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## Rogers at the Economic 'Summit': Inflation and Urban Inefficiencies

Since World War II, this country has spawned an "economic hermaphrodite—half boom and half bust." Some parts of the country and some sectors of the economy are doing well, but an "overlay of a depressed economic sector on a depressed geographic area can cause an economic crunch not experienced since the 1930s." So commented Archibald C. Rogers, FAIA, president of the Institute, in a written statement prepared for a White House "mini-summit" conference on economic problems besetting the housing and construction industry held in Atlanta on Sept. 12. At the invitation of President Ford, Rogers, accompanied by William L. Slayton, Hon. AIA, executive vice president of the Institute, attended both the Atlanta meeting and the later full-scale economic "summit" meeting in Washington, D.C.

One of the major causes of inflation—and one least recognized—is the gross inefficiency of settlement patterns caused by intense urbanization in the U.S. since World War II, said Rogers. The low density of settlement in the dominant suburbs "creates an almost insurmountable gap between public expenditures (primarily capital investment) and the productivity of public services." The gap is widened by the "tendency of these investments to respond to private opportunities rather than public policy," Rogers said.

Also, the suburbs get the major portion of private capital investment and entrepreneurial talent. This leaves the least affluent consumers in the center city, where there are potential efficiencies in settlement patterns, but such efficiencies are offset by the cost-productivity gap in the area of public services.

The affluent segments of society become dependent on imported commodities, particularly oil, and are "vulnerable to a commodity crisis and thus to the acceptance of artificially escalated and highly inflated oil prices," said Rogers. They re-

ject the alternative of "doing without," thus establishing inflated prices for the entire economy.

Rogers declared that the "clearest illustration" of the nature of today's inflation can be found in the construction industry. There has been a surge of capital investment in each of the last several years to put that year's dollars to work before they are eroded by inflation. This has caused



excessive building in some areas because prudent questions were not asked about the competition and the market, which would have been asked in more stable times.

And there has been "regulatory inflation" as well, with many things, such as environmental impact statements and OSHA regulations adding to bureaucratic red tape. It's not the standards promulgated that hurt, said Rogers, but "costly and unproductive prolongation for administrative review," which adds to construction costs.

For short-term action against inflation, Rogers suggested: 1) consideration of selective wage and price controls; 2) selective easing of pro tem restrictions on credit; 3) reduction of federal and public expenditures and/or taxes raised to achieve budgetary balance; 4) special public works programs by federal and state governments aimed at refilling, if only partially, the construction industry pipeline, with emphasis on housing.

For long-term action, he recommended: 1) education of consumers to the importance of resource conservation; 2) a

program of energy conservation, with buildings and communities designed and redesigned for increased energy efficiency; 3) the restoration of a reasonable balance between suburbs and center cities brought about by an increased efficiency of urban settlements; 4) a recycling of the existing built environment, restoring and upgrading the existing physical plant both in center city and suburb; 5) restoration of productivity to the construction industry through an enforced rethinking of codes and ordinances and a reshaping of the industry to capitalize on recycling opportunities.

## Local Emphasis Marks 1975 AIA Program

The Institute's 1975 program and budget—its basic charter for the coming year—was approved by the board of directors at its September meeting in Cincinnati.

"The dominant thrust," said AIA president-elect William Marshall Jr., FAIA, "is the change in emphasis from more national to more local activity supported by Institute services and programs to assist components and members." Marshall said that this emphasis "derives from a sharp realization that the transfer of more decision-making from national to local government will accelerate." He said that AIA's 1975 program and budget "signals a corresponding transition."

To help accomplish it, AIA has completed an in-house analysis of already existing mechanisms and activities, such as Grassroots, component workshops, staff visits and the national convention, so that these events will serve the components with optimum effectiveness.

A reorganization of the Institute affairs department is planned to improve communications and to speed AIA program products to members and components. The 1975 program also envisions the creation of a strong and effective component in every state and a strengthening of present state components.

Many new and expanded programs and

*continued on page 10*

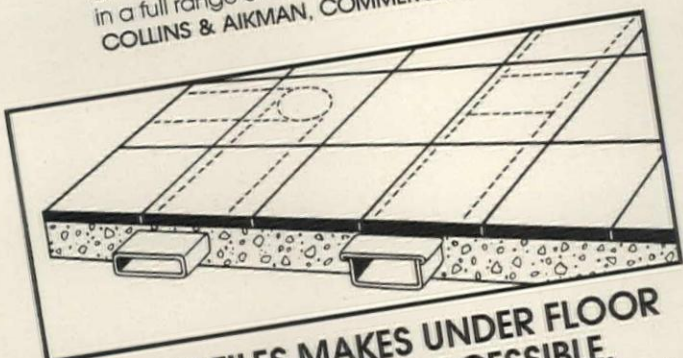
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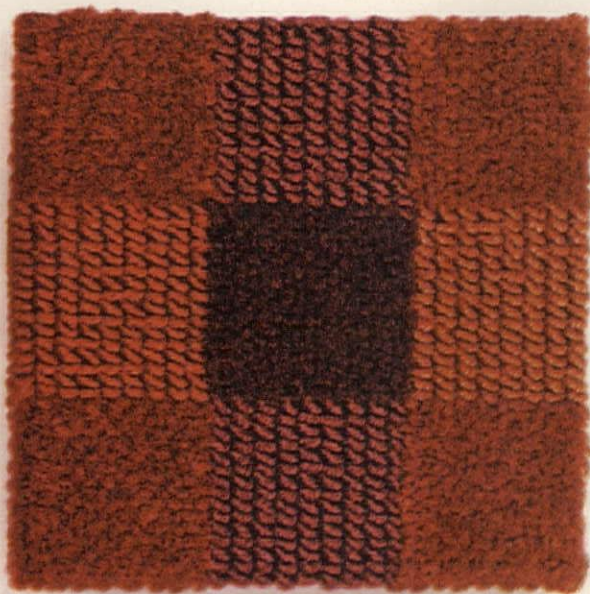
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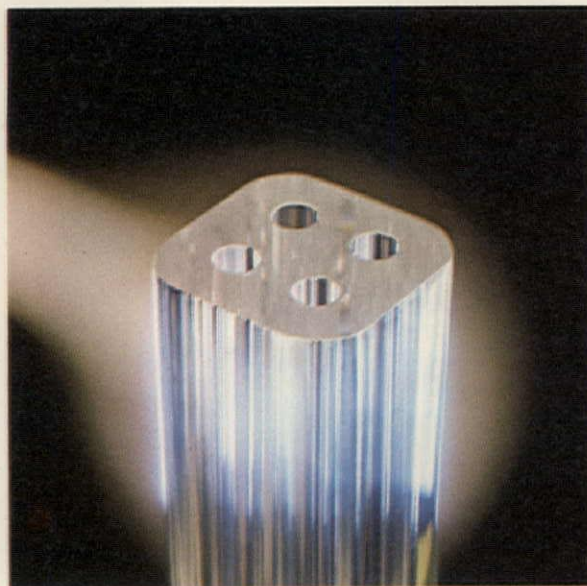


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Going On from page 6

services are included to answer component needs and requests. Among them:

- Increased travel funding for staff visits.
- Increased funds for component workshops and conferences.
- Clearinghouses at headquarters for state legislation and component programs.
- Development of income-producing programs for components.
- Expanded support of the Council of Architectural Component Executives.

The 1975 program also is committed to a "new generation of service systems for architectural firms." A construction cost control system, a life-cycle cost system and compensation calculation methods are scheduled for further development in collaboration with the General Services Administration and others. Support of on-going practice aids and the development of a comprehensive retirement plan also will be emphasized.

The AIA will continue to emphasize energy conservation, having already established an entirely new staff division at headquarters. The new commitment of resources "will provide expanded national leadership in developing accurate awareness and proposed solutions for both broad national energy issues and those specifically related to design of energy conserving facilities."

The Institute also will continue its leadership role in the development of a national growth policy. Its initiative has led to the formation of a national forum on growth policy comprising nearly 50 diverse national organizations, and the Institute expects to continue to "help assert the substantial political influence of these institutions to achieve its goals of a stated comprehensive national policy to control growth and to optimize its potentials." Through its government affairs department, it will continue to work for legislation on growth control, land use and related concerns, as well as to emphasize effective Congressional and federal agency liaison programs, with special emphasis on proper architect selection procedures and enactment of campaign financing reform.

There are other major efforts for 1975, which either do not require substantial funding or are in the category of single programs. Among them: a reorientation of AIA's national advertising toward reaching local decision makers and clients; new emphasis on continuing education programs; continued participation in the writing and control of codes and standards affecting design and construction; and a film on "Today's Architect."

Other highlights of the 1975 program and budget: expansion of the regional/urban design assistance team program; continuation of efforts to assist women in architecture; a study of the architect's role

in industry and in rural housing; and mechanisms to disseminate information developed by national committees directly to the membership.

## Board Acts on Minorities, Data Bank, Ethics

Among other actions taken by the AIA board in Cincinnati were the following:

- Endorsed the action and direction of the planning and executive committees with respect to the continuing development of a national man-hour data bank as an aid to cost-based compensation. Robert E. Fehlberg, FAIA, reported that in June representatives of Western states and of the national AIA met in Spokane where it was agreed that the "man-hour data bank-West" program would continue as a pilot project for the national concept. The board approved a \$15,000 loan to the Western program and a \$3,800 fund for a national task force and study to assure compatibility with the existing computerized financial management system program. The task force, whose chairman is up-coming Vice President Carl J. Bradley, FAIA, will report to the board in December on the applicability of the Western program to a national one and on a recommendation of alternatives for the implementation of a national system.
- Passed a resolution that the bylaws be revised as follows (new text italicized): "A corporate member may resign if he is in good standing and is not under charge of unprofessional conduct *and has not been formally notified that he is under investigation by the national inquiry committee for alleged wrongdoing.*" The board also resolved that the rules of the board relating to the establishment and work of the national inquiry committee be incorporated into the bylaws of the Institute. A report was presented by F. Carter Williams, FAIA, chairman of the committee, who said that since its establishment in May, it has had under study 15 cases of alleged misconduct, four of which have been dismissed unless additional evidence is found and three of which are pending further evidence.
- Passed a resolution submitted by Van B. Bruner Jr., AIA, which states, in part, that the Institute "will expand its existing programs of minority resources to the fullest as well as to embark upon new, innovative programs." The board also passed a resolution submitted by Robert A. Burley, AIA, that calls for a proposal for continuation of the minority/disadvantaged scholarship program on a permanent basis to be presented to the board in December; for guidelines to be prepared and disseminated for affirmative action programs at the component and individual firm levels; and for each regional

director to submit a written report prior to the December board meeting that will describe the status of minority awareness programs in each region and will make specific proposals for achieving the goals more effectively on a national basis.

- Approved chartering of the Redwood Empire Chapter (Calif.) and the Northern Virginia Chapter (formerly the Northern Virginia Section of the Washington Metropolitan Chapter).

## AIA Expresses Concern Over Energy Standards

A position statement on standards for energy conservation, recently developed by the AIA energy steering committee, has been adopted by the executive committee. The statement calls for vigorous support of broad incentives to conserve energy in buildings.

The statement declares, however, that the "AIA is concerned over the tendency to rush toward mandatory adoption of prescriptive energy conservation standards in building codes or other governmental regulatory documents." The paper opposes as "prescriptive" the standards that are currently being developed by the American Society of Heating, Refrigerating and Air-Conditioning Engineers. Although labeling the ASHRAE proposed standards as a good compendium of engineering considerations, the position statement cautions against their translation into rigid legislation, which would serve only to throttle the needed advance of technology that is at present grossly below its full potential.

The position paper says that "prescriptive standards do not treat the basic cause of energy waste: namely, that existing financial and tax processes actually provide more economic incentives to waste energy than to save it." Other reasons given for opposition to prescriptive standards are that such proposed standards cover only new construction and are not addressed to the operation and maintenance of systems—a vital element in long-term conservation—and that the "legal status of these prescriptive standards appears somewhat ambiguous, since they do not deal with clear threats to the health or safety of the individual or to the public welfare."

Through the energy steering committee, the AIA is developing additional recommendations for legislation that will encourage the development of the full potential of energy-efficient buildings.

Joseph A. Demkin, AIA director of the Institute's energy programs, says that investigations are underway on alternative approaches that would provide the needed flexibility to achieve innovation. He cites

*continued on page 17*

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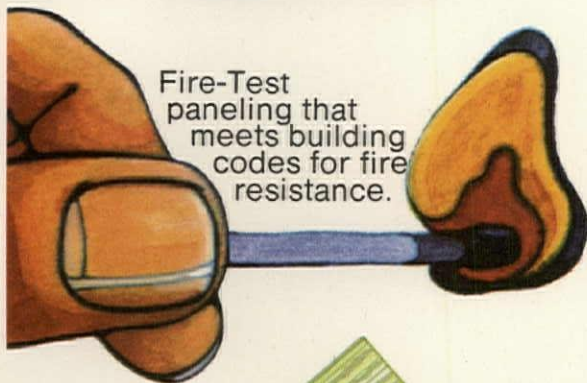


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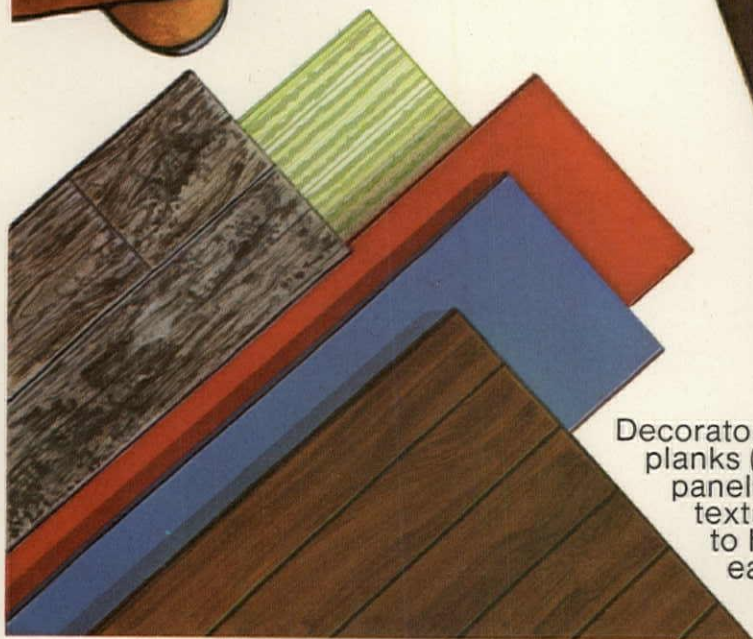
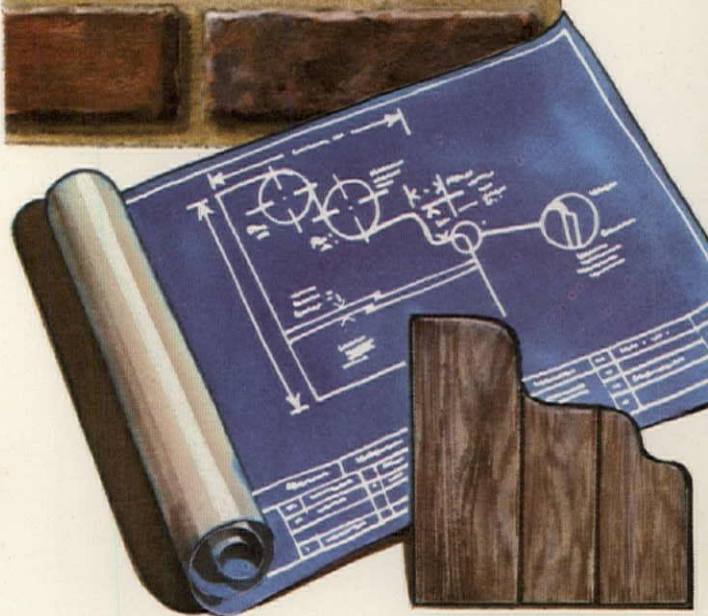
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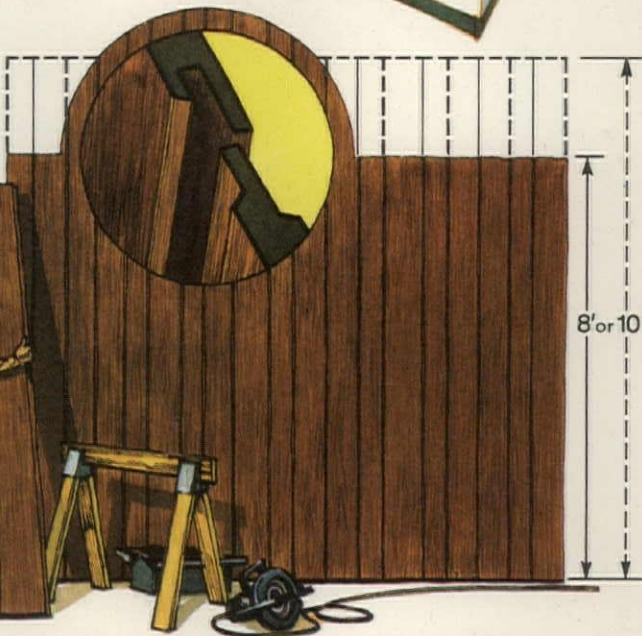
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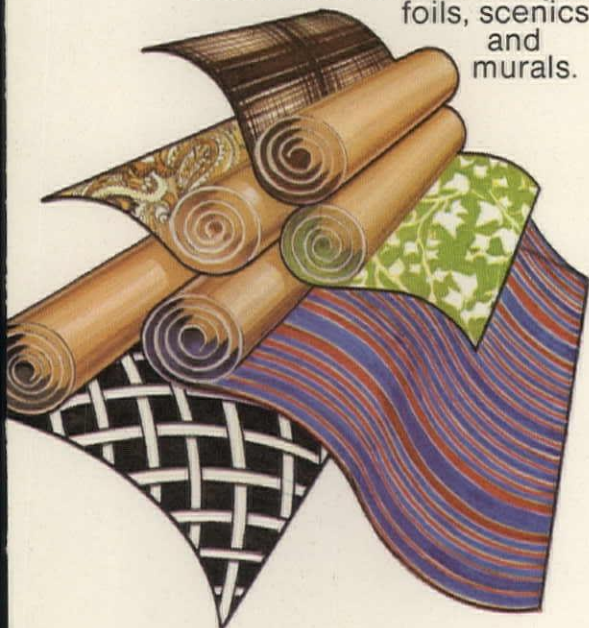


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as an example the General Services Administration's tentative annual energy consumption budget, currently being developed by the AIA Research Corporation. Demkin says that another flexible approach is being developed for consideration in Ohio which will establish energy budget allotments for all classifications of buildings. He emphasizes that this approach is actually a "power budget" that limits the sizes of equipment required to control the interior environment, but permits the building designer to have complete freedom in the design of all building subsystems. The big task in the budget approach, he adds, is coming up with the budgets themselves since they are affected by a multitude of variables.

## Glass Safety Standards Under Development

"To date, 33 states, three model building codes and several federal agencies have determined that annealed architectural glass in areas such as patio doors and shower doors, tub enclosures and other hazardous locations in a residential or commercial structure represents an 'unreasonable' hazard to consumers," says W. Jeff Keirns, chairman of the Consumer Safety Glazing Committee. The committee was formed in 1969 by manufacturers, labor, public interest groups and trade associations to promote glass safety standards throughout the nation. Keirns says that about 70 percent of reported injuries involving annealed glass in hazardous areas appear to involve children.

In an effort to extend uniform consumer protection to residents of each state, the committee has accepted an offer from the Consumer Product Safety Commission, a federal commission established in 1972, to develop federal safety standards for architectural glass products.

Keirns says that the committee will review existing data to determine if architectural glass used in such products as picture windows creates high consumer risk potential. It will identify causes of accidents and record repetitive or similar causes of injury in architectural glass-related accidents. After a number of subcommittees have compiled basic information in the development of the proposed federal standards, final conclusions will be formulated concerning risk of injury, need for a particular standard, type of standard, testing of products, consumer needs and economic and ecological ramifications.

Those who wish to express an opinion on safety standards for architectural glass should contact M. N. Zeolla, project manager, CSGC, 1 Gateway Center, Pittsburgh, Pa. 15222.



*In Lynchburg, Va., "city of seven hills," it once took the agility of an Alpine goat to climb concrete steps to precipitously cited public buildings. Then the city commissioned architects at Wiley & Wilson, Inc., to design an outdoor public elevator. It lifts pedestrians 60 feet from one street level to another, connecting to a bridge that opens on a parking lot adjacent to the courthouse and new government complex. It beats the 139-step climb and adds a new dimension to the downtown.*

## Energy Conservation Guide for Industry

The Ford Administration will rely on voluntary efforts rather than mandatory minimum energy efficiency standards in the conservation of energy, said Secretary of the Department of Commerce Frederick B. Dent at a recent press conference. At a meeting of the National Industrial Energy Conservation Council, he also announced the development of a new energy conservation system to achieve significant energy savings that can be used by small and medium-sized companies, as well as corporate giants.

The new system is the "Energy Conservation Program Guide for Industry and Commerce" (EPIC), prepared by the National Bureau of Standards in cooperation with the Federal Energy Administration. "A conservative estimate," said Dent, "is that through implementation of this energy saving system, an average of at least 10 percent savings could be achieved in industry, which now accounts for 43 percent of all energy consumed nationally." He also claimed that the system could help fight inflation and decrease environmental pollution.

With top management commitment, a firm that embarks on the EPIC system could have its program underway in two weeks, Dent said. "Initial measures taken

might include simple changes in plant maintenance and operation practices, such as reducing unnecessary lighting, planning production schedules to minimize energy use and improving quality control to eliminate waste in processing."

An audit and survey of energy wastes should be completed and resulting savings reported within three to six months, Dent said. Within 12 months, participating firms "should expect to experience energy savings of at least 10 percent."

The guide outlines ways to establish energy conservation programs and provides a comprehensive list of 180 "energy conservation opportunities," which have been used successfully by industry to reduce energy consumption.

Available in loose-leaf form, the guide includes graphs, tables and sample calculations from which a company can estimate its potential for saving energy and reducing costs. Copies of EPIC, NBS Handbook 115, may be obtained from the U.S. Government Printing Office, Washington, D.C. 20402 (order by Catalog No. C13.11:115). The cost is \$2.50 per copy.

## Amendments to Highway Beauty Program Opposed

The AIA is opposed to many of the amendments to the Highway Beautification Act of 1965 that are contained in the Federal-Aid Highway Act of 1974 (H.R. 16093). The amendments, sponsored by Rep. Jim Wright (D-Tex.), a member of the transportation subcommittee of the House public works committee and chairman of the highway beautification commission, are considered by the AIA to be detrimental to the beautification program.

Support is given by the AIA to a final version of the bill that would contain authorization for the highway beautification program, amended to provide funding for the next three fiscal years from the Highway Trust Fund rather than the general treasury; and it supports a single amendment that would extend the 660-foot nonadvertising zone to a corridor of "visibility" rather than one of specific distance. The House public works committee, now meeting to mark up H.R. 16093, has largely ignored a separate bill (H.R. 14047), which contains improvements to the Highway Beautification Act and is endorsed by the AIA.

Among the amendments to H.R. 16093 that are opposed by the AIA are:

- An extension of the outdoor advertising and junkyard control provisions to federal aid urban systems, which would provide federal protection and compensation to urban advertisers now subject to strict local controls.
- Expansion of the category of directional

*continued on page 72*

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# AIA JOURNAL

In designing furniture, says Charles Eames, "I like to think of myself officially as an architect. I can't help but look at the problems of structure—and structure is architecture." Oskar Schlemmer, writing from the Bauhaus in 1922, said: "A piece of furniture today should be a work of art in its entire structure and not a skeleton to which a little art has been added."

This issue of the JOURNAL is devoted entirely to furniture as architecture—furniture as an act of design that can become a work of high art.

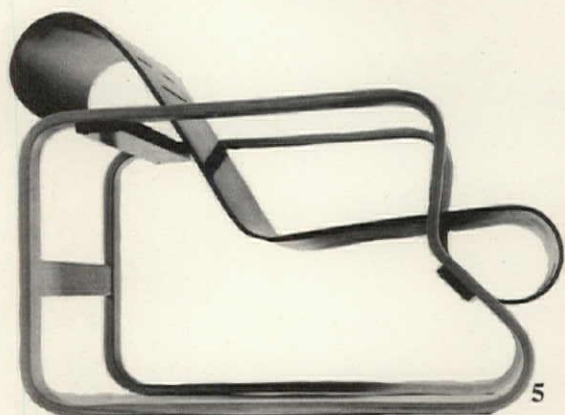
Indeed, when we think of furniture in this way, the images that come to mind are pieces that were designed by architects—in the Bauhaus and later by the likes of Aalto and Saarinen.

By the early 1950s, the stream of architectural interest in furniture design had begun to run dry. In the ensuing generation "modern" furniture largely meant a limited collection of classic pieces that were used again and again.

Then came the Italians, dramatically and startlingly reminding the architectural community of the structural, formal and even whimsical possibilities inherent in furniture design.

This issue therefore strongly (but not exclusively) emphasizes the Italians and their pervasive influence. It also heavily concentrates on seating. "The only real furniture design problem is the chair," contends Arthur Drexler. "Everything else can be made part of the building." Andy Leon Harney





**Classics or clichés?** Clearly they are both, these remarkable objects (some of them, like the Thonet chair on the preceding page, dating from the mid-19th century and many from early in the 20th) that have so dominated the contemporary furniture scene.

**Andy Leon Harney**, a Washington writer and editorial consultant and frequent contributor to the *Journal*, served as co-editor of this issue. All articles not otherwise by-lined are by Ms. Harney.

The furniture of the Bauhaus and its followers, of course, has been most dominant of all. Pieces stemming from the Bauhaus relied on mass-produced geometric precision—largely unupholstered form-follows-function designs such as Breuer's Cesca chair (1) and Wassily chair (2). In writing about his early tubular pieces Breuer said: "I already had the concept of spanning the seat with fabric in tension as a substitute for thick upholstery. I also wanted a frame that would be resilient and elastic. The combination

of elasticity of members in tension would give comfort without bulkiness. I also wanted to achieve transparency of forms to attain both visual and physical lightness. Mass production and standardization had already made me interested in polished metal, in shiny and impeccable lines in space as new components for our interiors. I considered such polished and curved lines not only symbolic of our modern technology, but actually technology itself."

Most of the well-recognized contem-



6



7



8

porary furniture designs have evolved from an architect's concern for a total environment, such as Mies' famous 1929 Barcelona chair (4). This same concern prompted Finnish architect Alvar Aalto to design his molded plywood armchair for a tuberculosis sanatorium in 1930 (5). Twenty years later, Hans Wegner's Wish-bone chair (3) launched another Scandinavian design tradition that continues.

In America, Charles Eames, along with Finnish architect Eero Saarinen, began in the early '40s to develop another direction

in manufactured furniture, borrowing the concept of molded plywood from Aalto. In 1941, Eames and Saarinen entered a design for a molded plywood dining chair (6) in a Museum of Modern Art competition titled "Organic Design in Home Furnishings." The chair won first prize and was manufactured for the mass market in 1946 by Herman Miller. From there Eames went on to create a more sculptural molded polyester chair in 1950, originally conceived as an all steel or aluminum design achieved by metal

stamping. In 1971, Eames used a variation of the molded polyester chair and combined it with a formed-in-place urethane foam padding to make an upholstered office pedestal chair.

Another Eames chair designed in 1950 of molded polyester has since become so common in public facilities such as dining halls, schools and waiting rooms that its freshness of concept has faded into a blur of stacked and systems seating.

While Eames was exploring the possibilities of molded polyester shells for seat-



ing, Saarinen was exploring the pedestal design leading to a series of seats and tables (7) which have also taken their place in everyman's environment. "As to pedestal furniture," said Saarinen, "the undercarriage of chairs and tables in a typical interior makes an ugly, confusing, unrestful world. I wanted to clear up the slum of legs, I wanted to make the chair all one thing again."

Harry Bertioia explored seating from another perspective, that of a sculptor. "In chairs many functional problems have

to be established first . . . but when you get right down to it," says Bertioia, "the chairs are studies in space, form and metal, too."

"The chair," continues Bertioia, "has a lot of little diamond shapes (8) in its wire cage, and they all add up to one very large diamond shape, and this is the shape of the whole chair. It is really an organic principle, like a cellular structure."

Eames combined sculpture, technology, shell and pedestal into his popular upholstered lounge chair and ottoman in

1956 (9). The chair's gathered leather upholstery foreshadowed the use of leather gathered over foam by the Italian designers Afra and Tobia Scarpa in the Soriana chair (11). Similarly, Le Corbusier's 1930 leather pillow armchair embraced by chrome (10) foreshadowed the Scarpas' use of exposed chrome structural elements in the Soriana chair. Mario Bellini's "932" chair (12) mirrors Corbusier's use of rectangular cushions to form a chair, substituting a leather panel for the chrome.



11



12

# oggi!

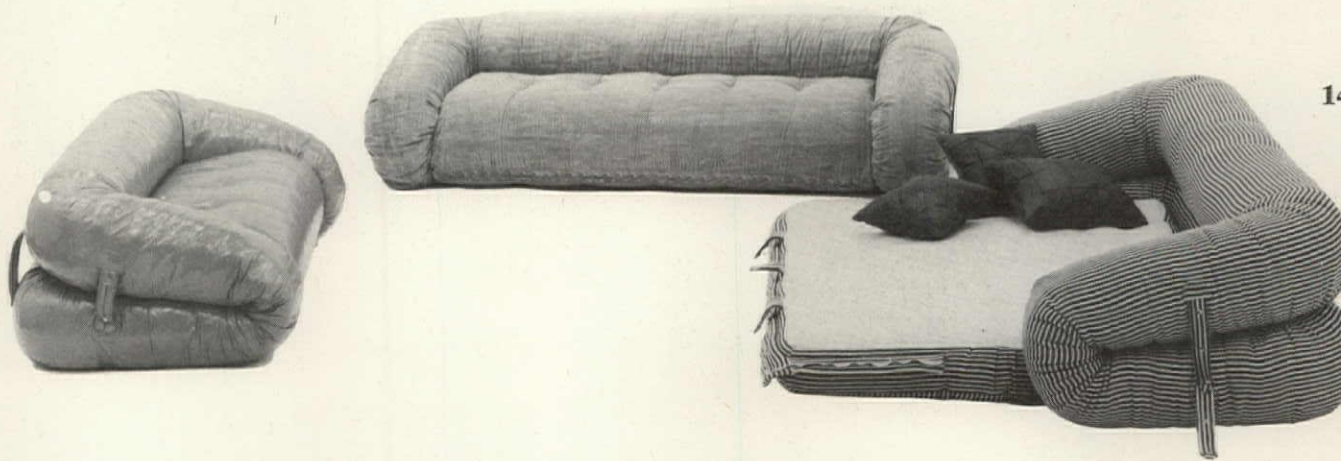
The wrinkled, pillowy look of today (*oggi*), the heavy upholstered pieces in which sides and bottom virtually mesh, provide a sensual experience for the user unknown in Bauhaus furniture.

The Italians have provided us with a design alternative—a freer, looser approach to furniture forms and function.

Generally accepted proportions are exaggerated, distorted. The result is furniture with a sense of humor, designed to make a soft and often frivolous statement rather than blending into the room.

The new Italian mannerism emerged in the 1960s but was given major impetus in America by the 1972 Museum of Modern Art Show “Italy: The New Domestic Landscape.” Since then, its influence has spread steadily, both in the world of design and in the larger world of mass marketing.

In introducing the catalog for the Italian design show, MOMA’s curator of architecture and design, Emilio Ambasz, said, “Italy has become a micromodel in which a wide range of possibilities, limita-



tions and critical issues of contemporary design are brought into sharp focus.”

Alessandro De Gregori of Knoll International characterizes the Italian influence in furniture design as a reflection of an age of sensuality, the revival of an emotional experience. “You have to look at the symbology of soft design,” he says. “It tends to comply with the need to recoup the sensual values in the relationship between a person and an object. This kind of experience is clearly more rewarding emotionally.”

Those who object to the direction of Italian design find pieces either too manneristic to be practical, or too stylized to be durable esthetically.

Steven Kiviat, vice president of Atelier International, one of the biggest importers of Italian designer furniture, feels that Italian design is no longer caught up with just fashion or new technology—rather, that the Italian designers are now entering a period of reflection and refinement.

Works like Bellini’s Camaleonda (13), a modular seating or lounging system, and

Alessandro Becchi’s Anfibia (Amphibious, 14) sofa bed made it possible for free-standing furniture to be flexible enough to create its own sensual environment.

The Anfibia sofa marks an important trend in flexible seating. The spring-laden convertible sofa is being replaced by attractive soft single chairs whose arms fold out to form a single bed or cushions which conveniently rearrange themselves into a comfortable lounge or bed. The new convertibles are designed so that all parts are visible and usable. The use of urethane





15



16

foam with a minimal support structure can make a single bed out of what seems to be a wide tuxedo chair.

La Bambole (15), introduced in 1973, is another example of flexible soft seating. The Bambole line comes with a floppy lounge length pillow-seat and can be upholstered in anything from plush suedes to almost camp chintzes. The use of fabric that harks back to the days of the old overstuffed chintz sofas has both a sense of humor and offers those who like flowered upholstery an oppor-

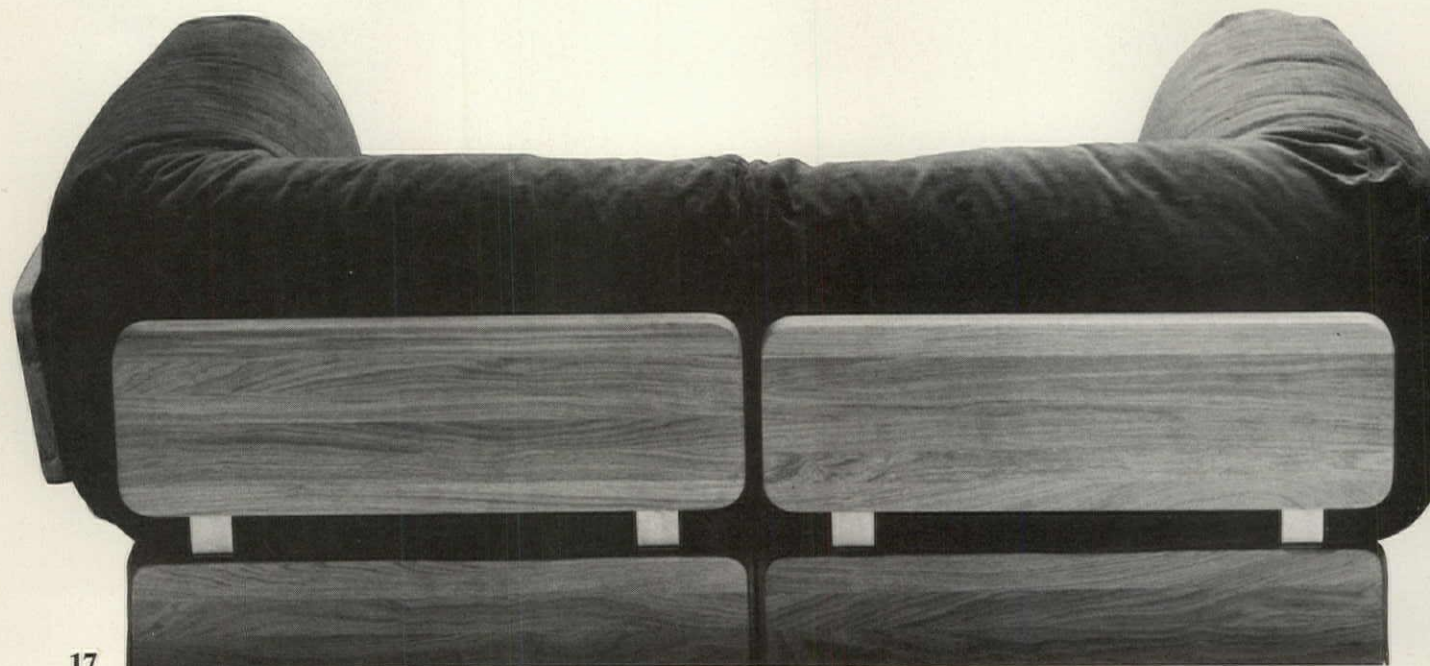
tunity to be modern and traditional in the same breath.

If the Italians are beginning to refine their mannerist lines, perhaps Valentina (16) by Carla Venosta with its simple chrome tube as a design detail is a sign of that refinement. A similar chair, not pictured here, has used a simple metal frame to hold an oblong pillow in a seated position. The angle of the seat is fixed by a dial on the side much like that used in autos.

Much of the Italian seating has completely abandoned what Saarinen refers to

as that "slum of legs." The low height of the seating, while not always comfortable, allows the furniture to relate physically to the architecture around it. This relationship of object and environment may be a reflection of the architectural background of many of the Italian designers.

"It is an irony of history," says MOMA's Arthur Drexler, "that Italian progress in product design has occurred without corresponding architectural advances, which is in part a result of the economic situation in Italy."



17

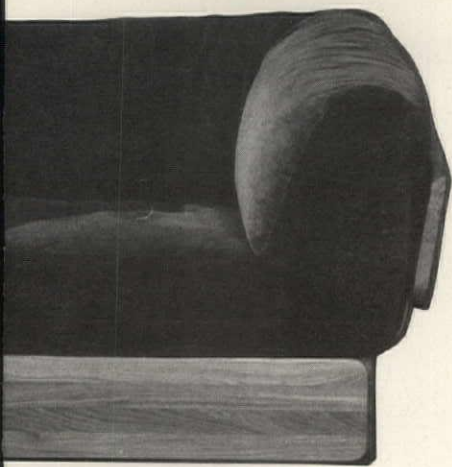
**Italoscan.** The Italian influence has made dramatic inroads in Scandinavian furniture design. Although classic treatment of wood (18) continues as a mainstay of the Scandinavians' export market, there has been a visible shift to other materials and to a softer line.

Denmark's Andreas Hansen has designed a modular sofa system (17) which reflects the meshing of Italian and Scandinavian traditions. The sofa uses light wood bases and backs, although they are less sculpted than in traditional Scandi-

navian furniture. The soft seats and backs are less floppy and frivolous than in Italian seating but clearly derive from that approach.

"The Scandinavians have picked up the Italian lines and cleaned them up a bit," says one Washington area retailer.

The budget-priced Stuns sofa (19), designed by two Swedish architects, Johan Huld and Jan Dranger, is another example of a cleaned up Italian look with the practical ingenuity of the Scandinavians grafted onto it. The sofa, made of



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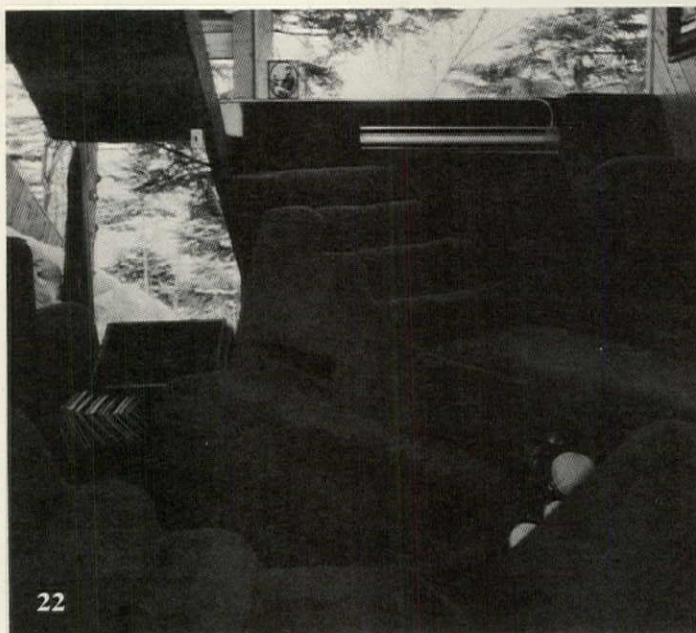
18

colorful bent tubing, is set on Danish-designed Kevi-casters. The tubing comes knocked-down and the polyurethane chip-filled cushions are machine washable.

Eric Magnussen's simple molded plywood and bent tubing stool (20) uses molded plywood, a well-established Scandinavian material popularized by Alvar Aalto. The difference in Magnussen's approach is in the unexpected twist of the tubing. To the extent that this piece has a sense of humor, it owes that humor to the Italians.

The sober Scandinavians are facing a watershed. Inflation has made wood and labor costs high and the Italians have cut deeply into their export market.

Less spare upholstered Scandinavian seating is beginning to catch up with the Italians and compete. However, a revival of Aalto's bent plywood has brought renewed interest in lighter woods as well. The international design community has adopted Nordic preferences for light woods, as darker woods have become more expensive and scarce.



**One-piece Environment.** The Italian influence again pervades in the Swiss-designed Terrazza system by Stendig (21), an elaborate attempt at wall-to-wall furniture virtually creating its own interior architecture.

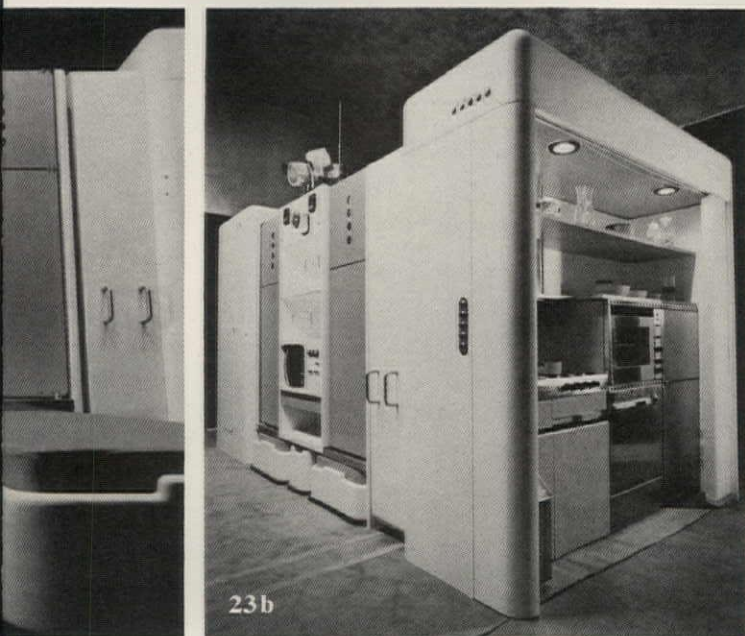
The modules composing the Terrazza are cavernous left- and right-facing units that can stand alone or in groupings. The only accessory required is soft lighting to reinforce the soft atmosphere.

Terrazza may well be the first attempt by a manufacturer to reflect in free-

standing furniture the concept of "total environment" interiors adopted by the "lifestyle people" and translated into exotic interiors by the wealthy.

The concept is a complete blending of ceiling, walls, floors and furniture. For the most part it has been expressed in built-in furniture covered by carpeting that runs across the floor and up the walls, as in the ski lodge (22) designed by young Vermont architects David Sellers and Tom Lucky.

Another means of gaining a similar



effect is the use of low cushions that seem to melt into the walls and floor. A Swedish alternative (not shown), well within the reach of modest budgets, is a system of denim-covered rectangular foam cubes wrapped in ropes, which gang together to form everything from a single chair to an entire roomful of seating.

A more structured interpretation of a total environment approach was explored at the 1972 Museum of Modern Art show on Italian design. That nation's top designers were invited to create "artifacts"

accommodating the full range of essential domestic activities, along with ideas for their use at community scale.

These "microenvironments" (the example shown in photos 23a and b is by the late Joe Colombo) were to be designed for potential mass production, preferably in "synthetic materials and fibers."

A similar exercise was the design of free-standing portable rooms (24) by American architects Alan Buchsbaum and Howard Korenstein for Owens-Corning Fiberglas Corp.

The end products in each case, especially the Italian designs, had a good deal of visual interest and the somewhat cozy, all-of-a-piece appeal found in the interiors of boats and mobile homes.

Nevertheless, they have so far failed to be taken beyond their original use as display pieces. One problem is that they are simply too large for most homes or apartments. Also, the idea of simply folding up and shipping one's entire interior environment may be an excessive amount of flexibility even for this age of mobility.



**Systemseat.** We have come a long way from Charles Eames' row-on-row tandem seating originally designed for Chicago's O'Hare Airport (25) to Herman Miller's latest benchlike systems seating called Chadwick (26), a series of urethane wedges capable of forming a variety of patterns.

Seating systems fall into two basic categories—either they accommodate individuals by ganging armchair units like Eames' tandem seating or they form a massive bench like Chadwick, which al-





lows the user greater freedom of movement and more space to place parcels, children, legs, what-have-you.

The sculptural, undulating lines of such systems put people in less fixed and formal relationships to one another. When a family is seated on a curved bench, for example, parents can keep children in view without getting up to check on what is happening several seats down a row.

The early contemporary seating systems were designed to blend with the architecture of new buildings, but their line-

arity led to their use in patterns scarcely less rigid than the rows of benches in old railway stations. The softer systems lend themselves to freer and more flexible groupings.

Soft seating systems are comfortable, flexible and growing in popularity. Almost every country has developed a variation on the theme using urethane foam.

Many can be used as single chairs, love-seats, sofas or large seating areas. The line between residential and contract seating is beginning to blur with many of the

new modular designs in systems seating.

One of the most popular systems in use is a transition from rigid lines to a softer look. It is a series of rectangular or square cubes of foam ganged to form arms, backs and sides and even end tables. Unfortunately, it has been used so much that it comes close to being a cliché.

The flexibility of the new soft modular systems also facilitates maintenance. Units can be separated for repair or replacement without destroying the usefulness of the overall system.



**Nonstop**, (27), a system produced by Stendig offers the smallest module in systems seating—nine-inch sections that can be ganged in a variety of patterns.

Vecta's Zermatt (29) is one of the more flexible seating systems, using a chrome sled base with a snap-on sling. The self-locking ganging device and the slip-on seat slings make the whole system easy to repair and replace. The chairs can be used singly as well.

Knoll's Morrison and Hannah (30) seating system also employs a sling con-

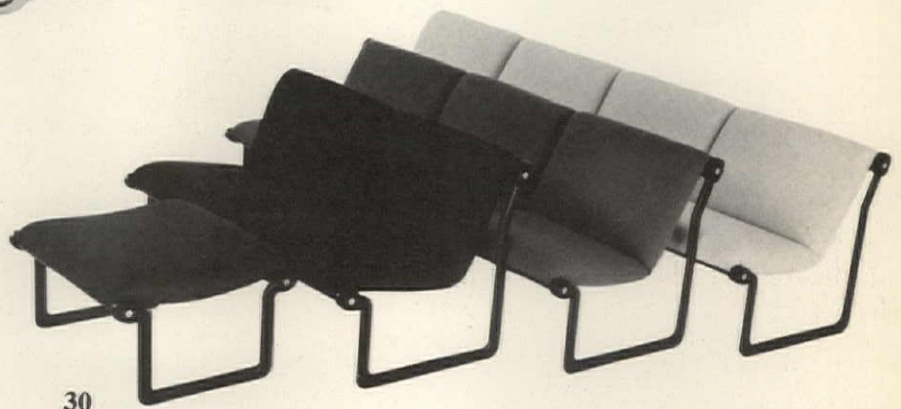
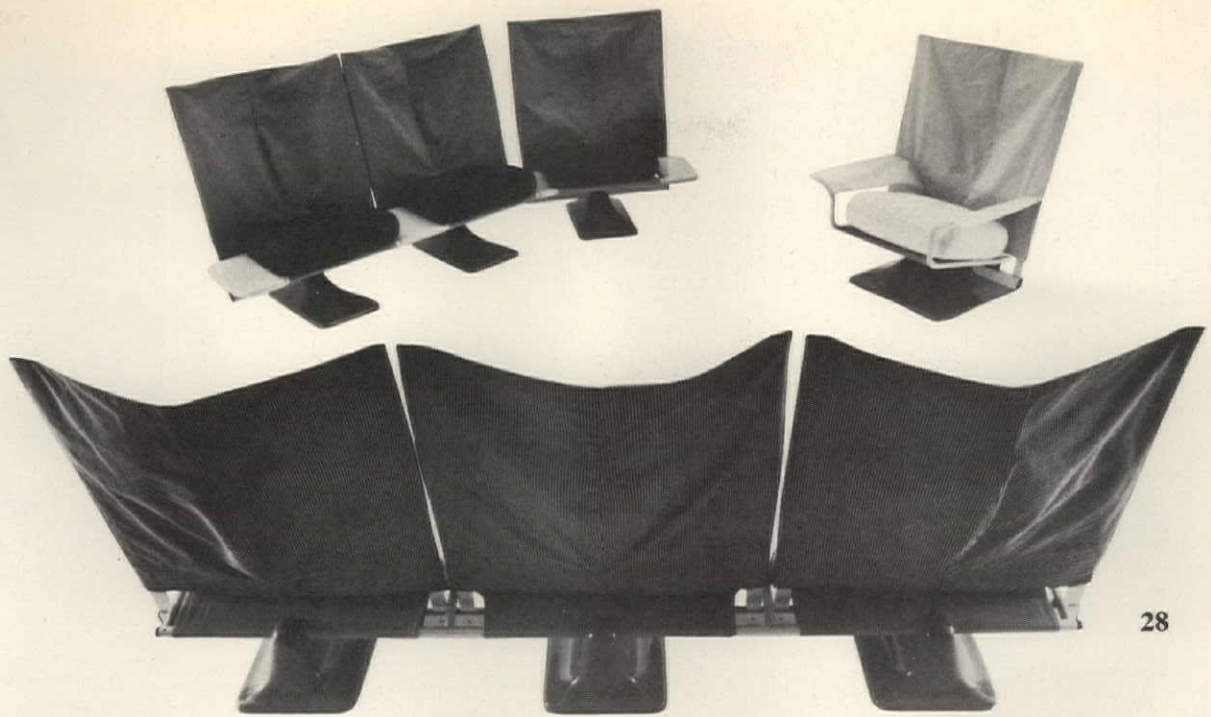
cept using the same basic support design for single chairs or multiple-seat systems. The urethane foam seats are suspended from extruded aluminium edges with plastic covered aluminum hoops. Unlike other systems, the Morrison and Hannah frames cannot be ganged and must be purchased as a permanent unit. This system and the Zermatt are more akin to the Bauhaus tradition than the Italian.

One of the most fantastic examples of systems seating is the knock-down system designed by Archizoom (28), an Italian

design group. The durethan pedestal flippers hold a metal frame, a stove-enameled set of arm tubing, a pillowcase-like hood of cotton ticking or floral or pastel-colored backing and a large, comfortable pillow cushion. A simple slot allows single chairs to be joined into a seating system. The overall effect is comical, almost ridiculous.

Even so, the Archizoom System points to a new direction in furniture design brought about by material shortages. While major furniture manufacturers assure the JOURNAL that materials are avail-





able, they complain of extended delays by suppliers causing them to push up delivery schedules by weeks and months.

Petroleum shortages have inflated the costs of resins to make plastic furniture. At the same time, the possibility of stringent fire retardancy standards for cellular plastic will make dramatic changes in the cost and possibly the design of foam furniture.

Already, the Federal Trade Commission has settled an important case in which 25 major manufacturers of cellular

(foam) plastics will have to clarify their claims of fire retardancy to past and future buyers. Hearings on proposed new regulations will open in December. While cellular plastics used in furniture have not been isolated by the proposed regulations, it is possible that they may be included as a result of the hearings. A number of major fires in which foam furniture was used have alerted the FTC to the potential dangers of urethane foam furniture.

Rigid specifications for fire retardancy

in furniture have been developed for major contract jobs such as the headquarters of the Port Authority of New York and New Jersey in Manhattan's World Trade Center.

The effect of regulations and shortages cannot be predicted. Some in the industry feel that new technology will rise to the occasion. In fact, NASA already uses fire retardant foams, but the cost is prohibitive for the commercial market. Others feel that changes in furniture design are inevitable.



31

**Stack and Pack.** The stack chair (31) designed by Danish designer Verner Panton takes the cantilever and gives it a new, organic interpretation. In line, it comes close to the feeling of many wooden furniture-sculptures being produced by individual craftsmen, but it is made of injection-molded ASA terpolymer.

The use of plastics has brought new possibilities to furniture design and new problems.

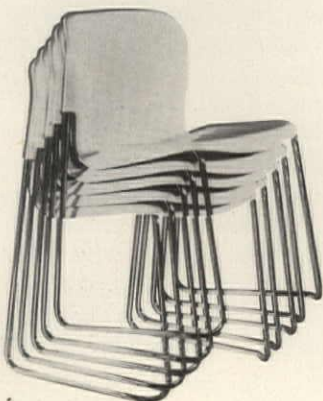
"We don't have the real craftsmen we need to make the molds," complains

Knoll's De Gregori. In spite of the difficulty in finding good craftsmen and resins, plastic furniture has taken a permanent place in our environment, if not to the extent we imagined in the early '70s.

The Panton chair and the Plona chair, designed by Gian Carlo Piretti (32) avoid one of the most distressing aspects of most stack chairs—all too often they are more appealing stacked than they are to sit in. The flexible Plona seat bends to stack a limited number of chairs together horizontally. It may be that the Plona chair

stacks in sufficient numbers to meet most storage needs, and that few organizations or institutions have need for the giant heaps of stacked chairs which look so well in advertisements.

The place for stack chairs in the future may well be in the home. As housing needs become more acute, the ability to store furniture when not in use may place a new priority on stack chair design that is both attractive and comfortable. Already there is a tremendous market for storage wall units for residential use with



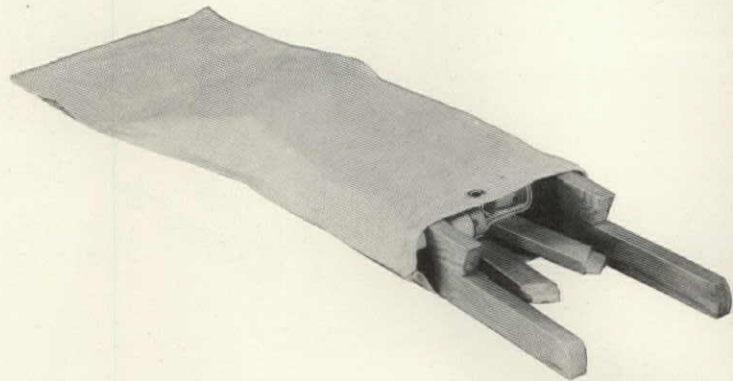
more people living in apartments rather than single-family homes.

Stack chairs have not made it into the home as yet largely because of their lack of real comfort. The low-backed plastic stack chair by Gerd Lange (33) is an example of a chair that can cross the line between residential and contract use. The plastic shell enables a large number of the chairs to be stacked and even ganged or joined on a tandem bar, and optional upholstery can give them a warmer residential look.





34



35



Among the most familiar solutions to storage problems in either public or residential setting, is furniture that folds up or knocks down. The classic folder is the director's chair. A new Italian variation (34) both folds up and down, being reducible to a simple collection of sticks that can be packed away in the back

slung. An Italian version of the campaign chair (36), manufactured by Zanotta, is another example of an easily assembled knock-down piece that avoids the look

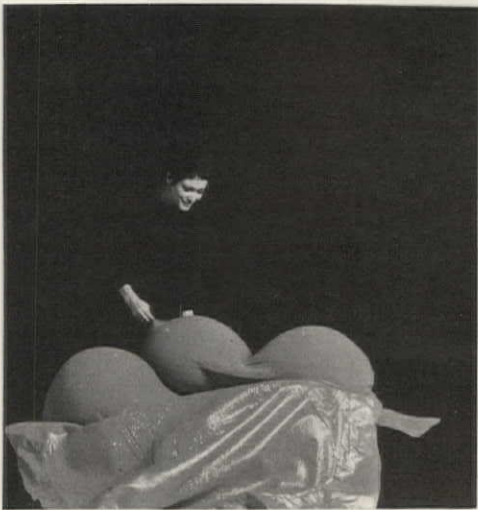
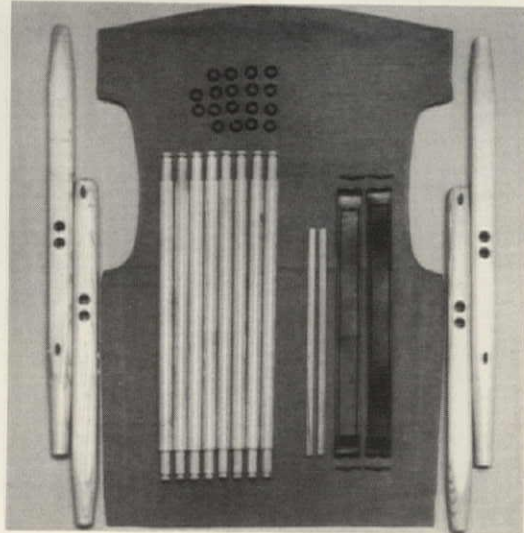
of a temporary chair. When disassembled it has something of the look of croquet equipment.

Either of these pieces could be used as outdoor seating, replacing the ubiquitous beach chair of light aluminum and plastic webbing. So far, the price of these two chairs precludes their coming into wide use of this kind, but there is no intrinsic reason why they could not be mass-produced for moderate budgets.

The knock-downs facilitate shipping as well as storage. A more dramatic



36



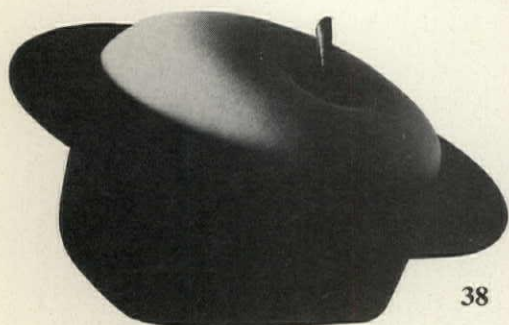
solution to both problems is offered by the Up system (35) designed by Gaetano Pesce. These lounge chairs and sofas are made of expandable polyurethane covered with stretch nylon and wool jerseys. The pieces are first formed, then air is removed from the cellular foam and they are packed in a vacuum container for shipment in flat boxes. Once the seal is broken on the plastic vacuum "cocoon" containing the chair, it begins to fill with air. In an hour's time the pieces reach their original size and density.

The only drawback in the process is that after six months in the vacuum pack, the foam will deteriorate and will not expand properly. If it is opened prior to the six-month limit, the chairs will retain their shape permanently. The Danes use a similar method of compressing foam to two-thirds its original size for cushions and mattresses.

Aside from their technological innovations, the forms in the Up series border on surrealism, particularly the lounge chair with the baseball-on-a-string ottoman.



37



38

**Fantasy.** In the '30s when Dali was designing his Mae West lips sofa and his hands chair, the public was not ready for surrealism in its furniture. Today, largely as a result of the Italian humor in design, surrealistic furniture has become accepted as an accent mark for interiors.

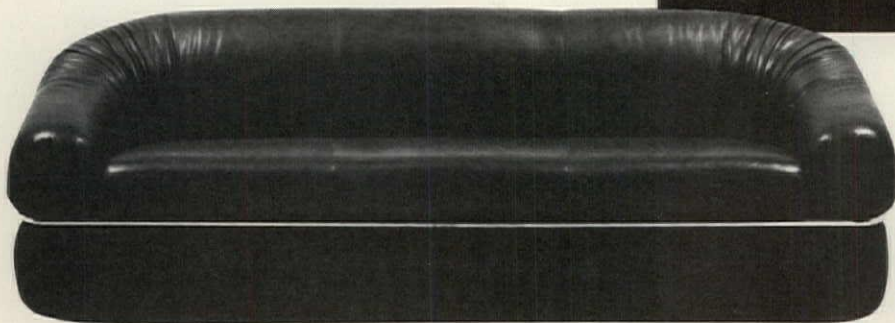
In 1937, René Magritte did a painting of a derby with a green apple in it. In 1970, Chilean designer Sebastian Matto designed a lounge chair after the painting. The MAGriTTA lounge chair (38) has a black fiberglass derby body with a brown

leather hatband. The apple seat is of green foam rubber and the stem of soft black rubber so that you can sit on it.

The Finns are known to be the most adventurous designers in Scandinavia. The pony easy chairs (37) were designed by Eero Aarnio, better known for his Pastelli chair. The ponies cross the thin line between surrealism and fantasy.

The Ionic Capital lounge chair (39) of urethane foam is a punctuation mark which pushes a fragment of architecture into fantasy furniture.





## Mass-Produced Furniture: An Italian Accent

Since Bauhaus days the dream of mass-producing good design for the millions has remained approximately that, a dream. The clean lines of the early moderns made some impact and later so did the sculpted wood members beloved of the Scandinavians.

But as often as not the original lines were thickened and coarsened for the exigencies of the production line and once-crisp forms were caricatured to meet a sales department's concept of what the market would bear.

Meanwhile, period pieces and others of highly uncertain design lineage, kept rolling out of the factories and into the living rooms of the nation, dominating the market.

Now it is the Italians' turn to make their influence felt in the mass market as well as in the limited world of high style and high budgets. Some of their designs are faring better in the translation from objet d'art to factory item. Perhaps the Bauhaus dream is coming a bit closer to reality, but with an Italian accent.





The great Joe Colombo plied his art on a plastic chair (1) of simple mannerist lines. The lines suggest a solidity not often associated with plastic furniture. The chair, an example of the tremendous strides that the Italians have made in injection-molded plastics, is moderate in price and knocks down.

The comfortable yet easily movable armchair by Thonet (2) has several antecedents. It is essentially an assemblage of pillows, like Bellini's "932," but it is held in a chrome frame in the manner of Le

Corbusier, although here the chrome is a curving line and is grasped in bands of upholstery material.

The sleek and puffy sofa and chair (3), given a voluptuous profile by a chrome waistband, are of Italian design and are manufactured by the Chemical Chair Co. of North Carolina from a mold made in Italy.

In the cantilever chair by Selig (4), the chrome base thrusts upward to form a pedestal, then curves around the seat. The Italian influence is felt in the chair's al-

most fanciful form and in the soft gathered look of its upholstery.

A similar sense of humor and an even softer feeling are found in the modular "playpen" sofa (5), also by Selig. The modular units can be arranged about a room as conventional pieces of furniture or can be grouped to create a single, massive self-contained environment. So grouped they issue such a strong invitation to jump from cushion to cushion that a better name for the set might be the "trampoline."

## Landscaping: Idea to Industry In Ten Years

It has been just 10 years since the concept of office landscaping was introduced in this country by a German management consulting firm called the Quickborner Team. In the ensuing decade, what began with a few table-desks, screens and plants arranged at odd angles to one another has become a multimillion dollar industry.

In simplest terms, landscaping is office layout without permanent, full-height walls or partitions. But behind the concept is a set of elaborate theories about man in a work situation, the use of space and equipment and worker-to-worker and worker-to-management relationships.

Landscape systems themselves have become increasingly sophisticated and complex. Some of the functions ascribed to them—"communications, information retrieval, paper handling"—make them sound more like highly efficient secretaries than sets of furniture and equipment.

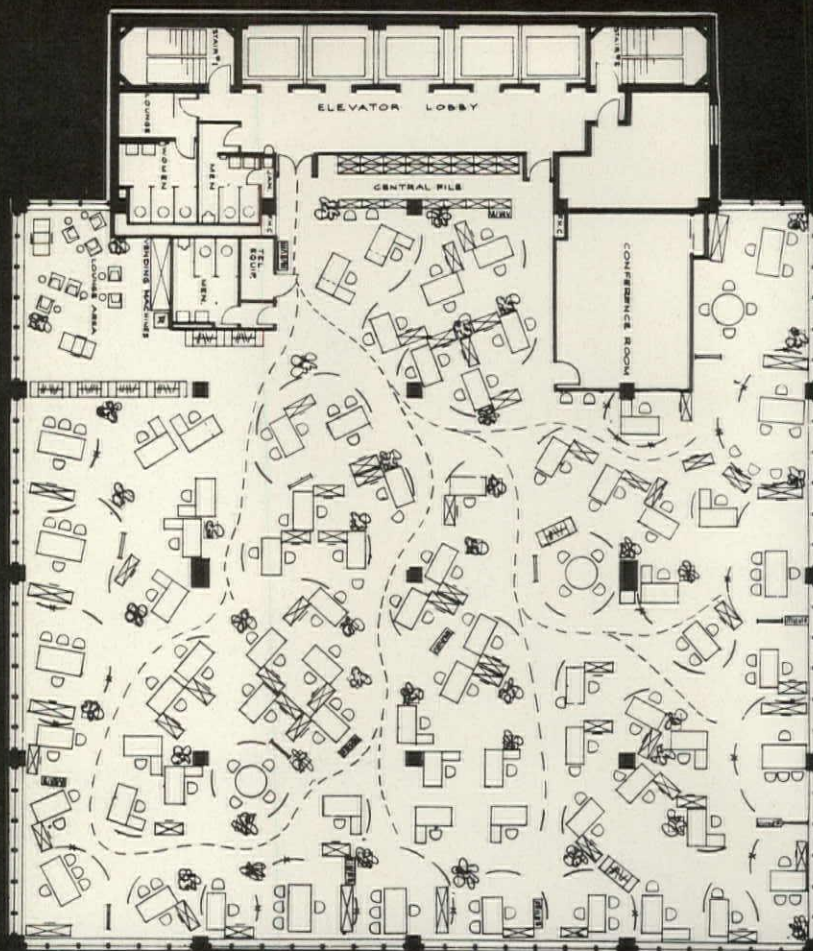
Sometimes the manufacturers' claims for landscape systems sound positively utopian, i.e., "Open planning is an attempt to recognize the human condition and take advantage of the natural talents, the inspirations, the benefits of directed

social intercourse among workers without losing management control, program direction, or becoming extravagant."

In reality, the rapid spread of landscaping has more to do with economics than the human condition. The economy of movable, tax-depreciable space dividers as opposed to permanent walls is such that few large companies can resist.

While no one is selling landscape systems on the cheap, cost of installation is estimated by the Quickborner Team to be 10 to 25 percent less than in conventional office arrangements. Maintenance costs in landscaped offices are generally acknowledged to be lower, and the entire outlay for the system can provide a handsome tax writeoff.

The savings cited most often by the manufacturers of landscape systems concern rearrangement of space. Herman Miller, Inc., cites studies indicating that the cost of moving walls or full-height partitions ranges from \$7.50 to \$25 per square foot, including changes in lighting and mechanical systems. They estimate comparable cost with landscape systems at 11 to 50 cents per square foot.





*Left, the first office landscape plan in America, devised by German management consultants. Above, the Westinghouse ASD landscape system, with unadorned panels in a hexagonal pattern.*

While much is made of the movability of landscape systems, they are only as flexible as their electrical and telephonic lifelines permit. Telephone cables and electrical outlets protruding from the floor can anchor work spaces and give a landscape layout a good deal of permanency.

To overcome this inhibition to flexibility, some landscape designers have brought services to work stations through trap doors in the floor or built them into partitions. Herman Miller brings them down in tubes hanging from the ceiling, making a design element of necessity.

If flexibility is a key word in the lexicon of landscaping, another is communication. Lines of communication were the organizing principle for the first landscape plan in this country (above left) developed by the Quickborner Team for the Freon Division of the E. I. du Pont de Nemours and Co. And the low height of the landscape

systems (usually four to five feet) facilitates both informal and structured communication in an organization, although inhibiting confidentiality.

Dr. R. E. Planas of the Quickborner Team, one of the leading theorists of landscaping, speaks somewhat disquietingly of the goal of office planning being "to build and program a human computer." He terms the office "a factory for decision making," and says, "You must make sure that paper flows and doesn't die of informational indigestion."

The emphasis of the Quickborner Team was on efficiency, not surprising since it was comprised of management experts rather than space planners or designers. Actually, what it provided du Pont was more an arrangement than a plan as such. No new manufactured landscape systems of furniture or partitions were involved.

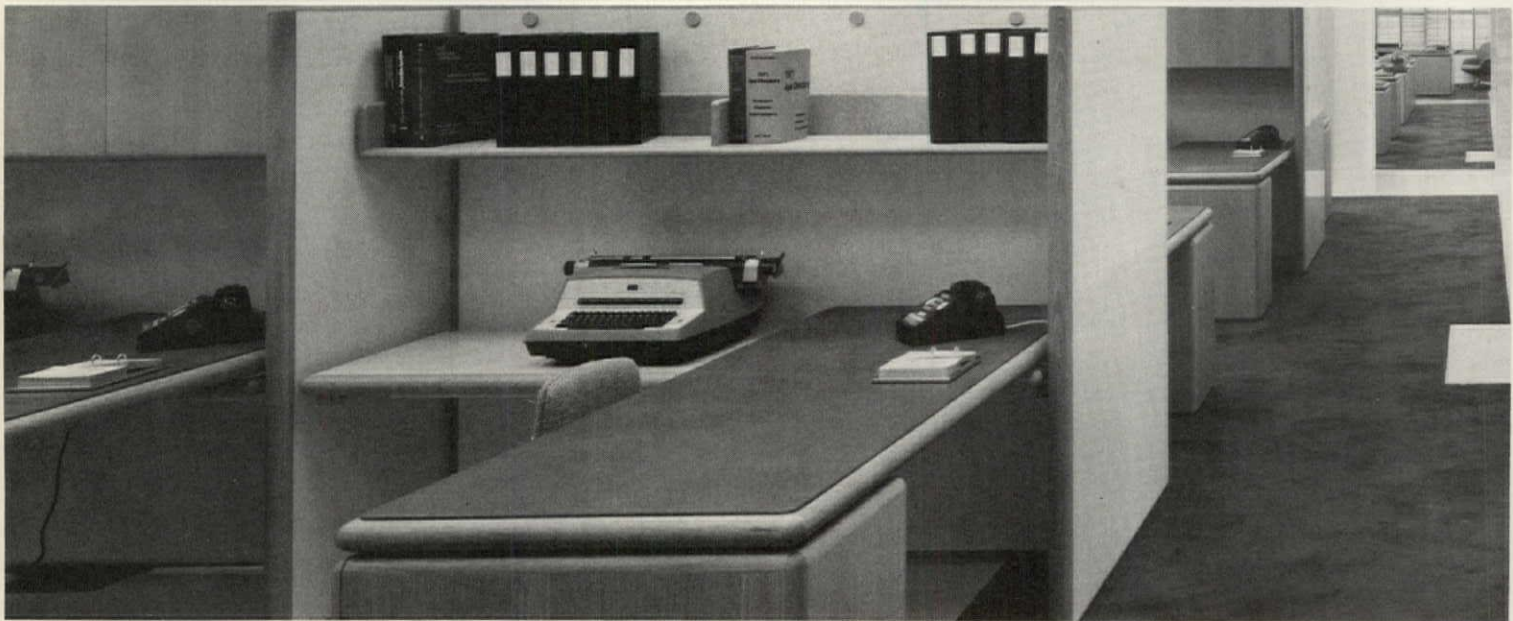
The second major impetus to office landscaping came at about the same time from Herman Miller with introduction of its "Action Office." While most widely publicized for its stand-up desks, the action office line represented the first comprehensive system of components for open

planning of offices. Herman Miller claims with some justification that many components of the 40-odd other systems now on the market are modifications of "AO."

It was the particular brainchild of Robert Probst, a former artist, teacher and inventor whom the Herman Miller management first encountered at the 1958 Aspen design conference. Probst, now president of the Herman Miller Research Corporation and the leading American theorist of landscaping, brought to the firm a conviction that most offices were planned "for a way of life substantially dead and gone."

"The egg crate concept," he has written, "with rows of enclosures connected by corridors, fits an organizational behavior format already rare and certainly obsolete: a form of linear communication based on almost totally vertical organization."

And further, "In the super complex problem of retaining communications fluency, there is no substitute for having visual access on a demand basis to those you need to see. We are afflicted by memos as a poor substitute."



Like Planas and the other early office landscapers, Probst is also concerned about paper flow: "Offices should be organized to minimize the number of places where paper can hide and die." Toward this end Probst has designed work stations with drawers that are only three inches deep, on grounds that as soon as a pile of papers gets any deeper the ones on the bottom are forgotten. Planas, for his part, is trying to get manufacturers of filing systems to make hanging files without bottoms so that nothing can be tucked underneath them.

"Paper cannot continue to be an overburden crisis," says Probst sternly. "It must be used and discarded." He and Planas therefore advocate minimal storage at work stations. Some landscape systems, however, have deviated from this theory to the extent of making storage units their principal space dividers.

Similarly, the early landscape plans emphasized angular or otherwise irregular traffic patterns, perhaps less for functional reasons than to exploit the esthetic freedom offered by movable units. As landscaping has come into wider use, how-

ever, many installations have followed the more rectilinear patterns of conventional offices, to the point of stringing work stations along lengthy double-loaded corridors.

Getting visitors to the work stations is one of the nagging problems of landscaping. Entering an office landscape for the first time can be a disorienting experience. And it is far easier to direct an outsider to the third door on the right than to the plant with the white leaves behind the woman in the green sweater. Landscape designers therefore employ elaborate systems of signage, and next year Knoll International will introduce a system including color-coded caps to identify functional areas.

Landscaping's largest problem, however, remains user reaction. Most of its advantages—efficiency, economy, flexibility—are qualities dear to the hearts of management. Its disadvantages fall upon the user-worker.

Chief among these is lack of privacy. Being able to see and hear one's fellow workers more readily may facilitate communications, but it also means that they

*Top, the third floor of AIA headquarters, utilizing the Reff system of plastic laminate storage units as space dividers.*

*Above, a system designed by architect Warren Platner for C. I. Designs, unusual for its craftsmanlike attention to detail. Right, a Herman Miller system with "conversational height" partitions, upholstered flip-top storage units, wall-hung desks and, on the left, a graphic "enrichment panel."*

can see and hear you. And there are times of concentration when you don't especially want to entertain random communication or experience distracting sounds and movements. One way to state the problem is that landscaping renders the worker all but defenseless against communication.

Without walls, not much can be done to provide visual privacy, but there are things that can be done to improve "speech privacy." These include use of sound absorbent carpeting, ceilings and "tuner panels" and the curtaining of large expanses of glass. They also include the sometimes controversial piping in of "white," or masking, sound, an electronic



noise providing an aural undercurrent to the normal din of typewriters, telephones, conversation and mechanical equipment.

Visions of 1984 dance in some people's heads when they hear about white sound, and opinions on its efficacy vary among landscape designers. Some feel space between work stations is more helpful and others say that the usual office sounds themselves blend into an undistracting aural background over time.

At the Weyerhaeuser headquarters in Washington state, white sound has been piped in so unobtrusively that when the system has failed on occasion workers complain that the heat or airconditioning has gone off and that they are either too cold or too hot.

Another frequent user complaint about landscaping is the lack of a sense of place or territoriality. It is hard to feel that a wall-less cubicle is one's own, especially when there are scores of nearly identical cubicles readily in view.

There are also inhibitions about personalizing one's space. Sometimes these are imposed by management in the form of restrictions about what can be placed

on the sides or tops of workplace units. Even where there are not such restrictions, it is easy to feel inhibited about tacking junior's first-grade artwork on a colorful panel where everyone can see it. "Environmental enrichments" provided by the landscape system's manufacturer somehow are not quite the same in terms of personalization.

In behavioral terms, Walter H. Moleski of the Environmental Research Group in Philadelphia, says that "office situations [such as landscapes] that promote change are not utilized to their full potential to create human satisfaction and development."

The reasons, Moleski believes, are that "management control of the environment prohibits the worker from manipulating his environment; the designers inhibit significant changes to the environment through their design; and the users, because of lack of experience in environmental manipulation, are blinded to alternative solutions."

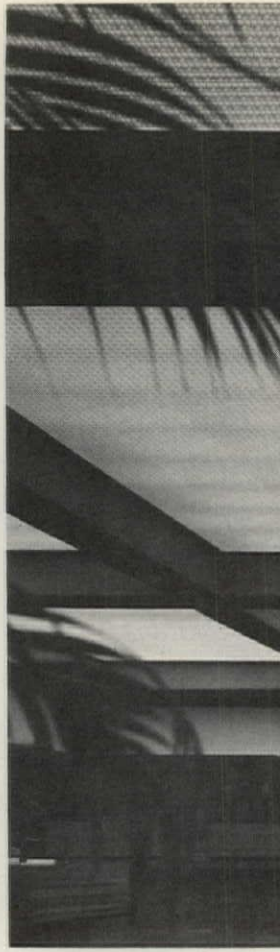
By facilitating "management control," office landscapes can generate an atmosphere of big brotherism. This is ironic

because the theorists of landscaping claim democracy as one of its virtues, since it organizes spaces according to "communication rather than subordination."

Management also can feel some inhibitions in an office landscape. Long lunches may not be so frequent when underlings are so well aware of the bosses' comings and goings. In fact, C. I. Wright, of the Freon offices, who worked with the Quickborner Team, says of landscaping that "the low man on the totem pole always likes it better than the top men."

Whatever its problems, office landscaping is clearly the wave of the present and future. Clients like it for reasons cited earlier; many designers also like it because of the spatial effects that are possible without full-height walls to get in the way.

But the users' problems with landscaping are real, and for the designer it is not sufficient to respond that they can get used to it. Landscaping or no, a satisfying and humane interior environment is not something that can be ordered from a manufacturer's catalogue. *Donald Canty and A. L. H.*



## Overhead and Underfoot: A New Texture

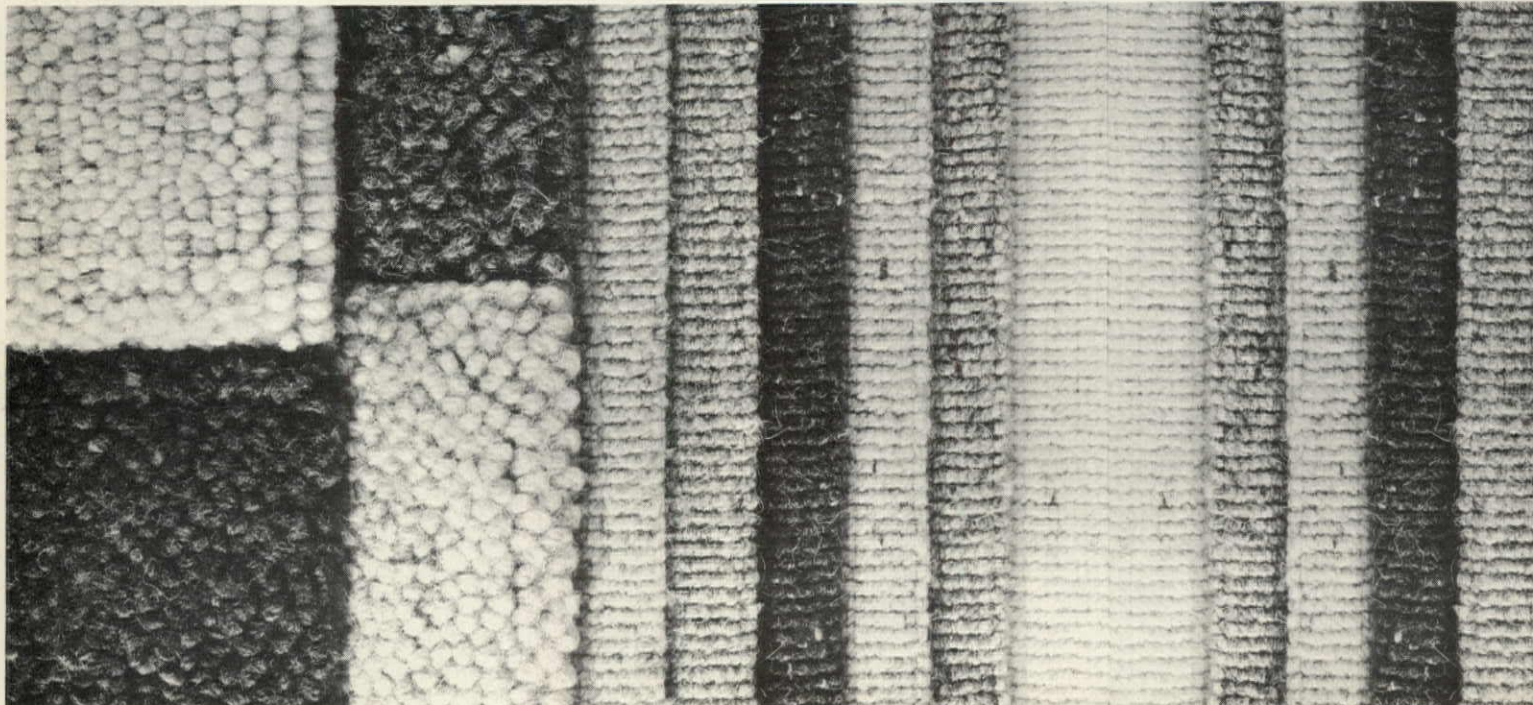
Office landscaping, and open planning of interiors in general, requires increased attention to the treatment of floors and ceilings, simply because larger expanses of these planes are visible. In many cases the result is a quest for texture overhead and underfoot.

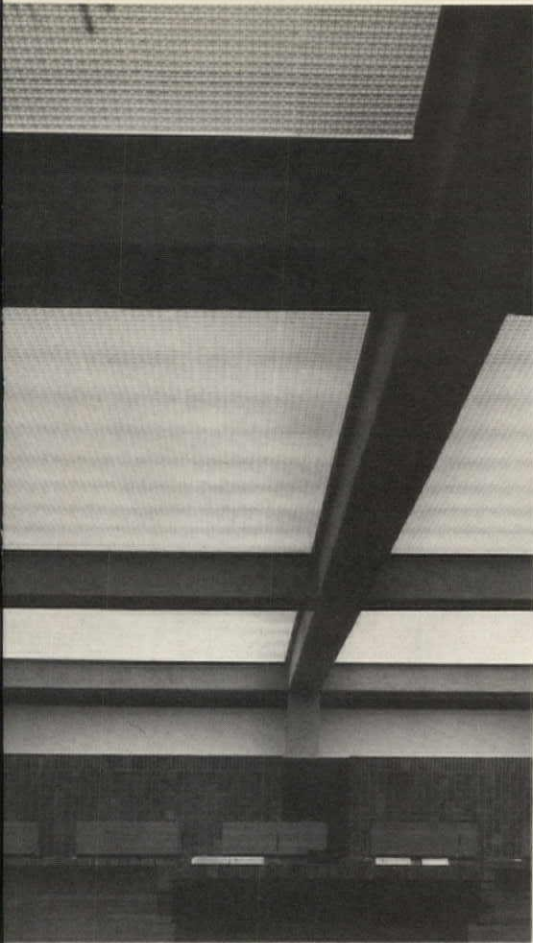
The ceilings above both achieve depth while using standard lighting fixtures. That of Harvard's Monroe Gutman Library (left) by Benjamin Thompson Associates is open all the way to the ductwork. That of the First National Bank of Lawrence,

Kan. (right) by Kivett & Myers uses flat panels of lighting but frames them in sturdy structural elements.

Underfoot, there is new emphasis on texture and color in carpeting to avoid monotony. Open planning means that the acoustical properties of carpet also take on increased importance.

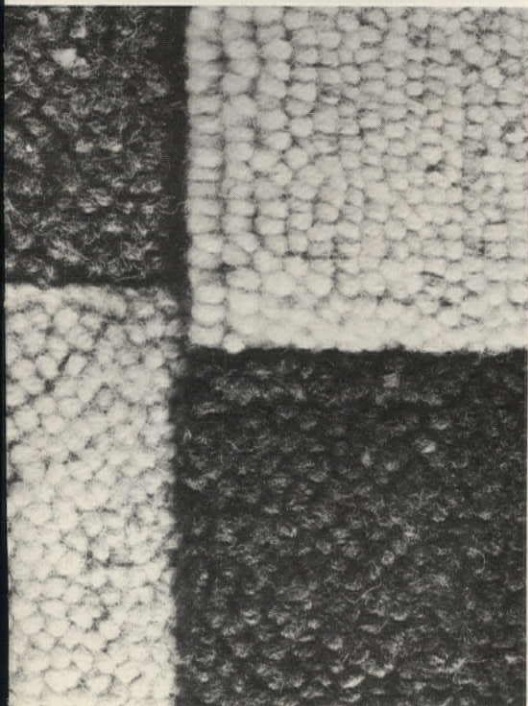
Some burly new wools (below) have been put on the market in response to the trend toward texture. But although wool often is the first carpet specified, the synthetics remain "the bread and butter





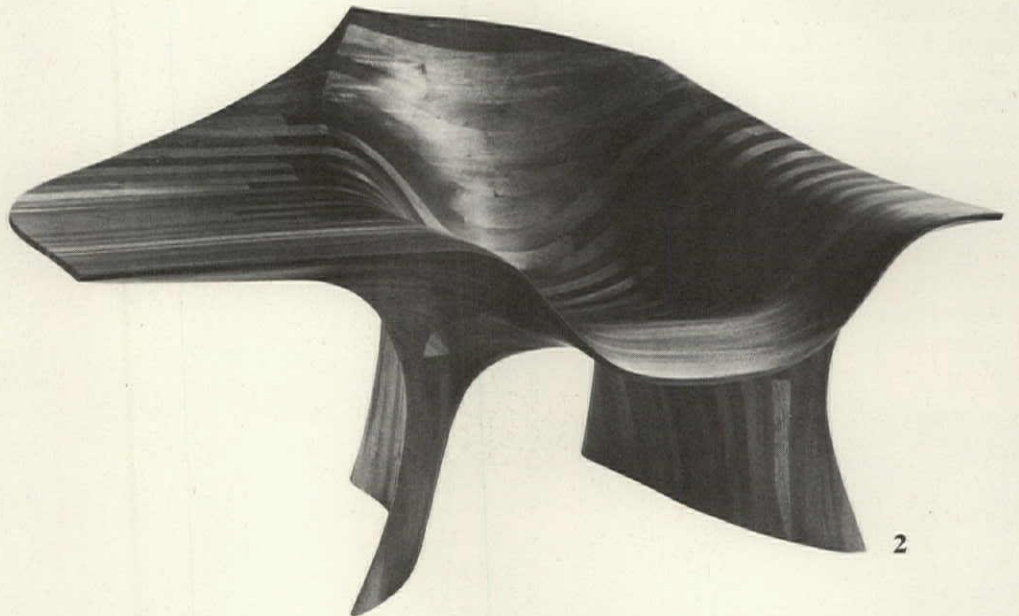
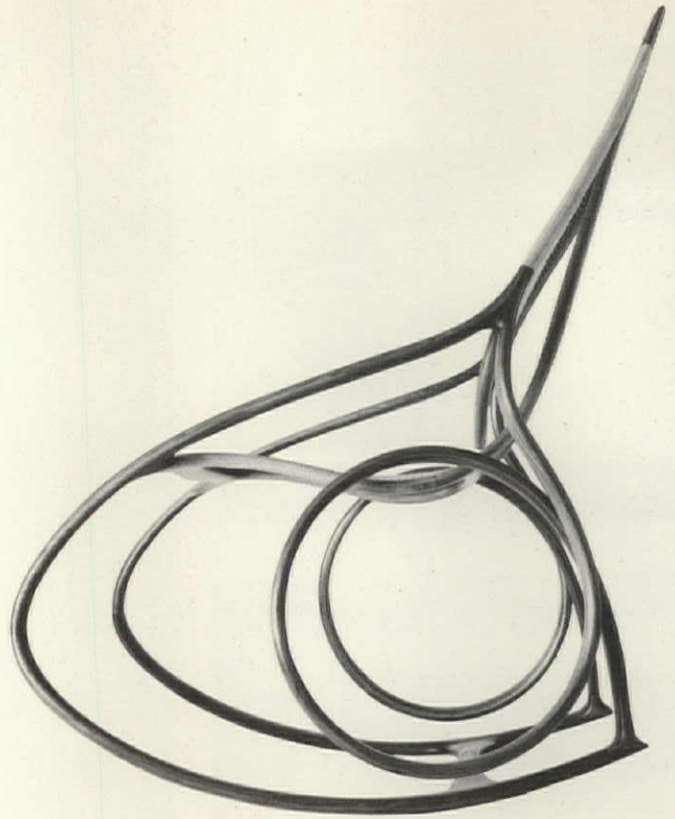
of the contract market," according to editor Al Wahnon of the authoritative *Floor Covering Weekly*.

In open planning, as in large public spaces, the interplay of floor and ceiling treatments takes on additional importance in terms of light quality as well as appearance. In the Kansas City hotel lobby by Harry Weese & Associates at right, the level of illumination from incandescent spotlights set in deep ceiling coffers is heightened by use of reflective, patterned carpeting.





1



2

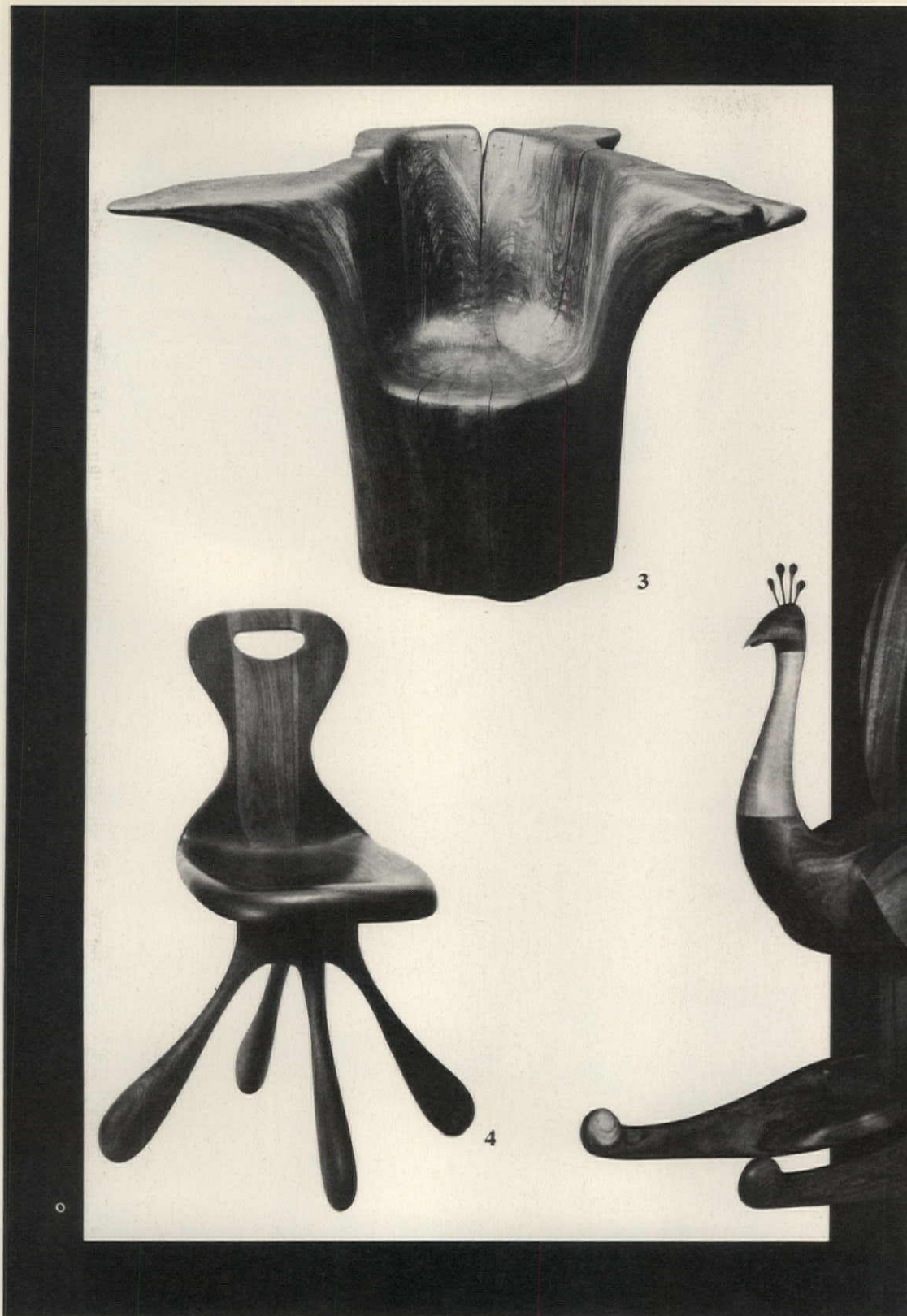
## Furniture as Sculpture and Vice Versa

At the same time that there is a reawakening of interest in furniture as architecture, a new generation of American artist-craftsmen are exploring, each in his own way, the potential of furniture as sculpture—and sculpture as furniture. They are heir to the traditions in handcrafted wood furniture established by people such as Wendell Castle, Sam Maloof, Wharton Esherick, Arthur Espenet and George Nakashima. But as the works on these and the following pages show, they are moving in a wide variety of directions.

Some are producing sculpted laminated pieces reminiscent of Castle, others are seeking form in the shape of the wood they work with, still others are carving, painting and working the wood into objects that can only be called a fantastic interpretation of furniture.

California artist Hank Drusch's sleek contemporary rocker (cover and 1) in walnut and cherry is a transition piece from manufactured to handcrafted work. While its roots lie in the classic Thonet bentwood rocker, the sleek steam bent





and laminated lines evoke a different, more delicate impression. The oversize chair was designed for the craftsman's six-foot-six inch frame, making its proportions even more exaggerated.

Jack Rogers Hopkins, a ceramicist and then a jeweler, says he "simply expanded personal organic form conviction into sculpture that would function as furniture." His table-chair (2) appears to have been cut from a larger natural form but the hand of the designer-craftsman is very much in evidence. "I am concerned with

a visual esthetic," says Hopkins, "that includes utility as but a single factor."

New Hampshire furniture designer Jon Brooks is so concerned with natural forms that his sophisticated stump (3) enshrines the essential lines of nature. "I let the tree suggest the form," says Brooks. Some of Brooks' other chairs are whimsical combinations of barkless limbs and roots.

There is both an organic and a whimsical quality to the work of Jocko Johnson of California. His four-legged stool (4) seems to dance rather than rest on the

floor. Johnson laminates intricate tables and chairs using techniques he developed in his days as a racing car body designer.

In Johnson's and Hopkins' laminated pieces, there is a celebration of the material. The works recreate the grace of a natural curve of a limb and almost create an impression of a living organism.

Dan Jackson's rocking peacock (5) asks the question, "Who says a rocking chair has to look like one?" It is first a conversation piece and a work of art and second a piece of furniture.



6



7

Laminated sculpted wood, popularized by Wendell Castle, has made many of the forms on these pages possible. Jack Rogers Hopkins' game table and chairs (7) is laminated because the technique allows him to be flexible and painterly with combinations of colored woods.

To laminate properly requires an understanding of each wood used in the total design. Wood grains must be placed at proper angles to one another to enhance a glued and pressed bond work. If the grains work in opposition to one another,

or expand and contract at different temperatures and humidity, then the piece will begin to fall apart. Traditional joinery and dowels can be used in combination with laminated woods.

Michael Coffey's laminated desk and chair (6) uses large slabs of wood, allowing the grain to speak for itself. The wood is finished in boiled linseed oil to allow the grain to come to its full lustre.

Jere Osgood, a New England furniture designer, uses traditional joinery techniques to enhance the wood grain. He has

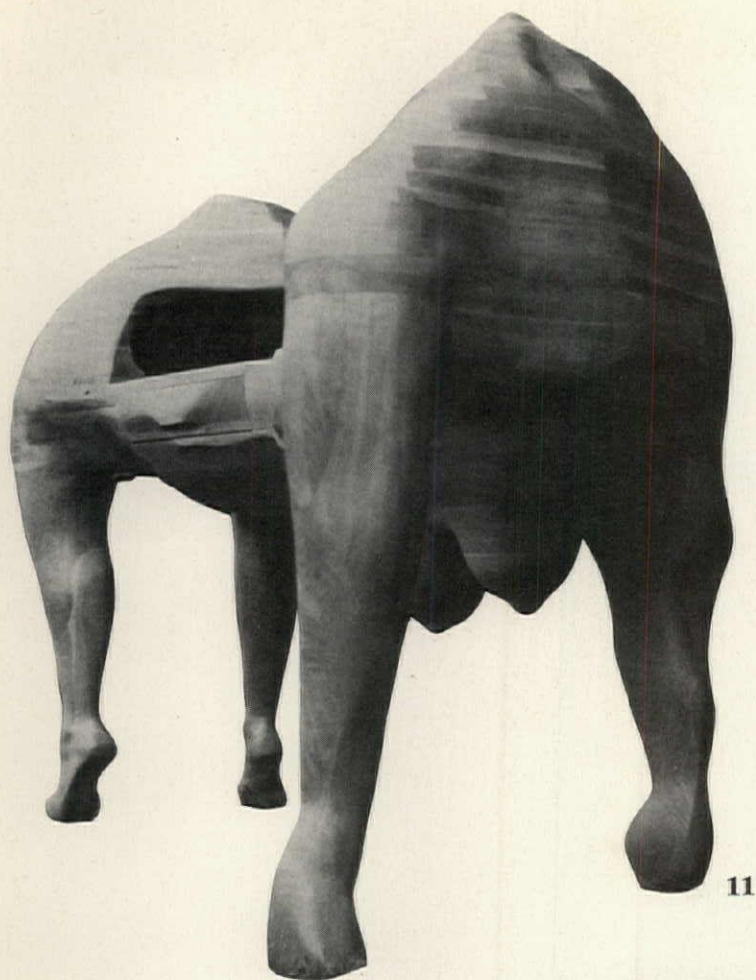


taken a high chest and made it into a chair as well (8) without completely abandoning the traditional high chest form. Of all the sculptors presented here, Osgood most closely mirrors the cabinet-making tradition of furniture design in his work.

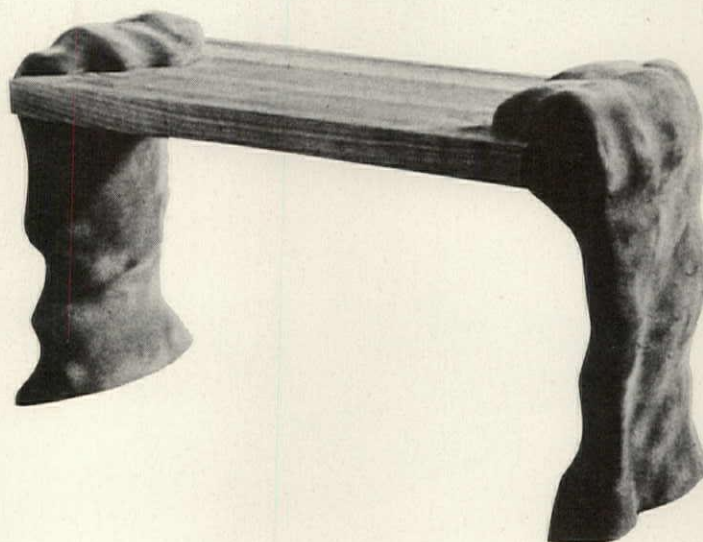
Frederico Armijo's work embraces two different approaches to wood sculpture and to technique. The game table and stool unit (9) is carved out of a single log, preserving the integrity of the grain and retaining a reminder of the original form.

Unlike Brooks, however, Armijo does not let the original wood form direct his design decisions.

The bench designed for the Phoenix Metro Center by Armijo (10) represents a more traditional, hard-edge approach to wood. Armijo uses minimal sculpted details to soften the lines of his pieces. The carving takes on the appearance of a reverse appliqué, a delicate decorative motif on an otherwise functional piece. There's further evidence of the craftsman's hands in the gouging of the wood.



11



12

Antique chairs and tables have been sporting lions' claws resting on a ball for centuries. Anthropomorphic contemporary furniture design uses wood as if it were clay.

Peter Danko's standing desk with its breasts and thighs of a husky woman (11) takes furniture into the realm of a Gaston Lachaise sculpture. The wood bends to the artist's concept first of form, then of function and finally of fantasy.

Tom Lacagnina's bench grasped by blob-like hands (12) is a contrast of hard-

edge with putty supports, making it almost surrealistic. Such furniture literally comes alive, making a sensual statement without upholstery.

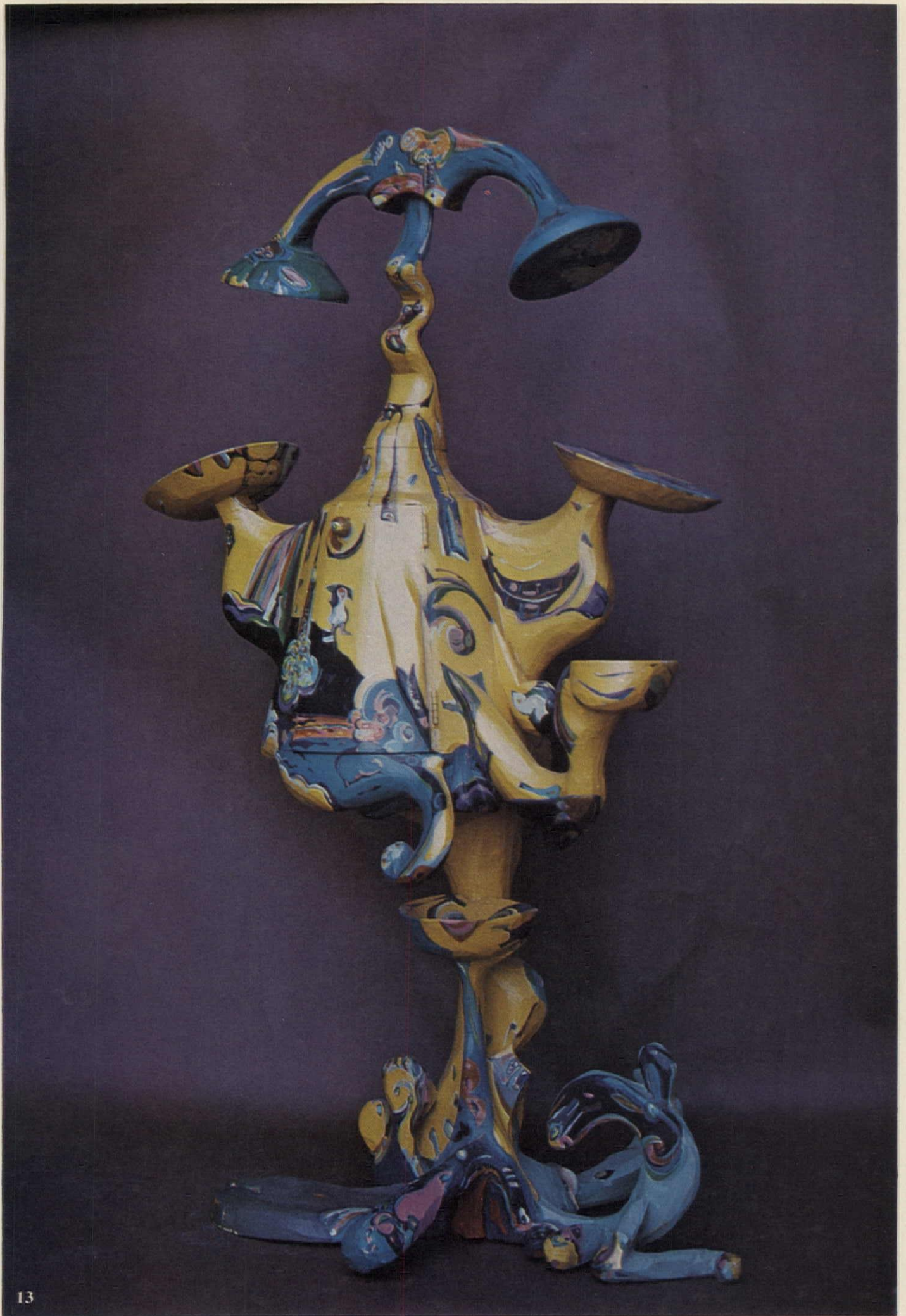
Even more lively is Tommy Simpson's painted kitchen cabinet (13). The six-and-a-half foot high piece stands like a Dr. Seuss giant.

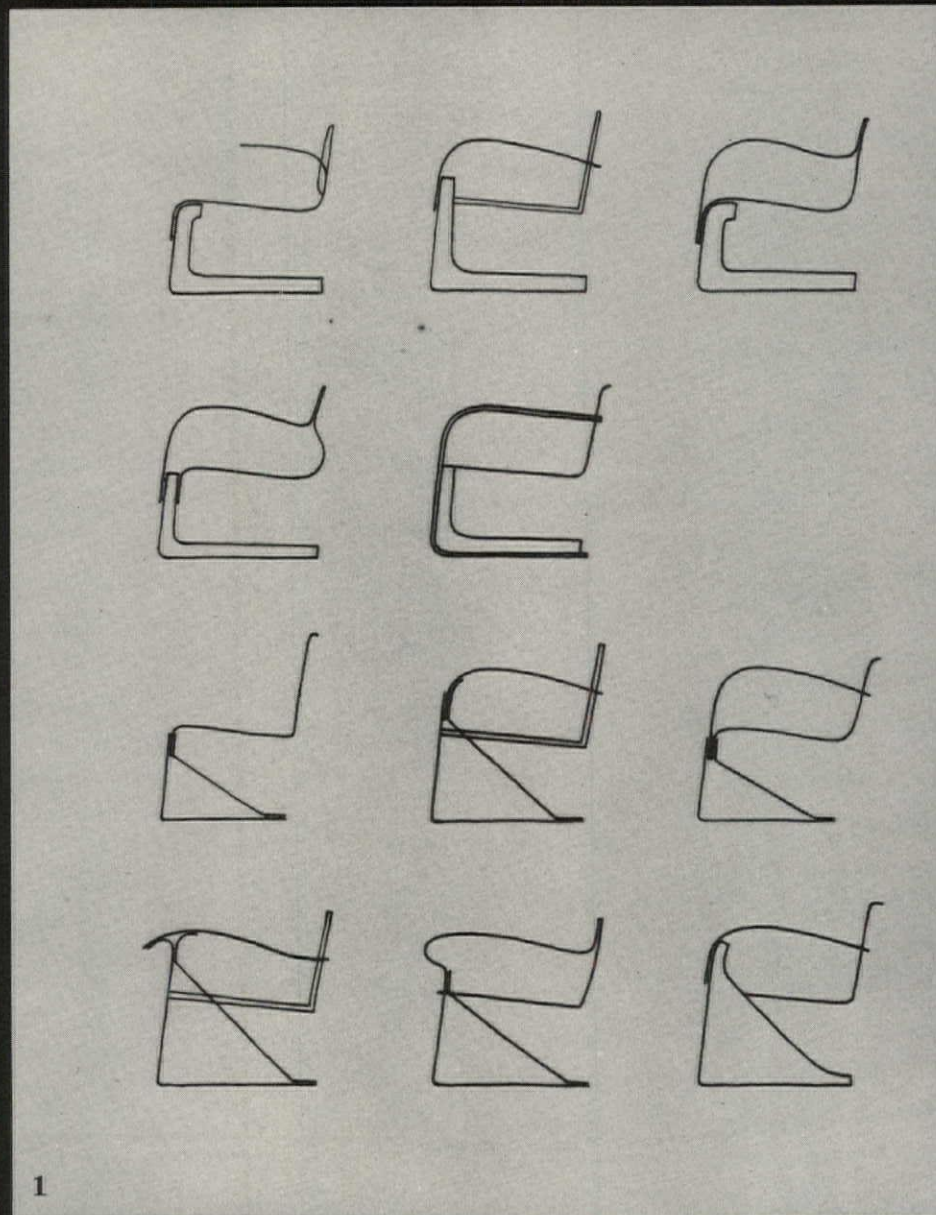
"Painted furniture started back with the Egyptians and on down through history to the Pennsylvania Dutch," notes Simpson. "The difference in my work is the imagery—it's sort of abstracted fantasy."

Rather than carving away at the wood, Simpson constructs his furniture by adding pieces of soft pine, one to another. If he makes a chair, he begins not by focusing on its function, but on the sculpture he is creating.

"I make a sculpture," says Simpson, "using the subject matter of the chair, rather than the reverse."

In pieces such as the cabinet, Simpson takes a further step away from the expression of natural wood with which the tradition of sculpted furniture began.





## Unpublished Mies Sketches Of Furniture

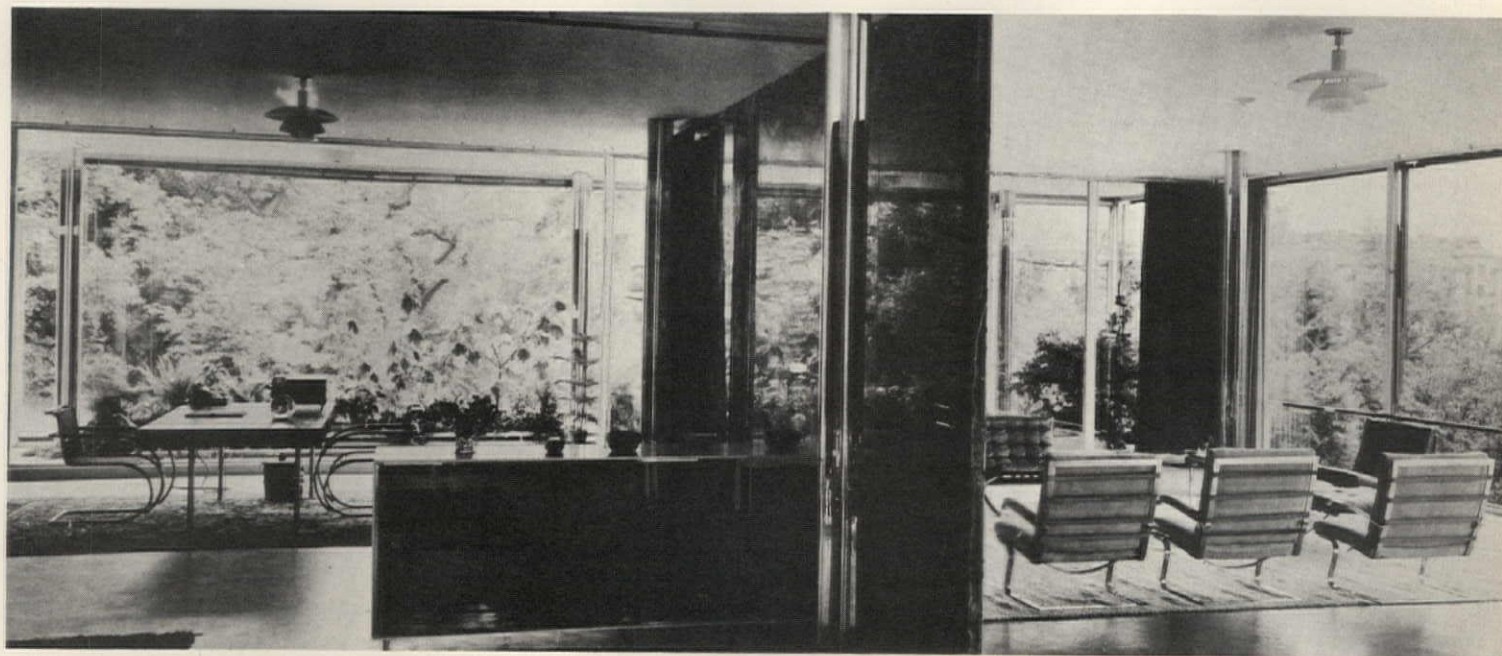
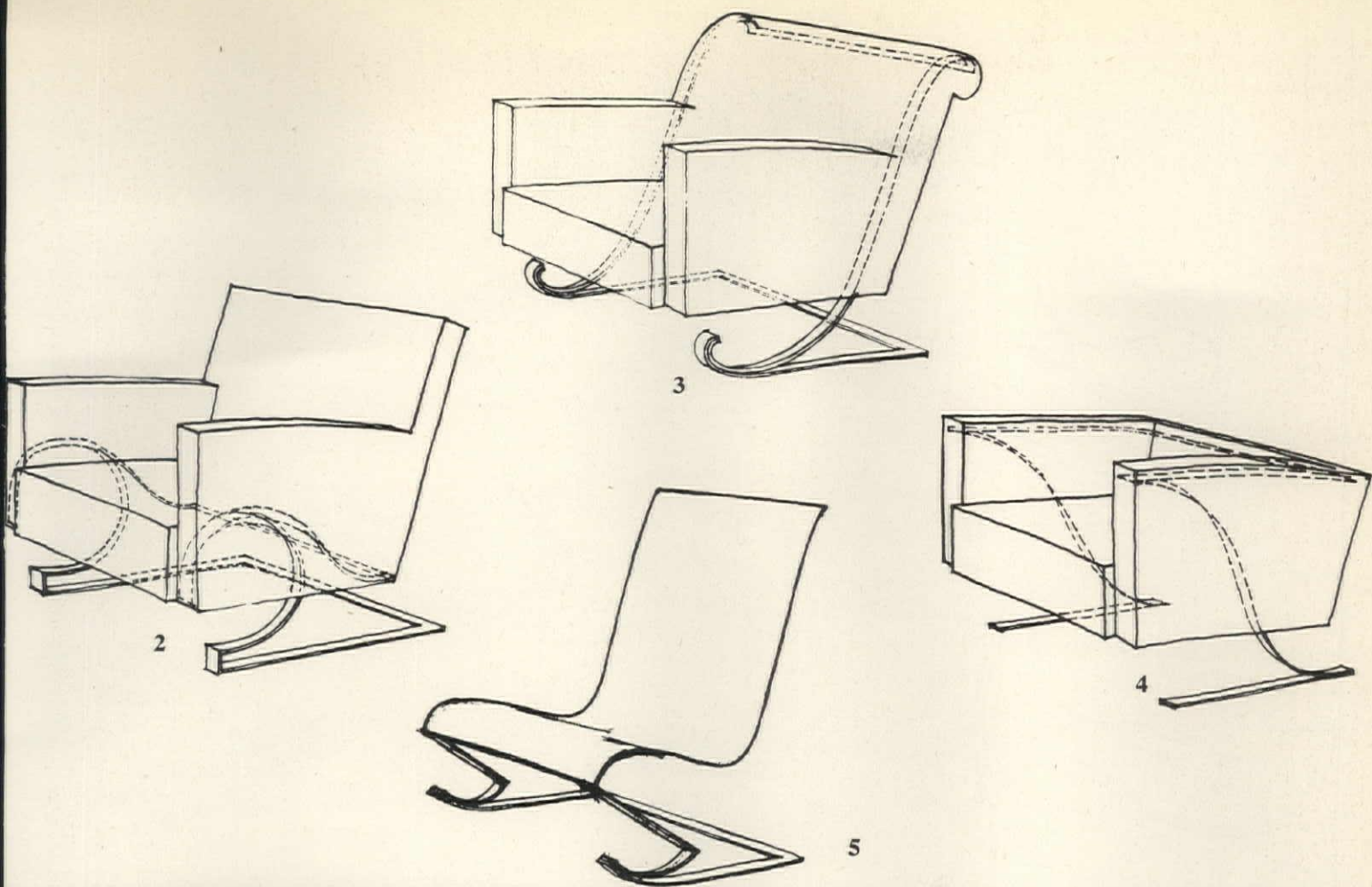
Mies van der Rohe as an architect of furniture is known almost entirely for only four designs: the MR, Brno, Barcelona and Tugendat chairs. Yet his furniture sketches are rich with ideas.

Hundreds of these sketches are in the archives of the Museum of Modern Art, which plans a show of them late next year. Those shown here, none of which has previously been published, were selected by the JOURNAL from the museum's collection.

They record a continual exploration of furniture form that began in the 1920s

and lasted into the '40s (although few of the sketches bear specific dates). Ludwig Glaeser, the Mies archivist at MOMA who helped arrange passage of some sketches from East Germany to Mies in the early '60s, believes that Mies' great interest in furniture may relate to the fact that during the Depression years royalties from his well-known pieces at times provided his only income.

It is clear from the sketches that Mies was fascinated with the possibilities of simple cantilever lines. One series of can-



tilt lever chair profiles (1), reminiscent of Breuer's Cesca chair, ends in experimentation with a single triangular side panel.

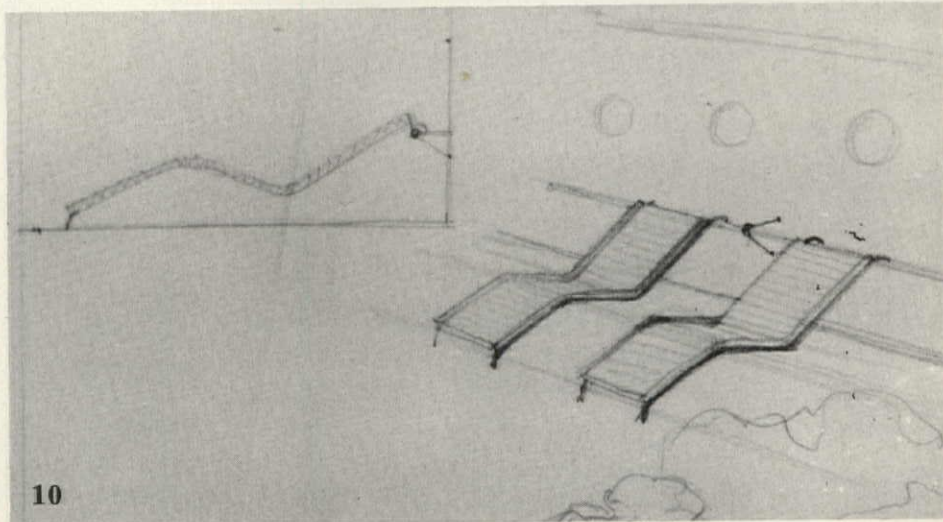
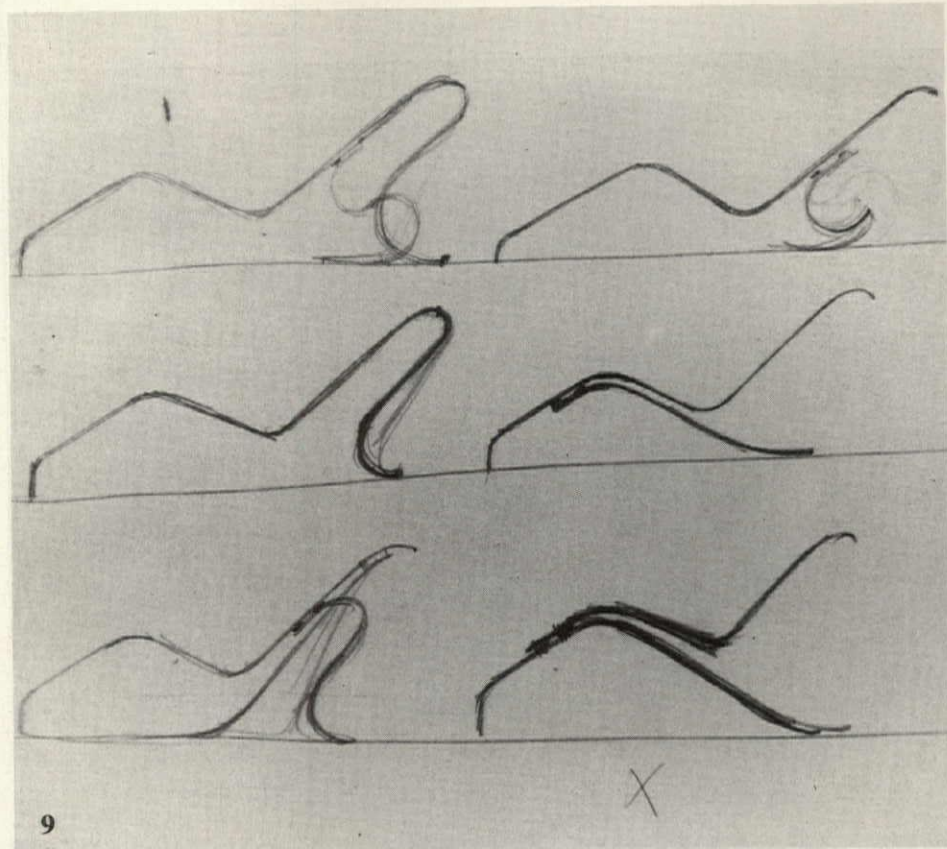
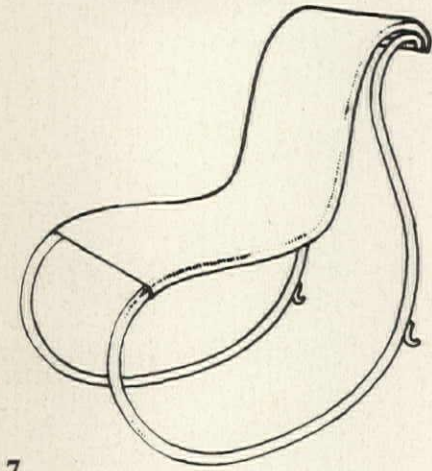
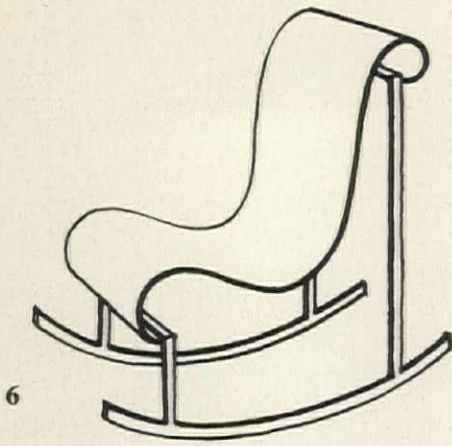
Like these, many of the sketches are variations on a single theme, some as simple as lines suggesting form. One theme to which Mies frequently returned was the curving metal spring frame that he introduced in the Tugendhaht chair, and which was made possible by a screw connection (which he invented) at the points of maximum stress where seat and leg supports meet.

The chair was designed for the Tugendhaht house in Brno, Czechoslovakia, built in 1930. Mies designed every element of the house, including light fixtures, curtain tracks and door knobs. Exterior walls are glass and interior spaces are divided by free-standing onyx and ebony so that the classic Mies furniture stands as if on display as architecture-within-architecture. In the photo of the main living area, above the chair bearing the name of the house is in the right foreground.

Some of the variations on the basic con-

struction of the Tugendhaht chair that Mies explored involved rather ordinary club seats (2 and 3). This may surprise those who associate Mies with spare, classic lines in seating. However, Mies apparently loved heavy upholstered furniture—some of his sketches of interiors show old-fashioned wingback chairs. Another Tugendhaht variation (4) involves a cube seat on a reverse cantilever and still another (5) employs a solid curving seat instead of upholstery.

Mies also seems to have sketched vari-



ations of others' themes, although the lack of chronological data leaves unanswered the question of whether his ideas preceded or followed theirs. Thus, the single swooping seat on a simple, almost crude sled frame (6) recalls Alvar Aalto's molded plywood chair. And a curvilinear rocker (7) might be a simplified and streamlined version of the Thonet design in bentwood.

The graceful reclining rocker (8) exemplifies Mies' interest in seating that placed the user in a semi-prone position.

His simple line sketches for a lounge (9) are markedly similar to the Le Corbusier lounge chair of the 1930s.

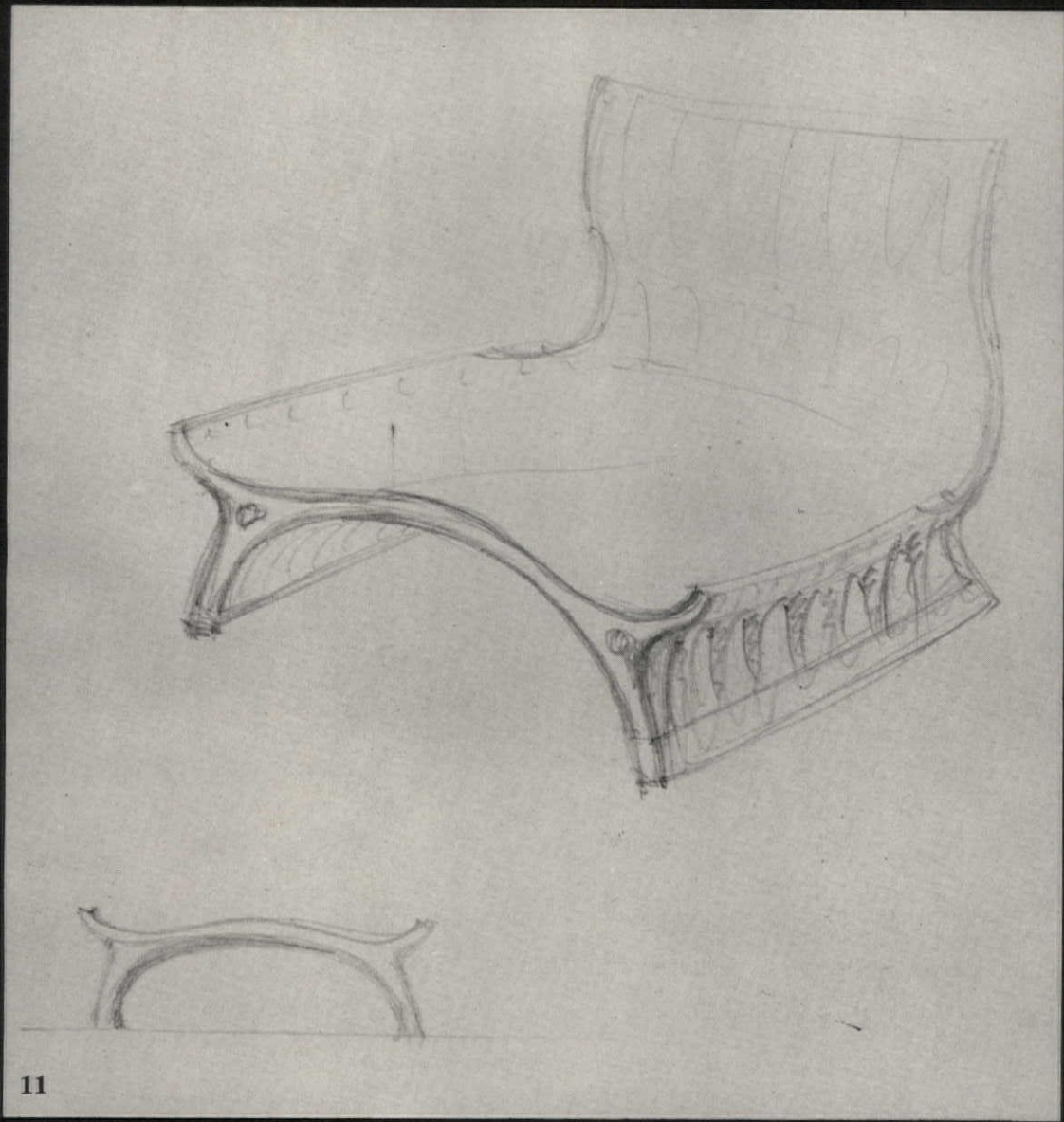
In one intriguing series of sketches, Mies takes the same basic lounge configuration and shows its back resting on simple supports, seemingly suspended by cables from ceilings and trees, and hung from rails (10) as if on a ship.

In what Glaeser believes to be the most recent series of sketches, done in the early '40s, Mies explored the potential of molded plastic in what he called "conchoi-

dal chairs." They are the freest of his furniture forms. In the example shown here (11), the seat curves upward to form a hint of a side.

Wherever these sketches might have led in the way of a finished design, it is clear that Mies wanted to maximize the use of a mold to achieve a sculptural character in the plastic chair, a startling departure from the simplicity of line and form that marked both his architecture and his classic furniture designs and a glimpse of unexplored possibilities.



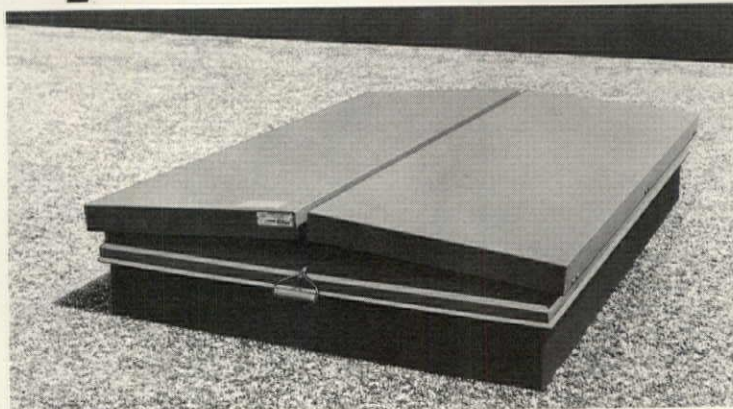


11

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**Creative Capital: Colonial Life in Modern Washington.** Sam Smith. Bloomington, Ind.: Indiana University Press, 1974. 303 pp. \$8.50.

Here is a witty, entertaining but nonetheless serious book written by a white, independent newspaperman who has lived over half of his life in Washington, D.C., made the thinking, doings and undoings of the rank and file of the city's permanent residents his foremost interest, and addresses his narrative—or should I say his argument—primarily to the local public, above all to the 71 percent of the inhabitants of the District of Columbia who are black. In undertaking to “tell it like it is,” Sam Smith actually tells it as it looks to him. Parts of the picture that he paints will startle some of his readers, irritate some others and stir up debate among many more. In short, his is a controversial study, presenting his own observations in pungent language, lacking detachment and impersonal judgments. (Indeed, he unequivocally announces his preference for “involvement and reasoned objectivity; believing that while there may be two sides to every question, the truth does not usually lie in the middle.”)

Occasionally, he omits explanations of the whys and wherefores of his opinions. He declares, for example, that Metro, that most costly public works program ever undertaken in the U.S., and the Council of Governments, the consultative body composed of representatives from every Washington suburb and the District of Columbia, constitute two significant threats to the well-being of the central city. Why? One can imagine that, first, he condemns the elaborately planned subway system because it is gobbling up tax money that might go into meeting needs like low rental public housing or greatly expanded public health services, and, second, that he regards the COG as a menace because the wealth and numbers of white suburbanites might easily tighten the powerful white noose around the black inner city. But for Smith's readers, it would be more satisfactory to know rather than to guess at what formed the basis of his curious pronouncement. Although other weaknesses crop up in this



book—a certain amount of repetition, some dubious interpretations of cause and effect, bits of exaggeration—none of these faults, in this reviewer's opinion, detract much from the readability and interest of the text.

The wide range of themes which Smith chooses to talk about and which give the study its particular vigor are revealed by a glance at the chapter headings: *Life Inside a Monument* (a rapid overall sketch of the distinctive features of life in present-day Washington); *Low Budget Constantinople* (a review of the municipality's prolonged battle with the federal government to extract payment for services the city performs for its overlords in Congress and the White House); *At Home* (a characterization of the city's 70 neighborhoods and the succession of voluntary organizations that have sprung up to serve each); *Black, White and In Between* (meaning just what it says); *The Heaviest City Government* (referring to the cumbersome machinery of Congressional, Presidential and local administration); *Crime Pays; Education Doesn't* (just so, however unpleasant); *The Urban Gang Bang* (urban renewal and redevelopment hassles); *You Gotta Technique 'Em* (how local leaders attempt to slash through bureaucratic red tape); and *Taking Care of Business* (a summary of which Washingtonians put their faith in

what kind of local political control and why statehood for the District of Columbia seems to some citizens to be the best plan for Washington's future).

If you want to know about the nation's capital as a community, you can hardly fail to find this book worth reading. *Constance McLaughlin Green, Pulitzer Prize winner for her historical books on Washington and a resident of the city.*

**J. B. Fischer von Erlach.** Hans Aurenhammer. Cambridge, Mass.: Harvard University Press, 1973. 193 pp. \$15.95.

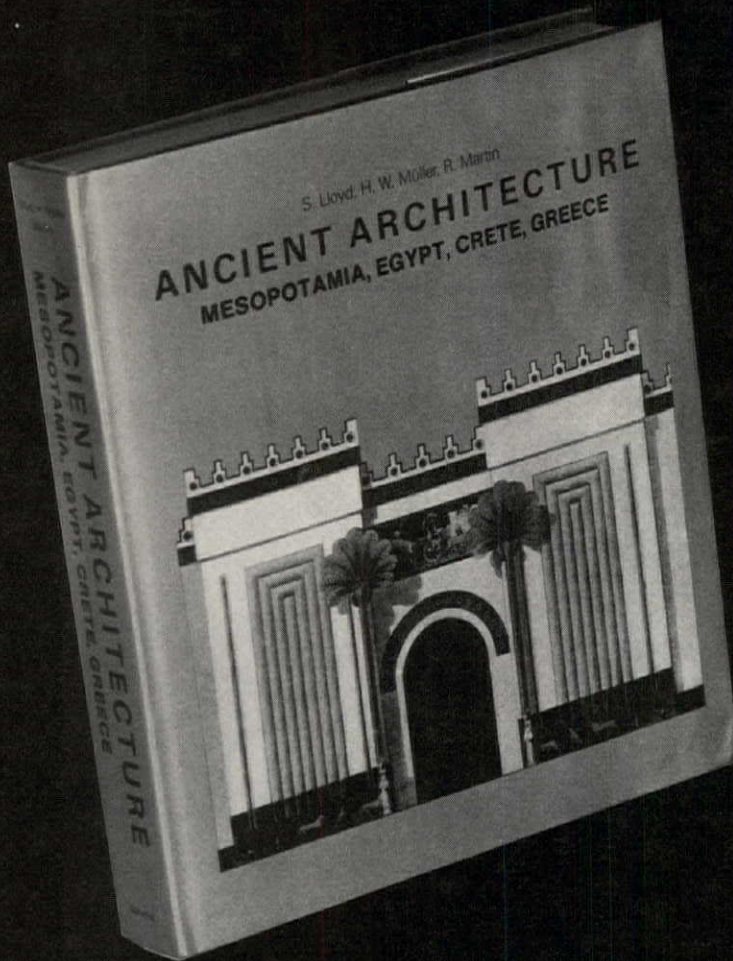
The major struggle for power in Central Europe after the 30 Years War (1618-48) was between Emperor Leopold I and the Sun King, Louis XIV, who supported the Turks in order to take advantage of the weakness of the Holy Roman Empire and to gain supremacy in Europe. For many years, Leopold had to resist the French because the Turks, who had beleaguered Vienna in 1529 and were repulsed, made further troubles in the Balkans. The result of all this was not whether the Holy Roman Empire was to continue under French or German leadership but the triumph of the new Austrian-Hungarian Empire in which the Counter-Reformation was a complete success.

It is this grandiose and somewhat frightening scenario in which we find the great architect Fischer von Erlach favored to express and glorify the new regime. He introduced almost single-handedly the style which then prevailed in Italy but with differences of his own. He enjoyed the favor of both emperor and princes of the secular regime and of princes of the church.

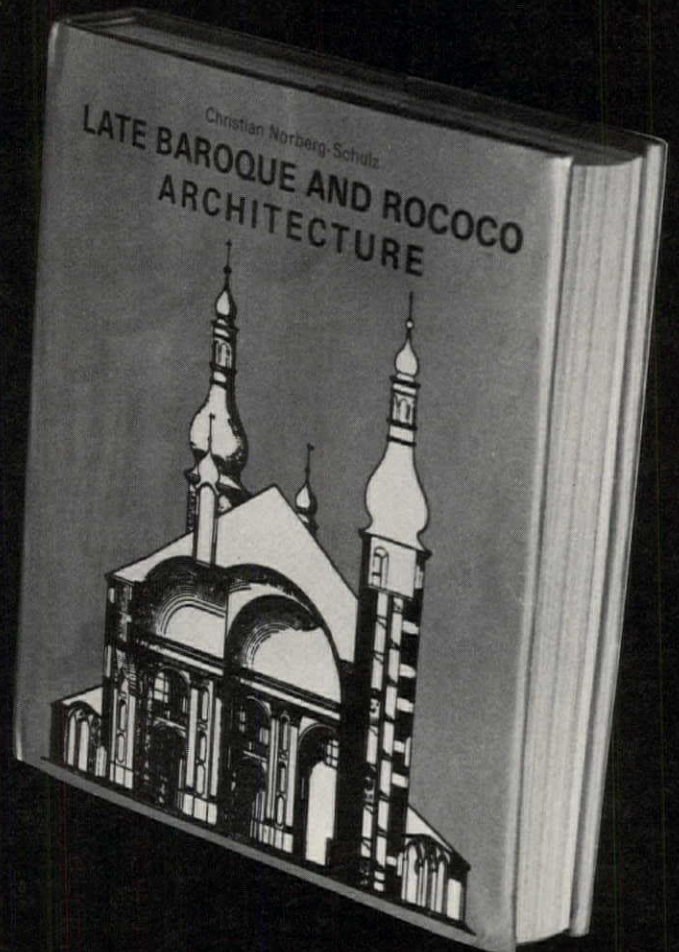
Aurenhammer, an authority on Austrian baroque, presents a brief monograph on the leading master of the period. The story of Fischer's early beginnings as an apprentice in Bernini's studio to his celebrated position as an architect for the mighty makes for fascinating reading. Anyone interested in the significance of architecture as the mirror of society will enjoy reading the book.

The visual presentation of the architectural work is wanting, however. Only the book's slipcover has a color reproduc-

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tion of the famous Karlskirche. Visitors to Vienna and Salzburg enjoy the great colorfulness of the grandiose baroque scenery, including Fischer's celebrated Schoenbrunn Palace in Vienna and his churches in Salzburg. This sense of color and the sweeping flow of open spaces—the most important aspect of baroque architecture—cannot be conveyed in flat offset print.

Fischer, famous as a practitioner as well as a theoretician, a trained sculptor and student of history, was widely read and personally in contact with the important scientists and thinkers of his time. His learning was encyclopedic, and his designs were rather eclectic. Even Oriental ideas found their way into the play of mixtures consisting of Greek classicism, Roman columns which could look like minarets, Renaissance domes and the ever-distorting baroque ornamentation. As Aurenhammer writes, "Fischer's fusion of form and content, of architecture, painting and sculpture, of different styles, of nature and art, demands that the spectator should both comprehend the individual elements and at the same time visualize them as a whole, in a sympathetic way." It is to the author's credit that he conveys a sympathetic representation of the most sumptuous imperial architectural displays. *H. H. Waechter, AIA*

**Designing for Industry: The Architecture of Albert Kahn.** Grant Hildebrand. Cambridge, Mass.: MIT Press, 1974. 232 pp. \$14.95.

Although Albert Kahn made revolutionary contributions to industrial architecture, heretofore there has been little published information about him. This book, a major study, is a welcome addition to American architectural history. Its author, a professor of architecture at the University of Washington, formerly worked as an architect with Albert Kahn Associates in Detroit.

Kahn's work goes back to the days before the automobile industry pushed forward, and in 1903 he designed the first reinforced concrete frame factory in the U.S. for the Packard Motor Co. Subsequently, his designs for other companies were instrumental in the advancement of automobile manufacturing.

He soon gained international recognition, and between 1929 and 1932 he and his staff had designed more than 500 plants in Russia alone. This book documents both his industrial and nonindustrial architecture, but its significant achievement is the analysis of the more than 2,000 factories designed by Kahn's firm and the insights into his "prophetic" methods of design team effort.

It is fair to assume, says Hildebrand,

that if Kahn had devoted himself to non-industrial projects, he would have been only of "local interest" in architectural history, but because of his industrial designs, he was "unique." His industrial structures are "an important facet of architectural history in their own right. They have had an impact on the world as it is, both through their architectural presence and because of the role they played in encouraging industrialization," Hildebrand writes. He says that many of our contemporary problems have resulted from this industrialization, but Kahn's career "also suggests some rays of hope for his profession as it faces difficulties of a later time. . . . He left a testimony to the challenges and to the importance of adhering to precise criteria, and he showed that a genuine team attack on design problems has undeniable usefulness."

**NCARB Test Guide.** Edited by William Houseman. New York: National Council of Architectural Registration Boards and *Architectural Record*, 1974. 169 pp. \$18.90 AIA members; \$21 nonmembers.

This book is a must for anyone who is preparing to take the professional exam of the National Council of Architectural Registration Boards in December. The price of the book is small enough for all the help it gives. It gives specific guidance

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in preparation for the exam as well as information on the whole process of registration and licensing.

The first edition of the test guide was based largely on a model examination. The 1974 edition varies in that its substance is derived directly from the actual exam given in the majority of the states in December 1973.

There are four parts to the professional exam: environmental analysis, architectural programming, design and technology, and construction. The test guide considers each of the four parts, presenting questions to test the student's knowledge of that specific area. There is also a glossary of terms and a bibliography to help in general preparation for the exam.

**New Furniture 11.** Edited by Gerd Hatje and Peter Kaspar. New York: Architectural Book Publishing Co., 1973. 160 pp. No price given.

This 11th volume in a series presents more than 450 examples of furniture from all over the world to document the "state of the art" in furniture design. There are chairs, sofas, beds, tables, office furniture, cabinets, shelves and nursery furniture. The examples given seem to indicate that would-be purchasers of furniture have a wide variety from which to choose for varying tastes. You can't relate taste to pocketbook, since no prices are given. But furniture by name designers, as illustrated here, is usually high. Also some of it just wouldn't go except in the most austere designed home.

**Practical Laboratory Planning.** W. R. Ferguson. New York: Wiley (Halsted Press), 1973. 147 pp. \$14.75.

Laboratory planning is rapidly becoming a complex and specialized field. As the author of this book points out, there has been a dramatic increase in both number and size of research laboratories in the past 50 years as the explosive growth in science and technology has generated ever-increasing demands for research. Because of many factors—the gearing of the developing nations' economies to technological advances, the intensifying search for alternate forms of energy, the concern about pollution control and the search for substitute materials—the demand for more (and more sophisticated) research facilities must continue to accelerate.

Any organization intending to build a laboratory facility does well to select an architect with experience in this field or to retain a laboratory facilities planning consultant. It is almost mandatory that a program of requirements be documented before schematic drawings are prepared, in order to provide front-end visibility of the project size, budget and construction schedule.

This book is an excellent handbook for

those planning a laboratory or for those responsible for laboratory safety and operations. Architects will find it both a valuable reference for themselves and a handy way to get their clients thinking on the same wavelength. It stresses the importance of effective communication between client and architect, the value of preliminary planning and the role of the project officer; it discusses the size and layout of individual laboratories, design of fittings and services, fire and safety precautions, and the many other factors to be considered in the design and layout of the building. Descriptions of a number of Australian, European and U.S. laboratories are included, together with technical details of many features.

Ferguson speaks from experience. He was the architect for the Commonwealth Scientific and Industrial Research Organization (CSIRO) of Australia from about 1937 until his retirement in 1970. His international reputation in the field of laboratory design has led to invitations to act as consultant on projects in Bangkok, Colombo, Djakarta, Honolulu and Montevideo. For those who will purchase this book, however, I have a few notes of caution.

Many of Ferguson's suggestions are peculiar to areas where laboratory benches are not readily available commercially. He provides guidelines for making cabinets, but a U.S. reader need not be concerned with these: Cabinets in this country are readily available in oak, enameled steel or plastic-faced particleboard. (The first two are comparable in price, while the particleboard costs slightly less. Nominal dimensions are most commonly 4'-0", 3'-0", 2'-0" and 1'-6".) Wood tops with an aniline finish as suggested are uncommon in this country.

Some of the suggestions create (and some drawings show) hazardous conditions:

- Doors swing inward; they should swing out from the laboratory for easy exit.
- Large lags are shown without a secondary exit. Knockout escape panels are provided, but there are no substitutes for an escape door.
- Some of the lab layouts leave corners where someone could be trapped. Peninsular benches need to be planned with caution.
- Large windows appear in lab doors to the exit corridor. To prevent fires from spreading into the corridor, such windows should be eliminated.

Flexibility, which should be a major consideration in research laboratory planning, has received little attention here. For example:

- Tops are supported on base cabinets; this is inflexible and expensive. More cabinets are usually provided than storage requirements warrant.

- Benches are bolted down and cannot be rearranged or replaced with equipment.
- Mechanical and electrical systems need to be flexible for future growth and change without disrupting ongoing research.
- Walls should be easily removable to expand individual laboratories.
- The capability to subdivide large labs into smaller spaces without interfering with lighting, air diffusers, heating convectors and windows should be built in.

Ferguson misleads the reader by indicating that a "use factor" of 71 percent is attainable. In complex facilities, such as these, space must be allowed for special air handling systems (ventilation, heating, cooling, filtration, distribution), special waste handling, wider corridors, etc. In actual practice, 60 percent is an extremely good "net gross efficiency" for research facilities.

I agree with Ferguson when he states: "The selection of the architect is one of the first major decisions. I think it is wise to choose one who has had previous experience in the specialized field of laboratory design; furthermore, a small firm is likely to be more cooperative and flexible in their approach than a large firm." There is a catch, however. Very few small firms have experience in this specialized field. It makes the task of a client in search of an architect that much more difficult.

*Theodorus Ruys, AIA*

**3000 Years of Urban Growth.** Tertius Chandler and Gerald Fox. New York: Academic Press, 1974. 431 pp. \$28.

One of the most serious defects of historical urban studies, says Lewis Mumford in the foreword to this reference book, is the lack of specific statistical information about the area, density and population of cities. This book, the result of more than 30 years of research on the part of Tertius Chandler (an introduction says that the book was "compiled by Tertius Chandler and inspected by Gerald Fox"), estimates the population of urban areas from the time of Moses—about 1360 B.C. Population figures are given in tables which are accompanied by maps.

There are data sheets for ancient cities from 1360 B.C. to 200 B.C.; for cities in the period of 100 A.D. to 622 B.C.; for cities in the time period of 800-1850, arranged geographically. Sections follow on the world's largest cities, 430 B.C.-200 B.C., and 100 A.D.-1968; maps of the world's largest cities from 800 to 1968; a listing of the cities of the world in 1300-1850; an essay on the world's largest city; a list of top cities in each continent from 800 to 1850; a list of the whereabouts of unfamiliar cities not shown on the maps; and a lengthy bibliography.

It's interesting to read how all the population estimates were arrived at without the benefit of population censuses. For

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example, the population of Amsterdam in 1514 is given at 14,000. This figure was derived from known facts that the city had 2,507 houses, 2,907 family units and 9,000 Christian communicants. From these compatible figures, a reasonable estimate is made for the city's population in that year.

Mumford says that there's much "un-surveyed ground to be covered before we have an adequate statistical picture of characteristic urban population patterns. This is not a reflection on Tertius Chandler's path-breaking presentation: It shows how he has opened up for urgent further investigation the relation of population growth to changing geographic, economic and political conditions."

**Security: Theft Prevention, Security Development, Emergency and Disaster Planning and Guard Organization.** Walter M. Strobl. New York: Industrial Press, 1973. 280 pp. No price given.

A security hazard is defined by Strobl as "any act, omission or condition which could seriously breach the protective system and result in a compromise of company secrets, a loss of company property or injury to personnel." An executive in a Memphis security service firm, Strobl believes that even a rank amateur can take this book and learn how to survey a facility, develop a security plan for it, implement the plan and then keep on top of the situation.

He tells how to circumvent pilferage, organized theft, espionage, sabotage, forgetfulness and dereliction of duty, as well as how to plan so that dangers will be minimized from bomb threats, civil disorders and natural disasters. The book has chapters on such matters as a protective lighting system; security of shipping and receiving docks; locks, key control and security containers; closed-circuit TV surveillance; and protective alarms and systems.

Strobl says that there are four definite physical lines of defense or protection to be established: perimeter barrier, area security, peripheral walls of the structure and areas inside the building. Much of the physical security can be designed into the building, and the book will help architects in this respect.

**The Glass House.** John Hix. Cambridge, Mass.: MIT Press, 1974. 208 pp. \$22.50.

Although the use of artificial climates for plants may have been in effect in Greece in the fifth century B.C., it was not until the Renaissance that the growth of plants was studied methodically. The first botanical garden was started in Pisa, Italy, in 1543, and by the end of the decade such gardens existed in Padua and Florence, and later in the century in Bologna and Leyden, Holland. By the 17th century, the Leyden Garden had glasshouses. More glass came into use late in the century, and the orangery in Not-

tingham, England, is said to be one of the first buildings with a glass roof.

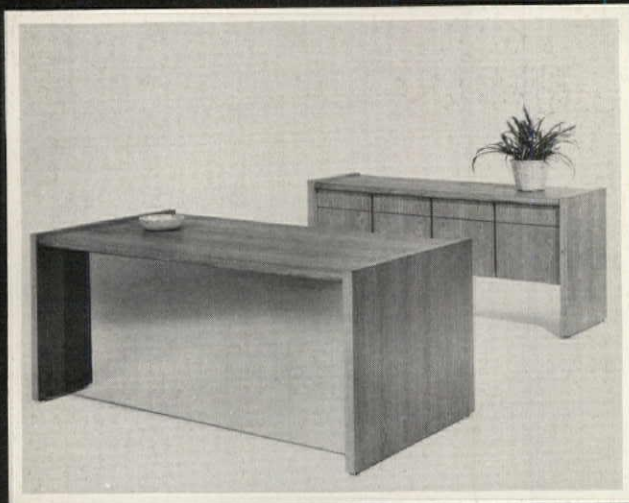
This timely and absorbing book—illustrated with many etchings, lithographs, drawings and photographs—is not a book about horticulture. It's a study of how man has created and controlled artificial climates from past eras to the present, and there's a prophetic look, as well, into the future when it may be possible and feasible to envelop entire towns under a controlled environment. As Hix says, the ideas of Buckminster Fuller for an air-conditioned dome over New York City and of Frei Otto for airconditioned cities in the Arctic are but a hint.

Hix tells about the trailblazers of glass design. The period of the 19th century, one of the greatest advancements, is discussed in detail. There was the famous Crystal Palace, which was an ingenious product of what we'd call today modular construction, prefabrication, rapid site assembly and standardization.

Other applications of glass architecture are considered, such as the contributions by Paul Scheerbarth and Bruno Taut, those early 20th century "prophets of future environments" (see H. H. Waechter's study, Sept. '73, p. 32).

Architects will be particularly interested in the final chapters on today's structures of glass where climate is controlled and in the glimpse into the future where eternal summer is possible in an unpolluted and ecological environment.

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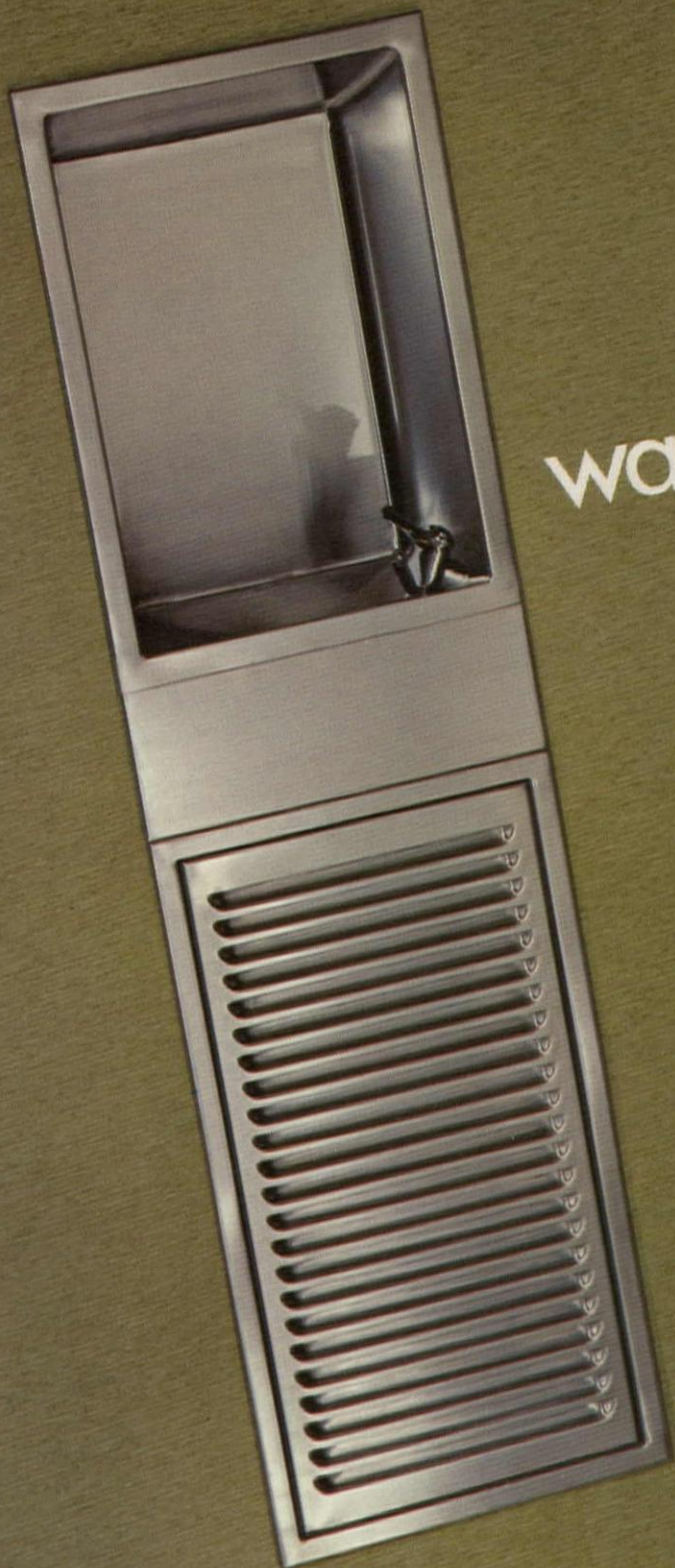
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## LETTERS

**Computer Applications:** I was extremely pleased to see the exploration of computer applications in the July issue. This is a subject area which is very much misunderstood—and often somewhat emotional—as more than one medium-sized firm has been severely “burnt” by a machine that failed to live up to advertised expectations. I applaud the attempt to present a concise and simple introduction.

The article by David Lorenzini titled “First Steps in Computer Use for Small Firms,” however, goes a considerable distance toward re-muddying an already considerably murky perspective by perpetuating the unfortunate tradition of glossy promises associated with wholly unrealistic costs.

The article states that a time-sharing service may be utilized for a “monthly charge of approximately \$150 plus storage and connect time. . . .” Even the most bare bones and awkward teletypewriters plus modems rent on a month-to-month basis for only slightly less than \$100. This leaves \$50 monthly to pay for computer time (or an almost useless six seconds per day at commercial rates). Rental alone, for an easy to use terminal, exceeds \$150.

If Lorenzini intends “connect time” to mean processing time, he should have said so, and given a realistic idea of its cost. To do otherwise, in an article intended as an introduction, is to misrepresent by omission. Connect time is the charge for the use of the telephone port into the time-sharing machine. Processing time is expensive. To imply that a small firm can use sophisticated programs such as Masterspec “cheaply” is ludicrous.

To state that “time-sharing companies employ applications engineers to advise their clients” and imply that for the pittance he is suggesting a firm can expect the programming support to accomplish the grossly understated “‘little tricks’ and . . . internal data management” is to irresponsibly set the reader up for a rather large disappointment.

It is a patent falsehood to state that “standard language-to-language routines” exist. In the high-level language context implied by the article, they do not! Such interpreters exist for specific languages on specific machines and are not interchangeable. Neither are they standard, production-oriented or error-free.

It is also a very misleading understatement to suggest that the “disappointments” associated with transferring from a service bureau’s IBM System/370 to a \$1,200/month in-house mini-computer

are exemplified by problems as trivial as “your specifications might not be coming out with right-justified margins.”

I am very much in favor of encouraging architects to utilize the powerful capabilities of the computer, but publishing fiction will hardly further this end. I would like to suggest a continuation of reporting on this important and growing aspect of practice, but I urge a bit more care with regard to editing content.

Jeffrey M. Hamer  
Morganelli-Heumann & Associates  
Los Angeles

I agree with Hamer that many firms are afraid to approach the subject of computers because of much bad publicity about firms which wasted a lot of money for nothing. The real fact is that my article represents the successful experience of a 40-man office that has used a time-sharing system profitably since 1969. It does not utilize engineering programs because most architects don’t need them. It doesn’t utilize computer-aided design or graphics packages because they are prohibitively expensive for all but the largest firms.

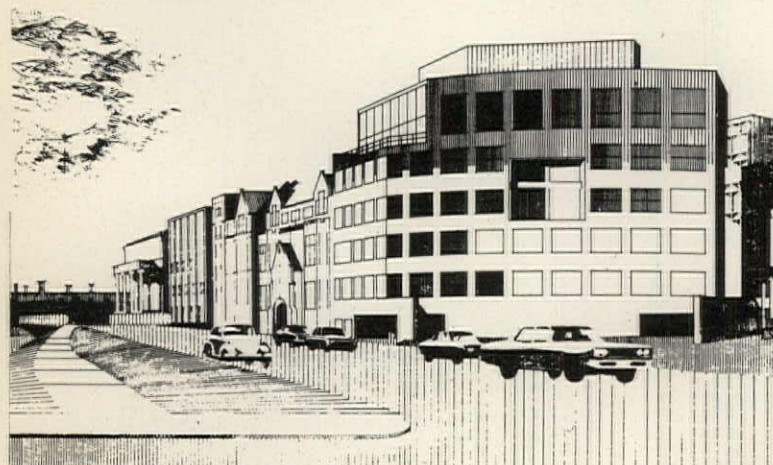
It does, however, handle the entire specification writing chores of two full-time spec writers, operated by a secretary who works only four days a week. It does perform purely architectural operations

# The Yale Mathematics Building Competition

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Charles W. Moore and Nicholas Pyle, editors

This illustrated chronicle of the 1969 Yale mathematics building competition provides an illuminating look at the state of American architecture fifty years after the start of the Modern Movement. The editors examine not only the winning design but a cross section of the other entries, which show a broad and vivid array of serious solutions to a complex design problem. 207 illus. \$15.00



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such as preliminary cost estimates and numerous other daily routines. It does have the capability of performing the entire payroll and job-costing activities very efficiently. These functions are considered to be "solid-application" programs because they accomplish very tedious and repetitious tasks more efficiently and at reduced overall cost.

I feel that Hamer may have read many things into the article which were not there, only because of his extensive experience with a large in-house installation. However, I am glad to have the opportunity to clarify the four points he questioned for the sake of all the readers.

First, an easy-to-use selectric-type terminal, such as the Anderson-Jacobson Model 841 with an acoustic coupler and maintenance, rents for only \$118 per month plus tax in the Los Angeles area. This terminal can also be used manually as a spare office typewriter. The article specifically states that connect time and storage charges are extra and does not have to be justified since it rises only in proportion to the amount of computer usage. The key point is that the fixed charge be justified by the first program installed, which should be one of the "solid-application" types. For example, the connect time on the very comprehensive spec program mentioned above would cost around \$175 a month plus approximately \$250 a month for storage charges. Including rental, the total cost of this first program is only \$543, which would not begin to pay for the typing services required to handle the work load. After the first "solid application," the follow-up programs will pay for themselves.

Second, it is agreed that most time-sharing companies do not offer free custom programming to every client, but the point of the article is that programming is no mystery and many architects are capable of programming their simple needs with only minor assistance. Proprietary Computer Systems of Van Nuys, Calif., has not one but several applications engineers who provide valuable assistance in developing custom programs, mainly because their time-sharing language, APL, is very simple and their library of subroutines is so extensive. It should be noted that for a system to be successful, there must be at least one enthusiastic employee who is willing to manage it and an employer willing to support it.

Third, although Hamer's remark is well made, it should be noted that programs are rarely ever translated into another language. By programming initially with a language like FORTRAN, which has universal and widespread applications through terminals in all major cities, there should be no problem adapting it for use in a new in-house computer.

Fourth, there are many other problems

associated with transferring to an in-house computer, and any firm large enough to consider such an application should have personnel experienced enough to evaluate the pros and cons. It is only hypothetical to say that "disappointments may be in store," but the point being made is that there is so much power, quality and speed available with a time-sharing service that users are often spoiled. Added attractions not offered by in-house computers include a staggering amount of library routines, which are continually improved and expanded, and a network of many cities across the country, which allows branch offices to access the same programs by their own local telephone number.

I, for one, appreciate Hamer's comments and look forward to hearing a more complete explanation of the "real" story. I don't feel, however, that a firm could get "burned" on a time-sharing installation if installed sensibly. The cost of computer usage is only relative to the benefits received in return. There are many operations which will soon be replaced by computers, just as "scissors drafting" and photo reproduction techniques are rapidly shortcutting the manual detailing process.

It is my hope that efforts to coordinate the programming of purely architectural operations will be successful in making available a nationwide system which is financially feasible to any size firm. This seems to have more chance of being achieved with time-sharing systems than in-house or service bureau methods.

*David Lorenzini  
Executive Architect  
Newport Collaborative, Inc.  
Newport Beach, Calif.*

**Omission of Credit:** In reading Mary E. Osman's otherwise excellent article in the September issue on "Student Energy Competition: 'New, Sometimes Risky Solutions,'" I note omission of the name of the sponsor of the competition.

The Association of Student Chapters/AIA is deeply grateful to Owens-Corning Fiberglas Corp. for assistance and support, without which the successful realization of the student competition could not have been possible.

The educational value of student competitions is often difficult to ascertain. It is believed that the timing of the competition (first announced in November 1972) was critical in creating an awareness of energy-related issues in schools of architecture.

We owe a great amount of recognition and thanks to Owens-Corning for helping to make the competition a success and for helping the winners to further their work in energy conservation.

*Patrick B. Davis Jr.  
President, ASC/AIA  
Washington, D.C.*

**Pedestrian Skyways:** Under a grant from the National Endowment for the Arts' "City Options" program, I am undertaking a legal and planning investigation into the issues related to the development of secondary elevated pedestrian skyways in urban areas.

Building upon legal precedents and design experiences, I will analyze the complex legal, design and financing issues associated with the successful implementation of skyway systems. The goal of the study is to publish an illustrated guide to the alternative means of developing and maintaining such systems. I hope that this guide will serve as a model for communities and developers interested in the use of this design option for central cities.

Before initiating the analysis, I am attempting to secure information concerning efforts to develop elevated pedestrian systems. I would appreciate materials which are available from any reader regarding the development of second-level pedestrian systems and/or any current skyway planning. Similarly, materials on downtown design plans would be most helpful.

*S. Jerome Pratter  
Team Four Inc.  
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## EVENTS

**Oct. 28-29:** Conference on Practical Applications for Air-Supported Structures, Frontier Hotel, Las Vegas. Contact: Robert H. Smith, Air Structures Division, Canvas Products Association International, 600 Endicott Building, St. Paul, Minn. 55101.

**Oct. 29-30:** Workshop on Engineering Contracts, Kansas City, Mo. Contact: NSPE/PEPP, 2029 K St. N.W., Washington, D.C. 20006.

**Oct. 30:** Abstracts due, call for papers for Urban Housing and Transportation Conference to be held at Wayne State University, June 1975. Contact: Dr. Vasily Kouskoulas, Civil Engineering Department, Wayne State University, Detroit, Mich. 48202.

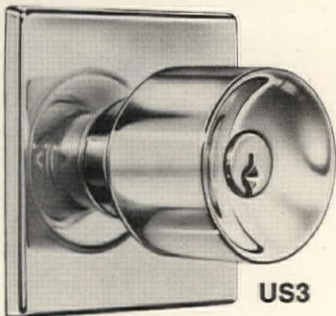
**Oct. 31-Nov. 3:** Workshop on the Victorian House, The Athenaeum, Philadelphia. Contact: Victorian Society in America, The Athenaeum, E. Washington Square, Philadelphia, Pa. 19106.

**Nov. 1:** Environment and Safety Briefing Session, L'Enfant Plaza Hotel, Washington, D.C. Contact: Bureau of National Affairs, Inc., 1231 25th St., N.W., Washington, D.C. 20037.

**Nov. 1:** Nominations due, Mrs. Lyndon B. Johnson Award. Contact: Keep America Beautiful, Inc., 99 Park Ave., New York, N.Y. 10016.

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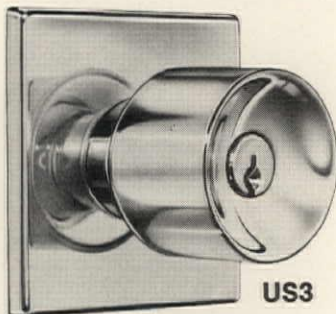
## BRIGHT BRASS



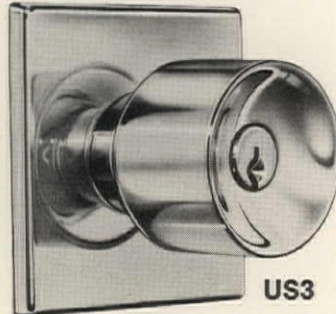
US3



US3



US3



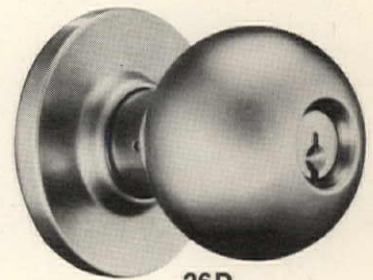
US3

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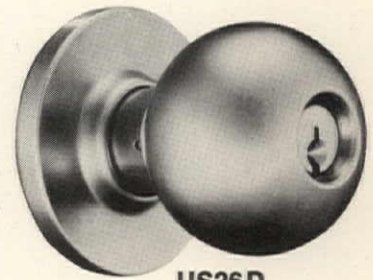
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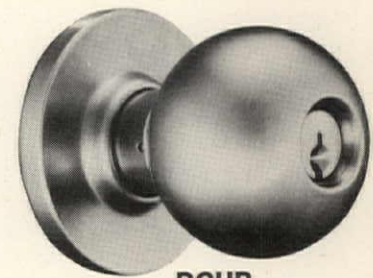
## DULL CHROME



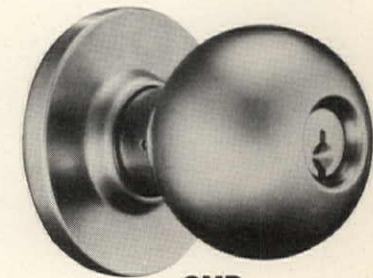
26D



US26D



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**Nov. 4-5:** Conference on Energy Utilization and the Design Professional, New Orleans. Contact: Professional Engineers in Private Practice, 2029 K St. N.W., Washington, D.C. 20006.

**Nov. 4-6:** Seminar on Developing Computer Systems for Accounts Payable, AMA Headquarters, New York City. Contact: American Management Associations, 135 W. 50th St., New York, N.Y. 10020.

**Nov. 6:** Seminar on Post-Tensioned Prestressed Concrete Building Design and Construction, Chicago. (Other seminars in other cities on various dates.) Contact: Prestressed Concrete Institute, 20 N. Wacker Drive, Chicago, Ill. 60606.

**Nov. 6-8:** Systems engineering conference, Radisson Hotel, Minneapolis. Contact: American Institute of Industrial Engineers, Inc., 25 Technology Park, Norcross, Ga. 30071.

**Nov. 6-8:** Texas Society of Architects annual meeting, Hyatt Regency Hotel, Houston.

**Nov. 7-8:** Construction Contracts and Specifications Institute, University of Wisconsin, Madison, Wis.

**Nov. 8:** Postmark deadline, Homes for Better Living Awards. Contact: Maria Murray, AIA Headquarters, 1735 New York Ave. N.W., Washington, D.C. 20006.

**Nov. 14:** Annual Construction Conference, Cleveland Engineering & Scientific

Center, Cleveland. Contact: Catharine W. Keifert, Esch Construction Co., 6203 Superior Ave., Cleveland, Ohio 44103.

**Nov. 14:** Conference on Getting the Business and Keeping It, Metropolitan Airport Hotel, Detroit. Contact: NSPE/PEPP, 2029 K St. N.W., Washington, D.C. 20006.

**Nov. 14-15:** Symposium on Tall Buildings, Vanderbilt University, Nashville, Tenn. Contact: Dr. F. W. Beaufait, Box 1533, Station B, Vanderbilt University, Nashville, Tenn. 37235.

**Nov. 15:** Postmark deadline, Louis Sullivan Award for Architecture. Contact: Maria Murray, AIA Headquarters, 1735 New York Ave. N.W., Washington, D.C. 20006.

**Nov. 18-19:** Conference on Renovation of Buildings, University of Wisconsin, Madison, Wis.

**Nov. 19-20:** Conference on Evolving Systems for Building Delivery, Royal Orleans Hotel, New Orleans. Contact: Joseph A. Demkin, AIA, AIA Headquarters.

**Nov. 22:** Conference on Architectural Fees, Washington University, St. Louis.

**Nov. 24-26:** Conference on Architecture for Corrections and Rehabilitation, Crown Center, Kansas City, Mo. Contact: Mark Maves, AIA Headquarters, 1735 New York Ave. N.W., Washington, D.C. 20006.

**Nov. 29-Dec. 1:** Association of Student

Chapters/AIA, Forum '74, North Dakota State University, Fargo, N.D. Contact: ASC/AIA, AIA Headquarters.

**Nov. 30:** Postmark deadline, Concrete Reinforcing Steel Institute design awards. Contact: George F. Leyh, CRSI, 180 N. LaSalle St., Chicago, Ill. 60601.

**Dec. 1:** Applications due, 1975 scholarship competition for undergraduate study in construction and/or civil engineering. Contact: Associated General Contractors of America, 1957 E St. N.W., Washington, D.C. 20006.

**Dec. 1:** Abstracts due, call for papers for ASTM Symposium on Roofing Systems to be held in June 1975 in Montreal. Contact: D. E. Brotherson, 1 E. St. Mary's Road, Champaign, Ill. 61820.

## GOING ON

*Continued from page 17*

and official signs that pertain to natural, scenic or historic attractions to include those pertaining to "rest stops, camping grounds, food services, gas and automotive services and lodgings." Such signs would be erected at the rate of three per mile on *each* side of the road, rather than the present limit of one per mile.

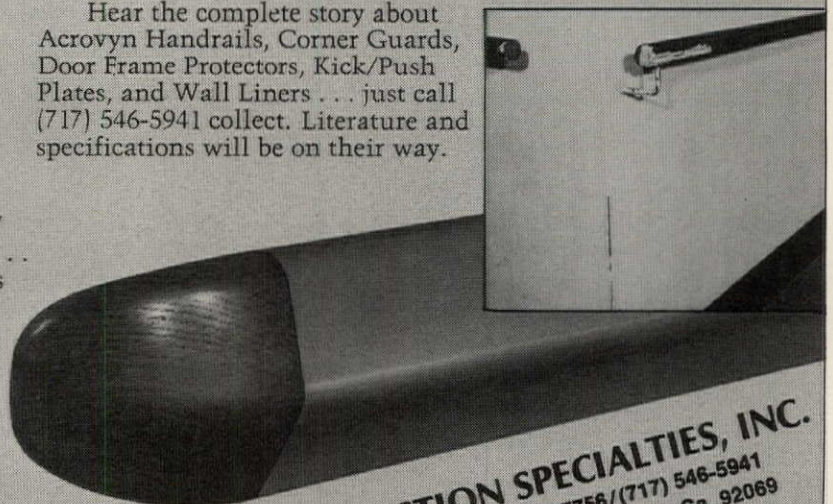
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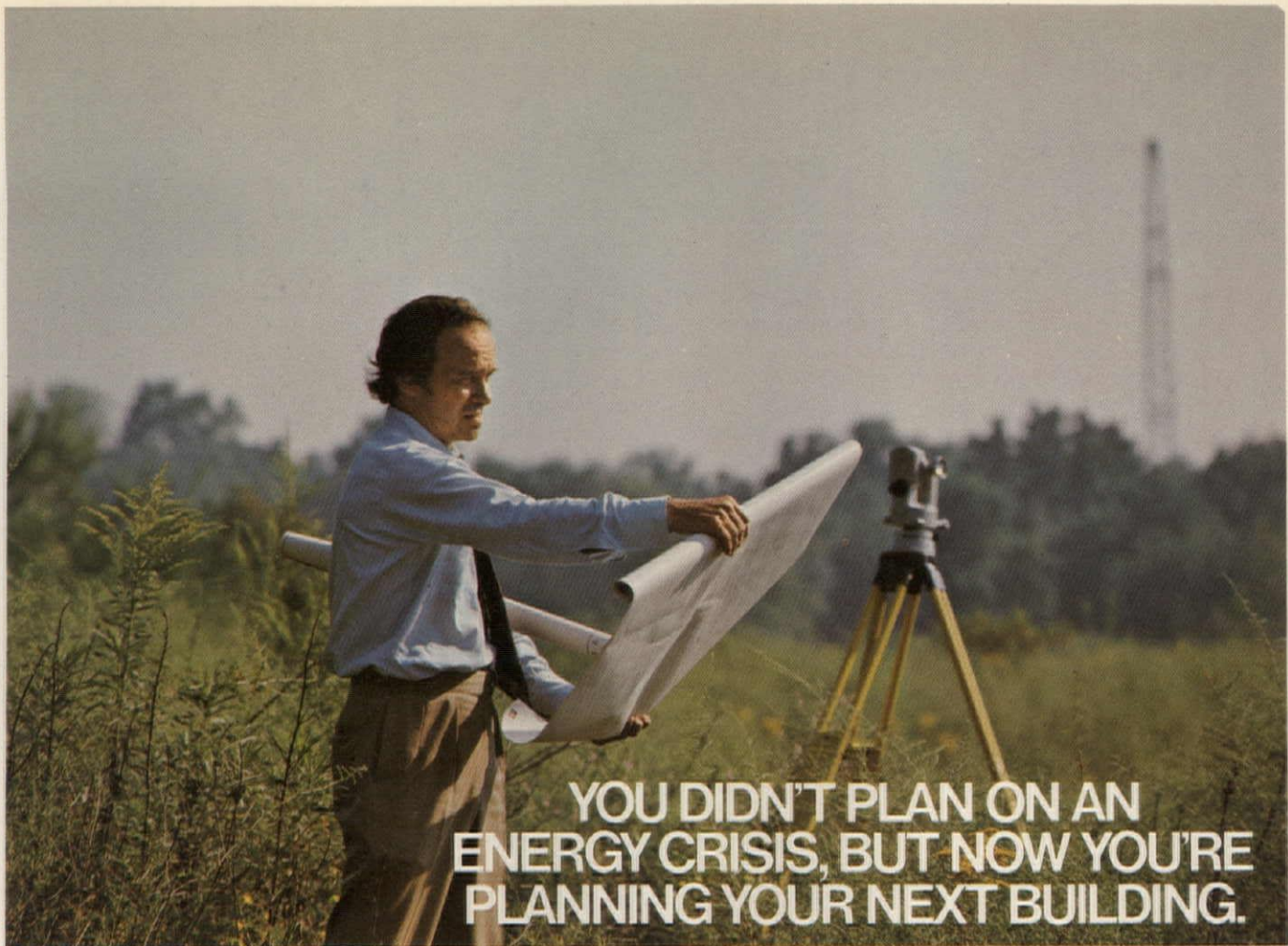
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Compare the energy conserving capability of masonry, for instance, with double-plate glass walls.

At 4:00 P.M. on a hot August day in Washington, D.C., the heat gain through a square foot of west-facing insulated brick and concrete block wall will be 2.2 Btus an hour.

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Project this differential over 10,000 square feet of wall. You come up with a heat gain through masonry of 22,000 Btuh, while the heat gain through double-plate glass is 1,730,000 Btuh.

In the case of the masonry wall, cooling equipment with a two-ton capacity can handle the heat gain. But with the double-plate glass wall, about 143 tons of cooling capacity will be needed.

An analysis of a typical 10-story building shows that over its useful life, the air-conditioning cost for a square foot of our masonry wall will be about 23 cents. For the double-plate glass wall, it will be \$7.60.

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Our masonry wall, for example, has a "U-value" of .12. The double-plate glass wall has a "U-value" of .55. (U-values are used to determine heat loss through one square foot of wall area in Btuh per degree Fahrenheit differential across the wall.)

This means that the masonry wall is about 450% more efficient, on the average, than the glass wall in reducing heat loss.

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moval efforts, which would disrupt the on-going sign removal efforts of states.

• The authorization of "just," or cash, compensation, payable to owners of non-conforming billboards when their displays are removed. The AIA believes that the highway beautification program would function more effectively if the states were allowed to use fair amortization techniques, if desired.

The AIA contends that the "regulation of roadside graphics is basically the control of a nuisance which falls under a state's 'police power' and does not represent denial of a basic property right. A lack of sufficient federal funds has obstructed the efforts of many states to remove offensive billboards at a more energetic and less expensive rate."

## F. X. Brown Joins Staff

Frank Brown has been appointed AIA's director of conventions and conferences. He served for 18 years on the staff of the Producers' Council, Inc., headquartered in Washington, D.C., managing such events as PC's national member conferences, building team conferences and building products executives forums. He was also editor of *Council News*, editor and publisher of PC's now defunct quarterly titled *Construction Products and Technology* and author and producer of other PC publications.

## Minority Professionals Meet in Washington

"United for Survival" was the theme of the Third Joint Minority Conference of the National Organization of Minority Architects (NOMA), the United Mortgage Bankers of America (UMBA), the National Association of Minority Contractors (NAMC) and the National Association of Housing Specialists (NAHS) in Washington, D.C., September 26-28. The combined group of some 200 heard keynote speaker Rep. Parren J. Mitchell (D-Md.) tell them what they knew so well "... that they almost represent miracles because they really should not have survived the present economic recession."

Having arrived in Washington by Greyhound, Amtrak and private auto, in contrast to the private jets bringing the attendees of the President's economic summit conference that caused a traffic jam at National Airport that same weekend, the group applauded Rep. Mitchell when he said: "Despite massive black unemployment, despite galloping inflation and despite high interest rates which are wreaking havoc with minority business, not only have you survived, you are here still fighting for the chance for blacks to at least have equal access to competition in America's economic system."

The attendees, principally from the

large urban centers, who have benefited from the political clout blacks and other minorities achieved in the 1960s that gave them access to public works projects, nodded their heads knowingly as Rep. Mitchell stated: "There is no doubt that we have been denied the access to competition by both the private sector and the public sector. What disturbs me most is that now seemingly an unholy alliance has been formed by the government and the private sector and that alliance both willingly and unwillingly, knowingly or unknowingly, is denying black contractors, black architects, black engineers and black housing specialists a chance to compete in the many projects, massively undergirded by federal efforts and public monies, which were ongoing in the country."

Those listening could only agree as the Congressman concluded, "It borders on criminality for the power structure to exhort black Americans to become prepared to participate in the economic-industrial life of America and then to deny us access—as business persons—and to give only token access as employees."

It is, however, doubtful that the groups assembled will follow his exhortation to "stage a confrontation with this unholy public-private sector alliance against black entrepreneurs," for they are very much a part of the American system, and were meeting, just as those in the economic

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summit conference were, to find peaceful solutions to the perplexing questions of economic survival.

In addition to Rep. Mitchell and other members of the Black Congressional Caucus, the joint conference heard a variety of public officials, among them D.C. Mayor Walter Washington, Georgia legislator Julian Bond and Basil Paterson, vice chairman of the Democratic National Committee.

The three organizations gave H. R. Crawford, HUD assistant secretary for housing management, a joint award for his leadership in the field of housing management. Awards also were presented to Chicago architect Wendall J. Campbell, AIA, first president of NOMA, and Washington educator Louis Edwin Fry, FAIA, considered by many to be the dean of black architects.

In a series of workshops bringing public and private interests together, the group met with representatives of such major corporations as IBM and United Airlines. Another workshop speaker was James B. Steward, special assistant to GSA Administrator Arthur Sampson, who described the agency's new A/E selection process. Steward pledged that minorities will sit on GSA regional advisory boards and the in-house evaluation board to insure that minority firms are among those selected.

At this same session, Wichita architect Charles S. McAfee, AIA, planning consultant on the \$50 million Lincoln Redevelopment Project, a new town-in-town in Kansas City being developed by Hallmark Cards, illustrated in detail how corporate social responsibility—or self interest—is leading to the rebuilding of the Lincoln ghetto in that city. *Robert Traynham Coles, AIA*

## Systems Committee Schedules Conference

The systems committee of the AIA will sponsor a conference at the Royal Orleans Hotel in New Orleans on Nov. 19-20 on "Evolving Systems for Building Delivery." Among the topics scheduled for discussion are systems approaches to architectural programming, design and construction management; building systems hardware; performance concepts and specifications; and computer graphics.

Speakers include George T. Heery, AIA, president of an Atlanta firm that has made widespread use of such tools as construction management and phased construction; Harold B. Gores, Hon. AIA, president of Educational Facilities Laboratories Inc., which sponsored the development of several building component systems; David A. Crane, AIA, chairman of the Crane Design Group in Houston; Jonathan King, Hon. AIA, senior vice

president of the Houston firm of Caudill Rowlett Scott Inc.; John R. Boice, director of the Building Systems Information Clearinghouse; David B. Hattis, executive vice president of Building Technology Inc.; William A. Kinst, AIA, lecturer in environmental systems at Ball State University; Clifford D. Stewart, AIA, of the Boston firm of Perry, Dean & Stewart; and Walter F. Wagner Jr., AIA, editor of *Architectural Record*.

For more information, telephone Joseph A. Demkin, AIA, at Institute headquarters in Washington, D.C. (202) 785-7252.

## 'Ruralitania' Theme of Annual Student Forum

This year's host for Forum '74, sponsored by the Association of Student Chapters/AIA, is North Dakota State University's department of architecture. The conference, to take place in Fargo on Nov. 29-Dec. 1, is being coordinated by Kevin Anderson of NDSU's department of architecture. Titled "Ruralitania," the conference will concentrate on the rural environment.

The local resources of Fargo and of Moorhead, Minn., will be used in a consideration of issues common to all of rural America. Workshops and discussions will center on such topics as population migration, the rise and fall of the rural community, rural ecology and transportation patterns and networks. Seminars are scheduled on environmental education, career opportunities and the open design office. There will be a tour to many of the sites and situations encountered in the discussions, and an added feature will be the AIA-endowed Louis I. Kahn memorial lecture.

For more complete information, write to ASC/AIA, 1735 New York Ave., N.W., Washington, D.C. 20006.

## Nominations for 1975 AIA Awards Invited

Gretchen Minnhaar, AIA, chairman of the 1975 jury on Institute honors, urges AIA component organizations and members to participate actively in the process of selection of professionals for recognition by AIA through its awards program. Submissions for the 1975 honors, to be presented at the AIA convention in Atlanta, must be postmarked no later than Nov. 8 and mailed to AIA headquarters. Details may be obtained from Maria Murray, staff executive for the AIA awards program, at Institute headquarters.

The following awards will be given if the jury deems that a qualified candidate is nominated:

- Architectural firm award: "to a firm, whether individual or organization of architects, wherein the continuing collaboration among individuals of the firm has been the principal force in consistently producing distinguished architecture."
- Fine arts medal: "to any person in recognition of distinguished achievement in the fine arts related to architecture."
- Allied professions medal: "to an individual or a professional organization in recognition of achievement in the design professions related to architecture, including landscape architecture, planning, engineering (structural, civil, mechanical, acoustical, electrical, etc.)."
- Craftsmanship medal: "to an individual craftsman for distinguished creative design and execution, where design and handcraftsmanship are inseparable."
- Industrial arts medal: "to an individual or organization in recognition of design for execution by the machine, in such fields as furniture, textiles, typography, building products and equipment, and consumers products."
- Architectural photography medal: "to any person in recognition of distinguished achievement in architectural photography."
- Collaborative achievement in architecture award: "to that project which best exemplifies the results of outstanding collaboration between practitioners of the building arts including architecture and at least three of the following categories: engineering, murals, sculpture, landscape architecture and craftsmanship."
- Citation of an organization: "to any organization, government or otherwise, excepting architectural organizations, for achievements in any field related to architecture or planning."

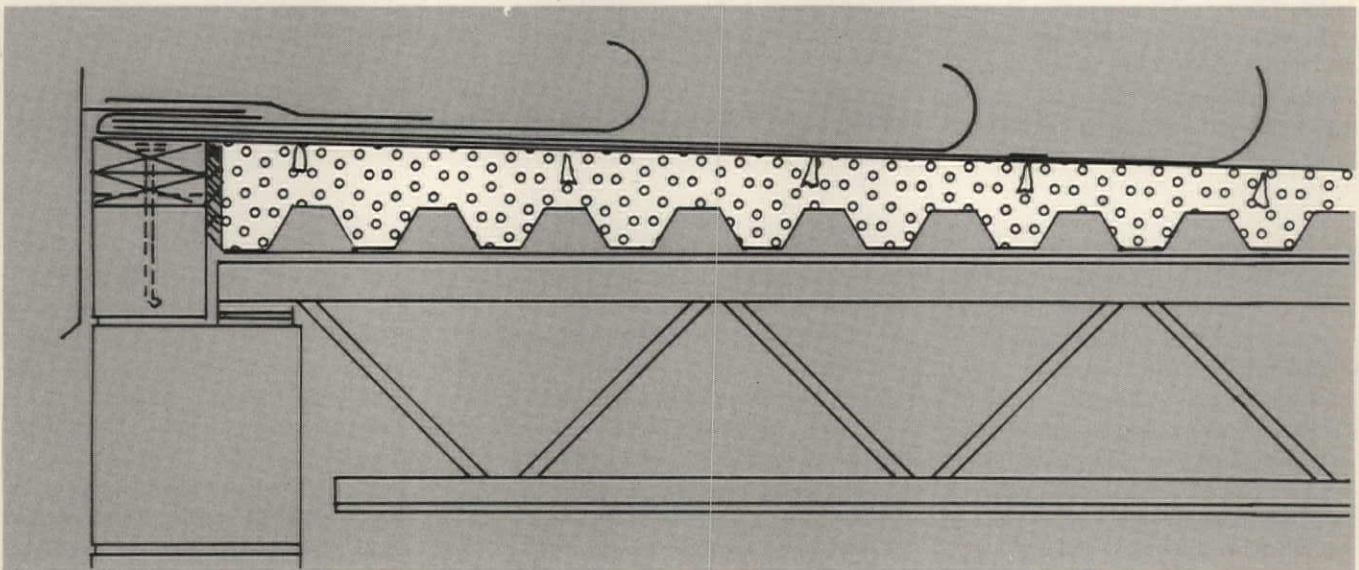
## World Housing Congress Focuses on Desegregation

Marvin Hatami, AIA, of Denver, former chairman of the AIA regional development and natural resources committee, represented the Institute at the 1974 World Congress of International Federation of Housing and Planning, held in Vienna on Aug. 17-24. Discussions focused on problems of desegregation and social integration in housing. The congress, attended by more than 900 delegates and participants, including architects, planners, educators and government officials, had three themes: social and economic opportunities, urban environmental opportunities and urban housing opportunities.

Hatami reports that only a small percentage of the speakers addressed the "critical problem of design and its complex relationship to the fabric of the city and life today" because so many nations view



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the problem of housing and increasing population so acute that "human values, environmental consideration and creativity were brushed aside."

Some interesting planning procedures were presented, says Hatami. For example, any housing project in Sweden, whether public or private, must be fully designed, presented and displayed for public review. In Switzerland, many municipalities require designers to "stake out with long poles a mockup of any building in the city center so that the public can practically visualize the configuration, size and volume of the proposed structure in relation to its surroundings." And Italy is endeavoring to formulate a national policy for the preservation and urbanization of old city and town centers.

Hatami summarizes the consensus of the majority of the participants at the congress: 1) Integration and desegregation on limited bases is beneficial, particularly in smaller communities where varied socioeconomic mix is desirable; 2) management of housing should go beyond collection of rent and maintenance; 3) government policy should aim toward egalitarian principles, striving to reduce the conflict between fixed legislation and flexible planning.

## Spring Tour of Japan

Kenneth M. Nishimoto, AIA, of Pasadena, Calif., has planned and directed 24 tours of Japan's architecture and gardens. He's now organizing tour 25, which will be limited to 20 persons, for a visit to Japan and Taipei/Hong Kong. The 26-day tour, to leave from Los Angeles and Vancouver on April 11, 1975, is designed specifically for architects and allied professionals. The travelers will visit such architectural masterpieces as the Katsura Villa, spend two nights in native inns and enjoy the beauty of the cherry blossom season. They will also have an opportunity to exchange ideas with architects in Japan and Hong Kong. An illustrated brochure may be obtained from Nishimoto at 147 S. Los Robles Ave., Pasadena, Calif. 91101.

## Deaths

**Robert H. Adams**, Birmingham, Ala.  
**Jonathan F. Butler**, New York City  
**William A. Coleman**, Kinston, N.C.  
**Harold C. Harlan**, New Madison, Ohio  
**Ralph C. Kempton**, Columbus, Ohio  
**Stanley L. Nerdrum**, Madison, Wis.  
**Charles Henri Rush**, Washington, D.C.  
**Louis Schalk**, Oakland, Calif.  
**Stephen W. Stachurski**, Leesburg, Fla.  
**George K. Trautwein**, Ardmore, Pa.  
**Maximilian Untersee**, Alhambra, Calif.  
**Victor M. Villemain**, New York City

## Newslines

**Alaskans** recently voted to move the state capital from Juneau to a more central location, creating a new town for about 20,000 persons. A study by the Seattle architectural firm of Naramore, Bain, Brady & Johanson and by Boeing Computer Services, also of Seattle, recommends a site outside Palmer, near Anchorage, as least costly. It is estimated that total cost of construction from 1980 to 1990 would be from \$1.3 billion to \$1.9 billion.

**The construction industry** is moving toward a federation of associations which would speak with a "single voice" to government, other industries and the public. At a recent conference, representatives of 21 leading construction organizations discussed the plan, and delegates agreed to form a steering committee to review the idea's feasibility and to report back to the full body in six months.

**A powerful five-man energy conservation and development commission** with broad control over the production and consumption of energy will be established in California in January. A bill, recently passed by the state legislature, gives the commission authority to determine location of plants that produce electrical energy, thus virtually ending the power of local authorities to keep such plants out of town.

**George L. Williams, AIA**, an associate in the real estate and buildings department of the U.S. Postal Service, has been designated chairman of the architect/engineer selection committee for all Postal Service headquarters design contract projects that exceed \$2 million in total capital investment. Smaller projects are under the responsibility of the five postal regions. Inquiries about design services may be directed to Williams, Room 8992, 475 L'Enfant Plaza West S.W., Washington, D.C. 20260.

**The highest honor** of the American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.—the F. Paul Anderson Medal—has been presented to William L. McGrath, executive assistant to the board chairman of the Carrier Corp., Syracuse, N.Y. For his "outstanding work or service," he received a citation and gold medal. At its recent annual meeting, ASHRAE installed David Rickelton, vice president of Aeronca, Inc., Charlotte, N.C., as its new president.

**The state and local governmental role** in new community development will be studied by the Council of State Governments, Washington, D.C., under a grant from the Department of Housing and Urban Development. The contract "will

provide officials at all levels of government with an informational source base which can be used in considering appropriate new communities policy as a means of achieving orderly growth."

**"Land Use"** is the title of a 31-page booklet, recently published by the League of Women Voters, which will aid the public in making critical land use decisions. It may be obtained for 75 cents (quantity rates on request) from LWV, 1730 M St. N.W., Washington, D.C. 20036.

**The Environmental Protection Agency** has formulated plans to create a new unit within the EPA that will deal with all aspects of land use problems. Administrator Russell E. Train, Hon. AIA, calls land use planning the nation's No. 1 environmental problem and stresses that the new office "does not represent the exercise of new authority, but rather, a new approach" to the responsibilities that EPA already has.

**Architect Herwin Romney** of New York City is one of nine recipients of a 1974/75 Cintas Fellowship. Administered by the Institute of International Education, the fellowships are awarded to young, creative artists of Cuban citizenship or lineage in the fields of architecture, painting, sculpture, music composition and literature.

**Robert L. Durham, FAIA**, Seattle architect, has worked for many years to build a slide collection for the Guild for Religious Architecture, having collected slides in both this country and abroad. The collection, recently increased by 150 new 35mm slides on contemporary religious art and architecture, is available on a rental or purchase basis. Request a free catalog from GRA, 1777 Church St. N.W., Washington, D.C. 20036.

**The Eads Bridge**, the first major railroad link over the Mississippi River, now in its 100th year of service, has been given a special award of recognition by the American Institute of Steel Construction for its "outstanding historical significance." It was one of the first significant steel structures of any type, the first bridge in the U.S. to employ pneumatic caissons and the first bridge ever to use cantilever construction methods.

**The Guild for Religious Architecture** is taking reservations for its 1974 traveling exhibit of award-winning designs from the architectural exhibits at its recent annual convention. The exhibit includes 22x28-inch photographic mounts, which can be placed against wall or arranged on tables. For further information, write GRA, 1777 Church St. N.W., Washington, D.C. 20036. □

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