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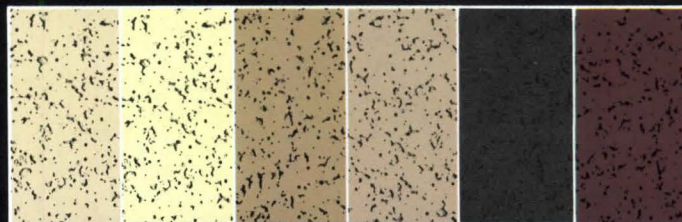
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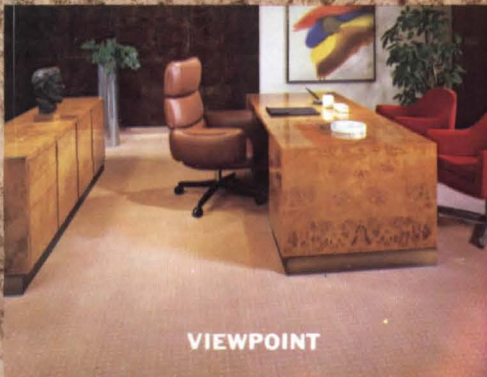
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**Cover:** Photograph by Steven Brooke of the Westinghouse Tampa plant by Design Matrix, a division of Ferendino/Grafton/Spillis/Candela. Peter Spillis, partner in charge; Daniel Capotorto, project architect; Howard Snoweiss, project interior designer.

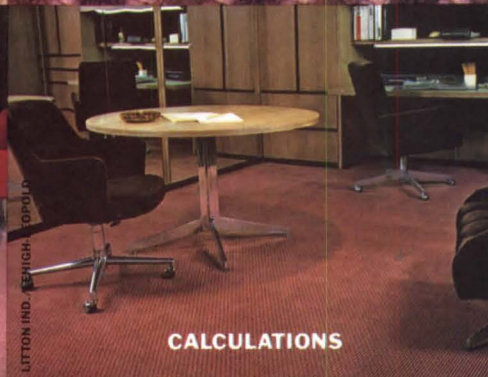
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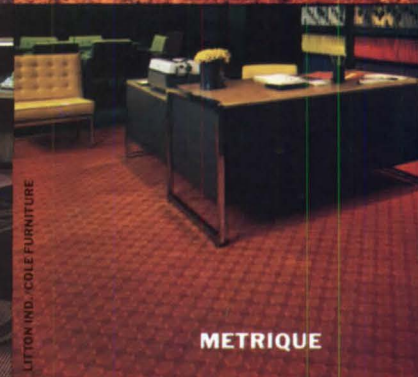
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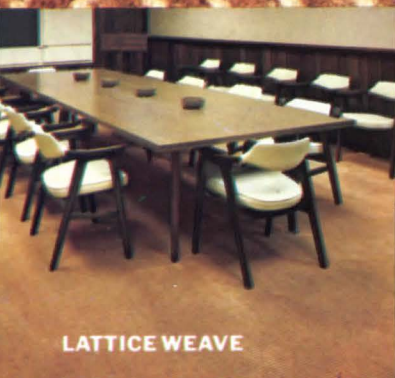
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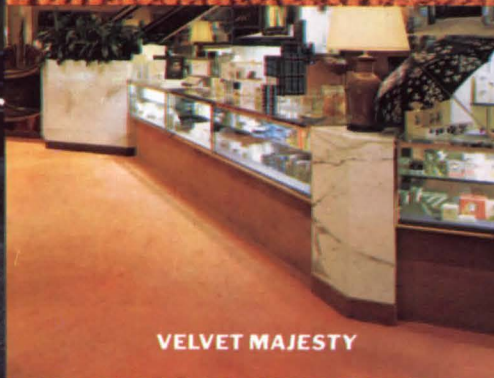
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## EVENTS

**Aug. 1:** Deadline for entries, 1980 Prestressed Concrete Institute awards program. Contact: PCI, 20 N. Wacker Drive, Chicago, Ill. 60606.

**Aug. 4-5:** Construction Cost Estimating and Bidding Seminar, Temple University, Philadelphia.

**Aug. 6-8:** Financial Management of Design and Planning Firms Seminar, Cambridge, Mass., sponsored by Harvard University and the Massachusetts Institute of Technology.

**Aug. 7-9:** Michigan Society of Architects/AIA summer conference, Mackinac Island, Mich.

**Aug. 7-10:** Mississippi Chapter/AIA and Gulf Coast Section/AIA convention, Biloxi, Miss.

**Aug. 10-15:** Building Economics: Solving the Owner's Problem in the '80s Conference, New England College, Henniker, N.H., sponsored by the Engineering Foundation. Contact: EF, 345 E. 47th St., New York, N.Y. 10017.

**Aug. 10-21:** Emerging Technology Conferences, San Francisco, sponsored by the American Society of Mechanical Engineers. Contact: ASME, 345 E. 47th St., New York, N.Y. 10017.

**Aug. 11-13:** Interpretation and Enforcement of Construction Contract Documents Seminar, University of Wisconsin, Madison.

**Aug. 11-14:** The Planning Process Seminar, Massachusetts Institute of Technology, Cambridge.

**Aug. 11-15:** Improving Professional Practice in Design and Planning Firms Seminar, Massachusetts Institute of Technology, Cambridge.

**Aug. 17-21:** Viable Energy and Living Alternatives for the New Decade Conference, College of Santa Fe, Santa Fe, N.M.

**Aug. 17-21:** Exhibition on innovative design solutions in justice facilities, San Diego, sponsored by AIA and the American Correctional Association, held in conjunction with the Congress of Corrections.

**Aug. 18-22:** Realities of Historic Preservation Seminar, Massachusetts Institute of Technology, Cambridge.

**Aug. 20-24:** American Society of Interior Designers annual conference, New York Hilton Hotel, New York City. Contact: ASID, 730 Fifth Ave., New York, N.Y. 10019.

**Aug. 22-24:** Kentucky Society of Architects/AIA annual convention, Lexington, Ky.

**Aug. 24-26:** Kansas Society of Architects/AIA annual convention, Hutchinson, Kan.

**Aug. 24-28:** Illuminating Engineering Society technical conference, Fairmont Hotel, Dallas. Contact: United Engineering Center, 345 E. 47th St.,

New York, N.Y. 10017.

**Aug. 25-29:** Solar Energy Thermal Processes Seminar, University of Wisconsin, Madison.

**Aug. 27:** Advances in Color Technology Symposium, San Francisco, held in conjunction with the meeting of the National American Chemical Society. Contact: Lawrence R. Lerner, Harmon Colors Corporation, Box 419, Hawthorne, N.J. 07507.

**Aug. 27-29:** On-Time Construction Seminar, University of Wisconsin, Madison.

**Sept. 1:** Deadline for registration, competition for design of a tensioned membrane theater. Contact: Helios, 1602 Tacoma Way, Redwood City, Calif. 94063.

**Sept. 2:** Deadline for abstracts, call for papers, on applications of energy technology to satisfy world's energy needs, to be presented at the Energy Technology Conference and Exposition, Mar. 9-11, 1981. Washington, D.C. Contact: ET8 Program Chairman, Government Institutes, Inc., Box 5918, Washington, D.C. 20014.

**Sept. 5-6:** Missouri Council of Architects/AIA, annual meeting, Kansas City.

## LETTERS

**Component Awards:** The AIA JOURNAL is now one of the best architectural magazines in the country—stimulating, well conceived and usually well documented. The Mid-May issue, however, was dismaying in its coverage of the Western Mountain Region/AIA and the Colorado Chapter/AIA awards programs.

Dominick Associates in Denver won two awards within the Western Mountain Region. Pahl-Pahl-Pahl, Denver, won awards from both the region and the Colorado Society of Architects/AIA, as did Seracuse-Lawler & Partners, Denver, and yet none of these firms was included or mentioned in the Mid-May coverage (p. 55).

The West, and in particular the Western Mountain Region, is experiencing tremendous growth, and the architects in the region are among the forerunners in the design effort to speak to the issues of energy conservation and regionalism. Because we are not aligned with either coast and, therefore, have little access to the publishing networks which have inundated the media with the works of the New York school, the Whites, the Grays, the Silvers, does not mean that there is insignificant work being attempted in the Western Mountain Region. As a national publication, supposedly representing national design and building concerns, for the AIA JOURNAL to edit out architects in this area does everyone a disservice.

*Peter H. Dominick Jr., AIA  
Denver*

Since I have recently joined the Colorado Society of Architects/AIA, I have not witnessed before the process of reporting component award winners in the JOURNAL.

It seems to me that a great disservice is being done to the winners of these awards and to the local, state and regional components that sponsor them if all winners are not recognized.

*Trudy McDermott  
Executive Director*

*Colorado Society of Architects*

*Even in an issue the size of Mid-May, we could not possibly publish all of the component award winners. So we make a selection that we hope makes up a representative sampling of what's being built across the country. One of the reasons we started to do this last year was to recognize areas that don't normally get much coverage in national media. Ed.*

**Compliments:** The article "Medieval Cities' Renewed Relevance" by John J. Desmond, FAIA (May, p. 36), is beautifully written, photographed and drawn.

*James P. Goldman, AIA  
Pittsburgh*

I'm sorry that it has taken me so long to write this, but my pleasure over the recent Third Annual Review of New American Architecture issue (Mid-May) has bubbled over, and here's my letter.

When I joined AIA 15 years ago, it would have been impossible to believe that some day the JOURNAL would be the only periodical left in America to merit serious consideration as an "architectural" magazine. The JOURNAL is interesting; it is surprising; it is fun; it is beautiful.

Quite frankly, the thought of missing out on the JOURNAL helps persuade me to continue my membership. If I had a choice, every dime of my membership fee would go to your little shop.

*Jim Morgan, AIA  
New York City*

**Corrections:** The new campus of the University of Texas at San Antonio was designed by the joint venture of Bartlett & Cocke Associates and Ford, Powell & Carson, both of San Antonio (Mid-May, p. 260). And the Edward R. Roybal health center (p. 205) is the work of Daniel Mann Johnson & Mendenhall, Los Angeles.

John Paul Ehrig of Clearwater, Fla., was incorrectly listed in the June deaths column. The reference should have been to Mr. Ehrig's father, Paul J. Ehrig of Trenton, N.J., who died last September.

A news story in the June issue (p. 21) said that the Virginia Society of Architects/AIA had opposed the state's recently enacted A/E procurement law. To the contrary, the society worked for three years to enact the legislation.



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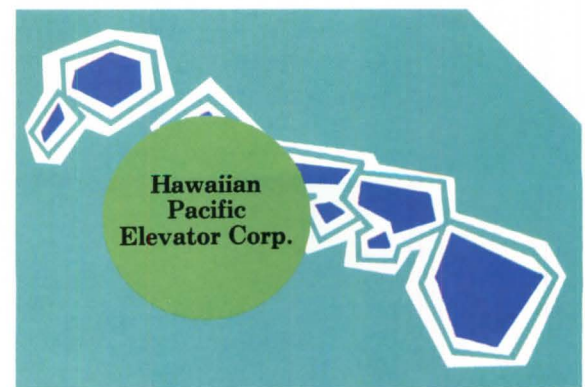
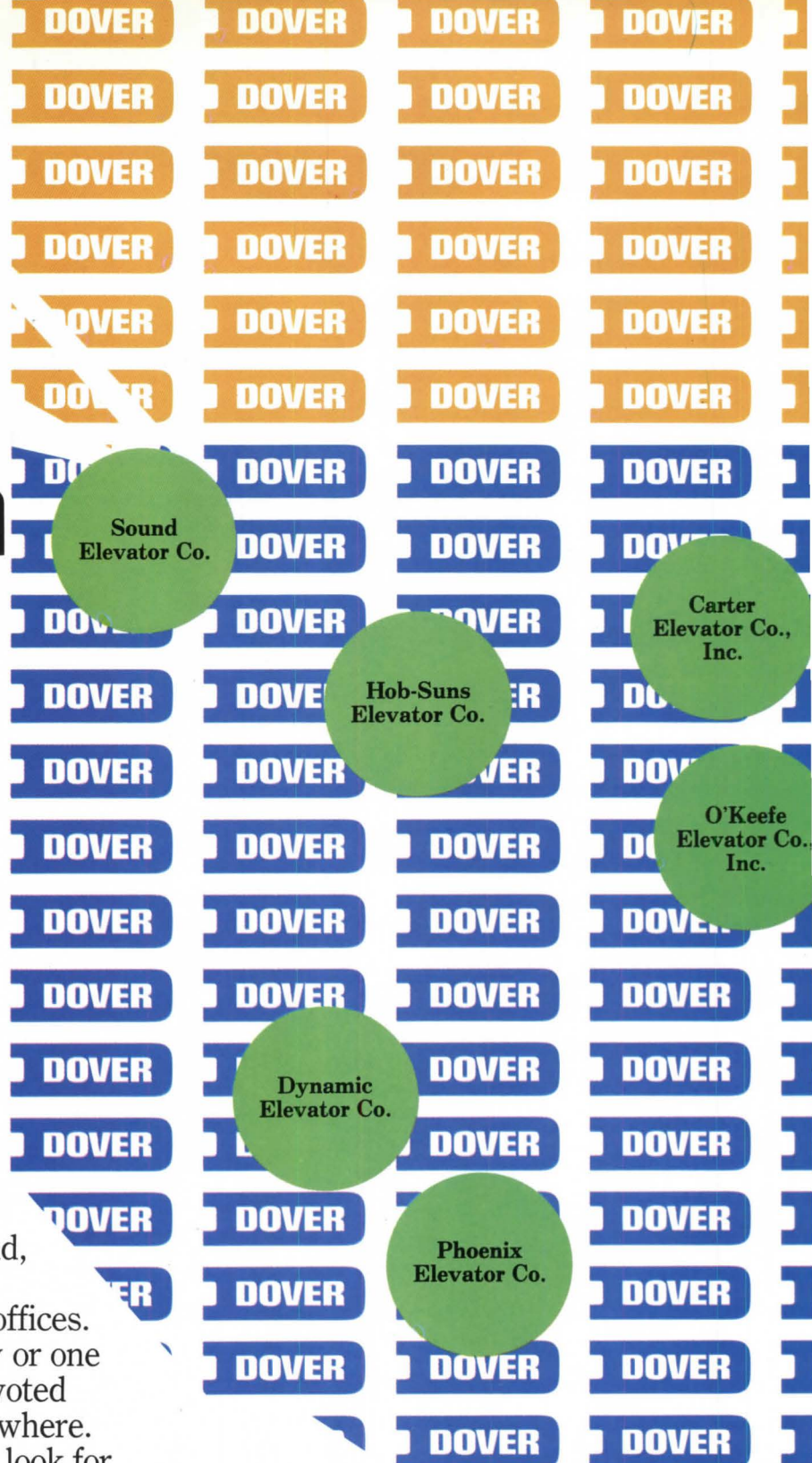
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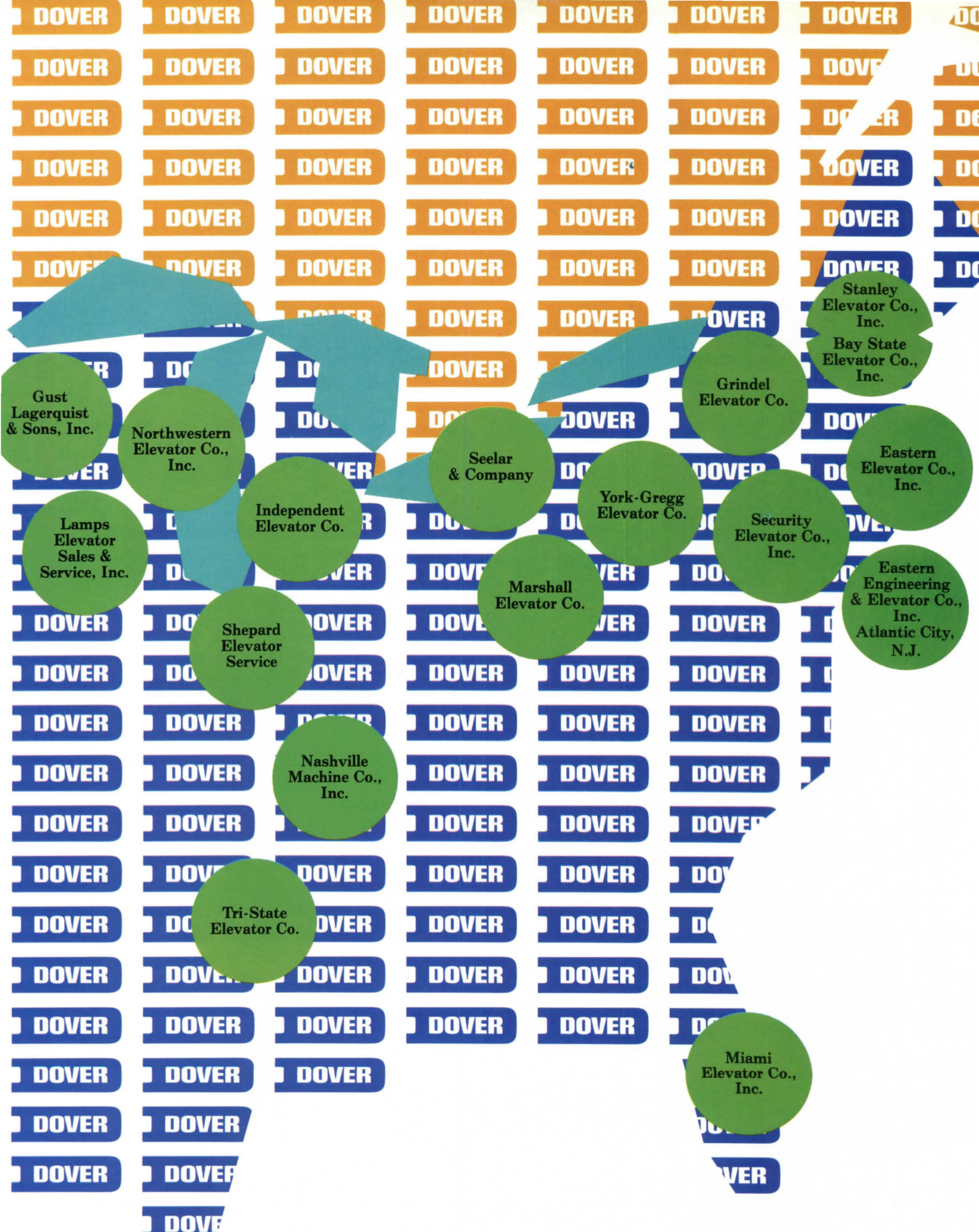
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## The Institute

# Convention Votes to Discard AIA Mandatory Code of Ethics

By a vote of 1,379.88 to 800.80, delegates to AIA's convention in Cincinnati in June voted to replace the Institute's current code of ethics and professional conduct with a statement of ethical principles to be followed on a voluntary basis by the membership. Such action had been recommended by legal counsel and the legal decision impact task force, chaired by Robert M. Lawrence, FAIA, secretary of the Institute, following a study of ways to minimize legal risks by the deletion from the ethical code of any potentially anti-competitive elements. AIA's mandatory code has been in effect since 1909, although many of the rules have been revised in the intervening years and others have been repealed.

Discussions at grassroots meetings earlier in the year had indicated that further deletions from the existing code were not desirable on the part of the membership and that a revised and expanded set of ethical standards should be developed. As a result, the board of directors decided to refer to the June convention the question of whether such a new statement of ethical principles should be mandatory and enforced or should be written as a voluntary statement of principles. As a result of the delegate vote at the conven-

tion in favor of a voluntary statement, the task force and board will draft a new document. Its adoption could come as early as the August board meeting.

Before the roll call vote on whether the statement should be voluntary or mandatory, President Charles E. Schwing, FAIA, had emphasized that the vote would be a "philosophical decision" of this issue alone, with debate on proposed contents of the statement to be ruled out of order.

William Marshall Jr., FAIA, former president of the Institute and a delegate at large, entered a motion for a third choice: a combination of the two concepts, with some sections of the statement mandatory and some voluntary. After considerable debate on the question as a whole, a standing, unweighed vote resulted in 84 votes for the combination, 232 for a voluntary statement and 166 for a mandatory one. President Schwing then ruled that a weighted, roll call vote would be taken on the matter of a voluntary versus a mandatory statement only.

Earlier, there had been passionate debate on the issue, with those in favor of a voluntary statement saying that money expended in defense of a mandatory code could be better spent in informing the public regarding "what AIA is all about." One delegate said that "ethics must work under the assumption that morals are possible" and that a voluntary statement would reveal a "morally mature" AIA. Another emphasized that a voluntary statement should be regarded as an "opportunity to let the public know we have standards worth adhering to." One of the earlier speakers stressed that AIA should not be seeking retribution by punishing those who stray from the norms of the profession.

Those in favor of a mandatory statement stressed professionalism, saying that discipline plays a role in a professional organization. To abandon discipline, said a delegate, would be a disservice to the membership. Others said that unless there

was enforcement, the ethical statement would not have meaning and that a member could violate the statement without fear of punishment. Others contended that the public would lose faith in AIA as a professional organization composed of members of integrity.

Delegates queried Lawrence, one asking if a return to a mandatory statement at some future date would be possible. He replied that there was "no legal problem." Another asked if prospective members could be asked to subscribe to a voluntary statement. Lawrence replied that compliance with a voluntary code could not be a "requirement" for AIA membership. Lawrence said that the bylaws provide for the suspension or termination of members who have been found to be in violation of their state registration laws and regulations. Could components have a mandatory statement of their own choosing if national AIA had a voluntary statement? Lawrence said the task force had not explored this question.

Among the amendments entered which were defeated was one to have a future convention vote on the contents of an ethical statement, a proposal to encourage members to carry a statement on their letterheads indicating that they subscribe to the AIA ethical standards and a proposal for the Institute to prepare various documents designed to inform the public that an ethical statement was "voluntarily assumed." An amendment to have the enforcement of ethics referred to state registration and licensing boards was not

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### The Institute

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*Robert M. Lawrence, FAIA, the Institute's new president-elect, during ethics debate.*

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**The Institute** from page 11  
accepted by President Schwing.

A related resolution on a code of ethics and professional conduct had been submitted by the Buffalo/Western New York Chapter/AIA, which had been supported by the board, as amended. A resolution was passed by the convention delegates that the board study the "feasibility . . . to initiate a public relations efforts, in concert with other professions, to communicate the position that the establishment of ethical standards, and the embracing of same by a profession, is, in fact, in the public interest" and that AIA's board report to the 1981 convention.

## Convention Votes Bylaws Change To Raise Membership Dues in '81

In addition to the ethics action, delegates to the convention voted to increase membership dues from \$55 to \$70 in the first year, from \$80 to \$95 in the second year and from \$105 to \$140 in the third year and beyond. In each membership dues category, \$10 is allotted to legal costs. The bylaw change also raises supplemental dues by \$5, from \$155 to \$160. The increase becomes effective in January 1981.

The bylaw change submitted to the convention had called for third-year dues to be increased to \$120, but an amendment offered by Elmer E. Botsai, FAIA, former president of the Institute, changed the increase to \$140. Botsai called AIA's services the "lifeblood of the profession," saying that architects cannot survive "by bleeding our Institute white." The bylaw change was passed by voice vote, a request for a roll call vote having been defeated by the delegates.

Before the vote, Jay Barnes, FAIA, Institute treasurer, had told the convention that without an increase in dues, AIA in 1981 would face "a reduction in programs worth more than \$600,000 plus legal expenses. Under the present level of services, the Institute would face a deficit exceeding \$1 million in 1982." He said that the dues increase was required because "the incredible rate of inflation we experienced in the 1970s has drastically reduced the real value of our dollars."

Convention delegates also passed a bylaw amendment, carried by voice vote, that would increase associate member dues, raising the dues progressively for the first five years of associate membership from an initial \$15 until the dues are equal to those paid by first-year members. According to the bylaw change, the board "may adjust these levels in accordance with Section 3." An amendment to stagger dues paid by associates over a three-year period rather than a five-year time schedule, as proposed originally, was defeated.

Other bylaw changes opened up associate membership "to those without an architectural license who have a degree from a school of architecture . . . and intend to obtain a license to practice architecture." Another bylaw change that passed concerns the qualifications for chapter affiliate membership. In addition to professional affiliates who may be "engineers, planners, landscape architects, sculptors . . . and other artists, professionals in government, education, industry, research and journalism," the amendment to the bylaws adds "and/or others who the chapter believes will provide a meaningful contribution by virtue of their employment or profession and are not otherwise eligible for AIA membership."

The convention also passed a resolution, submitted by the California Council/AIA, calling for AIA's board to "give first priority to the question of the future principles and purposes of AIA, and the appropriate roles of the local chapters, regional components and the national organization." The resolution asked that the board "with the cooperation and support of local and state components . . . organize a broadly based, national dialogue to discuss and redefine the proper role, purpose and character" of AIA during the 1980s and that AIA "prepare and distribute prior to grassroots 1981 a plan and schedule maximizing local, regional and national involvement in the re-evaluation of the Institute's purpose" that would include, among other things, an interim report to the 1981 convention and a final report for review and action to the 1982 convention.

Also carried was a resolution that calls for the board "to prepare an appropriate amendment to the bylaws to provide for associate membership representation" on the board, "for presentation and adoption at the 1981 convention."

In another successful resolution, AIA expressed its concern for the "critical national crisis in housing." It was resolved also that AIA encourage the National Science Foundation or another organization to investigate the "urgent problem" envisaged in the decommissioning of nuclear power plant facilities.

A resolution submitted by the Central New York Chapter/AIA that called for the board to refer the chapter's proposed roofing design minimum standards to the commission on practice and design "for the purpose of seeking the development of an acceptable national roofing design standard" was defeated by the convention delegates. Another resolution submitted by the Buffalo/Western New York Chapter/AIA on a study to be undertaken of the "means and methods to promote the selection of AIA architects by clients" was tabled.

## Lawrence, Broshar, Notter, Parker, Harmon Win Election

Robert M. Lawrence, FAIA, of Oklahoma City was elected first vice president/president-elect, at the AIA convention. He will assume office in December and will become president one year later.

Lawrence is secretary of the Institute, and chairs the AIA legal decision impact task force. He was chairman of the 1976-77 ethics task force, the commission on professional practice, the PSAE board, the AIA construction management committee and the AIA/AGC liaison committee. A past president of the Oklahoma Chapter/AIA and the Oklahoma Council/AIA, he is a principal in the firm of Noftsgger, Lawrence, Lawrence & Flesher. He received degrees in architecture and architectural engineering from Oklahoma State University.

Three national vice presidents were also elected: Robert Broshar, FAIA, of Waterloo, Iowa; George M. Notter Jr., FAIA, of Boston, and Ray K. Parker, AIA, of Little Rock, Ark. Harry W. Harmon, FAIA, was elected to a two-year term as secretary.

Broshar, a partner of Thorson-Brom-Broshar-Synder, received his architectural degree from Iowa State University. During 1975-78, he represented the central states region on the board, served on numerous committees and chaired the commission on education and professional development. He is currently a member of the registration and ethics task force and chairman of the 1981 national convention.

Notter, of the firm Anderson Notter Finegold Inc., currently represents the New England region on the board and serves on the commission on practice and design. He has served on the finance committee, the long-range planning committee and the PSAE board. He received B.A. and M. Arch. degrees from Harvard University.

Parker, a principal of the firm Cromwell, Neyland, Truemper, Levy & Gatchell Inc., currently represents the Gulf States region on the board and chairs the commission on education and professional development. He has been active in committees in the areas of marketing, membership, education, professional interest and government affairs and is a former director of PSAE. He earned his M. Arch. degree from Rice University and also holds degrees from Auburn and Arizona State Universities.

Harmon, executive vice chancellor of the California state university and colleges system, is currently in his third year on the board, representing the California region. He is chairman of the AIA Foundation and a member of the commission on

*continued on page 21*





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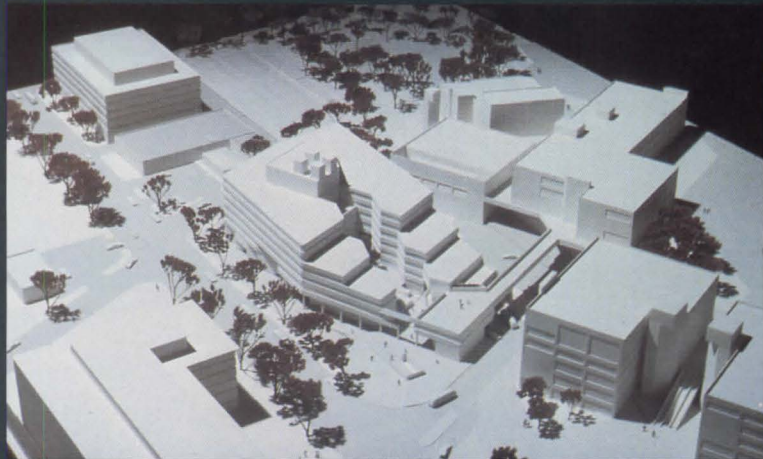


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education and professional development, the finance committee and the 1980 long-range planning committee. He is a graduate of the University of Southern California.

R. Randall Vosbeck, FAIA, of Alexandria, Va., was elected last year to serve as president in 1981. J. W. Barnes, FAIA, of Austin, Tex., was elected last year to serve a two-year term as treasurer through 1981.

## Board Gives 'Priority' Approval To Energy Education Project

At its preconvention meeting in Cincinnati May 29-30, AIA's board of directors approved and gave "priority" status to the launching of an "energy professional development master plan," aimed at reaching practitioners, intern-architects and students with a variety of educational programs. The plan was proposed by the Institute's energy committee and will be implemented under guidance of a special task force.

The plan calls for use of educational formats, including seminars, workshops, laboratories and the development of printed and audiovisual materials. The intended result, said the energy committee, is to have architects "understand and practice energy-conscious design as naturally as they concern themselves with good design itself."

In approving the master professional development energy plan, AIA said that the profession must "grasp the opportunity to reassess its role in the transition to a postpetroleum world." Adjustments to this new world, said the energy committee, can come only through continuing education. "Trained and committed professionals, supportive clients, and the perfection of effective design tools are required."

In other business, the board took the first steps toward implementing a proposal by the long-range planning committee, chaired by president-elect R. Randall Vosbeck, FAIA, for a restructuring of the commission and committee structure of the Institute. The board voted to establish six commissions: communications, design, education, government, member/component affairs and practice to replace the current five: component affairs, education and professional development, government affairs, practice and design, and public relations.

The long-range planning committee suggested that the design commission—now separated from practice—include the committees covering specific building types plus those on energy, interior architecture, historic resources and others. The

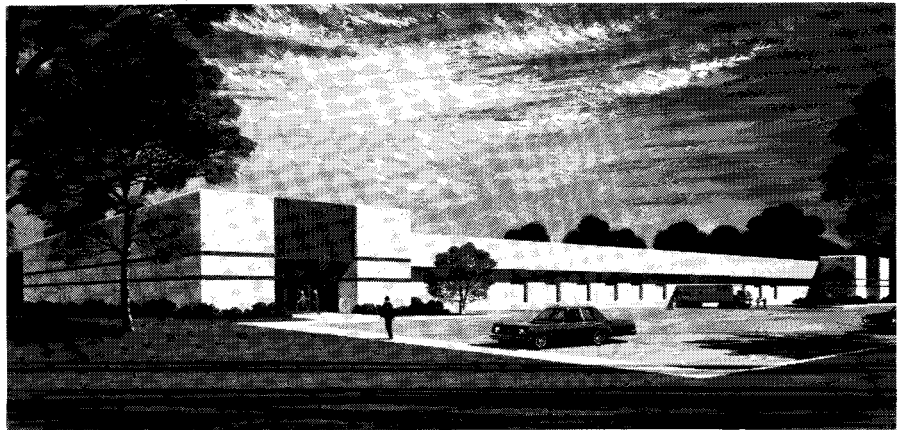
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## The Institute from page 21

recommendation is for such committees as codes and standards, documents, liability and financial management to be placed under the new practice commission.

It is further recommended that state and local government affairs, formerly under the component affairs commission, be transferred to the government affairs commission. The newly created communications commission would include, according to the long-range planning committee's suggestion, public relations, publications, the AIA library and the firm directory.

Vosbeck stressed that the long-range planning committee's intention was to combine or delete committees "where it can be determined that their responsibilities overlap or activities are duplicated." The exact nature of the committees under the new commissions has been referred to the 1981 planning committee and will be submitted to the board for approval at an unspecified time.

The long-range planning report is divided into two parts: "near-term" recommendations that can be acted upon within about two years and "long-range" recommendations that include projected trends up to 1985. One of the long-term recommendations accepted by the board continues the existence of the long-range planning committee, extending planning from the current three-year range to five years.

The board also approved a conversion schedule developed by the American National Metric Council's construction industry coordinating committee which sets Jan. 1, 1985, as the date for the initiation of metric construction.

Among other actions taken by the board were the following:

- Adopted revised policy statements on percent of art in architecture, architecture for recreation, historic preservation and government procurement policy.
- Accepted a digest of AIA public policies according to rules adopted by the board in March 1979, in which each policy item contains, among other information, a capsule statement regarding the policy.
- Accepted the report and recommendations of the communications commission, approving in principle its five-year plan of action to establish and maintain an evaluation of the internal and external communications of the Institute.
- Approved plans for the redesign and promotion of *Inbrief*, the new title of the *Review of Architectural Periodicals*, and its transfer to the publications department from the department of education and professional development.
- Voted to continue the competitions advisory service, seeking matching funds from the National Endowment for the Arts.

## Imagination, Not Regulation, Required, Says Energy Secretary

Professional challenges, opportunities and responses in the 1980s were addressed by four theme speakers at AIA's convention in Cincinnati on June 1-4. Charles M. Duncan Jr., secretary of the Department of Energy, was an additional speaker. He rejected a prescriptive approach to energy conservation in buildings, saying that the federal government should not tell architects how to design. "We want efficiency by design, not by decree," he said. "To help solve our national need to use energy more efficiently, we need more innovation and imagination from architects, not legislation from Washington."

Duncan said that he was "impressed" by AIA's actions and programs in energy conservation and its support of DOE's building energy performance standards, as well as the Institute's campaign to assure that implementation of the standards is not delayed. He predicted that the federal government would be working more closely with AIA to achieve a nation of energy efficient buildings.

"We look to you," Duncan told the convention, "to help make American home buyers and American corporate management aware of new designs for passive and active solar heating and cooling, new materials, new insulation, new building methods. We look to you to help take advantage of grants and loans that will be available from the solar bank and the conservation bank, and the tax credits already available to make America's buildings energy efficient."

Duncan called the lines at gasoline stations of last year the "Pearl Harbor" of the energy condition, signaling "the end of our energy innocence, the end of the delusion that oil was cheap and easy to waste because it was easy to get." America "has begun to rethink its energy needs. And you, as architects, as visionaries who can turn concepts into concrete, must be at the forefront of this change," he said.

The first theme speaker was Leon C. Martel, acting president of the Hudson Institute, Croton-on-Hudson, N.Y., and coauthor of *The Next 200 Years*. "In thinking of the 1980s and beyond," he said, "it is hard to imagine a group of professionals who face a more complex and portentous challenge; for it can easily be said of architects—more than members of any other profession—that they serve the future."

The 1980s, Martel said, were ushered in in a context of hope and concern. The hope lies in the fact that many of the problems of the 1970s, once considered insoluble, have been solved. The context of concern is caused by the unknown and unpredictable political factors that influ-

ence our lives, causing such problems as increased oil prices and inflation.

But, Martel said, his view of the future is "positive and realistic." He predicted the continuing advance of technology as "the world's great hope to escape poverty." He believes that the long-run energy prospects are "very good," with an abundance of solar, thermal and other renewable energy sources available by the middle of the 21st century. Less certain, however, are the short-term energy prospects, due to economic and political reasons rather than supply. He viewed inflation as the "disease of the '80s," calling for "tough" restrictive measures. More difficult to predict than the advance of technology, energy sources and inflation, he said, is future political action. He warned against "war by miscalculation," the danger of which could probably increase if we "do nothing or do the wrong thing."

In relating his predictions to architecture, Martel said that tried and true formulas will no longer automatically work. He urged the investigation of such things as cost efficient materials, re-evaluation of building costs and sizes and shapes of structures. "Design for the public good," he said. And in challenging architects to design a better future, he said that there is one renewable resource forever: the acquirement of human knowledge.

The second theme speaker, Irving Kristol, coeditor of *The Public Interest* magazine, identified a "triple bind" of forces shaping America's professions in the '80s: bureaucratization, an identity crisis and rebellion. He advised architects to cope with these forces "the way we do with allergies." He said "there is no rational answer that gets professionals out of the triple bind as the nation goes through a traumatic period in which the structure of society both professionalizes and deprofessionalizes us." Today, young professionals are questioning our intellectual tradition, he said, and they consider authority to be irrelevant. When a profession loses its moral authority, he said, its credibility is challenged.

Speaking on the theme of "opportunity," J. Irwin Miller, Hon. AIA, chairman of Cummins Engine Co., called upon the architect to look beyond the contractual client to the actual user of a building. "If you are designing a hospital, how will the hospital seem to and how will it work for one sick, anxious human being?" he asked. Great architecture, he said, is less than the structure itself, and more what happens to the person "year in and year out, as he experiences and uses the building."

In addition to the user, the architect has another client, Miller said. It is the architect's "own artistic self." The demands of these two clients must be kept in bal-

*continued on page 27*





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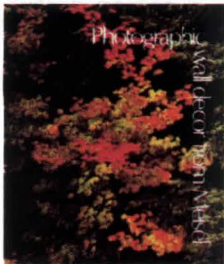
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ance, he said. "If the user's preconceptions rule, you will probably produce only mediocrity. If your artistic nature runs unchecked, you run the risk of coming up with an undisciplined embarrassment." Miller urged the audience to take pride in the ancient profession of architecture, "without whose good services, civilization can neither function nor exist. . . . Take pride in serving your times energetically, intuitively, prophetically, humbly; lose yourself in this great opportunity."

Near the conclusion of the convention, on June 4, Gerald M. McCue, FAIA, recently appointed dean of Harvard's graduate school of design, served as a "synthesizer" of the speeches on the challenges and opportunities presented by others, and gave his own "response" for the architectural profession. He urged AIA to "abandon its attempts to legitimize business ambitions as being part of the professional field," saying that it should be acknowledged that the Institute "is an organization of individual architects, not an association of architectural businesses."

He suggested that AIA concentrate on two major responsibilities: "first, improving a profession that has as its central and over-riding responsibility the creation of excellence in works of architectural and, second, serving as advocate for improving the living and working environment of Americans, particularly the economically and politically disenfranchised."

McCue called upon professional firms to set "specific objectives" and to delegate responsibilities so that everyone in the firm participates. "Strong, adventurous firms should add specialized skills, pursue esoteric problem areas and provide services the environment needs and the

public finds relevant," he said.

Recalling the words of Kristol, McCue said that most architectural schools, like other segments of the profession, also suffer from an identity crisis, stemming in part from a "failure to distinguish between the architectural studies as an academic discipline and the mastery of its knowledge and skills in preparation for professional practice." As a result there is "little understanding or cooperation between the worlds of academia and practice."

Turning to the individual architect, McCue urged a continuing commitment to professional development. "Experience is not a substitute for, but a companion to knowledge," he said. In his discussion of external factors that affect architecture, he said that the "critical questions are not outside but within the profession." The greatest weakness, he said, is a lust for business development. Among the strengths he mentioned is that "works of architecture touch people in fundamental ways." He asked architects to "re-establish" their "love affair with the habitable environment, with forms of urbanization and with individual buildings."

Earlier in the convention, on opening day, Charles E. Schwing, FAIA, president of the Institute, said that the obligation to practice architecture "wisely and well" is at the root of what it means to be a professional. "To be a professional means more—much more—than a passive relationship with a client. It means steering that client toward quality, cost-consciousness, energy efficiency. It means integrity over profit. . . . It means looking in the mirror and seeing not an egocentric snob, but a mere mortal who can achieve little without the creative support of an enlightened and responsible public."

## Energy

# Synthetic Fuels Appropriation Is Hammered Out in Washington

The so-called syn fuels bill (S932) cleared both houses of Congress late last month, giving President Carter a victory in his effort to forge a comprehensive energy policy. The compromise worked out by the House and Senate negotiators gives the new Synthetic Fuel Corporation \$20 billion to grant loans, loan guarantees, price guarantees and purchase guarantees to industries for synthetic fuel development.

According to a House-Senate conference committee report, the Energy Security Act would provide \$25 billion during fiscal years 1981-85 for a solar energy development bank, synthetic fuels development, biomass and alcohol fuels pro-

gram, renewable energy initiatives, geothermal energy development, etc.

Solar energy and energy conservation programs, funded at \$3.14 billion during FY 1981-84, are the solar energy and energy conservation bank, grants for residential energy conservation, a residential energy efficiency program, utility residential conservation programs and a weatherization grants program.

The bank would exist until 1987 under HUD auspices and would be authorized to make payments to local financial institutions for below-market rate loans or a principal reduction on loans for solar and

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conservation improvements. Eligibility would depend upon both the income of the borrower and the type of structure to be improved.

For example, for energy conservation improvements, the maximum subsidy available for a single-family residence would range from 20 percent of the project cost (with a \$500 limit) for borrowers with incomes between 120-150 percent of the area median to 50 percent of the cost for borrowers with incomes below 80 percent of the area median. For multifamily buildings, the rate would be set at 20 percent of the cost, up to \$400 per unit. The rate for commercial buildings would be 20 percent of the cost, up to \$5,000.

The maximum subsidy for solar improvements would be \$5,000 for a single residence, \$7,500 for a two-unit residential building, and \$10,000 for a three-to-four unit building, and \$2,500 per unit for multifamily residential buildings. For commercial buildings, the maximum subsidy would be 40 percent, or \$100,000.

The bank would also provide matching grants for energy conservation expenditures for persons whose income is 80 percent of the area median or below.

In addition to the bank, a program would be established to determine the effectiveness of state and local agencies that contract with private companies to conduct residential energy audits and install energy conservation measures. The

companies would be compensated according to the energy actually saved.

The Energy Security Act contains provisions for the omnibus Solar Commercialization Act of 1980. It calls for \$220 million for the coordination of solar and conservation information activities by the Energy Department's secretary; the use of a 7 percent discount rate and marginal fuels costs in calculating the life cycle costs of conservation and solar investments in federal buildings; a three-year program, with a \$10 million authorization in fiscal year 1981 to demonstrate energy self-sufficiency through the use of renewable energy resources, and changes in the federal photovoltaic program to incorporate greater flexibility in the deployment of photovoltaic systems.

The largest recipient of the \$25 billion provided by the Energy Security Act would be the synthetic fuels development program, which would be funded at \$20 billion, with the prospect of further authorization of \$69 billion. An independent, wholly federally owned corporation would be established to provide financial assistance to the private sector in the development of synthetic fuels. National goals for synthetic fuels production are set for at least 500,000 barrels of crude oil equivalent per day by 1987 to increase to two million barrels per day by 1992.

### DOE Seeks One-Year Delay For Performance Standards

The Department of Energy has asked Congress for a year's delay in the implementation of the controversial building energy performance standards which were originally mandated to go into effect in August of this year. In hearings before the Senate subcommittee on energy regulations, Maxine Savitz, assistant secretary of DOE, testified on June 4 that the Administration wants the year's delay. It was testified also that DOE would like to make changes in the standards and that a proposed revision would be published by February 1981.

There is already legislation before Congress that would delay the implementation of the standards for three years. In May, AIA launched a campaign in opposition to such a lengthy delay, stating that this would be "a giant step backward on energy conservation" (see June, p. 11). AIA has supported a one-year delay.

BEPS, as now proposed, would require a "design energy budget" for all types of new buildings, based upon computer analysis, and would require states to comply with the standards or risk federal withdrawal of funds for construction projects. The law setting up the BEPS effort was passed in 1976. Opponents of BEPS

*continued on page 30*



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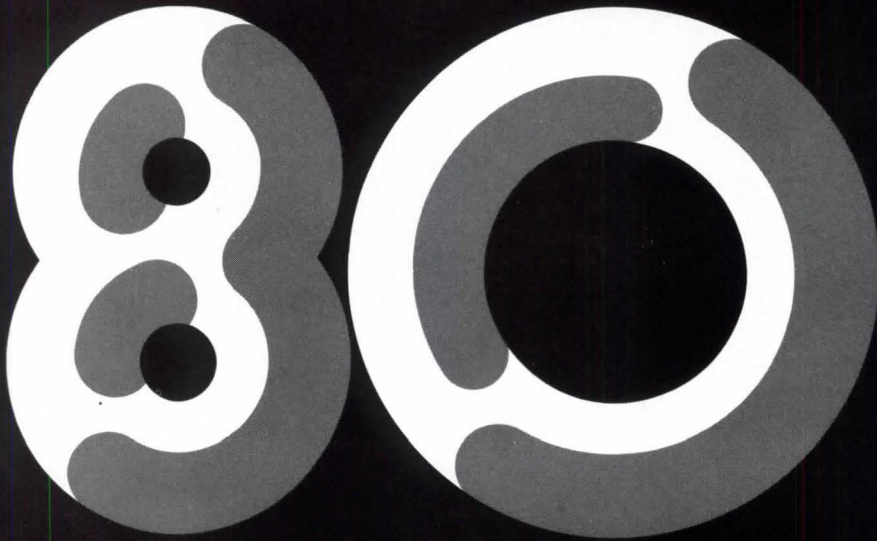
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*Circle 65 on information card*

# Architectural Design Competition

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Adviser for the competition is Elisabeth Kendall Thompson, FAIA.

<b>First</b>	<b>\$15,000</b>
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<b>Honorable Mention (7)</b>	<b>\$ 2,500</b>

Entry forms, competition rules, specifications and basic information on tensioned membrane structures are available now. When requesting information, please provide the registration number under which an entry submission would be made. Helios Tension Products, Inc., 1602 Tacoma Way, Redwood City, CA 94063. Telephone: (415) 364-1770.



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Soft Shell Structures Division

### Energy from page 28

have contended that the standards, as proposed, would be unworkable and would be inflationary. AIA's contention has been that the standards would "encourage competition within the building industry to maximize energy savings for consumers."

### Conference on Energy Design Planned for October in Canada

AIA and the Royal Architectural Institute of Canada are the joint sponsors of a conference on energy design to take place on Oct. 18-19 in Toronto, Ontario, Canada. Planned for the agenda are energy design workshops and presentations by knowledgeable persons on design issues and the energy outlook. It is anticipated that architects, engineers, designers and government officials from Canada and the U.S. will be among the participants. Immediately prior to the conference, AIA's energy committee will hold its fall meeting in Toronto.


Attendance at the conference will be limited. For information, contact John Hoke, AIA, at Institute headquarters.

### Solar Heating Systems Funded For 123 Federal Buildings

GSA will install solar energy systems for domestic hot water and heating systems in 123 federal buildings nationwide under a project financed by a \$4 million grant from the Department of Energy. The new solar projects, says Rowland G. Freeman III, GSA administrator, represent "the beginning of a new and more advanced phase" of the agency's energy program. "Until recently, GSA's solar energy projects were largely experimental. We were figuring out how solar works, what it does best and what its problems are. We also took a hard look at its economics. We now feel we can demonstrate the effectiveness of solar energy in government buildings, and encourage the industry with a 'big buy.'"

GSA will install 115 "standardized" solar domestic hot water systems in buildings that it controls. The water will be used in washrooms and cafeterias. The expected costs will range from \$5,000 to \$50,000. More complex heating and hot water systems are expected to cost upward to \$300,000.

Funding levels, which are based upon a review of preliminary designs, are estimates and are subject to change. Total estimated costs for acquisition, construction and installation will be submitted for approval after the design is completed, says GSA. *News continued on page 32*



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# Sculptors Meet in Washington To Talk and Show Their Work

During the month of June, Washington, D.C., was transformed into a virtual sculpture garden, with artworks by 91 sculptors representing 35 countries animating staid government buildings, enlivening plazas and parks, dotting sidewalks and building entrances. Some 3,000 sculptors gathered in the nation's capital from June 4-7 to participate in the 11th International Sculpture Conference, an event with 50 panel discussions, lec-

tures and special exhibits mounted by the city's museums and galleries.

Abram Lerner, director of the Hirshhorn Museum and Sculpture Garden, which has the finest sculpture collection in Washington, compared the event to the famous New York Armory Show of 1913, saying, "Surely, you cannot bring together thousands of sculptors without in some way altering the course of the arts." Honorary chairman of the confer-

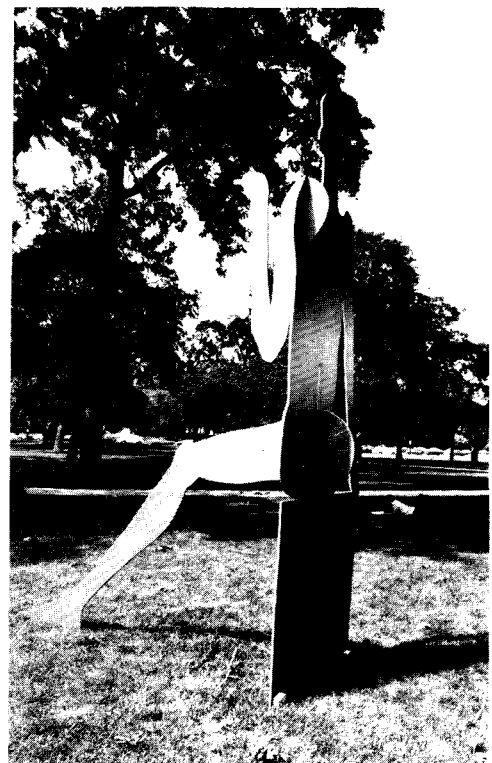
ence was Isamu Noguchi; others of international reputation included Joseph Beuys of West Germany, Kenneth Armitage of Great Britain, Max Bill of Switzerland, Joan Miró of Spain and Mathias Goeritz of Mexico, and from the U.S. came Louise Nevelson, George Segal, Peter Voulkos, Lloyd Hamrol, Nancy Graves, Robert Morris and Duane Hanson, among many others.

Some of the artworks were created for Washington sites, others suited them as though tailor-made. For example, a bearded, cast aluminum giant by J. Seward Johnson Jr. fights his way out of the earth on a point of land jutting into the Potomac River (Johnson, a Band-Aid heir, also personally guaranteed the financial well-being of the conference); a laser sculpture by Rockne Krebs plays upon the monuments of Washington, conjuring up the image of a glowing eye halfway up the Washington Monument; a sculpture by Nancy Graves made of camel

*Clockwise from top left: 'The Rim,' 14 feet in diameter, of welded steel by William Tucker of Great Britain; Nancy Graves' camel bones near the Smith-*

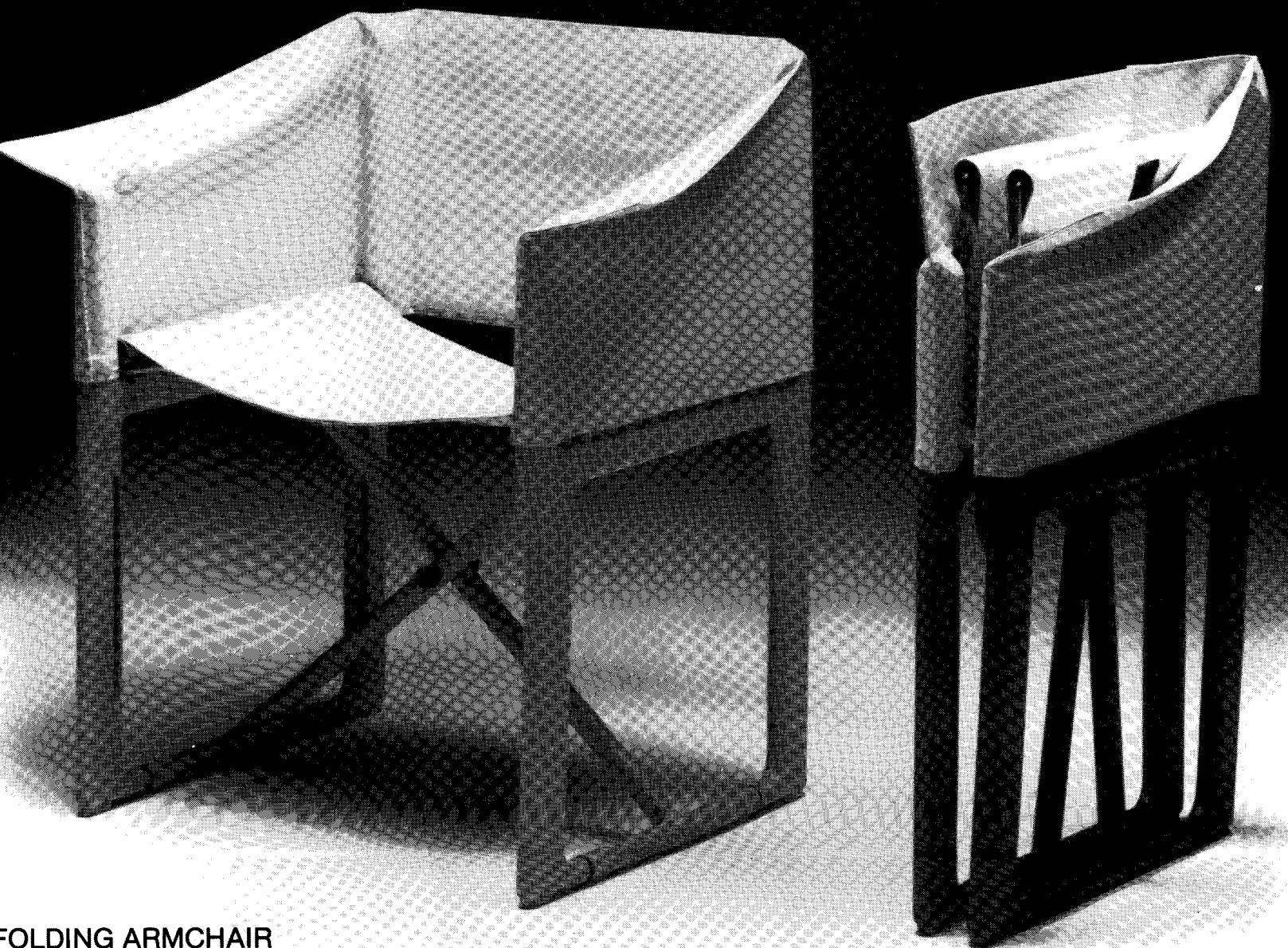
*sonian; 'Story' in cut aluminum plate by William King, and 'The Awakening,' 70 feet long from fingertip to toe, in cast aluminum by J. Seward Johnson Jr.*

*continued on page 35*



Photographs by Allen Freeman





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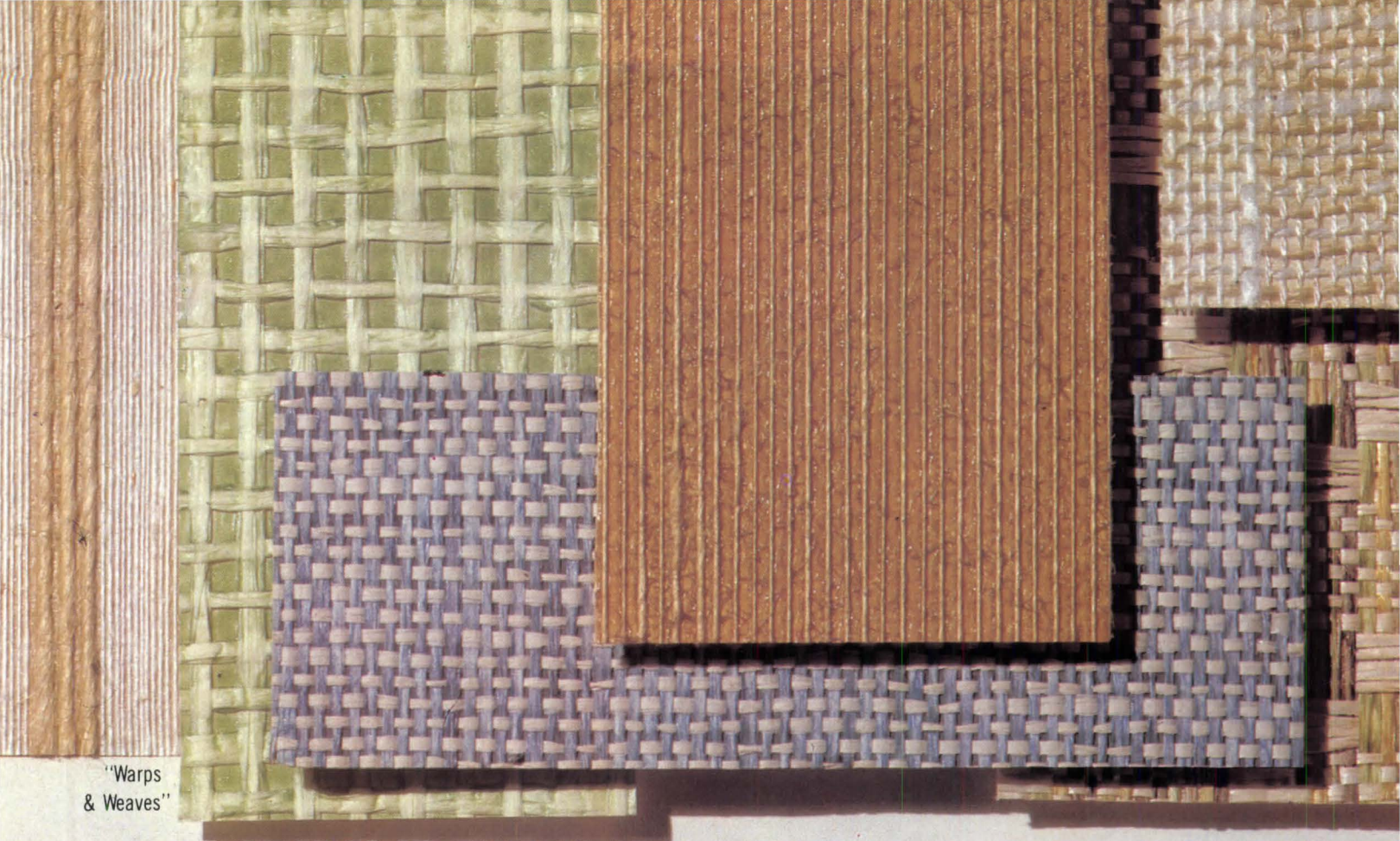
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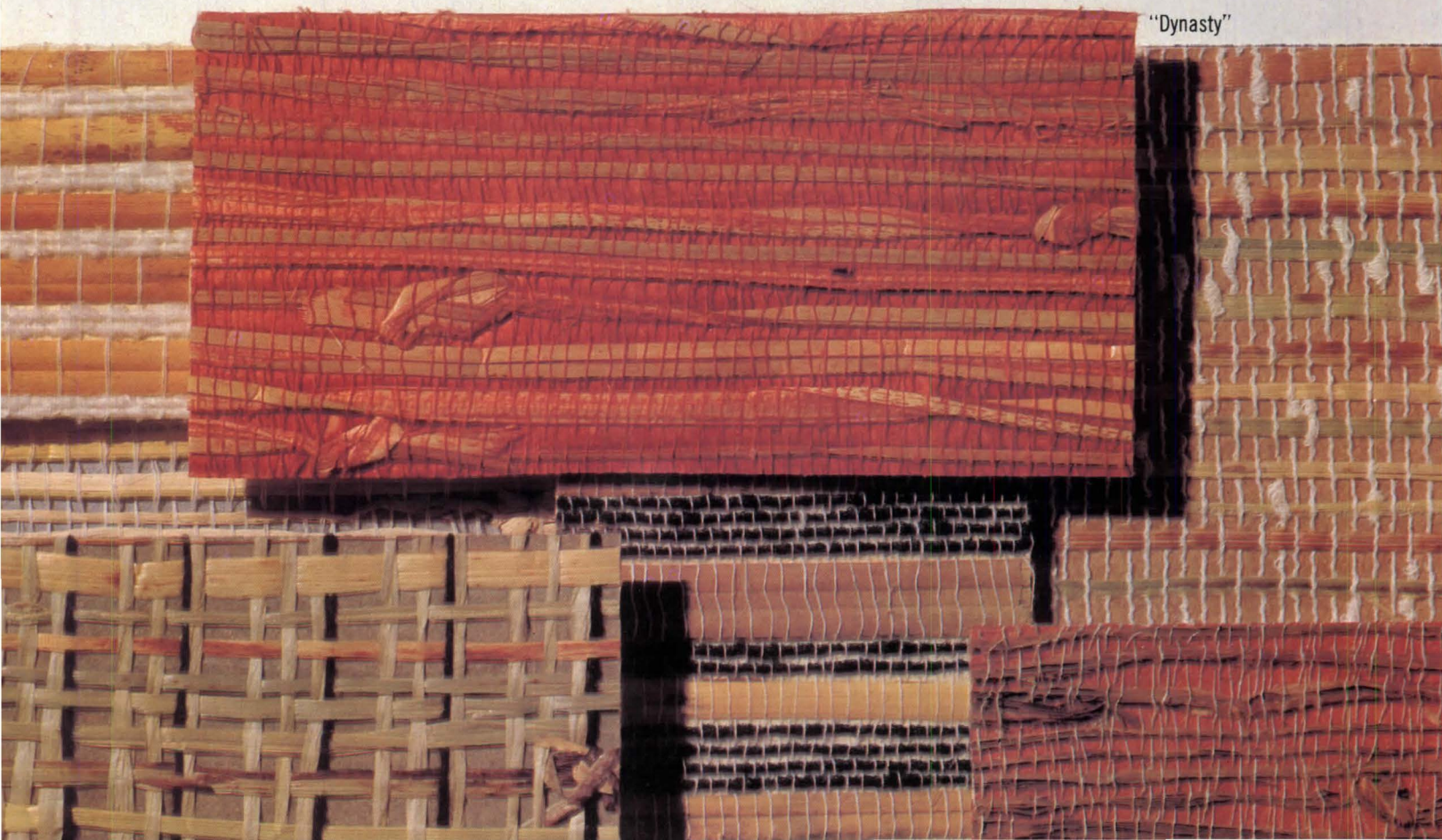


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"Dynasty"

Arts from page 32

bones, suggesting a joyful coterie of dancers, creates a welcome contrast in front of a bland government building while carrying on a dialogue with James Renwick's venerable Smithsonian building across the street, and a simple, notched and stacked timber structure by Lloyd Hamrol nestles in overgrown Rock Creek Park, reminiscent of a cave.

As Hamrol said at one of the panel discussions, "Until recently sculptors always did their work *in situ*; what we're doing is carrying on and developing a long tradition. Monumental sculpture has the power to reduce the spectator to an ignorant zero. We want to give the work back to the public by allowing access to it—

## Practice

# Sizes, Types of Firms, Salaries Revealed in Survey of Profession

Three-fourths of all architectural firms represented by AIA members have one to nine employees. One-person offices comprise 21.8 percent of the firms, and 50.3 percent have fewer than five employees. These are among the findings in the most recent AIA firm survey, with the data current through June 30, 1979. The survey was mailed to 1,037 firms selected at random. There were 450 usable returned questionnaires from firms that employ a total of 4,885 persons.

Other findings:

- Although they comprise 77.6 percent of the total firms surveyed, firms with one to nine employees account for only slightly more than 26.4 percent of the total number of employees in the surveyed firms. Firms with 100 or more employees (0.4 percent) account for 27 percent of the total employment.
- The largest of the three classes of organizations is proprietorship, representing 46.9 percent of the firms surveyed; corporations account for 39.1 percent and partnerships for 14 percent.
- AIA member/registered architects comprise 40.3 percent of the employment in firms of one to nine people. As firm size increases, the percentage of employees who are AIA members/registered architects decreases. As firm size increases, the percentage of technical employees also increases.
- The average salary ranges for five staff categories (principal, supervisory, technical I, technical II and technical III) vary no more than \$3,800.
- Average base salary tends to increase as

often it's work people can climb on, crawl into, see out through, jump down into—which makes it playful."

An oft-repeated theme of the panel discussions was the strained relationship between artist and architect, with artists voicing dissatisfaction at being consigned in many cases to the role of very junior and dispensable partner "in a world ruled by architects," as one sculptor put it. Concurring with some regret, R. Randall Vosbeck, FAIA, noted that "art is always the first thing to be cut out of a budget. Often, however, the designer has the perception that the artist is oblivious to both architecture and the user."

Some of the artworks will remain on view for several months.

the size of the firm increases. There are variations, however. For example, firms of 100 or more employees do not fit into the pattern. In such firms, the three highest staff categories show more moderate salary averages, and the lower two categories show higher salaries in comparison to the other firm sizes. AIA staff member Brian Cook who analyzed the returns says that the lower salaries in the upper categories are probably due to other compensation mechanisms, such as profit sharing. "Also surprising is the low average base salary for principals in firms with 100 or more employees," he says. "It is, in fact, the lowest of the five firm size categories. Again, alternate compensation mechanisms may account for this."

- Partnerships pay higher average basic salaries than proprietorships; corporations pay the highest salaries of all.

## National Trust Honors

The National Trust for Historic Preservation will award its highest honor "for superlative achievement in historic preservation" to two former federal officials at its annual meeting in October in New York City. Ernest Allen Connally, Hon. AIA, and William J. Murtagh will receive the Louise du Pont Crowninshield award for "their outstanding leadership and creativity" in historic preservation.

Connally, who is secretary general of the International Council on Monuments and Sites and chairman of the U.S. committee for the International Centre for Conservation in Rome, is recognized for

his 13 years as head of the federal government's Office of Archaeology and Historic Preservation, which was reorganized in 1978 into the Heritage Conservation and Recreation Service.

Murtagh, director of the historic preservation graduate program at Columbia University, is cited for his 13 years as keeper of the National Register of Historic Places.

## Consulting Engineers Prizes

The American Consulting Engineers Council's top prize, the grand conceptor award, has been given to Williams & Works for the modification of Detroit's wastewater treatment plant.

Another 15 awards were presented last month. Energy related projects premiated were the coal gasification of the University of Minnesota's Duluth heating plant, Orr-Schelen-Mayeron & Associates; the large-scale offshore soil investigation for evaluation of oil tracts, gas leases and offshore facility design in the Alaskan Beaufort Sea, Harding-Lawson Associates; modification of the Chief Joseph Dam, Seattle, Howard, Needles, Tammen & Bergendoff; the Bicentennial Center, Salina, Kan., where temperature is controlled by one of the nation's largest heat pump systems, Bucher & Willis; the energy-conserving design of the Seattle-Doctors Pavilion of the Swedish Hospital Center and renovation of existing buildings, Bouillon Christofferson & Schairer, and the expansion of the Edwin J. Duszynski Resource Recovery Center, Warzyn Engineering, Inc.

Five wastewater treatment plants were honored: The Kings Grant Advanced Wastewater Treatment system, Burlington County, N.Y., Gerald E. Speitel Associates; the Wastewater Facility Improvement, City of Shelton, Wash., Kramer, Chin & Mayo; the Upper Occoquan Sewage Authority Regional Water Reclamation Plant, Manassas Park, Va., CH2M HILL; improvement to the water pollution control facility of Palmetto, Fla., Glace & Radcliffe, Inc., and the industrial wastewater treatment facility for the meat processing plant of Hillshire Farm, Inc., New London, Wis., Foth & Van Dyke & Associates.

The remaining awards went to the site investigation and foundation design of the North Pacific Paper Corporation newsprint mill, Longview, Wash., Hart-Crowser & Associates; the fast-track reconstruction of the Hartford Civic Center Coliseum, Ellerbe Associates; historic preservation of the Upton Building, Minneapolis, Bakke, Kopp, Ballou and McFarlin Engineers, and the modernization and expansion of the Peavy Co. flour mill in Minnesota, Conkey & Associates.

Practice continued on page 38



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## Disciplining Professionals

What is claimed to be the "first complete overhaul" since the turn of the century of the process by which New York State disciplines professionals is the subject of a package of bills that has passed in the state legislature. The legislation, which was supported by the New York State Association of Architects/AIA, reduces the time span for disciplining professionals and increases penalties for misconduct. A new department within the state education department, according to the legislation, will control all pro-

cesses, including investigation and prosecution.

The legislation would reduce the time it takes to determine the validity of charges brought against architects, doctors and other professionals to 18 months, a process that the sponsors say now takes up to five years in some cases. Also, a "consumer" representative would take part in all hearings involving licensed professionals. Further, in addition to forfeiting licenses to practice, the legislation would apply a fine of \$10,000 for each charge, rather than abiding by the current system of a top combined fine of \$5,000 for all proved improprieties.

About 450,000 persons would be af-

ected by the legislation. Currently, state agencies receive 15,000 complaints annually against licensed professionals, and 3,000 are investigated.

## Preservation Course Will Tour

The Advisory Council on Historic Preservation, an independent federal agency that advises the President and Congress on historic preservation matters, has organized a three-day course, "Historic Preservation and Federal Projects," to explain how historic preservation laws and regulations relate to the planning and execution of federal projects. The course is now available for local sponsorship in any U.S. city.

The training course, which explains the review process required by law for any undertaking that affects a historic resource and uses federal funds or needs a federal license, can be sponsored or cosponsored by organizations, agencies or firms. The local sponsor is responsible for securing prepaid registration of participants and for assisting with local arrangements.

The course provides training presentations, an instructor, a council resource person, all course materials, audiovisual presentations and a copy of "The Course Book" for each participant to keep. Case studies are presented to represent special participant interest in grant-making, land management or fiscal licensing, with the local sponsor choosing which topic to emphasize.

For additional information, contact Dorothy DeGennaro, Advisory Council on Historic Preservation, 1522 K St. N.W., Washington, D.C. 20005, (202) 254-3967.

## DEATHS

- C. I. Cromwell**, Le Roy, N.Y.
- Robert W. Dickerson**, Lake Havasu City, Ariz.
- Carl C. Enebuske**, Cambridge, Mass.
- Raymond P. Hughes**, New York City
- Charles Michael McKeon**, Denison, Tex.
- Anthony Nocella**, Kensington, Md.
- R. A. Yaeger**, Rochester
- J. Zalewski**, Cambridge, Mass.

**Eric Lyons, Hon. FAIA:** President of the Royal Institute of British Architects in 1975-77, Mr. Lyons won many national awards for his design of both small-scale private housing projects and highrise residential schemes. He designed the new town of New Ash Green, Kent, England, and was the winner of an international competition for a tourist center in the Portuguese resort of Vilamoura. He died in London on Feb. 22 at the age of 67. Mr. Lyons was made an honorary fellow of AIA in 1968, and also held other international honors. *Briefs on page 94*

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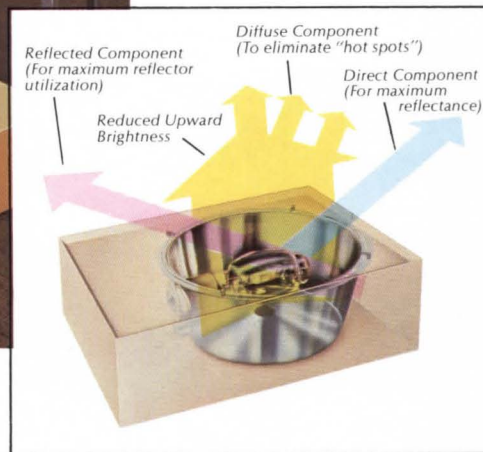
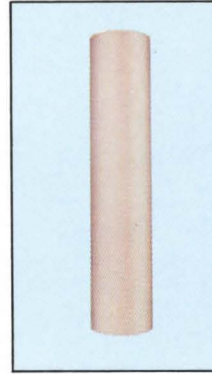
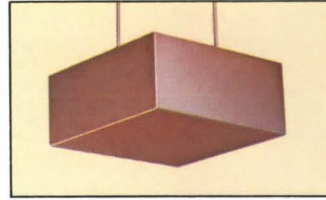
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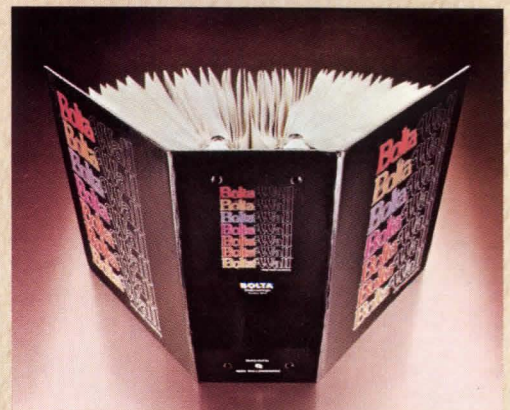
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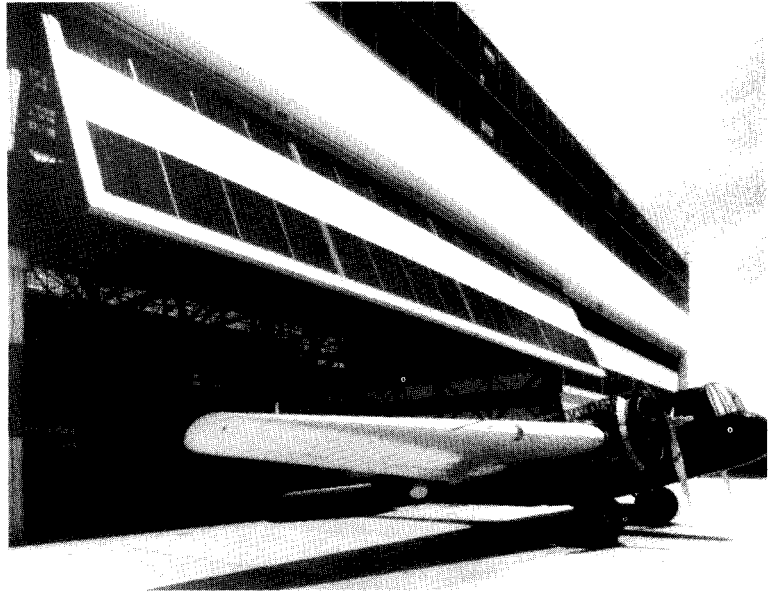


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# AIA JOURNAL



Robert M. Damora

Assembly building. Glenn L. Martin Co., Baltimore. Albert Kahn Inc., architect.

**I**t has been relatively rare for factories to grace the covers of architectural magazines. When it has happened, the factories most often have been shown from the outside, as idealizations of the machine esthetic (as above). The fact that an interior view of a factory appears on this issue's cover reflects the new architectural attention that is being paid to this building type as a working environment, a phenomenon further explored on following pages.

Also explored are continuing developments in the design of office spaces, the working environments for an ever-increasing number of Americans and the scene of a seemingly never-ending debate over open planning. The office story is essentially an update, since open planning (formerly called landscaping) has been subject of continuing scrutiny on the part of the JOURNAL for the past five years or so (perhaps partly because the editors work in the openness of the third floor of AIA headquarters).

This issue, as must be evident by now, has to do with the architecture of interior spaces, and it goes on to examine the roles of suppliers in interior design—including their growing role as clients of high-fashion showroom architecture—and, finally, some of the furnishings that they supply. *D.C.*

# Workplaces: Open Offices In a Noble Hall

*A return to Mr. Wright's Johnson Wax headquarters. By David G. De Long*



When Frank Lloyd Wright's S.C. Johnson & Son administration building first opened in 1939, it caused an appreciable sensation. Employees found it a beautiful and welcome place in which to work, critics saw it as a significant example of modern architecture and many who visited the building believed it offered a glimpse into the future. A writer for the *Milwaukee Journal* described the building as being "... like a woman swimming naked in a stream."

The principal feature of the building—in fact, its very core—was the great hall. This vast, central workroom is viewed today as one of the first examples of open office planning. In light of

**Dr. DeLong** is an architect and associate professor at Columbia University, where he received his Ph.D. in architectural history.

the attention now given this approach, a re-evaluation of the Johnson administration building seems in order: How well did the great hall work when it first opened, and how well does it work today? What changes have been made and what lessons does the building offer?

To judge from a recent inspection of the building, interviews with employees and a talk with Wright's representative who supervised construction (New York architect Edgar Tafel, AIA), the great hall worked very well indeed when it first opened and continues to function effectively today, more than 40 years later. Few changes have been made during this period of uninterrupted use and a study of the design reveals several inevitable lessons about open planning.

The idea of an open office shaped the design from the begin-



Bob Thall

*Left, the great hall as it appeared in 1940, the year after the building's opening. Above, the same view today. Furniture layouts have been rearranged several times, but other changes (such as drinking fountains and desk lamps) are hard to spot.*

ning. As he has written, Wright conceived of the building as essentially one connected, continuous space. This was no casual application of abstract architectural theory, but was meant to reflect the very nature of the company itself, for the openness gave tangible expression to the paternalistic, progressive attitude of the company's directors. Work was to be conducted in one open, beautiful space; as nearly as possible, divisions between clerical workers and supervisors were to be eliminated; even the penthouse offices of the directors, partly screened by glass tubing,

were to connect through a monumental well to the hall below.

In 1938, Wright wrote, "Architectural interpretation of modern business at its best, this building is designed to be as inspiring a place to work as any cathedral ever was in which to worship." He believed the sense of wholeness and communal endeavor embodied in the design of the physical enclosure would be both stimulating and beneficial to those who worked within. To him the building expressed the ideal of work in a democratic society.

It is such beliefs that give real meaning to the concept of open office planning. Wright had first translated them into corporeal form in the 1904 Larkin Co. administration building in Buffalo, a building he later described as the father of the Johnson administration building. The Buffalo building was demolished in 1950, but research by John F. Quinan of the State University of New



Photographs by Bob Thall

## A 'gently protected, luminous space.'

York at Buffalo has shown that there, too, the form of the building reflected the organization of the company and was meant to symbolize the beliefs of its paternalistic owners.

The location of the Larkin building within an industrial area was also similar to that of the Johnson building, and in both instances Wright screened exterior views and created an inwardly focused building. For Wright, neither location was ideal. He even tried—unsuccessfully—to get Johnson to relocate the company to a rural site. But precisely because these buildings were designed as self-contained units and were not dependent on any particular view, they offer a more broadly applicable model.

The volumetric organization of the two buildings differs markedly and has proved crucial in each case. In the Larkin building, most of the clerical workers were placed along open balconies overlooking the central court where directors had their desks. The relatively narrow dimensions of these balconies proved restrictive when changes in staff assignments were made. In the Johnson building, most of the clerical workers occupy the broad space of the great hall, surrounded by supervisors along the perimeter at both floor and mezzanine levels. According to company officials, the generous area of the space—approximately 128x208 feet—has provided an adaptable place that allows for staffing changes without architectural alterations.

Yet the raw dimensions of the space are almost an incidental component of its success, for it is the architectural definition of

the space that is extraordinary and that makes it work in a way few open plan offices can. Through effective manipulation of structure, light and details, Wright created an open space so persuasively complete that no one has felt compelled to make the sort of decorative changes that have often disfigured major buildings. This in itself is a mark of considerable achievement.

Instead of roofing the space with a single span, Wright chose to structure it as a series of cubical bays. He developed his famous golf-tee columns, each a little over 20 feet high and placed at 20-foot intervals in both directions. The slim lower dimensions of these columns do not interrupt the flow of interior space, but instead make it palpable. The flared tops provide a sense of shelter without being confining. As in an Arabic mosque, the repeating bays are inherently nonhierarchical and suggest a series of places where a person can feel a sense of individual space yet be a part of the whole. The generous height of the space enhances these qualities.

Just as the flared tops of the columns do not quite touch, so the enclosing wall stops short of the ceiling plane. Freed from structural obligation, this wall serves obviously as a screen rather than a support. Connecting the wall with the perimeter ceiling and the ceiling with the central capitals are the translucent bands of glass tubing. Through this tubing a liquid, partly diffused light floods the interior space, reinforcing the image of luminous space that is gently protected but not oppressively closed. Such architectural details as the rounded corners of the walls reinforce this image and develop the strong sense of spatial continuity that Wright sought. He described the effect as one where

*The perimeter of the great hall and the adjacent reception foyer. Brass handrails have been added to meet OSHA parapet height requirements. Marble sculpture, below, has been added for reasons unknown. Below right, the elevator cage.*



## Furniture reinforcing the forms of the space.

"weight . . . appears to float in light and air." Within the space, the Wright designed desks and their extensions together with low banks of files provide a flexible, informal means of defining selected areas.

A carefully selected range of materials and colors contributes to an aura of calm. The same brick is used for exterior walls and interior partitions. Its Cherokee red color is repeated in the floor, on the metal portions of the furniture and in the upholstery of the chairs. The creamy white of the concrete structure relates to the color of the simply detailed stone trim and to the light wood of the desk tops. The curved forms of the Wright designed furniture reinforce the forms of the space itself; their horizontal lines of metal tubing reflect the raked horizontal joints of the brick walls and the glass tubing of the clerestories and skylight. There are, in effect, no disruptive elements.

The great hall has a grandeur and nobility that make one want to be there and, judging from employee response, to work there. It is like a protected grove of trees. The space contrasts effectively with the dark, low area of the porte-cochère, and with the tall, narrow well of the vestibule. From the great hall there are views back into these related spaces and there is a sense of

*Below and opposite, Wright's decorative use of light-diffusing glass tubing in corridor walls and behind display niches. Bottom of page, some Wright-designed furniture. Few of the bronze table lamps are now in use, but most of the chairs and desks are.*

physical connection through the vestibule well to the directors' offices on the upper penthouse level. There are also views across the vestibule at the mezzanine level to the semicircular space planned as a movie and lecture theater for the employees. Circular staircases at the perimeter link the main floor with the mezzanine, and additional circular stairs located within the great hall provide convenient access to generous lounges and toilets below. For the space is not only compelling, it is also convenient. Employees work in comfortable surroundings, within the grandest space of the building and with architecturally defined relationships to the company they serve. No low-ceilinged, anonymous loft space filled with shoulder-height partitions could begin to achieve these ends. And not only does the building symbolize the directors' concern with the welfare of their employees, it has also served to draw valued employees to Racine, according to Samuel C. Johnson, the fourth generation to guide the family firm (see Jan. '79, p. 63).

Although the number of people employed worldwide by S.C. Johnson & Son has increased more than 10 times since 1939, the building remains the administrative center of the company. Among the few alterations made to the building during this period of growth are the conversion of the theater to a cafeteria and the conversion of the parking garage and rooftop squash court that once flanked the porte-cochère to additional offices. It is to these that low wings of offices, also designed by Wright, have been added. But the great hall remains the supreme space.

The supervisors' spaces on the mezzanine and in the perimeter band of space below have been divided by movable, metal-framed partitions with glass and wood panels. These were provided for in Wright's original design and do not impair the unity of the space; a few were even installed at the time the building opened. Around the mezzanine a brass rail has been installed to raise the height of the parapet in accordance with Occupational Safety and Health Administration standards. Some bamboo shades have been added beneath the glass tubing at the perimeter. A few more desks and files have been added on the main floor, reflecting various shifts of departments and personnel. The original rubber tile floor has been covered by a carpet of the same red color and new electrical outlets have been added to supplement those Wright provided as integral features of the column bases. Otherwise, things are pretty much unchanged. The space itself is still remarkably quiet—yet one senses not the cold stillness of isolation or inactivity, but the stimulating hum of concerted effort, as in a great library. Altogether it sets an enviable standard for open planning.

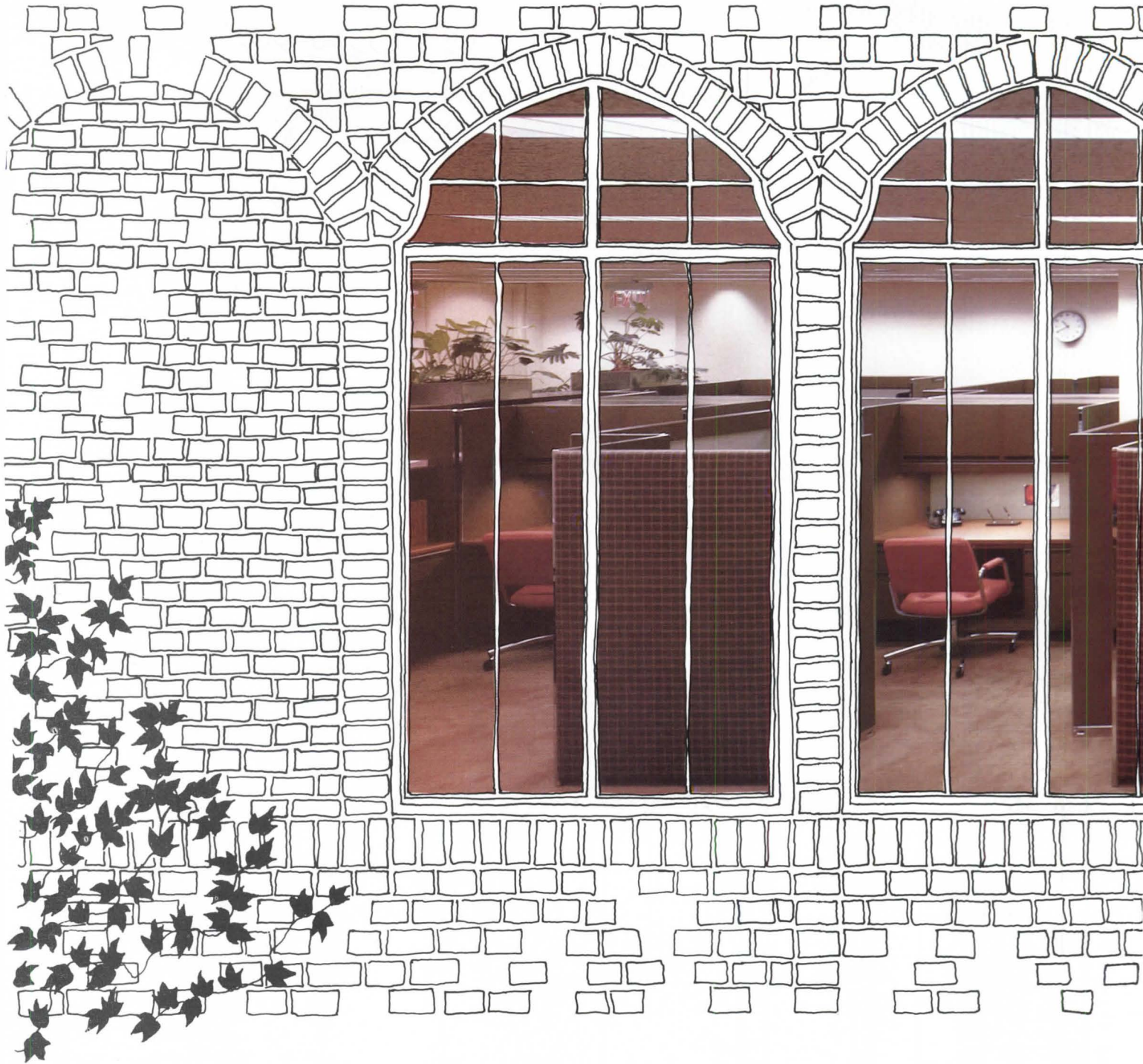
Jürgen Joedicke, the German historian of modern architecture, once asked about the Johnson administration building: "Is there any point . . . in generating emotional values of this kind in an office block?" Yes, Mr. Joedicke, there is. For the building reflects a sense of humanity and personal commitment fundamental to any benevolent society. □







Photographs by Bob Thal

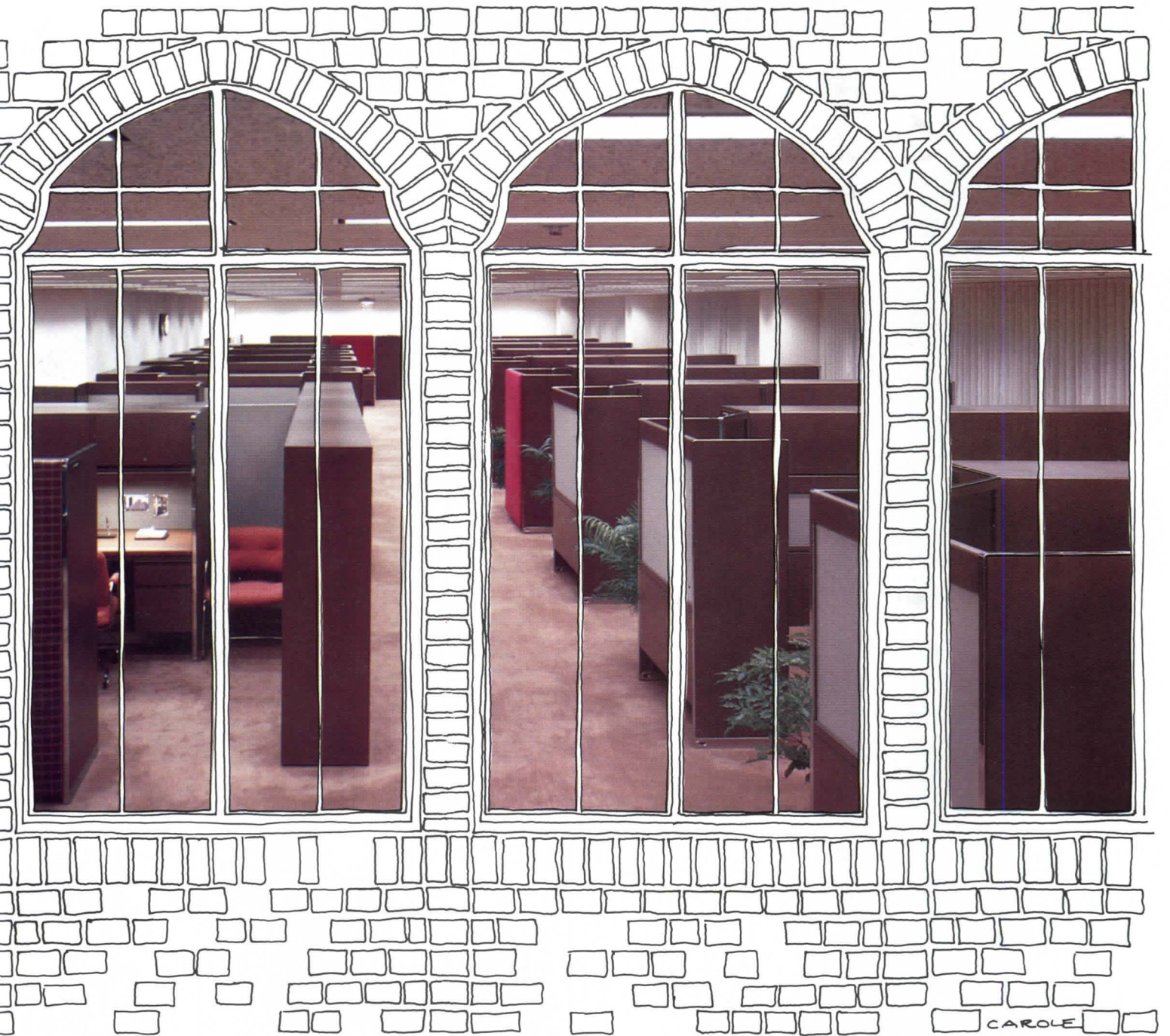


# Workplaces: The Open Office Revisited

*Its proliferation continues as its impact on productivity is debated. By Andrea O. Dean*

Three years ago, when we last reported on the state of office planning, a number of designers and environmental psychologists believed that the trend toward open offices had peaked. Today, some of the most prominent space planners, including Larry Lerner of SLS Environetics, Louis Beal of ISD and Hans Krieks of the original Quickborner Team, are convinced that the pendulum has, indeed, swung back to offices with walls and doors, as are such behavioral scientists as Michael Brill of BOSTI (Buffalo) and Charles Mauro of Charles Mauro Associates (New York City). Some of the largest corporate clients admit, though usually only off the record, that they are reverting to conventional offices.

Nonetheless, a study conducted by Louis Harris Associates for Steelcase and released three months ago shows that half the nation's white collar work force is now in open offices and that use of walled layouts has declined by 10 percent in the last two years. Latest figures from the Business and Institutional Furniture Manufacturers' Association indicate that during each of the last three years sales of systems furniture, used primarily in open plans, have grown at twice the rate of conventional furniture;



Top and above, the Steelcase system used by Citibank at Citicorp.

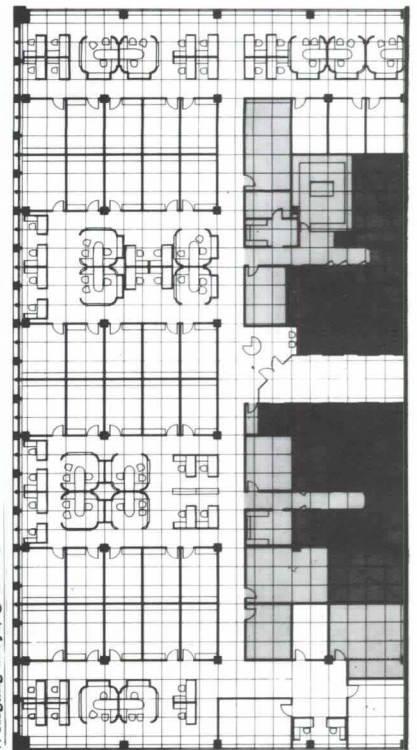
and a recent survey for the National Office Products Association projects that during the coming decade systems will widen their advantage over traditional furniture by 3 to 1. Also on the rise, however, is use of systems components in closed offices, a phenomenon which the figures do not address.

A sampling of four New York City office buildings, designed by prominent architects and now under construction, shows a marked contrast to offices of the major tenant in the most newsworthy of Manhattan office buildings three years ago, Citicorp Center, by Hugh Stubbins & Associates and Emery Roth & Sons. The new buildings are headquarters for Philip Morris, AT&T and IBM, plus a speculative structure at 499 Park Avenue. More about these after a look at Citicorp.

Citicorp's interiors were designed by each of its tenants. Citibank, whose offices fill 16 floors of the building (and were designed with help from Peter Sayer of Hellmuth, Obata & Kassabaum), chose a fully open plan. The remaining floors have conventional offices. Citibank's choice was determined by a need for flexibility, since about 20 percent of its employees move each year and in some divisions the annual "churn rate" is as high as



Wolfgang Hoyt/© ESTO



## Interior 'neighborhoods,' residential allusions.

50 to 75 percent. Vice President Paul Palmeri estimates that rearranging Citibank's spaces costs only \$4 per square foot.

The bank's steel panel system is laid out along corridors, in orderly fashion. Partition heights vary according to employees' tasks and rank; the highest are 75 inches. Junior managers' work stations are 9 feet 6 inches x 14 feet 3 inches; those for employees with titles up to and including assistant vice president are 118 square feet. Senior executives have very ample suites, with some full height partitions. Status is also indicated by location on the floor and different furnishings. Parabolic, single tube fluorescent ceiling fixtures deliver even illumination at low wattage; there is some supplementary task lighting. Since New York City codes require hard wiring, power sources are under the floor. Near the core of the building are conference rooms of various sizes, four for every 100 employees, on the average.

The overall effect of the Citibank is crisp, and working conditions appear good; the spaces are surprisingly quiet. Color is minimal and subdued; the image is purposely low key. Personalization of spaces is not prohibited, but neither is it encouraged.

Unlike Citibank, Ulrich Franzen & Associates' design for Philip Morris headquarters puts a premium on creating small, personalized enclaves within the office. The emphasis is on "neighborhoods" and the intended allusions are "residential," in the words of designer Françoise Bollack. The layout is, in part, a reaction against free-form plans which the architects had found chaotic. There will be a combination of closed and open spaces. Rows of closed offices, paired back to back, will be perpendicular to a window wall. Each office will have a glass wall facing an open area where there will be two types of work spaces: One will be in a pod of four work stations with curved, 60-inch-high, three-inch-thick wood partitions; the other type will be a conventional secretarial station.

Bollack says the intention is to "use an open plan without losing the advantages of closed spaces, namely privacy, indication of status and a sense of personal territory." The closed offices will be for directors and managers, the curved pod for "coordinators" on their way up the corporate ladder. Most open spaces will be on a window wall. Partitions will be faced with heavy fabric to muffle sound and provide a surface for hanging and tacking personal objects.

The architects hope to give all employees a choice of systems



Ulrich Franzen & Associates

*As seen in a mockup and plan (above), the offices of Philip Morris' headquarters building by Ulrich Franzen & Associates will have a mixture of private offices and open areas. The attempt is to create small, personalized enclaves of space in which each employee has a sense of territory, plus indications of status.*

components and are using task lighting in furniture to provide a sense of added personal control. Principal lighting will be from overhead U-shaped, recessed fluorescent tubes. Ceiling fans will help circulate air and add visual interest. A majority of windows will be openable; furniture finishes will be almost entirely white oak. Colors will be selected in keeping with the overall attempt to create a residential, friendly feeling.

Plans for the offices of AT&T headquarters (Johnson/Burgee Architects), as designed by Joe Rosen of ISD, are still in preliminary stages. They now call for private offices for all but secretarial and clerical staff. The interiors plan will follow the rectilinear configuration of the small floors. Rosen says, "A person moving into this building will have had a great deal of responsibility in his home office where he worked in a space about 15x20 feet. We can't give him that here, but we have to provide confidentiality. For the middle manager, the private office is the American way of life." Clerical spaces will be at the center and ends of each floor. Present plans are for low partitions in open areas, and use of a modified version of an existing system of furniture. Systems components will probably also be used in the smallest private offices. Lighting will be task/ambient with walls washed by movable track units. Ceilings will be a generous 10 feet in height. Acoustic panels and "white sound" will lessen the effect of noise.

I. M. Pei's 499 Park Avenue building will provide New York offices for a number of international banks, each of which will design its own space. The Pei firm expects most to choose enclosed offices, because of "the nature of the tenant, the costliness of the space and its small dimensions," according to designer Bernard Rice, AIA.

IBM is unwilling at this time to reveal any information about plans for its new headquarters building, designed by Edward L. Barnes, FAIA. There are reports, however, that dissatisfaction among managers and professionals working in IBM open spaces has prompted the corporation to adopt a policy of giving private offices to all employees above secretarial level.

These four new buildings demonstrate a number of changed attitudes toward open planning. There is general agreement today that whatever the configuration employed, offices must provide a variety of spaces from completely open to entirely closed. According to Fred Bach, an original member of the Quickborner Team, the number of conference rooms in the average headquarters building has increased during the last decade from one for every 100 employees to one for every 30 to 50.

The effort to put even top management in open offices in the name of democratizing the workplace has been virtually abandoned. As Jack Lowery, president of the American Society of Interior Designers, says, "Placing senior executives in open offices has become a joke, because we end up putting more space between them than if they were in private spaces."

Requests from middle managers and professionals for privacy are also getting a more sympathetic hearing. The prevailing attitude is expressed by Frederick Hendricks, chief of GSA's interiors division: "For the rank and file, a move from bullpens to systems furniture is an improvement. But middle managers feel ripped off. Noise is always their first complaint; the second is loss of ability to carry on confidential conversations. This goes on, job after job. You have to say that if so many people have a complaint, it must be valid. We can prove with a meter that employees have speech privacy, but we can't change the negative perceptions they have. The middle manager is the fulcrum of an operation. If he can't function in an open office, we have to take him out of it. We have to acknowledge that open planning is not for everyone."

Engineering improvements in lighting and wiring have made some systems easier to rearrange, though anchored telephones still limit movement. But conjecture is that phones will before long go wireless, an idea no more outlandish than was radio before Marconi. Says Hendricks, "Two or three years in the fu-



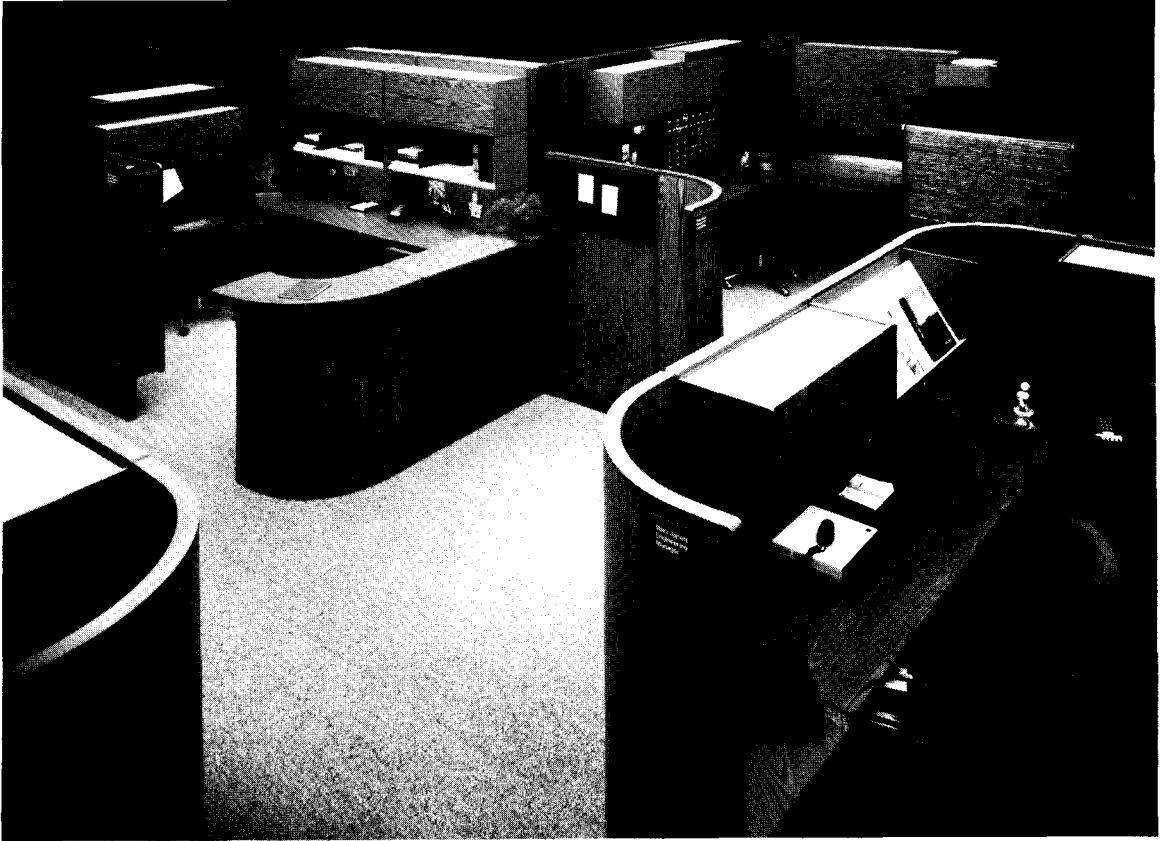
*Offices for Johnson & Higgins (Washington, D.C.) by SLS Environmentics have private offices with glass partitions; glass is used in open areas also to give a feeling of privacy.*

ture, we're likely to have not a phone but a communicator operating on FM transmission. There's competition to Ma Bell now and customers will buy it." There are complaints, however, that the supersophistication and complexity of newer systems has become a deterrent to moving office furniture. Hans Krieks contends that "by trying to do everything, the systems have become so complex that the dealer doesn't want to handle them. With all the things they're supposed to provide and hide and connect and link, you have to be a Ph.D. in mechanical engineering to take apart and reassemble these things."

Hand in hand with the streamlining of the office has come a widespread reaction against standardized, anonymous spaces. In response, efforts are being made to give employees more control over their work areas, to break up large spaces into smaller pods, to use more natural materials and greater variation in furniture, partition heights and colors.

This increased sensitivity to employees' needs and desires on the part of management reflects a mounting concern among corporations and government with raising office worker productivity, for reasons fairly obvious. American productivity is in decline while the growth rate of white collar workers, who already comprise 53 percent of all U.S. employees, is rising at twice the rate of blue collar workers. A result is a new interest and spurt in office productivity studies. Two are particularly significant. One is a two-year project by BOSTI that is examining the effects of environment on worker output and satisfaction. It is being funded by GSA, the National Science Foundation, the National Endowment for the Arts and such major corporations as American Seating, Owens-Corning Fiberglas, Bell Northern Research of Canada, Westinghouse, AT&T and the American Productivity Center in Houston. The other is a \$2.5 million study by Booz Allen Hamilton that focuses on ways to improve managerial productivity. Funding is from ITT, AT&T, Xerox, IBM and 15 other large corporations.

BOSTI's study, which is being directed by Michael Brill and Pamela Clayton, is surveying some 10,000 office workers before they move to open spaces, a month after relocation and again six to seven months later. The most interesting of its still preliminary findings is that 75 percent of all white collar workers



*The system at right by Haworth, Inc., combining curved and rectilinear forms faced with wood, is equipped with three separate electrical circuits. American Seating's system (below) is one of several now used in private offices.*

## Balancing needs for interaction and privacy.

never move their offices, while a full 25 percent move an average *four* times a year. Though their survey is still incomplete and Brill and Clayton have not yet identified who and where the frequent movers are, it is already clear, says Brill, "that the flexibility inherent in systems furniture is essentially wasted in the vast majority of cases but insufficient for the remainder who move far more frequently than anyone would have guessed."

Surprising also is BOSTI's tentative conclusion that while everyone complains loudly about noise and lack of privacy, remarkably few would opt for a private office. The proportion is 30 percent, according to Brill's figures, which he explains in terms of what is called social facilitation theory. It holds, simply put, that people work better with others around. As Brill sees it, the open office is the only way to "balance the need for interaction with privacy, and our early findings are that the basic rationale for open planning is essentially sound." BOSTI's data on productivity are still in too rudimentary a stage to allow even preliminary conclusions. These will be based on self-ratings by workers plus ratings by their supervisors on "nine components of productivity." The major problem, says Brill, "is rating senior personnel. There is no adequate way to measure those folks."

Measuring and improving the productivity of professionals and managers is becoming evermore urgent, since one-third of the growth of white collar workers is comprised of employees above the secretarial level. "The real increment in productivity," says George Rand, an environmental psychologist at the University of California at Los Angeles' school of architecture and urban design, "is going to come from discovering the needs of these professionals and managers. No one really has thought about them because we think they take care of themselves. Today, managers are not just the top people who are the butt of all the jokes about ulcers and heart attacks, but they're also lower and midlevel people staring off into space."

Preliminary results of Booz Allen Hamilton's survey of 300 professionals in 15 organizations—14 of which are private, one public—indicate that "through thoughtful application of automated tools, a potential productivity gain of 15 percent can be achieved," according to senior vice president Harvey Poppel. Eleven of the 15 cases being studied have private offices; the remaining four have open, *unpartitioned* spaces. Poppel says,



"A negative impact between productivity and these open offices was found because they encourage ad hoc—mostly one-on-one—meetings, which disrupt the flow of work." Completely open offices, he concludes, are not conducive to efficient work on a managerial level.

Individual systems manufacturers and users have been conducting productivity surveys for years. But so far these have yielded far more heat than light. For example, Westinghouse, in a study at a computer department in a major Eastern bank, found that employees processed more jobs per hour after moving to partitioned offices from bullpens. Michael O'Neill, director of marketing planning at Westinghouse, hastens to explain, however, "This doesn't mean partitioned spaces make people

more productive. All we know is that their output increased. It remains to verify results on other jobs, which we're now doing. And we don't know what it is about a situation that makes people work faster. Is it really the things that are reported on questionnaires? Or is it something else altogether?"

GSA's Hendricks admits that "no one believes all the stuff about productivity that's being pushed around. But if we do many BOSTI-type studies and find a solid basis for linking productivity and the built environment, it will open all kinds of options." There is, so far, no hard evidence that such a link exists. As Herman Miller's director of marketing of office products, Philip Mercorella, says, "The only thing that's clear is that a good plan removes constraints to productivity."

Many so-called productivity studies are, in fact, surveys of workers' opinions on what would make them work more efficiently. The most widely publicized such studies were conducted for Steelcase by Louis Harris Associates. The first was released two years ago, the second this April. "The disheartening thing about the Steelcase study," says psychologist Hugh Bowen of Charles Mauro Associates, "is that it is a study not of productivity but of attitude, and how attitude affects worker output remains a moot point."

The most recent Steelcase survey polled 1,004 office workers in organizations of 25 or more employees, plus 203 corporate executives with office planning responsibilities. Among the principal findings was that increased pay ranked number one on a list of incentives that workers believed would increase their productivity. Most employees reported being relatively satisfied with the comfort of their offices. The two most frequently mentioned items they considered important were comfortable temperature and air circulation plus a distraction-free office. Sixty-six percent cited temperature as very important; only 43 percent reported it satisfactory. Sixty-one percent said being able to concentrate without interruption is vital; 51 percent complained of too much distraction. Among physical elements regarded important to working effectively, 85 percent mentioned good lighting (84 percent said they had it); 73 percent cited a comfortable

*Herman Miller's open plan arrangement has two components, an 86-inch 'work organizer' plus an L-shaped desk in white oak.*

chair (84 percent considered their own adequate). Just over half of those interviewed felt that improvements in comfort would improve their productivity and just under half said having more say in, and control over, their workplaces would "enhance the quality of the work," in Louis Harris' words.

Three years ago when we asked designers and others involved in office planning to consult their crystal balls for clues about the future, several predicted an imminent invasion into the office by what then sounded like very remote, Star Trek-like technologies. A proliferation of some forms of electronic office equipment has already begun. Among its effects has been the elimination of some clerical staff functions (though work tends to expand in direct relation to the amounts of sophisticated available machinery); the reclassification of many jobs and upgrading of some clerks to technical and professional status; constant shufflings and rearrangements of offices, plus an expansion in needed space to house equipment.

Until now, use of electronics in the office has been limited for the most part to such clerical and technical tasks as data and word processing, which are generally segregated into pools. John Connell, founder and executive director of the Office Technology Research Group, believes that "many companies are recognizing that's the wrong way to do things, that the equipment has great value if it's close to the people who use its output." According to Connell's Pasadena-based organization, whose membership has more than doubled in the last year and is comprised of senior executives of large corporations interested in "the office of the future," pools are being broken up and operators and machines being transferred back into legal, marketing and other departments to become an integral part of the organization. He also says that "analyses show that word processing, if used simply as a way to get your typing done, is not economically justifiable. The real value of electronic equipment is not for the operator but for the manager who writes a letter and gets it back more quickly, who through electronic conferencing can communicate across the continent on his own schedule." Along with others, Connell believes that it is just a matter of time before sophisticated electronics make large-scale incursions into managerial and professional offices. There are several reasons:

One result of increased use of photocopying and word pro-





*One solution for accommodating office electronics is GF's 'pass through panel.' Machinery is on a lazy-susan type surface so that it can be used from either side of the panel.*

## **The challenge of planning for future technologies.**

cessing machines, in conjunction with new management practices that put a premium on everyone in the office knowing everything, has been to swell that nemesis of the office—paper. More important, perhaps, the potential to be gained from raising professional and managerial productivity is far greater than any benefit to be found from further increasing clerical efficiency, which has been the principal focus of systems designers and planners.

There is predictably strong resistance from managers to such change. As an over-40 executive of a large corporation puts it, "Us old folks, we love paper. Younger people seem much more comfortable dealing with information on CRTs and never holding it in their hands, filing it, putting it in their briefcases." According to findings by the Office of Technology Research Group, resistance is caused less by the paper habit than problems posed by the keyboard. Says Connell, "If you have an electronic mail system that brings messages on a screen, it means you type out a note on the keyboard, it's gone and you know the addressee has his answer immediately. Once that speedup of information becomes apparent, people get hooked on these things. But the first threshold is a tough one to overcome. It's a challenge to status, because the boss doesn't want to type and doesn't want to look bad; make a mistake, the machine tells you you're a dummy. Nonetheless, with time we'll see more and more terminals in manager's offices, and there are many questions about how that will be done. Is the terminal to go on a desk or credenza? Herman Miller is a member of our group and is doing interesting research—so is Steelcase—trying to figure out how to come up with some sort of built-in terminal arrangement. But none that has been tried exists today."

The cost of machines remains high and most professionals and managers do not need them on a continual basis. The assumption is, therefore, that they will for the immediate future be found on movable wagons with plug-ins or in shared electronic workrooms.

The expectation is that the electronic revolution will give further impetus to open planning. Says Connell, "The flexibility of the open office is a huge advantage if you visualize a world where technology is continually bringing new developments into the office." Nor are the new technologies expected to eliminate or even sharply reduce the need for person-to-person communications. As Michael O'Neil of Westinghouse observes, the purpose of computers is not to communicate with people just a few feet away. "In on-line situations, it's very nice to be able to lean over the partition and ask the boss to come around and take a look." And Brill points out that "even if people's day-to-day interactions diminish, negotiations will still require that we see nuances, inflections of expression. Any good negotiator wants to

see his client's eyes, hands. We will start seeing more conference rooms or arguing places that are augmented by electronic stuff."

Others, like Charles Mauro, believe that mushrooming technologies will hasten the demise of open planning. The cost of errors will rise, he points out, making the noise and other distractions of working in open offices virtually intolerable. He adds, "Many office products of the future are going to have voice synthesizing capabilities; the computer will talk to you and you to it—pure chaos in open office plans. Also, electronic printers still make lots of noise. We will have to either quiet them or design for them." According to Connell, major vendors are already working to muzzle the machines and by the time they start talking, work patterns will have undergone radical change.

"We will move more into a world of networks where machines are interconnected," he says, "and if you have a terminal and access to the network over a telephone line, you can operate almost anywhere. I think as that becomes more commonplace we will see people spending part of their work time some place other than at the downtown corporate office. They may work out of their houses, but I think it's much more likely they'll work out of a nearby suburban location, get on a terminal, tie in and do what they have to do. The downtown office will then be more and more a conference center for meetings of all kinds. The change will be gradual, but \$3 a gallon for gasoline plus the fact that it's becoming almost impossible to find secretaries in major cities—as opposed to suburbs that don't require commuting or being far from children in cases of emergency—will make the satellite office more and more attractive.

"I think it's pretty fair to say that we're at sixes and sevens when it comes to planning for the office of the future. There is a lack of leadership. In the computer world the directions were established by IBM. This field is much bigger than computers, and one has to assume that it's going to be a multivendor field. There's no one company that can dominate it. So where's the leadership to come from? Offices are organized around technologies or around disciplines. If you say the technologies are going to come together and that some of the disciplines will change as a result of using technologies, how do you plan for that?"

"How do you bring the legal, accounting and personnel departments together? We keep coming back to the idea that the only way to pull it off is to get top management into the act. But top management usually couldn't care less what's happening in the office as a whole, rather than, say, in the marketing or legal or personnel department. Most of the people working with these problems are not at all interested in the physical environment; they're interested in all those funny little machines. And if you start talking to interior designers or space planners about technology, they quickly get back to color and layout. The basic problems are really behavioral. We all have to broaden our views."

George Rand says, "A main problem for everyone to overcome is a built-in prejudice that people in offices are a 'resource' like a mineral or an oil field to be distributed and divided into job classifications, rather than as complete persons who need a proper habitat at work. We need to develop a whole new understanding of the ecology of work.

"It's very scary for managers to contemplate future designs in which people aren't sitting at work stations doing a recognizable task eight hours a day, where they're doing their own scheduling, coming and going, having complex relationships with the work. It's much easier to think of a giant assembly line where everybody's doing his part. But even assembly lines require very complex protocol today. That metaphor doesn't work any longer." □





Steve Brooke

# Workplaces: Assembly Line Architecture

*Factories get the kind of attention once reserved for offices. By Stanley Abercrombie, AIA*



Jo Reid



The terms “white collar” and “blue collar” no longer express the dichotomy they once did. This is not due just to a change in clothing styles; it is because of basic change in the way we work. George Nelson, FAIA, who, among his myriad accomplishments, is the biographer of the great industrial architect Albert Kahn, thinks that the character of office work space and the character of factory work space are becoming increasingly alike, and that the ideal form to house the emerging combination may be an open barn-like structure. “There never was an unloved barn,” Nelson says.

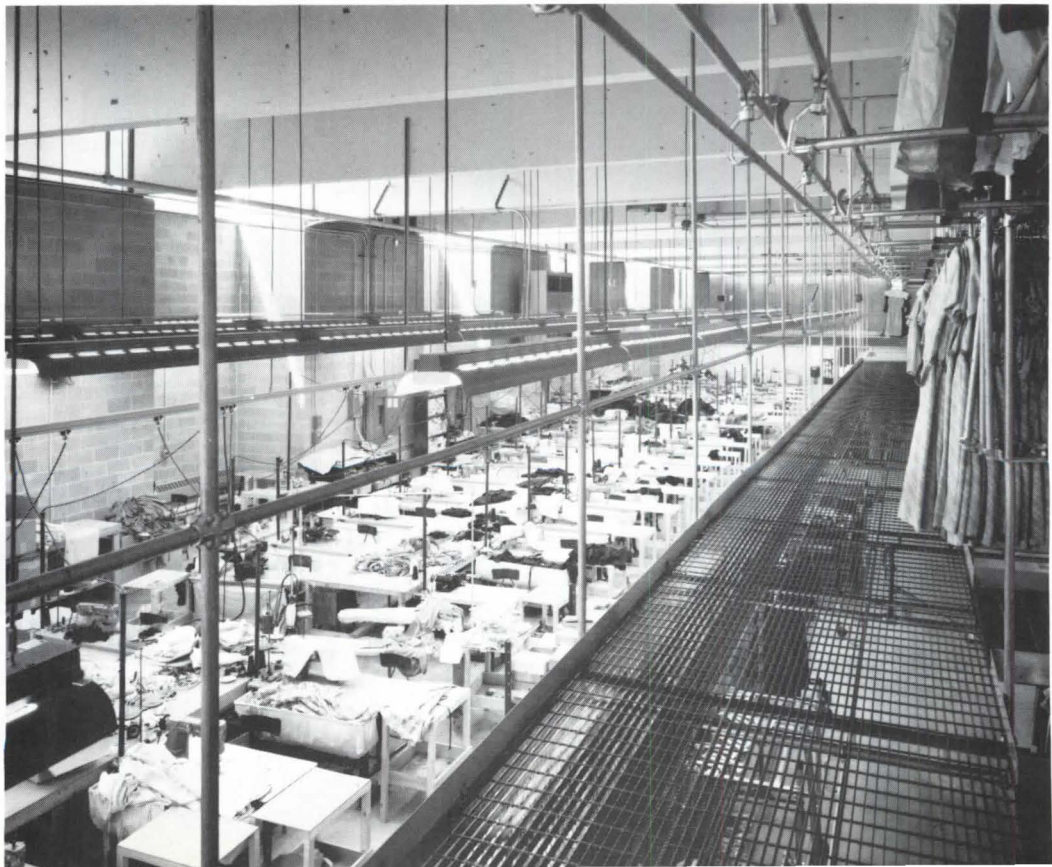
And an observation by Theodore Kurz, AIA, chief of design, industrial division, for Smith Hinchman & Grylls, reinforces that notion: “The new single-story plants,” Kurz says, “are higher ceiled and lighter in feeling than the old multistory factories.” On the whole, he says, these new plants have “a less confining feeling.” But, whatever the form of the future factory may be, there is reason to hope that architects will make the key contributions to that form.

That hasn’t always been the case. Blondel’s 1771 *Cours d’architecture*, written at a time when there were a few silk mills, porcelain manufactories and printing presses, but before the great factory proliferation of the Industrial Revolution, had, according to Nikolaus Pevsner’s *History of Building Types*, “no more to say about factories than that they should look simple and solid, and that they should be built on the periphery of a town by a river.”

And the Industrial Revolution just made things worse. William Blake wrote of England’s “dark, Satanic mills,” and Nelson, in his book on Albert Kahn, called the early factory “the stepchild of the 1800s, a joy to no one save possibly its owners; it was sooty, ugly, a source of blight wherever it appeared; the condition of its workers was appalling beyond belief.”

Kahn himself has been credited with the dictum—Ada Louise Huxtable has called it “the notorious dictum”—that “architecture is 90 percent business and 10 percent art.” Perhaps a more palatable paraphrase would be that “building is 90 percent business and 10 percent architecture.” Clearly, most industrial buildings have until recently been part of the 90 percent. Clearly, too, they are coming increasingly to be architecture.

Behrens, Gropius and Kahn himself were pioneers in this direction. “When I began,” Kahn said, “the real architects would design only museums, cathedrals, capitols, monuments. The office boy was considered good enough to do factory buildings.”



© Esto/Ezra Stoller



On page 57, the service corridor of a recent General Motors diesel plant by the venerable firm of Albert Kahn Associates. Opposite above, exterior and interior views of the Herman Miller factory, Bath, England, by the Farrell/Grimshaw Partnership. Left, Ulrich Franzen's light-enlivened Helen Whiting dress factory, Pleasantville, N.Y., 1962. Above, Skidmore Owings & Merrill's Philip Morris factory, Richmond, Va. Gordon Bunshaft, FAIA, was in charge of design.

Modern practice continues the trend away from this attitude. At Smith Hinchman & Grylls as recently as 15 years ago, according to Kurz, engineers and draftsmen alone would have been assigned to turn out a factory design; now it would be unthinkable to assemble a factory design team without architects. And Dick Duell, AIA, newly appointed chief architect of the Ford Motor Co., points out that Ford's engineering department (which does not design buildings but offers in-house guidance to outside designers) has not only grown but changed in composition: Since 1960, the size of the department has doubled, but the number of architects in the department has almost quad-

rupled. When he first came to Ford 13 years ago, Duell says, "the company would just provide workers with good eating, parking and toilet facilities." Now there are the safety and health provisions demanded by the Occupational Safety and Health Administration and more intangible provisions as well—"lighting, color, graphics, acoustics and general worker convenience and comfort."

These provisions did not stem wholly from altruism, of course. Enlightened self-interest is at work in many corporations to provide facilities workers like. Giffels Associates of Detroit, a 700-man architecture-engineering firm, 75 percent of whose work is industrial (and who collaborated in the design of this year's AIA honor award-winning Wayne State University Health Care Center), has recently finished a mammoth foundry building for the Caterpillar Tractor Co. A client request was that the designers provide an environment that would attract and keep workers. As E. B. Johnson of Giffels remarks, "This consideration wouldn't have been necessary a few decades ago." And, as Francis Murad of Giffels adds, design can also serve to increase productivity and reduce "factory blues."

## A spreading concern for humane environments.

There may be increased humanitarian concerns among industrialists as well. According to Daniel Shahan, president of Albert Kahn Associates, Inc. (yes, 36 years after Kahn's death, his firm still prospers, having designed \$750 million worth of industrial building in the last decade), "Those individuals involved in the decision-making process for the corporate-industrial client are today more aware of the impact of social and environmental influences in the design of their facilities than they were 10 years ago."

Architects, naturally, share these concerns. Charles Gwathmey, AIA, of Gwathmey Siegel & Associates, a firm now undertaking its first factory commissions, says that "the reason architects are doing more work of this type is because people are people. The notion of labor being shunted away in some dreary loft space is, we know now, just not valid. Architects care about environments, and that includes work environments." Marcel Breuer Associates' factory work includes a long series of designs for the Torin Manufacturing Co. in the U.S., Belgium and Australia, and they are now at work on a two million square-foot factory for Philip Morris in Richmond. The factory space there will be double the height actually required for the manufacturing process, and windows will give workers views of trees, fields and grazing Charlois cattle. "After making some visits to plants that *did not* consider the working environment," Breuer partner Herbert Beckhard, FAIA, says, "it is difficult to imagine building any kind of plant without strong consideration of that aspect of the building."

These concerns are spreading. Morton L. Levy Jr., AIA, of Houston, upcoming chairman of AIA's architects for commerce and industry committee, says the committee's current projects include the development of postoccupancy evaluation criteria for factories, case studies of major industrial projects, formats for reporting the vital statistics of industrial buildings, information exchanges with the National Bureau of Standards, and analyses of project delivery alternatives. The committee plans to initiate an annual conference on factory design as well as a series of exhibitions of such design.

Just how has all this attention begun to affect the factory? First, to go from the outside in, the appearance of the factory building and its relationship to the surrounding town or countryside are now matters of frequent concern (sometimes necessarily, because of needs for community zoning approval). Clarence Roy of the Ann Arbor environmental planning firm Johnson Johnson & Roy sees greatly increased concern for factories' "fitting in." A dozen years ago, Roy says, only about 5 percent of his firm's work was concerned with factory environments; now the figure is 20 percent.

Second, the building form itself is being reconsidered. For decades the stereotype has been a relatively large factory block, its ceiling height and bay widths determined by machinery requirements, and, appended to it, a relatively tiny executive office block. Workers in these two parts of the structure had their own parking lots, their own entrances, their own toilets and locker rooms, their own lunchrooms and—very definitely—their own work environments. The perpetuation of this labor-management distinction was supported by the differences in work tasks and also by the differences in work forces—one unionized, one not. The stereotype factory is still being built, but it is being seriously questioned. Olivetti, Volvo, IBM and others have found quite different solutions, and fresh ideas can also be seen in the all-in-one-structure part of Herman Miller's Bath, England, manufacturing plant by the Farrell/Grimshaw Partnership. And, of course, there is Nelson's notion of the barn as factory/office.

Third, there are changes inside—more windows, more light and air, more plants and more color. And a new sort of layout, too: Some of the "open plan" principles that have come to

dominate the office environment are beginning to be applied to the factory. The Hewlett-Packard Co.'s minicomputer plant at Cupertino, Calif., has been testing for more than four years a modular partition-with-equipment system called Action Factory. (The manufacturer is Herman Miller Inc., which followed its Action Office line with Co/Struc, a system designed for use in hospitals and laboratories; Action Factory is a continuation of this development.) Workers in the new installation sit within metal skeletons of individual enclosures, from which parts containers, lights and work surfaces are hung as needed. The metal frames and all accessory parts are eminently flexible, and parts containers can be unhooked and trucked along to another work station whenever appropriate. In its first years of use, Action Factory reportedly cut labor costs by 6 percent and increased output by 10 to 15 percent. Similar installations for Texas Instruments have been testing equipment by both Herman Miller and Westinghouse Architectural Systems; the results there are said to have cut floor space requirements by more than 15 percent.

If there is important evolution these days in factory design—and we think there is—it is, admittedly, not sudden or complete enough to quite knock anyone's hat off. Wade Martin, an environmental psychologist at Catholic University, agrees that the work environment is changing, "but not on a large scale as yet." For one thing, the use of pre-engineered metal buildings (often designed without benefit of architect) continues to flourish. ("In some cases," Mort Levy says, they "are really the right answer.") And Kahn Associates' Shahan says that "the challenge still remains for responsible architects" to apply their skills to the problem of factory design.

Even so, the factory is no longer the building that doesn't matter. It is still a building where hard work takes place, but it has long ago ceased to be the medium and symbol of worker exploitation; it hasn't been "Satanic" for some time now. The growing demand for quality factory design is obviously a good thing for architects, a development of potential value for the future of the profession; it is also a good thing for workers, a development of potential importance for the future of our democracy. □

*Below, Smith Hinchman & Grylls' Deere & Co. engine works in Waterloo, Iowa. Bright graphics are on fabric banners laced to frames of plastic tubing. Right, Herman Miller's 'Action Factory' equipment being tested in Hewlett-Packard's minicomputer plant.*



Daniel Bartush



Courtesy Hewlett-Packard



# Suppliers' Showrooms as Showplaces

*Interiors resources firms continue to be patrons of high-fashion architecture. S.A.*

In that sometimes mysterious realm where furniture, fabric and carpeting are marketed, art and commerce meet headlong at several intersections. One intersection, of course, is in product design, where esthetics are often demanded, but sometimes only in the service of sales potential. Another is in the design of the places where the products are presented. Here, in the field of showroom design, architects find opportunities for exercises of imagination that would be outrageously inappropriate for office, factory, hospital or institutional design.

Some recent examples are being given much attention—Robert Venturi's Knoll showroom in New York City, Gwathmey Siegel's Knoll headquarters building in Boston and Michael Graves' Sunar showrooms all over the country. And the results vindicate the clients' adventurousness. (Venturi, for example, has made a genuinely interesting environment from what was the most banal of low-ceilinged, column-bedeveled speculative office spaces.)

Although these are bright new names on the list of showroom designers, that list is a long, venerable and respectable one. Good showroom design has accompanied good modern furniture design from its beginning. Thonet, celebrating its 150th birthday

this year, and Stow-Davis, celebrating its 100th, are closely tied to that beginning and even predate it. Steelcase, founded in 1912, is another eminence in the field, and Knoll and Herman Miller both had their starts (modestly) before World War II.

Hans Knoll began working with a young architect named Florence "Shu" Schust around 1940 (and later married her). Together they brought the latest design thinking to both Knoll furniture and Knoll showroom spaces. And at Herman Miller, J. D. DePree hired industrial designer Gilbert Rohde to head the design program and, after Rohde's death in 1945, hired George Nelson to succeed him. The '50s then saw a great proliferation of well-designed showrooms. The "Good Design" shows cosponsored by New York's Museum of Modern Art and Chicago's Merchandise Mart and masterminded by Edgar Kaufmann jr. showed the best work of many manufacturers in exhibitions designed by Paul Rudolph, Alexander Girard and others. Florence Knoll was doing a series of showrooms for her own company, Nelson a series for Herman Miller and Edward Wormley a series for Dunbar; all three were designing furniture for the same companies. Others at work on showrooms included Finn Juhl, Donald Deskey, Alvin Lustig and Marcel Breuer. In



*Opposite page, a two-floor-high cascade of fabric in Robert Venturi's new Knoll showroom in New York. Left, Alexander Girard's 1961 design for Herman Miller's Textiles & Objects shop. Above, a 1979 Stow-Davis display of British woolens; the display designer was Robin Drake.*



Norman McGrath

*Above, John Saladino's Thonet showroom, New York. Right, a stair by Harry Weese in his remodeling of Steelcase's two-level showroom in the Chicago Merchandise Mart. Opposite, a stair in Gwathmey Siegel's Knoll building, Boston.*



the '60s, exhibition techniques pioneered by Charles and Ray Eames became important influences. New sophistication in exhibition lighting, developed by Edison Price and others, gave designers new tools.

Today, high standards of showroom design have become expected. Some of the current work is done by in-house leaders of manufacturing or importing firms—Pat Hoffman's work for ICF; architect Stephen Kiviat's for a.i. (Atelier International). Some of it is done by the firms' pet furniture designers—Thy-

gesen and Sorensen's Chicago showroom for Rudd International; Ward Bennett's showrooms for Brickel. And most of it, of course, is done by unaffiliated architects and designers—Warren Platner and Harry Weese for Steelcase; Powell and Kleinschmidt for Gretchen Bellinger Fabrics; John Saladino for Thonet.

But these design lights are often hidden in relatively private bushels, for most showrooms are closed to the public. Behind the closed doors, architects are more than welcome, certainly, and even for others the doors may not be as firmly closed as they





Steve Rosenthal

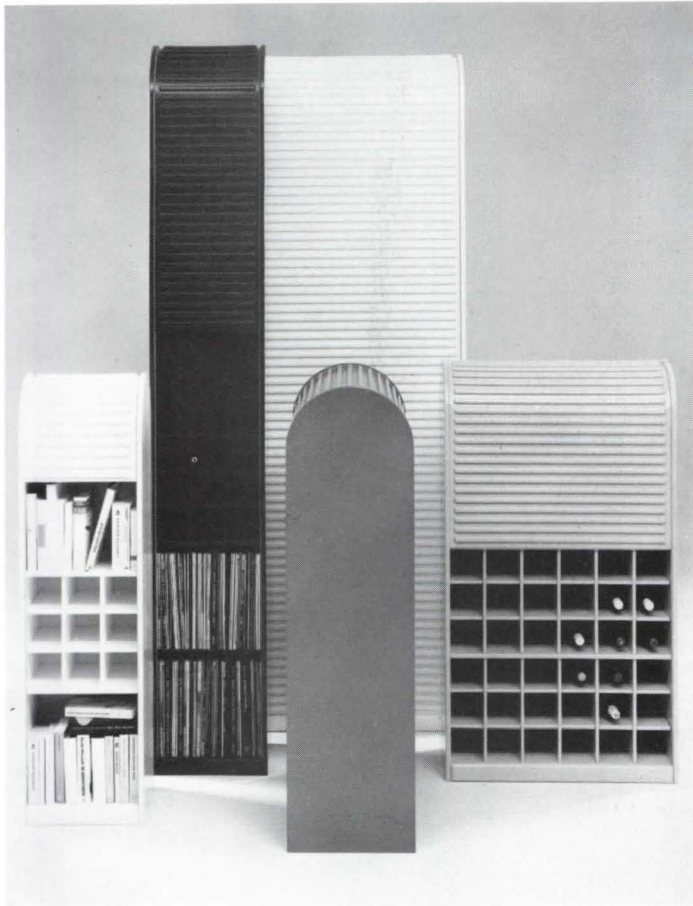
once were. Both Herman Miller and Knoll have made forays into the field of direct retail sales, and it would be surprising if there were not more such experiments in the future. One reason is that the practice of charging for interior design services in the form of mark-ups on discounted furniture is a relic of the age of the lady decorator in flowered hat and white gloves; there is no continuing need for secrecy about price. Another reason is that the public's taste and the designer's taste have grown closer together. Thanks to pioneering stores like architect Ben Thomp-

son's Design Research, well-designed furnishings are now widely known and wanted. ("DR" is now defunct, but probably because it was *too* successful: It performed its task of design education so well that it made itself unnecessary.) Whatever the merchandising techniques of the future may be, the showroom will continue to be a laboratory of precocious design ideas. If those merchandising techniques come to include a more open-door policy, what's behind that door may become even more important. □



# Furnishings

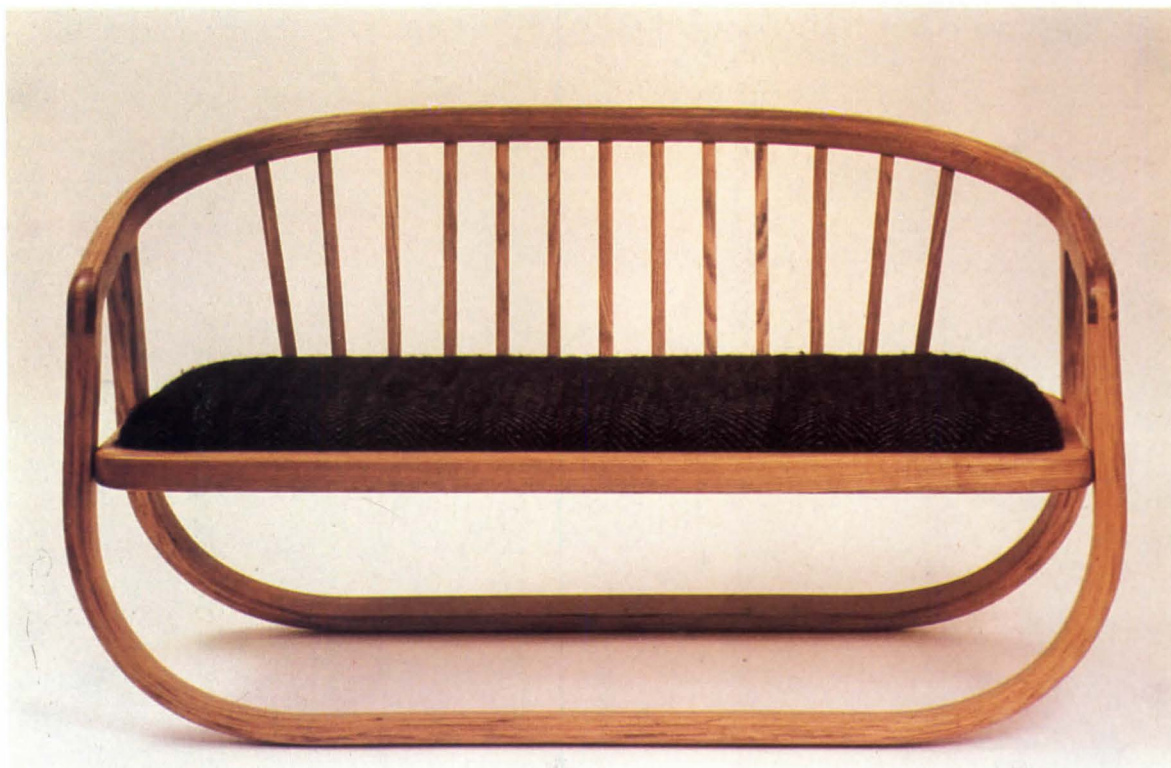
*As resources for design and objects of design. S.A.*



Here are a dozen pages of new designs, selected without any attempt at being encyclopedic or representative. Our only criterion was that they seem to us attractive or interesting. Many of them were introduced at the very recent NEOCON (National Exposition of Contract Furnishings) at Chicago's Merchandise Mart; some were introduced at the spring West Week at Los Angeles' Pacific Design Center; some at New York City's Designer's Saturday last fall. Many of them have never been introduced publicly at all, being one-of-a-kind creations by craftsmen we think our readers would like to know about. And at least one, a chair by Arlington, Va., woodworker Peter Danko, began as a handcrafted prototype and has recently been adopted for large-scale manufacture. This is a minute sampling, of course, of a great volume of new products, but we think it is sufficient to demonstrate the variety (and sometimes, even, the wit) of current furnishings design.

**Storage towers.** Masquerading as skyscrapers on the opposite page and seen undisguised at left are the "Manhattan" roll front storage cabinets from Rudd International. Cabinet sides are of high-density fiber board; roll fronts of molded plastic; all surfaces have a lacquered finish. There are nine different cabinet sizes in the series, and they accommodate many different storage aids—shelves, file drawers, bottle racks and pull-out work surfaces.

**Love seat.** Combining traditional joinery with molded laminations of ash and rosewood, craftsman Steven Caldwell of Seattle designed this handmade piece recently shown at the American Craft Museum in New York City. Wool upholstery by Jane Danforth.



**Chairs.** Perhaps of all furniture design problems the most difficult is the chair, with its need to respond to complex loading situations and to various body shapes and sizes. And perhaps because of that complexity many architects have been attracted to the problem. Here are a few recent solutions, some by architects, some not, some serious, some clearly not.

For an outdoor lounge chair that folds—a chair design problem with additional requirements—Henry Glass designed the “Cricket” (1) for Brown Jordan. The frame is tubular aluminum with a baked enamel finish. The seat sling of polyester mesh can be changed by the owner. An articulated executive chair with either low or high back (2) is part of a series of body-conscious chairs by industrial designer Niels Diffrient for Knoll.

Chairs 3 and 4 are new continuations of the Bauhaus tradition of austere elegance. Paul Tuttle’s chromed steel and leather “Arco” chair (3) for a.i. (Atelier International) is winner of a recent design award at the Pacific Design Center. Stendig’s high-backed lounge chair (4) designed by Hans Eichenberger is also chromed steel with seats of leather or canvas. Another version of the Eichenberger design has a small circular tray table clamped to a chair leg.

Aimed for a moderately priced market is the “Spaghetti” chair (5), its seat and back of long strands of plastic tubing, either transparent or colored to match the steel frame. Designed in 1960 by architect Gian Domenico Belotti for an Italian resort hotel, it is now available here through ICF.

Two chairs hand-carved by Alan Siegel and copyrighted by the American Craft Council are the highly suspicious looking “Smiling Bandit” (6) and the more benign “Old Lady” (7). A handcrafted model that has been adopted by a major manufacturer is (8) molded from a single sheet of stacked wood veneers. The designer is Peter Danko, and the chair will be produced by Thonet.



1



2



3



5



6

Both courtesy American Craft Council



7



8



1



2



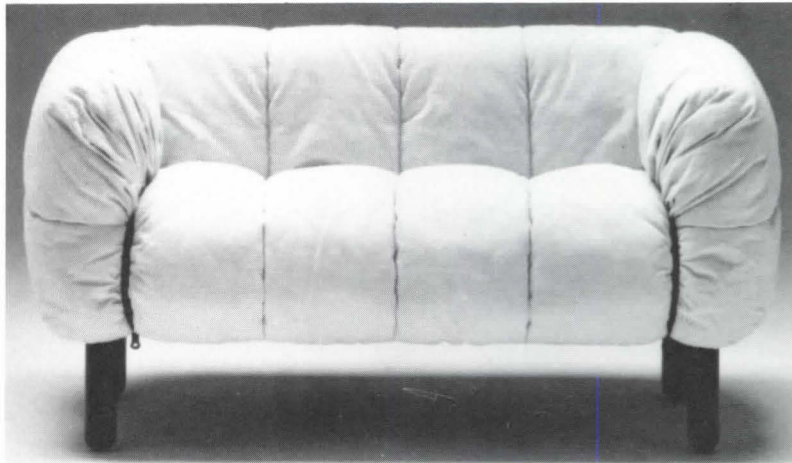
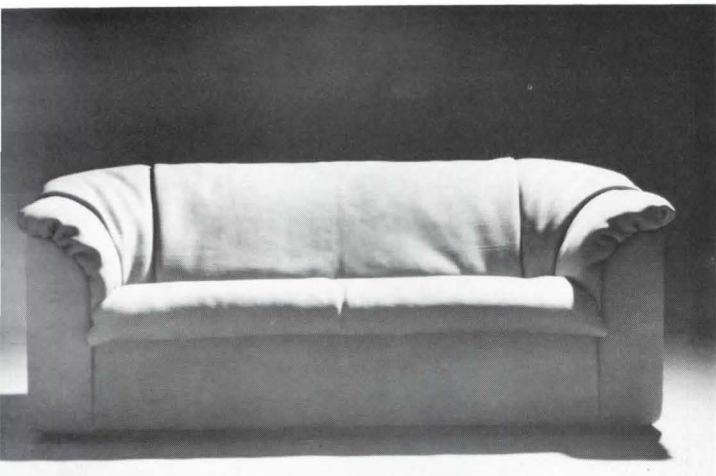
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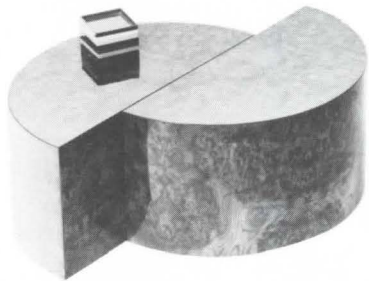


8

**More seating.** Here are further chairs and sofas of different types, for different uses. Paul Tuttle's "Leonardo" chair (1) for a.i. has legs of hardwood, seats and backs of washable, highly textured black polyurethane foam. Chrome legs are also available, as are an armless side chair, a high stool and a swivel-based office version. Also from a.i. is the leather and chrome seating designed by Archizoom Associates (2). Wedge-shaped seat cushions give extra support under the knees; bases are cantilevered tubing or five-footed with casters. Also five-footed to minimize tipping are (3) an armless desk chair with angled, fixed back from La-Z-Boy and (4) the "Auburn" swivel arm chair designed by Brian Kane for Metropolitan.

Most recent of Ward Bennett's designs for Brickel is the small-scale, tautly upholstered "Low Chair" (5).

Sofas, above, include Turner's "DS-95" (6), covered in naturally marked neck leathers. Sweet as lambs are Beylerian's "Strips Sheep" chairs and sofas (7) designed by Cini Boeri and Laura Griziotti. The legs are wood, and the zip-off upholstery is stuffed with polyurethane foam. Joe D'Urso's sofas for Knoll (8) are in several sizes and configurations, all featuring four-foot-deep end pieces that lend a sense of enclosure. Seat cushions eight feet long are continuous, without the usual between-cushion crevices. Across the back, a collection of loose square pillows. The table is also a new D'Urso design (see next page).



2



3

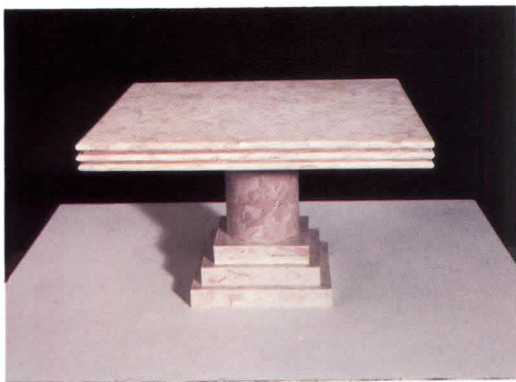


4

Courtesy American Craft Council



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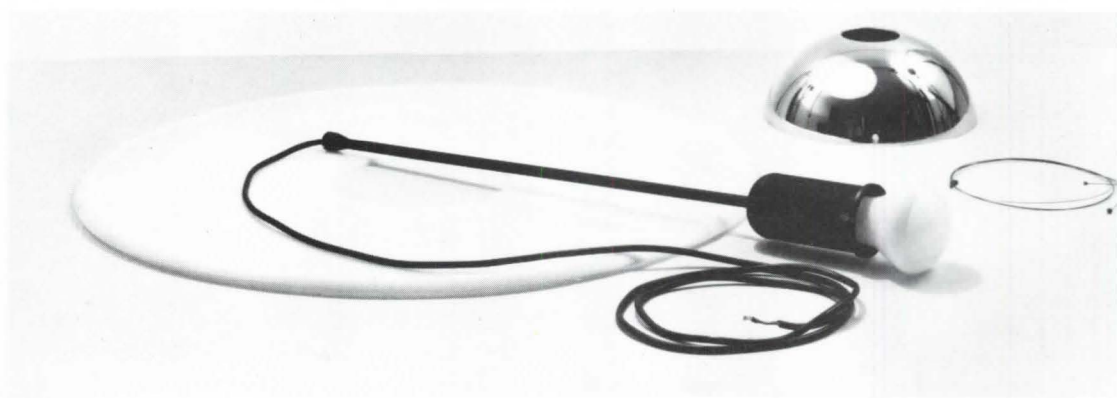


6

**Tables.** Paul Mayén's "Split-Drum" table for Intrex (1) can be used in a number of configurations, together, singly, or as matching end tables. It is 15 inches high, 30 inches in diameter, in four burl finishes, four plain wood finishes and 13 lacquer colors. The "Delta" oak cube (2) manufactured by Gunlocke has a solid oak frame joined with dowels, oak veneer top and sides, and stainless steel glides.

Joe D'Urso's low rolling tables for Knoll (3) are available in three sizes and two heights, in stainless steel, semigloss black or white, and high-gloss red. Several inset glass tops are available also, including some in wire glass. The "Clamp" table (4) by Indiana artist John W. McNaughton is 19 inches high, made of walnut, birch and glass. It was shown in the "New Handmade Furniture" show organized by the American Craft Museum, New York City.

Three table designs by architect Michael Graves (5) are shown in model form; they are not yet in production. Also one-of-a-kind is craftsman Peter Danko's wood and glass table (6); its structure utilizes the strength of glass panels in compression.



1



2

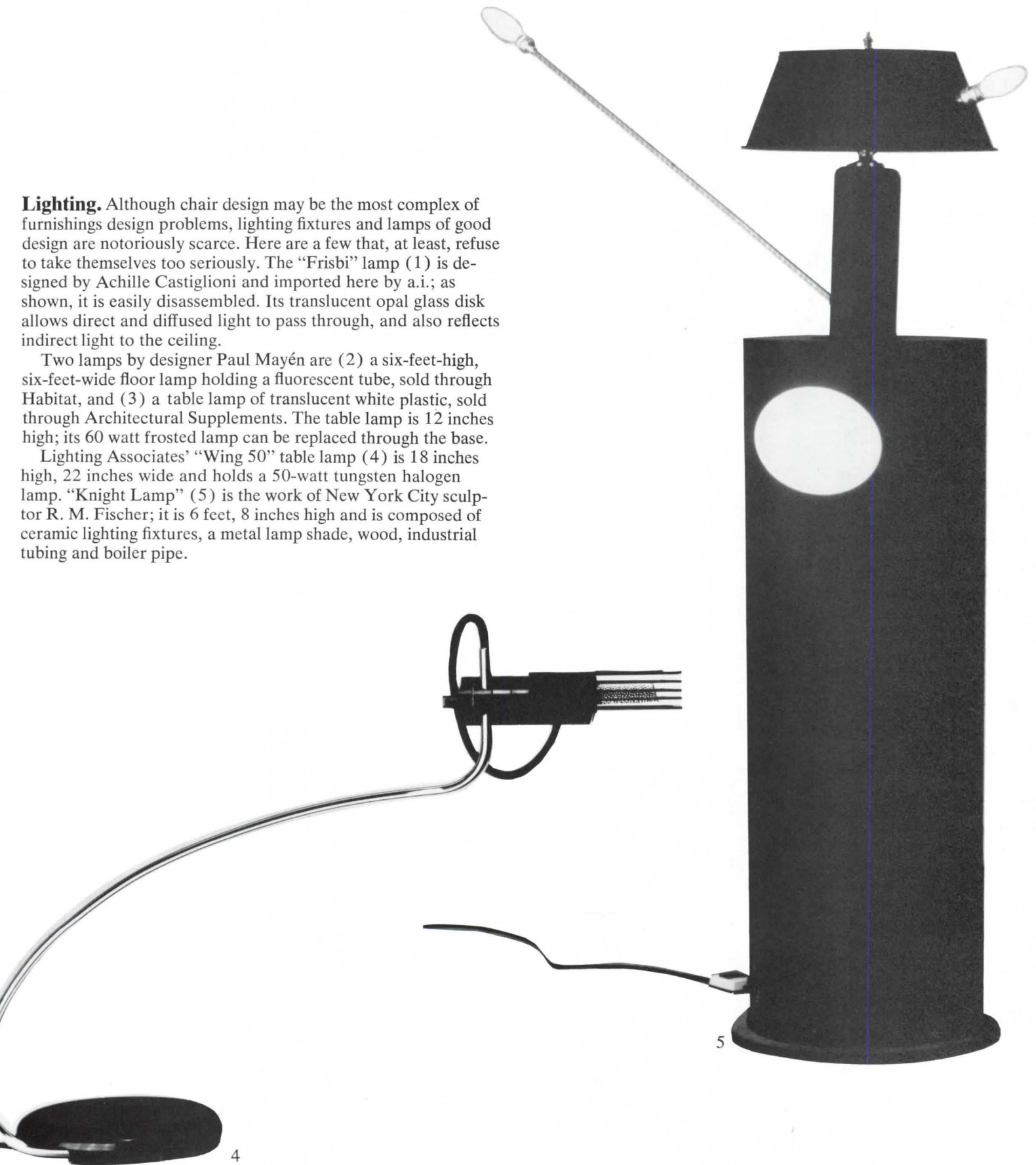


3

**Lighting.** Although chair design may be the most complex of furnishings design problems, lighting fixtures and lamps of good design are notoriously scarce. Here are a few that, at least, refuse to take themselves too seriously. The "Frisbi" lamp (1) is designed by Achille Castiglioni and imported here by a.i.; as shown, it is easily disassembled. Its translucent opal glass disk allows direct and diffused light to pass through, and also reflects indirect light to the ceiling.

Two lamps by designer Paul Mayén are (2) a six-foot-high, six-foot-wide floor lamp holding a fluorescent tube, sold through Habitat, and (3) a table lamp of translucent white plastic, sold through Architectural Supplements. The table lamp is 12 inches high; its 60 watt frosted lamp can be replaced through the base.

Lighting Associates' "Wing 50" table lamp (4) is 18 inches high, 22 inches wide and holds a 50-watt tungsten halogen lamp. "Knight Lamp" (5) is the work of New York City sculptor R. M. Fischer; it is 6 feet, 8 inches high and is composed of ceramic lighting fixtures, a metal lamp shade, wood, industrial tubing and boiler pipe.





1



**Clocks.** Meticulously crafted outside clocks, for wall hanging or for use as low tables, are designed and made by Paul Persoff, New York. Standard sizes are 30-, 42- and 60-inch diameters, but Persoff also accepts custom orders.

**Tapestries.** Swedish tapestry artist Anita Graffman has produced many large and striking works; moreover, she puts them to the service of architecture in novel ways. The six tapestry panels in the auditorium of the Trygg Hansa Insurance Co. (1) can be grouped at the sides of the stage, as shown, or aligned to form a complete curtain. "Openings in the Night Sky" (2) is suspended as a plane parallel to the ceiling and "The Shores of Faro" (3), meant to be viewed on both sides, is a curving space divider on an aluminum frame.

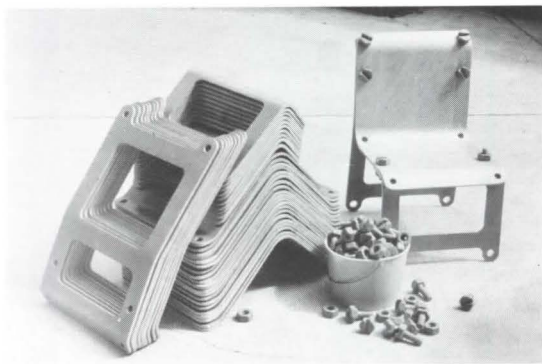
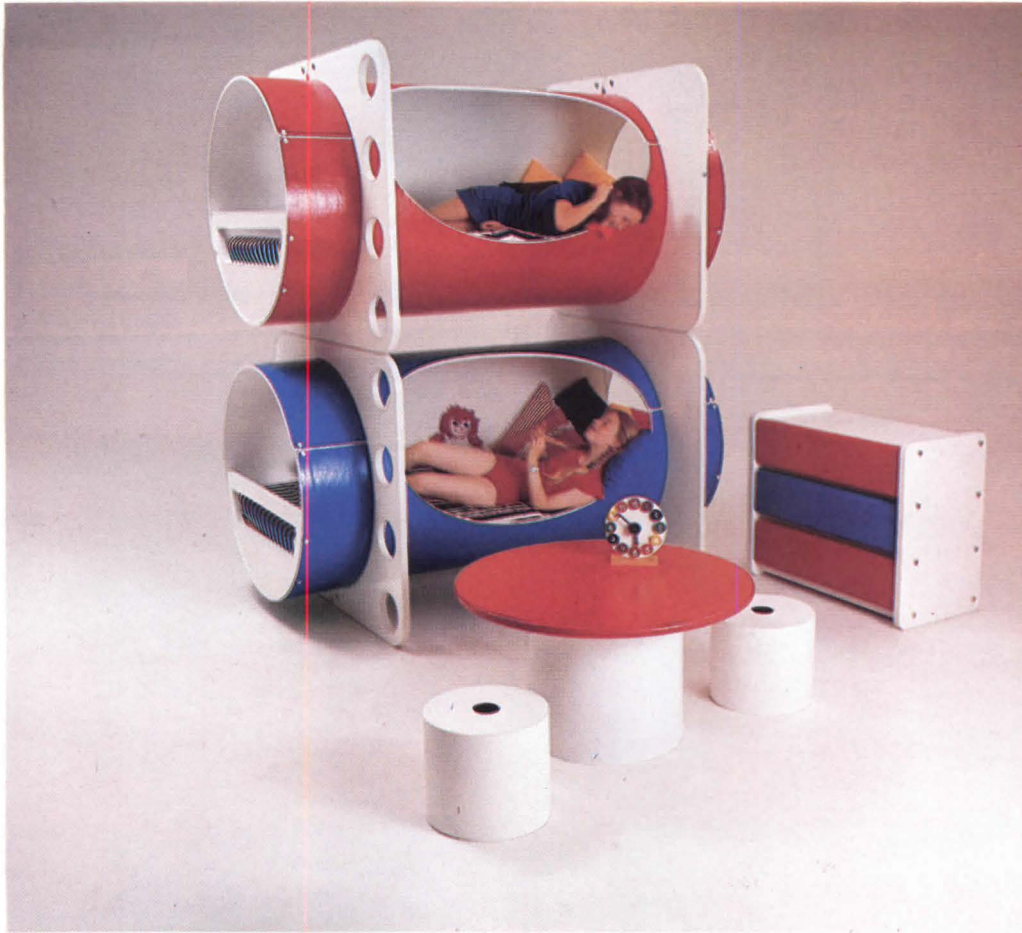
2



3



2



3



**Kid stuff.** Children's furniture is receiving grown-up design attention, and some of the results are appealing *not* because of cute little ducks stenciled all over them, but because of their basic structures. A series of molded plywood frames (1) has been developed as a prototype by University of Texas at Austin designer Jim Wallace. Using plastic nuts and bolts, children can fit the components together in many ways. (Wallace has devised 20, but children may devise still more, he thinks.)

Jim and Penny Hull began HUDDLE (Hull Urban Design Development Laboratory, Etcetera) in Los Angeles in 1970.

One of their designs (2) is a bunk bed of laminated fiberply tubes surfaced with vinyl. Table and stools are of the same materials. Dresser is of pressed wood with lacquered sides and is on roller-bearing glides.

The Kartell "School System" (3), imported here by Beylerian, is a highly flexible set of plastic components for kindergarten or early school use. Parts are screwed together (with a big red key) into many possible layouts, and the children themselves can make the changes, learning something about construction principles as they work. □

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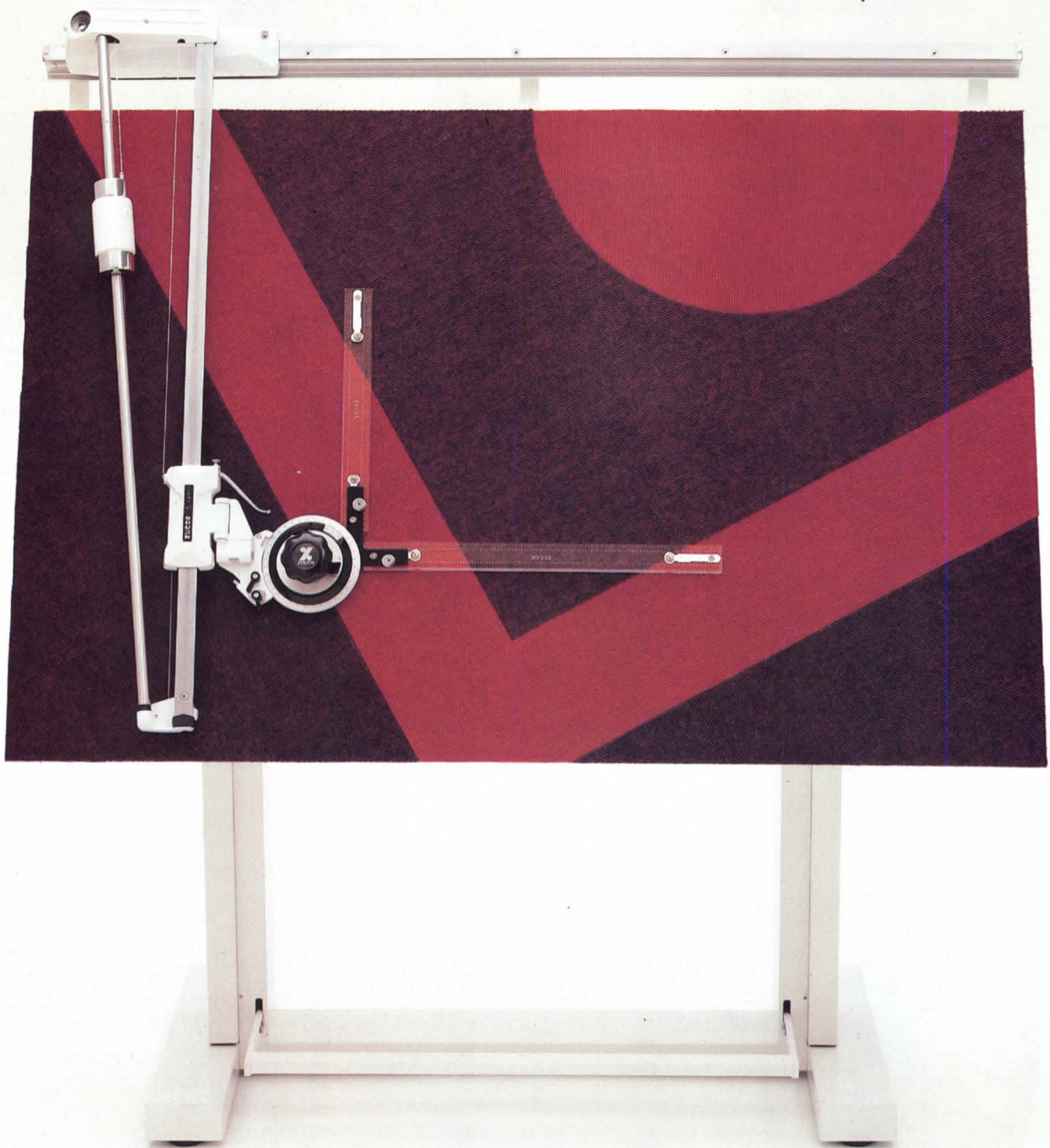
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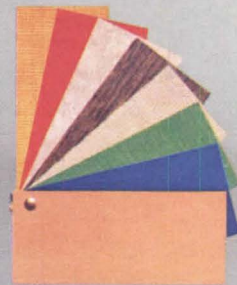
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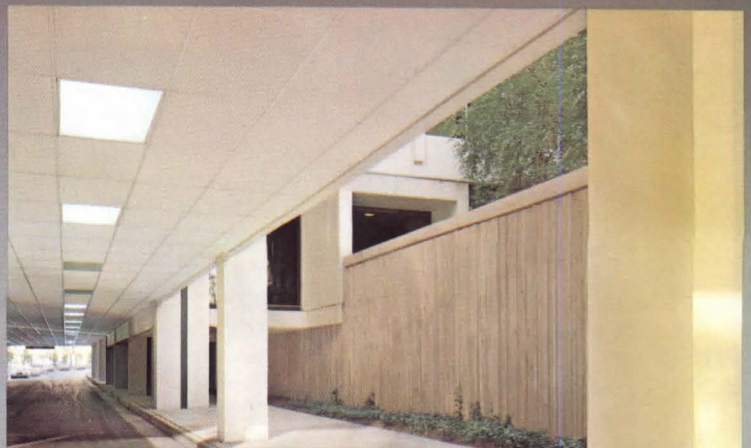
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# BOOKS

## A 'Front Row Seat' for A Great 'Extravaganza'

**Giorgio Vasari: The Man and the Book.** T. S. R. Boase. (Princeton University Press, \$25.)

Giorgio Vasari, painter and architect of Arezzo, Italy, is best known as the author of *The Lives of the Most Excellent Architects, Painters and Sculptors from Cimabue to the Present Day*. First published in 1550, the book immediately established itself as the prime source of renaissance art and artists, and was steadily enlarged in subsequent editions. For more than 300 years it ruled until the patient labors of scholars and critics began to cut Vasari down to their size. (He was most vulnerable because of his "usual disregard for dates.")

The late Professor T. S. R. Boase, sometime director of the Courtauld Institute, has now performed the needed task of rehabilitating Vasari in both biographical and critical terms. This rounded and carefully illustrated account will please everyone with even a cursory interest in the art of this period. But I must say at the outset that the architects do not receive the attention promised by the inclusion of the profession in the title of Vasari's *Lives*, or that is merited by Vasari's own career as an architect. While he did not begin to study architecture in any depth or to design buildings until he was 38 years old, and is not ranked with his teacher Bramante, Michelangelo or Brunelleschi, Vasari was the designer of the Uffizi in Florence and the Piazza dei Cavalieri in Pisa; the remodeling of S. Maria Novella and S. Croce, and the Palazzo Vecchio, in Florence, as well as the overall design of the Piazza della Signoria. It was none other than Michelangelo who urged him to turn to architecture and become qualified "an architetto molto adoperato." Fortunately, much of his work, including his two houses in Arezzo, has survived, and to me it is more interesting than his painting.

With "quotes and anecdotes" the industrious Vasari brought alive the creative talents of the period in the *Lives*, echoed the talk and the gossip of the studio and workshop and recreated the legends of the past as well as the spirit of his times. What is seldom appreciated is that Vasari wrote his grand panorama



*Florence's Uffizi was designed by Vasari for 13 administrative agency offices. In the background is the Palazzo Vecchio, arranged by Vasari as a residence for Duke Cosimo I.*

of renaissance art in the midst of major commissions.

For his own lifetime, the great happening was the Sack of Rome, May 6, 1527, after which nothing was ever the same. "Rather the fall of a world than of a city," as Erasmus wrote. But even in describing this great historical event, Vasari's concern is with the damage to works of art and the lives of artists who fled "with only their shirt" from the Bourbon invaders. He brought his artists to life with anecdotal intimacy. He did not resist the role of a creature of his times, nor would one wish him to be otherwise; and nowhere else does one so authentically learn the "climate of opinion" of Florence in the long years of the de'Medici. While the youthful Vasari was fortunate in being placed in school with Ippolito and Alessandro de'Medici, it was from the Duke Cosimo that he later received his most significant patronage. Good use is made by Boase of the succession of Francesco de'Medici to demonstrate Cosimo's deep personal interest in the arts. More broadly linked to the de'Medici, Vasari absorbed the humanistic education, the theatrical and artistic activities afforded by the court and the benefits of association with artists like Andrea del Sarto, his first teacher, and Michelangelo, who principally defined in Vasari's mind the role of the artist.

Most of what Boase has to say about

architecture is in his chapter on the *maniera tedesca*. Gothic buildings like S. Petronio in Bologna and Milan Cathedral presented the problem "whether to complete the work in the original style or to adapt it to the new fashions." Vasari's anti-Gothic views, strongly expressed in the introduction to the *Lives*, had a far-reaching influence. And why not, when couched in the following denunciatory language: "We come at last to another sort of work called German, which both in ornament and in proportion is very different from the ancient and the modern. Nor is it adopted now by the best architects but is avoided by them as monstrous and barbarous, and lacking everything that can be called order. In their buildings which are so numerous that they sickened the world, doorways are ornamented with columns which are slender and twisted like a screw, and cannot have the strength to sustain a weight, however light it may be. . . . They made endless projections and breaks and corbelings and flourishes that throw their work out of all proportion; and often, with one thing being put upon another, they reach such a height that the top of a door touches the roof. This manner was the invention of the Goths, for, after they had ruined the ancient buildings, and killed the architects in the wars, those who were left constructed the buildings in this style. . . . May God protect every country from such ideas and styles of buildings!"

Vasari knew both Michelangelo and Raphael, and Boase's chapter on these two artists is the climax of his book. But Vasari was at bottom a mannerist, and his affinities are closer to Pontormo, Bronzino and Salviati. As for later artists, Vasari was little impressed. "God help the younger generation," he wrote, "that our art not become extinct. Here there are no new men coming on, nobody is willing to go through the drudgery of learning."

Vasari was a workaholic. By the age of 30, he was finally established with a workshop and reliable assistants and collaborators—and major commissions. Sober, cautious, correct and reliable, he cultivated a reputation for finishing his work on time. When Cosimo de' Medici wrote to his son that "artists were difficult to handle and always take longer than they say," he made a pointed exception

*continued on page 85*

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The *Guide* won't make you an insurance expert. Indeed, it stresses the importance of an owner's seeking the counsel of a qualified insurance professional. What it *will* do is define your proper role, as an architect, in relation to construction bonds and insurance, and give you a solid working knowledge of protective requirements and options.

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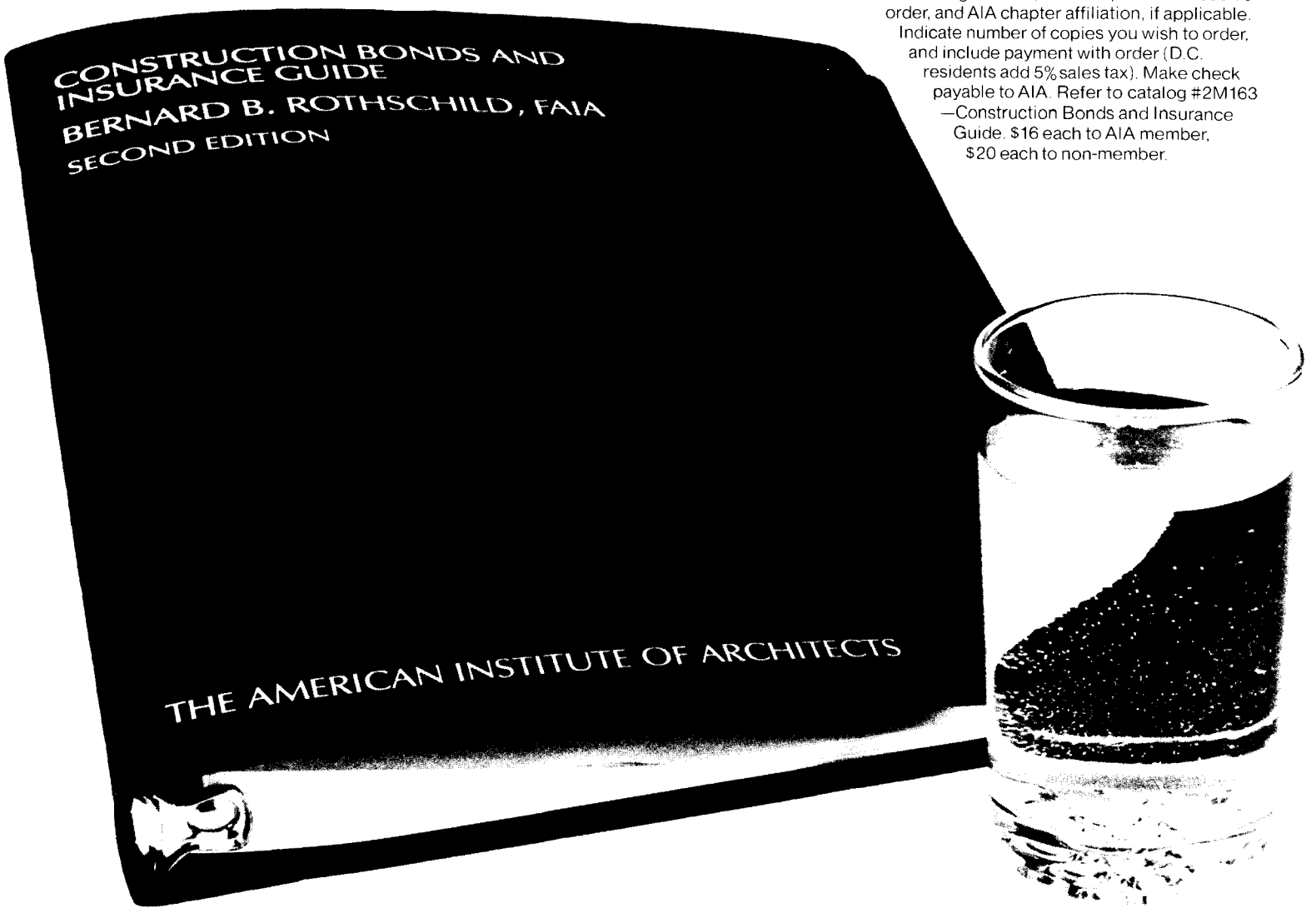
Included throughout these discussions are explanations of how levels of coverage are determined and paperwork is performed, hints about special areas of vulnerability the architect should be aware of, and notes about the considerations that apply to the architect involved in "design-build" project delivery of construction management.

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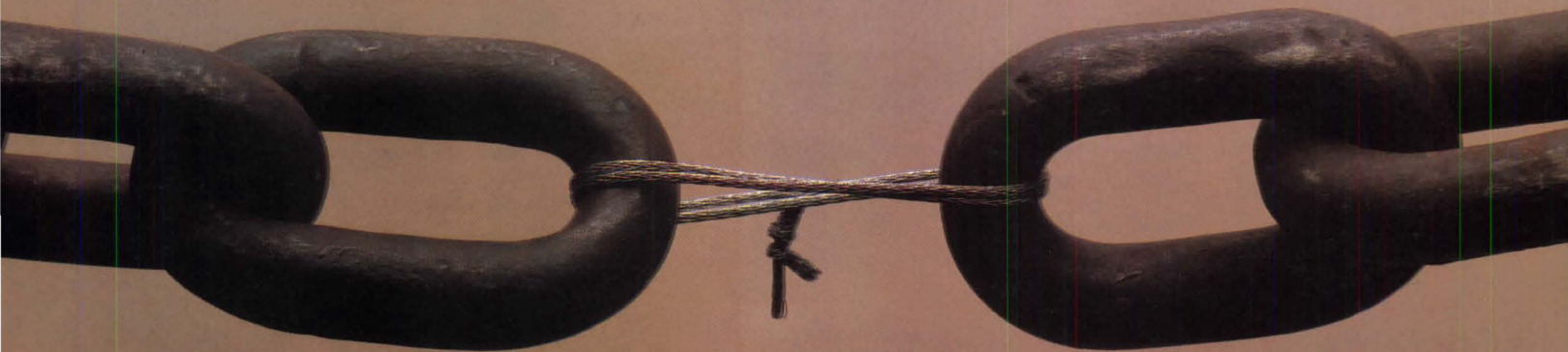
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## Books from page 82

for "Giorgio who is most prompt." In other ways he was accommodating. He was frequently called in to finish what others had begun. He was a recognized expert in prices and contracts.

In addition to his work as painter and architect, Vasari also designed tapestries, ceremonial and festival decorations and other art forms. And, of course, he wrote. Not only his masterpiece, the *Lives*, but other important works on technique, an extensive correspondence and the businesslike keeper of a uniquely valuable journal and account books giving a detailed day-by-day record of his professional life. As Boase says, "He is immensely knowable." In the *cinquecento*, he knew them all. He was there when it happened, and he wrote it all down.

This furious activity was neither uniformly of high quality nor universally appreciated. When told that Vasari had completed his grandiloquent frescoes for the Cancelleria in Naples in 100 days, Michelangelo sourly remarked, "E si vede." ("So it appears.") Too often he appears to be a painter of bizarre allegories, admired at the time but not much appreciated since.

Throughout this book one breathes the exhilarating freedom with which artists designed buildings, frescoed walls, made sculpture, created gardens, produced stage sets and civic decorations, built fortifications and designed flood control and other engineering works. It is a front row seat to the greatest artistic extravaganza of all time. *Frederick Gutheim, Hon. AIA, Washington, D.C.*

## Design of Long-Term Care Facilities.

Laszlo Aranyi, AIA, and Larry L. Goldman. (Van Nostrand Reinhold, \$29.50.)

We try not to think about nursing homes these days. This may be the result of recent press exposés of profiteering and inhuman conditions in some parts of the industry. It may also be a barely concealed guilt at the thought of our inability (reluctance?) to take care of our parents the way they took care of theirs. Nevertheless, as the old get more numerous and as their young remain rootless, nursing homes will play an ever larger role in housing our elders.

Architect Aranyi and nursing home director Goldman have written a how-to book for other architects and directors—a guidebook with "layout plans . . . ready to use." It takes the reader through the initial steps in the establishment of a new nursing home, concentrating on financing. Then follows the bulk of the book, an itemization of requirements and considerations for every space. We are told just about everything the authors think we need to know to design every room in a nursing home: activities, number of us-

ers, types of users, relationships, atmosphere, configuration, surfaces, colors, equipment, climate, lighting and acoustics.

The authors use checklists repeatedly, with a minimum of text. An occasional illustration punctuates the pages. Completing the book are 10 case studies that show a variety of new nursing homes—highrise and low, straight and curved.

The authors hope that by use of this book "past mistakes in design would not be repeated and new ideas will be generated." There are reasons to believe that the first hope—fewer design mistakes—can be achieved with this book's help. The lists presented are detailed and thorough to the point of redundancy. The designer can use them easily, and their use will guard against many possible errors, some major. In this respect, the book is very helpful.

The generation of new ideas is another matter. The checklist format, because of its look of completeness and focus on details, can lead to a checklist mentality. Checklists have been a part of design since long before Christopher Alexander put them on computer tape. Technological problems respond well to these lists. In nursing home design, however, the basic problems are human. Thus new ideas will come from the designer's values and understanding, not from checklists. The designer must raise this understanding to a higher level of abstraction, giving form to analyses that are thorough, human and elegant. The chief weakness of this book, then, is that it offers us many "how-to"s but not enough "why"s. Even the bibli-

ography in the book is thin.

Design will not solve the problems of the aged. It can only provide settings for solutions that will be primarily social, economic and, we would hope, personal. This book, in turn, will not solve the problems of designing for the aged. Instead, it provides a useful if narrow set of guidelines. The rest is up to us.

*Lo-Yi Chan, FAIA*

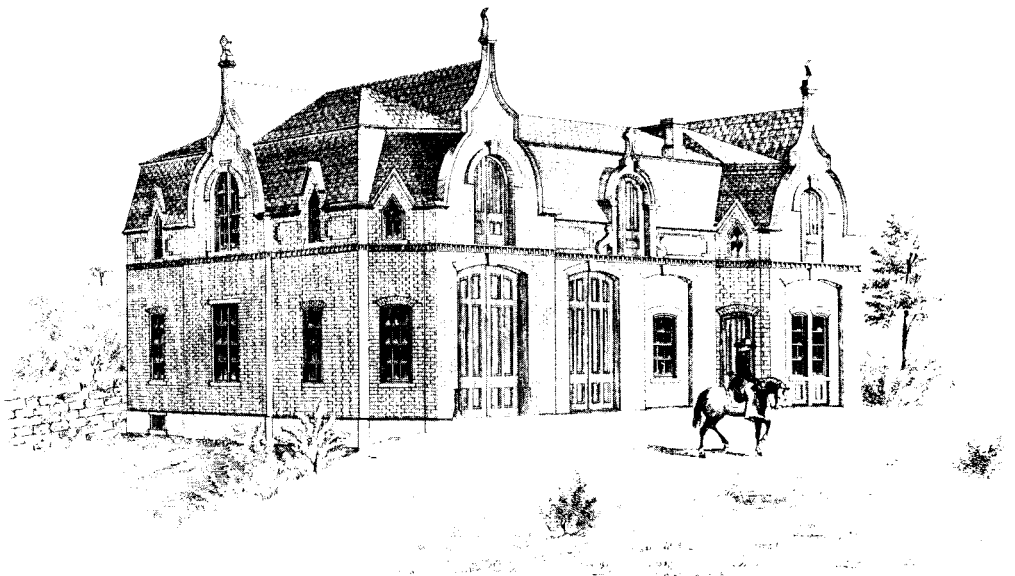
**Getting Down to Business with Your Microcomputer.** James A. Gupton Jr. (Northridge, Calif., Sourcebooks, \$9.95.)

The miniaturization of electronic components brought us the personal, handheld calculator in the '70s for a few dollars. For a few hundred dollars in the '80s we can get a personal computer and for a few thousand a business computer. This is due in part to a chip the size of your fingernail known as a microprocessor, which contains electronic circuits formerly requiring a roomful of wires and hot vacuum tubes.

Usually, with less computational capabilities and information storage capacity than a computer or minicomputer, the microcomputer is coming into its own as a sophisticated toy (electronic games) and hobbyist's delight—a home as well as an office machine capable of crunching words, numbers and pictures.

To an architect, this might mean specifications, accounting and drawings. The so-called word-processing functions can include any text that is used more than once, including repetitive correspond-

*continued on page 86*



**Bicknell's Victorian Buildings: Floor Plans and Elevations for 45 Houses and Other Structures.** A. J. Bicknell & Co. (Dover Publications, \$5.) This reprint of a work published in 1878 under the title *Bicknell's Village Builder and Supplement* contains designs and floor plans of Victorian structures once available by order from the 19th century firm of Bicknell in New York City. Shown above is a stable erected in Worcester, Mass. The cost to build was \$5,000. Other structures included in a mix of Gothic, Romanesque and classical styles reflect Victoriana of the 1870s. There are cottages, suburban residences, "first class dwellings," schools, stores, churches, courthouses.

**Books from page 85**

ence, brochure pages, mailing lists, room and opening schedules, equipment lists, as well as architectural and engineering specifications. The number-processing functions can include payrolls, accounting and other aspects of financial management, construction cost data and, when combined with word-processing, can generate invoices and statements. Graphics capabilities, both in monochrome and color, are of much interest to architects but are not available on the same machines. There are exceptions, but there is little on this subject in the book.

Gupton's book is written for everybody, but the architect just starting to get interested in computer applications can benefit from it as a very beginning introduction to the subject. The author carefully explains the workings and capabilities of the microcomputer, defining new words and phrases when they first appear. He gently guides the reader through the mysteries of CPU, CRT, RAM, ROM, bits and bytes, software and hardware. The floppy disk (not a hit-of-the-week record) comes in for its share of explanation. Various brands and models of hardware are discussed and illustrated, and the importance of software selection prior to hardware acquisition is stressed.

The section on small business applica-

tions is most worthwhile, as are the glossaries and other appendices. *Robert Allan Class, AIA, Director of the Practice Division at the Institute*

**The Architectural Index for 1979.** Edited and published by Ervin J. Bell, AIA. (Box 1168, Boulder, Colo. 80306, \$12.)

The price of \$12 is small, indeed, for this indispensable reference tool that gives the user a key to the information found in 12 professional magazines, including the AIA JOURNAL. Articles published in 1979 in these periodicals are listed under general building type, location of buildings and architect or designer. General articles are entered under subject—from accessories to zoning. Edited by an architect for use by architects, this publication can serve every architectural office and library—regardless of size. It could save countless hours of trying to find that elusive article you've forgotten the title of.

**Paper Constructions: Two- and Three-Dimensional Forms for Artists, Architects and Designers.** Franz Zeier. Edited by Robert Malone. (Scribner's, \$9.95.)

Through the use of paper, the architect can become more inventive in design, developing the imagination through the organization and combination of paper

forms. This fascinating book tells the user how to fold, cut, score and glue paper, making two- and three-dimensional forms. It covers experiments with flat and multidimensional paper structures, with paper cubes and with grids and forms. Hundreds of design possibilities are explained step-by-step, with an array of illustrations to help use paper as an exciting design aid. The author teaches book-binding, design and creative paper courses at the Zurich School of Art and Design and has had numerous exhibitions of his work in Europe.

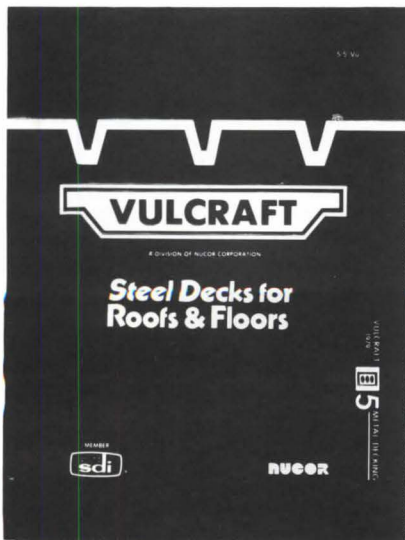
**Trees in Urban Design.** Henry F. Arnold. (Van Nostrand Reinhold, \$24.50.)

Henry Arnold believes that cities are nuclei of culture "where human life can be nurtured and protected." A better human habitat can be created, he says, if city materials, including trees, are used to shape urban environments. He sees no need to create urban parks in imitation of rural nature to be used as means of escape from city pressures. Far better, he thinks, to use trees throughout the city for the reinforcement of urban spaces.

Arnold recommends that trees be used in units rather than scattering them around without regard to their intrinsic and evolutionary requirements. He ex-

*continued on page 90*

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Electrical Energy Views  
from The National Electrical  
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Volume IV, Number 2

**I**s electricity aiding growth,  
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There are some things that only electricity can do. Like lighting interior and exterior darkness for improved productivity and safety, powering motors that drive air conditioning and heating, energizing computers and office machines, operating countless tools and process equipment, and making living more pleasant with all sorts of consumer appliances from stereos and television sets to vacuum cleaners. Look at all the products and services using electricity. Chances are the ones you'd be willing to do without consume very little power. In addition to these necessities, there are many other things that electricity can do in commerce and industry.

And, even more important, today only about 30% of electricity is generated from scarce oil and gas resources. That percentage will decrease even further in the future as coal and nuclear generation expand, helping to reduce demands for importing oil and natural gas.

Because electricity is so efficient, can be generated from many different sources and has unlimited applications, it has been the prime mover in offsetting the dramatic OPEC oil price increases and in sustaining worldwide economic growth since 1973. This was clearly shown in data compiled by the United Nations, analyzed by Fremont Felix of Gibbs and Hill, Inc., and reported in the

November 1, 1979 edition of *Electrical World*.

Of 165 countries analyzed, 13 actually reduced their per capita use of energy while increasing their per capita gross national product (GNP). Energy conservation substantially contributed to these desirable results. But, their growth in per capita GNP was followed very closely by growth in per capita use of electricity. Among the 21 countries that achieved the highest average growth in per capita GNP, annual electricity consumption in kilowatthours per capita increased 6.0% while total energy use per capita increased only 3.8% annually.

Unfortunately, the annual United States per capita GNP growth of 1.7% was far below the best international average of 5.3%. But even here electricity has been fueling all of the expansion. There was a net decrease in nonelectric U.S. energy consumption between 1973 and 1977. Such conservation was made possible because electric utilities added 140,000 MWe of new generation capacity during that period. This greatly alleviated the economic disruption, unemployment, and inflation that otherwise would have been much worse. Annual U.S. electricity production has been following economic output very closely, while the change in total energy use per capita has been growing slower than total economic expansion. All these facts support the idea that increased use of electricity has been rescuing us and most of the world from the shaky energy balance following the international oil embargo.

As our energy needs continue to grow, electricity must continue to come to the rescue. Between 1973 and 1977, electricity supplied 72.5% of the world's additional energy needs. So, choosing electricity for up to 75% of the incremental addition to total U.S. energy needs would be a reasonable goal.

The incremental cost of additional electricity has been outpaced by the increasing costs of fossil fuels. Were it not for OPEC price increases for oil, the U.S. kwh price for electricity would be continuing the downward trend it followed until 1972, according to Gibbs and Hill, Inc. As OPEC prices continue to skyrocket, the cost gap probably will widen on a BTU basis, emphasizing the advantages of swinging our economic expansion toward electricity even more. By replacing oil and gas electricity generation with more coal and nuclear power, we could save an estimated \$10 billion annually to

offset the drain of U.S. dollars to OPEC.

It is time to recognize the potential for electricity to aid the United States in solving our problems of inflation, economic stagnation, and declining productivity. If you would like to help and are engaged in designing and specifying of building electrical construction or remodeling, write and ask to receive the quarterly *Electrical Design Library*. The EDL is a non-promotional, information-packed publication containing the latest electrical applications and recommendations for improved system performance. It is provided free of charge, compliments of professional electrical contractors throughout the country.

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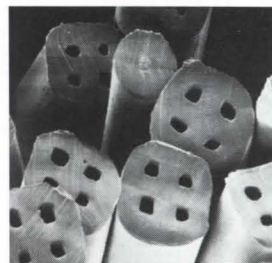


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**Books from page 86**

plains in readable prose the characteristics of tree growth, describing the relationships of trees to buildings and streets. In stressing the design considerations to be taken into account in selecting trees for urban spaces, he gives many examples in more than 200 drawings and photographs of branch structures of prototypical trees not in leaf, repeating the examples in a variety of contexts to point out varying design principles. He gives attention to esthetic and cultural criteria in the selection of trees for urban spaces, providing as well practical information on such matters as tree management and maintenance, root growth requirements

and policy obstacles to the planting of trees.

Arnold is an experienced landscape architect whose book is recommended to all concerned with the urban environment. His message that "human artistry can improve on rural nature" without resorting to "copying" is a timely one.

**Keck & Keck, Architects.** Narciso G. Menocal. (Elvehjem Museum of Art, University of Wisconsin, Madison, Wis. 53706, \$10.)

This is the catalog prepared for an exhibition of the work of solar architects George Fred and William Keck at the University of Wisconsin's Elvehjem Mu-

seum of Art. Native sons of southern Wisconsin, the Kecks have appeared in books and articles recently because of their early contributions to solar architecture (see Dec. 1979, p. 48). The museum was fortunate in preparing the exhibition in that the State Historical Society of Wisconsin houses the archival materials of the firm.

The introduction to the catalog, prepared by Narciso G. Menocal, an associate professor of art history at the University of Wisconsin in Madison, describes the overall contributions of the Kecks, describing how in February 1933 when the House of Tomorrow was under construction for the Century of Progress Exhibition in Chicago, the workmen were comfortable in shirt sleeves. "It was then that the idea of heating a house by means of a 'greenhouse effect' occurred to him" (Fred Keck).

The Keck brothers went on to build their first solar house in 1935—the Wilde residence in Watertown, Wis. The catalog contains descriptions, photographs and plans of their designs over the period of 1926 to 1973.

**Solar Energy in Buildings.** Charles Chau-liaguet, Pierre Baratsabal and Jean-Pierre Batellier. Translated by Joan McMullan. (Wiley, \$24.25.)

Three Frenchmen have joined in the authorship of this book for the architect and engineer which is aimed at bringing theory and practice closer together. "If one wishes to make a start in bridging the gap between pure science, architecture and building services, where better to begin than in France?" asks the anonymous writer of the preface. He or she points to the fact that the French had an interest in solar power even before Descartes and "have had a record of developing alternative energy systems ahead of the rest of the world."

The authors begin with an overview of what solar architecture is, citing examples in nature and in so-called traditional architecture. They cover the general principles of solar architecture, discussing among other things the laws of radiation, measurement of solar radiation at ground level, meteorological data for a given site and local geography.

Chapters follow giving detailed information on thermal data and design concepts. Another chapter gives practical examples of solar building, with three of the seven examples cited in this country. The examples outside the U.S. are houses in France and the Swedish Royal Academy in Capri, Italy. For each example, there are data on such matters as climate, collectors, storage, control, performance.

The final two chapters deal with economic data and legal problems posed by  
*continued on page 92*

# Granite.

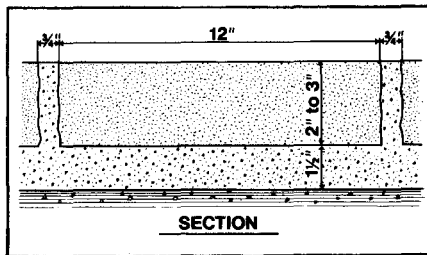
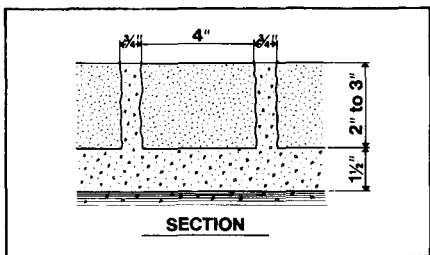
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Circle 86 on information card

**Books from page 90**

solar energy use. The authors conclude that the "development of solar technology is justified and reinforced by the desire for national energy sufficiency, but solar energy seems best suited to answering the problems of energy supply at the family, rather than the national level, or, at best, being used to supply several families." To find a solution at the town level, they say, all the energy flows in and out of the town would have to be considered. If this were possible, we might find the answers to the problems facing us, they say.

**The Mansions of Long Island's Gold Coast.**

Monica Randall. (Hastings House, \$27.50.)

Monica Randall begins this book by saying that some of the most lavish parties in American literature were given by Jay Gatsby on his estate on Long Island's North Shore. Described in F. Scott Fitzgerald's *The Great Gatsby*, the mansion that was his inspiration was bulldozed, as were many others, and the houses that have been spared are usually inaccessible to the general public. These magnificent mansions were commissioned by the Vanderbilts, the Guggenheims, the Woolworths, the Morgans.

In this book, Randall brings these treasures to us all. There are 265 color

and black and white photographs that she has taken over the past 15 years, often just before the wrecking crew arrived. She takes the visitor on a visit to 45 of the mansions, describing the social life of the people who lived in them and discussing the architectural features of the interiors and exteriors of these impressive manor houses. As director of the North Shore Preservation Society, she is well versed on her subject.

**Homes in the Earth.** Larry S. Chalmers, AIA, and Jeremy A. Jones, AIA. (Design Concept Associates, N. 14 Howard St., Spokane, Wash. 99201, \$9.95.)

The architect authors of this book say: "It is our hope that the designs shown in this book will inspire still other thoughts in the reader for their own home in the earth. Permission is given to all other architects, designers and builders to use any of the ideas and plans . . . under their own responsibility." This is not only a book of designs, but a statement of the belief that this type of structure has an important place in meeting housing needs during an energy-scarce period.

There are 40 examples of earth sheltered housing, including such intriguing titles as triangle cabins, tunnel home, snail plan, atrium mound plan and radiating plan. This nicely drawn compendi-

um of design ideas for earth sheltered housing will be useful to any architect interested in designing in the earth.

Michael B. Barker, AICP, Administrator, AIA Department of Practice and Design.

**Construction Glossary: An Encyclopedic Reference and Manual.** J. Stewart Stein, AIA. (Wiley, \$60.)

This comprehensive reference work for architects, engineers and contractors and for others concerned with construction, such as government officials and appraisers, is a valuable tool, guiding the user through specifications language, code interpretations, multiple meanings of construction terms and other matters pertaining to construction. Written by an architect and construction specifier who draws upon years of experience and research, the book is organized into the 16 divisions of the Construction Specifications Institute's Masterformat and the Uniform Construction Index's specifications format. Two other divisions are also included: professional services and construction and technical, scientific and related data.

In addition to an index of 182 pages, there are reference data sources, abbreviations for terms and tables of weights and measures for both the U.S. and the metric systems.

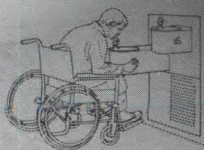
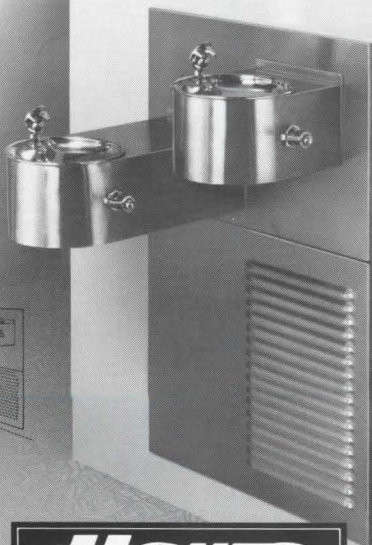
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There is a wholesome alternative to compulsory standards. The alternative is *voluntary standards* in which representatives of consumers, users, industry and government sit down at a table as *equals* and agree among themselves on what is best for the common good.

This is precisely the process that has taken place at NSF for 35 years. NSF standards for many kinds of products associated with the public health have been generated *voluntarily* in NSF conference rooms in Ann Arbor. Government has often been represented by the EPA, the FDA, the USPHS, the Armed Forces of the United States, the Institutes of Health and

many other departments. Representatives of such agencies sit at the NSF table as co-participants in negotiations with industry leaders and such health-oriented organizations as the Conference of State Sanitary Engineers, the American Public Health Association and the National Environmental Health Association. Also at the table are public-minded representatives of major trade associations such as the National Restaurant Association, the Society of the Plastics Industry and the National Swimming Pool Institute.\*

Aiding them in the process of standards development are neutral NSF meeting leaders whose sole interest is an agreement that will benefit the public health.

Standards resulting from such round table negotiations represent balanced, equitable, *voluntary agreement* of government, industry, consumer and user.

This is the American way of doing things, and NSF is proud to be a part of the process.

*\*Other agencies and organizations represented in NSF standards development include U.S. Army Environmental Hygiene Agency, Veterans Administration, Dept. of Housing and Urban Development, National Park Service, Food Equipment Manufacturers Assn., Food Equipment Distributors Assn., National Assn. of Food Equipment Manufacturers, American Dietetic Assn., American Society of Sanitary Engineering, International Assn. of Milk, Food and Environmental Sanitarians, Underwriters Laboratories, Conference of Local Environmental Health Administrators, Assn. of Food and Drug Officials of the U.S., International Society of Food Service Consultants, American School Food Service Assn., Food Facilities Consultants Society, National Assn. of College and University Food Services, American Water Works Assn., International Assn. of Plumbing and Mechanical Officials, and Assn. of State and Territorial Health Officers.*



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Circle 89 on information card

## BRIEFS

**The 1980-81 president of the American Consulting Engineers Council** is Everett S. Thompson, president of the Grand Rapids, Mich., firm of Williams & Works. William R. Ratliff, senior vice president of Turner, Collie & Braden, Houston, is president-elect.

**Sir Peter Shephard, Hon. FAIA**, has been knighted by Great Britain's Queen Elizabeth II, in recognition of his "services to architecture." He is now professor of architecture and environmental design at the University of Pennsylvania, where he served from 1971 until last year as dean of the graduate school of fine arts.

**Harry Weese, FAIA**, of Chicago has been awarded an honorary doctor of arts degree by Chicago's Columbia College.

**Charles F. McAfee and Ronald Fanning** each won winner and runner-up trophies in the fourth architects national tennis matches held in Cincinnati prior to the opening of the AIA convention. The one-day, open round-robin tournament was sponsored by Olympic Stain. McAfee defeated Fanning in the singles finals, and then, with Marshall E. Purnell, lost in the doubles to Fanning and Dick Miller.

**Women are entering the field of engineering** in unprecedented numbers, according to the Engineering Manpower Commission. In 1974, there were 744 women among 41,407 engineering graduates; in 1979, there were 4,714 women among 52,598 graduates.

**The National Sculpture Society** has awarded its Henry Hering medal for "outstanding collaboration between architect, owner and sculptor in the distinguished use of sculpture in an architectural project" to Julian H. Harris, FAIA, as sculptor; Tom Collum as architect, and O. Ray Moore as owner, for the American Security Insurance company's headquarters building complex in Atlanta. A sculptured eagle by Harris is the building's focal point.

**Minoru Yamasaki, FAIA**, of Bloomfield Hills, Mich., is the recipient of a 1980 book award, presented by Gov. Dixy Lee Ray of Washington state. He is honored for his autobiography *A Life in Architecture*. The awards program is sponsored by the state library commission and Friends of the Washington Libraries Foundation.

**The Society of Architectural Historians** has presented its Alice Davis Hitchcock book award for the "most distinguished works of scholarship in the history of ar-

chitecture published in North America during the preceding two years" to *The Framed Houses of Massachusetts Bay, 1625-1725*, by Abbott Lowell Cummings, and to *Paris: A Century of Change, 1878-1978*, by Norma Evenson.

**Gary T. Moore**, director of the environment-behavior research institute at the University of Wisconsin-Milwaukee, has been elected chairman of the Environmental Design Research Association.

**The 31st architecture and gardens tour of Japan**, planned and directed by Kenneth M. Nishimoto, AIA, will depart on Oct. 9 from California. The 22-day tour is designed specifically for architects and allied professionals. Contact: K. M. Nishimoto, AIA, 30 N. Raymond Ave., Pasadena, Calif. 91103.

**A new space for the exhibition of architecture** in New York City has been inaugurated at 369 Lexington Ave., a restored 28-story office building. Provided by real estate developer and art collector Harry Macklowe, the space for the presentation of drawings, photographs and other documentation is incorporated into the neo-Palladian lobby, designed by Stephen B. Jacobs Associates. The first exhibition is on "Manhattan Town Houses: Richard Meier/James Stirling."

**Konrad Wachsmann**, emeritus professor of architecture at the University of Southern California's school of architecture, is the first recipient of the Richard Neutra medal from the department of architecture, California State Polytechnic University at Pomona.

**"The Nation Builds for Those Who Served"** is the title of an exhibition at the Pension Building, Washington, D.C., which celebrates the Veterans Administration's 50th anniversary, taking a look at the architectural diversity of its buildings. The exhibition runs through Aug. 29.

**Henry N. Cobb, FAIA**, a founding partner in the New York City firm of I. M. Pei & Partners, has been appointed chairman of the architecture department, Harvard graduate school of design. He replaces Gerald M. McCue, FAIA, who has become dean of the school.

**The American National Metric Council** has elected Robert B. Kurtz, senior vice president of General Electric, as chairman of its board of directors.

**A second catalog of slide/tape talks by architects** (see Nov. '79, p. 19) is available from Monica Pidgeon, 5 St. Anne's Close, London N6 6AR, England.

**"Guidelines for Improving Practice,"** a series of loss prevention publications for architects and engineers, is available at no cost to professionals insured through Schinnerer, and to others at a subscription fee. Contact: Victor O. Schinnerer & Co., 5028 Wisconsin Ave. N.W., Washington, D.C. 20016.

**The American Association of Engineering Societies** has been formed with more than 38 member organizations representing almost a million engineers. The coordinating organization is "dedicated to improving the profession, advancing science and technology and the unified application of a broad range of expert knowledge to increasingly interrelated problems and concerns of modern society."

**"Handbook of Roofing Knowledge**, a booklet that details the state of the art in roofing technology, is available at an introductory price of \$4 (plus \$1 for shipping and handling) from the National Roofing Contractors Association, 1515 N. Harlem Ave., Oak Park, Ill. 60302.

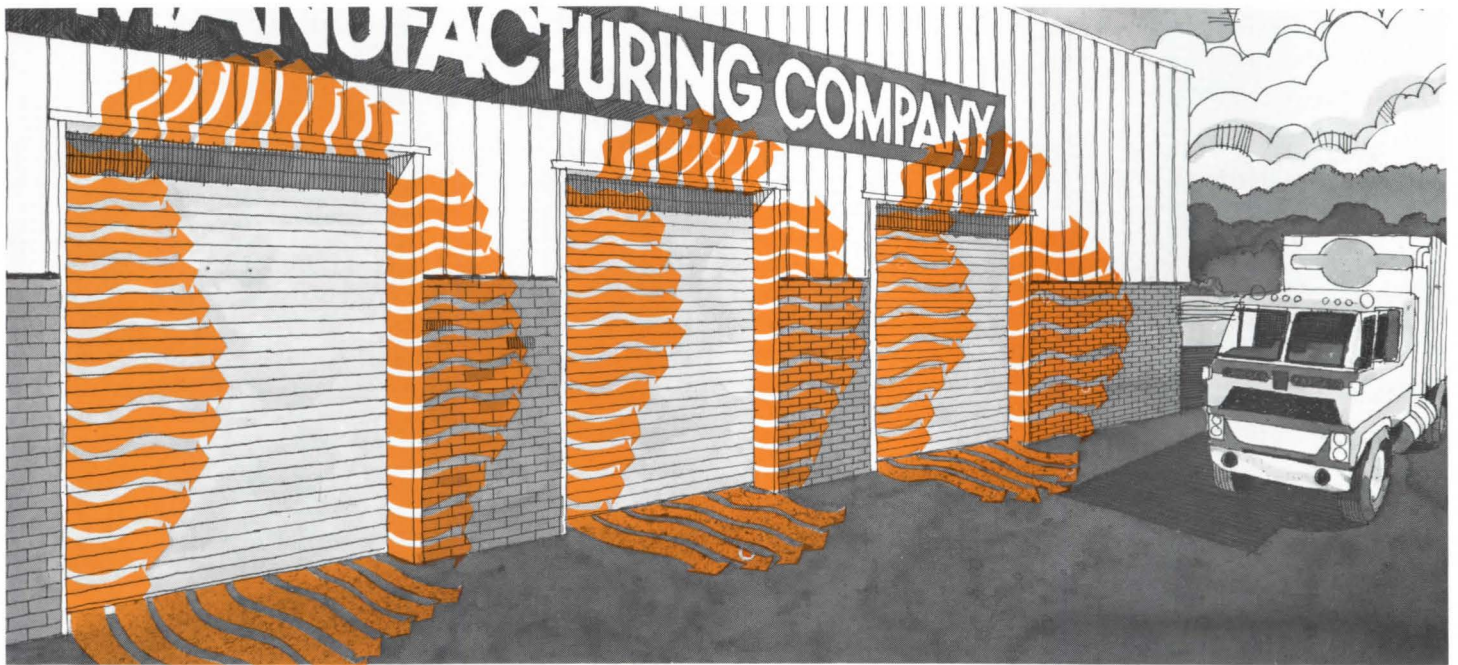
**The AIA Foundation's Octagon committee** has three new members: Charles L. McMurray, AIA, Charlotte, N.C.; Roy E. Graham, AIA, Williamsburg, Va., and William R. Johnston, assistant director of the Walters Art Gallery, Baltimore. The committee advises the professional curatorial staff of the Octagon, a historic house museum in Washington, D.C., owned and operated by the AIA Foundation.

**The National Conference of Lawyers and Environmental Design Professionals** has been formed to provide a forum for the exchange of information and ideas on legal and other matters pertaining to the environment. It was formed as an outgrowth of meetings between the Inter-professional Commission on Environmental Design and the American Bar Association.

**"Code Monitor,"** the first newsletter dealing exclusively with Massachusetts building codes and standards, started publication in February. Published 12 times a year by Herbert Eisenberg, AIA, it is available by subscription to architects and others interested in code changes and developments. For a sample copy and information, write *Code Monitor*, 29 Temple Place, Boston, Mass. 02111.

**Warren Platner Jr., FAIA**, of New Haven, Conn., has received the Rhode Island School of Design's "RISD Athena," an award that annually honors "creativity and excellence in the world of art and design." *Products on page 96*

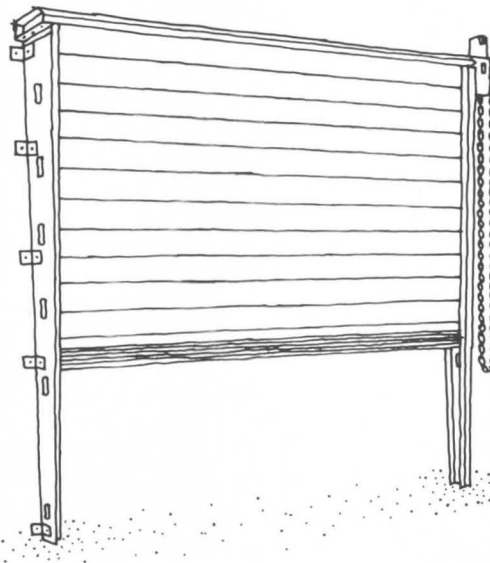
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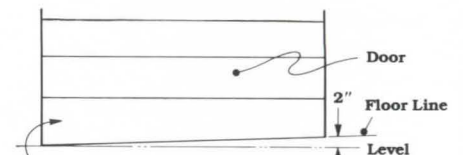
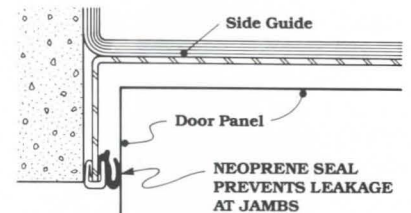
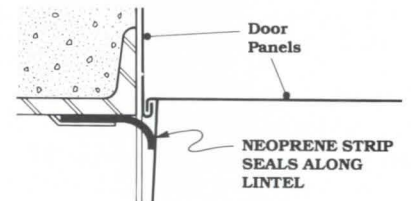
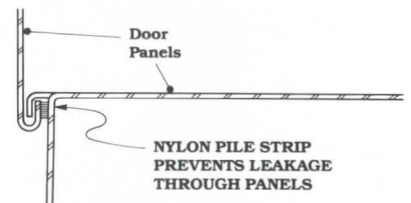
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### Computer Aided Drafting System.

CDA System consists of a DEC LSI-11 computer, Tektronix 4014 graphics CRT, coordinate digitizer, automatic drafting plotter, disc and software for drafting. (DATA TECHNOLOGY, Inc., Woburn, Mass. Circle 178 on information card.)

### Executive Desks, Credenza.

Designed by Irving Lepselter, 380 Sigma and 381 Sigma desks and 382 Sigma credenza are available in wood grains—oak, walnut, teak, English brown oak, pau ferro with oil finish and Carpathian elm burl in natural or dark—with closed pore polyurethane finish. Standard widths for 380 and 381 Sigma are 66, 72 and 78 inches. 380 is 36 inches deep with flush back. 381 is 40 inches deep with conference back. Both are 29 and one-fourth

inches high. The 382 Sigma executive credenza has four equal size compartments that may be fitted with combinations of drawers and cabinet spaces with touch-latch hinged doors. (Stendig, New York City. Circle 174 on information card.)

### Open Office Dividers.

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The completed planning report will be used by local officials in formulating a Program of Action and preparing site specific designs for an upgraded Police Facility System. It is intended that this study be used by architectural designers in the development of construction plans.

Proposals must be submitted by 4:00 P.M., Friday August 15, 1980. Proposers will be invited to make oral presentations to the Consultant Selection Committee in late August. Selection of the contract consultant is anticipated to be finalized by September 2, 1980. The planning study is to be completed by Monday, January 30, 1981.

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Elizabeth Police Department  
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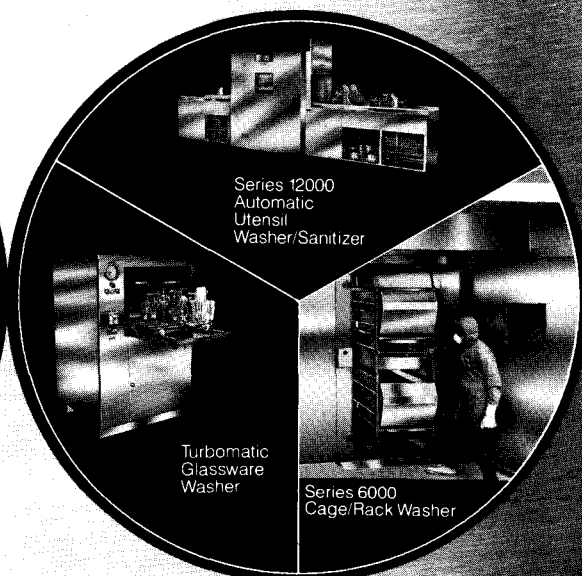
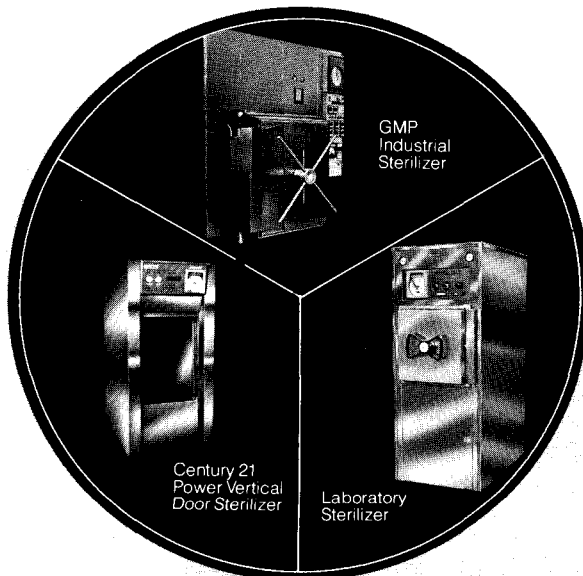
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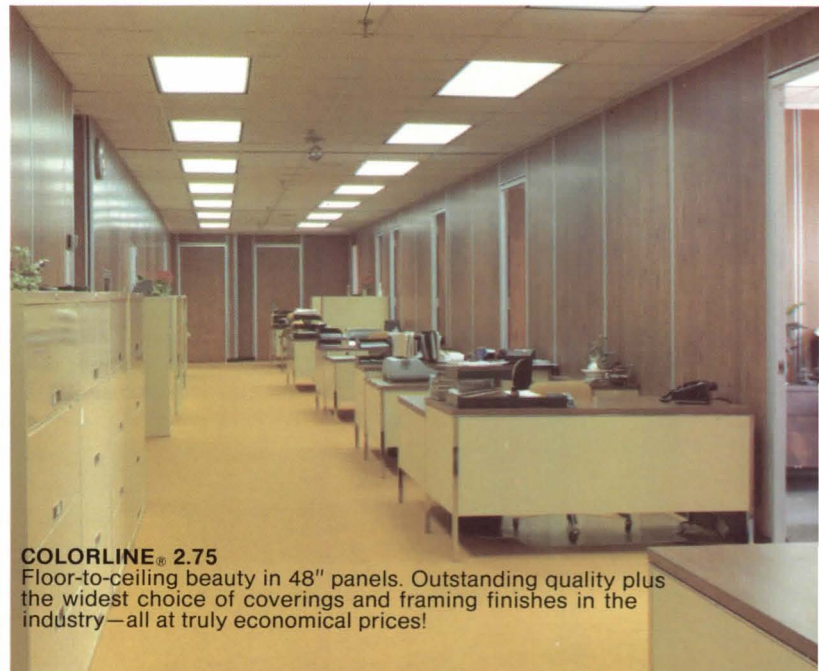
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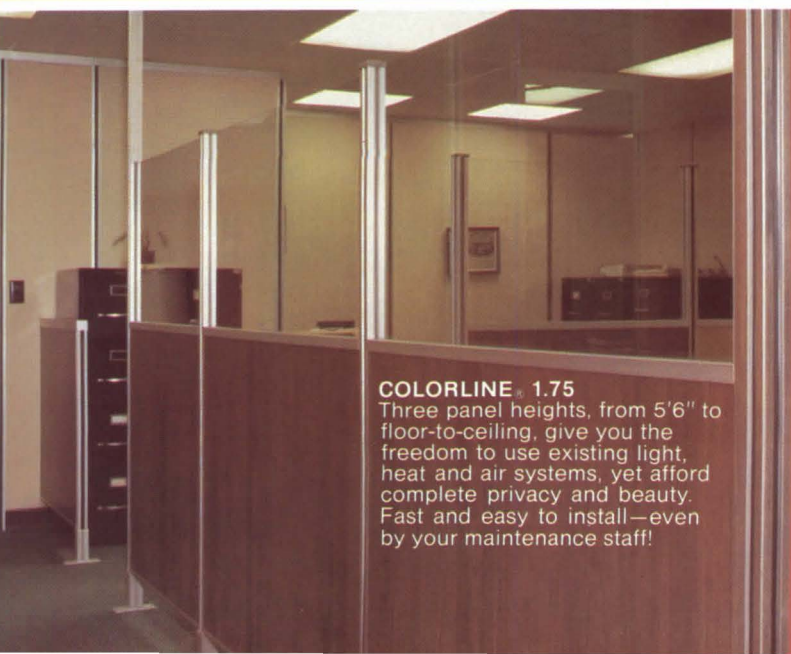
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