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EVENTS

Aug. 1-5: Seminar on Energy Conservation in Buildings, Hartford, Conn. Contact: Energy Educational Services of Connecticut, 277 Pearl St., Hartford, Conn. 06103.
Aug. 1-11: Course on Principles of Construction Specifications Writing, University of Wisconsin, Madison.
Aug. 4-6: Michigan Society of Architects Mid-Summer Conference, Grand Hotel, Mackinac Island, Mich.
Aug. 8: Entries deadline, Prestressed Concrete Institute's 1977 awards program. Contact: PCI, 20 N. Wacker Drive, Chicago, Ill. 60606.
Aug. 8-9: Conference on Solar Heating and Cooling: Operating Experience, Trinity University, San Antonio, Tex.
Aug. 12-13: Arkansas chapter/AIA state convention, Inn of the Ozarks, Eureka Springs, Ark.
Aug. 15-16: Course on Energy Conservation Research and Development, University of Wisconsin, Madison.
Aug. 15-19: Open Space Planning for Offices Course, Graduate School of Design, Harvard University, Cambridge, Mass.
Aug. 15-26: Program on the Scientific and Mathematical Foundations of Engineering Acoustics, Massachusetts Institute of Technology, Cambridge, Mass.
Aug. 22-23: Conference on the Solar Energy Business: Opportunities and Outlook, Hyatt Regency Hotel, Washington, D.C. Contact: Robert W. Nash, Energy Bureau, 101 Park Ave., New York, N.Y. 10017.
Aug. 22-26: Course on Systems Building, Graduate School of Design, Harvard University, Cambridge, Mass.
Aug. 28-Sept. 1: Illuminating Engineering Society of North America annual conference and international lighting exposition, Waldorf-Astoria Hotel, New York City. Contact: IES, 345 E. 47th St., New York, N.Y. 10017.
Aug. 29-31: Course on Solar Heating and Cooling: Practical Design and Economics, Aspen, Colo. (Repeat course on Nov. 30-Dec. 2, Boulder, Colo., and Jan. 12-13, 1978, Los Angeles.) Contact: Center for Management and Technical Programs, University of Colorado, Box 3253, Boulder, Colo. 80307.
Aug. 29-Sept. 2: Workshop on Value Analysis/Value Engineering, University of Wisconsin, Madison.
Aug. 30-31: Conference on the Current State of Knowledge of Lifeline Earthquake Engineering, University of California, Los Angeles.
Aug. 31: Entries deadline, Keep America Beautiful, Inc.'s national awards program. Contact: KAB, 99 Park Ave., New York, N.Y. 10016.
Sept. 4-10: International Conference on Disaster Housing, Istanbul, Turkey. Contact: Building Research Institute, 212, Hosdere Caddesi, Cankaya, Ankara, Turkey.
Sept. 5-9: Annual congress of the International Federation for Housing and Planning, Geneva, Switzerland. Contact: IFHP, Wassenaarsweg 43, The Hague, Netherlands.
Sept. 6-9: International Federation of Landscape Architects annual congress, Istanbul, Turkey. Contact: IFLA Secretariat, Arco Velho, Sintra, Portugal.
Oct. 4-5: Architects in Industry annual seminar, AIA Headquarters, Washington, D.C. Contact: Fred Marks, Institute Professional Interests Programs (202) 785-7366.
Oct. 9-17: Architects Abroad Program (a series of meetings with government architects in London and Helsinki, Finland), sponsored by AIA national architects in government committee. Contact: Architects Abroad, Association for Academic Travel Abroad, Inc., 1346 Connecticut Ave. N.W., Washington, D.C. 20036.

LETTERS

Villa Tranchese: Michael Freeman in his article entitled "Ethnic Differences in the Ways That We Perceive and Use Space" in the Feb. issue (p. 47) makes the statement that Villa Tranchese, a highrise public housing project for the elderly in San Antonio, Tex., is a "failure."

This particular development was in planning about the time that it was anticipated by the urban renewal agency that a significant number of Mexican-American elderly individuals and families would require relocation housing. As so often happened in those days, and probably would today, the time schedule for the construction of Villa Tranchese and the time schedule for the relocation of families were some years apart. The people who were supposed to move into Villa Tranchese in 1968 actually were relocated to the Parkview apartments in 1972. The first resident family there was a Mexican-American lady who had never lived other than in the barrio-corral-type housing.

Because of the uncertainty of the relocation date and because we were not certain as to the desirability of highrise living for Mexican-American elderly, we sought assistance from a cultural anthropologist, funded through the Hogg Foundation for Mental Health of the University of Texas. The anthropologist sat down with the housing authority staff, architects and representatives of the Mexican-American community to talk about the cultural characteristics of the Mexican-American, the stereotypes of what the Mexican-American elderly likes and dislikes and what of these should be included or excluded in the design.

We talked at length about whether we should build for the current life style of the elderly or should attempt to anticipate what the life style would be 10, 15 or 20 years down the road. Because we were not certain of the receptivity of our design or the location of Villa Tranchese for the elderly, we had to work as good clients with the architects to plan a building that would be equally suitable to Mexican-American or Anglo-American or black-American elderly. At the same time, we were able through the creativity of the architects to provide the type of setting which would subtly incorporate some of the valid stereotypes.

We have learned much in the intervening years, primarily that site location is the most significant factor for the Mexican-American. We have also learned, however, that the highrise structure, because in effect it provides its own barrio environment, is completely acceptable to the Mexican-American elderly.

There were 21 Mexican-American elderly families at initial occupancy, eight of whom are still in residence. Those who are no longer in occupancy either died or became too feeble to live alone. Since Villa Tranchese was opened, there have been 88 Mexican-American families occupying the building. There are now 55 in residence.

It is undoubtedly true that there are Mexican-Americans as there are Anglo-Americans and black-Americans in San Antonio who would not choose to live in this type of setting. Fortunately, we now have sufficient variety of housing to provide a choice even though there are nearly 1,000 elderly families on our waiting list.

If this letter sounds as though it were in the "methinks thou doth protest too much" category, it is just that those of us who have been so closely associated with this project could not help but react violently to the designation of Villa Tranchese as a failure.

Marilynn A. Wacker
Acting Executive Director
Housing Authority
San Antonio, Tex.

Goodhue, Allen and Kahn: In the beauteous March issue, the impression was left that Bertram Goodhue had designed San Diego's *Cabrillo Bridge* (caption, p. 40). He did conceive its ensemble with his tower for the 1915 Panama-California Exposition, but architect Frank P. Allen Jr. actually designed the bridge.

Louis Kahn explained in a letter to me why the Salk Institute courtyard was not landscaped as planned (p. 42). He and his associates could not decide on trees

Continued on page 86

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*ASHRAE Handbook of Fundamentals, 1972 ed., Chapter 20, "Design Heat Transfer Coefficients" Table 3A, pp 362-63

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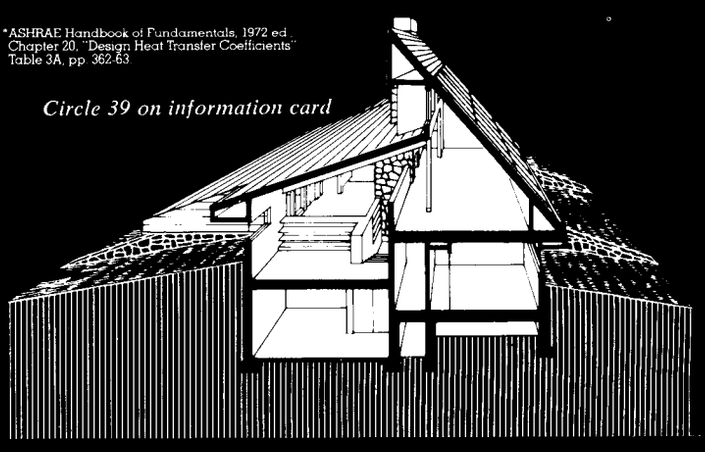

AIA JOURNAL

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Cover: Photo by Allen Freeman in the second-floor gallery of AIA headquarters building by The Architects Collaborative

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AIA Elects Mitchell, Approves New Ethics Code Except on Contracting

AIA in convention last month elected Ehrman B. Mitchell Jr., FAIA, of Philadelphia as 1978 first vice president/president-elect and approved changes in the Institute's ethics, dues and membership structures. Delegates refused, however, to remove the present ban on contracting.

Elected to serve next year as vice presidents were Sarah P. Harkness, AIA, who will be the first woman to hold that position; Herbert Epstein, FAIA, and Charles F. Schwing, FAIA. Joseph F. Thomas, FAIA, will succeed Schwing for a two-year term as treasurer and Robert M. Lawrence, FAIA, will serve his second year as secretary.

The "code of ethics and professional conduct" was prepared by a task force after the 1976 convention vote to postpone action on ethical change for a year. In the course of its work, the task force held membership hearings in six cities.

As brought to this year's convention, the code would have eliminated the contracting ban, substituting rules of conduct which said: "In the performance of architectural services, members shall not allow their own financial or other interests to affect the exercise of independent professional judgment on behalf of their clients. Members performing other services that may bring their interests into conflict with those of their clients' shall do so only after written disclosure of the possibility of conflict."

After strenuous and sometimes eloquent debate, the delegates voted 995 to 864 to reject this change and instead insert rules of conduct which read: "Members shall not undertake any activity or employment, have any significant financial or other interest, or accept any contribution, if these would reasonably appear to compromise the members' professional judgment or prevent them from serving the best interest of the client.

"Members may not engage in building contracting where compensation, direct or indirect, is derived from profit on labor and materials furnished in the building process except as participating owners. Members may engage in construction management as professionals for professional compensation only."

The contracting vote left only one major substantive change of ethical standards in the new code: Members may now use a commission agent to seek from a prospective client provided that seven specific conditions are met. The task force did not propose dropping the present ban on advertising and an amendment to do so was easily defeated.

Opening the ethics debate, AIA President John M. McGinty, FAIA, said that the proposed changes would offer an "opportunity to increase the effectiveness of our performance; to do a better job in education, in design and in project delivery."

On the other side, past president S. Scott Ferebee Jr., FAIA, said that "the profession is trying to move into conflict of interest when everyone else is moving away from it." And director Robert Burley, AIA, said that lifting the contracting ban would "take us into an area of high risk where we have no training."

Director Jerome Cooper, FAIA, argued that the ultimately successful amendment to the proposed code would allow both the client and society to "comfortably rely upon the architect to reach decisions that would protect their interests without any concern for his or her own conflicting personal interests."

A second vote on the contracting issue came the next day in action on a Pittsburgh chapter resolution to allow architects to act simultaneously as both designers and builders, which was amended into a call for continued board study.

Membership bylaws were changed to eliminate the category of chapter professional associates and, among other things, create new eligibility requirements for associates on the national level. To become an associate member, a nonarchitectural professional now must be supervised by a licensed architect.

Nonarchitectural graduates working for their registration may become associate members. However, convention delegates defeated a proposal that all graduates of architectural schools be eligible.

Professionals in government, industry, education, research and journalism were added to the list of those eligible to become chapter professional affiliates. The term "student associate" was changed to "student affiliate" and eligibility was extended to students in secondary schools.

The new dues structure establishes $100 as the level of individual members' dues (starting at $50 the first year of membership and $75 the second, with the full amount thereafter). Associate members' dues are $15 per year for the first five years and $30 per year thereafter. Emeritus members pay $15 if they receive AIA publications, nothing if they don't.

Supplemental dues are $155 for each registered architect in a firm, including both employees and employers. However, there is a credit of $85 for each registered architect who is an AIA member.

Slayton Tells AIA Board He Will Resign Dec. 31

William L. Slayton, Hon. AIA, executive vice president of the Institute, announced to the board of directors at its preconvention meeting in San Diego that he was resigning. "I think it is time for me to have one last career before I reach that chiseled-in-stone retirement age of three score and five. So I hereby submit my resignation ... effective the end of this year. This will give us both time to look around—me for my next career, you for your next executive vice president," he said. The board accepted his resignation with regret.

A committee has been formed to find Slayton's successor. Its members are John M. McGinty, FAIA, president of the Institute; Elmer E. Botsai, FAIA, first vice

continued on page 12

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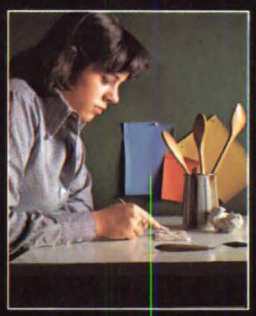

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Going On from page 8
president, and Ehrman B. Mitchell Jr., FAIA, vice president.

The following resolution was passed by convention delegates: "Resolved, That the 1977 convention recognize with pride the enormous contributions by William L. Slayton, Hon. AIA, to The American Institute of Architects during his seven and a half years as executive vice president; his achievements in bringing AIA to national attention, in increasing membership, in focusing on urban and energy problems, in recognition of the Institute and in a host of other areas are well known and a credit to his leadership; his style and hard work have earned him the respect of the members, who dedicate this convention to him in appreciation of his service."

Slayton told the board that during his tenure he had seen AIA grow in activity and influence. "I have seen the addition of programs such as continuing education, codes and standards, research and the establishment of the AIA Research Corporation; component affairs including state component affairs and the component president letter; the expansion of Congressional and federal agency liaison from one to five professionals; the establishment, growth and funding of CACE; the growth of the JOURNAL into a top drawer publication; the establishment of a community services commission and department; the development of a computerized financial management; the development of an AIA firm list; the building of a new headquarters building; the establishment of AIA as the leader in energy conservation in buildings and the publication of the *Energy Notebook;* the establishment of AIA as a leader in the field of urban growth; the creation of the minority/disadvantaged scholarship program; the welcoming of architects in government, industry and education to the folds of AIA, and a growth in AIA of nearly 5,000 members," he said.

Slayton left the presidency of Urban America, Inc., to assume his leadership role at AIA. Before joining Urban America, he had been commissioner of HUD's Urban Renewal Administration. He was a partner for planning for I.M. Pei & Partners in New York City and vice president for planning and redevelopment for Webb & Knapp, Inc., Washington, D.C. His varied career has also included service as director of redevelopment for the National Association of Housing and Redevelopment Officials, field representative for the Housing and Home Finance Agency, associate director of Chicago's urban redevelopment study, municipal reference librarian, Milwaukee, and planning analyst for the Milwaukee Planning Commission. He received the Royal Institute of Chartered Surveyors' gold medal.

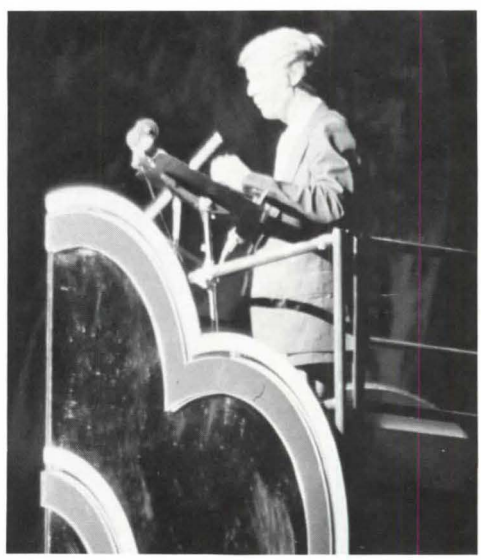
Convention Offers Ideas On Architecture's Future In a Futuristic Setting

Seldom has a physical setting so dominated an AIA convention program as last month's in San Diego. The setting was created by San Diego designer Joe Nicholson in Golden Hall (above) in the city's convention center.

The four-story hall was festooned with space frames, oversized television screens and bright-colored service conduits. Crowds moved in and out of three minitheaters, on and off of carpeted seating terraces and through a series of cheerful electronic exhibit "pods" that replaced the booths of the past and made the exhibits an integral part of the program.

Messages about "Tomorrow," the convention's single-word theme, came through a variety of media: closed-circuit television, computerized slide shows, elevated "media walls" and live speakers in the minitheaters or, in the case of the principal speakers, from hydraulic "cherry pickers" high above the floor (right). Often the messages came through simultaneously. Throughout the three-day program the hall was alive with people, images and sometimes competing sounds. Raymond Kappe, FAIA, founder of the Southern California Institute of Architecture, opened the program with a multimedia review of futurist visions of recent years and architecture's response to them. "We acknowledge human diversity," Kappe said. "We have given up the master builder image thrust upon us by the fathers of the modern movement."

Himself looking to the future, Kappe



said, "The tremendous technological advances envisioned a few short years ago and the Space Age future will probably have to wait until at least the year 2000 while we devote ourselves to the crisis at hand in our cities and our countryside."

On the second day, HUD Secretary Patricia Roberts Harris brought the convention a message from President Carter via videotape. The principal speaker, Donald Greenberg, director of Cornell University's computer graphics program, gave a 13-minute graphic display of computer-aided design, including the creation of three-dimensional renderings from plan drawings.

"We work and design in a three-dimensional world," Greenberg noted, "yet all of our communication is either in the form of two-dimensional drawings or verbal and numerical specifications." He pointed out that "our ability to com-

continued on page 16

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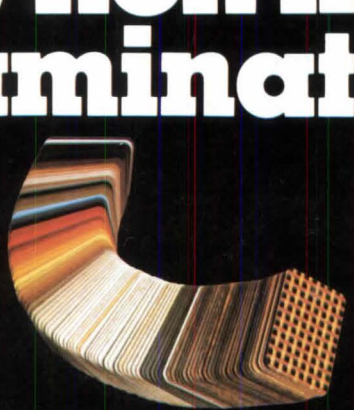

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Going On from page 12
prehend complex phenomena is much greater when we see them than when they are explained to us."

First speaker on the third day was Apollo 9 astronaut Russell "Rusty" Schweickart, who sketched a not-distant future in which "tens of thousands of people" will live in space, and urged architects to involve themselves in the beginning efforts to design suitable habitats for use there.

Expanding on themes he stated in a recent JOURNAL interview (*see* May, p. 58), Schweickart based his prediction of space habitation on current directions in space technology and the potential uses of space installations as suppliers of energy and raw materials.

The final speaker was futurist author and lecturer F. M. Esfandiary, who said that "today we are taking giant evolutionary leaps into fantastic beautiful worlds."

"We are at the beginning of an energy glut," he said flatly. "All this primal screaming about scarcity is a galactic farce."

Having dismissed the energy crisis, Esfandiary turned to the urban crisis. "Cities have a great future," he said, "as museums." And, "Cities cannot be modernized. We should leave them as they are—and get out."

Recertification Receives Attention in Resolutions

Another major issue confronting the convention pertained to license renewal/recertification. Iowa has already passed a bill in both houses which mandates the continuing education of all professionals, and Minnesota has passed an enabling act which gives registration boards the power to establish conditions for license renewal. Several other states are considering similar legislation. Both the California Council of Architects/AIA and the Florida Association of Architects/AIA are working aggressively to help draft state legislation that would require continuing education for architects.

Delegates affirmed preconvention board action which recognizes the "need and desire" on the part of architects "to continuously maintain the highest level of professional competence." The resolution passed by the delegates calls for AIA to maintain liaison with groups involved in education and licensing "to assure professional guidance and leadership in the continuing development of professional practice standards."

The board resolution calls for the "establishment of proposed conditions for AIA membership on the basis of the Institute's professional development measuring system, and the support of conditions for license renewal on the basis of the system." The measuring system, created by the task force on recertification, is a voluntary tool for the self-evaluation of architects (*see* Nov. 1976, p. 60). Approved by the board last September, the system is a mechanism by which professional development activity may be recorded, quantified, assessed and measured.

A resolution submitted by the Maryland Society of Architects/AIA contended that a more certain means of ensuring competence would be the improvement of the existing initial education and registration processes. Some proponents of this resolution said that compulsory continuing education should not be endorsed as a concept by AIA and that the general membership should be allowed a voice in determining whether the Institute continues to support the concept.

A similar resolution submitted by the Boston Society of Architects/AIA called for mandatory recertification to be put in "proper perspective" by recognizing it as an "exaggerated problem." Proponents argued that AIA should not become involved in establishing conditions of license renewal.

Much of the debate on these two resolutions centered upon having AIA take the lead in promoting the continued professional development and competence of members of the profession, on the basis of meaningful substantive continuing education and other professional development activity, in serving the needs and interest of the public. Already having gone on record in affirming the board's resolution, the delegates defeated both of these resolutions. Among other resolutions passed:

- That the Institute take whatever steps are necessary "to proceed with refinement of performance standards related to energy conservation and undertake a study of the best means of implementation." Also, AIA must "not compromise its policy by entering into any agreement to endorse any form of prescriptive standards . . . as an interim measure."
- That each task force investigating an issue to be decided by the membership be required to submit "a summary of the full range of information, both pro and con, including minority opinions, alternatives and comparative benefits."
- That a study of AIA's regional structure be undertaken and a progress report presented at 1978 grassroots meetings and a final recommendation or further progress report be presented to the 1978 convention.
- That AIA pursue a policy advocating that government agencies funding construction include architects in the initial determination of programs and administrative procedures.
- That minority affairs "be emphatically reaffirmed" in view of this period of critical economic difficulty.
- That the process of nominating and electing AIA fellows be reviewed to assure the best selection method possible.
- That communication of AIA business to the membership be improved, either through revision or addition to the content and format of the *Memo* or JOURNAL or, if necessary, through the creation of a new "Worksheet" designed to facilitate member response.
- That the importance of broad national representation on AIA committees be recognized and a study prepared to investigate the problem of funding travel expenses for members.
- That the board review, codify and revise all rules governing submission and processing of resolutions to make the process more effective, and that an annual timetable be established "which provides for early drafting of resolutions, state and regional review procedures and early distribution to the membership to encourage more concise, broadly supported positions, and to assure adequate debate time for all substantive ideas brought to the convention."

Epstein Warns on Uses Of Life Cycle Analysis

AIA continues to testify before Congress on various aspects of energy conservation. Herbert Epstein, FAIA, vice president of the Institute and a member of the energy committee, gave AIA's views on legislation relating to energy conservation and solar energy use in federal buildings (HR 3982 and HR 3983). Epstein said that AIA has "severe reservations" about some parts of the two bills. For example, both bills refer to life cycle analysis. "It is assumed," Epstein said, "that the use of life cycle cost analysis will automatically result in energy conservation. It is a mistake to believe that in all cases an energy system with the lowest life cycle cost will consume the least amount of energy, or vice versa."

Life cycle cost analysis, he said, is a highly subjective technique. To mandate its use for energy conservation would be "extremely dangerous." What is required "is a uniform procedure which can be adapted for each particular proposal. When such a procedure is applied to a specific project, a designer can approach a better solution through life cycle cost benefit analysis, but there is no one optimum solution to which such an analysis will inevitably lead."

A section of HR 3983 requires the General Services Administration administrator to establish solar equipment stand-

continued on page 20

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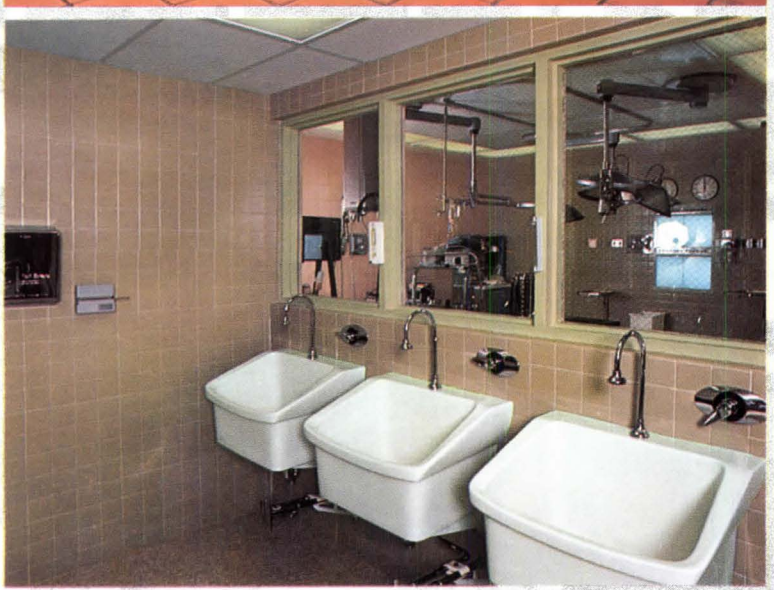

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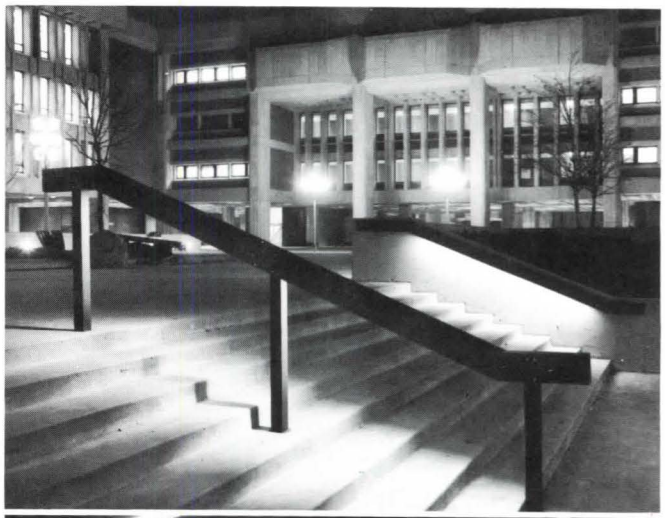

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Going On from page 16

ards. Epstein said requiring the federal government to establish such standards within a six-month span when experts contend that two years will be required "will very probably be counterproductive." Rushing into standards, he said, may arrest development rather than promote it. Also, the appropriate federal role "may well be to try a great many different technologies rather than only a few."

Thomas McKittrick, AIA, vice chairman of the architecture for education committee, testified on a bill which would assist schools in energy conservation (HR 5996). He said that AIA has two basic concerns with the legislation. First, it does not define the eligible uses of "energy conservation measures," and "there is no provision for authenticating that proposed energy conservation measures will indeed save energy. The only requirement is that the applications for the grants require procedures to evaluate the 'effectiveness' of the grants without providing any criteria or guidelines."

Second, the bill appears to set up a program in the area of energy conservation that will parallel programs in the Commerce Department and Federal Energy Administration, McKittrick said. A third separate program "may result in local officials being faced with multiple and possibly even conflicting conservation requirements."

Speaking on behalf of AIA on energy conservation in residential buildings (HR 6831), P. Richard Rittlemann, AIA, who specializes in energy conservation in Pennsylvania, said that Section 101 of the bill contains definitions that are "exceptionally crucial, since these definitions determine the scope of almost all other elements of the plan." The definition of "residential energy conservation measure" is proscriptively limited, he said, leaving no administrative discretion. Also, he said, the language "appears to prohibit or at least inhibit utilities from undertaking an aggressive and creative program beyond the minimum described in HR 6831." Despite the fact that a list of approved items is a simplifying element, he said, a danger of such a list would be to stop research, development and marketing in areas not listed.

Burley Restates Advice On Capitol's Restoration

It is a national responsibility to preserve the U.S. Capitol in a sound, usable condition, Robert A. Burley, AIA, Institute board member and chairman of a special task force on the U.S. Capitol, testified before a Senate legislative subcommittee. AIA's position is that the west front of the Capitol—the last visible facade of a building designed by Thornton, Latrobe and Bulfinch—should be restored rather than extended.

A new extension plan has been proposed by George White, FAIA, architect of the Capitol. White's proposal would result in a facility of about 135,000 gross square feet, with 100,000 square feet of usable space, at an estimated cost of $55 million. The new proposal is a modified version of the more elaborate extension plan which AIA has opposed in the past and which has been rejected several times over the past decade. AIA has maintained consistently that the west front should be restored rather than extended.

Burley said that the AIA board thought that White's proposal should be reviewed thoroughly, and a task force was formed to undertake the study. The task force reviewed the plans and models, studied anew the building itself and considered various historical and technical data, and came to the unanimous conclusion that there is no new evidence to change AIA's long-standing position which calls for prompt restoration of the west central front. The report was approved by AIA's board.

Burley cited several reasons for this reaffirmation of AIA policy:

- "Any extension or concealment of the west front would be detrimental in terms of historical significance, architectural integrity, the public image and the impact of our nation's most important building."
- It would be an "irreparable loss" to cover this last remaining vestige of the original building.

continued on page 24

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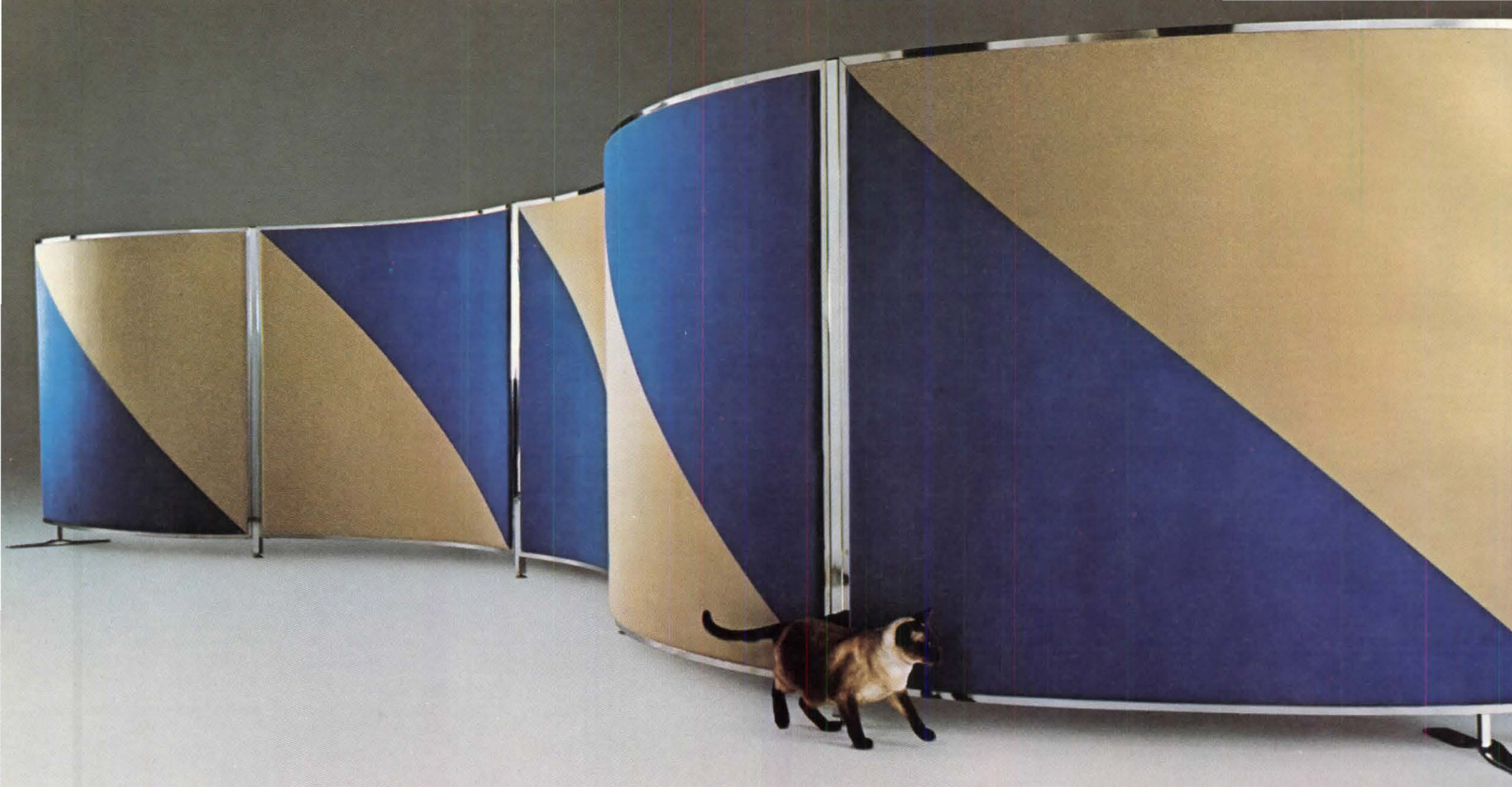

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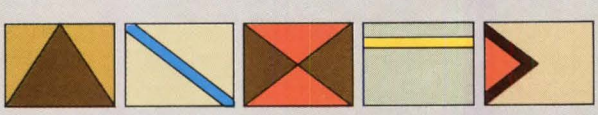

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Going On from page 20

- The extension proposal "cannot be justified by the relatively small amount of space that would be gained." Additional space could be gained more effectively and at lower cost by underground expansion and/or shifting nonessential functions to other locations.
- Restoration has been proved feasible by a Congressionally commissioned engineering study.

White, who acted on previously undisclosed instructions by a Congressional commission for the extension of the Capitol, said in testimony that his proposal is intended primarily to deal with structural problems. The extension, he contended, is preferable to drilling 5,700 small holes in the facade to pump in cement grout to strengthen walls.

Space, he said, is not the reason for his proposal. "The space is a dividend." The present condition of the building is dangerous, he said, and may get worse. Also, he said that the building "was not designed as a single composition. It grew as the country grew."

White's proposal has been approved unanimously by the commission for the extension of the Capitol, which includes Vice President Mondale and House Speaker Thomas P. O'Neill (D-Mass.).

Works Program Includes AIA-Backed Provisions

President Carter has signed into law a $4 billion public works program, a key part of his economic stimulus package. The legislation is expected to create between 200,000 and 280,000 jobs, principally at state and local construction sites.

AIA supported the legislation—both the original act in 1976 and this year's extended and expanded program. "We were successful this year," says Nicole Gara, director of Congressional liaison at the Institute, "in having two AIA recommendations included in the law—one requiring state and local governments to set their own priorities, provided they were submitting applications for more than one project, and the other requiring the Economic Development Administration to fund building projects with energy conserving potential over those without such provisions." The impact of the program, Gara says, is directed at construction workers, "but architects and engineers do benefit in an indirect way by having their previously designed but unbuilt public works projects funded and constructed."

According to the legislation signed by President Carter, 65 percent of the funds will be expended in states with the highest rate of unemployment, with the remainder of the money going to states with a disproportionately high rate of unemployment.

For example, the District of Columbia, whose unemployment averaged 8.6 percent in March of this year and 9.1 percent last year (the national rate in March was 7.3 percent), will be allocated $30 million for 17 public works construction projects. Probably 1,300 jobs will be created within the next six months on renovation of public buildings and improvement of parks and streets, as well as on a $12 million addition to the city's new but overcrowded jail. New York State, with an unemployment rate of more than 10 percent, will be allocated $500 million, with New York City, whose unemployment rate is more than 11 percent, receiving $200 million.

Pennsylvania Ave. Plan Gets Development Funds

Hopes are high in Washington, D.C., that at last the nation's ceremonial route on Pennsylvania Avenue between the Capitol and the White House will become an attractive and economically viable place. Congress approved the development plan in May 1975 (*see* Mar. '75, p. 36, for an analysis of the plan), but delayed funding until recently. On May 4, President Carter signed the 1977 Supplemental Appropriation Act, which provides the first $29 million in development funds.

Construction and development of the famed avenue will be a joint venture between the federal government and private investors. The Pennsylvania Avenue Development Corporation, created by Congress in 1972 to prepare a redevelopment plan for the 21-block area, will finance and supervise public improvements, including historic preservation and expanded pedestrian amenities. The corporation will buy properties in the development area, most of which will be assembled and leased back to private investors for development.

During the next six years, the following projects will be undertaken:

- Willard Hotel: The corporation will seek full title and possession of the landmark structure and then will solicit proposals for its restoration.
- Housing: A mixed-use residential, office and commercial superblock development will be designed to change the character of downtown between Seventh and Ninth Streets, now the most rundown part of the development area.
- Public improvements: Three specially landscaped environments will be designed to accommodate a variety of pedestrian uses by providing comfortable places to eat, sit and talk. Two of these areas correspond to the original L'Enfant plan,

continued on page 28

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Going On from page 24

which included plazas of differing character along Pennsylvania Avenue.

• Historic preservation: The corridor between Pennsylvania Avenue and F Street "will show in microcosm all the key elements of the renewed avenue: historic preservation, new retail and commercial life, new landscaped spaces for pedestrians and approximately 750 new housing units. Facades of now scattered, low-scale structures of architectural or historical significance will be moved to the general area where vacant lots and poor quality buildings now stand."

Florida Firm Designing, Building a Study House

A "total concept study house" is being built by the West Palm Beach, Fla., architectural firm of Schwab & Twitty. The house, an office project, is undertaken with funds from and profits returning to the firm's profit-sharing program. All the employees participated in the design, and all will take part in its actual construction and share in profits from its sale. "We will appreciate the general contractor's role more fully. We will assume the role of owner," says Ron Schwab, AIA.

The design, says Paul Twitty, AIA, was "based on all the clients we have ever had and their requests for living space. . . . Already, about 10 people in the office have taken part in the production of working drawings." He adds that office personnel "will observe the intricacies of construction—from the way a board is attached to how the windows are framed."

Twitty says that the office force has "gone through the usual steps of getting an appraisal, a construction bid, finding a prospective lender and responding to his needs, and obtaining a loan." Schwab adds that the office "will select wall coverings, plan fixtures and appliances. We're not going to furnish it, but we're doing everything else."

Montreal's Metro Cited For Design Integration

Montreal's metro system, one of the world's most effective public transit systems, has been selected to receive AIA's 1977 medal given in recognition of the integration of several disciplines related to architecture. The Institute cited the combined efforts of architects, engineers, interior designers, graphic designers and transportation planners in producing a system that is efficient, convenient and pleasant to use.

Each of the system's station stops is different, designed either by one of Mon-

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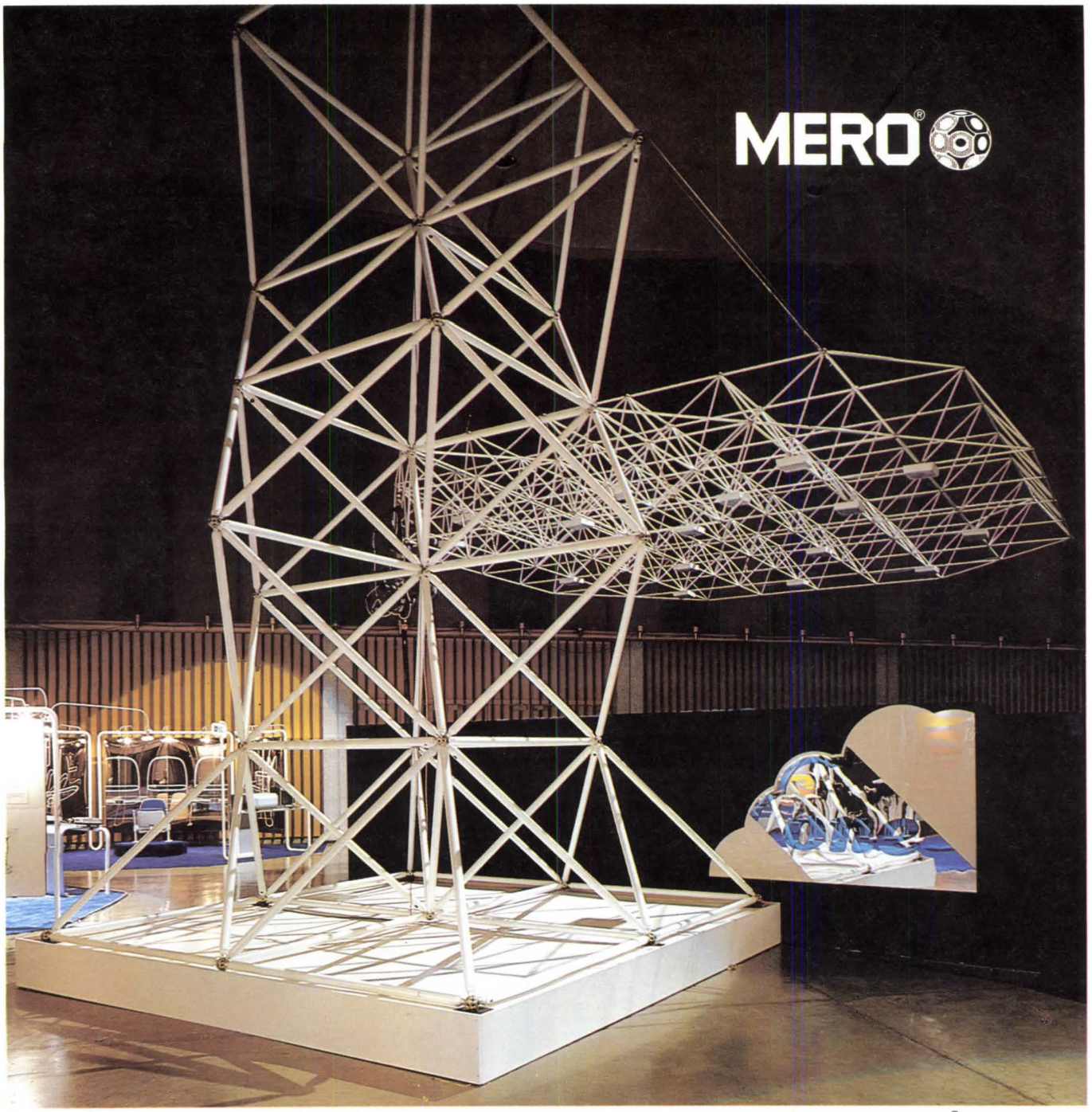

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AIA JOURNAL

Interior Architecture

Some of the reasons for this special issue are contained in an article on page 65, which charts the growth of architectural involvement with interior design. The author also points out that the growth is greatest in office interiors, which are the subjects of the first three articles in the issue. Since open landscaping continues to move toward dominance of the office interior scene, these three deal with it (two of them from the user perspective that has become our characteristic way of looking at works of architecture).

After the landscaping trilogy we present the results of two recent competitions. One introduces a new way of choosing architects for federal work and promises to turn the soaring interior of a Washington landmark into a varied and lively urban space. The other is the chair design competition conducted by the San Diego chapter/AIA in conjunction with last month's convention (of which more on page 8).

After the competition winners comes a gallery of recent furniture designs, updating the similar presentation of October 1974 by the same author. Like that presentation, this one is based on the premise that furniture design can be an act of architecture in miniature.

Said Charles Eames in that issue, "In designing furniture I like to think of myself as an architect. I can't help but look at the problems of structure—and structure is architecture."

So are, or so should be, interiors as a whole. And that is the basic reason for, and premise of, this issue. *D.C.*

Evaluation of an Open Office Landscape: AIA Headquarters

How the users, from staff to board members, view it four years after occupancy. By Andrea O. Dean

It is four years now since AIA moved into its present headquarters, time enough to season users' responses to the building.

For a number of reasons, the Institute's new building in Washington, D.C., was bound to fall under close and critical scrutiny. For when a design competition was announced in 1963, and a jury was selected, it charged the prospective competitors with nothing less than "the creation of a design for a new headquarters building that will satisfy both physical and spiritual functions—a building of special architectural significance, establishing the creative genius of our time yet complementing, protecting and preserving a cherished symbol of another time, the historic Octagon House."

The unhappy process by which an architect was finally chosen, five years later, was to make the building doubly vulnerable to criticism. After the firm of Mitchell/Giurgola won the design competition in 1964, AIA greatly enlarged its space requirements for the proposed headquarters, and Mitchell/Giurgola submitted a revised design. The U.S. fine arts commission, which had review authority, pronounced Mitchell/Giurgola's second design "out of keeping with the feeling of the Octagon," and rejected it. Mitchell/Giurgola then produced yet another plan, which was again rejected by the fine arts commission, this time because of a controversial notch at the intersection of the two wings of the proposed building. Refusing to further compromise their scheme, Mitchell/Giurgola resigned from the competition, and an AIA committee was formed to select an architect. The committee chose Norman C. Fletcher, FAIA, of The Architects Collaborative (TAC) in Cambridge, Mass., and Fletcher chose TAC senior associate Howard Elkus, AIA, to work with him on the project.

Completed in 1973, TAC's boomerang-shaped, seven-story, precast concrete and glass building forms an arc from New York Avenue on the south to 18th Street on the west. The uninterrupted sweep of the building is bracketed by twin service towers, which frame the Octagon, its garden and the courtyard of the new headquarters. As a theme, the red brick of the Octagon is carried into the courtyard through the floor of the spacious headquarters lobby, and into the entrance of its ground floor library.

With approximately 17,000 square feet per floor, the interiors of the three above-ground floors occupied by AIA were designed with two distinctly different aims in mind: to furnish ceremonial, social and work spaces for members and visitors; and to provide office space for the Institute's more than 100 staff members. (The top four stories are leased office space.)

On the first floor are library, lobby and an open landscaped office space, which was converted from exhibition space two years ago for use by 12 people who work for four organizations affiliated with AIA. On the second floor, at the notch overlooking the Octagon, is a social gallery. Enclosed offices for AIA executives plus

The facade, a view from the gallery and (above) the third floor open landscape.

an executive dining room and an open landscaped office for 16 AIA employees occupy the west wing of the second floor. In the south wing are a board room and two conference rooms.

The third floor of the headquarters building is given over entirely to open landscaped offices, and AIA staff members' response to this work environment will serve as focus for this article.

An open landscaped office plan was decided upon in the early stages of design. But the final program for the interiors was drafted only after construction of the building had begun. It was primarily the work of former Executive Vice President William H. Scheick, FAIA; Executive Vice President William L. Slayton, Hon. AIA, and Deputy Executive Vice President James A. Scheeler, FAIA, all of whom worked with an AIA building committee.

As Slayton tells it, "Bill Scheick went around to each staff person to get the space needs and requirements, which incidentally had to be pared down, and he held meetings with the entire staff and talked about the plans in general." But the final plan, says Scheeler, "was laid on the staff, including departmental administrators, as pretty much of a fait accompli."

There were two principal reasons for adopting an open landscaped plan, according to Slayton. First, although the initial cost was higher than for conventionally planned spaces, open office landscaping offered the growing organization flexibility to change its office layout without having to tear down walls. Second, it would also allow everyone, theoretically at least, to have a view of the outdoors. "This was a very important consideration," says Slayton, with Scheeler adding that "the configuration of the building was such that creating enclosed offices on the third floor would have left a group of second class citizens with no view." As an added advantage, says Slayton, "The plan would make communications easier, discouraging the physical and verbal separation of top staff from others."

The Reff system of furniture was selected for use in all three AIA floors by Slayton and Scheeler, primarily because it offered more storage space and more stability than any that the two saw during visits to several existing open landscaped offices and furniture showrooms. It is a rectilinear system, comprised of units for storage and credenzas covered with a white, synthetic finish, and charcoal gray-topped desks. The 56-inch-high filing and storage cabinets, together with fabric covered screens of the same height serve as partitions between work stations and define corridors.

The third floor is divided into two wings, whose center point is the notch overlooking the Octagon. In each wing are parallel rows of partitioned work stations which open onto corridors as in conventional, double-loaded corridor plans. Work stations with a view of the Octagon are occupied by supervisory personnel, with the largest, most desirable ones being reserved for departmental administrators. Work station size ranges from 207 square feet to no more than 80 square feet. Although some secretaries have small partitioned work spaces, the majority are clustered in open spaces by the windows and in rows on the interior corridors.

Just west of the elevator core, across from the glassed notch, is a room containing a Xerox machine, coffee maker and refrigerator. On the other side of the elevator lobby are two small conference rooms. Rest rooms are located directly across from the elevator, prompting one staff member to say, "Coming off the elevator, you would think this is a floor of bathrooms." Although directional signage was designed and exists, it was never put up, with the result that visitors wander around looking lost and puzzled, and secretaries positioned near the elevators are enlisted as traffic directors, much to their annoyance.

The overall visual impression of the third floor is of basically rectilinear horizontal and undifferentiated spaces. There is nothing "to mark off one department from another or to give each a sense of

The third floor's two wings, with their long, straight corridors, meet at an open "notch" filled with secretarial desks.

identity. There is no overall organizational principle," says George Hartman, FAIA, whose firm, Hartman & Cox, has been retained to fit two glass-enclosed executive offices into the third floor scheme.

The prevailing color is white, interspersed with spots of orange and green partitions set on a "rusty-ochre carpet," in the words of the architects who chose the color scheme. Most striking, perhaps, is all the greenery; staff members have scattered plants on almost every available surface and hung them from ceiling fixtures. Says Slayton, "The way things just happen sometimes can make a big difference. We had a rule that in order to maintain an appearance of order and neatness, nothing goes on top of the partitions. Finally people on the staff said, 'Couldn't we have plants?' And I said 'Okay.' Now we have this greenhouse and it makes a terrific difference in the looks of the place."

To find out how AIA staff members feel about the space they work in, the JOURNAL distributed questionnaires, and then did some follow-up interviewing.

Of the 62 people working on the third floor who filled in and returned questionnaires (out of 67 who received them), almost a quarter had primarily positive feelings about their spaces. An approximately equal number had mainly negative things to say, and the remainder (half of those surveyed) had mixed reactions. Eighteen staff members said they preferred open to closed spaces. But several, especially secretaries and young architects accustomed to working in bullpen arrangements, regarded their spaces as "closed." As one employee wrote, "How is one to tell if they're open or closed?"

Almost everyone reported liking some aspect of the open plan. One administrator said it makes him more accessible to his staff, and the absence of walls and doors makes supervision and communications much easier. "The noise," he said, "doesn't disturb me. Often, I have to do my own work after or before working hours, but that's the nature of my job."

Says a secretary, "I'm able to communicate with others easily; it tends to be a relaxed atmosphere." A group executive wrote that he likes "the feeling of being *in* things." Says Executive Vice President Slayton, "It is more informal than what I have here on the second floor. When I go up to the third floor, it's like being out in a social gallery. You can see people very quickly; in 30 seconds you get some business done. That sort of thing was certainly discussed as an asset during the design phases."

Many third floor employees mentioned the advantages of having a view to the outside, "even if only when standing." Almost all those surveyed said a view to the outdoors was important to them. Most staff members commented that the open plan encourages easy interaction with coworkers and that they liked, as one said, "the cheerful atmosphere" and "the overall open and spacious feeling." One young professional remarked, "I enjoy the visual relationship between the interior of the third floor and the outdoor courtyard spaces—it seems to work best with the open plan."

Still, a full two-thirds of those answering the questionnaire said they preferred working in a conventional, closed office plan. But, again, at least some of these consider their partitioned offices as "closed." A larger number of professional than secretarial and clerical employees voiced a preference for enclosed spaces.

Says one administrator, "I don't know if the arrangement makes communications within the department better. I do know that there are constant interruptions, that everything you say is overheard, which means you can't talk to an employee about poor performance unless you parade him or her into a conference room, and then everybody can see what's happening. For some reason nobody exercises common rules of courtesy here; the arrangement has brought out different—and worse—patterns of behavior than I've been accustomed to, even when working in a totally open space."

A mid-level professional employee remarks: "Only the courtesy and general amiability of the staff members prevent this from being an absolute snake pit. Seated at a desk in a cubicle, one is visually isolated but continually assaulted by distracting noise—exactly the reverse of my preferred work style. There is no way to prevent intrusions into my work space. It is an environment that inhibits concentration and creates a sense of barely con-

tained chaos and confusion." Says a secretary, "We should have partitions between all desks—administrative assistants and secretaries need to concentrate too, and the constant flow of traffic past the desks makes this difficult."

One administrator commented on the "upstairs-downstairs class distinctions." Another said, "Emotionally this arrangement would be a lot easier to accept if the top executives also sat in open landscaped offices. It would have been good for the organization if it had adopted open landscaping as a principle instead of just a way of cramming more people onto the floor."

Everyone likes some aspect of the landscape, but two thirds voice preference for enclosure.

The original overall density of the headquarters building's open office spaces was 140 square feet per person, according to TAC, but this included reception, corridor, rest room and conference areas. And although not many people working on the third floor commented, at least in open ended questions, on the density per se, a substantial number of persons working on the first, second and fourth floors said they wouldn't want to work on the third because it is "too crowded." Also, a full 73 percent of third floor employees said they had insufficient storage space. This may explain why the floor is littered with boxes containing papers and books.

William Scheick, though conceding that "we were crowding people in pretty tight," says that when figuring out space requirements for staff, he was astonished at the large amounts of storage space each person said was required. He concluded that AIA was "staffed by a group of pack rats." Slayton adds that "people don't have a systematic way of purging files," and want "to maintain reference files right at hand instead of in the library or basement. The third floor isn't dense," he concludes. "It isn't luxuriously spacious either, but I think there is adequate space for each person."

Even if the amount of space allotted for each person is sufficient, in the absence of "white noise" to mask work sounds and conversations, there is not enough space between each person to provide adequate auditory privacy. On a scale of excellent, good, adequate, fair and poor, over half of the respondents rated the degree of acoustical privacy as "poor" on the questionnaire, with more than three quarters of them saying they need acoustical privacy. Some typical comments were: "I hear other telephones ringing and a certain person unintentionally yelling on the phone; I hear typewriters clicking and the Xerox all day. Make it more soundproof!" "Conversations of probably normal volume are intrusive at distances as great as 30 feet from my workspace. Partitions are so low (and entrances to work spaces so wide) that passersby automatically have a look at me—for added distraction. Solution: Raise partition heights by two feet or more and use a very acoustically suppressive material for them." "I am disturbed by noise from two or three offices away when I'm not using my OSHA approved ear plugs, but using them makes it hard to hear my own phone."

By contrast, only 50 percent of those who responded to the questionnaire said they need visual privacy, and only 25 percent rated it as "poor," though another 28 percent said the degree of visual privacy was only "fair." In answer to the question, "What do you like least about your work space?" most mentioned lack of privacy, saying they wanted "higher partitions," "real walls and a door," and, most of all, "better sound proofing."

On hindsight, William Scheick says that "open office plans seem to work best where people are engaged in similar tasks and work on a team basis; at AIA everyone's work is different and there is little need for teamwork." However, many large corporations do now have hundreds, sometimes thousands, of employees working quite satisfactorily in open spaces at a variety of tasks requiring different degrees of concentration and teamwork. The key seems to be adequate acoustics and sufficient space between work stations, neither of which exists at AIA headquarters.

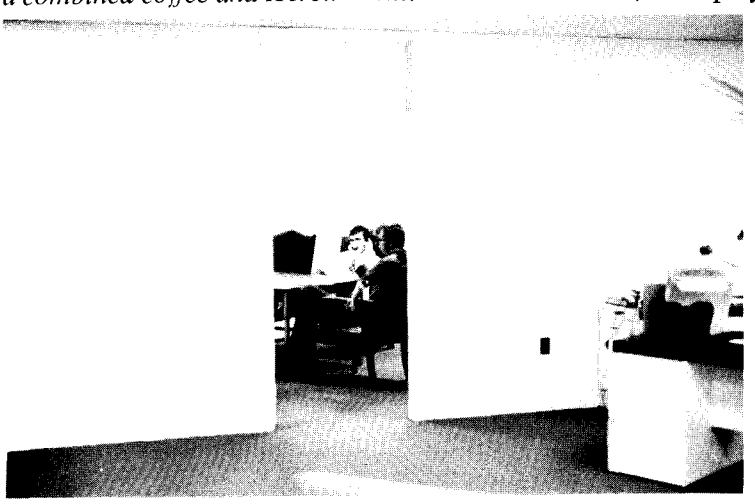
Architect Elkus of TAC says that the need for privacy was recognized from the start, which is one reason why two conference rooms were added. To those surveyed, however, these appear to be scant compensation, and most said that there are not enough spaces for working conferences, much less private conversations. One staffer lamented that the "little conference rooms are ugly, uncomfortable, usually cold and have badly designed and proportioned furniture." More kindly words about these enclosed rooms were few.

Also noted by the majority of employees is the absence of any place for staff members to meet casually or eat lunch in the building. Explains Slayton, "We had wanted to make an employee lounge out of a room in the basement. When we started leasing space, the first real nibble we got was from a law firm that wanted that space for storage. So after long debate and discussion we decided to lease that space, and I've been sorry ever since. Hindsight tells me we did not have to jump that fast."

Inadequate lighting was also mentioned as a problem, with just short of half the questionnaire respondents rating it as either "poor" or "fair." The lighting also fared poorly in a survey of the building by Sizemore & Associates, an Atlanta architectural firm engaged to design its modification for energy conservation. The firm found a full 60 percent of headquarters workers dissatisfied with the lighting, with most complaining of glare and eyestrain. Its proposed changes, approved by the board in June and scheduled for completion in September, include substantial revisions in the lighting system.

Respondents to the JOURNAL survey had comments like this about the lighting: "It's too bright," "it's ugly," "it's tiring, oppressive, like a grocery store," "my eyes become unusually tired," "it's

The third floor's only communal spaces are two small conference rooms and (right) a combined coffee and Xerox room.



not over my work." Heating and airconditioning were generally considered adequate, though several complained that both are erratic.

Twice as many of those who said they prefer enclosed offices, than those who reported favoring the open landscaped plan, had worked for AIA when it still occupied what Jim Scheeler and others have called "the palatial spaces" of the previous temporary headquarters building, at 1785 Massachusetts Ave., where almost everyone had a private office. A longtime employee wrote on her questionnaire: "I was one of the few staff members moving into the building (from the temporary headquarters) who thought the open plan system would work. What a disillusionment! I feel creativity, ability to concentrate, courtesy, etc., have all decreased in this environment. The third floor layout is reminiscent of an ice cube tray and is a misuse of the open office concept. It has all the disadvantages and none of the advantages supposedly offered by such a system."

One of the main advantages claimed for open landscaped plans is flexibility, and since 1973, two changes have been made in the arrangement of the third floor which required adding a substantial amount of furniture. "It would have been much more expensive and difficult if we had had to move walls," says Scheeler. The first change added two staff members, the second brought in an additional five, and moved the Association of Collegiate Schools of Architecture and Production Systems for Architects and Engineers to what had until then been first floor exhibition space.

A serious obstacle to flexibility is posed by the electrical outlet system. The originally planned underfloor duct system was replaced, for budgetary reasons, by an arrangement which requires drilling through the slab and fishing the wire back to move an outlet. On portions of the third floor, this procedure requires a two-story scaffold and costs $500 per outlet, according to George Hartman. The result is "to anchor furniture as to an umbilical cord," in the words of one administrator. Still another limiting factor is the system of fixed ceiling fluorescent lights, and one result of AIA's reorganizations of spaces is that some desks now have insufficient lighting while others suffer from a profusion.

On the first two floors, it is 'first and foremost not an office building but headquarters of AIA.'

The degree to which employees can rearrange their individual work spaces is somewhat limited. Former Executive Vice President Scheick says, "I don't believe that there is as much flexibility as was claimed, because of the configuration of the units." For financial reasons, only a limited number of furniture parts can be kept on hand, and as Scheeler says, "We want employees to be able to personalize their spaces, but the aggregate of space needs to remain fixed, or you get wars of turf and chaos."

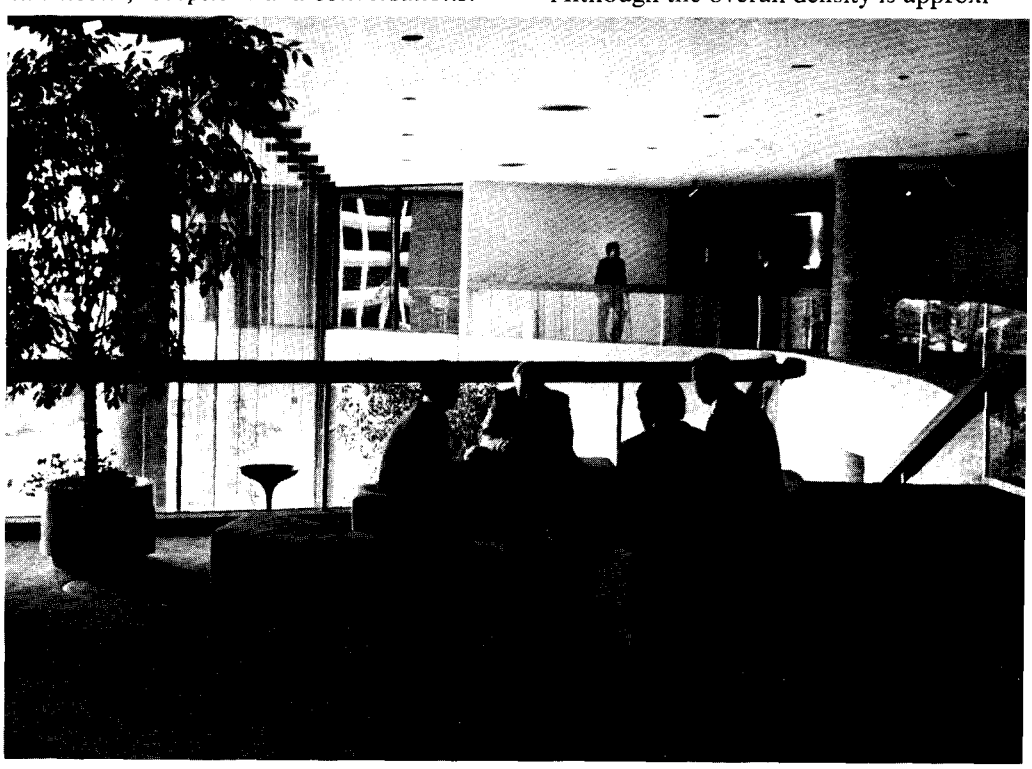
At least one person remarked, "Function and utility were given lower priority than overall esthetics." But, sad to say, ratings of "esthetics" also fared poorly, with just over half of respondents (55 percent) marking them "fair" or "poor." Similarly, some 52 percent rated the color on the third floor as "fair" or "poor." In their comments, staff members called the colors "too stark," the space "too cluttered," the carpet "cheap-looking," "the cheapo ceiling especially offensive because you see so much of it." "Color is important psychologically, and I abhor the orange which surrounds me," said another employee. Others complained of "too much white," and "too little variety." And many disliked the art work on loan from a local gallery, which has adorned the building's office space walls and lobby. Nevertheless, a majority of questionnaire respondents rated the overall attractiveness of the floor they work on as "adequate."

The most popular feature by far, it turned out, was not an architectural element at all, but the plants, most of them brought in and carefully nurtured by the staff itself. Thus, when asked, "What do you like best about the AIA building's interior spaces?" the largest number of people answered, somewhat whimsically in some cases, "the plants."

Equally surprising, perhaps, to the question "What do you like best about the floor you work on?" the most frequently given answer was "the people."

In contrast to the third floor, the second floor contains landscaped office spaces for 16 staff members who occupy only the northwest quadrant, behind a wall across from the executive offices. Some who work here reported feeling isolated from the hub of AIA activity, and one staff member remarked, "Our area with the doors closed is like being in a room which doesn't exist."

Although the overall density is approxi-



The social gallery gets heavy use for luncheons, receptions and conversations.

mately the same as on the third floor, there are fewer complaints about lack of storage space, and several second floor occupants commented that it tends to be quieter than the third floor. The main noise problem seems to come from the copy duplicating room, which also contains an automatic typewriter, and is within hearing of all. An inconvenience noted by many is that rest rooms are on the east wing of the floor, can be reached only by passing through the social gallery, and when meetings are in progress lavatories are usually crowded. Answers to the question, "What do you like best about your work space?" were negative in the extreme, with three people saying "nothing." Most second floor staff members were acutely aware of the qualitative differences between their own spaces and those occupied by the executives and the social gallery on the second floor.

Almost without exception, top executives who occupy the four fully enclosed, spacious and attractively appointed west wing offices on the second floor have only one serious complaint, namely the afternoon heat generated by the sunflooded southwesterly glass walls. In order to reduce the solar load in these offices, Sizemore & Associates recommends that a solar screen be added, together with an additional fan coil unit for each office.

Says Elkus, "Our commitment to the ceremonial aspects of the first two floors was very conscious. The spaces have an entirely different function from those that house the staff." Or, as Slayton told the Institute's board of directors in 1972, "Our use of space on the first two floors . . . is on the extravagant side according to the economics of office buildings. Of course, it is at these levels that the building is first and foremost not an office building at all, but the headquarters of AIA."

The architects intended the public and ceremonial spaces of the first two floors—the large social gallery at the notch overlooking the Octagon, the executive dining room in the west wing and the board room in the south wing—to be "an extension of the outdoors and an inviting place for visitors," in Elkus' words. They therefore used two-story-high glass panels with glass mullions to make visible from the courtyard the first floor lobby, the open stairway and the second floor social gallery to which it leads. Carpeting on the second floor is a deep blue, while blue-violet, some black and bright green are used as contrast colors. "Furniture was kept to a minimum to promote as much flexibility as possible," according to architect Elkus.

Board members and visitors express very mixed reactions to the public spaces of the headquarters building. Says one AIA director, "I like best the welcoming attitude which the building presents both inside and out, the generously proportioned stairs, the free flowing spaces, the openness of the gallery, where the absence of usable seating forces people to move around and mix." Another remarks, "There's no place to sit, no place to make minigroups.

The second floor landscape (top) now ends at two glazed, offices. Above, the executive vice president's office.

The social gallery is just a wide spot in the corridor, residual space that no one seems to have designed. One could wish it had been finished and furnished. Architects think that if you panel and carpet a space, you've finished it."

Still another observes that for him at least "the social area is lively, the distribution of elements good; the spaces work well enough, but some are dull and dismal, especially the board room with its black ceiling, light gray walls and purple seating. We don't design things that way." An architect who specializes in interiors says that he and many of his colleagues regard the board room as a "fitting setting for the Nuremberg trials. The color and style of the social areas are appropriate, but the choice of materials and furnishings shows a very superficial knowledge of interior design." He's referring here to the use of heavy carpeting in an area where people eat—and spill gravy—of light-weight and low trapezoidal hassocks on which one can sit only at the peril of falling into one's lunch.

Another says, "The posh, United Nations or corporate headquarters-like executive suite image is inappropriate. It doesn't reflect what our profession should be all about and relates very little to most of our members who work in small firms occupying modest spaces. But, this building is superior to many built at the time."

The first floor west wing contains office spaces for 12 people. In order to circumvent some of the problems existing on the second and third floors, "white sound" was introducted here to mask noise, and all partitions are green (rather than some

being orange as upstairs.) The ceilings are 10 feet 6 inches high, and a floor to ceiling window faces the courtyard, making people with window offices visible to every passerby. This seems to bother almost no one. What does bother first-floor staffers is the "noise," which to ears attuned to the din on the third floor seems almost nonexistent. The main reason first floor occupants seem to be so disturbed by all this "noise," they say, is that expectations were higher, since efforts were made to reduce it. Then too, in the absence of a constant background buzz and clatter, every auditory disturbance becomes more obtrusive and irritating. Apart from noise, first floor employees complained about the lack of rest rooms on their floor, and about poor lighting, heating, airconditioning and ventilation. These are a result, they say, of the fact that their area was not designed as office space.

The Sizemore firm's suggestions for retrofitting the first floor office space are aimed primarily at improving comfort. Their proposal includes the use of solar film or a solar screen to reduce glare, correcting existing task lighting, changing track lighting fixtures and reorienting fixtures to provide a better distribution of light.

The firm's report says that "all the people surveyed in this [first floor] space said that the temperature varies extremely . . . [and] variations may amount to as much as a drop from 82 degrees F to 70 degrees F in less than two hours." To correct this situation, Sizemore proposes dampering off the lobby except during summer, operating AHU #2 in summer and winter, balancing and reducing air-conditioning and installing a thermostat.

The basement of the headquarters building is occupied by the accounting office, the print shop/mail room/supply room and the computer room. The accounting office consists of an open bullpen space and two enclosed offices. Although it is relatively quiet and spacious, those who work here feel "as though we are the bottom of the barrel," according to one. There are no windows and the decor has none of the color or flair of the rest of the building. Asked "What do you like least about the AIA headquarters building's interiors," several accounting office workers answered, "the basement."

Below, converted gallery on the first floor. Bottom, the fourth, and right, the third.

The fourth floor of the building was originally designed as a law office (by and for the firm of one-time Nixon aide-turned-evangelist Charles Colson). One wing of the floor is now occupied by the AIA Research Corporation. AIA/RC's spaces are a mixture of enclosed offices and open spaces, some of which are partitioned.

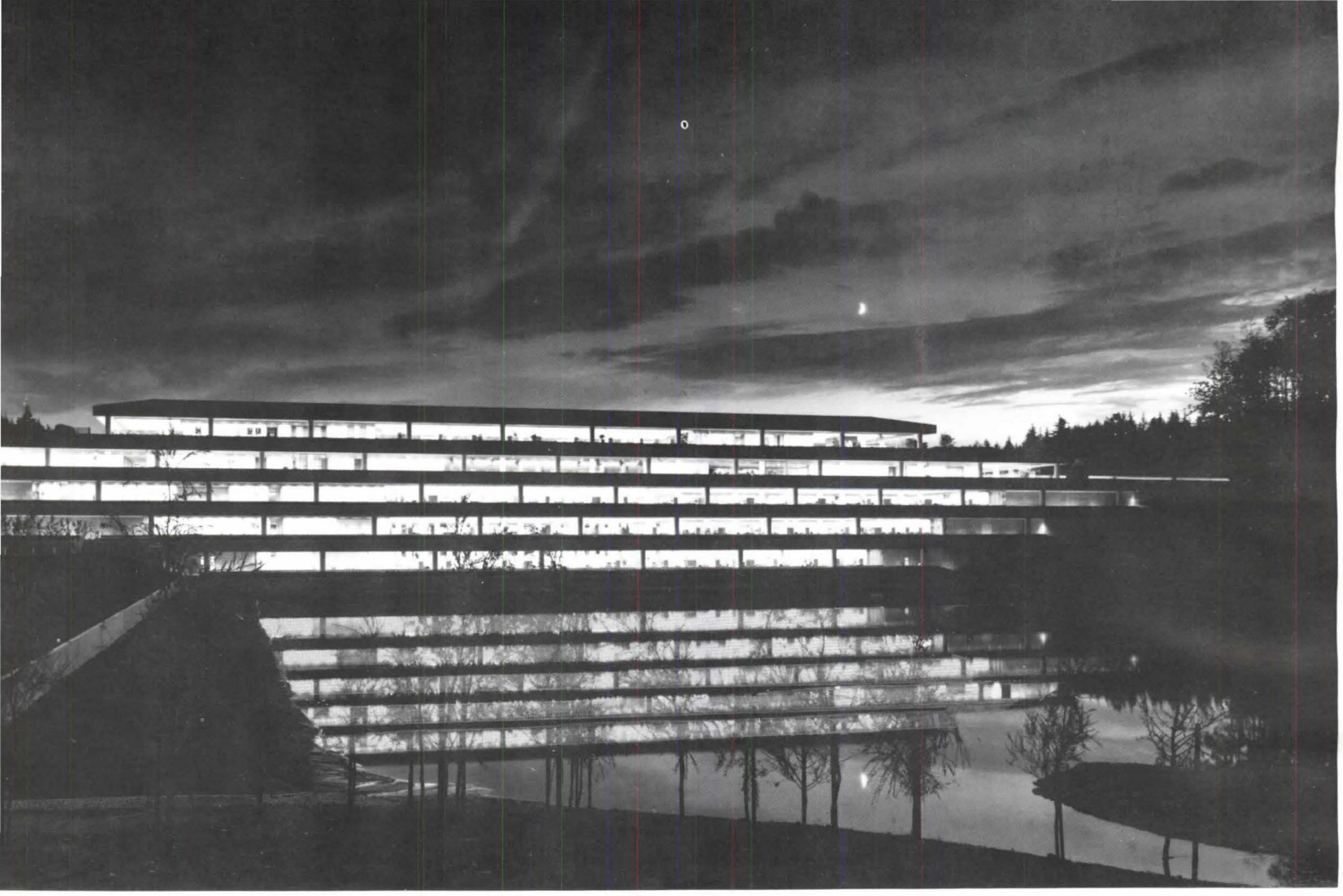
The important thing to know here is that John Eberhard, FAIA, president of AIA/RC, is accustomed to working in open spaces and much prefers it. As dean of the architectural school at the State University at Buffalo, his bailiwick occupied an old loft building, and Eberhard positioned himself right in the middle, without putting up any walls or dividers anywhere. He now occupies a private office and says, "I'm more uptight in this situation." His predilection for wide open spaces has seemingly communicated itself to his staff, most of whom express a preference for open spaces, "mainly because we work on projects in teams," as one says.

AIA/RC's organizational structure, or lack thereof, also lends itself more easily to open landscape planning than AIA's hierarchial one. As one AIA/RC staffer put it, "Each project reports to John [Eberhard], and project managers rotate. We're all on one level, and work much like an architectural office." Employees working on the same project are grouped together, and beyond that spaces are allocated on a first-come, first-served basis.

On the fourth floor, one is impressed once again with the relative quiet, compared to the third and second floors. Yet complaints about noise abound, again because the ringing of each telephone and clacking of every typewriter key becomes all the more intrusive in the absence of continual background clatter, according to Eberhard. The colors on the fourth floor are subdued, and while second and third floor staffers speak with derision of the "pumpkin" orange and "electric lime" green, here typical complaints are that the colors are "bland," and "drab, though easy to work in."

Because of the technical nature of most AIA/RC employees' work, a majority voiced more sensitivity than AIA staffers to defects in lighting, heating, ventilation and other technical matters, and complained about "inoperable windows" and "excessive solar gain."

But, as one AIA/RC employee wrote, "After seeing some of the offices that federal employees work in here in Washington, I think our conditions are terrific by comparison." Probably few who work in the AIA headquarters building would disagree with that. □



Evaluation of an Open Office Landscape: Weyerhaeuser Co.

Light and views through broad bands of glass penetrate the interiors almost without interruption. By Donald Canty

As much as any American building of recent memory, the Weyerhaeuser Co. headquarters near Tacoma, Wash., is all of a piece. Site, structure and open landscape interior meld with ease, logic and frequent drama.

In use just over six years, it was designed by the San Francisco office of Skidmore, Owings & Merrill, Edward C. "Chuck" Bassett, FAIA, partner in charge. It sits, damlike, in the narrow notch of a shallow creek valley, a 10-acre lake to the north and a green meadow to the south.

The building reads as a series of bold horizontal slashes across the forested landscape, their impact softened by dense ivy, only recently really matured, on the overhangs sheltering the first four floors. The five floors are staggered in both breadth and depth, getting shallower north-to-south as they go upward, widening east-to-west from first to fourth, then cutting back again at the pavilion-like fifth.

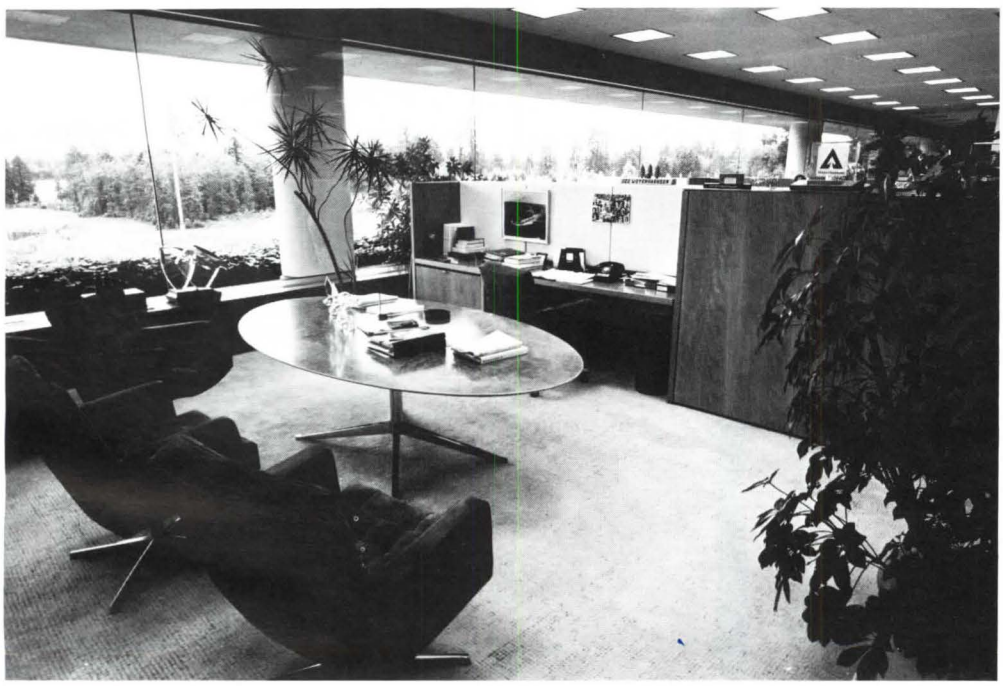
Between the great, green horizontal bands (1,300 feet at their widest) are unbroken walls of glass; 12-foot panels of clear plate meet in silicone-sealed butt joints which disappear at any distance. The light and views thus admitted into the building without obstruction penetrate the interiors almost without interruption.

The 360,000-square-foot building (the equivalent of a 37-story tower, the company likes to say) represented the largest U.S. application of open landscaping of its time and remains one of the most thoroughgoing. There are virtually no enclosed offices, not even on the fifth floor (photo above right) where dwell the top executives.

A story soon told visitors concerns George H. Weyerhaeuser, 51, who in 1966 became the sixth president of the company bearing the family name. Originally he and his assistant, W. Howarth Meadowcroft, occupied a striking and opulent executive suite at one end of the fifth floor, separated from their management colleagues by banks of elevators. A few months after moving into the building the president shifted himself into the middle of the landscape. His work station (right) is scarcely distinguishable from the others on the floor.

Construction of the new headquarters building, consolidating personnel spread among 22 buildings in Tacoma, was one of the first presidential acts of George Weyerhaeuser and, by all accounts, a symbol of the openness and modernity he wanted to bring to the company. It was he, according to Meadowcroft, who first introduced the idea of using an open landscape plan. "He had seen what was being done in open plan schools," Meadowcroft says, "and he told the architects 'let's not have our people in ticky-tacky boxes!"

Meadowcroft called in space planner Sydney Rogers, an early advocate of open landscaping in this country, and surveyed the few American experiments with it then extant. Weyehaeuser's original architect was Gordon Bunshaft, FAIA, of SOM-New York. The job was switched to Bassett and the San Francisco office when the new president decided a Western architect would be more compatible.



Even Weyerhaeuser's top executives inhabit an open office landscape, albeit an exceptionally handsome and spacious one. At left is the president's work station.

At this point, Meadowcroft, Rogers and an SOM team toured the best-known European examples of landscaping. "Chuck liked what he saw," says Meadowcroft, "but on the last night of the tour he turned to me and said, 'We'll do it better.' "

Architects and client both wanted to use a wood landscape system (not a few of the timber-based company's sales executives had grumbled about their new headquarters being designed in concrete). There was then no wood system on the market, but Knoll was researching one, so the building design team, Knoll designers and Weyerhaeuser technical people jointly developed the one used in the building, since marketed by Knoll as the Stephens system.

Components of the system are of red oak (except on the fifth floor, where they are of white oak). Dividers are surfaced in white mohair and wool weave over a padded base. Teak-finished white oak frames the glass and the core walls, which are a textured linen weave painted white.

While interviewing company officials and employees, I used vacant work stations on the third and fifth floors. It was instructive for someone who works in one open landscape to experience another, and inevitably it invited comparisons of the AIA and Weyerhaeuser headquarters. Before recording some of these subjective comparisons, it should be noted that while precisely comparative cost data were not available, the Weyerhaeuser designers undoubtedly had more resources at their disposal. (They also weren't designing for fellow architects.)

The wood largely accounts for one advantage of the Weyerhaeuser landscape over AIA's: It is considerably warmer in feeling. It is somewhat bland, however, the only bright colors being in the carpet, upholstered furniture and works of art. There is, in fact, talk of replacing some of the white fabric on the dividers with stronger colors.

The ceiling is another plus for Weyerhaeuser. It is comprised of acoustical tiles and low-brightness, egg-crate lighting fix-

The users' reactions blend pride with complaints about privacy and acknowledged overcrowding.

tures, both on a 20x20-inch module. There was a noticeable absence of glare, and Weyerhaeuser's ceiling is far less obtrusive than its brighter and more assertive counterpart at AIA.

The Weyerhaeuser building was my first user-experience with "white sound," a low background hum introduced to dampen other noises coming over the 56-inch landscape units. I found it unobtrusive, and whether because of it or other acoustical considerations, found the aural environment at Weyerhaeuser comparatively restful.

Arrangements of the two systems contrast sharply. Weyerhaeuser's plan makes AIA's seem rigid; AIA's makes the other seem sometimes chaotic.

Actually, the Weyerhaeuser plan has gone through a series of evolutions. Before the Bassett team entered the picture, the company's thinking tended toward the kind of plan used by the Quickborner Team, the German management consultants who originated the idea of open landscaping. Quickborner plans are based more on lines of communication than design ideas and tend to be random to the extreme. Early conceptual plans for the Weyerhaeuser space, says Bassett, "looked like a furniture warehouse."

SOM introduced a more regular arrangement, although avoiding complete rigidity by liberal use of curving dividers. One of Weyerhaeuser's secret weapons in maintaining the quality of its landscape is an in-house space planner, Ginger Love, of whom more later. As changes are made in the arrangement of work places, Ms. Love is seeking to create what she calls a "meandering plan." The result in places is a pleasing variety of pathways through the landscape, some die-straight and some more casual, if not always comprehensible. Ms. Love says it takes the building's inhabitants 10 days to 2 weeks to find new paths after a major change.

Ms. Love is currently experimenting with wider use of plants, rather than screens, as space dividers. The Weyerhaeuser landscape, like AIA's, has a profusion of plants, the difference being that here they were provided by the company as part of the original environment. Another amenity provided by the company is an abundance of communal spaces for employees: Nearly the entire fourth floor is devoted to such spaces; there are at least two employee lounges on each floor, and there are 22 enclosed conference rooms. Even so, a recurrent employee complaint is that the conference rooms are inadequate.

To gauge employee reaction to the building, we asked the company to circulate the same questionnaire used in the AIA evaluation among a sample varied by rank and location. The response was then supplemented by random interviews.

Respondents to the questionnaire divided almost evenly between those who preferred open and closed workspaces. Among the virtues ascribed to open landscaping, almost all cited encouragement of interdepartmental communication. Another mentioned frequently was "informality," an important virtue in the Pacific Northwest. As in the AIA survey, the plants were praised by most people.

The lighting got very high ratings, the acoustics decidedly mixed reviews. Complaints about privacy sometimes were coupled with a flat-out expression of longing for things like walls and doors, but more often were linked to complaints about traffic patterns that brought passersby overly close to, or actually into, work stations.

A specific suggestion about privacy was offered by one legal department secretary: "If I had any input into rearrangement of floors in the building, I'd put all the loud talkers, the social talkers and the 'how was your weekend?' talkers on one floor and let them suffer together. Nothing is more irritating than to try to work while someone is cutting a birthday cake, arranging a luncheon or in general creating confusion out of order. Try it with a forced smile on your face for hours and days on end."

A notable characteristic of the response was the number of employees expressing pride in the building, even if they had specific complaints about it: "I feel it is a remarkable building and I enjoy showing it off to visitors." "The building is very impressive and attractive. It serves well as a clue about the nature of the company I work for. I am proud to have visitors in."

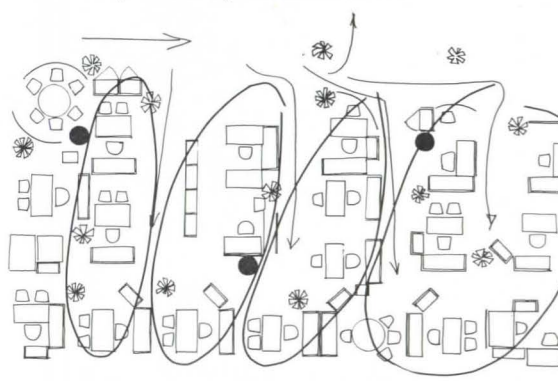
One employee complaint easily verified by the visitor's own eyes is overcrowding, especially on the first floor, whose 252-foot depth renders the relief of the views remote. The building is "bursting at the seams," says Bassett. "Landscaping allows the rationalization of crowding. You can always squeeze one more in."

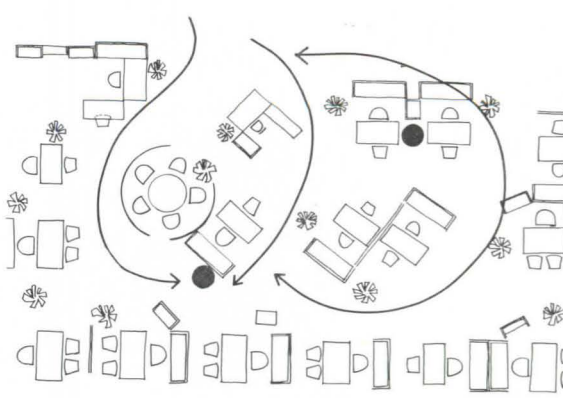
The design density of the building was 210 square feet per person. There are now an average of 128 square feet per person on the first floor and 145 overall, the latter figure being inflated by the fact that the fifth floor average is well over 300.

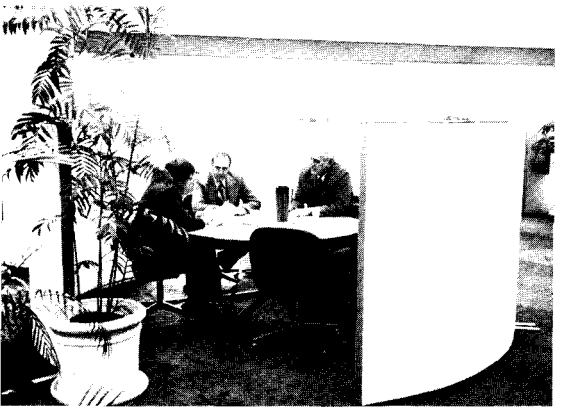
Says Charles E. Cereghino, manager of corporate services, "We know we're too crowded." He blames the fact that "everybody wants to be here" instead of in other Weyerhaeuser quarters in Tacoma and elsewhere. He also notes that department heads want "all of their people together," even if warned in advance, as some have been, that the result will be overcrowding of their areas.

"It was lovely when we first moved in," he says, "then it got jammed and we had to cubicleize." The means of doing so was multiplication of the number of fabric space dividers. Now they are being

Above, the building's handsome landscape system shortly after occupancy. Opposite, top to bottom, recent views of the third, second and first floors. The spaces are in a continuous state of flux. Below, a typical early layout and a less formal later modification of the same area.







thinned out: Ginger Love says that she has removed 150 in the course of various changes in space arrangements over the past two years.

Change is the name of the game of office landscaping at Weyerhaeuser. It is a changing and growing company and makes maximum use of landscaping's flexibility. Cereghino estimates that a third of the building's 900-plus inhabitants are relocated each year. A random sampling of neighbors to my temporary third floor workspace showed that each had moved from three to six times in the building's life.

Cereghino has become an evangelist of open landscaping. "This company is committed to it," he says, in field offices as well as headquarters. One of its major assets, in his view, is the low cost as well as the ease of changing space arrangements. In 1972, he says, an analysis showed that the cost of such change in terms of moving both workspace units and services was 34 cents per square foot. He estimates that it would have been between $5 and $15 in partitioned space.

He also reports on an early survey of the effect of the landscape on the quality and speed of decisions and on communications. Everyone said communications were better than in the older enclosed space. On decision-making, 35 per cent of the respondents said it was faster and better, 60 per cent about the same, and "2 per cent that they made worse decisions but that fortunately it took them longer."

Cereghino's advocacy can lead him to brand those who don't like landscaping malcontents: "Some people don't like anything and they take out their dissatisfactions on the space."

Ms. Love's observation is that there are three or four people on each floor who hate landscaping and that the rest generally like it. She considers "keeping in touch with people" part of her space-planning job, so that when it comes time to make changes she knows who is a talker, who is introverted and otherwise what special qualities of people might require special arrangements.

She and Cereghino agree that there is a generation gap in employees' reactions

Left, conference rooms, open and closed. The spacious fourth floor cafeteria (below) opens from perimeter corridors (right).

to landscaping. As he puts it, "When we moved in, the older executives were most dissatisfied. They had worked their way up in the field and arrived in Tacoma, where they were given their own individual offices, furniture and paintings on the wall. Then they were dumped in the open landscape with the same stuff as everyone else. Young people, on the other hand, like it right away."

Bernard Orell, senior vice president for public affairs, recalls that "When we moved out here I was most worried about the creative people in my department from the viewpoint of distraction. But when they got here they began to take out the screens to make their space completely open, like a newspaper city room."

He attributes their satisfaction and others' with openness to the fact that "The human animal is adaptable. You learn to screen out sound and not to be distracted visually." He also thinks the white sound helps: "You really notice the difference when you work on Saturdays and it's turned off. You hear everything."

Perhaps the most enthusiastic internal review of the building came from engineer James Anderson, who is in charge of its physical operations. "I'm really proud to work in a building like this," he says. And "We haven't had a major problem since we moved in."

In its six-year life, the building has changed constantly and energy use has been sharply cut.

Anderson is in charge of an energy conservation program that has brought the building's consumption of electricity from 8.5 million k-w hours in 1972 to 5.5 million in 1976. The conservation effort has involved tuning the airconditioning, turning off the perimeter induction system, reducing the wattage in the lighting and turning off some ceiling fixtures in office space and all lighting in the fourth floor's perimeter corridors.

Anderson also worked with the janitors who, as he pointed out, are in the building using electricity eight hours a day. Normally, he notes, the janitors turn on all the lights and turn them out as they work outward. "We taught them to start with the lights out and turn them on as needed as they work through the building, turning them out again as they proceed."

Anderson attributes some of the building's energy efficiency to the fact that "We're sitting down in a hole," to the minimum east-west exposure and to the wide overhangs that shade the glass. There are blinds only on some south and west panels and they are used only in winter when the sun is low.

Now under construction near the headquarters building is a research and development center, also designed by SOM-San Francisco. It too will have an open landscape, but with two significant modifications. Task lighting will be used exclusively, with no fixtures in the ceiling. And some elements of the landscape system will be higher than others, perhaps rising as high as six feet.

Few of the technical people who will move into the new building will come from the headquarters (an annex to headquarters to relieve its overcrowding is in an early planning stage). But they know the headquarters well, and they know that there are prices to be paid for the virtues of landscaping, even when designed by hands of proven sensitivity and skill. □

The Pros and Cons and Future Prospects of Open Landscaping

The debate moves from the question of whether to use it to how to use it successfully. A.O.D.

The AIA and Weyerhaeuser experiences with open office arrangements, as detailed in the preceding pages, show that open landscaping can improve employee communications, provide increased flexibility and a more pleasant environment than conventional work places, but only when properly planned and executed.

As Kent Slepicka, formerly of the General Services Administration's special programs, puts it, "Landscaping must be bought in concept, not just in pieces," which means proper space planning, acoustics, lighting, electrical wiring, duct work and much more. In a similar vein, Dr. R. E. Planas of the German Quickborner Team of management experts, which introduced open landscape planning to the U.S. in 1964, says that unless there is comprehensive planning and continuing supervision by a designer, the landscaped office is "worse than a conventional one."

Another lesson of the Weyerhaeuser and AIA examples is that for almost every benefit gained through open planning, another sometimes equally valuable one must usually be relinquished. Thus, for the improved communications offered by the open system, one pays by trading off a measure of privacy. "The name of the game," says John Eberhard, FAIA, president of the AIA Research Corporation, "is trade offs."

Postoccupancy studies of landscaping are scant. The majority barely scratch the surface of the subject and most are the work of furniture manufacturers. Nevertheless, the concept of open office landscaping has caught on.

Manufacturers of "systems furniture," which is used primarily in open offices, have proliferated, and their hardware accounted for 10 percent of the office furniture industry's annual sales last year, compared to 2 percent in 1973. According to *Business Week,* this upward trend continues to gain strength. The industry's figures project a still rosier future.

As with most unproved ideas that require people to change established habits and attitudes, opinions about open office landscaping range from strong advocacy to equally strong criticism.

Some designers and social scientists who concern themselves with office design regard landscaping as just another fashion which took hold mainly because of its novel and "zippadee-doo-da look," in the words of Norman De Haan, AIA, past president of the American Society of Interior Designers. Put another way, "People just seem to like this new look and then justify it with rationalizations—which is a nice way to do things," says George Nelson, FAIA, president of the New York City design firm which bears his name. Others, however, justify office landscaping in much more ambitious terms, claiming that it saves costs, saves time, saves space and boosts worker productivity and morale.

Landscaping's proponents contend, first of all, that it has significant cost benefits over conventional office arrangements, that it lowers initial costs and long-term costs, as well as the costs of changing and maintaining office spaces.

Eastman Kodak's director of office operations, Herb Dean, says his company saved as much as 20 percent in initial costs by using an open landscaped plan in its Rochester, N.Y., headquarters building. Others, including Michael McCarthy, AIA, partner in Skidmore, Owings & Merrill, and George Nelson contend that in their experience the "built-ins" are much more expensive than erecting dry walls. Often this is true, continues the argument, but a good part of the expense of "systems furniture" can be offset by savings in heating and cooling costs, because with an open landscaped plan the whole floor can be treated as one space.

Because spaces used for corridors in conventional office arrangements can be enlisted as work space in landscaped offices, more people can be fitted in, which can again reduce initial costs. But, the trade-off principle works here as elsewhere, and as density increases, so does clutter, while privacy declines. The use of sophisticated and expensive acoustical treatments will help reduce the din, but only at the cost of raising initial expenses.

The one thing almost everyone agrees on is that when *properly planned and executed,* open landscaping allows organizations to change office layout faster and less expensively than where there are walls to be moved. This is a decided advantage for large companies that regularly contract, expand and reorganize. However, as Sandra Williams of Design Concepts in Alexandria, Va., says, "Many open space plans are not as flexible as advertised."

In some landscaped offices, such as the Weyerhaeuser headquarters, employees and their work stations have been moved frequently with minimal disruptions, and changes are made virtually overnight. In others, such as the AIA headquarters, reorganizing work spaces has been a laborious, time-consuming process, and not an entirely successful one either. For a system is only as flexible as its least flexible element, and in the absence of flexible lighting fixtures, the moving of work stations can leave some with too much light, others with almost none at all; and in the absence of a flexible electrical outlet system, electric typewriters can be stranded.

A principal selling point of open office landscaping, advocates contend, is that it improves worker efficiency. For the Quickborner Team, planning was largely a matter of making lines of communication as short and effective as possible by placing people who work together close to each other, irrespective of rank and status. This was supposed to stimulate thought, "facilitate paper flow" and thereby increase productivity. And because there are no walls to hide behind, "an enormous amount of communication occurs in open office spaces without anyone saying anything," says John Eberhard. If someone is habitually tardy or goofing off, his supervisor will see it. But, as an AIA department head observed, it is difficult to talk to employees about poor work performance where you can be seen and heard.

Some open landscape offices don't even offer the benefit of increased communication. As Lila Shoshkes says in her book, *Space Planning: Designing the Office Environment,* "The furniture often dominates the space, creating honeycombs, roomettes or mazes, cutting off contact and communication."

Claims that landscaping increases efficiency and productivity are widely made and widely disputed.

Further, efficiency of white collar workers is very difficult to measure with any degree of accuracy, and we do not yet have convincing proof that improving communications actually results in increased productivity. When New York City's port authority moved into the World Trade Center, the organization opted for an open plan and retained the Quickborner Team as consultants. After a year's occupancy, psychologist Lawrence

Zeitlin evaluated some of the port authority spaces and confirmed that the plan had, indeed, improved communications, but employees groused about constant interruptions and distractions. And, according to port authority systems analyst Bill Warren, the new environment produced no increase in worker efficiency. An explanation offered by the Quickborner Team is that the work itself simply failed to interest employees.

Some companies, however, claim that a conversion to landscaping, when properly done, can indeed produce greater efficiency. Eastman Kodak experienced a "10 to 28 percent increase in performance," according to Herb Dean. But he does not explain how he arrived at this conclusion, and attributes the supposed gain to no particular aspect of open landscape planning, but rather to "the generally more pleasant environment." SOM's Michael McCarthy, AIA, notes that a move into new or newly arranged quarters will usually coincide with, or follow, other administrative and managerial changes aimed at increasing efficiency.

Others maintain that an open office plan raises efficiency mainly in offices where people perform similar tasks and work on a team basis, as they do in design firms and large insurance companies, but not in law firms where a high degree of concentration is required. In almost all cases, the acceptance of open landscaped arrangements by employees depends on whether or not management is firmly committed to the concept. As an example, at Weyerhaeuser the willingness of top executives to relinquish their enclosed offices apparently made it easier for other employees to accept their own open work stations. At AIA, on the other hand, where top executives still have enclosed offices, some staff members were disturbed by "upstairs-downstairs class distinctions," as one high level employee put it, and have adjusted with difficulty to their open offices.

The Quickborner Team has also claimed that open office arrangements raise worker efficiency because the furniture employed conforms to the needs of the individual worker. But, here again, there is disagreement. Douglas Nicholson of the interior design firm of Business Programs International maintains that the furniture used is largely irrelevant to productivity. "Human factors specialist" Malcolm Brooks agrees that the effect of furniture on efficiency is minimal.

Apart from claiming that landscaping heightens productivity, proponents also claim that it makes the office environment more egalitarian. Management (usually everyone but top management) is divested of private offices and the working conditions of lower echelon workers are usually upgraded. As Jeff Miller, president of Hunter/Miller & Associates in Alexandria, Va., says, "The strongest resistance to open office landscaping usually comes from middle managers who have worked hard to earn a private office only to end up with systems furniture components. Meanwhile, the arrangement usually works to the advantage of secretarial and clerical workers who, more often than not, are accustomed to completely open bullpen arrangements." Existing studies of landscaping reinforce Miller's view.

The overall appearance, or image, imparted by office landscaping may be attractive. But as George Nelson says, "Cubicles can have a confined, claustrophobic feeling, and the main view when seated is often of fluorescent fixtures and boring ceilings."

Some designers are beginning to feel that the visual aspect of open office landscaping has been overdone and overemphasized. Norman De Haan says, "There has to be a happy medium between the overly stimulating razzle dazzle of most open office spaces and providing an atmosphere in which one can think."

Trends toward increased office automation, 'humanizing spaces' and user involvement in design.

Then too, most postoccupancy evaluations reveal that esthetic considerations rank low on most office workers' lists of priorities for their work environment. Much more important are good lighting, heating and ventilation, visual and especially acoustical privacy, proximity to a window, sufficient and appropriate work space and the like. Barry Brukoff, the owner of his own design and consulting firm in San Francisco, says, "Things that make lovely pictures seldom feel right."

One of the two main trends in office design that designers and researchers foresee as they look 5, 10, even 15 years into the future is an attempt to make things "feel right" or to "humanize spaces," to put it in current jargon. The other main trend is a significant increase in the use of automation in offices, which could radically change the white collar work place as we know it.

Working in open spaces entails a radical change for most people who are accustomed to the privacy offered by four walls and a door. And because open landscape planning increases the amount of interaction between employees, it will also tend to create more "people problems." It would seem to be especially important, then, to involve psychologists and sociologists in the programming and planning of landscaped offices. Social scientists who have studied users' responses to open office arrangements, in turn, maintain that employee participation in the planning and design of open offices is crucial for success.

Peter Lawrence, who instructs companies on office planning and teaches at the Harvard University graduate school of design, asks, "How can we expect people to be productive and creative when they are not even considered important enough to make decisions about their work settings?"

Just how important user involvement in the planning and design of office spaces really can be is shown by a comparative study of two very similar Federal Aviation Administration installations, conducted by Sam Sloan of People Space Architecture in Spokane, Wash. At the one, employees participated significantly in the design process; at the other, they had almost no say in design decisions. Sloan found that office workers who had been actively involved in decision making were more satisfied with, or more tolerant of, their work environment, even of its faulty aspects. Interestingly, he found that those who reported "slight participation" in the space design and furniture selection process expressed the most dissatisfaction. "The message seems to be 'if you are going to get me involved make it honest and meaningful,' " writes Sloan.

One consequence of the trend toward "humanizing spaces," says psychologist Robert Sommers of the University of California, Davis, will be a greater emphasis on preprogramming, "in working out procedures and methods by which people can help shape the office environment to their needs." This will require teamwork between social scientists, designers, engineers, acoustics experts, management specialists and others. As William Caudill, FAIA, said some time ago, "One person cannot design a building. The prima donna is dead. The new genius is the team."

Although some designers claim, as does Sandra Williams of Design Concepts, that "private clients are very nervous about getting 'the little people' involved," the experience of Peter Lawrence and others is that many private corporations are well aware of the need to make their offices a better place to spend eight hours out of every working day, and are willing to go to some lengths to improve them. The federal government is conducting a number of user evaluations of its facilities, and the state of California has made a major commitment to postoccupancy studies.

"Automation will virtually revolutionize the work place during the next 10 years," says Larry Lerner of SLS Environetics. When Lerner looks a few years into the future, he sees a proliferation of cathode ray tubes, which will enable workers to call up documents from their files on a

Continued on page 82

Competition-Winning Design for Making a Landmark Come Alive

Renovation of Washington's old post office introduces a new A/E selection method. By Allen Freeman

Washington, D.C.'s old post office building is to be restored and adapted to mixed use by the federal government. For years its spectacular 196-foot-high cortile has been blocked from the sunlight by a metal roof and the building has been closed to the public.

In this first test of the Level 3 method of selecting architects and engineers, the General Services Administration chose the joint venture partnership of McGaughy, Marshall & McMillan of Norfolk, Va., the Washington firms of Arthur Cotton Moore/Associates and Stewart Daniel Hoban/Associates and the Atlanta-based Associated Space Design, Inc.

Their winning proposal calls for glazing the cortile roof and carving out an irregular shaped hole in the first floor where mail was once sorted. This would open the ground floor to the central cortile and permit the building's lowest level to be adapted and developed for commercial use. The clock tower would be exposed down to its foundations in the cortile, where a semicircular stage would accommodate small performing groups. The proposal also suggests placing an observation elevator in the clock tower, one of the highest vantage points in the District of Columbia, although this was not included in the $16 million construction budget.

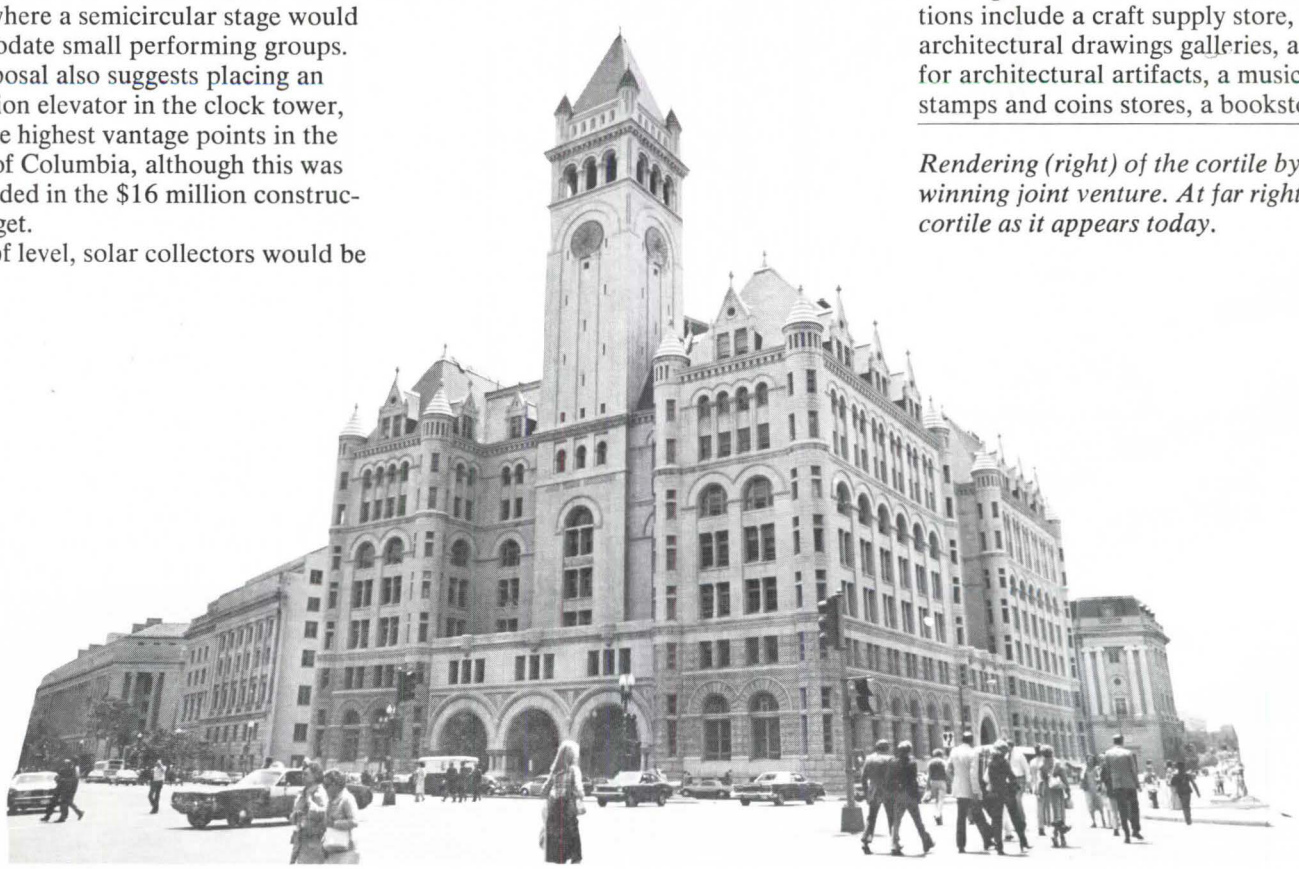
At roof level, solar collectors would be integrated into the HVAC system. Movable solar thermal louvers would be placed inside the east- and west-facing surfaces of the cortile's skylight. In warm weather, they would absorb about 80 percent of the solar heat gained through the skylight and would reduce glare. During winter months, they would augment roof-mounted solar collectors.

The membrane now covering the cortile's inner canopy at the mezzanine level would be removed and its support structure retained to support lighting and sprinkler systems.

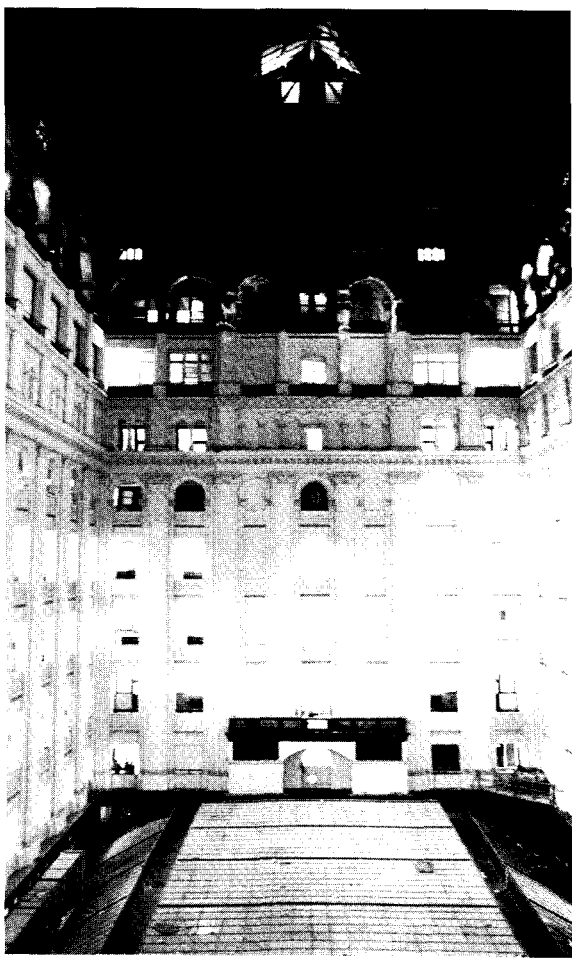
The fifth floor, once the office of the U.S. postmaster general, would be restored in full, while other office floors (mezzanine through ninth) would be more freely adapted for modern office needs. To maximize office area, the plan would adapt and enlarge the mezzanine and glaze cortile openings on the eighth and ninth floors, allowing reduction of corridor space with minimal adverse visual effect to the cortile. Ninth floor areas on the perimeter of the building, now dark, low and practical only for storage and utilities, would be given new A-frame roofs with skylights.

Tenants for the office spaces are suggested in the proposal: part of the first floor and the mezzanine, second and third floors for the National Capital Planning Commission, Department of the Interior Office of Archaeology and Historic Preservation, the Advisory Council for Historic Preservation and the Pennsylvania Avenue Development Corporation; fourth through sixth floors for the National Endowment for the Arts, and the seventh through ninth floors for the National Endowment for the Humanities.

Commercial tenants for the ground and first floors would relate in some manner to the government office tenants. Suggestions include a craft supply store, art and architectural drawings galleries, a shop for architectural artifacts, a music shop, stamps and coins stores, a bookstore,



Rendering (right) of the cortile by the winning joint venture. At far right, the cortile as it appears today.



souvenir shop, theater ticket booth and newsstand. A post office museum and a "fashionable" palm court restaurant would round out the public facilities.

The plan effectively separates commercial users from office users. Access to the ground level from the Mall side, where there is now a mail loading dock, would be through a ramped sculpture court. This southern orientation reinforces the concept of the building as an attraction for tourists from the Mall and as a link to Pennsylvania Ave. and Washington's shopping-hotel-entertainment area.

The old post office is located on Pennsylvania Ave., which itself is to be revitalized. Controversial since it was completed in 1899, the Romanesque revival structure designed by W. J. Edbrooke was considered out of place with its neoclassical neighbors in the Federal Triangle. Support has grown in recent years, however, and many now consider it a welcome relief for the government office buildings and museums that make up the triangle.

Jay Solomon, the recently appointed GSA administrator who announced the winner, took a personal interest in the competition, attending the presentations by the participants to the GSA review board that later made the selection recommendation. That board of government architects and engineers consisted of William Lawson, AIA, Karel Yasko, FAIA, C. Kent Slepicka, Claude Bernier and Dwain Warne, assisted by 20 technical consultants.

The AIA-endorsed Level 3 selection procedure grew out of a process first announced by the GSA in 1974. It calls for the awarding of A/E contracts on the basis of proposals that include planning and design concepts, HVAC systems and construction and life cycle cost estimates. In picking a design team, GSA does not commit itself to the specifics of the winning proposal. Indeed, it is conceivable that elements of the two runners-up could be incorporated in the final plans since GSA now owns the concepts presented by all three finalists. It was a competition of ideas rather than of final plans.

For this first Level 3 competition, 85 proposals were entered. Nine of these were selected for further analysis and from these, three finalists were chosen to submit preliminary plans in return for $46,000 fees.

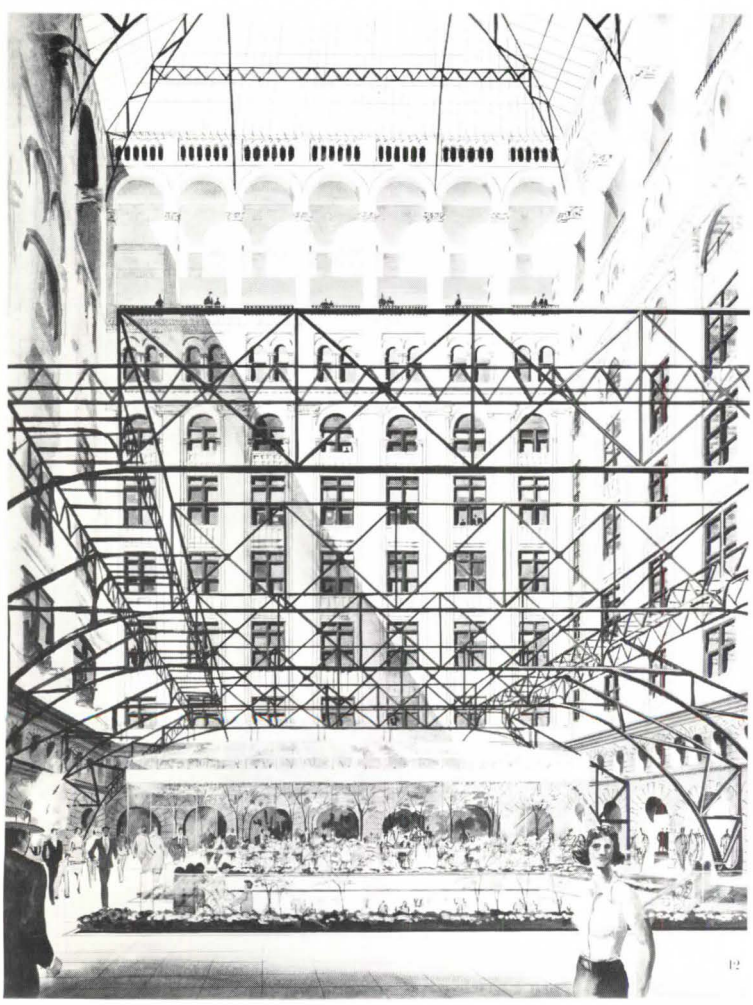
Here are some aspects of the proposals

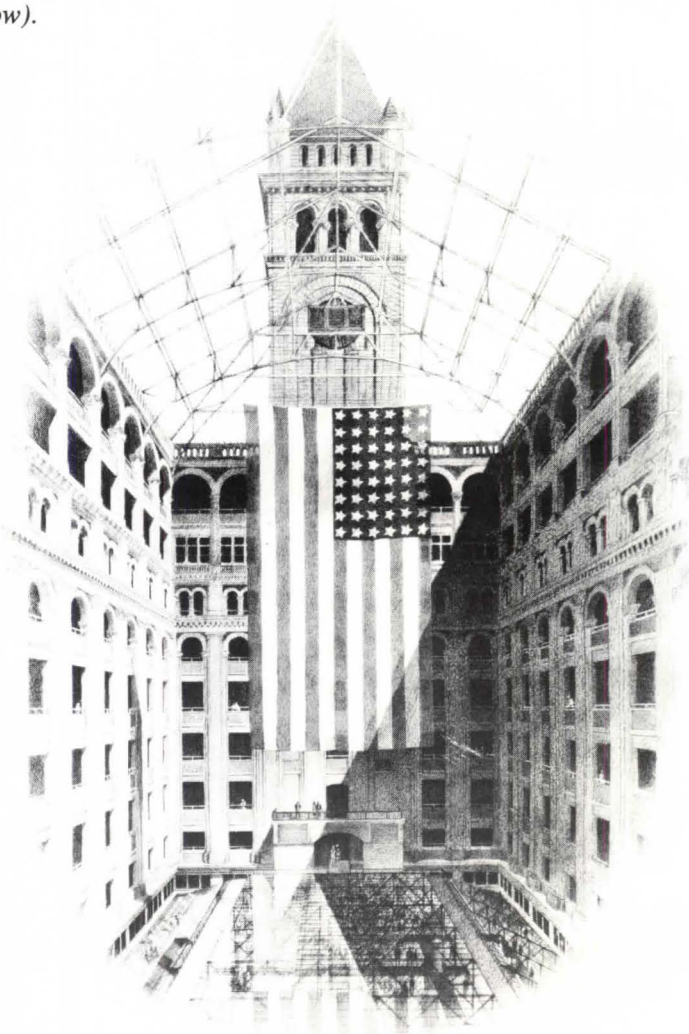
by the other finalists:

- Faulkner, Fryer & Vanderpool of Washington called for glazing the inner canopy and utilizing the original mail-sorting space on the first floor as an exhibition hall. The basement would be for storage and office use and the cortile restored closely to its early appearance, including a huge American flag suspended from the skylight. Flag Day, June 14, began in this building in 1908, and the largest correctly proportioned American flag—70 feet 4 inches by 37 feet—was normally on display.
- The joint venture partnership of Shepley Bulfinch Richardson & Abbott of Boston with Hugh Newell Jacobsen, FAIA, of Washington and Desmond & Lord, Inc., of Boston envisioned a sunken courtyard on the ground floor with commercial space and additional office space on its perimeter and a bistro-like cafe-restaurant set in the center among trees and open to the cortile skylight. This plan called for the removal of the corridor on the cortile-side of the ninth floor, opening the corridor below to double height and utilizing the truncated ninth floor spaces for HVAC equipment. A bonus for the cortile would have resulted from the reduction of the spandrels between the eighth and ninth floors to only their structural importance, allowing the neoclassical orders to terminate visually with a true loggia as their upper definition.

With the architects/engineers now selected, GSA officials hope the prospectus and funding for the project will clear Congress by Oct. 1. The design phase is expected to take about a year before construction begins, and the long-neglected old post office could be fully rejuvenated and functioning by May 1980. □

Proposals for the cortile by Faulkner, Fryer & Vanderpool (right) and by Shepley Bulfinch Richardson & Abbott, Hugh Newell Jacobsen, FAIA, and Desmond & Lord, Inc. (below).





Winners of the San Diego International Chair Design Competition

Sponsored by the convention host chapter, it drew 600 varied entries from around the world.

The recent international chair design competition sponsored by the San Diego chapter/AIA is the first major opportunity in the past 31 years for designers to test their creativity without the constraints of the marketplace.

Not since the 1941 and 1946 Museum of Modern Art chair design competitions, which launched the furniture design careers of Charles Eames and Eero Saarinen, has there been such a large-scale open competition.

There were 600 entries from around the world. The jury included Milanese architect and furniture designer Cini Boeri; Sherman Emery, editor of *Interior Design* magazine; Mildred Friedman, design coordinator of the Walker Art Center and editor of *Design Quarterly,* and Warren Platner, FAIA, architect and furniture designer. The idea for the competition came from Walter Collins, a San Diego architect and AIA associate member.

Under the terms of the competition, the jury reviewed the 600 entries in plan form and selected nine for development into prototypes, pictured here. The original submissions ranged from a rock to the Queen Elizabeth II jubilee chair, a red velvet footstool with an image of the queen attached in cardboard.

The two first place winners were Mike Lance of San Antonio, Tex., and Motomi Kawakami of Tokyo. Each was awarded a $10,000 prize.

Lance's design (1) in chrome and leather folds to the thickness of the structural frame. The jury felt that the chair could be made with a variety of materials other than leather and function as a lounge chair, an upright chair, a dining chair, desk chair or a sofa.

Kawakami's design (2) is also a folding chair, of chrome with molded plastic. It has a unique folding mechanism at the junction of the back and armpiece and the chrome legs, and the back legs telescope into themselves.

Lance is a principal in the architectural firm of Lance, Larcade & Bechtol. He collaborated with a Danish designer on seating for a San Antonio theater and designed a saddleoak furniture group and patio tables for a restaurant in that city. The furniture was manufactured by the Harter Corp. Lance began his architectural career in San Antonio with the firm of O'Neil Ford & Associates. He is particularly interested in knock-down and folding types of furniture.

Kawakami's chair reflects a meeting of East and West. A designer of furniture and industrial products for the home in Japan, he studied for two years in Milan under architect Angello Mangiarotta. He participated in international design shows in Italy, England and Japan and in 1976 received the annual award of the Japan Interior Design Association. Much like the legless seats used by the Japanese in their homes, Kawakami's chair has a back which folds down to the seat.

Probably the most intriguing concept in seating among the award winners is the "wearable walking chair" (3) designed by recent Tulane school of architecture

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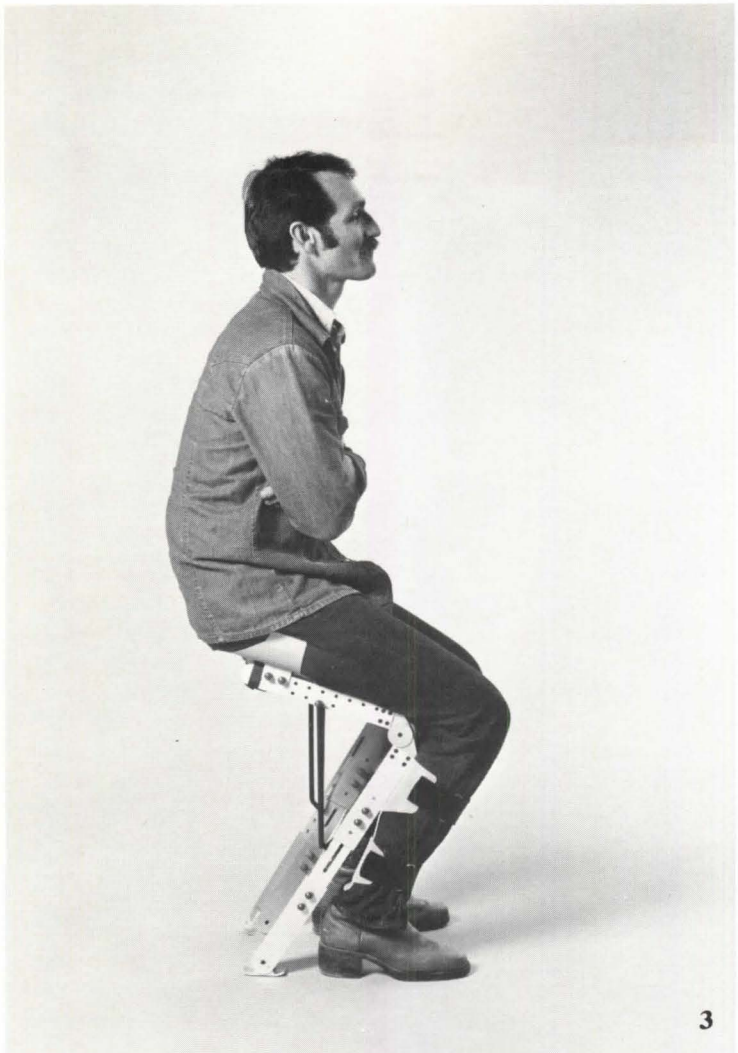

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graduate Darcy Bonner. The chair, somewhat reminiscent of an erector-set device, is an aluminum frame with nylon leg straps and a steel rod that makes a triangular support between the calves and the thighs. Although the jurors felt that the design needed refinement, and therefore awarded it a second place prize, they commented that "it's one of the few new directions for the future that have surfaced in the world of seating."

The other second place winner was artist/designer Ralph Henninger who makes custom furniture in Scottsdale, Ariz. The handcrafted oak chair (4) converts to a bench or table. Jurors called it "versatile, lightweight and portable." The second place winners received $5,000 each.

There were a number of trends evident in the designs submitted, Collins reports. Lightweight, fold-up chairs were prevalent among the entries, despite the fact that the competition rules made no effort to define what was meant by a chair. Collins indicates that there was a strong preference for modular seating and a heavy bent toward contract-type seating. The competition was announced in all the major interior design, architectural and furniture design publications in this country and a number of international journals. Generally speaking, the selections of the jury were conservative designs, readily adaptable to mass production.

All but two of the other finalists submitted designs for folding chairs. A variation on the cane chair used at the races is made of chrome and enameled metal (5). This chair by Gregory John Cook of Houston rests on three legs.

When not in use, the tiny upholstered seat (6) by Bandini Buti of Italy stands parallel to its single leg, set on an angle in a wide base.

It looks like a gateleg table (7), but this plywood design can be cut from a single sheet, folded flat for storage. It is by Masazo Tango, a Japanese designer living in Italy.

A more traditional chair is the Fiberglas slat seat on a sled-leg metal base (8) by Guido Berger and Annette Stahl of Basel, Switzerland. The legs lock into place and can be readily disassembled.

A molded plastic chair (9) uses a single L-shaped module for the back, seat and legs. The design is by Centro Progettazione, a group of four architects and an engineer from Florence, Italy.

Funds for the competition came from the San Diego chapter, entry fees, the Graham Foundation and several furniture manufacturers, including Knoll International, Steelcase, Fortress and General Fireproofing. *Andy Leon Harney*

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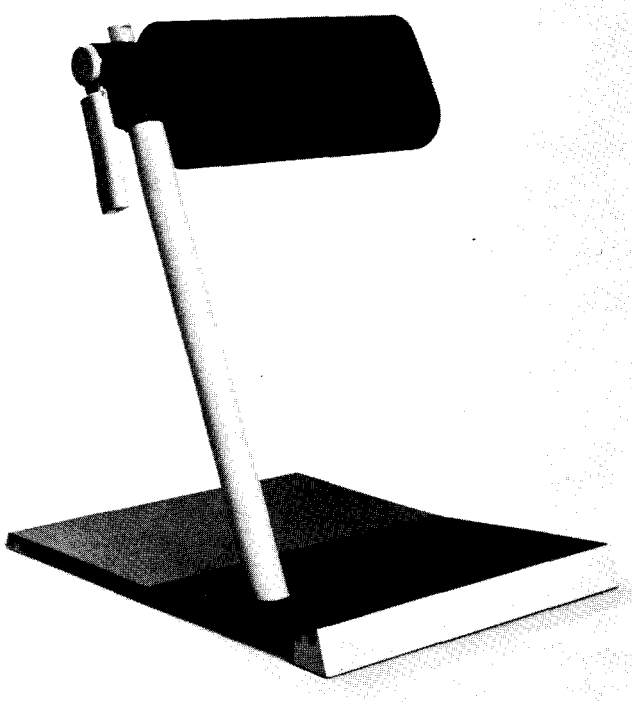

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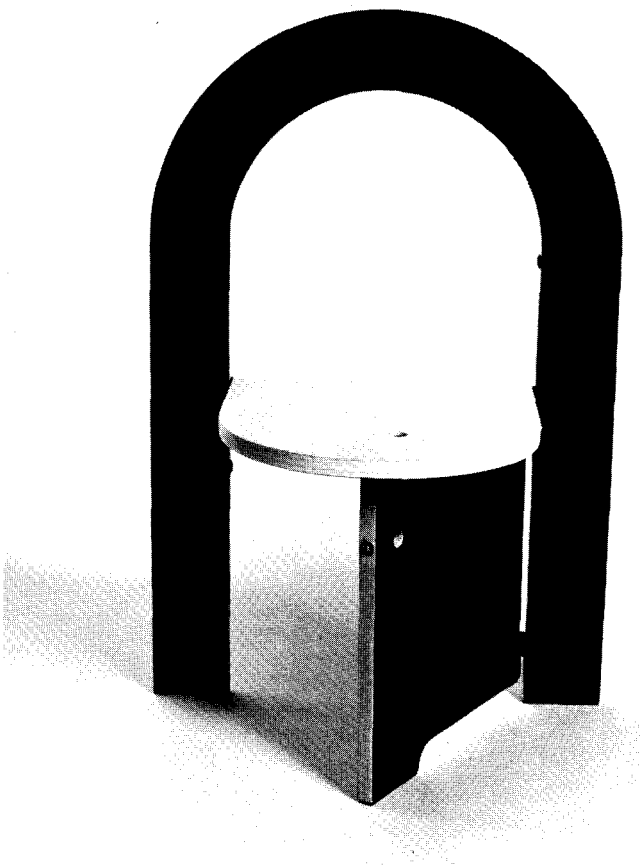

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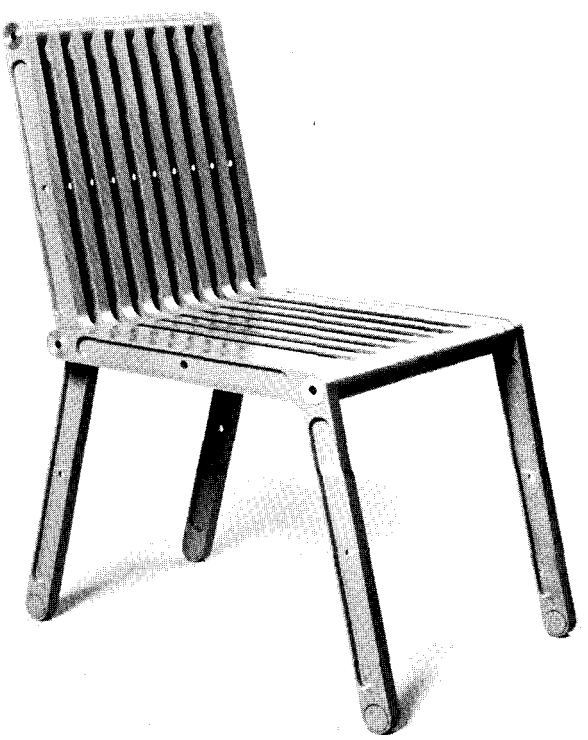

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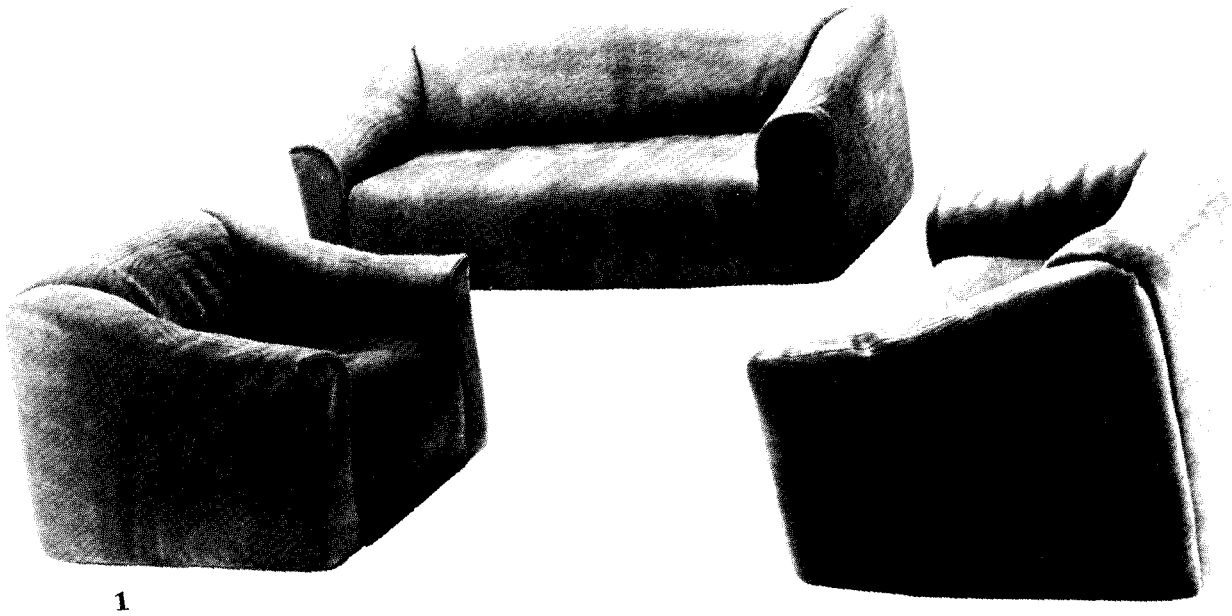

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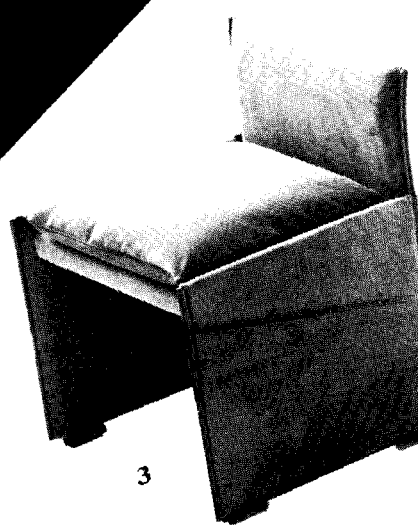

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Furniture as Architecture: New Idioms But Still An Italian Accent

Among other changes, the overstuffed look is yielding to a tailored approach. By Andy Leon Harney

Increasingly, architects are involved in the selection of furniture for the buildings they design. There is a growing recognition in the architectural community of the importance of furnishings in reinforcing the design and function of a building.

In 1974, the JOURNAL devoted an entire issue to furniture as architecture. Italian designers were heavily represented in that issue, largely because they are the trend setters in furniture design the world over. In fact, most of Italy's designers are architects because architectural training in that country includes both furniture design and industrial design in general.

In both furniture and building design, Italian architects give careful consideration to structure, use of materials and user needs. The cultural climate, according to Robert Cadwallader, president of Knoll International, and Julio San Giorgio, head of the firm's European operations in Milan, lends itself to constant turnover of furniture design ideas. "There is a great interest in style in Italy," says Cadwallader.

"In Italy," says San Giorgio, "there are many factories willing to experiment by making small runs on the chance that the design will take hold and become popular."

This intense interest in style on the part of both the Italian design community and the Italian public has resulted in an industry which still sets trends in furniture design for the world. The annual Milan furniture fair draws manufacturers, buyers and distributors and designers by the thousands to see what new trends the Italians have set for the coming year. A look at the most recent fair, held last fall, reveals a more conservative approach to design by Italian designers than that evidenced several years ago.

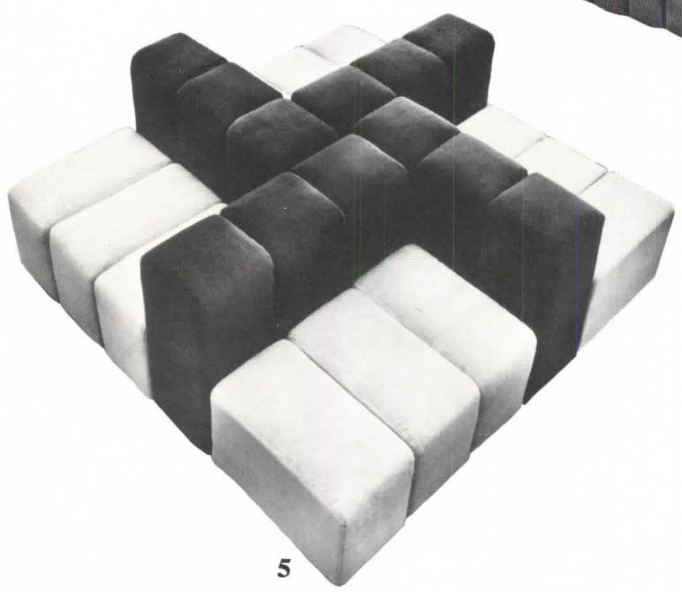
The overstuffed pillow look which has now come to this country in hundreds of knock-offs has been subdued in favor of a more tailored look.

There are still many designs which lean heavily on the upholstered trend, however. The Crusader series of overstuffed chairs (1) distributed by Stendig is a German refinement of an Italian look designed by Ernst Luthy and Urs Felber. The chairs are upholstered not in the thin stretch fabric favored by the Italians, but in Toro bull hide, 5mm thick unsplit leather.

The Playpen sofa design—a sort of upholstered living room—is refined in a new series called Software by Italy's most prolific contemporary designer, Mario Bellini. The larger photograph (2) is somewhat deceptive: It is in fact a bridge between the earlier overstuffed seating and the newer, leaner line forged by Bellini (3). The essential form of all the Software seating is a thin series of upholstered panels over welded steel armatures. Industrial grade zippers are sewn into each panel and become a design detail with another purpose—the zippers gang units together and provide rigidity to the fabric. The single chairs are narrow, but deep and surprisingly comfortable.

Above is a grouping called Erasmo (4), by Afra & Tobia Scarpa, distributed by B & B America. The grouping exemplifies the refinement of the pillow look into a wide, much more tailored chair.

Ms. Harney is a Washington, D. C., writer. A frequent contributor to the JOURNAL, she most recently wrote about art in public buildings (*see* Oct. 1976).



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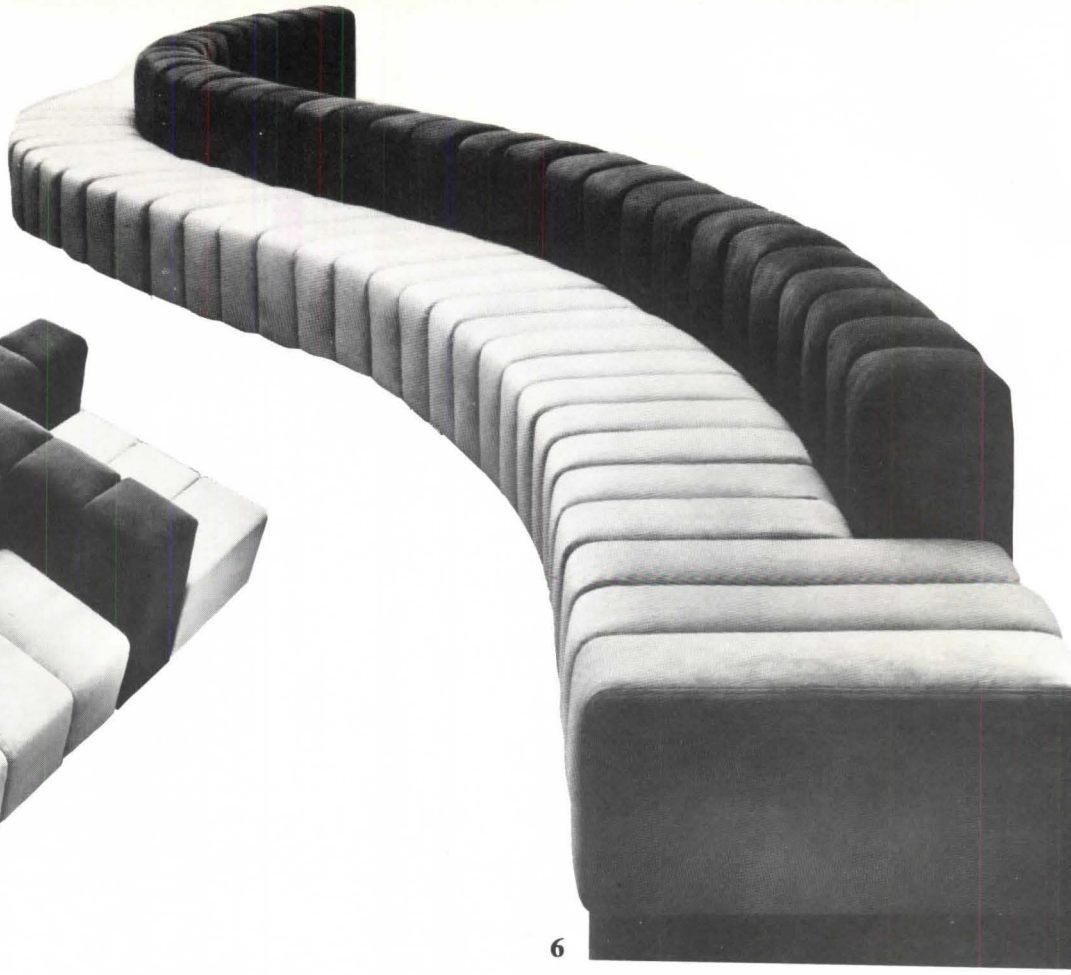

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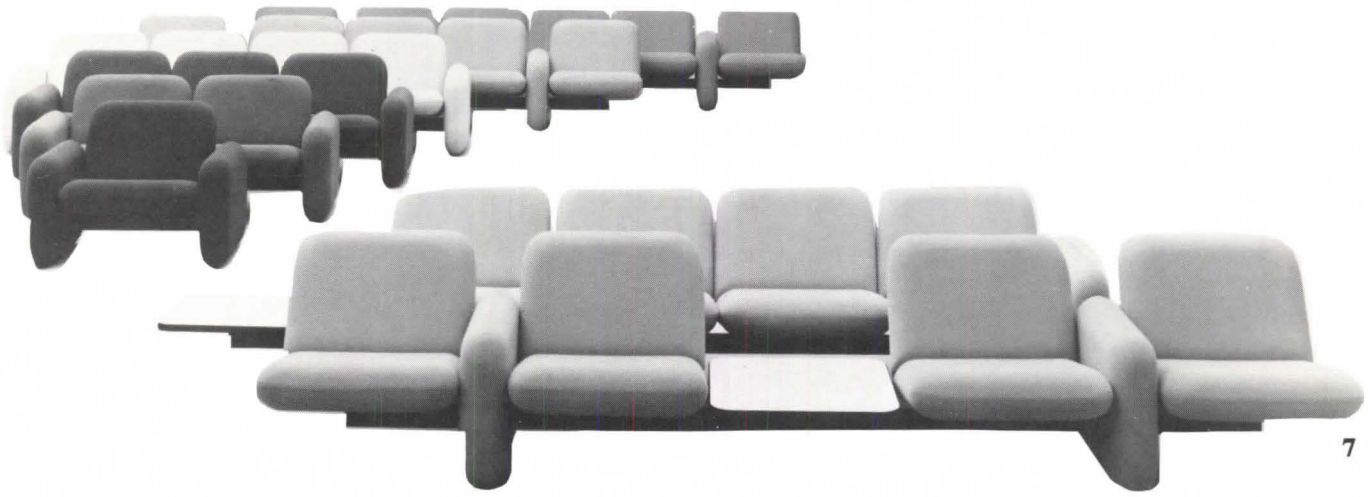

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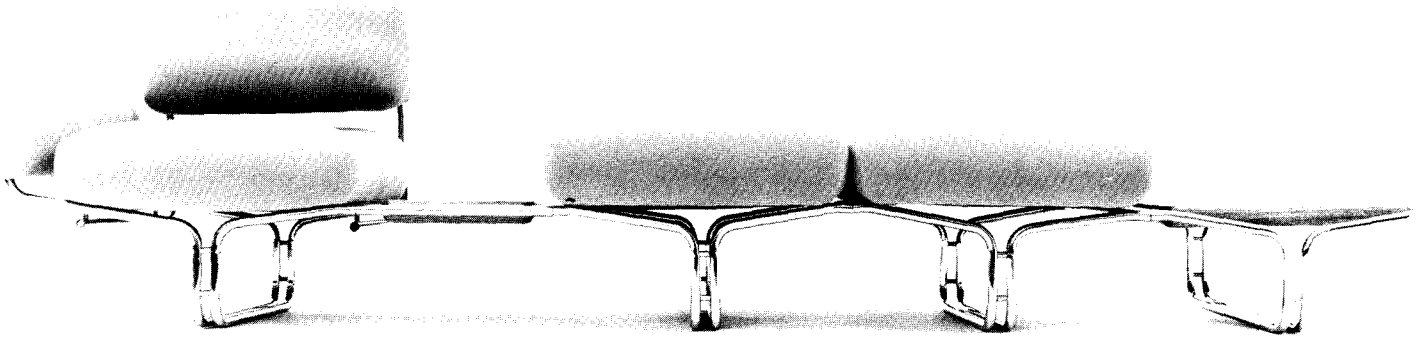
Modular Seating Systems

Soft tailored modules have continued to be an important solution to lounge and lobby seating in large commercial installations. The upholstered rectangles by Barry Brukoff called Varius (5) are manufactured by Metropolitan Furniture. The design allows for a sensual snake-like seating arrangement (6) or a more controlled, geometric pattern.

Herman Miller's Modular Sofa Group (7) also provides for rectilinear lounge and lobby seating. The collection designed by Ray Wilkes can be ganged up to six across with options for tables to replace seating units. A metal strap connects the chair's plywood seat and back so that each section can flex independently to adjust to the user's weight and pressure. Each module is bolted to a tabular black steel frame suspended between the arm sections.

A lighter, somewhat more graceful and more flexible modular seating arrangement is the Leib Lounging System (8) by Roger Leib, AIA, of Add Interior Systems. Leib's system offers benches, plain and upholstered, with and without arms, tables that replace single seats, corner units and planters. A fastening system is designed to allow for flexibility without visible weld marks or obvious ganging devices (9).



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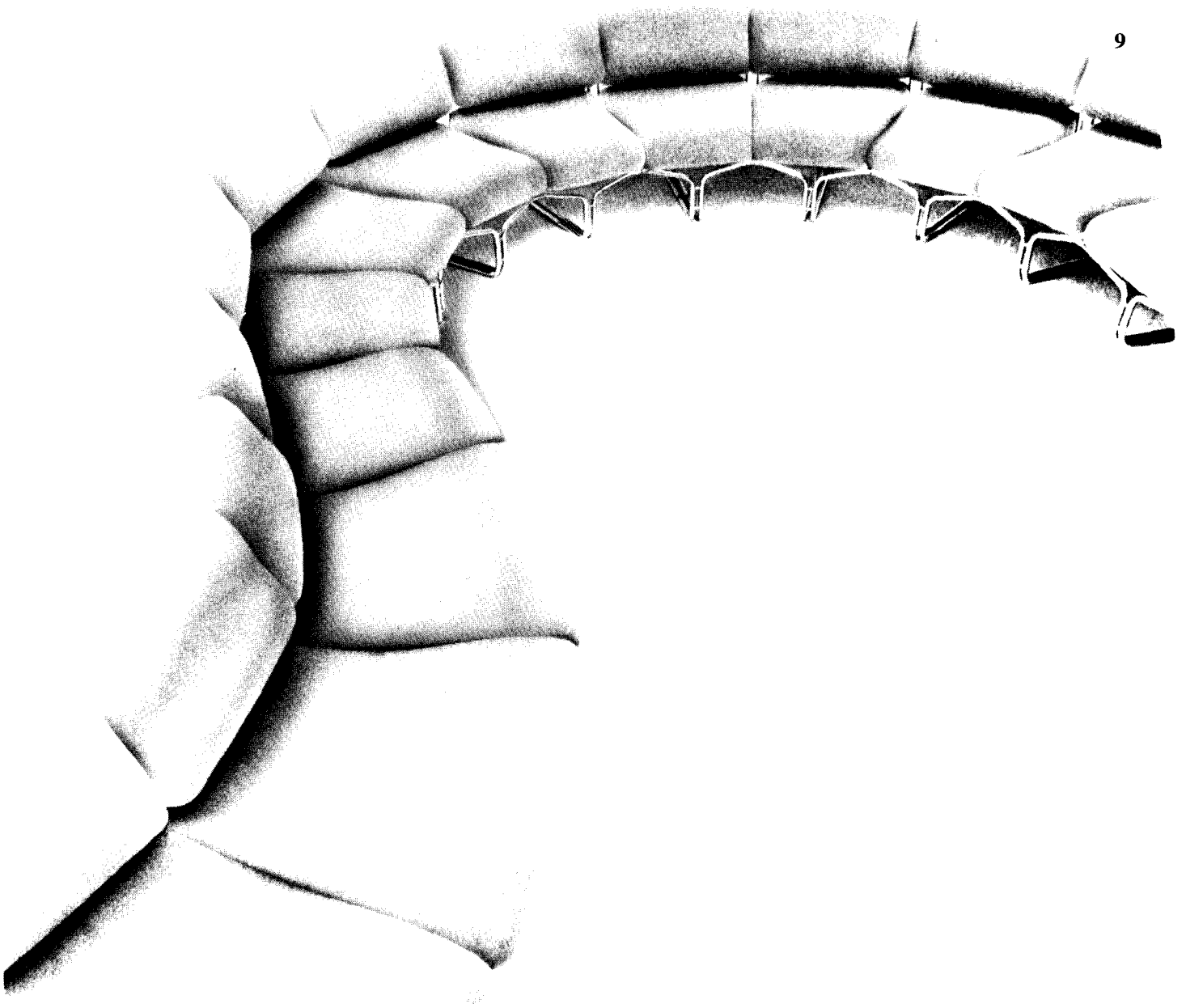

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From Tubing to Bentwood

One of the most imaginative uses of tubing is the new collection (10) designed by Italian architect Gae Aulenti for Knoll International. The essentially conservative design required some five years of technological exploration before the seating could be mass produced. It took the skills of an Italian custom car maker to help Knoll develop the technology to bend the extruded aluminum tubing for mass production.

The essence of the design is a bundle of six triangular tubes forming legs which then spray upwards and out to form seat and back frames, crossbars and armrests. The design may well be the most innovative use of metal tubing since the Bauhaus.

A California designer, Edward Julian, has taken the chrome tubing popularized by the Bauhaus and refined it in a chair (11) produced by Ipolar, Inc., and distributed by Add Interior Systems. The tubing is thin, almost delicate. Metal tubing is an exception to the rule in most new seating being produced today. There are fair amounts of plastic and upholstered designs available, but the new thrust is clearly toward greater use of light woods. Thonet, in a move to reestablish itself as a leader in seating, has produced the "Petitt Ply" chairs (12) designed by Don Petitt using oak veneer molded plywood. The design clearly draws on the Scandinavian interest in wood graining and detailing of joints. A more revolutionary design in molded oak veneer plywood is a patented design (13) by Washington, D.C., craftsman Peter Danko. The chair is unusual because it is cut and molded from a single sheet of plywood. It stacks,

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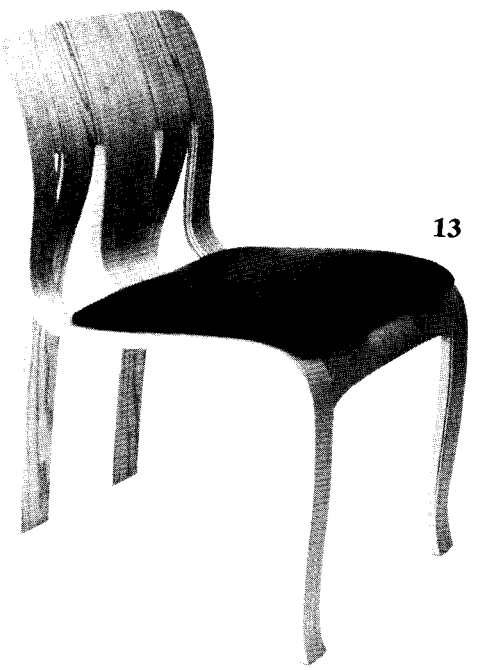

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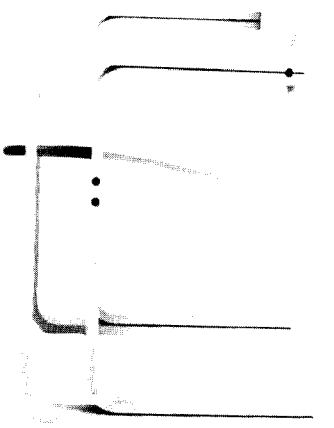
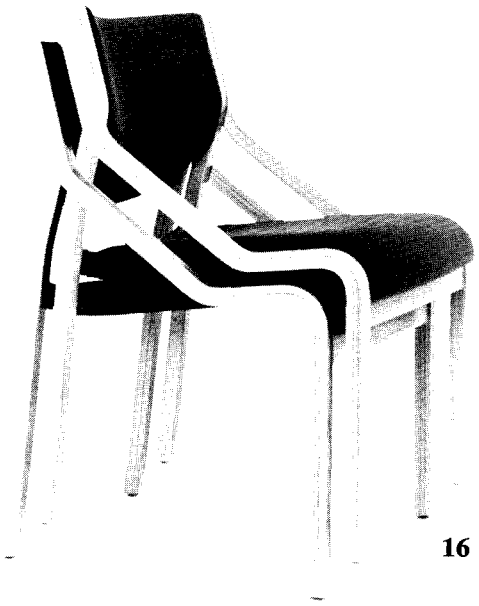


and requires a minimum of finishing.

Bentwood seems to have captured the imaginations of furniture designers around the world. The Tomaso chair (14), imported by Hank Lowenstein, is an Italian produced design by A. Simonit using 16-ply hand-formed molded natural ash.

Another design using molded plywood with a back similar in design to the Tomaso chair is the Cantilever chair (15) distributed by Rudd International. The seat is designed in beech and white oak veneers by two Scandinavians, Rudy Thygesen and Johnny Sørensen.



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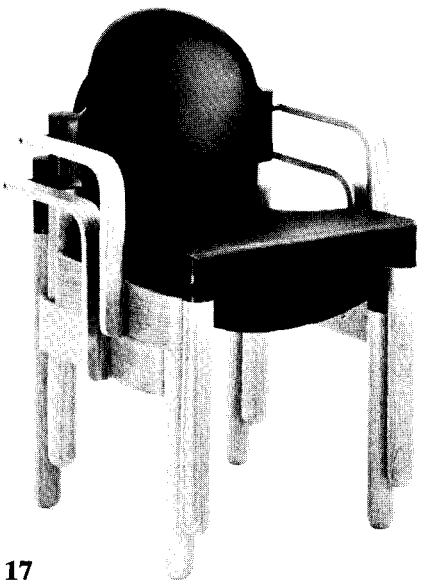

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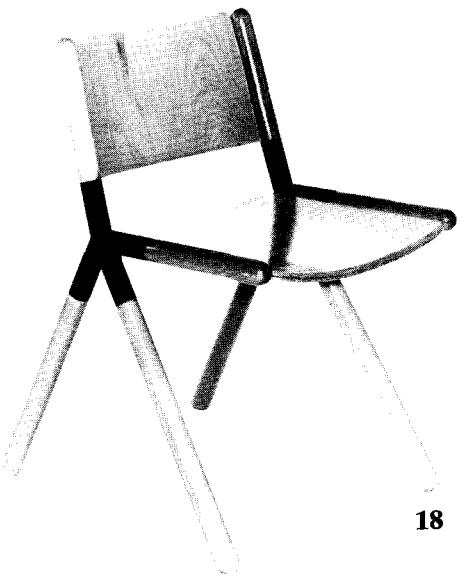

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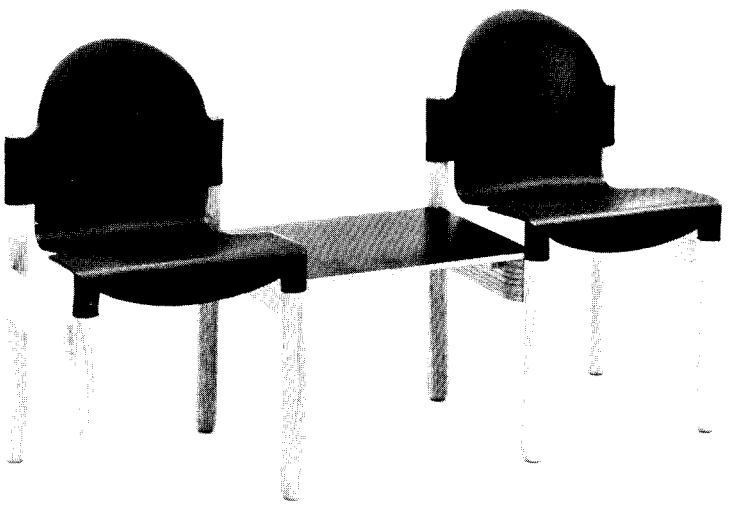

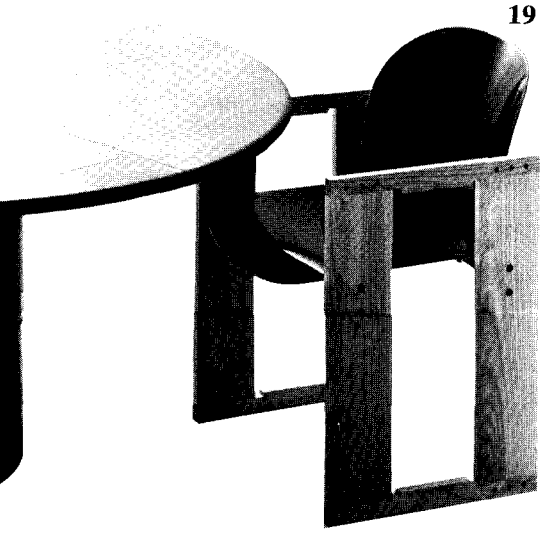

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Knockdowns, Stackables

Danish designers Thygesen and Sørensen have produced the Skandia stacking chair (16) for Thonet. The molded plywood seats and backs are set at an angle to emphasize comfort.

The combination of molded plywood, solid oak and polyethylene make for a distinctive stacking design (17) by Gerd Lange for Thonet. The Flex Seating System has molded plywood stretchers and armrests. The legs screw into place and the polyethylene shell fits on the oak leg posts. The connecting table top, available with the system, rests on the stretcher bars.

Another molded plywood chair called Lucia (18) uses a metal spoke to connect back, legs and seat. The chair looks as though it would fold but does not. It is distributed by Lowenstein.

The Dialogo chair (19) by Afra & Tobia Scarpa combines a Fiberglas seat and back with an ash wood frame in a natural or ebony finish. It can be obtained with or without arms and is distributed by B & B America.

It was the Italians who popularized the flexibility of design obtainable in injection molded ABS plastic. However, the two plastic chairs above are both by Scandinavians. The Turku armchair (20) is designed by Esko Pajmies and distributed by Stendig International. It comes in three colors and is shipped knocked down. The Lapp chair (21) by Eero Aarnio also comes knocked down and is designed to stack up to six in a bunch.

A design that knocks down into some

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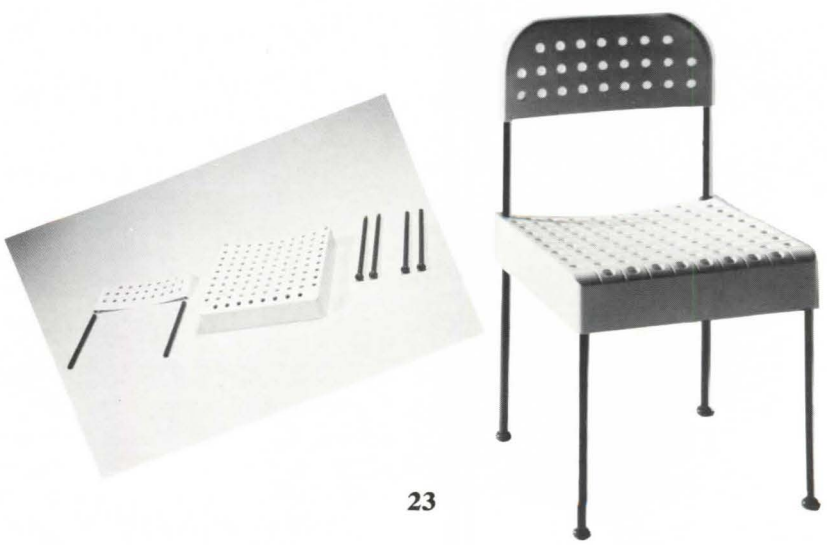
65 different parts is the Modus collection, distributed by Atelier International. The system has 12 variations, from a stacking chair, not unlike Eames' first Fiberglas shell, to the seat-on-a-swivel design called Modus GTS/A (22). The basic shell is made of injection-molded polyamide (nylon). The bases are made of stainless, die-cast, brushed aluminum so that the entire unit is light-weight. The yolks cradling the shells are also aluminum.

Another knock-down combination using polypropylene for light-weight shipping is the Box (23) by Enzo Mari and manufactured by Castelli. The chair consists of two waffle-like pieces connected by screw-in metal legs. Because it can be assembled and disassembled so easily, it received a great deal of comment at the Milan furniture fair.



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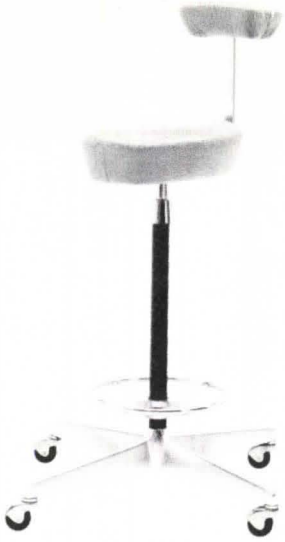

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Desk Chairs: New Attention

Some of the most interesting strides in seating have been made in a furniture type long neglected by designers—the desk chair. Chairs now come in "families" including "secretarial," "managerial," "executive" and "presidential" models.

A subtle variation on the standard secretarial model is the draftsman's chair (24) designed by Robert Eberle for Cramer Industries. The seat height varies to accommodate work surface heights of 29 to 43 inches. It operates on a semi-hydraulic Auto-Lift control, actuated by a lever under the seat. The addition of a T-bar footrest is a refreshing alternative to the standard foot ring.

A classic Herman Miller chair, the Perch (25), continues to be a favorite for architects, graphic artists and draftsmen. The bicycle seat design makes it essentially a one-cheek chair.

At the recent Neocon show of contract furnishings, Herman Miller introduced an office chair and high stool (26) combining correct support and a 360-degree freedom of movement. The chair, designed by Ray Wilkes, can be sat on from any

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angle and used in any seating position because the rollback can be rotated and moved in any one of seven positions.

A more conventional design is the DLD chair (27), designed by Depas, Lomazzi & D'Urbino in molded Fiberglas. Four legs, each with casters, splay out from a central position just below the seat. The chair is manufactured by Cassina for its office landscape system, Marcatré. Atelier International distributes it in the U.S.

The DLD chair is essentially a hard, lightly upholstered shell design. It is at the opposite extreme from the Ergon chair (28), designed by Bill Stumpf. The soft chair has done a great deal to revolutionize office chair design. Ergonomics is the study of man's relationship to the physical environment whose aim is to adapt working conditions to suit the task and the worker. The whole area of "human factors research" is very much a part of this new design trend.

The Ergon chair is designed to adapt to the many different poses the average worker assumes during the work day. It can be adjusted to provide greater back support for certain tasks, and in some models the arms can be adjusted to allow for "work-intensive positions." Just as the designers of the Earth Shoe contend that their product has been designed with the advice of orthopedic specialists, the designers of ergonomic chairs maintain that their chairs have been designed with advice from both orthopedists and vascular specialists. The result, one would conclude, is health-maintaining chair. Health considerations aside, the Ergon chair has fostered a soft look in desk chairs with an emphasis on worker comfort and productivity.

The new Vertebra chair (29) designed by the former curator of design at the Museum of Modern Art in New York City, architect Emilio Ambasz, along with Giancarlo Piretti, is another ergonomic chair. The seating system is manufactured by a Dutch firm and distributed in this country by Krueger of Green Bay, Wis.

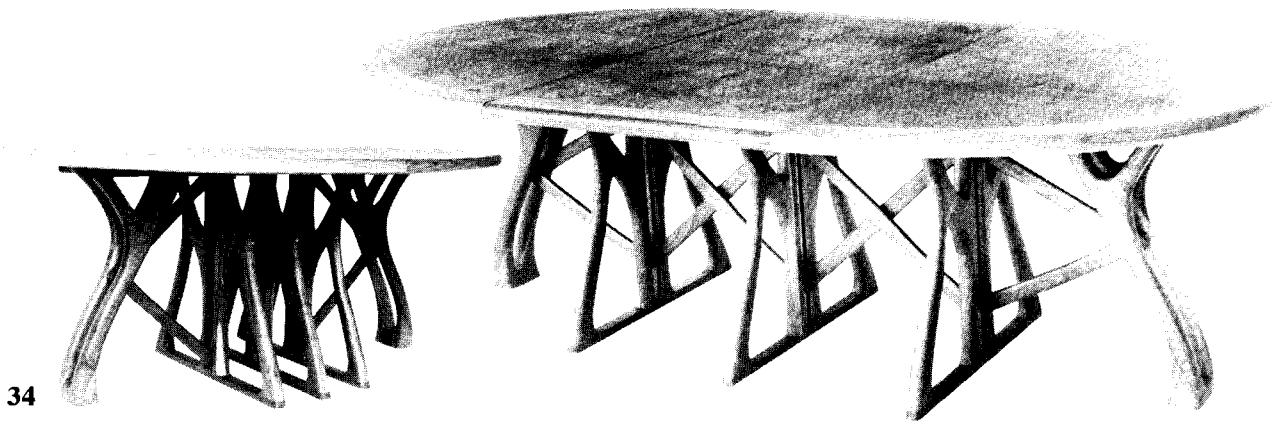
The chair changes configuration without any levers or controls. The central design element, a set of rubber bellows which connect the seat and back, is used for arms in the armrest version. The chair is made of steel tubing, heavy gauge metal and ABS plastic.

Another soft chair designed with ergonomics in mind by André Vandenbruck from Switzerland is the Babar chair (30), distributed by Atelier International. The chair is made of foam urethane over a steel armature, so that all parts are soft. There are 14 different chairs in the line, which knock down into 21 sub-parts.

A more fanciful plush design is the heavily upholstered Veca chair (31) by G. Offredi for Saporiti Italia. The chair is distributed in this country by Campaniello Imports, Ltd., in New York City.

The Archizoom chair (32), produced by Cassina for its open office system, is another flight of fancy in office seating. It is stretched on a tubular steel frame with a cushion of urethane foam for additional support at the knees. In addition to the pedestal base, there is a sled frame and the design comes with or without arms. It is distributed by Atelier International.

The ultimate in upholstered fantasy for the office is the Sandwich chair (33) by Brunati, not yet available in this country. The chair has two zippered upholstered panels which completely obscure the metal framework, leaving visible only a synthetic set of five fat feet. The seat and back are soft leather.



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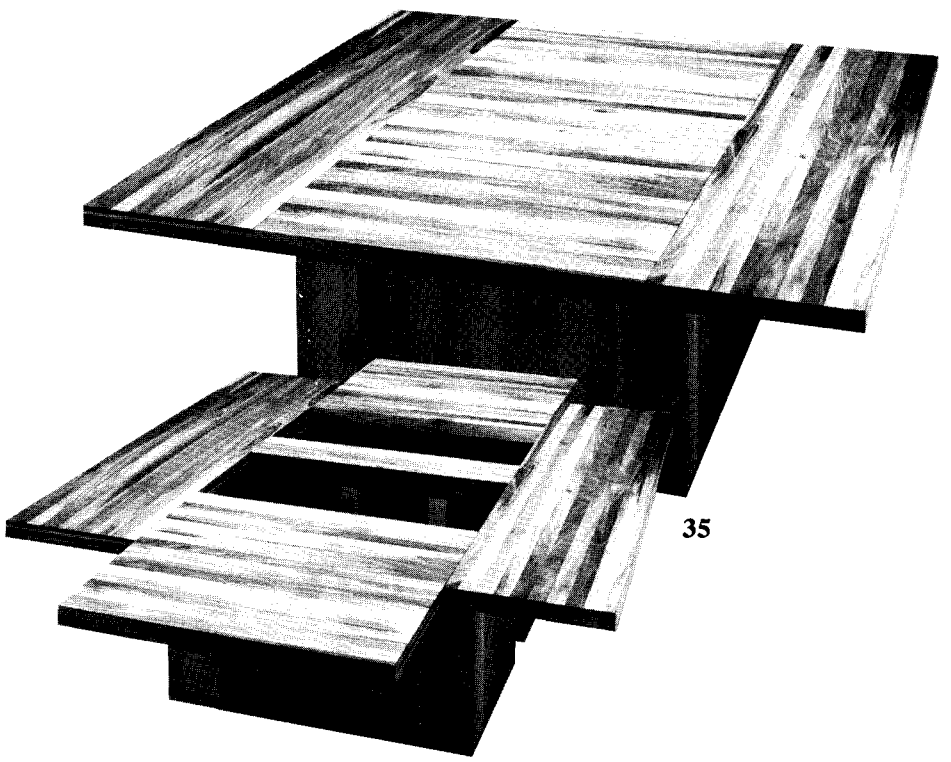

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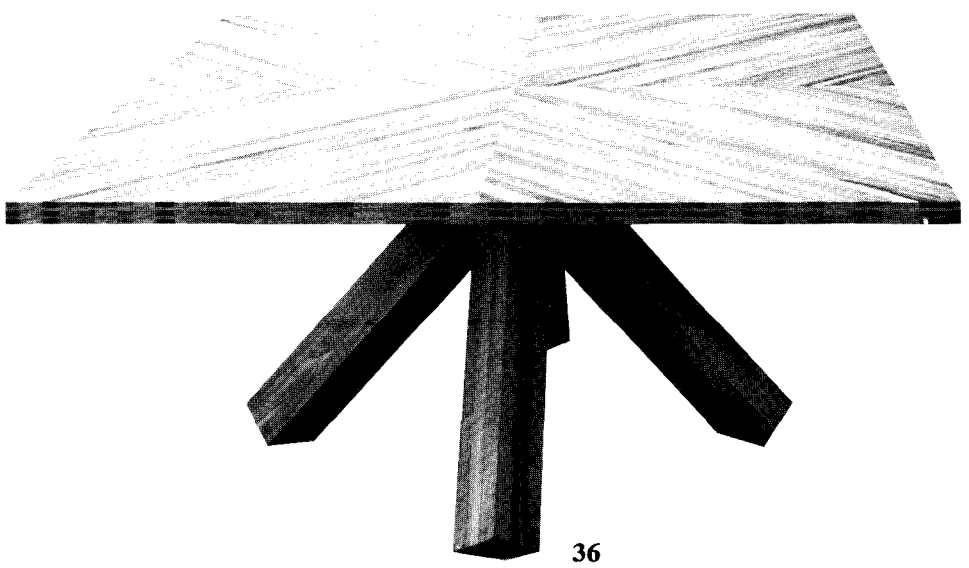

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Innovators Turn to Tables

Seating has always been the area of greatest challenge for most furniture designers, but here two innovative designers, Peter Danko and Mario Bellini, demonstrate that table design can be just as exciting. Danko has copyrighted this design for an expandable all wood table (34). The sculpted legs expand like an accordion to increase the size of the table.

In Bellini's Hardware line, the artist shows the storage possibilities of a table in one design (35), and the elegance possible in the use of 4x4s in another design (36).

While most Italian designers have adopted the light colored woods previously favored by the Scandinavians, Bellini, in his designs for Cassina, has shifted to natural walnut, and they bring to mind elegant butcher blocks. The base is a set of beams laminated and cut to appear precariously perched. The effect is a solid looking design with heavy, almost whimsical feet. Some of Bellini's Hardware line is distributed through Atelier International. □

Interiors Work, and the Architect's Share of it, Are Growing Rapidly

The institutional and office segments of the market are particularly strong. By Weld Coxe

The market for interior design work by architects has never been better. If you are not already involved, 1977 is an excellent year to make a commitment to pursue interiors work. This is the clear conclusion to be drawn from a nationwide market research study just completed by the staff of *The Coxe Letter*.

In the postrecession marketplace, a major share of building investment is suddenly going to improved working environments. Office interior work for the first two months of 1977 was up 26 percent over last year and the curve is still rising. At the same time, the proportion of interior services performed by architects or architect-oriented design firms has been growing by leaps and bounds. Architects now receive 30 to 35 percent of the commissions and, more importantly, 50 percent of the dollar volume of fee-paid interior design work.

There are distinct segments to the market: the residential market, dominated by "interior decorators" who both design and sell furnishings and are compensated by mark-ups on sales, and the contract market, which refers to the building types in which most furnishings are bought by contract. About a third of the contract market is still serviced by manufacturer- or dealer-related designers, but the dominant share is now evenly divided between fee-paid architects and professional interior designers who specify materials for direct purchase by the client. The share served by architects is growing fastest.

- In some regions of the U.S. this year, as many as one out of every ten architectural commissions will be interior design projects, and interior services (for which extra fees are charged) will be involved in one of every six commissions.
- More than 2,000 architectural firms (20 percent of the total) now have separately staffed interior design departments or subsidiaries. Another 3,000 firms perform some interior services with architectural staff.
- Fees for interior design services will contribute an estimated 15 percent of total income to architectural firms this year.
- The "typical" interior design department—one having its own staff—will design about 200,000 square feet, specify $800,000 in furnishings and bill $100,000+ in fees in 1977.

As in so many other architectural markets, the fear of package dealers running away with the interiors market has not been substantiated. A recent survey by *Modern Office Procedures* magazine shows that while dealer-related designers win 50 percent of the small jobs where purchases aggregate 25 percent or less, the independent architects and designers control 80 percent of all larger projects.

There is no longer any doubt that interior design services represent a major, growing market opportunity for architects. The reasons are vested in the architectural process:

- Clients report that architects "listen" to their needs more than interior decorators. Clients increasingly view office and institutional interiors as an investment, but their programs tend to be highly function-oriented.
- Renovation projects (about half of all interiors work) require such close integration of the disciplines that clients are more inclined to commission the architect to do it all.
- The emerging interest in behavioral-based design suggests that more buildings will be designed from the inside out.

Office design is by far the largest—over 50 percent—and fastest-growing segment of interiors work available to architects. Seventy-five percent of the office interiors work today is remodeling. The emphasis is on space programming to get more efficiency out of high-rental square footage, and on "work station" design to get higher productivity.

The pattern of firms that are succeeding in the interiors markets makes it clear that the first requirement is a serious organizational commitment to develop the capability. Professionalism is what is bringing so many interiors clients to architectural firms. Don't just add an interior designer and try to hand off the work that comes along. Organize as a common team of architects and interior designers, and treat the work as an intrinsic part of architectural service.

Be sure to define the market(s) you want to reach. Interior design is a service, not a market per se. Thus, you must decide whether you are going after offices, institutions, government or whatever. Once in a market, concentrate on it. Clients generally see interiors work as more specialist-oriented than architectural work.

There are some regional characteristics to the interiors market. Architect involvement is highest on the East and West Coasts and in the booming corporate markets of oil-rich Texas and the Southwest. Government work is heavily concentrated in the mid-Atlantic and North Central areas where facilities are generally older and more obsolete.

The best news about the interiors market is that more of the work is seeking architects rather than vice versa. With clients demonstrating again and again that they prefer to put their environment in the hands of an architect, the strength of the demand for interiors services is another sign that the future of the entire architectural market is very bright. □

Mr. Coxe is a management consultant and publisher of *The Coxe Letter,* a monthly newsletter about the market for architectural services.

Interiors Documents

The joint AIA-American Society of Interior Designers interior environment committee has completed work on two new standardized contract documents for use on interiors projects.

The first document is a set of general conditions for furniture, furnishings and equipment. It will be published by both AIA and ASID and its AIA designation will be document A271. It is intended to be a primary vehicle for promoting understanding among all members of the interiors team: designer, owner, dealer and manufacturer.

The second document, versions of which also will be published by both organizations for use by their respective members, is an agreement form between the owner and the interior design professional. Its AIA designation is document B171 and it supercedes current AIA document B707.

The two new documents will be available from the Institute in printed form in August. The interior environment committee continues work on a "family" of interiors documents.

Committee chairman is William L. Pulgram, AIA, of Atlanta. In addition to AIA and ASID members, it includes representatives from major furniture and furnishing associations. □

The 'Off-White Epidemic': A Call For a Reconsideration of Color

Overuse of white 'plays havoc with human vision' and creates esthetic sterility. By Faber Birren

In the early years of this century, hospitals had white walls, white bedsteads, white metal cabinets, terrazzo floors. Walls in office buildings were mostly ivory, cream or buff, with dark wood or metal furniture, olive drab filing cabinets, asphalt tile floors. These were the days before fluorescent light and vinyl plastic.

During the prosperous '20s, hospitals took on a new look. Introduced were natural wood furnishings, colorful upholstery and drapery fabrics, resilient tile floors in light tones. Unfortunately, white walls were replaced with what became known as hospital green. Offices, too, went from buff to green, partitions and equipment to gray, including file cabinets.

Then a true revolution of color came in the '30s. Offices, schools, hospitals and factories made bold use of color, complemented by high levels of fluorescent light, plastics, carpeting, textiles, modern furniture design. Such colors came into vogue as forest green, flame red, bright yellow, chartreuse, sapphire blue. Green faded from walls, often replaced by gray but offset by the above hues on end walls.

The advent of white and off-white in recent architecture (houses included) began around 1955. Off-whites, (shell white, pearl white, oyster white, etc.) were hardly known before this time. For the most part, in fact, off-whites—not white itself—were not manufactured by the paint industry in ready-mixed form previous to 1955.

Following in the wake of the common use of beige in paint, resilient flooring, carpeting, textiles, roofing and siding, off-white rose sharply and by 1975 dominated walls and many furnishings. Off-white for walls has only recently, in 1977, begun to decline in favor of pale yellow.

Off-white may be considered a phenomenon in the history of interior architecture and interior design, having reached epidemic proportions. What mental, emotional and psychic significance does this have among Americans?

Architects have been traditionally conservative in the use of color. They have been trained to think mainly in terms of form, expressed in black, gray and white. To many of them a prejudice or timidity about color can be traced to the fact that color is likely to detract from form. Because color is more primitive in its appeal than form, a building exterior or interior designed, for example, in red or yellow, green or blue, may be judged by the average mortal more for its hue rather than its shape. This can be exasperating.

Off-white has become trite and commonplace. Americans pride themselves on being individualistic—thinking and acting for themselves. Yet, in the widespread application of off-white, they are sheep-like conformists, with originality and courage lost to bland uniformity.

It is argued that white makes the ideal background for other colors—perfect overall ambience within which to undertake colorful decoration. So it does, but what of the chief, key character of the interior? If it is white, it bespeaks that which is colorless, stark and vapid.

In the Lüscher color test, employed to study differing frames of human mind and emotion drawn from response to color, white is not included. In my book, *Color in Your World,* devoted to the emotional significance of color preferences, there is reference to red, pink, orange, yellow, green, blue-green, blue, purple, lavender, brown and even gray and black, but there is *no reference to white.* Reason? Hardly anyone likes white or will pick it as a favorite choice of heart. In psychological color preference tests, evaluating color for the sake of color, white is at the bottom. One psychologist has noted that reaction to white is one of "bored disinterest." K. Warner Schaie has described a Color Pyramid Test in which squares of color are placed on black and white outline charts. The incidence of the use of black and white was 76.6 percent among schizophrenic patients as opposed to 29.1 percent among supposedly normal beings. How might this be interpreted?

As to symbolism, white bespeaks purity, chastity, innocence. It denotes mourning in China. There is whitewash, lily white, the white flag of surrender.

Functionally considered, white is a bad color. Where it is accompanied by high levels of natural or artificial light (as in an office or schoolroom), it plays havoc with human vision. Akin to snowblindness, it produces distressing glare, hampers vision, causes headache and nausea and may even damage the retina. The case against white and high brightness in working environments has been well documented. White may not be disturbing in a home because of more casual circumstances, but it is not without its optical hazards if showered with light.

High levels of artificial illumination these days, accompanied by white or off-white walls, has become widespread practice in such interiors as offices and schoolrooms. Complaints of "eye strain" have spread across the nation like a minor plague. All too often, attention and complaint are directed toward the illumination. Different types of fluorescent tubes are tried out. Those who are distressed may take to wearing eye shades or sunglasses. In most instances that have come to my attention, the off-white walls, not the lighting, were at fault. Remove the glare of the walls and the overhead lighting fixtures may be disregarded. Lower the brightness of the surround, and visual peace may be easily restored.

Fancies for color come and go with the years. Those persons today who remember the buff and green and beige eras of the past will surely come to recall, with amusement, the hospital-white era of the late '60s and '70s when many architects devoted themselves to clean, hygienic but esthetically and psychologically sterile environments. □

The difference color makes: Lincoln Park School, Sommerville, Mass. (The Architects Collaborative), with and without it.

Mr. Birren, a color consultant with offices in Stamford, Conn., is widely recognized as one of the world's leading authorities on color. He is the author of 24 books and hundreds of articles, including contributions to this magazine.


EXIT

Owens-Corning tells why you this unusual picture next time

The concept of open offices is gaining acceptance *quickly*. No wonder.
Both owners and architects are drawn to their airy, sweeping good looks. To the improved communications and increased efficiency they promote for workers. And to their astonishing economy of 50 cents vs. roughly 15 *dollars* per square foot for inevitable alterations to meet shifting work patterns.

But here's a word of caution. Plant our outlandish basketball "office" firmly in your mind. Because unless you base your design on *acoustics,* as well as aesthetics, you may never hear the end of it.

More than one open office has had to be modified—embarrassingly and *expensively* torn apart, baffled, receilinged, or refurnished—in order to achieve *workable* sound levels.

Owens-Corning has helped pioneer the development, testing, and matching of open-office components. Look over these highlights of what our experts have learned. Then call on us for *all* the details and *all* the components of a *successful* open-office system.

The ceiling. Handsome is as handsome does.

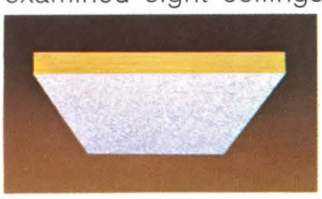
The ceiling is the single most important acoustical component in an open office. It should absorb, not reflect, sound. A perfect ceiling would have the same

*T.M. Reg. O.-C.F.

should remember you design an open office

sound attenuation as the open sky—a Noise Isolation Class (NIC) *rating of* 23.

An independent acoustical testing laboratory examined eight ceilings, including costly coffered and baffled systems. Their verdict: Owens-Corning's Nubby II Fiberglas* Ceiling Board, in any standard exposed grid suspension system, is *best* for achieving speech privacy at economical installed cost. In these tests, Nubby II was the *only* ceiling board with an NIC′ as high as 20 in a flat configuration.

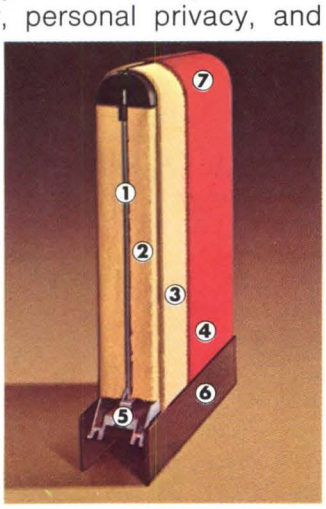


Some architects prefer the look of ceilings with *concealed* grids. Caution: As yet, *no* such ceiling provides the minimum NIC performance necessary to achieve satisfactory acoustical privacy in an open office.

In this league, handsome is as handsome *does.*

Acoustical screens. "Don't just stand there. Do something."

The sound screen, visual symbol of the open office, offers flexibility, economy, personal privacy, and acoustical control. It has *two* acoustical *functions.* First, to block direct sound transmission from one work zone to another. Second, to absorb sound, reducing flanking reflections into adjacent zones. Owens-Corning's sound screen is the *most* effective screen available. Its engineering features include:



1. A metal septum—to block sound transmission.

2. One-inch Fiberglas core on each side of septum—to absorb sound.

3. Sturdy special Fiberglas sound diffuser (Glastrate)—for abuse resistance.

4. Stain-resistant Dacron® Polyester fabrics. These fabrics are washable, colorfast, and fire-retardant (Class 25).

5. Extruded aluminum frame, fastened to septum—for strength and stability.

6. Painted anodized aluminum kickplates—for additional abuse resistance.

7. Top and side radii designed to minimize sound defraction over edges.

Masking sounds. The sounds of silence.

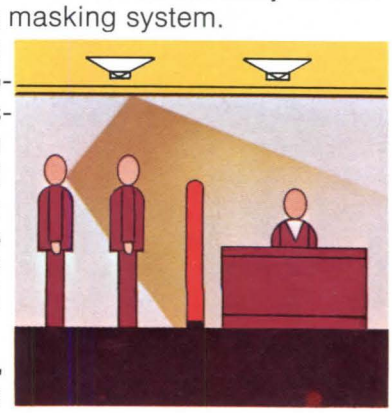
Even the finest acoustical ceilings and screens cannot do the whole job of providing speech privacy. An electronic sound masking system of speakers, installed in the plenum, is necessary.

This sound must be unobtrusive—and *uniform.* Even at a few decibels above the desired $NC_{40} = 40$ rating, the masking sound causes people who are working in the office to begin raising their voices, defeating the whole purpose of the masking.

Owens-Corning's experts can recommend a background masking system that meets these requirements.

Owens-Corning system gets it all together.

For the open-office concept to be successful, the ceilings and screens must be tuned carefully to work *together,* and *with* the masking system.



Owens-Corning will be happy to provide you with all necessary information on achieving acoustical control in your open office. Or to guide the development of the whole acoustical system for you.

Write O. O. Meeks, Building Products Operating Division, Owens-Corning Fiberglas Corporation, Fiberglas Tower, Toledo, Ohio 43659.

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BOOKS

Frei Otto: Form and Structure. Philip Drew. Boulder, Colo.: Westview Press, 1976, 160 pp. $32.75.

This survey of Frei Otto's work is very well done and a most welcome book.

The suspension structures of this "third generation" master of contemporary architecture, notably the German Pavilion at Expo '67 in Montreal and the Munich Olympic stadia roofs (right) in 1972, have earned Otto world renown, but the range of his innovative design activity is considerably larger.

Philip Drew divides these activities into chapters on membranes, nets, suspended structures, lattice domes and pneumatic structures. Those structures that span large areas instead of forming building shelters are called megastructures. They can be kinetic, climatic control or biomorphic structures. This group opens the imagination to a world of spatial concepts which have been equaled before on such grandiose scale only by Buckminster Fuller. A detailed environmental impact statement is expected for the sizable coverage of whole regions and cities.

The profuse illustration and description of the many executed projects is certainly the most valuable lesson for practicing architects, although the book is devoid of calculations for any of the examples. We gain some insight, however, into what is going on in Otto's own institute near Stuttgart, Germany, housed in an experimental structure, originally built to test the Expo '67 pavilion.

In the three introductory chapters, Drew skillfully presents an evaluation of the esthetic qualities of these beautiful structures with their highly expressive engineering. These characteristics make the book a valuable antidote to the form-giving plethora of the '50s and '60s. By contrast, Drew characterizes Otto's work as "form-finding."

A shortcoming in Drew's evaluation is that he tries constantly and in a contrived way to explain the values of Otto's work in terms of other critics' language, rather than relying more on his own analysis and on Otto's own philosophy, which is rather well founded and encompasses a broad background. *H. H. Waechter, AIA*

Neighborhood Conservation: A Handbook of Methods and Techniques. Editors: Robert H. McNulty and Stephen A. Kliment, AIA. New York: Whitney Library of Design, 1976. 287 pp. $18.95. (Available to AIA members for $17.05 from AIA publications marketing department.)

A major conference on neighborhood conservation, sponsored by the National Endowment for the Arts, the Conservation Foundation, the state of New York and the New York City Landmarks Preservation Commission, took place in 1975 in New York City. This book is a product of that conference.

The term neighborhood conservation is a new catch phrase in the field of planning and urban design. In substance it does not seem to be much different from what planning commissions all over the country have been concerned about since their original mandates in the 1920s. Historically, the most pervasive force behind local neighborhood planning has been the protection of property values. This sanction allows local governments to use their "police" powers to keep neighborhoods "nice" places in which to live.

The recent focus on "conservation" capitalizes on the increasingly popular notion that husbanding the existing environment is more efficient, ecologically sound, socially progressive and cheaper than trying to build new communities from scratch.

The reader will be disappointed if he or she expects brilliant insights into new methodologies, new uses of the "police power," new governmental arrangements to deal with neighborhood planning. If the reader is not acquainted with this field of urban planning, the book has a great deal to offer—it is sort of a primer for neighborhood planning. There are 43 minicase studies included in the book. They will be of help if for no other reason than to provide sources to write for more information.

The large volume contains three sections of photographs which express the bias of the book. I have not seen such an array of photographs of people using their environment since those published in the mid-1960s in the landmark reports on urban problems, housing and civil disorders. It is almost as if the authors and readers of such a book need to be reminded that there are real human targets for a neighborhood conservationist's good deeds. At the very end of the book is a useful index to potential contacts having to do with the case studies.

All in all, this handsome book would be a positive addition to the library of any municipal planning department. Basically, it's a roundup of what's going on. The book should also be valuable to citizens' groups and to students. *Michael B. Barker, AIP, Administrator, AIA Department of Practice and Design*

For Pedestrians Only: Planning, Design and Management of Traffic-Free Zones. Roberto Brambilla and Gianni Longo. New York: Whitney Library of Design, 1977. 208 pp. $24.95 (available to AIA members from the AIA department of publications marketing for $22.45).

Every planner ought to have this book as a resource for the creation of humane urban spaces. Bernard Rudofsky, author of the acclaimed book *Streets for People,* says in the foreword that the book is a guide "to give back that no-man's-land, the urban street, to those no-account people, pedestrians. Mindful of the undertaking's vastness, [the authors] confined themselves to the pith of the matter: to purge centers of cars. This they do with exemplary tact."

The authors themselves view pedestrian malls not as "urban idylls" of trees and flowers in the midst of concrete, but as "practical solutions to some urgent urban

continued on page 76

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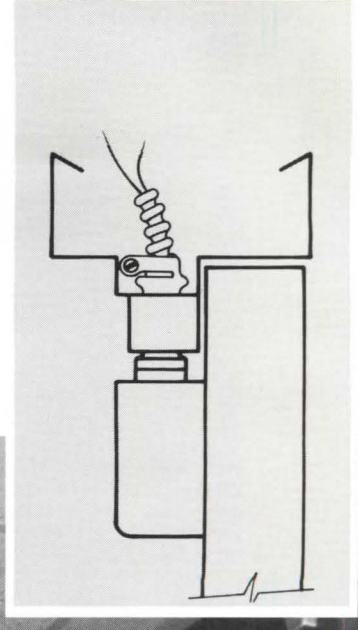

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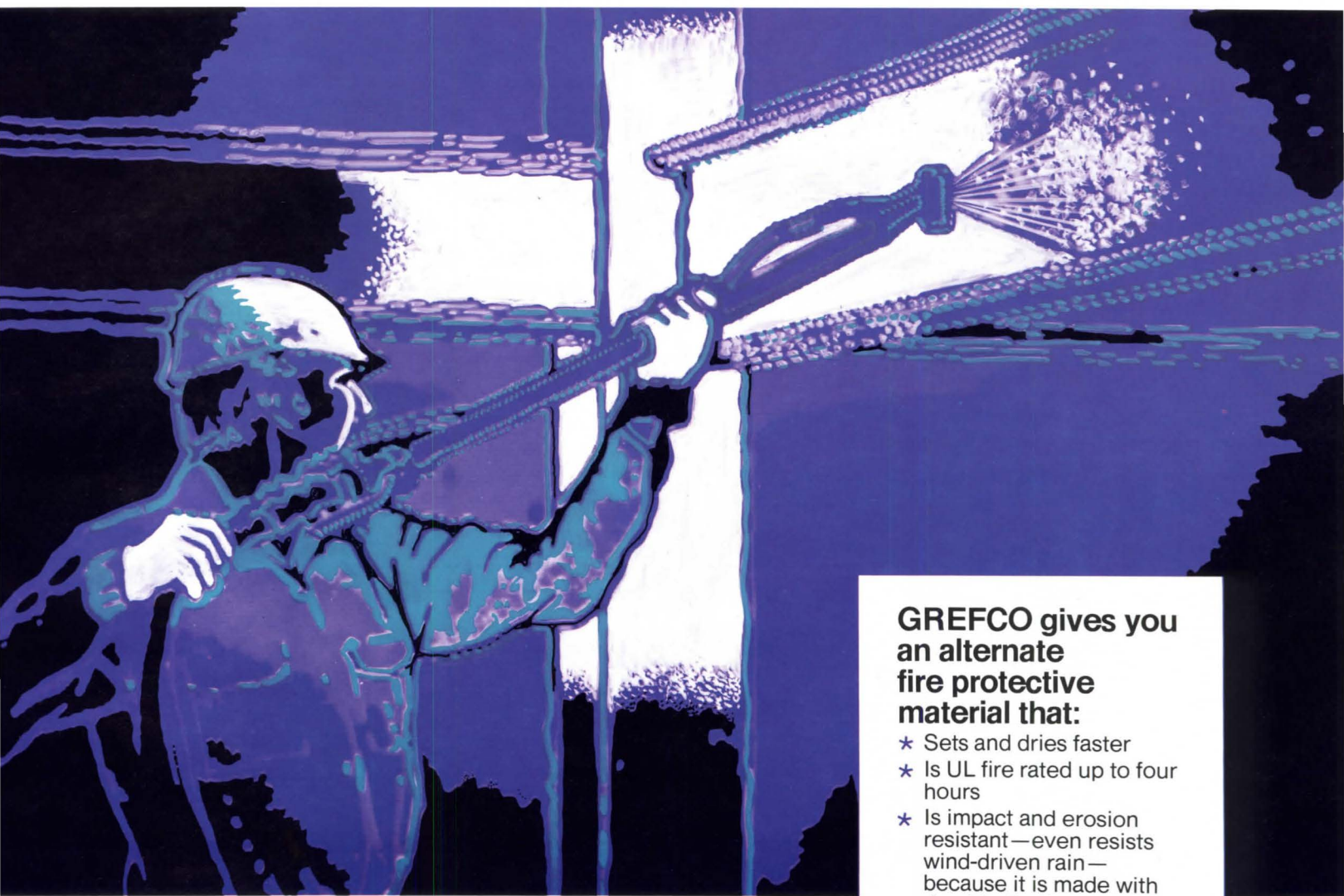

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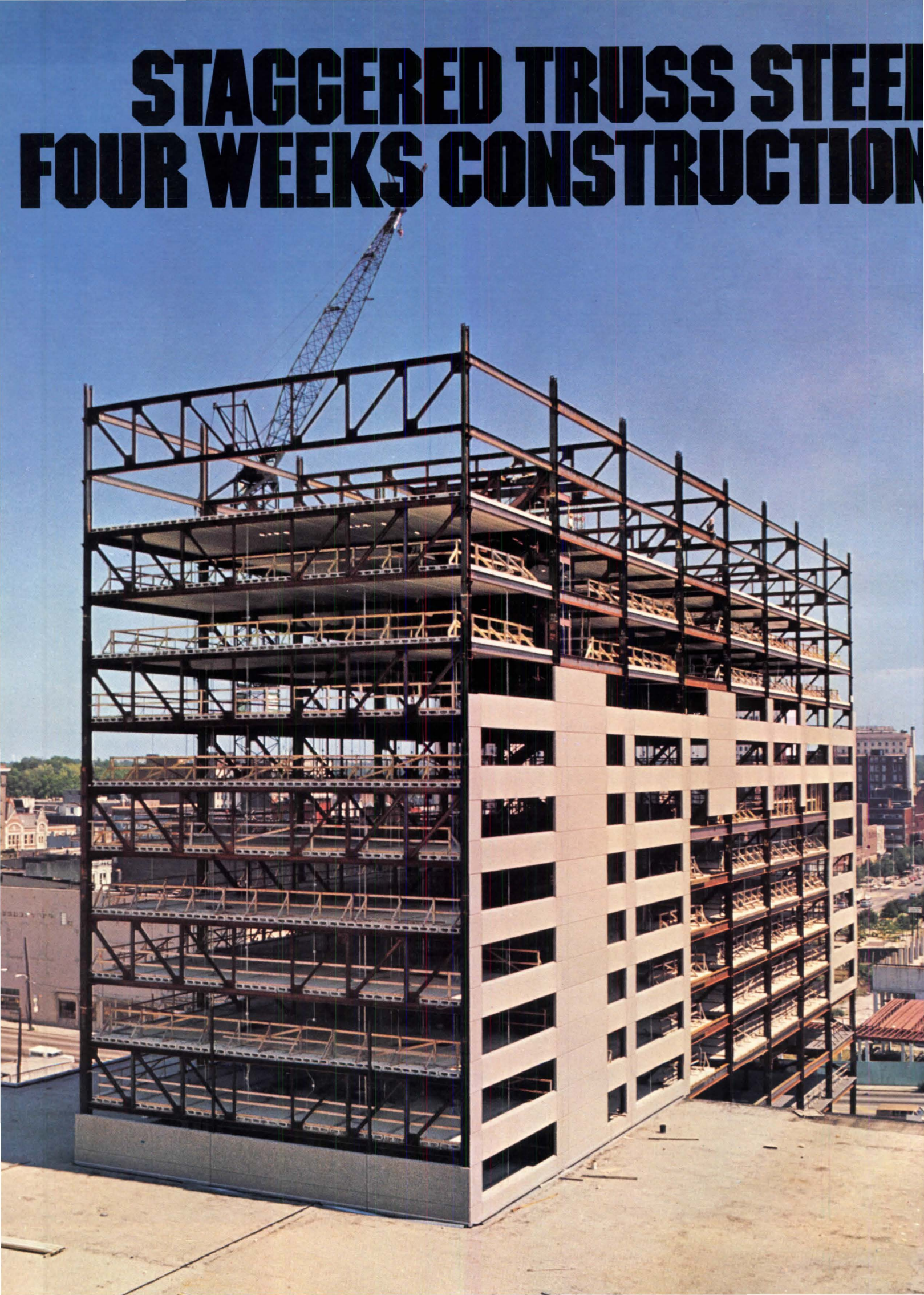

RAMING SYSTEM SAVED IME IN LEXINGTON PROJECT.

When this new 377-room Hyatt-Regency Hotel was being planned as part of the $47 million Lexington Center project in Lexington, Ky., it was inevitable that the best design and construction ideas, plus the best materials would be used—with special concern for speed of construction and economy.

For a very simple reason: the hotel will be owned by the people who designed and built it: Hunt/Landmark Ltd., an affiliate of Ellerbe Architects, the 65-year-old international architectural, engineering and planning firm... and Huber, Hunt & Nichols, Inc., one of the country's largest building contractors.

For their hotel, they specified steel construction and chose the innovative Staggered Truss steel framing system developed by M.I.T. under a grant from the United States Steel Corporation.

Mr. K.R. Kaufman, construction manager for Hunt/Landmark Ltd., emphasized how the use of the staggered truss design saved time and reduced costs. "The steel erection took three months" he said, "which was faster than we had planned and much faster than any other system. It saved us at least 4 weeks construction time."

This system consists of story-high trusses spanning the full building width at alternate floors of each column line. The trusses are supported only on the two rows of exterior columns and are arranged in a staggered pattern on adjacent column lines. This achieves an efficient structural frame for resisting wind loads while at the same time providing floor layouts with large column-free areas. Consequently, it is a system that lends itself to high-rise residential buildings such as apartments and hotels.

Structural steel, both ASTM A36 and ASTM A572, Grade 50, was fabricated in only two months, including fifty-six trusses. The pre-assembled trusses measured 60-feet by 9-feet 4-inches. The hotel contained more than 1,200 tons of steel.

In this project, and in many others, the Staggered Truss steel framing system proved to be the fastest, and the most practical and economical construction system. For more information on the design of Staggered Truss structures, contact a USS Construction Representative through your nearest U.S. Steel Sales Office. Or write for our booklet, "Staggered Truss Framing Systems for High Rise Buildings" (ADUSS 27-5227-02), to U.S. Steel, Box 86 (C788), Pittsburgh, Pa. 15230.

OWNER: Hunt/Landmark Ltd., Lexington, Kentucky. (the City and County of Lexington, Kentucky are owners of the Arena, Convention Center and Retail Mall).

ARCHITECT/ENGINEER: Ellerbe Associates, Inc., Bloomington, Minnesota.

ASSOCIATE ARCHITECT: Johnson/Romanowitz/Architects, Lexington, Kentucky.

CONTRACTOR: Huber, Hunt & Nichols, Inc., Indianapolis, Indiana.

FABRICATOR: International Steel Company, Evansville, Indiana.

ERECTOR: Whalen Erecting Co. of Ky., Inc., Lexington, Kentucky.

USS TRADEMARK **United States Steel**

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Books from page 70
problems." That's what the book is about.

They discuss pedestrian zoning and appraise the basic goals of traffic management, economic revitalization, environmental improvements and social benefits. They tell how pedestrian zones work, going into legislation and finance, planning and design and managing implementation.

The remainder of the book is given over to selected case studies. For the European experience, there are case studies of 10 major cities, such as Stockholm, Copenhagen, Munich and Vienna. The North American approach is given in case studies of the revitalization of 10 cities, among them, Minneapolis, Pomona, Calif., Providence, R.I., and Ottawa and Quebec City in Canada.

The appendix provides a compendium of 70 American urban malls. There is also a bibliography, and the book contains 250 black and white illustrations to complement the text.

Architecture: Columbus. Robert E. Samuelson, project director. Columbus, Ohio: Foundation of the Columbus Chapter/AIA (1631 Northwest Professional Plaza, Columbus, Ohio 43220), 1976. 304 pp. $30.

The significance of this magnificent book is its irony. If you were to ask 100 architects at random which city in the U.S. merits an inventory of historic buildings, how many would plump for Columbus, Ohio? Yet, to the architects of Columbus, no city is more important. And *Architecture: Columbus* is part of their plan of action to do something about their concern.

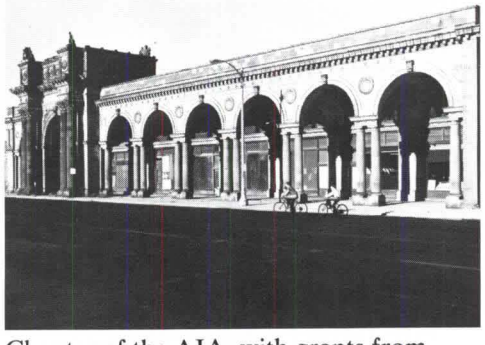
Over the years, we have all seen the historic heritage of every large U.S. city eroded. At first, no one seemed to care very much. Old buildings, whole blocks, even neighborhoods, were demolished mercilessly to make way for highways and for redevelopment opportunities.

Sometimes redevelopment was sensitive, helping to restore the vitality of older cities, as it should. Columbus has some good examples. But sometimes the new buildings, gleaming tall in the sun, fracture the traditional scale, materials and urbanity of the streets into which they are inserted. And even worse, the hoped-for "opportunities" never materialize, and only weeds and parking lots flourish where historic buildings once were.

If, in our new-found interest in preservation and recycling, we complacently believe that the horror decades of the redevelopment bulldozers are now past, Columbus has a recent shocker at the ready. The Union Station Arcade (1897) by Daniel H. Burnham was listed on the national registry (photo above). It occupied a portion of the 26-acre site which the Batelle Commons Co. is developing for a convention center.

Batelle announced, to great public applause, that the arcade would be integrated into the design of the center and its environs. One night last fall, without notice, demolition began. By the time a court injunction halted it, destruction was almost total. The only piece remaining, an arch, will now be relocated in a city park.

It is to control this sort of irresponsibility, whether by the public or private sector, that the architects of Columbus formed the Foundation of the Columbus



Chapter of the AIA, with grants from local contributors, including, oddly enough, Batelle.

The first task was to create an inventory of buildings. Liaison between the chapter and Ohio State University's department of architecture was the key. Robert Samuelson, an assistant professor in the department, became director of the project, and is personally responsible for architectural photography, writing and publication management. Judith Kitchen, administrator of historic preservation, Ohio Historical Society, worked with students to prepare fact sheets on over 2,500 qualifying structures. An AIA chapter architectural review board assessed all materials as they were produced.

What emerges is not so much powerful single buildings (there are those), but a robust and solid 19th century tradition: literally hundreds of decent, direct and serious buildings, solidly constructed, beautifully crafted and, in the main, solidly eclectic too.

Columbus grew rapidly in the second half of the 19th century, and the city prospered. Many of the finest buildings in this book are residential. Samuelson's photographs of their interiors reveal ornate ceilings and fireplaces, magnificent paneling and carved staircases, tall doorways and windows, fanlights with cut or stained glass; page after page of discoveries. And in every neighborhood are appropriate churches, well-made and well-mannered, scholarly and quietly but firmly pompous.

The culmination of the inventory and the Batelle incident is that the chapter has presented to the mayor a draft ordinance to establish a landmarks commission. The chapter has certainly got its dander up. The next step is clearly the realization that landmark buildings are not separate items in an inventory, but belong to the urban environments, traditions and ways of life.

The heritage of a city is its parent stem of local culture and living tradition, onto which new architecture has to be a sensitive graft. The architect, as urban designer, is the custodian of the traditions as they change and evolve from urban inheritance into the future. If this book has one shortcoming, it is that less attention is paid to the urban contexts in which each building occurs than to the buildings themselves. *David Lewis, AIA, AIP, ARIBA*

Space Planning: Designing the Office Environment. Lila Shoshkes. New York: Architectural Record Books. 1976. 150 pp. $17.50.

This book is written for office space planners and their clients, and serves as a valuable survey course in open office design. Though written in a simple, straightforward manner, which is easily understood by the layman, it deals with a number of highly sophisticated ideas about the design process which have not received adequate attention in the past.

Lila Shoshkes begins her book with an account of the history of the still-young discipline of office space planning, showing how its techniques were very much a response to clients' needs for change, growth, improved employee communications and, consequently, for flexibility in office arrangements. In a historical survey Shoshkes describes the work of such pace-setting American firms as SOM and Germany's Quickborner Team. The bulk of the book then goes on to discuss the process of space planning, beginning with the preliminaries of data collection, interviewing and the use of computers for processing and analyzing information.

Special attention is given to problems that can arise with management and what the planner should know about users. Specific aspects of office landscaping are also discussed in some detail, including lighting, acoustics, power and the effects on space planning of new technologies.

Essentials of Drafting. James D. Bethune. Englewood Cliffs, N.J.: Prentice-Hall, 1977. 386 pp. No price given.

This is a step-by-step guide for the student who wants a basic knowledge of drafting. The text explains the "how," giving the student both theory and methods of procedure, and there are exercise problems for each chapter, presented for the most part in isometric form.

Books continued on page 90

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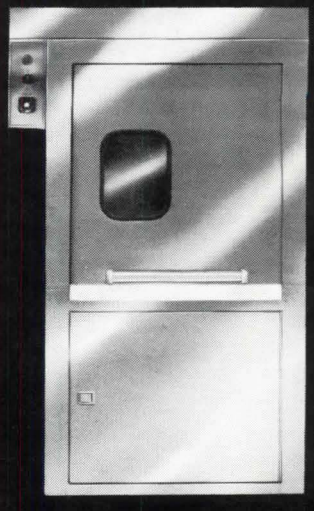

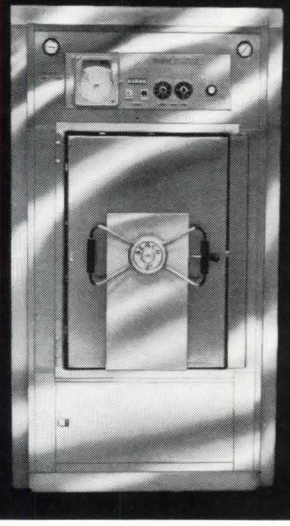

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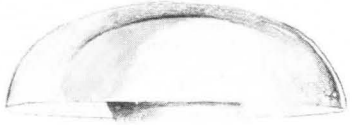

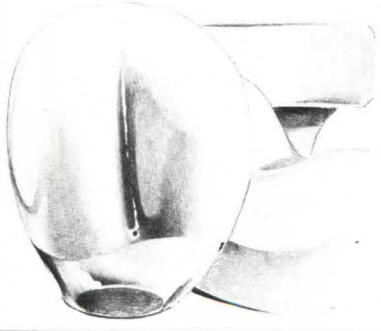

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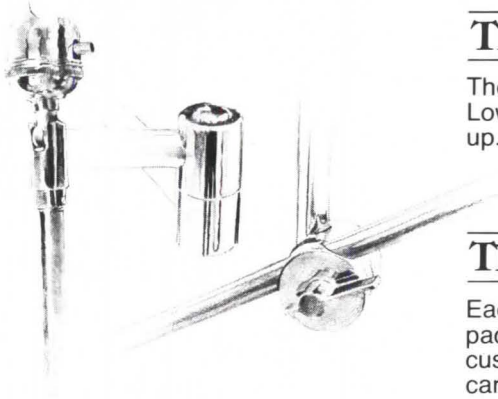

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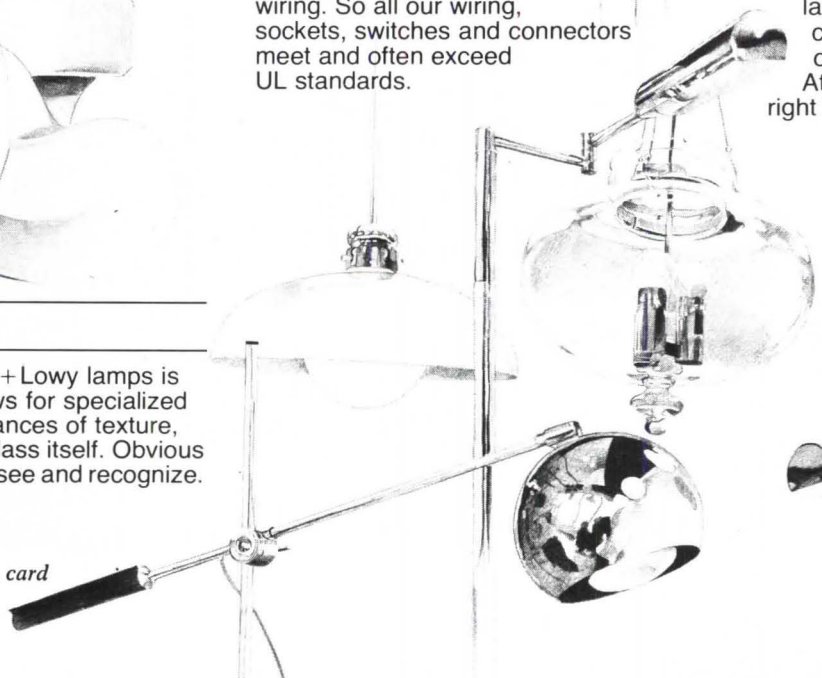

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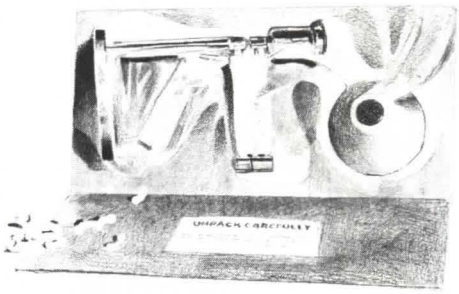

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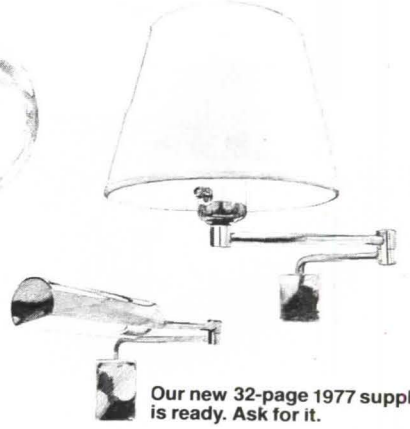

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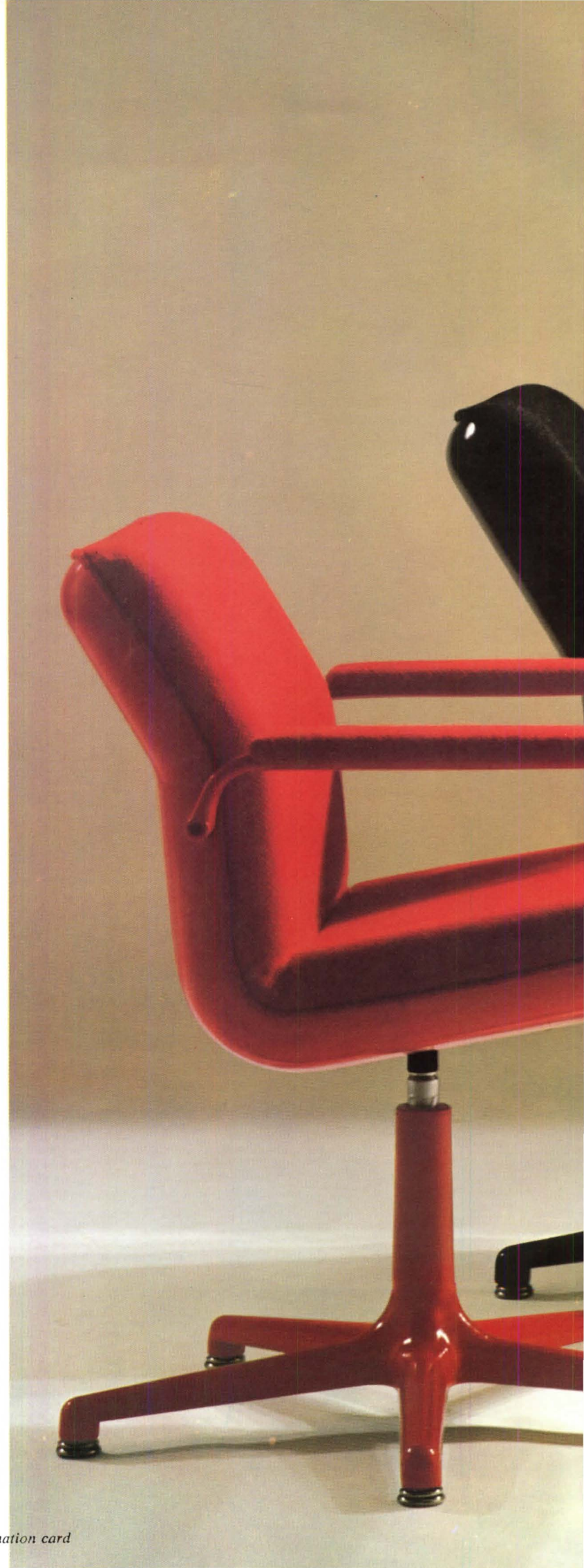
Noisy and quiet areas are being segregated and the look of landscaped space is becoming softer.

Landscaping from page 47
screen, get their mail and messages visually by pushing a button and other such marvels of modern technology. The result will be a substantial reduction in the need for papers and files and other reference materials, and of person-to-person communications in the office. And there goes one of the principal justifications for open landscape planning, namely that it enhances communication and interaction among employees. For people could now communicate by means of machine from almost anywhere.

Louis Beal of the planning and design firm ISD Inc., is in substantial agreement with Lerner and further predicts that the coming changes will bring more cooperation between furniture and electronics manufacturers. Since electronics will dominate the office, companies such as IBM and Xerox, he believes, will, in all likelihood, begin designing furniture to go with their console units. Similarly, there will probably be more cooperation between equipment manufacturers and the telephone companies, which will undoubtedly get into the act with video telephones and other gadgetry. Beal also believes that the trend toward more open and flexible offices will continue to gain ground.

Meanwhile, Don Brinkman of SOM's San Francisco office says, "At least for some work stations, our own firm is going back to more enclosed spaces, to more screens and partitions—much like an enclosed office with the top cut off—because many users want and need more privacy than is offered by today's open office plans." Herman Miller has come out with its "super room," a glass enclosed box of an office, which can be easily disassembled and moved and contains its own mechanical and electrical systems. Most regard it as going a bit too far in the direction of reverting to a closed office space.

In open landscaped plans, noisy areas are increasingly being segregated from those where employees need acoustical privacy; and to further diminish noise, more conference rooms for meetings and private conversations are being provided, and some manufacturers are beginning to design furniture systems with more padded and fewer hard surfaces. The look is becoming softer, especially in combination with task lighting, which is being incorporated into most furniture systems, says SOM's Brinkman. All in all, he sees the office environment as changing "from huge, undifferentiated spaces to a more residential look." □



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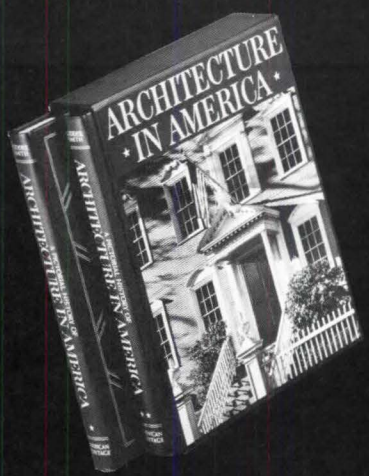
* Isaac Watts



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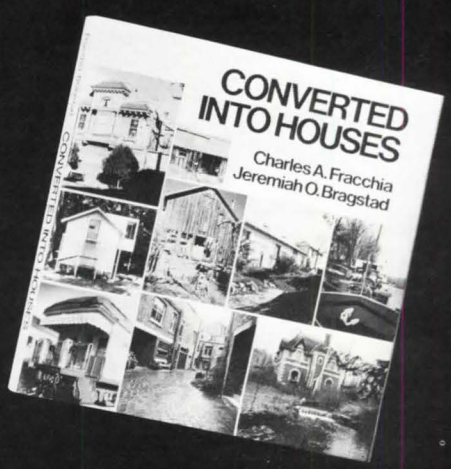

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Letters from page 2

that would both complement the architecture and withstand the ocean winds. Finally, after Kahn visited an exhibition of Luis Barragan's work at the Museum of Modern Art in New York City, he called the Mexican architect to the Salk site. "When Barragan arrived," Kahn wrote, "he swept his hand across the spaces and said: 'I would not put a single tree in this area. I would make a plaza. Then you will have a facade to the sky.' Both Jonas [Salk] and I felt the undeniable appropriateness."

James Britton II
San Diego

Architecture for the Physically Disabled: As an easy guide on designing for physically disabled people, the book entitled *Building Without Barriers for the Disabled* deserves high praise. The reviewer of the book in the April issue (p. 70) seems to me to be unfair, or inaccurate, on several points.

For instance, the balance of information on different environments is not unduly weighted toward public buildings because much of the data given in these sections are generally relevant and equally applicable to a domestic situation.

A book of this modest length (79 pages) does not claim to replace the classic works on the subject. It cannot deal equally with all disabilities. But as the requirements of the wheelchair user are the most exacting, it sensibly focuses on them.

The main needs for the blind, deaf and ambulant disabled are described, however. In fact, one of the most useful diagrams in the book (why was the least interesting chosen in the review for illustrative purposes?) is the comparison between the areas of reach of the ambulant and the chairbound disabled person, showing the common zone of accessibility.

I agree with the reviewer on the lessons to be learned from barrier-free design for the design of the environment for everybody—also on the frequent discrepancy between codes and human needs. But again these are points, important though they are, hardly within the scope of a brief book of data for the practicing architect.

In general, I find the authors' recommendations, where choice has to be made, to be well judged.

Kenneth Bayes, FRIBA
Partner, Design Research Unit
London

One of the classics on barrier-free design is Designing for the Disabled, *by Selwyn Goldsmith, published by the Royal Institute of British Architects. A third edition, fully revised, is available and will be reviewed at a later date in this magazine.* Ed.

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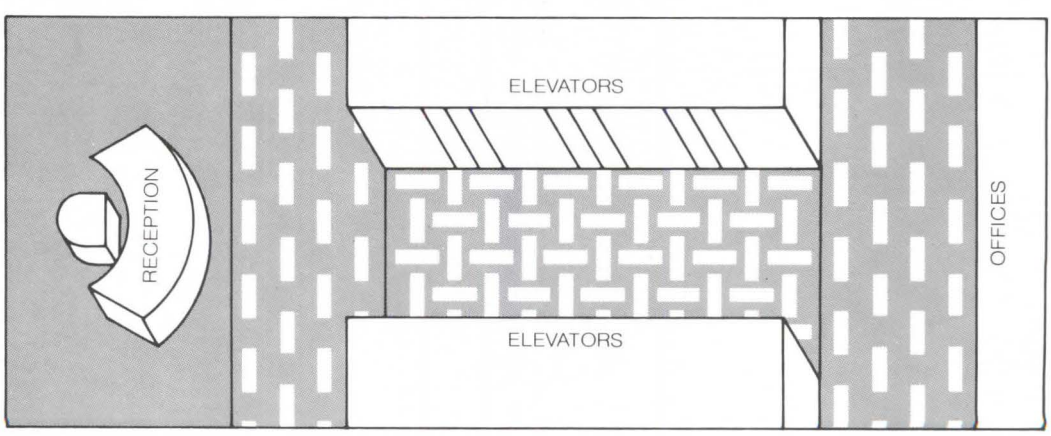

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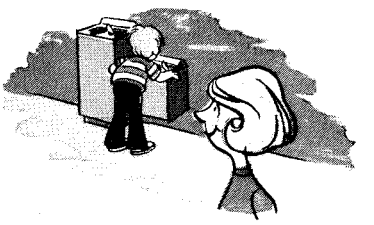

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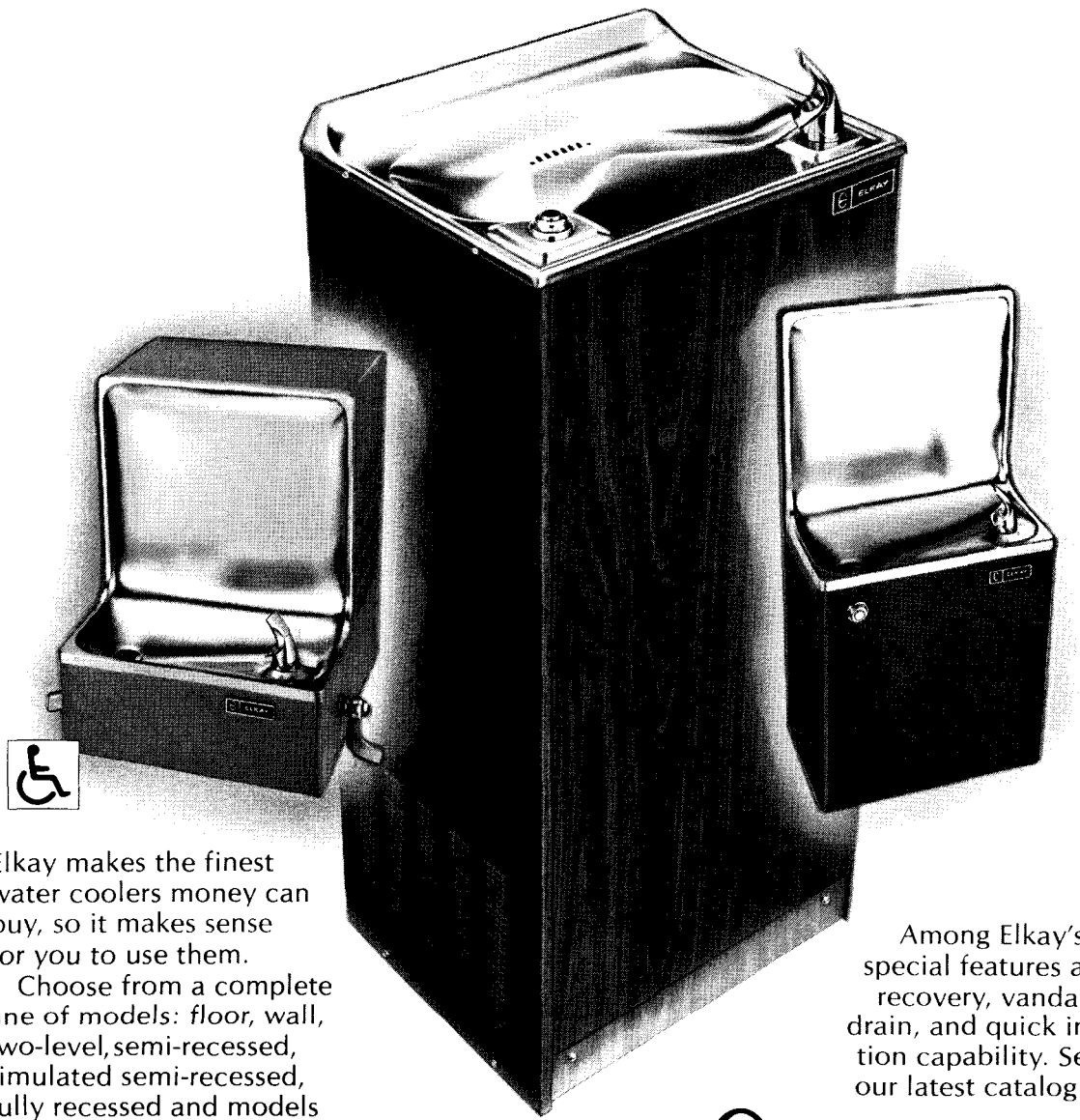

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Books from page 76

An Autobiography. Frank Lloyd Wright. New York: Horizon Press, 1977. 620 pp. $17.50.

Almost as soon as the first edition of Wright's autobiography (1932) was off the press, he started revising it, working on the process for a period of 16 years. This edition is the first publication of his corrected manuscript. It also contains photographs made over a span of 70 years of Wright, his family, his associates and his architectural projects.

Time has not diminished the importance of this autobiography, even without the revisions. It affords insights into the philosophy of this master architect not obtainable elsewhere.

Of the autobiography, Wright wrote: "For the life of me, I cannot see why I recounted so many episodes that were far inferior to those I delight to remember and tell now. I do not know why I have not written of many features and incidents of my life so much more deeply intimate, so much more suggestive even in architural thought. Certainly more picturesque. They come crowding into mind at odd moments. Press upon my heart too late, and go away again. . . . As I remember, the best of life is a becoming. So I record the lines and leave the rest to go the way of all life."

Approaches to Planning and Design of Health Care Facilities in Developing Countries. Vol. 1. B. M. Kleczkowski and R. Pibouleau. Geneva, Switzerland: World Health Organization, 1976. 145 pp. 21 Swiss francs.

There are challenging opportunities for U.S. architects to design health care facilities in developing countries, but past efforts have too often failed, says the World Health Organization, because designers from developed countries model health care facilities in the image of those in their own countries. All relevant local and regional "particularities" of developing countries are not taken into account. "For example, costly labor-saving technology, whose use is justified in countries where manpower is scarce and expensive, should not be considered in countries with abundant and cheap manpower."

WHO says that "there is a growing awareness in developing countries that many of their hospitals and other health care facilities are neither adapted to their needs nor compatible with their resources." Moreover, complex medical equipment is rendered useless unless skilled personnel and an adequate supply of spare parts are available.

To inform the architect, legislator and administrator of the problem in the planning and design of health care facilities in developing countries, WHO is publishing a series, in which this book is volume 1. The purpose is to "map out the route leading to correctly planned and designed health care facilities and to indicate the main pitfalls to be avoided." The information is presented at different technical levels, and contributors have been chosen "for their special experience in hospital construction or their knowledge of the requirements for effective medical care facilities in developing countries."

Volume 1 is divided into five major sections: the importance of legislation and administration for medical care facilities, by R. F. Bridgman; the role of area-wide planning and functional programming in the planning process, by M. W. Miskiewicz; the rationalization of medical care buildings, by Jan Delrue; advanced building techniques, by W. F. Vetter, and the influence of climate on buildings, by J. Shastri.

The series, says WHO, is not intended as a manual on hospital planning, and recourse to specialized knowledge is essential. It is hoped, however, that the series "will clearly indicate the steps to be followed, the facts to be weighed and the components to be considered in order to arrive at a correct planning solution." The first volume, at any rate, is highly recommended to the American architect who will be working in developing countries.

In the U.S., WHO publications may be obtained direct or through booksellers from Q Corp., 40 Sheridan Ave., Albany, N.Y. 12210 or from the United Nations Bookshop, New York, N.Y. 10017.

Historic Houses Restored and Preserved. Marian Page. New York: Whitney Library of Design, 1976. 208 pp. $25.

The houses depicted and described in this handsome book, says the author, "represent a wide range of restoration and preservation philosophies and techniques." The 18 houses discussed span 350 years of history. The book is divided into four parts: Elizabethan England and colonial America, Palladian England and federal America, Regency England and Grecian America and the romantic era. Each section begins with a discussion of a generic English house and comparisons with American counterparts follow. For example, in the section on the romantic era, there is an analysis of the Royal Pavilion at Brighton, England, which is followed by a discussion of the restoration and preservation processes of the Shadows-on-the-Teche, New Iberia, La.; Fountain Elms, Utica, N.Y.; Lyndhurst, near Tarrytown, N.Y., and Lucy, the Margate Elephant, near Atlantic City.

In the section on Palladian England and federal America, the AIA's own Octagon house is described and the manner in which the Institute restored it in 1968-70. Lewis Mumford is quoted here as saying: "If we are to have a fine architecture, we must begin . . . not with the building itself, but with the whole complex out of which architect, builder and patron spring, and into which the finished building, whether it be a cottage or a skyscraper, is set." The author of this book adds: "This, too, is the message that the Octagon brings from another century, if only we will heed it."

The book, recommended to all restorationists, contains some essays originally published in *Interiors* magazine.

Congregate Housing for Older People: An Urgent Need, a Growing Demand. Edited by Wilma T. Donahue, Marie McGuire Thompson and D. J. Curren. Washington, D.C.: Department of Health, Education and Welfare, 1977, 221 pp. $3.

This book contains selected papers from the first national conference on congregate housing for older people conducted by the International Center for Social Gerontology. Some 200 selected experts in the design, financing and management of housing for older people met to discuss the concept of congregate housing and to assess its design, market and financing, as well as next steps to take in the development of the concept. As Wilma T. Donahue says, the book "is especially timely in view of the 1975-77 Congressional appropriations aggregating $1.35 billion for construction of several hundred housing developments, many of which will be of the congregate type."

As defined by the conference, congregate housing is an "assigned independent group living environment that offers the elderly who are functionally impaired or socially deprived, but otherwise in good health, the residential accommodations and supporting services they need to maintain or return to a semi-independent life style and prevent premature or unnecessary institutionalization as they grow older." This definition is much broader than that of the 1970 and 1974 housing and community development acts which defined congregate housing as low-cost housing for the elderly in which some or all dwelling units have no kitchens and in which a central dining facility is provided.

The section of the book on the congregate facility will be of particular interest to architects. Here is a paper by Louis E. Gelwicks on the architectural program which considers the site, gives planning and design directives and discusses core supportive services.

The book as a whole is a basic resource for those who want to know more about an innovative concept for the housing of older people. It is a concept that is likely to become of widening interest in the next decade. The book will be most helpful to any architect who is called upon to design facilities for older people. □

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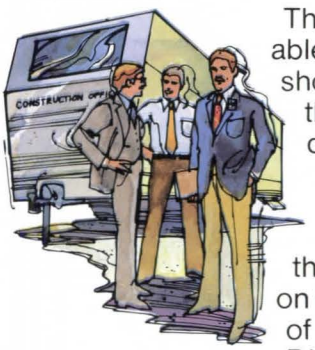

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ENERGY MANAGEMENT VIEWS FROM THE NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION VOL. 1 NO. 4

ENERGINEERS* FIND EFFICIENCIES IN RELIGHTING

The power to create all the lighting in the United States consumes only about 5 percent of all energy produced. And since about 68 percent of all electricity is generated from coal, nuclear, and hydro sources one can't really say that lighting provides a major opportunity for saving scarce oil and gas. But the cost of electricity is climbing, and lighting does utilize some fossil fuels, so it doesn't make sense to squander the lighting power we do use. Instead of emotionally pulling out lamps and darkening work areas to the point of reducing crucial productivity, energineers should be looking for ways to improve the energy efficiency of existing lighting systems. Fortunately, lighting modernization affords opportunities for saving both fuels and money. Here is what energineers need to know about it.

Traditionally, lighting users have concentrated on footcandle measurements as criteria for lighting design and specification. Recent new scientific developments indicate that there is a better way. Several, in fact. The idea now is to use the quantity of light as just one of several factors in designing for the quality of light. Quality lighting energineers now should consider undesirable veiling reflections, uncomfortable glare, and the selection of the proper amount of light for the task to be performed. New standards are available to the lighting designer such as visual comfort probability and equivalent sphere illumination. With these design tools, the user can obtain a much more pleasing work space, lighted for maximum tenant comfort and the highest operational productivity. It isn't so much that these design methods are revolutionary; but with the cost of electricity rising rapidly, it becomes more prudent to invest in the small additional design cost.

Energineers should also consider the source of light being specified. Selection of lamps which are most efficient as measured in terms of output lumens per watt is an effective means of conserving energy. It also saves money over the life of the lamps. As can be seen in Figure 1, fluorescent, metal, halide, and high-pressure sodium lamps—all high intensity

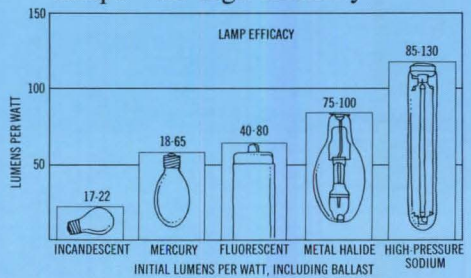


FIGURE 1. EFFICACIES OF LIGHT SOURCES

discharge (HID)—sources are the more efficient. This doesn't mean that all incandescent lamps should be automatically discarded. In fact some applications still are best achieved with Edison's "light in a bottle". The higher brightness and relative difficulty of distributing lumen output of HID sources has now been controlled by new fixtures. So it is not unusual to find them being aesthetically applied in many office and work areas that only recently would not have been recommended. Even the unique color qualities of HID sources are providing unexpected benefits when coordinated with appropriate interior decorations.

Also, energineers should consider the long range life cycle costs of lighting as well as the first installation cost. Figure 2 shows the total estimated 10-year costs

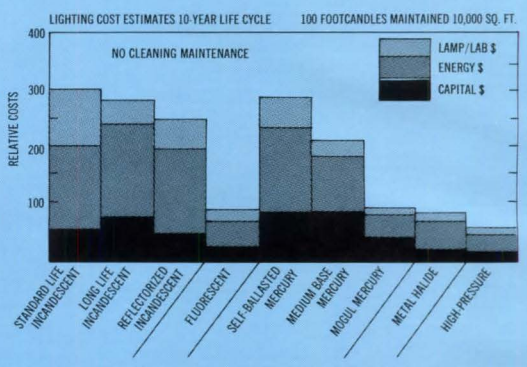
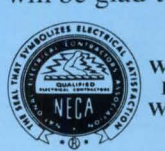


FIGURE 2. COMPARATIVE 10-YEAR LIGHTING COSTS

of producing one million lumens of usable light. This graph assumes no cleaning maintenance, a factor that no professional energineer should overlook. One of the primary considerations is the degree of lighting degradation occurring with the build-up of dust and the natural aging of the lamp. The maintenance philosophy has not changed in many years. It still centers on economic trade-offs between periodic cleaning and the group or spot replacement of older lamps. Fortunately, suppliers have developed elaborate decision models that are available to make life-cycle costing analysis easier.

Effective lighting controls can also have a beneficial effect on overall system costs. Selective switching, dimmers, and timed controls to automatically remove human judgement (or lack of it) should also be considered. Rising costs should convince energineers that these energy efficient relighting ideas are worth investigating. A qualified electrical contractor in your area will be glad to help. Just ask.



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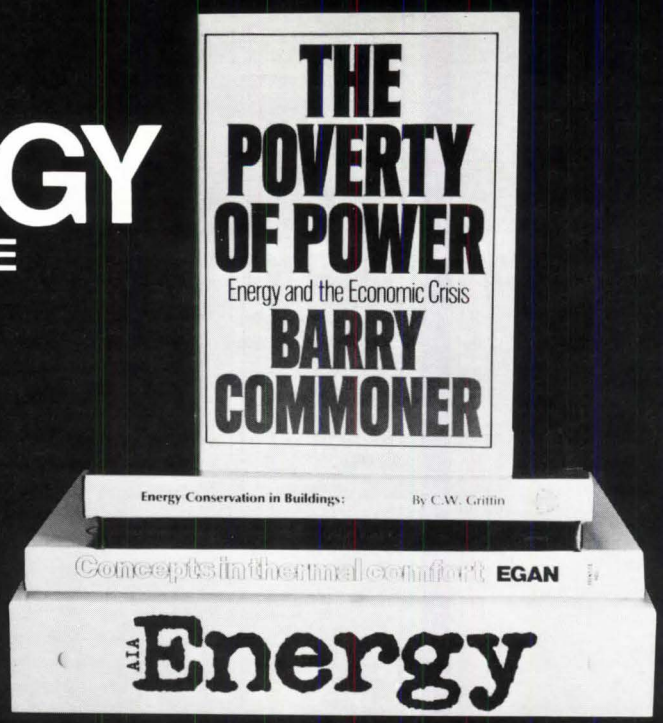

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3M251A	☐	8.95	☐	8.05
Energy Conservation in Building Design 4RC201	☐	5.00		
Energy Conservation in Buildings 3M184	☐	20.00	☐	18.00
Here Comes the Sun—1981 4RC208	☐	11.00		
New Design Concepts for Energy Conserving Buildings 4RC210	☐	9.95		
Poverty of Power 3M140	☐	10.00	☐	9.00
Solar Architecture 4M234	☐	12.00		
Solar Energy and Housing Design 4RC203	☐	15.00		
Solar Energy Home Design 4RC206	☐	12.75		
Solar Heated Houses 4RC205	☐	7.50		
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Basics of Solar Heating and Hot Water Systems is a new publication from AIA/RC on passive and active systems which can be used in residential heating and domestic hot water systems. Introduces systems design considerations from collector components and placement, to storage and heat exchangers, to distribution. Includes visual "state-of-the-art" view of solar energy systems in housing. Soft cover, 48 pages. Catalog #4RC209 $5

Concepts in Thermal Comfort (M. David Egan) is an important reference of energy conservation design and construction principles. Text stresses the importance of integrating mechanical systems with building structures, minimizing building heat loss or heat gain, and conserving valuable resources and energy. Illustrated throughout with graphs, charts, and numerous tables of technical and engineering data to aid in solving of actual building problems. The appendices provide useful formulas and additional references. Hard cover, 224 pages. Catalog #3M186 $11.95

Designing and Building a Solar House, (Donald Watson) Practical "how-to" book that clearly demonstrates the most sensible ways to combine good residential design with contemporary solar heating technology at no more cost than a conventional home. Delves into such topics as "active" and "passive" solar heat systems, hot water systems, and calculating wind, temperature range, and sun exposure factors on the sites. Includes a complete checklist of equipment needs and a comprehensive source list of products and material. An essential addition to your reference shelf. 288 pages, over 400 illustrations. Catalog number 3M251 (hardcover) AIA member $11.65, retail $12.95, 3M251A (soft cover) AIA member $8.05, retail $8.95.

Energy Conservation in Building Design describes opportunities for conserving energy through building design. Partially written by the AIA Research Corporation, it is the product of a national energy policy study financed by the Ford Foundation to investigate various aspects of the technological and social impacts of energy supply and consumption. Soft cover, 156 pages. Catalog #4RC201 $5

Energy Conservation in Buildings (C. W. Griffin) approaches the subject of energy consumption in economic as well as technical terms, citing financial, political, and tax obstacles. Stresses long-term (life cycle) costing as the ultimate sound business approach and sane government policy. Hard cover, 183 pages. Catalog #3M184 $20

Here Comes the Sun—1981 (Joint Venture) addresses the advantages, differences and compatability of various solar mechanical systems, energy conservation measures, and multi-family concepts. Illustrates the feasibility of integrating these systems into multi-family dwellings and the resulting opportunities for architects. Soft cover, 98 pages. Catalog #4RC208 $11

New Design Concepts for Energy Conserving Buildings These innovative approaches to designing energy efficient buildings resulted from an AIA Research Corporation-sponsored Energy Conscious Design student competition held in 1976. Twelve entries of distinction are featured in detail using the students' drawings and diagrams. Text includes student interviews and jurors' comments. Contains bibliography and design concept index keyed to drawings. Soft cover, 124 pages. Catalog #4RC210 $9.95

Poverty of Power: Energy and the Economic Crisis (Barry Commoner) demonstrates why the three great crises of today—the energy crisis, the ecology crisis, the economic crisis—cannot be considered separately. Links our bankrupt energy policies to both our political and economic systems, making the case that only a complete rethinking of the way we live, the way we conceive of and employ power, can rescue us from the ominous poverty to which our unique power is rapidly bringing us. Hard cover, 314 pages. Catalog #3M140 $10

Solar Architecture, prepared for ERDA, is an excellent photo-illustrated reference for the design professional. Full of material on the history, components, natural context, research, and the future of solar design. The results of the annual Forum of the Association of Student Chapters/AIA, in Tempe, Arizona, November 1975. A comprehensive collection of expert presentations and panel discussions. Attendees included many of the nation's leading architects and researchers in the field. Soft cover, 350 pages. Catalog #4M234 $12

Solar Energy and Housing Design (Giffels Associates) presents a systematic process for selection of solar energy systems applicable to four climatic regions of the continental U.S., and the incorporation of these systems into low-rise, multi-family dwellings. Includes a survey of solar collection and storage components. Soft cover, 145 pages. Catalog #4RC203 $15

Solar Energy Home Design (Total Environmental Action) uses an air-type solar system to develop single-family solar dwelling designs for four U.S. climatic regions. Explains engineering and design methods used. Extensive drawings, charts, tables. Includes over 100 solar component manufacturers. Soft cover, 198 pages. Catalog #4RC206 $12.75

Solar Heated Houses: For New England and Other North Temperate Climates, 2nd Edition, (Massdesign) uses some 200 computer simulations to examine performance and costs of a variety of solar heating systems and energy conservation measures. Sizing rules for system design and implications for dwelling design are included. Revised August 1976. Soft cover, 68 pages. Catalog #4RC205 $7.50

Solar-Oriented Architecture (Arizona State University) contains summaries and drawings of 70 dwellings utilizing solar energy for heating and cooling, detailed descriptions of and 10 full sets of drawings depicting dwellings which illustrate the four principal methods of using solar radiation. Provides analysis of the basic principles of solar space heating and evaluation of design implications. Soft cover, 142 pages. Catalog #4RC204 $12.50

Sun/Earth (Crowther/Solar Group) is a significant addition to the building designer's reference shelf. Covers the spectrum of natural forces capable of producing or conserving energy. With detailed historical information, explores the nature of the earth, sun, wind, and water in graphic, non-technical fashion. Discusses energy-optimized building design and the economics of an energy conscious built environment. Soft cover, 232 pages. Catalog #3M150 $12.95

AIA AUDIO-VISUAL MATERIALS

Saving Energy in the Built Environment is a complete, professional slide presentation on energy-conscious design. The energy question is recognized as one of the most critical issues facing the U.S. today. The problem is not a shortage of energy but rather a shortage of non-renewable fossil fuels. Energy-conscious design techniques and the use of renewable, on-site sources of energy can greatly reduce the dependence of the building sector on non-renewable energy resources. The 15-minute presentation is basic and non-technical. Package includes 55 slides, a script, guidelines for discussion, 25 copies each of two pamphlets, and single copies of two AIA energy reports. AIA's Public Relations Program Package #6. Catalog #4N813 $12.50


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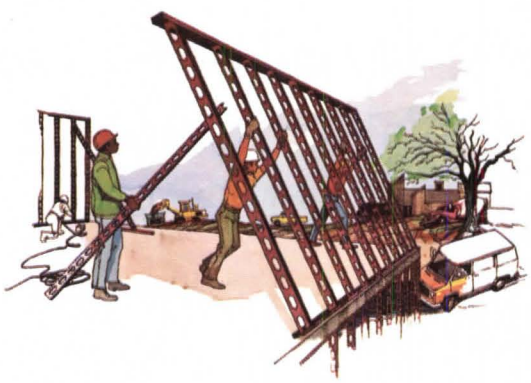

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You'll get experienced counsel for your framing contractor.

Through longtime involvement in both construction and manufacturing, Inryco has become the recognized leader in the steel framing field. We've worked closely with steel framing contractors to develop system innovations and improvements in fabrication and erection techniques. We stand ready to assist your contractor in developing proper framing construction techniques to help you achieve the maximum benefits of our systems.

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Other companies manufacture and sell steel studs and joists. None have the experience, capability or desire to provide the extras you get from Inryco. Please review the information on Inryco/Milcor Steel Framing Systems in Sweet's Architectural File (section 5.3/In) or Light Construction File (section 5.3/Inr). Then give us a chance to discuss their application to your projects by contacting:

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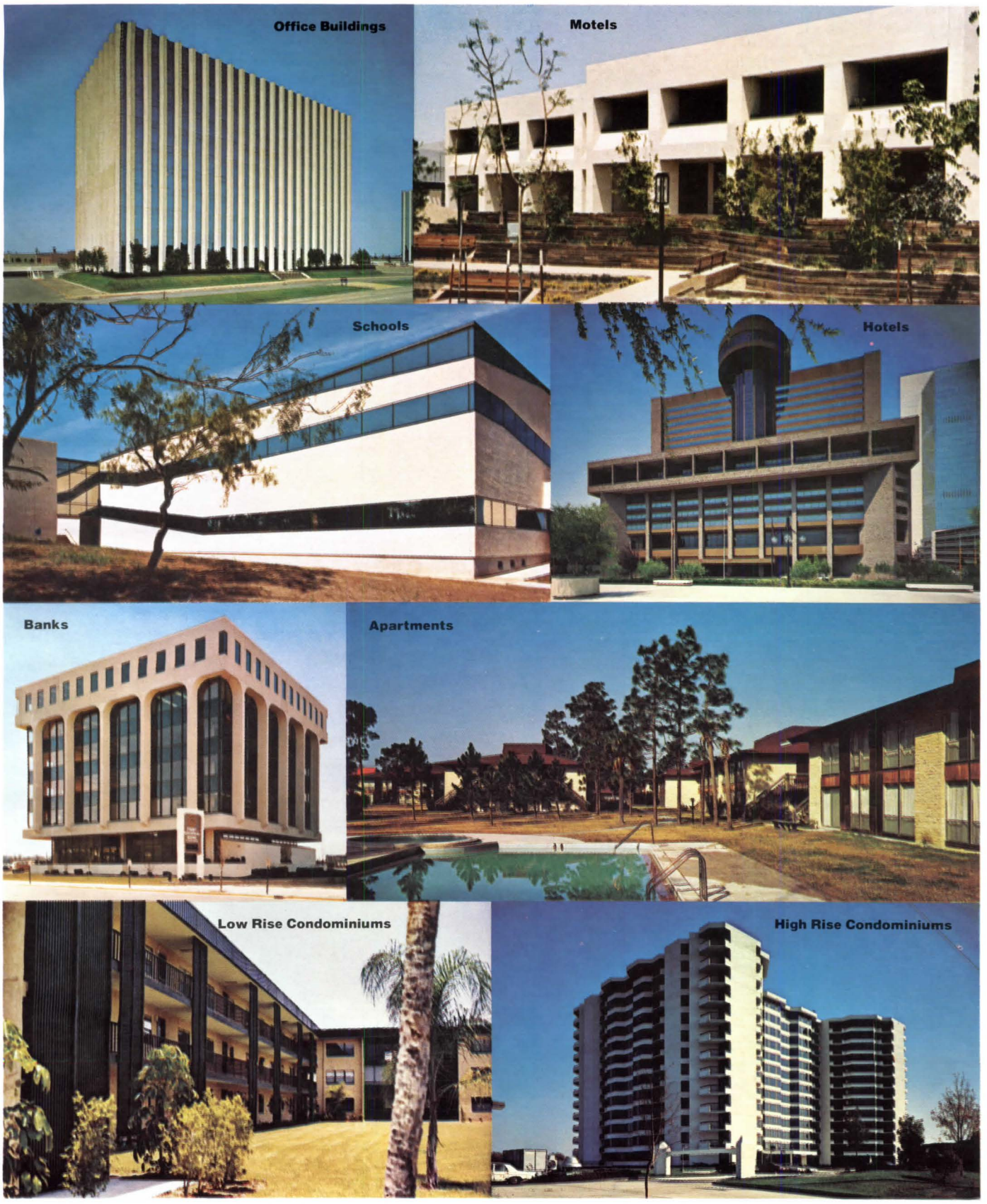

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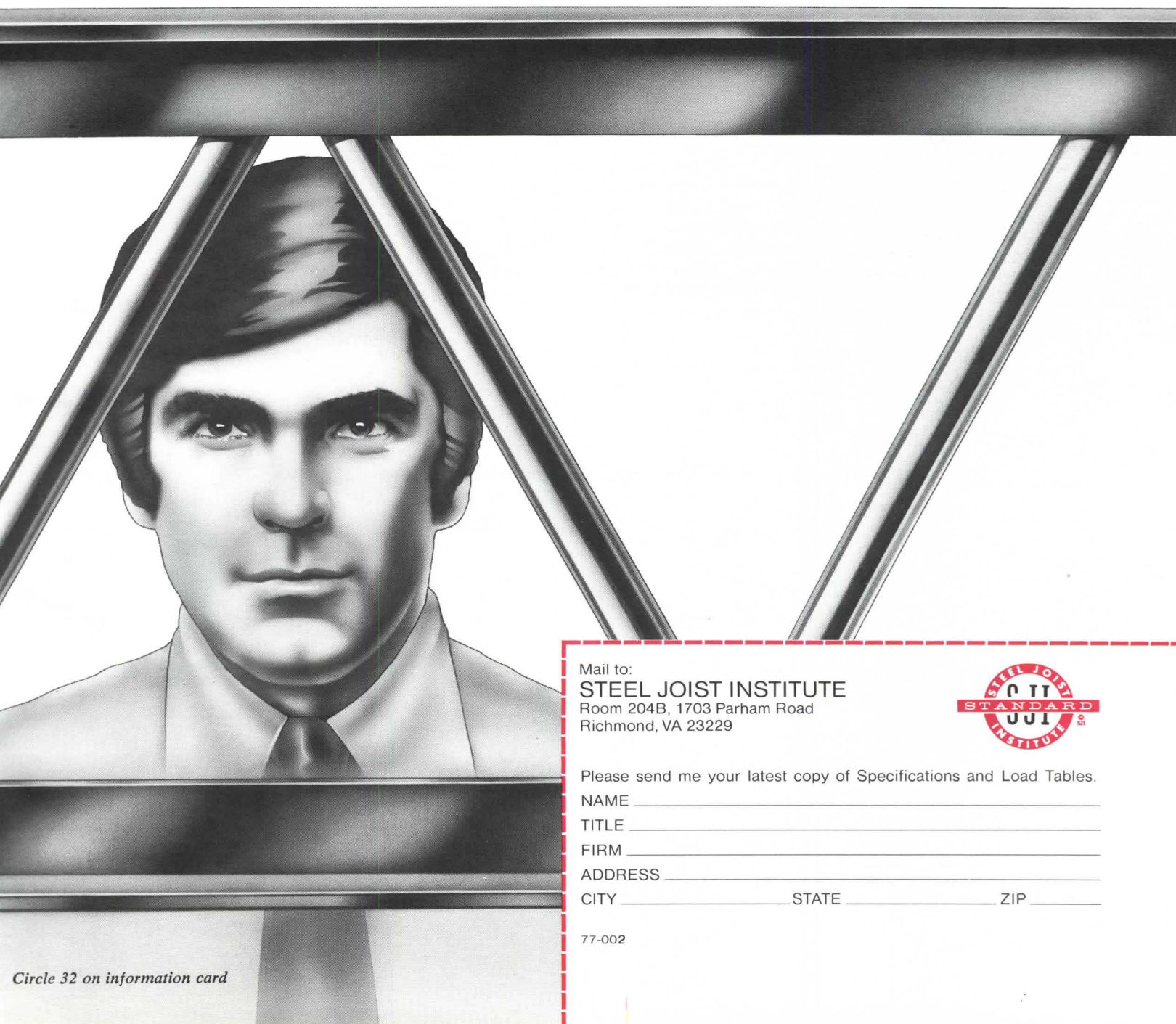

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Kawneer Thermal Barrier Products

Thermal integrity for a changing world.

Today's building will live its life in a different world. Life cycle costing (rather than initial construction economies) has become a primary concern. This means that thermal considerations must receive more and more emphasis in architectural design. Building materials will need to be an integral part of interior climate systems.

To conserve our energy resources, the designer must look beyond conventional building materials and solutions in order to achieve thermal integrity. For example, in curtainwall designs, the aluminum glass-holding members themselves can make a vital contribution to thermal efficiency.

Kawneer pioneered the positive thermal break concept in windows and wall systems. By providing a thermal barrier, contact between inside and outside metal is eliminated. Heat transfer to the outside during cold months and into the building during warm months is minimized. Result: Expenditures for heating and air conditioning are reduced and energy is conserved. And, by offering an extensive line of thermal barrier products, Kawneer is able to give you a great degree of design latitude, providing thermal integrity without esthetic compromise.

All of these innovative products are covered in the Thermal Products section of Sweets Architectural File. Or, write for our new book, *Kawneer Thermal Barrier Products,* Kawneer Architectural Products, Dept. C, 1105 North Front Street, Niles, Michigan 49120.

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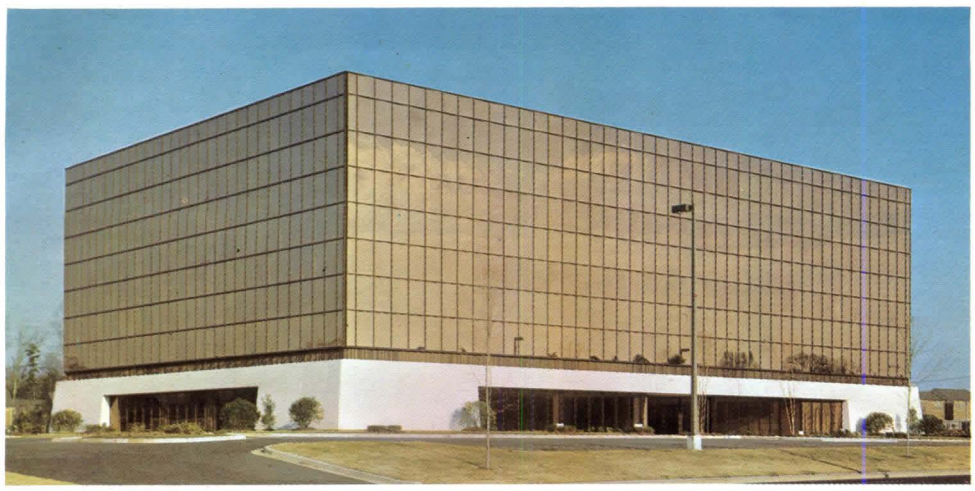
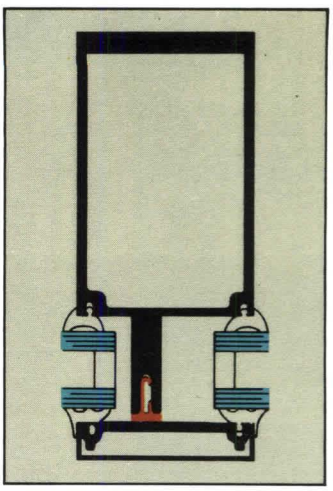
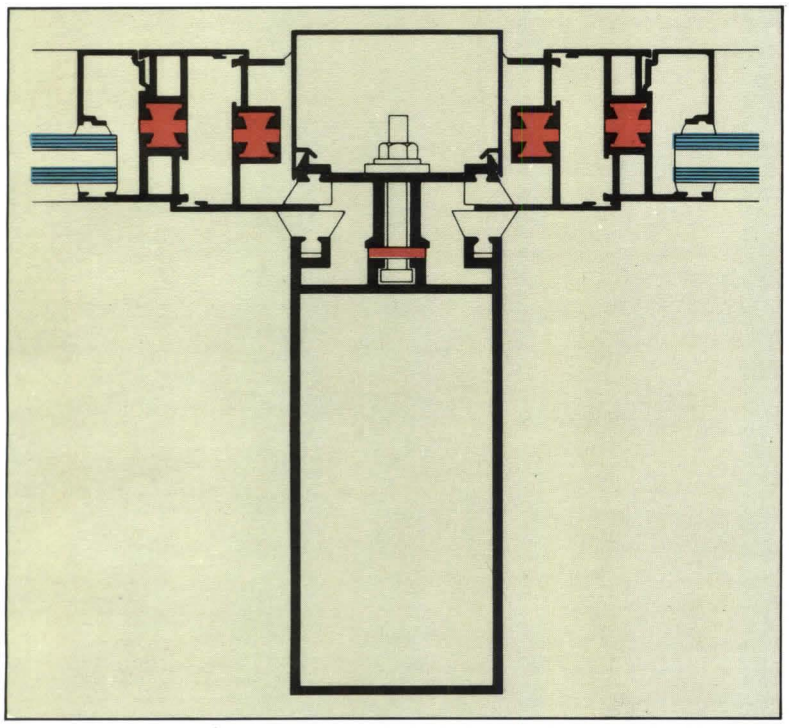
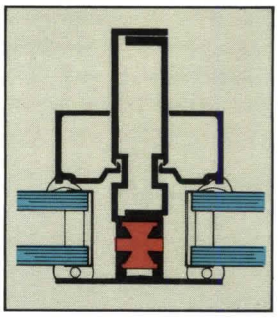




1602 I.G. Thermal Curtainwall — choose from a wide variety of thermal curtainwall systems for high-rise buildings and framing systems for store front and low-rise applications.

506 Thermal Windows — one of a diverse selection of windows that accommodate many functions. Shown here with thermally broken 8000 Stickwall.





SM 350T Thermal Framing — The patented seamless coupling mullion feature on this product provides a unitized framing system with unbroken sight lines.

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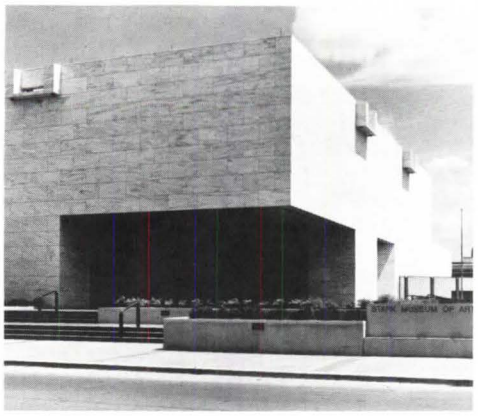
Going On from page 28

treal's architectural firms or the city's architecture department. Above-ground station entrances are built into existing structures. Construction of stations close to the surface was permitted due to the use of pneumatic tires, which also provide a quiet and smooth ride.

Metro, which carries 450,000 passengers daily over 19 miles of underground track, is integrated with Montreal's bus system which carries 600,000 passengers on a typical weekday. Ground for the subway was broken in 1962, and the first sections were in operation in Oct. 1966. Metro's first extension was opened in June 1976, and an additional five miles of track will be in use early in 1978.

Stone Projects Cited in Philadelphia and Texas

The Stark Museum of Art in Orange, Tex., designed by Page Southerland Page, and the Dilworth Plaza in Philadelphia, designed by the Kling Partnership, have received the first annual Tucker award of the Building Stone Institute. The purpose of the awards program, named in honor of the late Beverley R. Tucker Jr., a past president of the institute, is to "honor the design and build team who contributes to the construction of an outstanding stone



project completed within the last two years." The award is given in two categories: project type and plaza.

The Stark Museum (top photo) has an exterior facade that consists of 33,000 square feet of white marble. The Dilworth Plaza (lower photo) contains two acres of white granite flanked by tree-shaded avenues.

Judges for the 1977 Tucker awards were Richard Foster, AIA, president of the Connecticut Society of Architects, and Hugh Hardy, FAIA, senior partner of Hardy Holzmann Pfeiffer.

26 Are Named Fellows By Academy in Rome

The American Academy in Rome has selected 26 artists and scholars to receive Rome prize fellowships for the 1977/78 academic year. The awards permit the new fellows to live one year at the academy and to do independent work in their special fields of interest. Fellowship winners are chosen through juried competitions and are judged on the basis of "achievement, potential and readiness to do independent work."

New fellows in the field of architecture and design are: Gordon Corcoran Baldwin (environmental design), Taos, N.M.; Judith DiMaio (architecture), Lexington, Ky., and Donald Lee Peting (environmental design), Eugene, Ore.

Winners of mid-career fellowships in architecture and design, offered in conjunction with the National Endowment

continued on page 108

Ah Wilderness

Now you can bring it inside.

And let the great outdoors open up those small spaces, breathe new life into your designs.

Your own color slides and negatives can be used to make original photographs if you wish, or you can draw upon our special collections or Master Library of Images.

For example, Meisel now offers the "Wilderness" collection by Eliot Porter, the country's No. 1 color photographer with museums and collectors.

The photographs shown here — and dozens of others by Dr. Porter — are available as follows: Decorator prints up to 40 x 60 inches; murals to 9 x 24 feet or larger, and office panels in nine standard sizes to fit Westinghouse ASD Group panels, as depicted below.

Each photograph we produce is an original, custom-made on Kodak Ektacolor paper using special lenses, enlargers and mounting equipment. There's just no confusing its "real-life" quality with that of inexpensive, lithoed-looking prints.

As for service, we have a special department with professional design personnel to assist you. We've been in business for 25 years, and Meisel — the largest custom color lab for professional photographers — has probably made more large photos than anyone else in the world.

Our photos and murals decorate the walls of the Mellon Bank in Pittsburgh, Pennzoil's headquarters in Houston, Fidelity Union Life in Dallas and many other top companies.

For more information call Sally Vavrin collect at (214) 637-0170, or write for our brochure to Meisel Photochrome Corporation, P.O. Box 58331, Dallas TX 75258.

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Grueling, independent tests by Bowser-Morner Testing Laboratories—using National Bureau of Standards performance criteria for built-up roofing systems—have proven what we've been saying all along:

When it comes to thermal shock performance, our Fiberglas* Perma Ply-R built-up roofing system is superior to conventional systems.

As defined by the National Bureau of Standards, "The Thermal Shock Factor (TSF) is an indicator of the roof membrane's ability to withstand the normal temperature changes of its environment. Values of the coefficient of expansion, tensile strength, and load-strain modulus can be used to calculate the TSF."

The heart of our system is the unique, inorganic Perma Ply-R felt. It works two ways to give the system its strength.

First, when daily temperature changes cause a roof to expand and contract, Perma Ply-R is the best reinforcement it can have. That's because the Perma Ply-R felt is made of strong, continuous strand glass fibers. So its physical strength characteristics are similar, both longitudinally and transversely.

Second, Perma Ply-R helps create a monolithic roofing system. The strongest kind of system there is. The reason: Perma Ply-R is a porous felt. So it meshes totally with the bitumen.

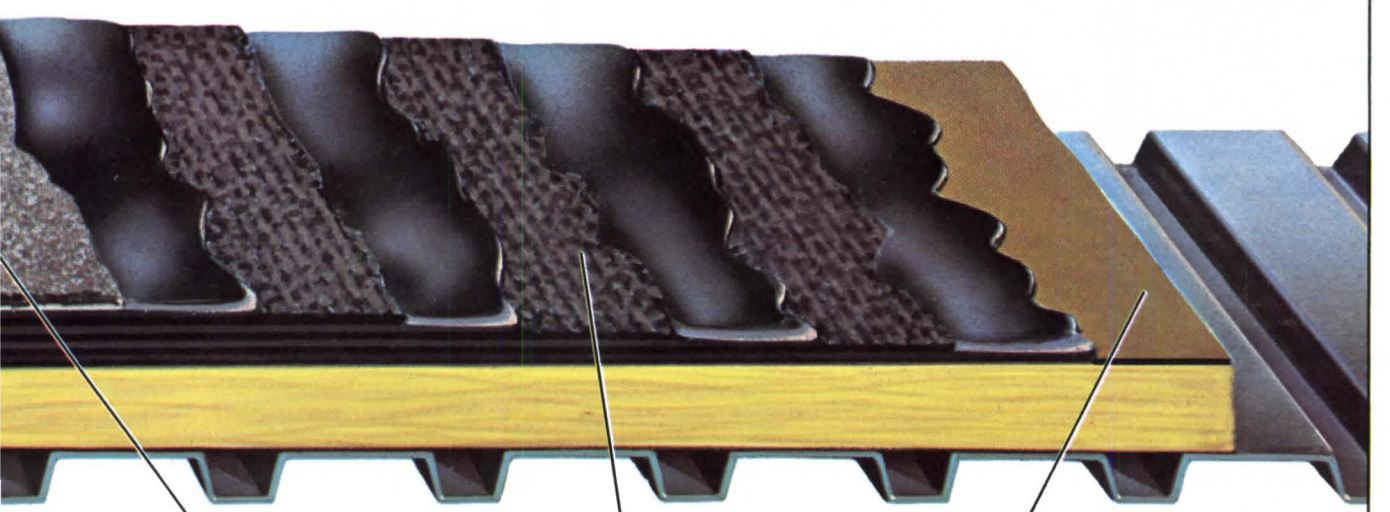
What does all this mean to anyone who's faced with specifying a built-up roofing system?

Simple.

Properly installed, our Perma Ply-R system minimizes the possibility of splitting, blistering, and internal deterioration of membranes. It has the potential to outlast any other BUR system money can buy.

If you want to see the "Thermal Shock Performance Comparisons," please contact your local Owens-Corning representative or write: M.I. Meeks, Owens-Corning Fiberglas Corp., Fiberglas Tower, Toledo, Ohio 43659.

They've got the test results that prove every word.



Our Perma Cap surfacing sheet combines two materials: Fiberglas—so it's tough, won't warp or rot. And inert, non-combustible white ceramic granules that reflect sunlight and help minimize thermal shock.

Our Fiberglas Perma Ply-R is a porous felt. So it can mesh with the bitumen, creating a monolithic roofing system that minimizes interply blistering and adds to the roof's outstanding thermal shock performance.

Our Fiberglas roof insulation has its own Fiberglas reinforced asphalt cover. So the bitumen can be applied directly to it, making the insulation an integral part of the membrane.

Owens-Corning is Fiberglas

OWENS/CORNING FIBERGLAS TRADEMARK ®

Going On from page 104
for the Arts, are: George E. Hartman Jr., FAIA (architecture), Washington, D.C.; Michael Lax (industrial design), New York City; Peter G. Rolland (landscape architecture), Rye, N.Y.; Alison Sky (environmental design), New York City, and Michelle Stone (environmental design), New York City.

The American Academy in Rome, a privately funded institution chartered in 1905 by Congress, occupies a cluster of classical buildings on the crest of the Janiculum in Rome. Its president is Bill N. Lacy, FAIA.

Document Aids Designers In Switch to Metrication

The National Bureau of Standards has issued a technical document entitled *Recommended Practice for the Use of Metric (SI) Units in Building Design and Construction*. Prepared by Hans J. Milton, technical consultant to the Center for Building Technology, the 40-paged publication has resulted from requests by the American Society for Testing and Materials and the American National Metric Council for the development of a document that would provide the "technical basis for a single, comprehensive and authoritative standard for SI units to be used in building design, product manufacture or construction applications."

As the document explains, the International System of Units (SI) is a "rational, coherent, international and preferred measurement system which is derived from earlier decimal metric systems but supersedes all of them." The application of SI units, together with preferred numerical values, the document says, is sure to simplify and speed up all measurement intensive activities in the building design and construction industry. SI has only one unit for any physical quantity; hence, it is not necessary to convert from one unit to another within the system, as with feet and inches, for example.

The document explains the structure of the SI. There are tables to show the units in SI; other units whose use is permitted with SI; preferred multiples and prefixes, and other multiples and prefixes. Rules and recommendations for the presentation of SI units and symbols and of numerical values associated with SI are given.

After this introductory material, the document explains how to select the correct units for use in building design calculations and in documentation. Tables list SI units and other units acceptable with SI as recommended. Where appropriate, typical application for selected units are given, and there are explanatory remarks for special considerations. The tables cover space and time; mechanics; heat; electricity and magnetism; lighting, and acoustics.

In the next section of the document attention is given to special considerations in the use of SI units in building design and construction. Three appendices follow which cover: conversion factors for the most common units used in building design and construction; SI units and relationship charts, and superseded metric units *not* recommended for use with SI. And finally, there is a brief list of references with sources given from which the documents may be obtained.

Milton says the U.S. "has a special opportunity to change from the outdated customary system to the most up-to-date international system in one single step." The document will help architects who are willing to take that step. "With the change to SI," Milton says, "the U.S. construction community can become a leader in the metric building world."

The document, which is NBS' Technical Note 938, may be obtained from the U.S. Government Printing Office, Washington, D.C. 20402. Its price is $1.60 (order by SD Catalog No. C13.46:938; Stock No. 003-01761.2).

Work Liability Proposals Receive Institute's Backing

AIA supports proposals of a newly formed group of equipment manufacturers, equipment distributors and marketeers and industrial consultants which seeks to have legislation passed that would ease liability problems. The group called the Special Committee for Workplace Product Liability Reform will campaign to have Congress enact legislation that would establish federal minimum standards for state-administered workers' compensation programs under which injured workers would look only to workers' compensation funds for work-related injuries.

Currently, under state workers' compensation laws, an injured worker cannot sue his employer, regardless of negligence in maintaining a safe place to work. And in most states, suppliers of equipment and services to the workplace cannot seek indemnification or contribution from employers whose negligence causes injuries.

"The special committee has a very great concern for preventing industrial accidents and putting a stop to the escalating costs for product liability insurance," says Robert Taft Jr., former U.S. senator and now a partner in the law firm of Taft, Stettinus & Hollister, who has been engaged by the committee. "These conditions, and the insurance availability crisis they have caused, threaten the economic well-being of the firms represented by the associations that formed the special committee."

AIA contends that the committee's proposal "would go a long way toward stabilizing professional liability insurance cost by immunizing architects and engineers against suits by injured construction workers. In return, injured workers would get uniform, higher minimum benefits and increased emphasis on workplace safety." AIA will work with the special committee in its efforts to ease professional liability problems, "as this has been identified by the Institute as the most promising short-term means to stabilizing liability costs."

Housing Bill Includes Neighborhoods Study

President Carter has signed into law the supplemental housing authorization bill which creates a 20-member national commission on neighborhoods. The commission is funded with $1 million to make a study of the effects of existing federal programs on neighborhoods and to make recommendations for the revitalization of urban areas.

The bill authorizes funds for the remainder of fiscal 1977, ending Sept. 30, to increase by some 165,000 units of Section 8 housing, bringing the total to 400,000 units. It also gives a $20 million increase (to $596 million) for public housing operating subsidies to offset last winter's heating bills, and an increase of $5 million (to $15 million) for urban homesteading. The legislation extends the subsidy contract period from 20 to 30 years for privately financed Section 8 housing, and federal crime and riot reinsurance programs are extended from April 30, 1977, to Sept. 20, 1978.

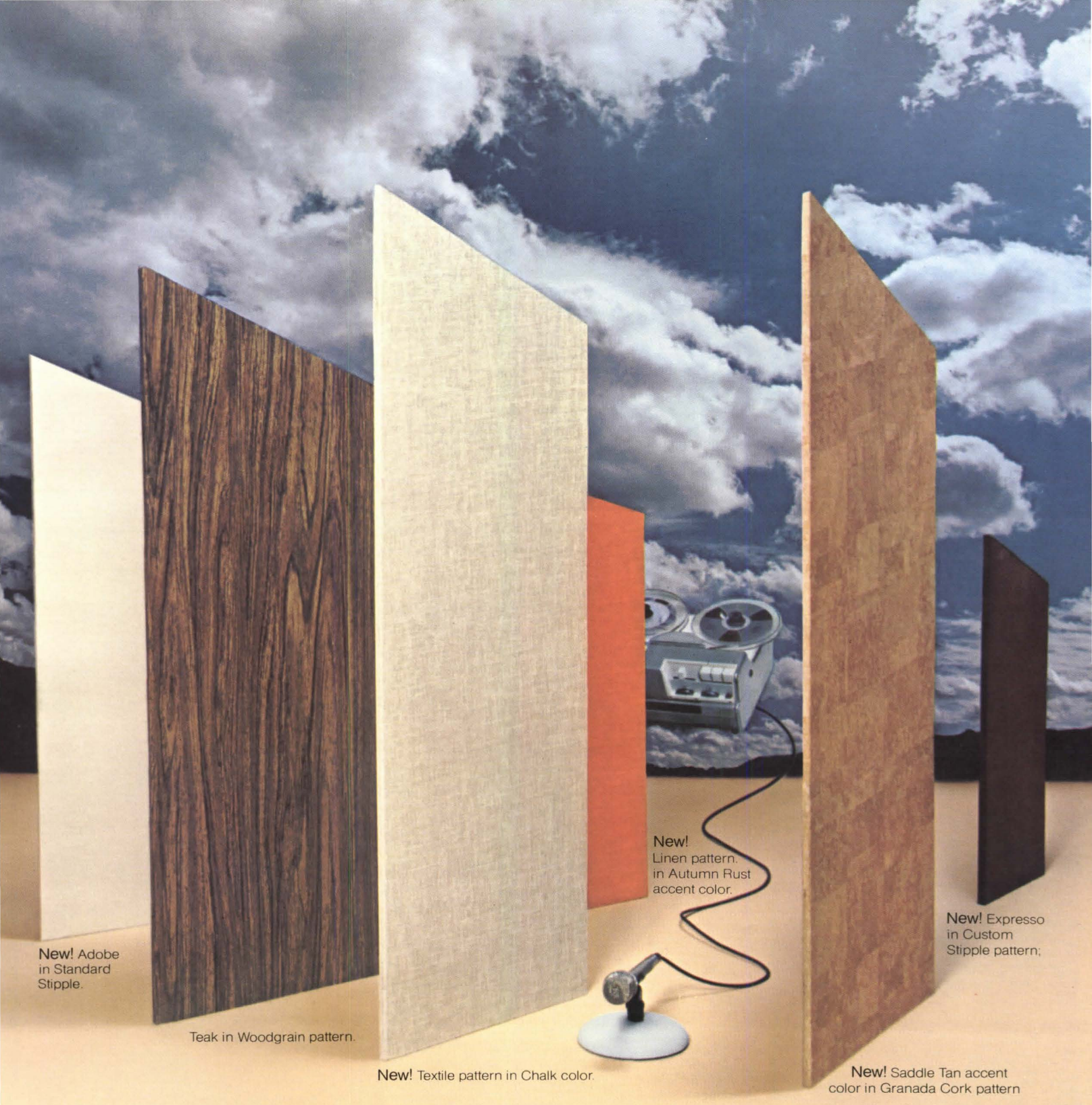
Efforts for Preservation Cited by National Trust

As part of its mission to promote historical preservation in this country, the National Trust for Historic Preservation gives awards annually to individuals and organizations who make significant contributions to the preservation and restoration of culturally significant sites and buildings. The National Trust made 11 national awards this year, with ceremonies held at Decatur House in Washington, D.C., during national preservation week.

Among the awards for 1977 were the following:

- The Pennsylvania Academy of Fine Arts in Philadelphia for the restoration of its Victorian building of 1876, designed by Frank Furness. The restoration was

continued on page 110



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Going On from page 108
under the direction of Hyman Myers, AIA, of Day & Zimmermann Associates.

- The Mark Twain Memorial in Hartford, Conn., for the "exemplary restoration of a Queen Anne style house, which was also the home of one of America's greatest writers." The house was designed in 1874 by Edward Tuckerman Potter.
- German Village Society, Inc., of Columbus, Ohio, and its founder Frank Fetch for the restoration and rehabilitation of historic German Village, a 233-acre area in downtown Columbus.
- Franklin Savings Association of Austin, Tex., for its "dramatic reuse of the 100-year-old Walter Tipps house" as a branch office.
- Four groups in Bath, Me., for 10 years of effort in the preservation of shipbuilding sites, the downtown trade district and ecclesiastical landmarks.
- Kahuku Sugar Mill on Oahu, Hawaii, for its restoration of an 1890 sugar mill to interpret the history of sugar, including its introduction and importance to the Hawaiian Islands.

A/E Job Opportunities

Continuing to inform American architects and engineers, as occasions arise, of job opportunities in foreign countries, the JOURNAL, in cooperation with the Institute's government affairs department, offers the following:

- **Australia:** Melbourne's underground rail loop authority invites persons with the capacity to develop, finance and manage a large city site for single purpose or specialty retailing and related service facilities to register for the multimillion dollar project for the development of the Flagstaff Station area. The site consists of 6,523 square meters of prime land in the northern sector of the central business district. The area is bounded by north/south and east/west tramway service and has easy access to major roadways to all suburbs. Initial submissions should be restricted to appropriate details of financial capacity and experience in large-scale development and management of property.

  Contact: W. L. R. Daniels, Melbourne Underground Rail Loop Authority, 53 Queen St., Melbourne, Victoria 3000, Australia.
- **Saudi Arabia:** The Royal Commission of Jubyal and Yenbo requests assistance in contacting U.S. landscape architects and contractors for possible work in the Yenbo complex. Yenbo is the site of a multimillion dollar refinery complex on the western terminus of a proposed pipeline from the eastern region oil fields. Other petrochemical and supportive industries will form part of the complex. It is estimated that the present city of 30,000 to 40,000 will grow to over 200,000 in the next decade or less. Only landscaping contractors prepared to establish base in Saudi Arabia should apply.

  U.S. firms should send brochures and other qualification literature directly to: Royal Commission for Jubyal and Yenbo, Directorate for Yenbo Project, Hassan Rida, P.O. Box 6312, Jidda, Saudi Arabia.

  For additional information on these opportunities or about economic plans and priorities, contact Patricia Parker, AIA headquarters, (202) 785-7384.

AIA Sponsors de Moll For Presidency of UIA

Louis de Moll, FAIA, immediate past president of the Institute, is the first AIA-sponsored candidate for president of the council of the International Union of Architects (UIA), headquartered in Paris.

The council is the top executive body of the UIA and it meets at least once a year to plan the union's work and approve the budget. Besides the president, the council is comprised of five vice presidents, a secretary general, a treasurer and 20 other members. The election will be in Oct. 1978 during the next congress, in Mexico City. The president will take office immediately and serve three years until the following congress meets in 1981 in Warsaw.

If elected, de Moll says, he will be called upon to chair three or four meetings yearly around the world. He would continue to

reside in Philadelphia where he is chairman of the board of Ballinger.

AIA wants to play a larger role in the UIA, de Moll says, and he thinks the Institute can offer organizational expertise and share information with the rest of the world. In exchange, U.S. architects would benefit from increased communication with architects worldwide and perhaps earn added respect abroad.

17 Architects Included Among Builder Honorees

The Building Research Advisory Board (BRAB) of the National Research Council honored 61 "outstanding contributors to building progress" over the past 25 years at an awards dinner in Washington, D.C. The awards program is an outgrowth of BRAB's 25th anniversary in 1975. At that time, a proposal was made that awards be given to people who have been leaders in the building field. An awards committee was then established to solicit nominations and to process balloting.

Seventeen architects were honored by BRAB. William Scheick, FAIA, a founder of BRAB and former executive director of the Institute, was one of three persons to receive a special award to "BRAB pioneers."

For "significant contributions to BRAB," there were 34 award recipients, including the following architects: Leander Economides, AIA, New York City; Robert M. Engelbrecht, AIA, Princeton, N.J.; Benjamin A. Evans, AIA, Virginia Polytechnic and State University; Leonard A. Haeger, AIA, California Polytechnic State University; Harold D. Hauf, FAIA, Sun City, Ariz.; Rudard A. Jones, AIA, University of Illinois at Urbana-Champaign; James T. Lendrum, FAIA, Phoenix; Ross W. Pursifull, AIA, Grand Rapids, Mich., and Herbert W. Swinburne, FAIA, Philadelphia.

In the category of invention and innovation, five architects were among the 12 award recipients: Ezra D. Ehrenkrantz, FAIA, New York City; R. Buckminster Fuller, FAIA, Philadelphia; Carl Koch, FAIA, Boston; and the late Eero Saarinen and Frank Lloyd Wright. Three architects were among the 14 recipients of awards in the category of professional development: Nathaniel A. Owings, FAIA, Big Sur, Calif., and the late Walter Gropius and Ludwig Mies van der Rohe.

Solomon Heads GSA

Joel W. (Jay) Solomon of Chattanooga has been confirmed by the Senate as administrator of the General Services Administration. His confirmation was unanimously recommended by the Senate's governmental affairs committee, chaired by Abraham Ribicoff (D-Conn.).

Solomon, who is 55 years of age, has been in real estate development since 1961. He has been an officer in the New York City-based Arlen Realty and Development Corporation. Before his confirmation, he agreed to resign from this position and pledged not to participate in any GSA lease arrangements with Arlen. Solomon told the Senate that the corporation and its subsidiary, Arlen Shopping Centers Co., have lease arrangements with GSA in 13 buildings across the country.

Deaths

William O. Brock, Van Nuys, Calif.
Thomas E. Collins, Irvine, Calif.
William C. Cramer, Brielle, N.J.
George B. Hampton, Cincinnati
Herman M. Karson, New York City
Robert L. Knox, Rolling Hills, Calif.
P. Conner Lee, Charlotte, N.C.
Samuel L. Malkind, West Palm Beach, Fla.
Robert Patrick Moran, West Orange, N.J.
C. A. Rinard, San Antonio, Tex.
Richard D. Seaborn, Sautee, Ga.
John A. Semitekol, Joliet, Ill.
Walter K. Smith Jr., Ormond Beach, Fla.
Marvin Fred Taylor, Memphis
J. N. Ziegele, Peoria, Ill.

Newslines

Henry N. Cobb, FAIA, is the recipient of the American Academy and Institute of Arts and Letters' architectural award, the Arnold W. Brunner memorial prize. The prize is given annually to an architect who has made a contribution to architecture as an art. Cobb is one of the three founding partners of I. M. Pei & Partners.

The 1977 Arnold W. Brunner scholarship of the New York chapter/AIA has been awarded to Richard B. Oliver of New York City. He will do a re-evaluation of the work of Bertram Grosvenor Goodhue. The scholarship is given annually to further the development of architecture in the U.S. through advanced study in some special field of architectural investigation.

The 1977 Rotch scholar is Patrick M. Sullivan of San Luis Obispo, Calif. The scholarship carries a stipend of $11,000 for foreign travel and is awarded annually by the Rotch Travelling Scholarship, whose secretary is Hugh Stubbins, FAIA, of Cambridge, Mass. Alternate scholar is Marvin J. Malecha of Pomona, Calif.

William K. Turner, AIA, dean of Tulane University's school of architecture, is president-elect of the Association of Collegiate Schools of Architecture.

Artist Marc Chagall's "The America Windows" have been unveiled at the Art Institute of Chicago. Dedicated to commemorate the nation's bicentennial and in memory of Mayor Richard J. Daley, the windows, in variegated shades of blue as background, are symbolic representations of architecture, music and other arts combined with such patriotic subjects as the American eagle, revealing the artist's interpretation of the close relationship between the country's history and artistic achievements.

William Findlay, AIA, of Portland, Ore., has been reelected to his second four-year term as a member of the board of directors of the national YMCA.

"The outstanding engineering achievement of 1977" is the Midwest Energy Terminal, Superior, Wis. The terminal received the American Society of Civil Engineers' annual award recently. The nation's largest Western coal transshipment terminal, it opens a gateway for large-scale, long-distance movement of vast coal resources to East Coast markets. ASCE gave an award of merit to Seattle's Freeway Park (*see* Oct. '76, p.10).

An 18-member task force of mayors has been appointed by Patricia R. Harris, HUD secretary, to advise HUD on policy recommendations for upcoming housing and urban legislative proposals. Mayor Neil Goldschmidt of Portland, Ore., is chairman of the ad hoc task force.

"200 Years of American Architectural Drawing" is a major, documentary exhibit that opened in June at the Cooper-Hewitt Museum, New York City. The 200 original drawings by more than 80 architects were assembled by David Gebhard and Deborah Nevins from works found in libraries, art museums and historical societies. After closing in New York on July 17, the exhibition will travel to other museums. For information, write: Sally J. Kuhn, American Federation of Arts, 41 E. 65th St., New York, N.Y. 10021.

Sir Denys Lasdun, Hon. FAIA, has been awarded the gold medal of the Royal Institute of British Architects. He was a pioneer of the modern movement in architecture in Britain and is the architect of the acclaimed new National Theatre in London and many other structures. The citation reads in part: "At a time when we are right to encourage the virtues of preservation and gentle renewal, we are right to recognize that we need artists who can give us new things to enjoy. Of such artists, Lasdun is one of the distinguished few." □

Michael J. Hanley
Publisher

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National Sales Director

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