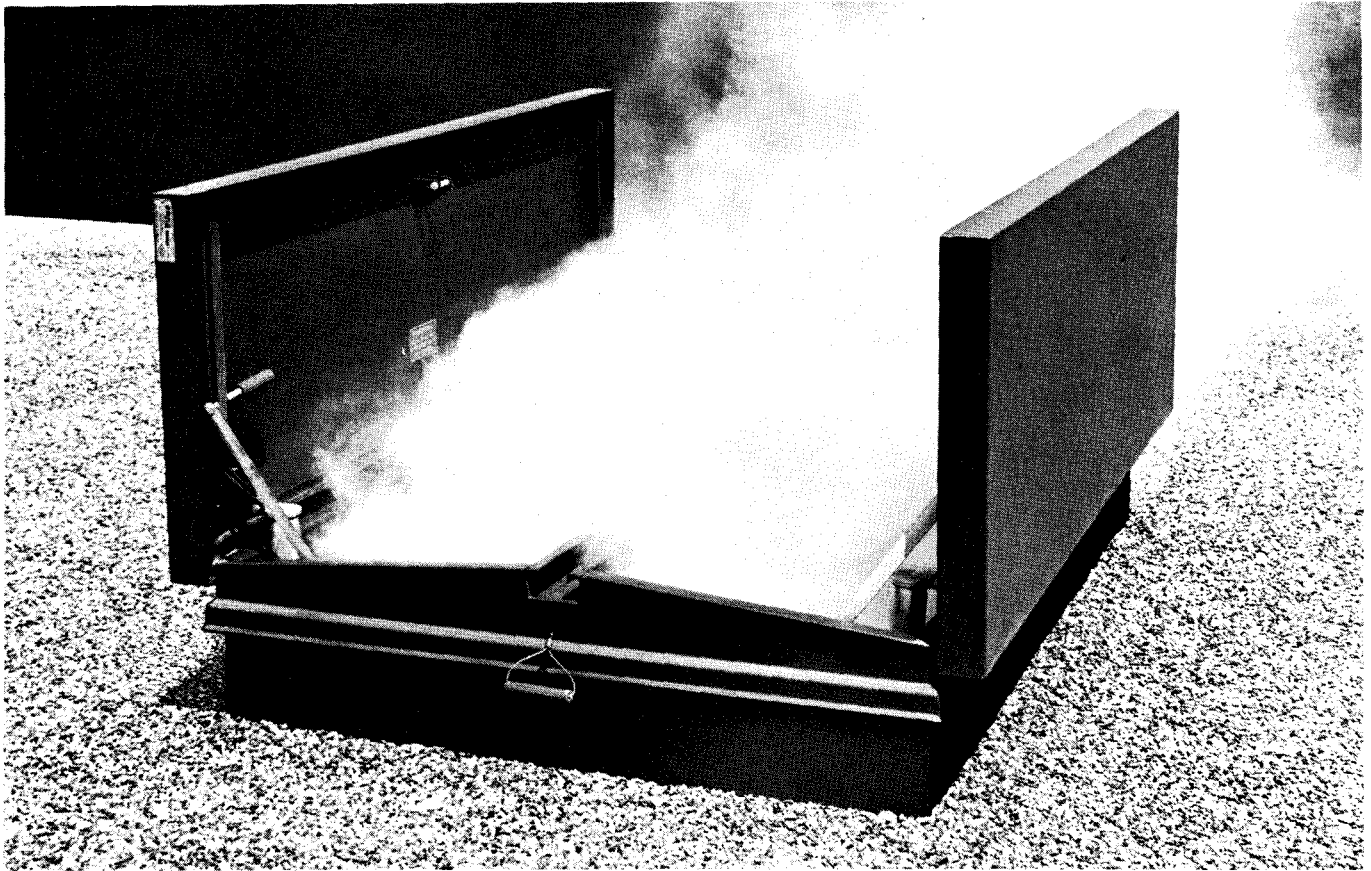
We can learn from the past, Safdie concluded, and we can learn from the villages and cities that were built *with*—and *without*—professional intervention. But the future will be different in several dimensions: It will have a larger scale and a faster rate of change. And in the future, Safdie said most emphatically, "we won't be able to deal with physical problems without dealing also with social and political problems." (No applause for this statement. Was it considered more chastising than promising?)

Things moved on rapidly. The next speaker was Anthony Pangaro, director of the southwest corridor project of the Metropolitan Boston Transit Authority. Governor Sargent scrapped the controversial highway, several years ago, in favor of rapid transit and commuter railroad, plus community development. Pangaro sees several important questions in this project: "Can we make something happen instead of stop something? Can we take what might be called negative participation and make it positive? And can we convince government that there is another way to do things—not with the single purpose agency? Can we get the state to act as one entity?"

Pangaro confessed that he wasn't sure he'd call himself an urban designer, but he described his work in terms familiar to many who *would* call themselves urban designers: "You can't stay at arm's length from the political process," he said. And, in more language of the body, "Where we sit is less important to me than grabbing hold of it." Statements like these may not stand up to being written down, but at the time, a nod of agreement went through Faneuil Hall. On to the next speaker.

He was Michael Pittas, director of the design arts program of the National Endowment for the Arts. Local government isn't

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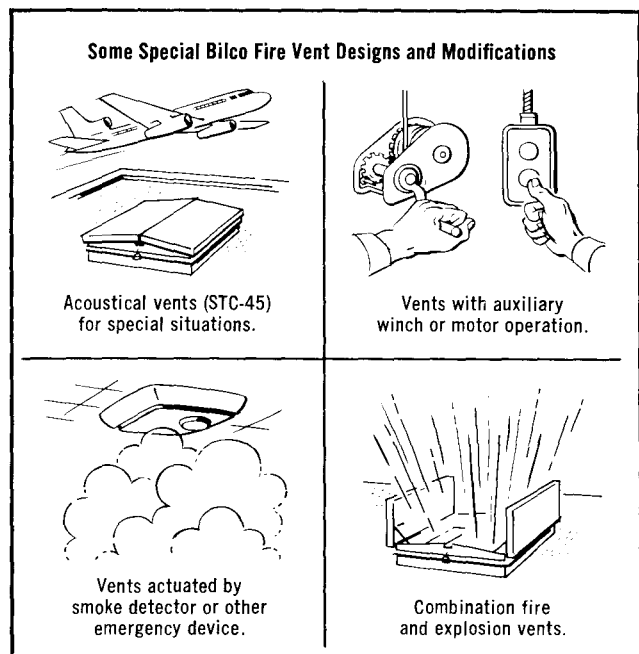
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Another View of the History of a Campus

In August 1979, we published a three-part review of the history and current character of the Santa Cruz campus of the University of California. After its publication, we were contacted by John Carl Warnecke, FAIA, who made a convincing case that the history was incomplete in some key respects. We asked him to prepare a supplement to the original articles completing the record from his viewpoint. His text follows — Ed.

The University of California at Santa Cruz was born of the ideology of the 1950s. The state enjoyed a reputation for insight and accomplishment in its institutions of higher education. Campuses in Berkeley and Los Angeles were thriving. The popular outlook was one of optimism and expansion, and there were funds and legislation to encourage both. Amid this euphoria the university was called upon to provide space, facilities, staff and curricula at an accelerating rate to ease enrollment strains on existing campuses. Sites were selected on which to build new facilities that would soon rival the old, in numbers and in accolades. Each new campus was encouraged to develop individuality from its particular location, design, history and leadership.

The Santa Cruz site offered an unparalleled opportunity to create an ideal academic environment. Two thousand acres that were the Cowell Ranch rolled down toward the Pacific Ocean. Stands of redwood gave way to open meadows. Virtually unbounded by neighbors, the campus could reshape the city of Santa Cruz into a university-centered community. As the secluded campus site was the antithesis of those in Los Angeles and Berkeley, so was its academic plan.

UCSC was to be organized as a group of residential colleges in the European manner. The colleges would provide at least half of the students' instruction and there they would live, dine and lead most of their social lives. Each college would have its own distinct emphasis on some area of the liberal arts and draw additional individual flavor from a resident provost. There would, however, be a central library and other core facilities for use of the entire university.

In 1962 the university regents chose our firm as master plan architect to guide interpretation of the academic plan in physical terms. We nominated Ernest Kump, Anshen & Allen and Theodore Bernardi to be consulting architects for the long-range development plan and Thomas Church was appointed landscape architect for campus development. Instead of creating hypothetical buildings as part of the master plan process, we urged the regents to designate to the members of this team the design of the first campus buildings.

The physical beauty and topographical variations of the site enticed us to weave buildings throughout the dense forest and sunny glades. Looming redwoods would unify the campus as they served as organic screens, visually isolating the colleges to allow for architectural diversity and inspire academic achievement. By leaving meadows untouched for the most part, the campus retained its greatest long-range asset—open space.

A huge model of the campus was made from an aerial topographical survey. Housed in our San Francisco offices, it served the physical planners as an excellent tool. Campus architect Jack Wagstaff remembers the model as "almost like being on the

campus," less the morning fog. We worked nights and weekends, often until 2 and 3 o'clock in the morning—Tommy Church, Mike Painter, a young landscape architect who was with us at the time and now has his own firm in San Francisco, French architect Jean Marc Roques, who was also on *our staff*, and myself. Tommy had worked with us many times before. He loved to get involved in the work. He'd draw and sketch, scrub and erase.

Roques went down and camped on the Santa Cruz site and he would tell us wonderful stories of chasing the deer. The night before our final presentation to the regents he wanted me to go to the site with him. The moonlight on the redwoods and grazing deer was fantastic—nearly as bright as sunshine. Deep blackness under the tall trees opened onto meadows that shimmered with light.

The long-range development plan of 1963 was accepted by university President Clark Kerr and the regents and, within the guidelines and philosophy stated in its pages, building began. Core structures were sited near the campus center with a peripheral road system granting auto access, yet designed to limit visual distractions. Its buildings were grouped more formally and on a larger scale than those of the colleges. Concrete was designated to be the basic structural material. One doesn't often see great buildings of concrete in highly urbanized settings—it looks raw and unfinished when placed adjacent to more finished materials. But in a natural setting such as a forest it works beautifully, as well as being an economical and long lasting material.

After six years of rapid growth, the campus as it now exists



was substantially built. But unforeseen events have changed the future of UCSC. After the optimistic expansion of the 1950s, the University of California struggled through the 1960s' free speech and antiwar movements. The 1970s have passed as a time of re-assessment, exemplified by current enrollment projections at the Santa Cruz campus. The initial projection of 27,500 students was sensitive to the postwar "baby boom" and a predicted increase in migration of people into California which did not come to pass. The revised statistics project a high of close to 7,000 students. UCSC's seven residential colleges (an eighth has no facilities) stand ten short of the number anticipated. Funds for expansion have been drastically reduced.

Has the "great experiment" in Santa Cruz failed?—the Arcadian concept of students pursuing knowledge in an inspired and inspiring setting.

Architecturally, I believe, it is a success. As Ernie Kump noted when he first saw the site, this will be an "architecture-proof" campus. By placing the buildings amid redwoods so few can be seen from each other, the architecture is allowed great diversity in style and character. The strength and presence of the redwoods act as the unifying link of the campus.

The buildings were sited at a distance from each other in anticipation of physical expansion as the student population in-

McHenry Library, one of the principal core buildings, was designed by the Warnecke firm around a series of courtyards. Its play of concrete against the redwood forest is typical of the original campus architecture.



Joshua Freiwald

creased. Since enrollment projections were revamped and growth and funding came virtually to a standstill, the campus has been charged with being too spread out and having no sense of place. Circulation time between buildings is long and students of the different colleges have little chance to mingle. Core facilities have not been expanded to include a student center. As a result, students have preferred to live in the town of Santa Cruz rather than be confronted with campus isolation. Half filled dormitories became a major problem. To counteract the trend, Kresge College and Oakes College, built most recently, feature apartments instead of dormitories and these have proved very popular. This year, according to Chancellor Robert Sinsheimer, all living spaces on campus are filled. As future buildings are approved, they will be sited to create a closer, more cohesive campus.

UCSC is being restructured academically as well. Sinsheimer explains, "The campus has acquired an image which does not correspond to reality—that it is not a serious school, and that it is very 'laid back.' It is true that the program is less structured than other institutions. This allows for self-direction and more opportunity to set up individual programs of study. We are, however, moving toward more structure, particularly in the lower divisions."

Under Sinsheimer's direction the campus—academically, socially and physically—is being geared toward the student of the 1980s, and if the focus is not the Arcadian dream of early planners, it certainly is one based in reality. As Donald McLaughlin, a former UCSC regent who was active in early campus planning, says, "The noble educational experiment is still evolving."

And a Further Emendation

A supplement to the Santa Cruz campus history also came from Robert J. Evans, AIA, of Marshall, Calif. It follows—Ed.

As university architect for the University of California during its growth period of the '50s and '60s, I was more than pleased with the articles in the August issue on the Santa Cruz campus. Particularly gratifying was John Pastier's article on the architecture. It is regrettable, however, that the academic core buildings were passed over so lightly.

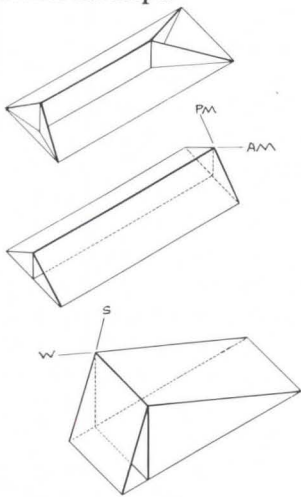
While admittedly "less appropriate," they have, I believe, demonstrated the same sensitivity as the smaller scale colleges. The central buildings providing library, science labs, theater arts and music and administration, etc., had to be planned for functional and economic reasons at a scale that would permit expansion to the ultimate capacity of the campus without endangering the loss of the very forest quality that renders the site unique. Similarly, proximity of relationships was required to facilitate already strained student/class/change requirements. Recognizing the fact that these central buildings would be seen together as opposed to the separation of the colleges, the design team developed design criteria and goals for harmony quite opposed to the diversity demanded of the residential colleges.

Thus, while "inherently less appropriate," the core structures are generally still dominated by the site and the trees, and are harmonious. Should great expansion demands develop in future generations, the challenge to maintain the integrity of the site in the core area will be enormous. We can only pray that the precepts of the founding fathers are not lost.

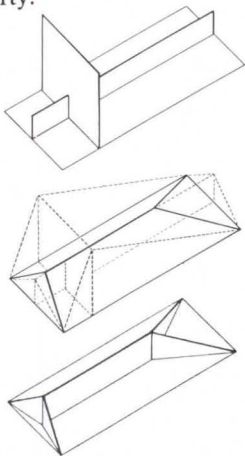
With respect to credits, while recognizing the value of a strong client, I believe it was an unfortunate oversight not to recognize the contribution of John Wagstaff who served as the university's campus architect and owners' representative from the inception of the campus plan. His steadfast adherence to the broad goals and objectives, his spirit and patient nurturing of retained architects, budgets, program and schedules contributed immensely to the achievement of this unique university campus. His colleagues and fellow professionals who worked with him mourn his recent passing. □

Solar from page 49

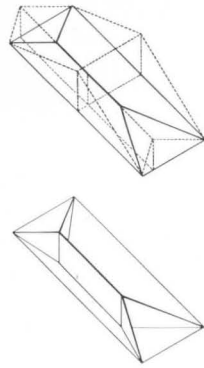
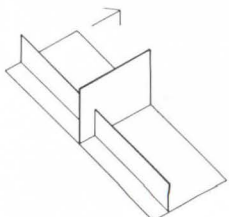
with a vertical plane running east-west that casts shadows running north-south. The result is a seasonal envelope.



A comparison of the vertical planes reveals a mismatch in height. The daily plane is lower than the seasonal plane. The mismatch, however, is easily resolved. When the daily and seasonal envelopes are combined, the lower, or the daily, envelope controls. Any attempt to build above the north-south daily ridge would cast shadows off the envelope site to an adjacent property.



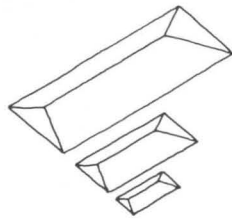
Changing the orientation of the land parcel changes the geometry of the solar envelope. If the rectilinear land parcel described above is turned so that it runs long in the east-west direction, the shadows can be cast longer to the east and west than to the north and south. Thus, the seasonal ridge dominates and defines the final envelope.



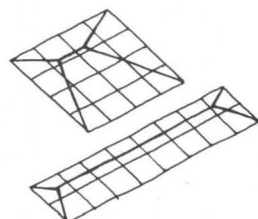
The seasonally dominated envelope has an advantage over the daily dominated envelope because it contains more developable volume. At the latitude of Los Angeles, the seasonal envelope has a ridge about 30 percent higher than the ridge of the daily envelope.

The time elements of the envelope just described combine with spatial constraints to determine the form of the envelope and its sphere of influence. Size, shape, slope, orientation and latitude must all be considered.

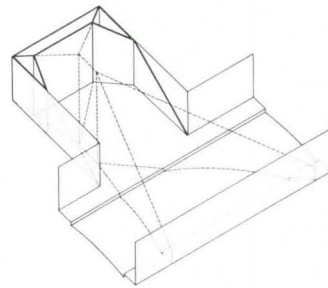
Land parcels of different sizes but similar proportions will have solar envelopes of different sizes, but similar proportions, given the same time constraints. Doubling the edge dimensions of a land parcel thus doubles the envelope's height.



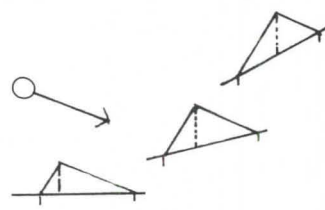
A change in the shape of the land parcel will change the shape of the envelope, even when time constraints are constant. Generally, the ridge of the envelope will parallel the long dimensions of the site, but each change in the proportion of the site will result in a change in the envelope size and shape. Irregular sites produce irregular and sometimes very complex envelope shapes.



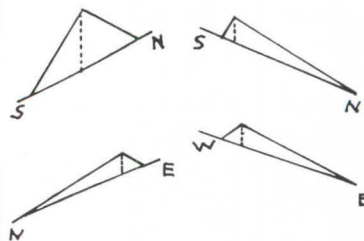
The shape of the envelope site can be complicated in part by the urban surround and the specified relationships to adjacent streets and buildings. The site for the envelope may differ from the legal building site within it because the envelope may be defined to cross streets and alleys, or to shadow specified portions of adjacent structures. These parameters, which may be determined by policy in the case of solar zoning, can be manipulated to achieve maximum development potential while protecting solar access.



The slope of the land parcel affects both the height and shape of the envelope. Beginning with a flat site and gradually increasing the slope toward the south would gradually increase the envelope's height and therefore its volume.

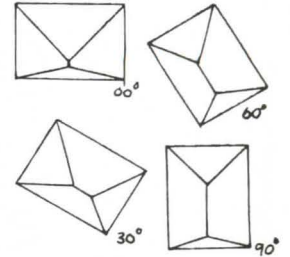


Changes of slope are affected by the direction the slope faces. The envelopes over south-facing land parcels will generally be much higher than those on north slopes. Envelopes over east and west slopes would be of moderate height.

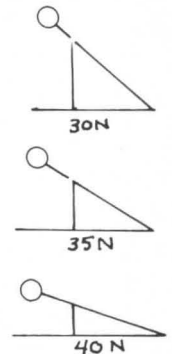


Another concern with orientation is the aspect of angular rotation that must often be considered when the development grid does not lie on the cardinal

points. An angular rotation of the grid will change the height and therefore the developable volume of a solar envelope. The volume is decreased as the envelope rotates off the cardinal points. Land parcels oriented long in the east-west direction allow more development than those in the north-south direction.



Latitude is the last of the five spatial variables, affecting the height and therefore the volume for a given site and set of time constraints. If the time constraints are constant, the envelope height decreases as the latitude increases, primarily because the winter sun critically affects the envelope's north slope. Consequently, the volume of the solar envelope increases with proximity to the equator; the volume decreases toward the north and south poles.



The limits of the envelope can be described on the heliodon by putting vertical planes on a land parcel as a basis for analysis. Architectural models may also be tested to determine if they respect the envelope's time and space constraints. When the shadows extend beyond the selected perimeter conditions at the cutoff times, the height, and therefore the developable volume, must be reduced. If the shadows do not reach the boundaries, more height and volume may be added. The heliodon thus provides a dynamic perception of building and urban design in time and space. □

Letters from page 4

of competitions to the private or public owner may well be worth every penny.

Otto E. Reichert-Facilides, AIA, AICP
Philadelphia

An Open Letter to Architects of the

World: Humanity is moving ever deeper into crisis—a crisis without precedent. It is a crisis brought about by: (1) evolution irrevocably intent upon completely integrating a heretofore around-the-world remotely deployed, differently colored, cultured and inter-communicated humanity; by (2) evolution irrevocably intent upon making omni-integrated humanity omni-successful, able to live sustainingly at an unprecedented higher standard of living for all than has ever been experienced by any, able to live entirely on its sun-energy-derived income.

Ninety-nine percent of humanity does not know that we have the option to make it. We do. It can only be accomplished, however, through a design science revolution.

Those in supreme power politically and economically are as yet convinced that our Planet Earth has nowhere nearly enough life support for all humanity. They assume that it has to be either you or me. Not enough for both. That is why (1) those in financial advantage fortify themselves even further, reasoning that selfishness is necessary. That is why (2) the annual military expenditures by the USSR, representing socialism, and the USA, representing private enterprise, have averaged over \$2 billion a year for the last 30 years, doubling it in 1978 to \$400 billion—making a thus far total of \$6 trillion 400 billion spent in developing the ability to kill the most people, at the greatest distances, in the shortest time.

Weighing only 55 pounds, with a wingspan of 96 feet, the human-powered, cross-English Channel-flying Gossamer Albatross was able to do what it did because the structural materials of which it was built were 10 times tensilely stronger than an equal weight of highest strength aircraft aluminium. The tensile strengths of the Albatross' structural materials were 60 times stronger-per-equivalent-weight than the strongest structural material available to Leonardo da Vinci for realizing the design of his human-powered flying machine. The Albatross' high strength, carbon fiber material was developed only a short time ago for the space program.

A one-quarter-of-a-ton communication satellite is now outperforming the message-carrying capacity, transmission fidelity and energy requirement of the previously used 175,000 tons of trans-Atlantic copper cables.

The human pedal-powered airplane and the communication satellite are only

two out of hundreds of thousands of instances that can now be cited of the accomplishment of much greater performance with much less material.

Neither the great political or financial power structures of the world, nor the population in general, realize that the engineering—integratable, invisible, metallurgical, chemical, electronic—revolution now makes it possible to do much more with ever less pounds and volumes of material, ergs of energy and seconds of time per given technological function that it is now possible to take care of everybody at that higher standard of living than any has ever known. It does not have to be you or me. Selfishness is unnecessary. War is obsolete. It could never have been done before. Only 10 years ago, the more-with-less technology reached the point where it could be done. Since then, it has made it easier to do so. It is a matter of converting the high technology from weaponry to livingry—and the essence of livingry is environment controlling.

With the highest aeronautical and engineering facilities of the world redirected from weaponry to livingry production, all humanity now has the option to become enduringly successful. All previous revolutions have attempted revengefully to pull the top down. If realized, this historically greatest revolution will joyously elevate all humanity to unprecedented heights.

The architectural profession has always been the place where the best thinking is conducted regarding livingry (as opposed to weaponry) design. Now is the time for the architectural profession to reorient itself from the six-months-per-one-residence to the million-per-day, air-deliverable, sewer-and-water-mains emancipated, energy-harvesting and dwelling machine production world. Now is the time for the architectural profession to reorient itself also from the years-to-build, human-need exploiting cities to the in-one-day-air-deliverable or removable, human-need-serving, domed-over cities.

We have to rehouse both the convergent and the divergent phases of four-billion, around-the-world-living humans before 2000 A.D. The alternative is oblivion for Earthians. Evolution is God articulate.

Buckminster Fuller, FAIA
Philadelphia

Education of Architects: Concerning the article in the October 1979 issue (p. 60) by Peter Collins entitled "Thoughts About Architectural Education," I find it extremely disconcerting that all too often our educational system is represented by those so tangled in discovering the magic curriculum that they never quite realize the "essence" of a successful education.

The problems which face our educa-

tional system have not been answered by the Ecole des Beaux-Arts, nor will they be answered by the present infatuation with neorationalist revival or any other collection of rhetorical jargon to which our schools adhere.

Architectural students deserve nothing less than a learning experience that *minimally* begins to initiate and identify those items which stimulate self-confidence and personal growth. If the majority of our students do "follow without restraint the prophets of every new Instant Utopia" (Collins), I suggest that at the next meeting of the Association of Collegiate Schools of Architecture the members ask themselves how they might best serve our students in developing their own working vocabularies instead of encouraging them to follow in the steps of someone else.

Gregory L. Galieti
Bowling Green, Ohio

Here's to Cape Cod: I work as a secretary to my husband, a member of AIA, whose office was in New York City until we moved to Cape Cod in 1963. I write verse when I am not busy typing specifications or running blueprints. The topmost thing we notice in our travels is the boom going on all around, hardly any of it expedited by an architect. It's not a good picture we see for the future of Cape Cod. The following verse addresses this point:

Most moonlighting artists,
As designers of homes,
Can create no construction sensation.
Oftentimes a sad owner,
At completion will find,
Much was lost in the final translation.
And sometimes the cost,
Is another plus lost,
As professional help seemed not needed.
Saving architect's fee,
Seems, initially,
A plus factor to be well heeded.
But with high costs today,
Barring the way,
Although deft in the way of design,
The qualified man,
Working hard as he can,
Finds it hard to hold costs within line.
Yes, today it is mod,
To build on Cape Cod,
But the future looks far from jolly,
Wide open, have fun!
Build another one,
Your plans drawn by Gosh and by Golly!
Dear AIA,
Where architects pay
Their yearly stipend of dues,
Will you give it some thought,
In that Cape Cod is fraught,
With moonlighter's building blues!

Kersti Vickers
South Orleans, Mass.

More Big Construction Spending Is Foreseen in the Middle East

The Middle East countries of Bahrain, Iraq, Kuwait, Qatar, Saudi Arabia and United Arab Emirates will increase construction expenditures by 50 percent (at constant 1977 prices) during the period of 1978-88, according to an international market research report recently released by Frost & Sullivan, Inc., New York City. The report, "Construction and Construction Machinery Markets in the Mideast," says that Saudi Arabia will continue to be the biggest spender on major construction projects, with the value of its awards reaching \$13 billion in 1988, up from \$8 billion in 1978.

The second largest spender will be Iraq, the report says, with contract awards reaching \$3.3 billion in 1988 (\$1.9 billion in 1978). Expenditures on construction projects are expected to rise in the United Arab Emirates from \$1.5 billion in 1978 to \$1.7 billion a decade later; in Kuwait, from \$928 million to \$1.1 billion; in Qatar, from \$505 million to \$579 million, and in Bahrain, from \$308 million to \$346 million. The money, says the report, will be spent on building hydrocar-

bon processing industries, quarrying, government ministries and defense facilities. Harbor and airport construction, on the other hand, will see a "market fall-off."

The report also predicts that "construction volume accounted for by local contractors, as opposed to international contractors, will triple over the 10-year period, as Mideast governments give preference to indigenous industry."

In its Nov. 29, 1979, issue, *Engineering-News Record* reported on a study of Middle Eastern construction contracts, a study which the magazine called "limited" because only three sources of information were used (its own international construction newsletter, the Corps of Engineers and the Agency for International Development). During the first six months of 1979, the time span covered by the study, not a single U.S. contractor received an award from a Middle Eastern country.

ENR calls this a warning. In international competition, said the magazine editorially (Dec. 6, 1979), some U.S. construction firms, with high technology as well as construction expertise, are "hanging in there against increasingly tough odds." But most of the other firms "are being squeezed out of the running by foreign competitors whose governments back them actively—rather than

using them as instruments of social reform and sources of tax revenue."

Melbourne Finds No Winner; 48 Entrants to Share Prize

Melbourne, Australia, has failed to find a symbol that would make the city of more than 2 million inhabitants instantly recognizable, despite an international competition in which a prize of \$115,000 was offered. Melbourne wanted an "international image," such as Sydney's Opera House, designed by Jorn Utzon, or New York City's Statue of Liberty (see Oct. '78, p. 102). More than 2,300 ideas were submitted, but none suited the sponsoring committee of businessmen, academicians and community leaders.


The committee has divided the prize among 48 entrants from all over the world, including 13 from the U.S. Rupert Hamer, premier of the State of Victoria, says that future development of the site might include a number of the submitted ideas and that a permanent committee will be appointed to oversee the development, located over a 74-acre railway yard on the southern edge of the city.

According to the committee, the most popular themes submitted reflected Victoria's "garden state" heritage, civic de-

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Easing of Protectionist Rule Opposed for Foreign Projects

AIA has joined with the American Consulting Engineers Council, the American Society of Civil Engineers, the Associated General Contractors of America and the National Society of Professional Engineers in opposition to a government-proposal that would allow foreign-owned corporations to bid on American-financed international projects. The unanimous opposition is to a proposed relaxation in the eligibility criteria for bidding on professional and construction service contracts that are sponsored by the Agency for International Development (AID). Under the proposal, bidding would be allowed by companies that are not "more than 50 percent beneficially owned" by American citizens.

According to the joint resolution, which has been sent to members of Congress, permitting foreign-owned companies to bid on AID projects "is contrary to the U.S. government's efforts to reduce our balance of payments deficit." The state-

ment continues, "The desire of the eight to ten U.S. firm which have recently been acquired by foreign investors to maintain eligibility in the U.S. AID program does not justify the imposition of an alternative rule which is detrimental to the balance of the engineering and construction industry."

Such contract eligibility, says the statement, is not extended to U.S. subsidiaries by other countries which conduct foreign assistance programs. "And, until such time that U.S.-owned foreign subsidiaries become demonstrably eligible in every instance to do work in such foreign programs, AID should drop from consideration the proposed alternative test. . . ."

The five associations point to the fact that "recent national efforts to improve our trade performance have focused on the necessity of increasing the involvement of U.S. small business in the export markets. Procurements under the AID program constitute an ideal entry vehicle for smaller firms. The 'tied nature' of the program serves to insulate these companies from the highly competitive field dominated by large international consortia. . . . The relaxation of the 'more than 50 percent beneficial test' would serve to eliminate the advantages the tied program holds for these would-be new market entrants."

Practice Survey by NCARB To Seek Competence Base Line

In early March, 12,000 randomly selected architects will receive a comprehensive questionnaire, developed by the National Council of Architectural Registration Boards, which has been developed to help determine the "knowledge, skills, abilities and functions necessary for minimum competence for the practice of architecture in the U.S." This so-called practice analysis survey will be used, with supporting research findings, in a "validation" study of the NCARB registration examinations.

No such comparable survey of "what architects do" has ever been undertaken before. The survey is a mandate from delegates at the 1979 NCARB annual meeting when they voted to establish a steering committee to direct a study that would determine what a registered architect should be expected to know and to do "as a practitioner responsible for protecting the public health, safety and welfare" (see Aug. '79, p. 22). The findings of the study are to be applied "to an evaluation of the current NCARB examinations, internship standards, education standards and practice standard."

The practice analysis survey was devel-

Columbia University Libraries

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Avery Library, founded in 1890, is generally regarded as the nation's leading library in architecture and contains strong collections in archaeology, and decorative arts, and the history of city planning. The Fine Arts Library acquires materials on painting, sculpture, drawings, and prints. The Ware collection is primarily composed of contemporary urban planning and housing. The staff consists of 7 professionals and 9 supporting staff members.

Requirements for the position are distinctive achievements in the fields of architectural and art history, evidence of scholarly publications and research, and the ability to engender outside support for the library's programs. Relevant administrative experience and an MLS highly desirable. Preference will be given to candidates with a graduate subject degree.

Applications and recommendations should be submitted in writing to:

Avery Librarian Search Committee,
Box 35, Butler Library, Columbia University,
535 West 114th Street, New York, New York 10027.

Deadline for applications is February 29, 1980.

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2221 WEST LOOP SOUTH
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oped by the steering committee (chaired by Patrick Meconi, AIA) and the consulting firm of McManis Associates of Washington, D.C.

Meconi urges architects who receive the questionnaire to complete it "conscientiously" and to return it as soon as possible. It is hoped that a completed analysis of the survey results and the research findings will be finished in order to report to the NCARB 1980 annual meeting in June. It is estimated that answering the questionnaire will require only about an hour of the architect's time.

Revenue Sharing Extension

The Carter administration is proposing a five-year reauthorization of general revenue sharing (beginning in 1981) at the level of \$6.9 billion a year, the current level of funding, announced Stuart Eizenstat, director of the White House domestic policy staff.

Funds will be allocated to state and local governments much as they are now, except provisions will be made for better "targeting." The Administration feels, said Eizenstat, that maintaining the appropriation for general revenue sharing at \$6.9 billion will not adversely affect cities and states regardless of inflation rates

since other aid to local and state governments will vary year to year.

States now receive about one-third of the funding per year and local governments the remainder. The proposal will continue this system. There had been talk that the state share would be discontinued, but Eizenstat said that President Carter felt it essential to continue aiding states. However, under the proposal, each state would be required to establish a commission to study ways to improve financial strength and to help financially weaker jurisdictions provide public services comparable to those provided elsewhere in the state. Local governments would be required to report to the commission on the fiscal resources available to them, the degree to which each is utilized and new resources that could be made available by state action.

The announcement met positive response from the National Governor's Association and the National League of Cities. "No federal program can match the effectiveness of revenue sharing in helping cities to meet the local need of the community," said Alan Beals, executive director of the National League of Cities. Tennessee Governor Lamar Alexander and Maryland Governor Harry Hughes issued a joint statement, which said in part: "No other federal program has de-

livered so vast a range of public services to thousands of communities across the nation at less cost to the taxpayer."

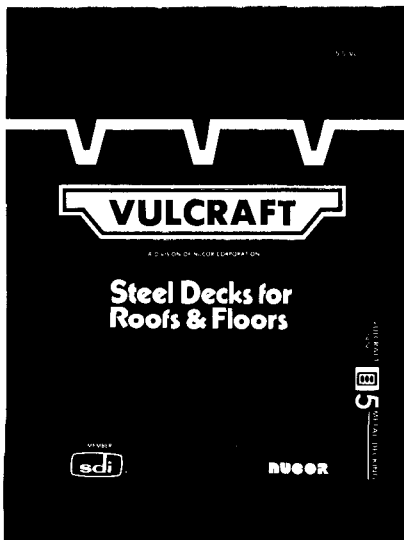
Library of Congress to Assume Architectural Records Function

The Committee for the Preservation of Architectural Records, headquartered in New York City, has entered an agreement with the Library of Congress to transfer its information service, newsletter and catalog of American architectural records to the library's prints and photographs division. The committee, made up of a group of architects, historians, librarians and other professionals, received its initial funding in 1976 from the National Endowment for the Humanities, with supplementary funding supplied by AIA's college of fellows, the National Endowment for the Arts and the New York State Council on the Arts.

The agreement with the Library of Congress, says Catha Grace Rambusch, the committee's executive director, will ensure the continuation and expansion of the national catalog, which lists the location of pictorial and written documents by architect's name, building type, geographic location and building or patron's

continued on page 77

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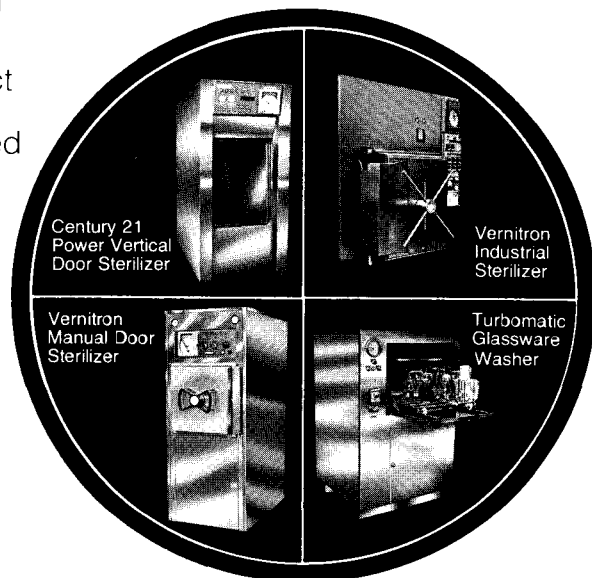
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Urban Design from page 66

doing a very good job at managing the design development process, he said, for the vast amounts of money spent on public projects (and on projects spanning the public and private sectors). The job is complicated by many factors: the lack of clear models among the nation's 75,000 jurisdictions, the imposition of land use controls and environmental regulations, the requirements for citizen participation, the scarcity of capital and the lack of buildable land. "Of all the fields that might deal with these problems," said Pittas, "it is urban design—not public administration, political science, planning, economics or business administration—which is likely to be the most effective."

Urban design is beginning to fill the vacuum created by recent movements within architecture and planning, Pittas noted. In architecture, "the postmodernist concern with a kind of derivative high style has almost totally removed the social imperatives from architectural education" and from practice, too; in planning, "the more humanistic imperatives have been superseded by a pseudoscientific reductionism: The art of planning has become the science of planning." Planning has moved away from the physical environment into abstractions, away from comprehensiveness into "hyper-specialization."

How is urban design different from architecture and planning? Pittas outlined six "refining characteristics of the activity we call urban design." First, urban design deals with the *enabling* of environmental change, the laying of ground rules, not the authorship of artifacts. Second, the urban designer deals with several *relative* design postures simultaneously, not with anything as

Urban design as a discipline with a mediative role in shaping the built environment.

absolute as a building. Third, urban design deals with *uncertain futures* and *indefinite periods*, not with the finite endeavors and certain products of architecture. Fourth, the urban designer's point of entry into the building process is earlier than the architect's, and the role is often that of *problem-defining* rather than problem-solving. Fifth, in its concern with the space between buildings—the no-man's-land and everyman's land of the built environment, as Pittas calls it—urban design is a *public* activity. Sixth, in its primary concern with *three dimensional* space and form, urban design is "imageable" in ways that planning is not.

The essential step now, Pittas charged, is for urban design "to begin the process of discovering a clearer self-definition"—to become a discipline. "Our society is a society of credentials and institutions. It does not tolerate for long groups who refuse to establish clear presence." He hoped that "within a generation we'll see the urban designer recognized by both private and public sectors as the conciliator, coordinator, mediator and regulator of the built environment," but he didn't see it happening without a discipline-based knowledge, and a consensus among practitioners, researchers and educators about what urban design is all about.

Time for another discussion slot, but the very richness of the panel presentations made the ideas hard to digest quickly. I heard no one ask the hard questions. Precisely why had the agenda of 20 years ago failed (as was charged, and agreed upon), and precisely what were the possibilities of failure in what was now so confidently agreed upon?

William H. Whyte, author of *The Organization Man*, and writer of much of New York City's master plan of 1969, concluded the formal presentations on the third morning, with part two of "People of the '80s." Thinking about the '80s is very modest, he began; a few years ago we were talking about the year 2000. "We should have known the futility of positing those

huge leaps into the future. The best way to plan for the future is to plan for today, and for yesterday."

Whyte deplored the "deep lack of evaluation" of what we build; "I have yet to find one planning commission or architectural firm with a person doing this." He spoke of his own discoveries about how people use urban space. His greatest surprise: "We wanted to track street conversations and see how far people would move out of the traffic stream. But people moved *into* the traffic stream. What people want most is other people. They're not looking for a refuge." (He was questioned later on this conclusion. "Is there a time in the future when we might want places of refuge in the cities?" Whyte's answer: "I doubt it.") The manual he has just completed, "The Social Life of Small Urban Spaces," and its 55-minute companion film, are available from the Conservation Foundation in Washington, D.C.

Whyte turned from his critique of the acres of underused plaza space to a critique of two other features of recent urban design. The first, the trend away from the street: "Not good whether it's up or down. There's a very good case for going underground, to get from A to B, but I'm against underground as a desirable environment." The second, megastructures: "They look like fortresses, they turn their backs to the street, they're afraid of the city. What you get then are *two* cities: a real city and a visitors' city. The next step will be the creation of the ersatz street." He described the "complete lack of a sense of place" in the megastructure. "You feel disembodied, you don't know whether it's night or day, you're in a universally controlled environment. Is this the wave of the future? In Disneyland people pay good money to walk down a replica of a street. And in the Quincy Market here, the street is an integral part of it. I'm suggesting that the future lies *here*. Megastructures are the wave of the past."

We face an "invigorating" time in the '80s, Whyte concluded, facing many more constraints. "We'll be forced to rediscover the essence of the city." For him, a big part of that essence is the street.

Without a break, the conference slid into its final session, with the remaining participants crowding together near the dais in Faneuil Hall to attend to committee business. Gray Plosser, AIA, (of Kidd, Wheeler & Plosser) chairman of the committee, had said at the outset, "We hope that the conference will assist us in finding our way for the next few years; our goal is to influence our colleagues." The final session addressed this and the corollary task of influencing others outside the profession.

We went out into Quincy Market again, to find a disc jockey doing his pitch from a mobile transmitting station rolled onto the cobblestones—and to see an elephant (!) being led along the paving on some unannounced mission. We marveled at the elephant, and we detoured around the path it had marked.

In a way, the disc jockey and the elephant were part of the conference. I do not suggest that they were bringing us Great Truths (although it is possible), but they were distracting us from the Great Truths brought us by our experts, and that didn't seem such a bad idea if you believe—as I do—that experts aren't always all they're cracked up to be. One speaker made a dreadful slip ("as we approach the '60s"), and I suspected that he was probably living firmly in the '60s, and was not alone there. Another speaker told me he speaks so often on these subjects that he has put his remarks on computer tape; I was jarred to see the word "paradigm" grossly misspelled every time—it was too much either for him or for his computer: not a good omen for the '80s.

The conference altogether seemed symbolic of the '80s—a lot of messages to absorb, a lot of balancing to do and very little comfort along the way. I'd like to believe, with the optimists, that the best design comes from constraints, but I suspect that the severity of the constraints we shall see in the '80s will shake our faith in that old saw. I do not know which other messages will be no more useful than the ramblings of a disc jockey or the droppings of an elephant. I'm working on it, but the '80s are not beginning as a time of great certainty. □

Practice from page 74

name. "Architectural records have always had intrinsic artistic and historic importance," she says. "Now, in the era of restoration and rehabilitation, they have practical importance as well."

With the assumption of activities on a nationwide scope undertaken by the Library of Congress, the committee will resume its original task of locating and preserving architectural materials in New York City and New York state. The committee will be located at the office of the New York Chapter/AIA, 457 Madison Ave., New York, N.Y. 10022. Inquiries about architectural materials elsewhere than in New York state may be directed to the Library of Congress, Prints & Photographs Division, Washington, D.C. 20540.

DEATHS

Charles E. Bishop, Jensen Beach, Fla.
Harold L. Breeden, Louisville, Ky.
Joseph H. Bryson, Jacksonville, Fla.
M. D. Bynum, Jacksboro, Tex.
Clarence L. Caspary, Glencoe, Ill.
A. R. Eastman, Rockford, Ill.
William J. Edwards, Boston
S. R. Fetner, Orange Park, Fla.
Selmon T. Franklin Sr., Sarasota, Fla.
Lloyd M. Hendrick, Pocasset, Mass.
O. D. Howells, Topeka, Kan.

W. Manchester Hudson, Spartanburg, S.C.
Louis J. Imperatrice, Bloomfield, N.J.
Frederick K. Kruse, Coos Bay, Ore.
J. W. Landry, Center Harbor, N.H.
J. Kenneth Myers, Pittsburgh
John D. Nicolais, Los Angeles
Frederick C. O'Dell, Ann Arbor, Mich.
H. H. Phillips, Drexel Hill, Pa.
John T. Savage Sr., Atlanta
Hanford C. Todd, Hollywood, Fla.
H. P. Warfel, Lancaster, Pa.
G. M. Williamson, Tucson, Ariz.

Donald Beach Kirby, FAIA: A regional director of AIA (1954-57) and a past president of the Northern California Chapter/AIA, Mr. Kirby was also a past chairman of San Francisco's Building Industry Conference Board and first chairman of the Construction Industry Legislative Council. He received an honor award from the conference board in 1969 for his "outstanding contributions to the industry and for service to the community-at-large."

Mr. Kirby, who died on Jan. 13 a few weeks before his 75th birthday, was the architect of many Bay area award-winning projects, among them the Twin Peaks Elementary School, Miss Burke's School, the San Francisco park and recreation administration building in Golden Gate Park and the library at the Presidio of San Francisco.

BRIEFS

Charles M. Smith Jr., AIA, has been appointed by New York City's Mayor Koch to become his first full-time director of construction. For the past several years, Smith has been executive director of the city planning commission.

Douglas A. Bevis, AIA, of Seattle has assumed office as president of the Professional Services Management Association. He is chief financial officer for Naramore Bain Brady & Johanson.

R. Buckminster Fuller, FAIA, has been elected to membership in the American Academy of Arts and Letters. Limited to 50 persons elected from the larger Institute of Arts and Letters, the academy honors "special distinction within the institute."

Leon Chatelain III, AIA, has been elected chairman of the 1980 house of delegates of the National Easter Seal Society. He practices architecture in Leesburg, Va.

The Association of Finnish Architects and Finnair are sponsors of seven-day study tours to Finland for groups of architects. Tours are based on a minimum of 20 architectural professionals and/or students. The price is \$939 per person.

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Contact: Finnair Group Travel Department, 10 E. 40th St., New York, N.Y. 10016, (212) 689-9300.

The American Society for Testing and Materials has elected Wayne P. Ellis, manager of industry standards for the H. B. Fuller Co., Spring House, Pa., as its 1980 president.

John D. Broderick, AIA, of Leo A. Daly Co. has assumed the presidency of the Washington (D.C.) Building Congress.

The American Society of Landscape Architects has installed Robert L. Woerner of Spokane, Wash., as its president for 1980.

Paul Muldawer, AIA, of Atlanta, who designed the 1977 Presidential inauguration reviewing stand (see Jan. '77, p. 6), has been named by President Carter as one of the 11 public members of the architectural and transportation barriers compliance board, which is chaired by Max Cleland, Veterans Administration head.

Edward Larrabee Barnes, FAIA, of New York City has been named the first Eliot Noyes visiting design critic at Harvard University's graduate school of design. An endowment for the program was established last year in memory of the late architect and industrial designer.

The late Alvar Aalto is being saluted by Pratt Institute in a three-part program: a lecture/seminar course this spring and summer in New York City (continuing education units given on request); a travel workshop to Finland (May 16-26), and a design studio (May 27-July 3) on the Pratt campus. For information, contact Michael Trencher, Pratt Institute, School of Architecture, Brooklyn, N.Y. 11205, (212) 636-3405.

Robert M. Engelbrecht, AIA, has been honored by the Building Research Advisory Board with a "testimonial of appreciation award" for "long and exceptional service." His architectural firm and consulting services are headquartered in Princeton, N.J.

"American Urban Guidenotes" is a new quarterly publication that places special emphasis upon architectural guidebooks, although the first issue included a range of articles including guidebooks for runners, restaurant guides and guidebook history and collecting. The subscription for four issues is \$9 (\$10 outside the U.S. and Canada); single issues are \$2.50. Contact: John Fondersmith, Editor, *American Urban Guidebooks*, Box 186, Washington, D.C. 20004.

The Faber Birren collection of books on color, presented to Yale University in 1971 and since expanded, is now available on microfilm. Contact: Research Publications, Inc., 12 Lunar Drive, Woodbridge, Conn. 06525.

"Developing a Marketing Plan" is the title of a workshop to be held at AIA headquarters on Mar. 3. It is sponsored by AIA's committee on architecture for health in conjunction with the Society for Marketing Professional Services. For information, contact Michael Cohn at Institute headquarters, (202) 785-7366.

Skidmore, Owings & Merrill has announced the creation of the SOM Foundation to be dedicated to the "advancement of the arts through the preservation of archives, support for publications, study endowments and individual grants." Initial awards include grants to the Massachusetts Institute of Technology for a fund in honor of John O. Merrill Sr. and to the University of Pennsylvania for the preservation of the Louis Kahn collection.

John K. Holton, AIA, has been appointed director of the energy conservation division of GSA. He will be responsible for GSA's overall policies and programs regarding energy.

PRODUCTS

Rotating Drawing Board.

ROTOBORD 77/1 enables the user to rotate a drawing on a drafting table. It is 36 and a half inches wide by 32 inches high and can accommodate drawings up to 18x24 inches. (Aikenwood Corporation, Zi-Tech Division, Palo Alto, Calif. Circle 197 on information card.)

Programmable Thermostat.

Omnistat 2002 is an electronic thermostat that can be programmed for a five-day work week to provide four daily temperature changes or 28 settings per week. (Richards Technical Products, Inc., Syracuse, N.Y. Circle 200 on information card.)

Polystyrene Insulation.

FOAMULAR insulation is produced by a vacuum/hydrostatic process. Its R-value is 5 per one-inch thickness and its density is 1.7 pound per foot cubed for one-inch thickness. (United States Gypsum Co., Chicago. Circle 199 on information card.)

Hand-Operated Drafting Table.

Futur-Matic drafting table has finger-operated controls for adjusting tilt angle (from horizontal to 90 degrees) and top height (from 30 to 50 inches). Futur-

Matic comes in four top sizes from 48 to 72 inches. (Mayline Co., Inc., Sheboygan, Wis. Circle 198 on information card.)

Marble Laminate.

Travertine Marble is the newest marble design in Wilsonart Brand Decorative Laminates. (Ralph Wilson Plastics Co., Temple, Tex. Circle 189 on information card.)

Heat Pumps.

Singer offers heat pumps in sizes of one and a half, two and a half, three, four and five tons. Slide-in refrigerant coils can be used for up-flow, down-flow or horizontal positions. (Singer Co., Climate Control Division, Carteret, N.J. Circle 193 on information card.)

Electronic Billing.

Used with Lanier's No Problem electronic typewriter, No Problem Billing has five functions—page formatting, automatic billing, account page, arithmetic functions and special editing features. (Lanier Business Products, Inc., Atlanta. Circle 192 on information card.)

One-Ply Roofing System.

Gacoflex System I is a loose laid and ballasted roof system where deck construction permits use of ballast applied at a minimum rate of 10 pounds per square foot. Components of the system include an elastomeric sheet membrane, self-curing neoprene sheet flashing, thinner, cleaner and metal strips. (Gates Engineering Co., Inc., Wilmington, Del. Circle 191 on information card.)

Sodium Light Fixture.

The Handi-Liter S is a surface mounted fixture that can be used for warehouses, parking garages, tunnels, walkways, bank canopies. The fixture features a reflector of diffused Alzak aluminum, a porcelain lamp holder and an injection molded lens. (Guth Lighting, St. Louis. Circle 188 on information card.)

Linear Incandescent Lamp.

Because of their slim-line linear shape, Philinea lamps look like fluorescent tubes, but they are actually incandescent lamps, available in 35, 60 and 120 watts. The lamp was designed for applications where incandescent color rendition is desired. (Norelco, Hightstown, N.J. Circle 196 on information card.)

Fluorescent Light Fixture.

Sylvania's "energy-efficient" fluorescent lighting fixture, the TL Series, is available in lengths of two, three and four feet, using one or two F20, F30 or F40 lamps. There are no exposed fasteners; spring-loaded end caps give access to the lamps

for replacement and service. (General Telephone & Electronics Corporation, Stamford, Conn. Circle 187 on information card.)

Security Control System.

Interrogator 890 performs security, access control and environmental monitoring functions. (VSI Co., Cardkey Systems, Chatsworth, Calif. Circle 190 on information card.)

Standing Seam Roof.

Weather Roof eliminates "through-the-roof-fasteners" (holes) in metallic roofing sheets that overlap at standing seams. (Marathon Metallic Building Co., Houston. Circle 195 on information card.)

Tube Mat for Radiant Heating Systems.

SolaRoll contains six parallel circulation tubes in 4.4-inch-wide flexible extrusions. The mat rolls out to form a distribution grid requiring no fixtures or fasteners. Warm water running through the tubes heats the floor and space above. (Bio-Energy Systems, Inc., Ellenville, N.Y. Circle 194 on information card.)

Expansion Joint.

Keene's XJ15-3 is a joint for plaster/stucco that controls wall and ceiling crack-

ing. It is available in three sizes (one-half, three-quarters and seven-eighth inches) in zinc or galvanized steel. (Keene Corporation, Building Products Division, Vienna, W. Va. Circle 186 on information card.)

Automatic Lighting Controller.

As daylight in a room varies, PAESAR automatically decreases or increases the power supplied to lamps. A constant level of illumination is maintained and energy is saved. (Lutron Electronics Co., Inc., Coopersburg, Pa. Circle 185 on information card.)

Polycarbonate Glazing Material.

MARGARD sheet is a silicone hardcoat for extruded polycarbonate substrates. Available in clear, gray, bronze and light green, MARGARD can be used as a glazing material for school, prison and hospital windows, storefronts and jewelry cases. (General Electric Co., Plastics Division, Pittsfield, Mass. Circle 184 on information card.)

"Prime Color" Lamps.

Ultralume fluorescent lamps use prime color lighting sources (blue-violet, pure green and orange-red) which have been found to be response-evoking in humans. The phosphors used in Ultralume lamps

offer increased light. (Westinghouse Electric Corporation, Pittsburgh. Circle 183 on information card.)

Duct Insulation.

Spin-Flex, a blanket insulation, is made from fine rotary process glass fibers for thermal and acoustical treatment of air handling system ducts. Microlite is thermal insulation for rectangular and round sheet metal heating or cooling system ducts. (Johns-Manville, Denver. Circle 182 on information card.)

Flat Ceiling System.

Symmetry 48 is a 16x48-inch ceiling module system. An acoustical panel or light fixture can be placed in each section. Two acoustical panel designs are available. Components can be turned 90 degrees. (Armstrong Cork Co., Lancaster, Pa. Circle 181 on information card.)

Power Controllers.

Two new air-cooled SCR power controllers (LZF2-800 and LZF2-1000) are available from Halmar Electronics for control of up to 800 and 1,000 amps. Their primary application is the control of electric furnaces. (Halmar Electronics, Inc., Columbus, Ohio. Circle 180 on information card.) □

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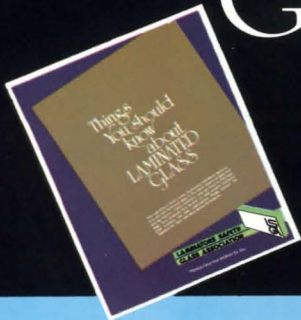


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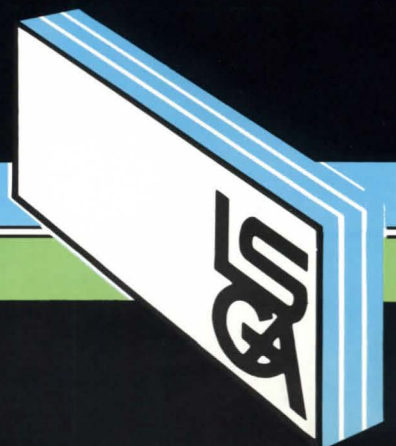
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