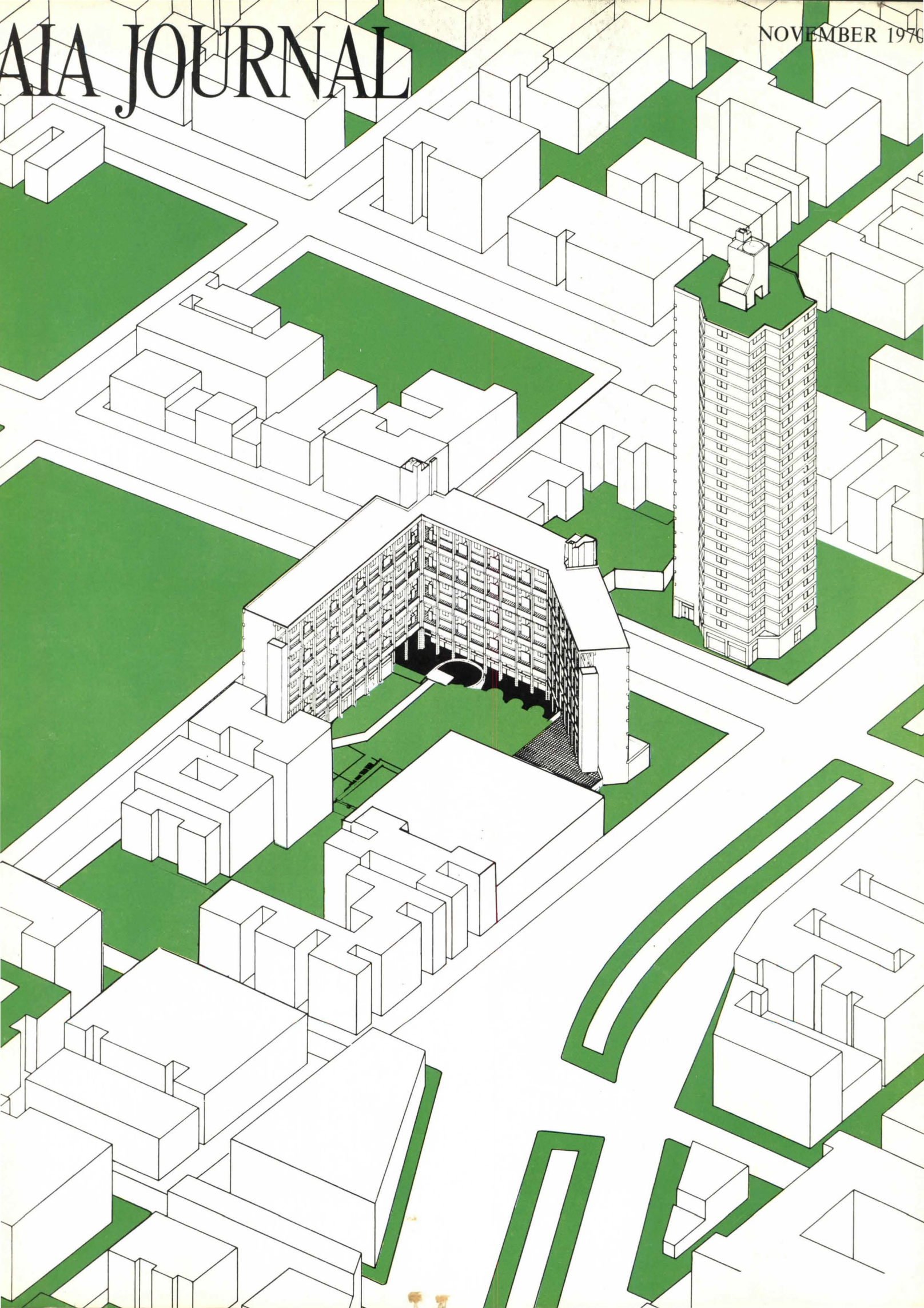


AIA JOURNAL

NOVEMBER 1976





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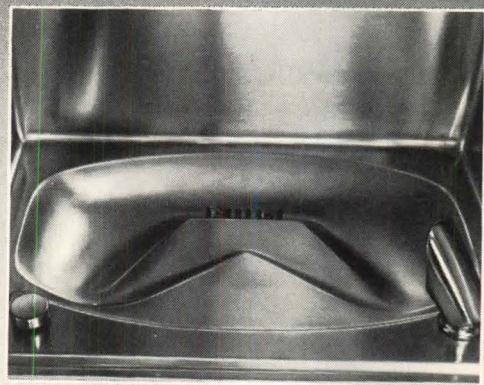
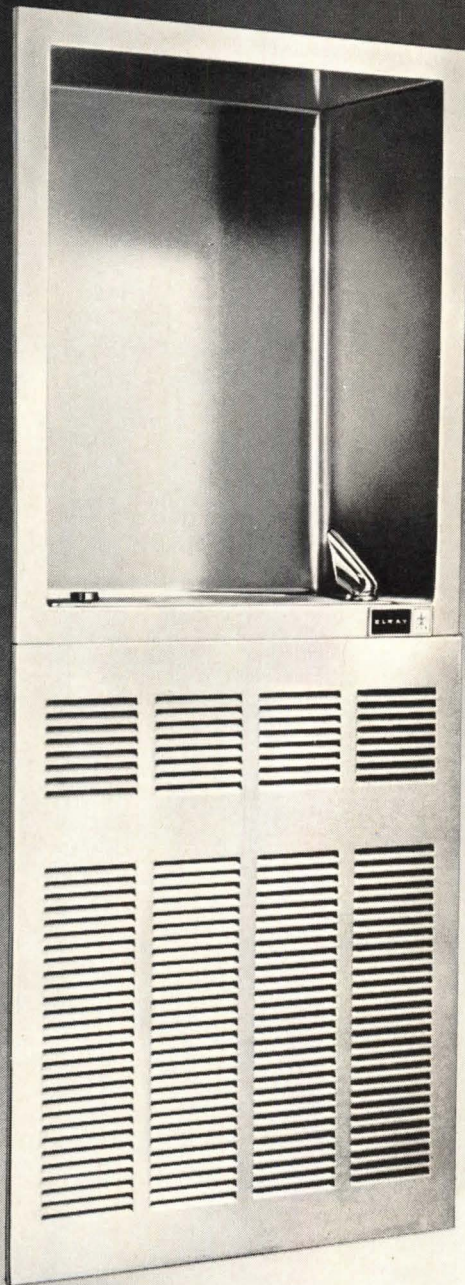
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NOVEMBER 1970

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COVER

Twin Parks East, Bronx, New York. James Stewart Polshek, AIA. Adapted to show possibilities for urban open space. From *Another Chance for Cities. Some Approaches to Architecture, Technology, and Town Planning: The Current Program of the New York State Urban Development Corporation* with the permission of NYSUDC and the Whitney Museum of American Art.

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VOL. 54, NO. 5

comment and opinion

ARCHITECTS ALL, AROUND THE GLOBE: There has been considerable discussion of late about the role of The American Institute of Architects in the field of international relations. Over the years, AIA involvement in the International Union of Architects (UIA) and the Panamerican Federation of Architectural Associations (FPAA) has experienced its peaks and its valleys. Two meetings within a two-week period in September afforded an opportunity to see both organizations in action. While those proceedings are reported elsewhere, some more personal observations are in order.

It is interesting to note, first of all, that both the UIA and the FPAA are undergoing periods of restructuring — a restructuring that should strengthen their positions within the architectural profession as they put more emphasis on regional programs and possibly overcome some of the criticism and/or apathy that developed as far as the Institute's participation is concerned. There has been talk, too, about the need of strengthening the ties between the two. It is no secret that at the moment, at least, the working relationship between the UIA and the FPAA is virtually nil. One suggestion would have the latter become integrated into the former as a regional arm — a move that would certainly meet resistance unless the FPAA could maintain a certain amount of autonomy. However, the seeds for cooperation surely have been sown now that both presidents (both Honorary Fellows of the Institute) are from Mexico: Ramón Corona Martin of the UIA and Raphael Norma of the FPAA.

The open space conference on the Commission of Town Planning held in Washington, D.C., was developed within the framework of the UIA's reorganization, for it was a trial run, so to speak, in that it constituted a public symposium, allowing the delegates to listen to outsiders and vice versa. In the past, the proceedings of the five commissions have centered around the members themselves, with little or no participation by others. Under the new scheme, town planning becomes a working group, along with these six: housing, building and industrialization, public health, school building and educational institutions, occupational buildings, and sports and recreational facilities. Meanwhile, only two commissions will be in operation: Education of the Architect and Professional Practice, each broken down into four geographical divisions, of which the Americas will be one. UIA Vice President Daniel Schwartzman, FAIA, is responsible for coordinating the activities of the Commission on Education.

The FPAA, which sponsors the biennial Panamerican Congress of Architects, likewise will have its major thrust in the development of regional activities geared to serve more specific interests.

This brings us to the obvious question: Of what import are these two organizations to the AIA? The summary findings and/or resolutions which come out of these meetings, for the most part, seem to be just so much rhetoric to us Americans, and so we view them with some apprehension, to say the least. What must be remembered, is that most of the delegates from foreign lands not only represent their national sections but present credentials of official representation of their governments as well. This means that these resolutions, pretentious as they appear on the surface, are brought back to the various ministries of national development and undoubtedly will affect their thinking. Furthermore, there is much to be learned in the exchange of information and ideas, which will be more readily accelerated under the new regional orientation. And a final point: There surely is much to be said for the simple getting-together of professionals who are bound by the common language of architecture and planning, so that an afternoon tour of the countryside in Virginia or an outing on Luquillo Beach in Puerto Rico may be just as profitable and rewarding as several hours talking and listening in a stuffy conference room.

ROBERT E. KOEHLER

ACKNOWLEDGEMENTS

14 — below left, Foto-Color
14 — below right, Mel Chamowitz
14 — Stone & Steccati
20 — below, Burns Brothers

35 — left above, Penthouse Studios Inc.
42 — below, A. C. Baumgartner
43, 44 — Foto-Color
45 — Mel Chamowitz
46 — left above, center, right, Mel Chamowitz
46 — left below, Bess Balchen
47-51 — Suzy Thomas II

NEXT MONTH

Jane Jacobs, author of the provocative book called *The Death and Life of Great American Cities*, has asked the question: What comes to mind first when you recall a city? Her answer is that it is the streets of that city. With certain reservations, we are inclined to agree, and the December issue will be devoted to a view of the street as living theater. Today crime is rampant and the automobile is the drawn foe of the pedestrian, but we have decided to look more on the bright side of things.

A professor at Boston University contrasts European and American streets and suggests that the city street has the potential of becoming the matrix of a new architecture. An article by a HUD official, who is also an AIA member, calls the street the dominant form of urban open space and makes a case for a methodical exploration of the design and environmental properties of the urban street. Another article reports on a study by a Los Angeles architectural firm on the use of downtown parks and plazas and on human behavior in the street.

There is an article which focuses on lighting as both a crime deterrent and a city beautifier, and one on signs in the city. Other statements are about playgrounds for city children and sidewalks in the air. A visual study of what three American cities have done about sculpture as an enhancement of the street scene is rounded out somewhat by a personal view of the joy and beauty that can come from frozen fountains in the wintertime.

In sum, we hope to emphasize that a great part of every city consists of streets, that they are living theater and are worthy of humanization.

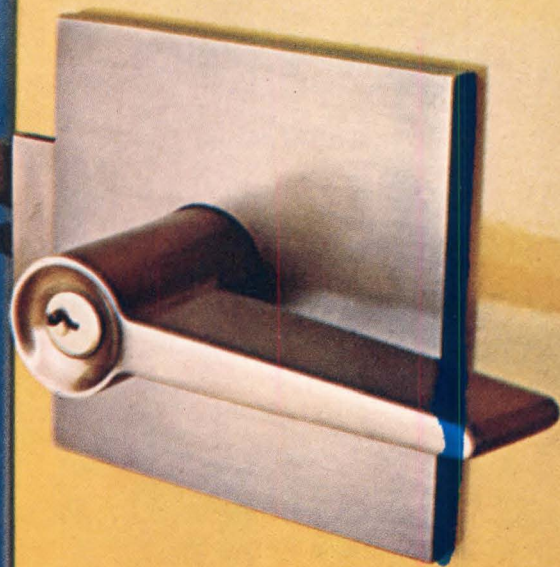
ASIDES

A truly informative and interesting article on print buying appeared in the October 11 edition of *Potomac*, the Sunday magazine of the *Washington Post*. Among the local galleries mentioned that are sources for this medium was that of N. M. Locke who specializes in old masters. It so happens that he recently acquired 34 prints by Giovanni Battista Piranesi from his "Views of Rome" series, which had been originally owned by Sir William Chambers, architect to King George III. The two were contemporaries — Chambers, 1726-96, and Piranesi, 1720-78 — and may well have met during the prolonged stay that the architect made in Italy, returning to his homeland to become tutor in architecture to the Prince of Wales.

Chambers' work was most Roman and indeed his *Treatise on Civil Architecture* "may well be described as the Englishman's Palladio and Vignola," to quote from John Harris. To see the designs and motifs of the *Treatise* is to see those of the Piranesi prints; or, more impressive, to see, from the riverfront, Somerset House, "one of the finest pieces of masonry in Europe," according to another authority, A. Trystan Edwards. This front, with its terrace, might well be one of the many prints from the collection — a reminder of the "Views of Rome." □

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AIA Supports Bicentennial Development Corporation to Revitalize Pennsylvania Ave.

"The time remaining before the Bicentennial (1976) is short and there is much to be done," testified Rex Whitaker Allen, FAIA, national president of the AIA, before the Senate Committee on Interior and Insular Affairs last month. The AIA urged passage this year of a bill to create the Federal City Bicentennial Development Corporation with powers to create for Pennsylvania Avenue the grandeur envisaged by Pierre L'Enfant.

Allen testified that architects support Senate Bill 4196, authored by Senators Gordon Allot (R-Col.) and Henry Jackson (D-Wash.) because "it establishes tools to regain the confidence" of private investors necessary to infuse life into the depressed section linking the Capitol with the White House. He noted that President Nixon has already approved a bicentennial plan for nationwide celebration of America's 200th anniversary which would provide funds for the city for work in addition to that proposed for the development corporation.

The corporation, whose directors would be named by the President and Congress, would have power to assemble adequate parcels of

land so investors could bring to life business, commercial and residential uses to augment government buildings and open squares. The AIA suggests two changes in the pending legislation: adequate compensation and relocation assistance to those private interests located within the boundaries of the proposed corporation and an increase in citizen membership on the board of directors.

Earlier, Allen had written to Mr. Nixon to indicate Institute interest and cooperation in his recommendation that a design competition among architectural students be held for creative development of the Washington Mall in preparation for the bicentennial. The President was asked to include professional architects, landscape architects, planners and students in these disciplines, as teams to propose more detailed developments of the design concepts.

Although President Nixon has designated Philadelphia as the host city for the celebration, he has cautioned that "there can be no single bicentennial city" and that the anniversary should be "national in scope, seeking to involve every state, city and community."

Scheuer on Architect of the Capitol Post, Moholy-Nagy on Fuller Spark Congresses

The architect's role in international relations clearly was in the spotlight in September as professionals participated in two conferences: the Commission on Town Planning of the International Union of Architects (see pp. 45-46 this issue) in Washington, D.C. and the Panamerican Congress of Architects (pp. 43-44) in Puerto Rico. And in each case, a principal speaker—Representative James H. Scheuer (D-N.Y.) on the one hand and Sibyl Moholy-Nagy on the other—took advantage of the podium to espouse a personal cause.

Departing from his prepared remarks during the open space symposium in the nation's capital, Scheuer was prompted to express his views on the Architect of the Capitol follow-

ulation: an upsurge that has also been accompanied by a rise in urban problems. The need to construct new towns, to redevelop decayed or outmoded portions of existing cities and to revitalize smaller towns that have suffered in the course of this socio-economic process are all problems which we must face concertedly, frankly and with the energy and talent they require.

"Your Commission on Town Planning offers the promise of new progress in this direction," the letter continued.

Scheuer in turn suggested that the President "take the first obvious step in that direction" by appointing an Architect of the Capitol "who cares about the planning process, who will remove those pathetic 103 acres from their present disadvantaged state."

The post of the Architect of the Capitol, an administrative position, has been vacant since the death of J. George Stewart last May.

Scheuer explained that he favors subjecting the Capitol grounds and environs to "the benefits of an overall plan." He said that the President has "sole power to appoint, as the Architect of the Capitol, a man of distinguished accomplishment, in the field of architecture, urban planning, urban design, urban environment, who will bring to Washington . . . new imagination, new drive, new insights, new resourcefulness, new sensibility, as to both the needs of our capital city . . . and the equally important needs of its citizens."

In San Juan, Professor Moholy-Nagy, call-

continued on page 14



Owings is a sparkplug in nation's capital.

Hoosier Returns Home for an Honor; See What Plucking Chickens Can Do!

"Just call me Doc," is what Nathaniel A. Owings, FAIA, is now able to say to his friends, if he so desires. The Indiana-born architect who now resides in Big Sur, California, has had the honorary Doctor of Laws degree conferred upon him by Ball State University in Muncie.

For the 67-year-old Owings, it will be 50 years from the time he was graduated from Arsenal Technical High School in Indianapolis. One of the founders of the architectural firm of Skidmore, Owings & Merrill, he attended the University of Illinois in the early 1920s, ran out of funds, worked in the Oklahoma oil fields and plucked chickens before he could get enough money to return to college. But return he did—to earn a Bachelor of Architecture degree from Cornell University in 1927.

His firm has handled over \$3 billion worth of construction in far-flung places, but presently he is working hardest on an Operation Breakthrough project on 120 acres of Indianapolis' west side.

Owings is chairman of the President's Temporary Commission on Pennsylvania Avenue as well as of the National Advisory Board to the Secretary of the Interior.

He has also been named co-chairman, with Robert J. Nash, AIA, of a special steering committee working in coordination with the AIA's Task Force on Professional Responsibility to Society, which will map plans for future involvement of members in this area.

Opportunities for Public Service to Be Highlighted at Annual Student Forum

Great expectations are held for the 16th annual Student Forum of the Association of Student Chapters/AIA to convene on the campus of the University of California at Berkeley on November 27-30.

A matching grant from HUD will enable the utilization of both professional resource people and student consultants for the workshops. The aim is to encourage the student to explore opportunities for public service both as an undergraduate and later in his professional career. Specifically the program will concentrate on four areas: community involvement and community development centers; public education; curricula in social architecture; and the way to get things accomplished in the "system."

Proceedings of the workshops will be published in February.



Moholy-Nagy and Scheuer make their points.

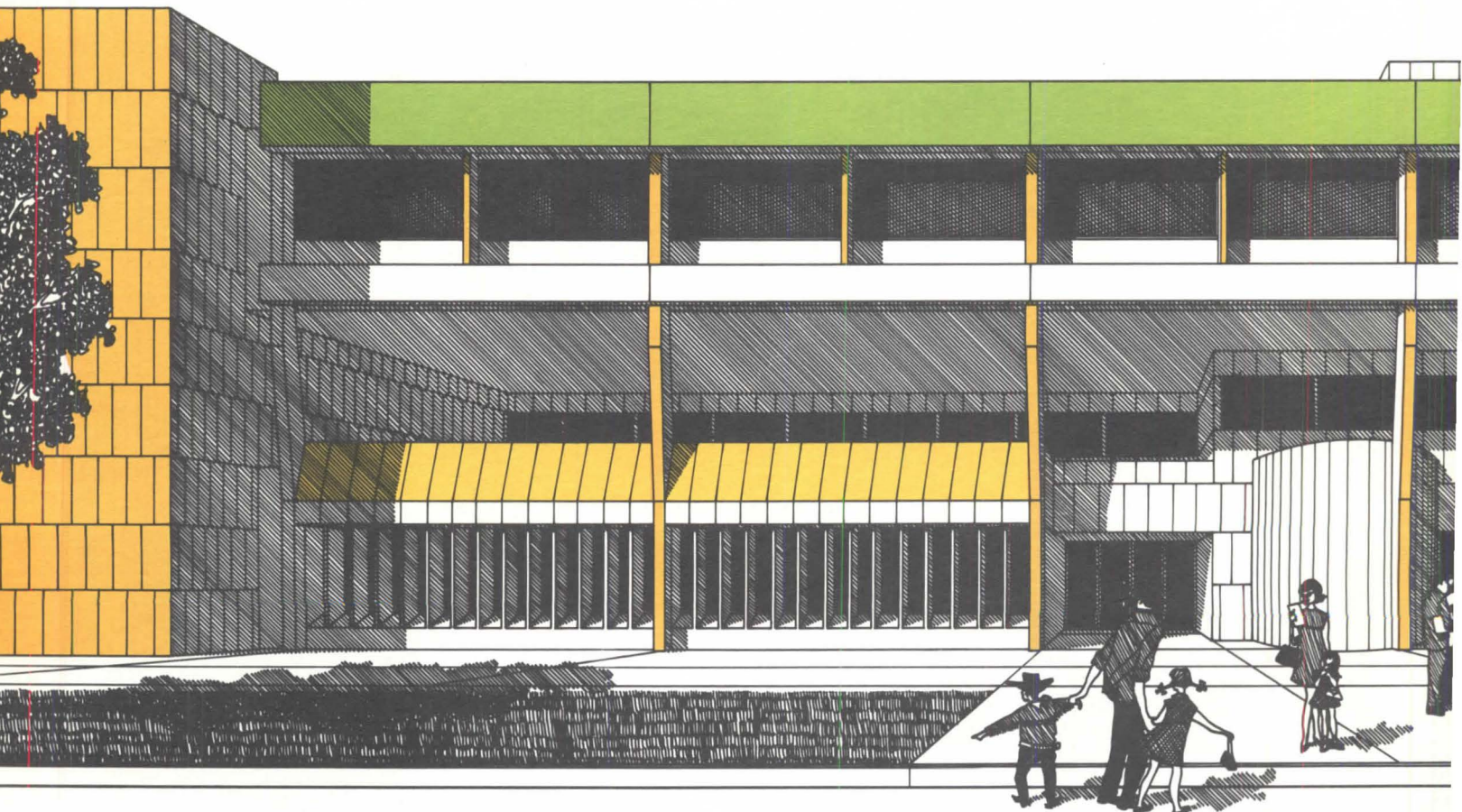
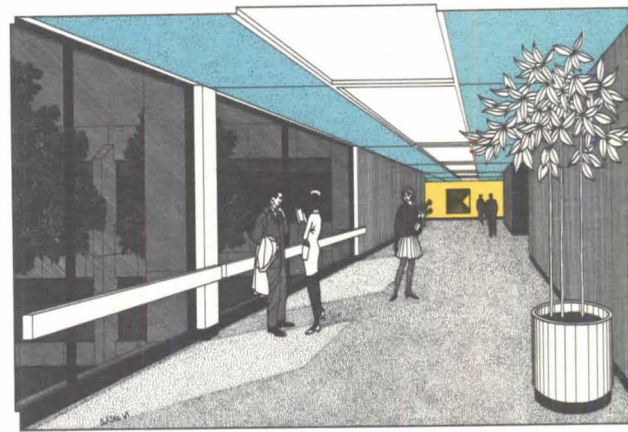
ing the reading of a letter from President Nixon to the UIA delegates. It said in part:

"As in many other countries, we in the United States have experienced in the last decades a tremendous upsurge in urban pop-

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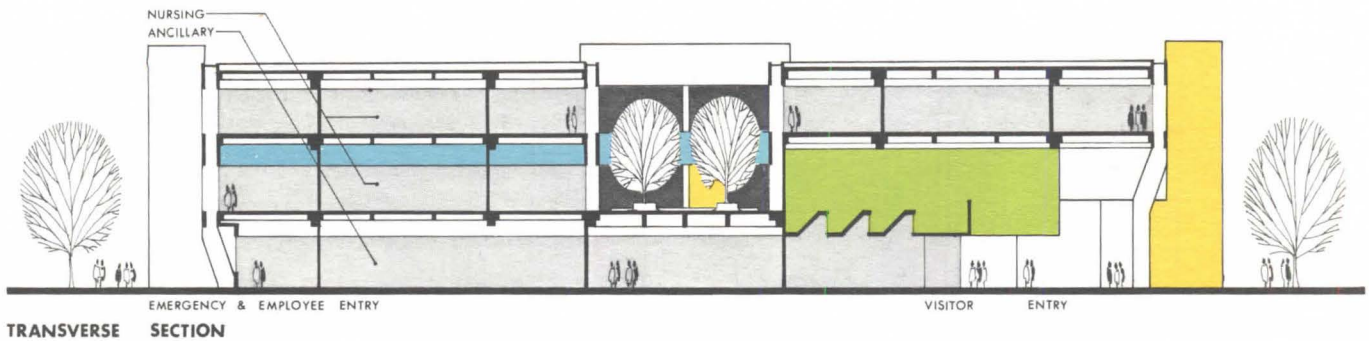
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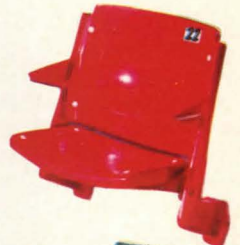
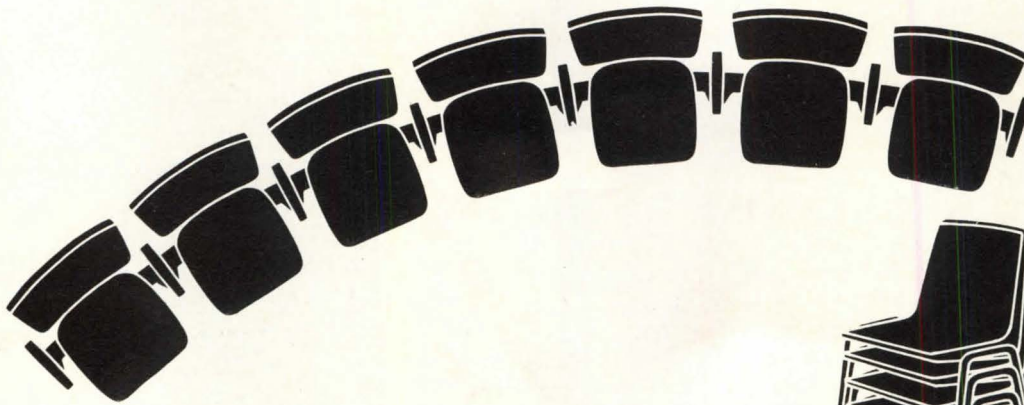
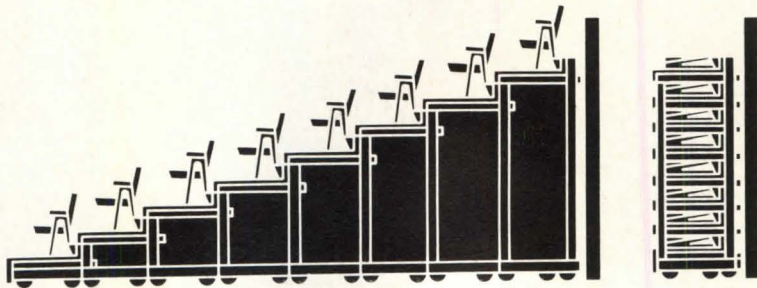
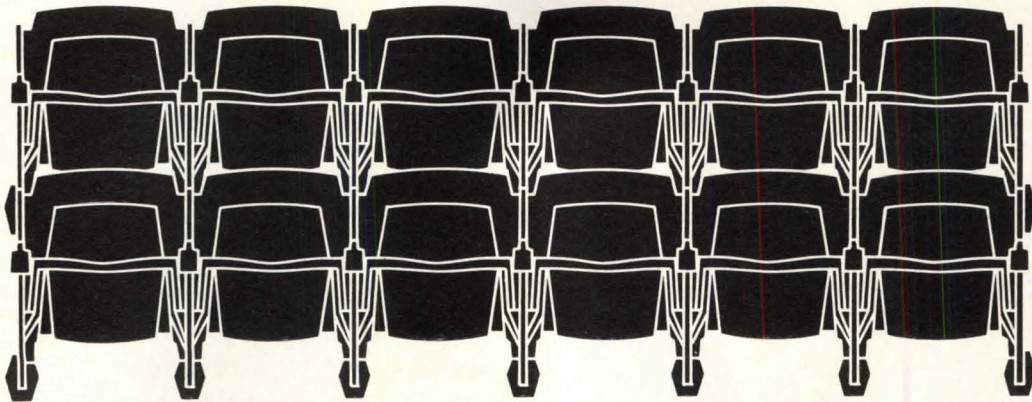
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ing the awarding of the AIA Gold Medal to R. Buckminster Fuller "a fitting expression of this wilful self-destruction of a profession," defended her stand:

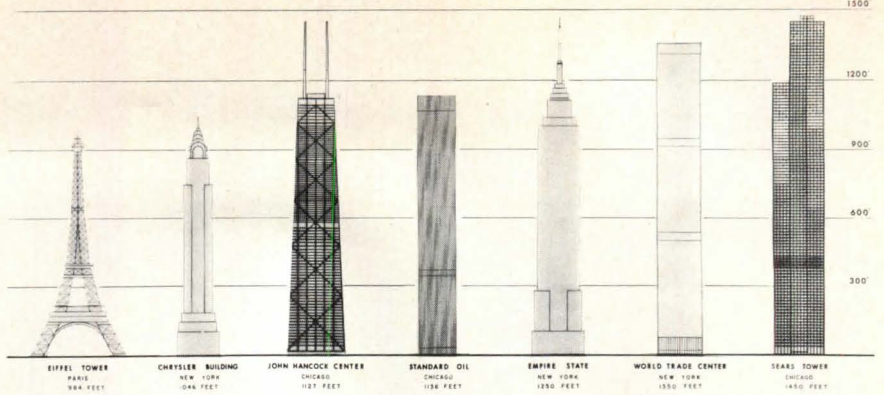
"It seemed to have struck none, as the height of absurdity, to give the highest honor available to a man who has never designed a building but has spent a lifetime denouncing architecture as a 'slave profession,' which, like Pavlov's dog, salivates 'superficial and tricky' designs for 'a tyrant client.'

"Fuller is here attacked not as a person but as the most prominent representative of a trend," explained Mrs. Moholy-Nagy about the man who now occupies the Academic Chair established in his honor in the School of Architecture at the University of Detroit.

"Bypassing politics, he predicts cities as mere 'launching pads for each human's blast-off into world shuttling citizenship,' based on world technology undisturbed by wars which will cease automatically as soon as the World Resources Game has provided 'enough to go around.' This simplistic scientific determination is a godsend for every untalented and uncommitted architect," she declared.

Supremacy in Tall Buildings Claimed For Chicago by Sears, Roebuck

The world's tallest building is planned as a 109-story headquarters tower for Sears, Roebuck & Co. in Chicago. Soaring to a height of 1,450 feet, the building will surpass New



York's World Trade Center by 100 feet and the Empire State Building by 200 feet.

Chicago will have three of the world's tallest buildings, Nos. 4 and 5 on the list being the Standard Oil Building (1,136 feet) and the John Hancock Center (1,127 feet). All fall short of the 528-story mile-high tower that Frank Lloyd Wright proposed for Chicago. With a gross area of 4.4 million square feet, the Sears building will become also the world's largest private office tower.

Designed by the Chicago office of Skidmore, Owings & Merrill, the building, when it opens in 1974, is expected to house a population of 16,500, including 7,000 Sears employees. The cost, not yet determined, will probably exceed \$100 million.

The site is bounded by Wacker Drive, Jackson Boulevard, Adams and Franklin Streets.

Clause on Discrimination Is Modified As AIA Accepts New Set of Ethics

New Standards of Ethical Practice, having been approved by the Board of Directors at its September meeting and circulated to AIA members in October now are in effect. Delegates to the June convention gave approval to the new ethics but additional, minor revisions, were made. Final approval was given by legal counsel and the board.

The principal change in the two versions deals with Article 2 on discrimination under "Obligations to the Public." It reads as finally adopted: "An architect shall practice in a manner that will support the human rights of all mankind and shall not discriminate against any employer or applicant because of sex, race, creed or national origin."

continued on page 16

NEW COMFORT PROMISE for the 70's



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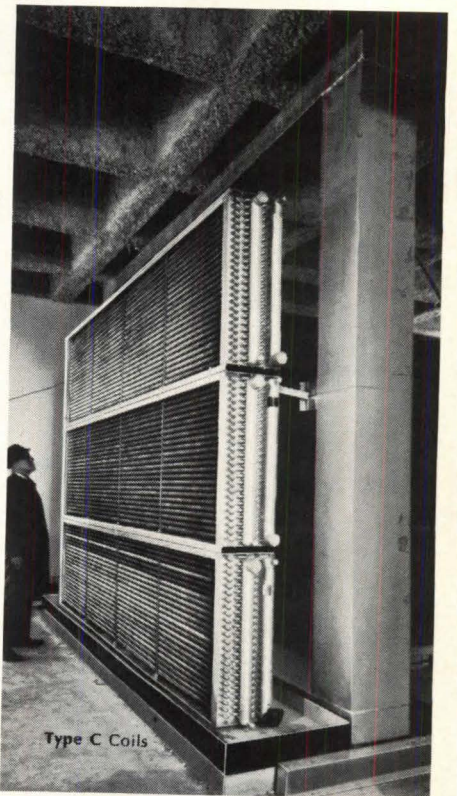
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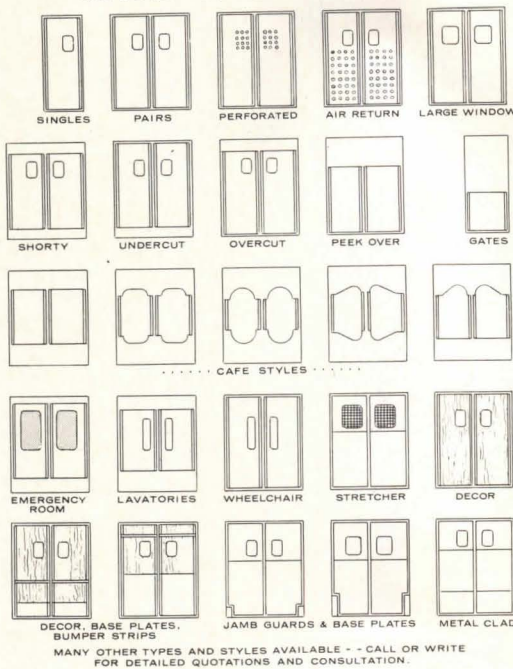
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Circle 196 on information card

outlook from page 14

The article as presented to the June convention read: "An architect shall not discriminate against any employee because of sex, race, creed or national origin, nor shall he accept any commission or employment that would support or strengthen discriminatory policies or practices."

Minor additions also were made in two other articles under "Obligations to the Public" as indicated here in italics:

"1. An architect shall above all serve and promote the public interest *in the effort to improve human environment*, and he shall act in a manner to bring honor and dignity to the profession of architecture. *He shall conform to the registration laws governing the practice of architecture in any jurisdiction in which he practices.*"

"4. An architect shall not publicly endorse a product, system, or service, or permit the use of his name or photograph to imply such endorsement. *However, he may be identified with any product, system or service designed or developed by him.*"

Under "Obligations to the Client," these changes were made, again the changes in italics, and the original wording in brackets:

"6. An Architect shall represent truthfully and clearly to his prospective client or employer his qualifications and capabilities to perform services. *After being selected for his professional qualifications* [Before establishing compensation for his services], an architect shall reach an agreement with his client or employer as to the nature and extent of the services he will provide *and his compensation.*"

"7. An architect shall not undertake any activity, have any significant financial or other interest, or accept any contribution if it *would reasonably appear that such activity, employment, interest or contribution could compromise* [that either compromises] his professional judgment or prevent him from serving the best interest of his client or employer."



Ficker has been winning since Berkeley days.

Architect Triumphs as Skipper of Intrepid In Defense of the Prized America's Cup

"Ficker is quicker" was the war chant of the crew of the yacht Intrepid during the races in defense of the America's Cup. Skipped by William P. Ficker, AIA, of Newport Beach, California, Intrepid brought the races against Gretel II to a dramatic close on Sep-

tember 28, completing a 4-1 conquest of the Australian yacht, commanded by Jim Hardy.

Northeast breezes, fog and visibility of less than a mile at times, coupled with protests from both sides, added to the uncertainties of the races. The fifth race, however, ended the drama when Intrepid majestically swept across the line 250 yards ahead of her rival. Ficker shook hands with his young crew, and they hoisted a "Ficker is quicker" flag to the top of the mast.

The 42-year old architect, called the "Yul Brynner of the yachting set," was described in the *New York Times* as "the master technician, the world-champion helmsman." His tactician and second in command, Steve Van Dyke, said of Ficker: "He makes it very clear what he expects from those who sail with him. He very rarely gets ruffled and he concentrates on his job very hard."

Ficker's powers of concentration, meticulous attention to detail and creativity may have been gained through his education and practice as an architect; certainly he uses all these talents as a skipper. It is not surprising that he has been the designer of a number of yacht clubs.

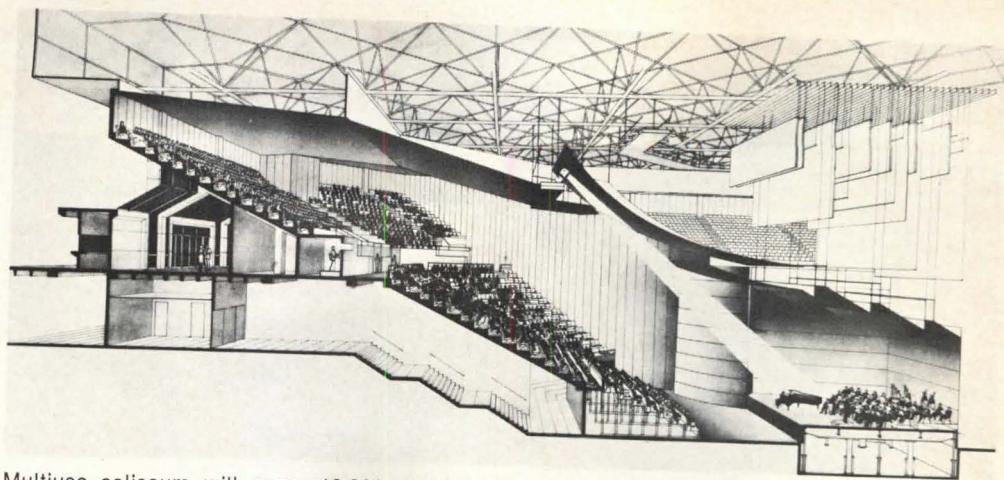
A graduate of the University of California at Berkeley in 1951, he won three Pacific Coast intercollegiate racing championships.

Multiuse Coliseum in Pacific Northwest May Pave Way for Similar Projects

A convertible arena-theater which its designers see as a prototype for solving the cultural-center needs of many colleges, smaller cities and towns with limited funds is now underway at Washington State University in Pullman.

As planned by John Graham & Co. of Seattle and New York, the 360x290-foot octagonal building will have electro-mechanical systems to move its walls and adjust ceiling heights, permitting conversion in one hour or less to a 12,000-seat sports arena, a 2,600-seat performing arts center and concert hall or a 1,100-seat theater.

Comments Donald S. Peterson, managing architect, about the completely equipped \$6-million structure: "This multiuse coliseum will cost just 10 percent more than a single-use building, and all acoustical, mechanical, electrical and theatrical systems are included in our estimate. Savings on land, construction



Multiuse coliseum will serve 13,000 students (1975 projection: 20,000) on Pullman campus.

labor and materials are the big factors."

The roof structure will be a space frame truss with a clear span of 360x290 feet and a total depth of 18 feet. This truss will consist of a system of inverted square pyramidal elements whose bases form the top chord members, oriented in plan on a 45-degree angle with the bottom chords which are parallel with the major axes of the building.

When the athletic area is in use, the 40x80-foot stage will be recessed into a pit and be made flush with and part of the playing floor. When the stage is needed, it will be hydraulically elevated to a height of 42 inches above the playing floor and supported by retractable steel frames.

A reverberation chamber, a hard-surfaced room of some 13,000 cubic feet located in a remote section, is the key to the coliseum's electro-acoustical system. It permits tuning of the auditorium for optimum delayed reflections and envelopment. The system was designed by consultants George Izenour of Yale University, Vern Knudsen of UCLA and Paul Veneklasen of Los Angeles. Don Johnston of Louisville, a specialist on performing arts facilities, was contributing consultant.

Architectural Surprises in a Multifamily Housing Complex Bring Suburbs to City

"Can the castle concept be preserved in the urban crunch?" This question was raised — and answered affirmatively — by Robert D. Bolling, AIA, at the Electric Heating Association's annual meeting in New York when he unveiled a model of a conceptual multifamily housing complex with characteristics of both urban and suburban living.

The concept, designed by Bolling of the Los Angeles firm of Deasy & Bolling, is intended to present an urban suburb for 1,200 people of all family styles in 500 reasonably priced apartment units, located on an in-town superblock of about 650 square feet with a density of 50 units per acre. To be called Camelot Downtown, the complex is divided into quadrants separated by streets that flow concentrically toward, but not into, a community center of playgrounds, shops, recreational facilities, management offices and a nursery.

Bolling believes a person should be able to identify his own apartment easily rather than having it massed behind 500 or more identical apartment doors. Therefore, rather

than a hallway, as seen in an ordinary apartment building, there is a pedestrian street on the complex's third level. Apartments on either side are set in-and-out. Faced with distinctive kinds of materials or varying colors and textures, some apartments have two levels, some have balconies.

According to Bolling, the point is to make the tenant feel that he lives in a neighborhood, a house of his own to which he can direct friends by street and corner references, by materials or maybe even by the kinds of trees in its front yard.

'It's Only a Shanty in Old Shantytown,' But Symposium Cites Social Values

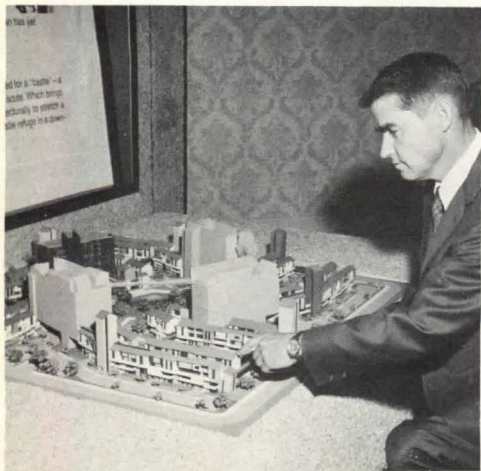
In an effort to explain our love/hate relationship with big cities and to see what can be done about future improvements, UNESCO recently assembled in Helsinki a group of 26 architects, city planners and social scientists from 23 countries. Although the group produced a goodly number of diametrically opposed positions, it was united in its stand for less rigid planning of mass housing and more tolerance of slums and shantytowns.

Soulless planning and bureaucratic administrators and architects who never take the trouble to see how people actually live in their creations were rapped soundly. Squatters, the group said, should not be herded into highrise buildings but allowed to improve their own settlements. Swiss sociologist Robert Reichardt remarked that the shantytown may be an indispensable stage in the transition from country to city life. It was concluded that people should be allowed to change their homes to suit their needs on a do-it-yourself basis in mass housing projects.

The strongest plea for individuality came from Dutch architect Jacob Bakema who said, "In Warsaw, Budapest and Rotterdam, one sees the same blocks of flats, whether under communism or democratized capitalism." He called for more dreaming and imagination.

The symposium demanded that surveys be made of mass transit systems as the principal mode of transport in large cities and showed no sympathy for the private car in a super-Delhi of the year 2000. One expert said that if Indian car ownership ever reached American proportions, the country would choke to death on air pollution in a few days.

continued on page 20



Bolling's scheme provides for bachelors, working couples, families with children, retirees.

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Circle 131 on information card

Kaiser Continues Its Challenging Series With Exploration of Man-Made Planet

Kaiser News, published by the Kaiser Aluminum & Chemical Corporation, is to be congratulated for the manner in which its staff anticipates major public issues and educates the public concerning them. It has presented a definitive statement on ecology and environment in a special issue entitled "Ecology: The Man-Made Planet," the first of a series called *The Markets of Change*. In ad-

dition to ecology, there will be future issues on such themes as shelter, energy, food, mobility and communication. The text is excellent, and the graphics arresting.

A previous series published by Kaiser News called *The Dynamics of Change* — later assembled in a book by the same name — was also exceptionally good, and the new exploration of the technological responses that will be inspired by the changes forecast in the earlier work promises to be equally satisfactory. The new series comes at an opportune time. Emerging environmental orientation of public policy expects a people well informed in ecology.

New Approaches to Urban Governmental Problems Through Study of New Towns

The social and political issues involved in the development of new towns will come under the eagle eye of a nine-member Task Force on Democratic Development of New Towns just established by the Twentieth Century Fund of New York. The chairman of the distinguished group of government officials, new town developers and academicians making up the task force is Robert C. Weaver, president of Bernard Baruch College and former Secretary of the Department of Housing and Urban Development.

Other members of the task force include John F. Collins, former mayor of Boston and now a professor at MIT; Marilyn Gittell, director of the Institute for Community Studies, Queens College; Randy Hamilton, executive director of the Institute for Local Government, Berkeley, California; Alan F. Kiepper, city manager of Richmond, Virginia; John Levering, director of Institutional Relations, Rouse Co.; Hubert G. Locke of Detroit's Metropolitan Fund; William J. Nicolson, director of the Office of New Communities, HUD; and William L. Slayton, executive vice president of the AIA.

After completing its deliberations in the fall, the task force plans to issue policy recommendations designed to help create new forms of government that provide full participation of citizens in the life and management of new towns. Royce Hanson, president of the Washington Center for Metropolitan Studies, is the rapporteur for the group. He is preparing a factual background paper which will be published with the final report. It will discuss how new towns develop and relate to other levels of government.

Deaths

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Houston

EDWARD LOEWENSTEIN
Greensboro, N.C.

ALFRED MARKS
Pittsburgh

LESTER W. ROUNT
Vincennes, Ind.

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Cleveland

Members Emeriti

MERL LEE BARKER
Los Angeles

EDWIN C. BERENDES
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New lumber grading rules are here!

KEEP THIS CHANGE GUIDE FOR HANDY REFERENCE:



On September 1, 1970, new WWPA 1970 Grading Rules became effective after receiving earlier approval from the American Lumber Standards Committee Board of Review. These rules incorporate provisions of the new American Lumber Standard PS 20-70 published by the U. S. Department of Commerce. PS 20-70 establishes new lumber sizes and identification requirements.

These new Grading Rules incorporate the National Dimension Rule which unifies lumber sizes, grade names, grade descriptions and moisture content requirements. Also included are more refined definitions of strength and performance capabilities for construction lumber.

The new standard eliminates a multiplicity of grade names and descriptions, and assures that green lumber will shrink to the same size as seasoned lumber of the same relative dimension. The interests of consumers, buyers, specifiers, distributors and manufacturers are better served.

Important changes summarized:

New green-dry lumber sizes include lumber up to 4" thick (nominal) as shown in the chart below. Nominal widths of 2" and wider lumber will have a similar relationship as shown in the chart. Old lumber sizes are shown also.

| PRODUCT CLASS (Nominal Size) | OLD SIZES (Dry or Unseasoned) | | NEW SIZES | |
|---------------------------------|----------------------------------|----------------|-----------------|----------------|
| | Unseasoned | Dry | Unseasoned | Dry |
| DIMENSIONAL LUMBER | 2 x 4 | 1-5/8 x 3-5/8 | 1-9/16 x 3-9/16 | 1-1/2 x 3-1/2 |
| | 2 x 6 | 1-5/8 x 5-1/2 | 1-9/16 x 5-5/8 | 1-1/2 x 5-1/2 |
| | 2 x 8 | 1-5/8 x 7-1/2 | 1-9/16 x 7-1/2 | 1-1/2 x 7-1/4 |
| | 2 x 10 | 1-5/8 x 9-1/2 | 1-9/16 x 9-1/2 | 1-1/2 x 9-1/4 |
| | 2 x 12 | 1-5/8 x 11-1/2 | 1-9/16 x 11-1/2 | 1-1/2 x 11-1/4 |

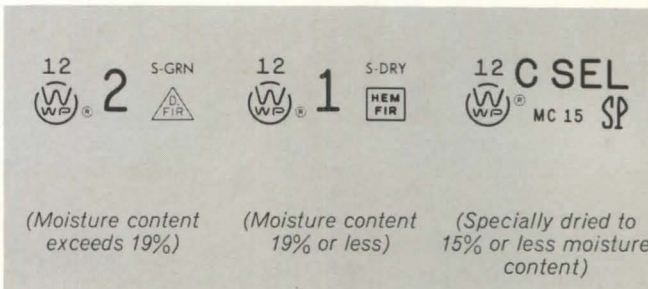
| PRODUCT CLASS (Nominal Size) | OLD SIZES (Dry or Unseasoned) | | NEW SIZES | |
|---------------------------------|----------------------------------|----------------|----------------|--------------|
| | Unseasoned | Dry | Unseasoned | Dry |
| BOARD LUMBER | 1 x 4 | 25/32 x 3-5/8 | 25/32 x 3-9/16 | 3/4 x 3-1/2 |
| | 1 x 6 | 25/32 x 5-1/2 | 25/32 x 5-5/8 | 3/4 x 5-1/2 |
| | 1 x 8 | 25/32 x 7-1/2 | 25/32 x 7-1/2 | 3/4 x 7-1/4 |
| | 1 x 10 | 25/32 x 9-1/2 | 25/32 x 9-1/2 | 3/4 x 9-1/4 |
| | 1 x 12 | 25/32 x 11-1/2 | 25/32 x 11-1/2 | 3/4 x 11-1/4 |

These new sizes get 8% more usable lumber from every harvested tree!

New Green-Dry Lumber Identification:

gives the identification S-DRY to lumber with 19% or less moisture content. Lumber with more than 19% moisture content is given the identification S-GRN. Lumber dried to 15% or less moisture content is given the special identification MC-15. The result of the new identification and size relationships between green and dry lumber is to permit designing universally to dry sizes, regardless of whether green or dry lumber is used in construction—the green shrinking to dry size.

These are typical grade stamps now used to identify seasoned, unseasoned, or specially dried lumber.



(Moisture content exceeds 19%)

(Moisture content 19% or less)

(Specially dried to 15% or less moisture content)

New Grade Designations:

apply to dimension lumber of all species. WWPA rules incorporate the National Dimension Rule, as follows:

| Category | Grades | Sizes |
|---|--|---------------------------------|
| Light Framing | Construction, Standard, Utility, Economy | 2" to 4" thick 2" to 4" wide |
| Studs | Stud, Economy | 2" to 4" thick 2" to 4" wide |
| Structural Light Framing | Select Structural No. 1, No. 2, No. 3, Economy | 2" to 4" thick 2" to 4" wide |
| Appearance Framing | Appearance | 2" to 4" thick 2" and wider |
| Structural Joists and Planks | Select Structural No. 1, No. 2, No. 3, Economy | 2" to 4" thick 6" and wider |
| *Decking | Selected Decking Commercial Decking | 2" to 4" thick 4" and wider |
| *Beams and Stringers Posts and Timbers | Select Structural No. 1, No. 2, No. 3 | 5" and thicker 5" and wider |

*Not included in National Dimension Rules.

Western Wood Products Association,
Yeon Building, Portland, Oregon 97204

Standardization of Framing (Dimension) Lumber

Grades: specifies that knot sizes, slope of grain and other grade limitations are the same for all species. Grade names are now the same nationally for all species.

Simplified Board Lumber Grades and Rules: now occupy only eight pages (compared to over 60 pages in the old rules). Briefly, the grades are as follows:

| Category | Grades |
|-----------------------------|---|
| Selects | B & Better—1 & 2 Clear C Select D Select |
| Finish | Superior Prime E |
| Paneling | Clear (any select or finish grade). No. 2 Common selected for knotty paneling. No. 3 Common selected for knotty paneling. |
| Siding (Bevel and Bungalow) | Superior Prime |
| Boards | No. 1 Common No. 2 Common |
| Sheathing and Form Lumber | No. 3 Common No. 4 Common No. 5 Common |

Full-Length Stress Grading: now available for all WWPA species in grades of dimension lumber and posts and timbers, and beams and stringers. Allows users to cross-cut a long piece and retain at least the same stress assignment in the shorter pieces.

New Design Values: are based on latest engineering studies and are employed in the new National Forest Products Association publication, "Span Tables for Joists and Rafters," available from NFPA.

Working Stresses: are computed in accord with American Society for Testing Materials Standards.

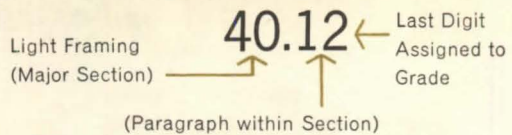
Repetitive Member Design Values: recognized for the first time. The repetitive member factor adds performance values to lumber beyond those held by individual pieces: When 3 or more members are used adjacently or not more than 24" apart and are joined by floor, roof or other load-distributing elements, those members share the load. And the strength of the entire construction is increased. These new values facilitate design, engineering, and construction involving "building systems."

Species Groupings: Western framing lumber species listings show a new combination stamped "Hem Fir." This stamp covers Western Hemlock, and several true firs. Several other species groupings have been provided.

New "Speed Use" Paragraphs: All grade descriptions are assigned four-digit numbers. The introduction, including general material applicable to many grades, is assigned three-digit numbers.

For example, the number assigned to Light Framing is 40.00. The 40 denotes framing material up to 4" wide. The number 40.11 is assigned to the Construction grade, the top grade, and 40.12, 40.13, and 40.14 are assigned respectively to the other Light Framing grades. In a similar manner, the 60.00 series is assigned to 6" and wider framing material. The two digits following the decimal point always denote a grade description—as shown in the diagram.

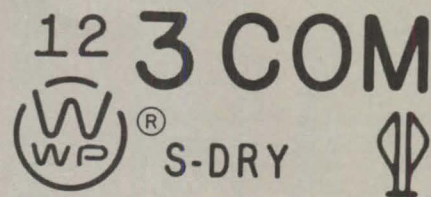
**TYPICAL GRADE DESCRIPTION NUMBER
(Always Four Digits)**



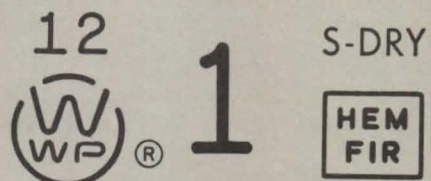
PARAGRAPH NUMBERING

| | | |
|---------------------------------|----------------|--|
| Introduction | 1.10 to 5.60 | Three-digit numbers apply to general provisions affecting many grades. Included are measurement, tally, moisture control and reinspection. |
| Selects and Finish Rules | 10.00 to 20.00 | |
| Boards | 30.00 | Four-digit numbers apply only to grade descriptions. |
| Up to 4" wide Framing | 40.00 | |
| Miscellaneous 4" and wider | 50.00 | |
| 6" and wider Framing | 60.00 | |
| Beams & Stringers | 70.00 | Five-digit numbers apply to technical material and explanations. |
| Posts & Timbers | 80.00 | |
| Factory Lumber | 90.00 | |
| Lumber Design Values | 100.00 | |
| Measurements of Characteristics | 200.00 | |
| Glossary | 700.00 | |
| Tables Numbered 1 to 5 | | |

KEEP THIS CHANGE GUIDE FOR HANDY REFERENCE:



Typical Board grade stamp.



Typical Dimension grade stamp.

If you're a lumber distributor, builder, wholesaler or dealer, you won't want to be without this Change Guide. If your job involves architecture, building codes or any building related fields, these two pages can answer many of the questions you're bound to run across.

To get your copy of the new easier to use WWPA "1970 Grading Rules," send \$1.00 along with your name and address to Grading Rules, Western Wood Products Association, Yeon Building, Portland, Oregon 97204.



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'It's an Ill Wind...'

by VERNON A. WILLIAMS
Director
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On August 3, the South Gulf Coast area was struck by the most damaging hurricane ever to roar off the Gulf of Mexico. In its aftermath, Hurricane Celia had incurred property damages estimated at \$500 million. One of the areas most severely hit was Corpus Christi, Texas. Afflicting damage to over 65,000 homes and leaving many people without shelter, Celia proved to be quite the devastator to the Gulf area residents.

Like a rake yanking and pulling undergrowth from a lawn, Celia's prongs of destruction—with winds up to 160 miles per hour—flattened and transformed a once beautiful city into a war-torn assembly of battered shells of human habitation.

Hardest stricken, quite naturally, were the low-income areas, whose unpainted wooden, rat-infested shanties were least able to withstand Celia's force. In addition, the poor residents were mostly without resources to redeem their meager shelters.

Knowing the dire plight of the disaster victims, the Corpus Christi Chapter AIA immediately pledged the manpower and services of its members toward assisting the victims in obtaining some semblances of shelter. Meanwhile, the Texas Society of Architects started trying to reach architects in the vicinity to pledge help. When lines of communication were opened finally, a meeting was arranged in Austin, and a plan of action drawn up. Members of the local chapter plus other area architects comprised a volunteer crew, and TSA issued a call for help to architects in other parts of the state.

With an amazing show of efficiency, cooperation and selfless endeavor, the architects by August 11 had organized a relief center. Office space in a downtown location was secured and supplies and equipment were donated. The University of Texas' School of Architecture offered the services of fourth- and fifth-year architectural students and appointed a local architect to a faculty position to enable the students to receive college credit for their efforts. The 43-member Corpus Christi Chapter unanimously voted to assess at least one half day's professional time weekly to the center as long as it is needed. Chapter members also met with legal associations to work out technicalities.

AIA Headquarters in Washington was brought into the act, and as CDC director I

went to Corpus Christi to help with our experience in other cities in establishing architectural and planning centers.

In the meantime, appeals were made to the US Department of Housing and Urban Development and area agencies involved in relief and construction work. An executive director of the center, which by now was called the Redevelopment Assistance Center, was appointed. Vista architects will be assigned shortly to Corpus Christi as additional technical manpower.

Work began to flow into RAC immediately. On August 17, the first day of operation, over 40 requests were received from disaster victims. RAC has processed over 150 damage evaluations and is now beginning to develop design and working drawings. These services coupled with disaster relief funds from the Red Cross and the Small Business Administration will enable new construction to begin. Operating much as a CDC, RAC has achieved an impressive track record in its short period of existence.

As a continuing CDC, RAC is planning for the redevelopment of HUD's two target areas, Melina and Hillcrest. Some 150 employees of HUD are now working a seven-day week in Corpus Christi also to provide housing for the thousands of homeless families. The HUD task force started moving into Corpus Christi two days after Celia wrought her destruction. In addition to more than 2,000 mobile homes presently provided by HUD, 500 permanent public housing units have been allocated to local housing authorities in the seven-county disaster area.

At present, plans are to take advantage of the devastation to replan communities. This planning with the participation of residents will reflect the area's particular needs.

William L. Slayton, AIA executive vice president, has pledged the use of national Institute resources to the Texas community. Evolving from the urgency of Hurricane Celia, Corpus Christi and Texas architects are working for both immediate and long-range benefits for the affected communities. Many concerned citizens, agencies and associations are now banded together to turn what could be the nation's third most damaging hurricane into a chance for a better city. The old, trite saying still goes: "It's an ill wind that blows nobody good." □

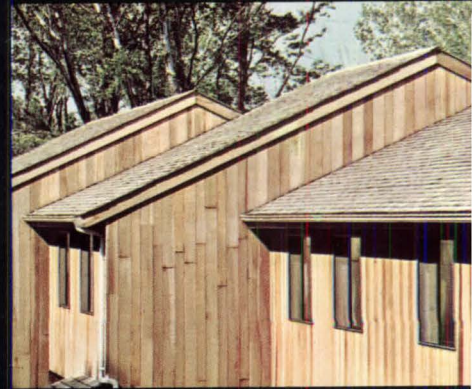


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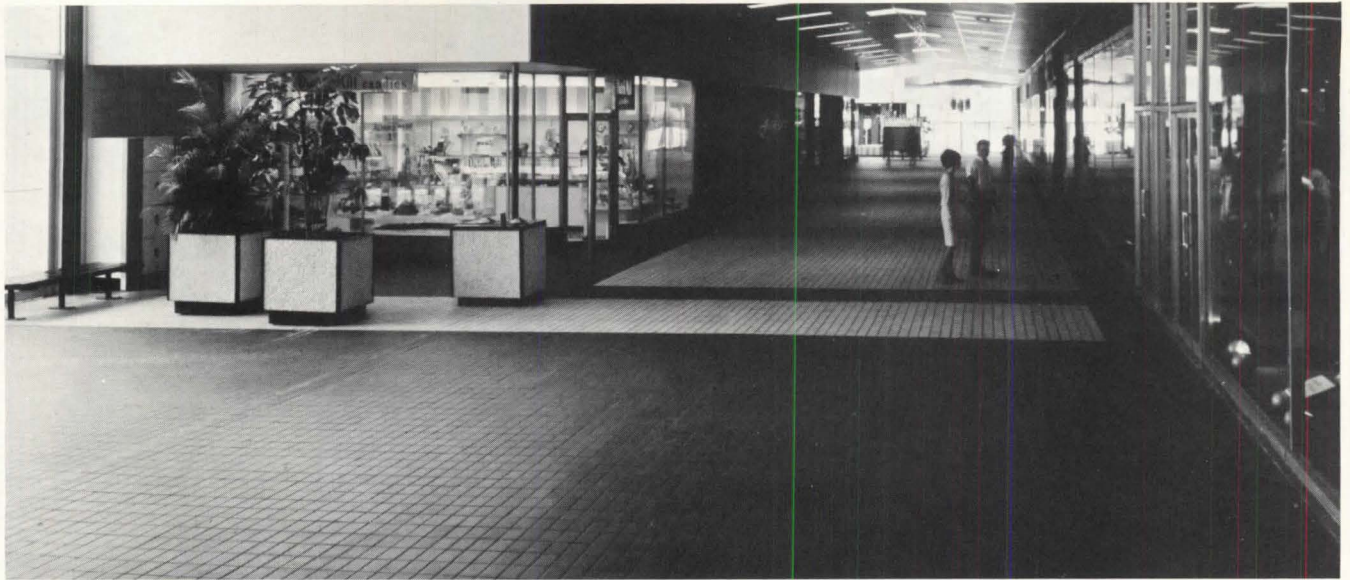
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Toward a New Chapter in Urban Growth



The arguments for and against the building of new towns are many. Definitely taking a stand *for* is The American Institute of Architects. Testifying on behalf of the Institute before the Senate Banking and Currency Subcommittee on Housing and Urban Affairs in support of the Urban Growth and New Community Development Act of 1970, William L. Slayton, AIA executive vice president, said that the nation's architects strongly endorse the proposed act's basic principles, although it could be improved with several changes. The proposed act is authored by Senators John Sparkman (D-Ala.) and Wallace F. Bennett (R-Utah); a similar measure has been introduced in the House by Representative Thomas L. Ashley (D-Ohio).

Carl Feiss, FAIA, chairman of the AIA's Urban Growth Policy Legislation Group, pointed out to the committee that "Europe is at least 35 years ahead of us in contemporary community design."

To speed a new chapter in the nation's building, the AIA urges that the 1970 housing laws include, among other points, the following:

- That a national corporation to develop new communities should not be established but rather be a function of the Department of Housing and Urban Development. Federal loan guarantees and other help should go to state and regional development corporations which would assemble land, then market it in accordance with a plan that maximizes variety and opportunity.
- That national policies on where to establish new communities be settled by a Council on Urban Growth, working through the President's Council on Environmental Quality.
- That federal money be in the form of loan guarantees to public development corporations, which would acquire the land and install improvements. Investments would be repaid by land sales.
- That building and housing codes be no tougher in new towns than in existing cities.
- That government aided research in housing technology not be cut back but that at least \$100 million a year be allocated for it.

Two other voices *for* the building of new towns are heard in the following pages. One is that of an English new town planner who suggests how the United States might turn a new leaf in the building of new communities; the other is that of the design coordinator of Canada's new town in town, Nuns' Island (left), who calls for more inventiveness by new town planners in the use of that precious commodity — land. □

A Case for New Towns

by ALAN TURNER

A British architect/planner joins the discussion on what has become a controversial topic in the United States. Going a step further, he suggests a possible strategy for the US to follow.

The British legislation of 1946, which made the building of new towns possible, took place in a country with strong traditions of central government and with a high population density — 55 million people in an area about the size of New York State and Pennsylvania combined. Although only a small proportion of Britain's land surface is urbanized, there is an instinct among many that land is scarce and should be preserved in as rural a form as possible.

In the United States, there has never been a problem of land shortage, but there are enshrined traditions of home rule which make overall national planning policies difficult to implement. The first question that arises is: Does the concept of building new towns have any relevance to the US? If so, what are the problems and opportunities?

The debate is fierce, and I am going to set down a few of the main arguments expressed by some of the leading protagonists. The National Committee on Urban Growth Policy has concluded that "new communities are essential elements of a strategy to shape growth."¹ Charles Haar, chairman of the Massachusetts Institute of Technology/Harvard Joint Center for Urban Studies and a former Assistant Secretary for Metropolitan Development for the Department of Housing and Urban Development, is worried about the dilemma of uncontrolled growth and claims that new communities can provide new patterns of urban living; increase the nation's housing supply; meet the needs of a wide range of income groups; achieve economies of scale; offer opportunities for innovation; and be of immense service to the older cities.²

William Alonso of the Department of City and Regional Planning at the University of California, Berkeley, on the other hand, has devoted considerable energy and research to an all-out attack on new towns.³ He concludes that a "national policy of settling millions of people in new towns is not likely to succeed and would not advance the national welfare if it could be done." He does suggest, however, that it makes sense to consider the limited use of new towns for testing innovations which could be applied to existing cities.

Many black leaders share the dislike of new towns, claiming that they would be inhabited only by whites and would not help minority groups who live in the central cities.

Finally, Jane Jacobs: "New towns are a cop-out. Instead of really getting down to the business of understanding the stagnating, possibly dying, economy of the old city and doing some-

thing about it, there's a lot of talk about these new towns, and I think it's just frivolous."⁴

The main arguments against new towns can be summarized as follows:

1. They will not solve the problems of the central cities.
2. They will divert money from the central cities.
3. They will house only white people.
4. They will have little effect on continued sprawl.

These statements may be largely true seen against the present new towns which are being built all over the US. HUD has a list⁵ of 63 developments which fall into the category of new towns or new communities, but except for one or two, they are mostly middle to upper income subdivisions, albeit comprehensively planned. If these are what the critics of new towns are attacking for the reasons I have set down, then I would agree with them. They are, however, not what I mean by new towns.

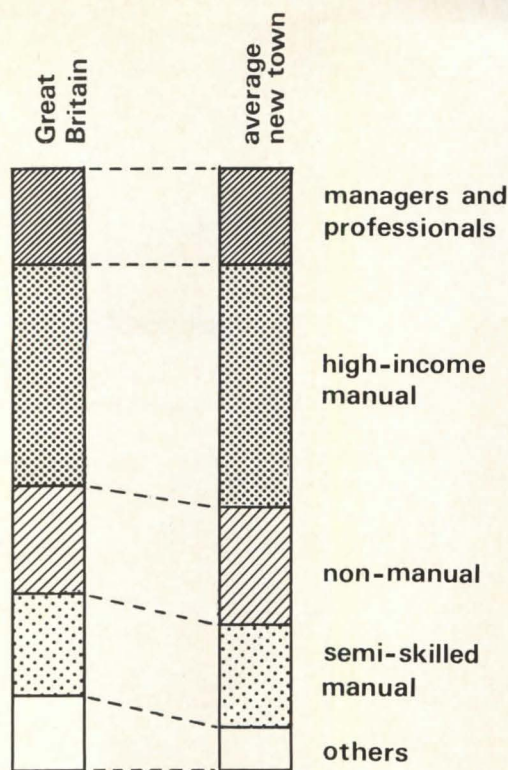
A rough definition of a new town in the sense that I am using it might be as follows: a community created by positive planning action, combining public and private funds, having its own employment base and social facilities, a socially and racially balanced population (at least 50,000) developed according to a comprehensive social, economic and physical plan and located at a growth point in a region where it will act as a new component in the regional hierarchy. I would also include the "new town in town" which again would have social and racial balance and a range of facilities but which may not have an employment base as it would be related by rapid transit to a nearby town with existing employment.

Again, the arguments against new towns probably hold true in the absence of a national policy adequately supported by funds and attracting private investment. Without a commitment at federal, state and city levels, the prophets of gloom might well be right.

Let us assume that there were such a national new towns policy (going very much further than Title IV of the 1968 Act — the New Communities Act) and examine the four arguments in that light.

New towns will not solve the problems of the central cities. This is true but no single planning action will. It is absolutely essential to regard a new towns policy as one element of a comprehensive strategy, an element of limited value on its own but

Mr. Turner is managing partner of Llewelyn-Davies Associates, New York. He previously directed the preparation of plans for two new cities in Venezuela for 400,000 and 300,000 people. In the US, the firm is planning a new community for the New York State Urban Development Corporation; the associated UK firm has recently produced the master plan for Milton Keynes, the latest and largest British new city.



Socio-economic groups in British new towns compared with the country as a whole. Based on information contained in the book *London's New Towns* by Ray Thomas. London: PEP, 1969.

of immense value when properly related to other elements, producing a synergistic system. The strategy of the London new towns was to attract people from the congested central areas of London so as to simplify the problem of renewal. The strategy has been very successful and approximately 70 percent of migrants to the new towns came from London.

If new towns were to be built in the US, offering jobs, new housing with a variety of federal and state subsidies and better facilities than were available in the central city, there is no reason why they should not succeed in attracting people from rundown areas.

New towns will divert money from the central cities. Looked at on a national scale, this is not true since the great continued growth of the cities is taking place in the suburbs and most of the new jobs and houses are there. It follows that the greatest investment is taking place in the suburbs and will continue to do so, largely to the benefit of the white suburban dweller. The intention of building new cities as an alternative to suburban sprawl implies that some of this growth would be steered into comprehensive developments offering advantages (in assisted housing) to inner city dwellers, as well as providing homes for the people who would live in the suburbs anyway. Planning does not usually create growth — it simply takes what is already there and reshapes it.

New towns will house only white people. It would have to be an essential part of new towns policy that the new communities should have a balanced population and that minority groups should be encouraged to live in them. Contrary to popular belief, the British new towns are not working class communities but contain a balance of socio-economic groups roughly similar to that for the country as a whole. There are some differences: The

population in the new towns is younger and the very rich and the very poor are unrepresented, but by and large they have succeeded in achieving social balance.

It has been said that Negroes would not want to live in such places. I suppose some of them would not, just as some white people would not. No one would force them, but why would black people be able to resist the positive attraction of better jobs and new housing any more than their white neighbors? The emphasis would be on providing real advantages to attract people; if this were done they would move of their own accord.

In any case, the black population in some parts of the country is slowly moving into the suburbs without the persuasion of planners. In parts of Nassau County, Long Island, with one of the highest median income levels in the country, there are concentrations of poor people in deteriorated housing and a high percentage of them are black. Would they not be attracted to a new town where they might pay no more than the inflated rents they are paying for poorly maintained property?

New towns will have little effect on continued sprawl. This argument states that the foreseeable scale of new town development will be too small to have any useful effect on anticipated expansion. Alonso points out that even if the 110 new cities called for by the National Committee on Urban Growth Policy were built, they would only hold 7 percent of the total population by the year 2000. This seems to me not to call for rejecting the policy but for pressing for higher targets until the percentage does make an impact. The argument is rather like a starving man saying, "You have not given me enough food, therefore I will reject it." Maybe he should take it and then ask for more.

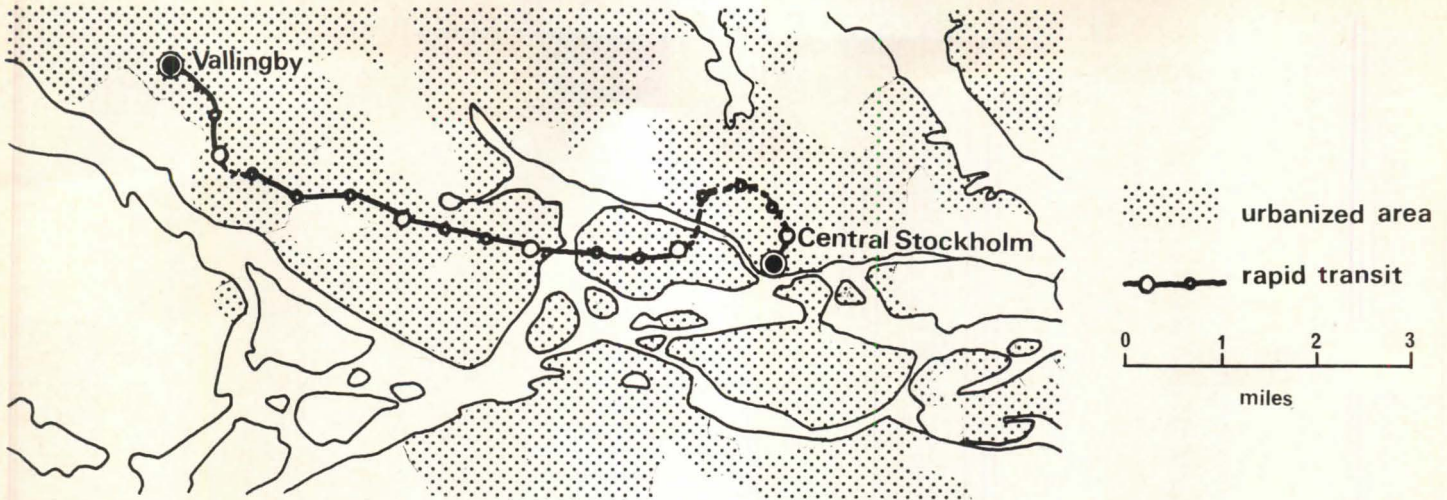
Those of the "it-won't-have-any-significant-effect" school hold themselves out to be realists accepting an apparently predetermined future of continued growth following the pattern we have come to know.

I wonder whether there is any magic about the number of cities that exists as an accident of history, and whether there are any immutable economic laws which preclude new centers of population from being created? The "realist" argument is really rather a depressing one, stating that things are as they are and cannot be changed by new attitudes and creative planning.

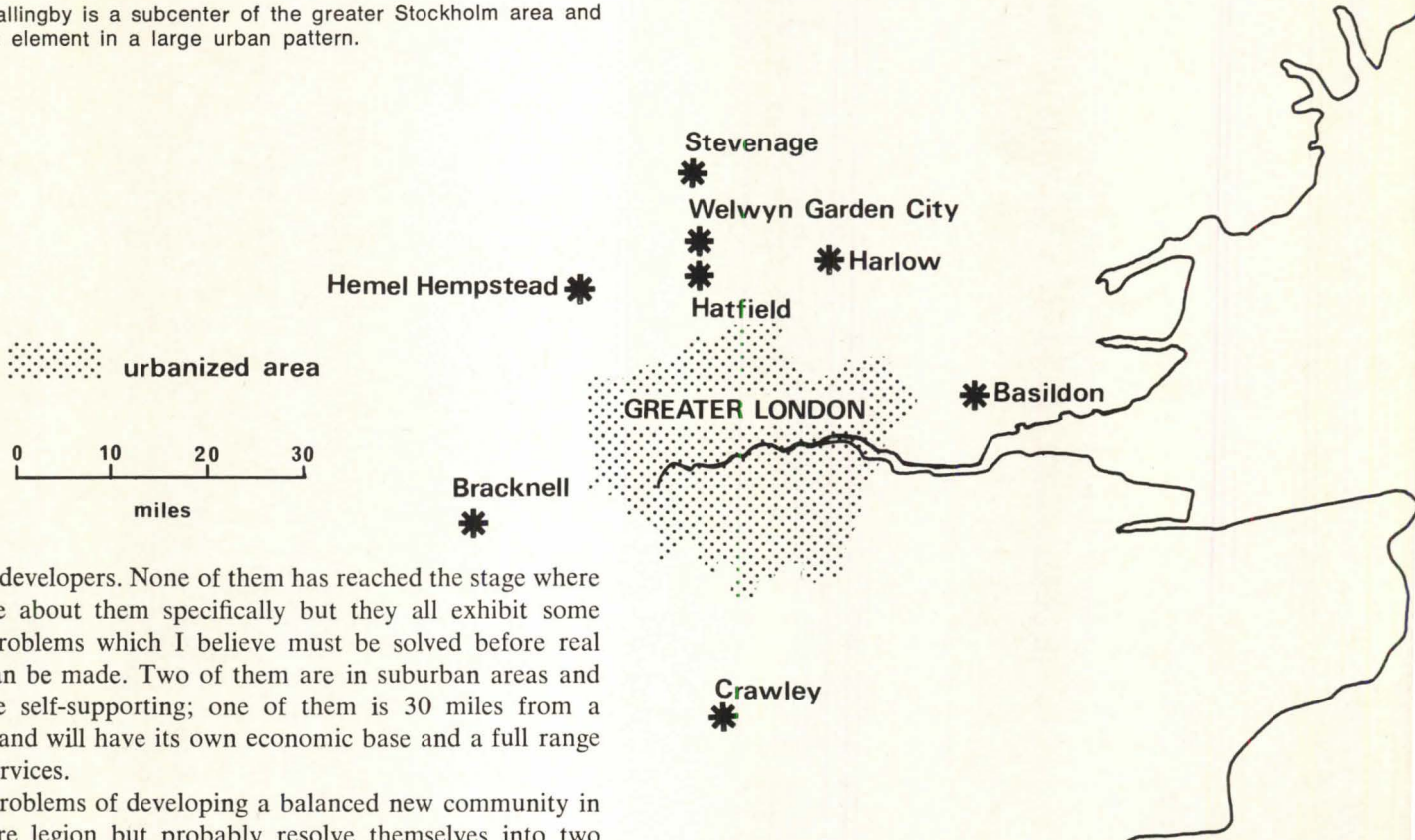
It is clear that to make an impact on the extent of suburban sprawl outside the major cities will require new legislation, heavy public commitment and considerable changes in public attitudes to the ownership of property and the right to develop it as you wish. New legislation curbing the "sacred rights" of property development in the suburbs would be an essential part of a new towns policy and would no doubt be unpopular. With proper provisions for compensation and the establishment of land banks it could, however, form a method of preserving open space in the suburbs and directing growth to new node points.

Without radical changes of this kind, the problems will not be solved. To quote Anthony Downs, vice president of the Real Estate Research Corporation, on the findings of the Douglas Commission: "Really solving basic urban problems requires many revisions in existing institutions. . . . Until we face the need for such fundamental changes and become willing to tackle their many disturbing facets, we will not make much headway against poverty, crime, family instability, slum housing, lack of recreational space or any of the other urban ills we so loudly complain about."⁶

As a member of a planning firm, I am currently engaged in the preparation of development plans for three new communities in the US. One of them is for a public authority, the other two



Sweden's Vallingby is a subcenter of the greater Stockholm area and exists as an element in a large urban pattern.



London's new towns are planned as separate communities beyond the greenbelt which surrounds the urbanized metropolitan area.

for private developers. None of them has reached the stage where I can write about them specifically but they all exhibit some common problems which I believe must be solved before real progress can be made. Two of them are in suburban areas and will not be self-supporting; one of them is 30 miles from a major city and will have its own economic base and a full range of social services.

The problems of developing a balanced new community in America are legion but probably resolve themselves into two main groups. The first is related to public attitudes and communication; the second to the lack of suitable financial and governmental mechanisms. The usual process goes something like the following:

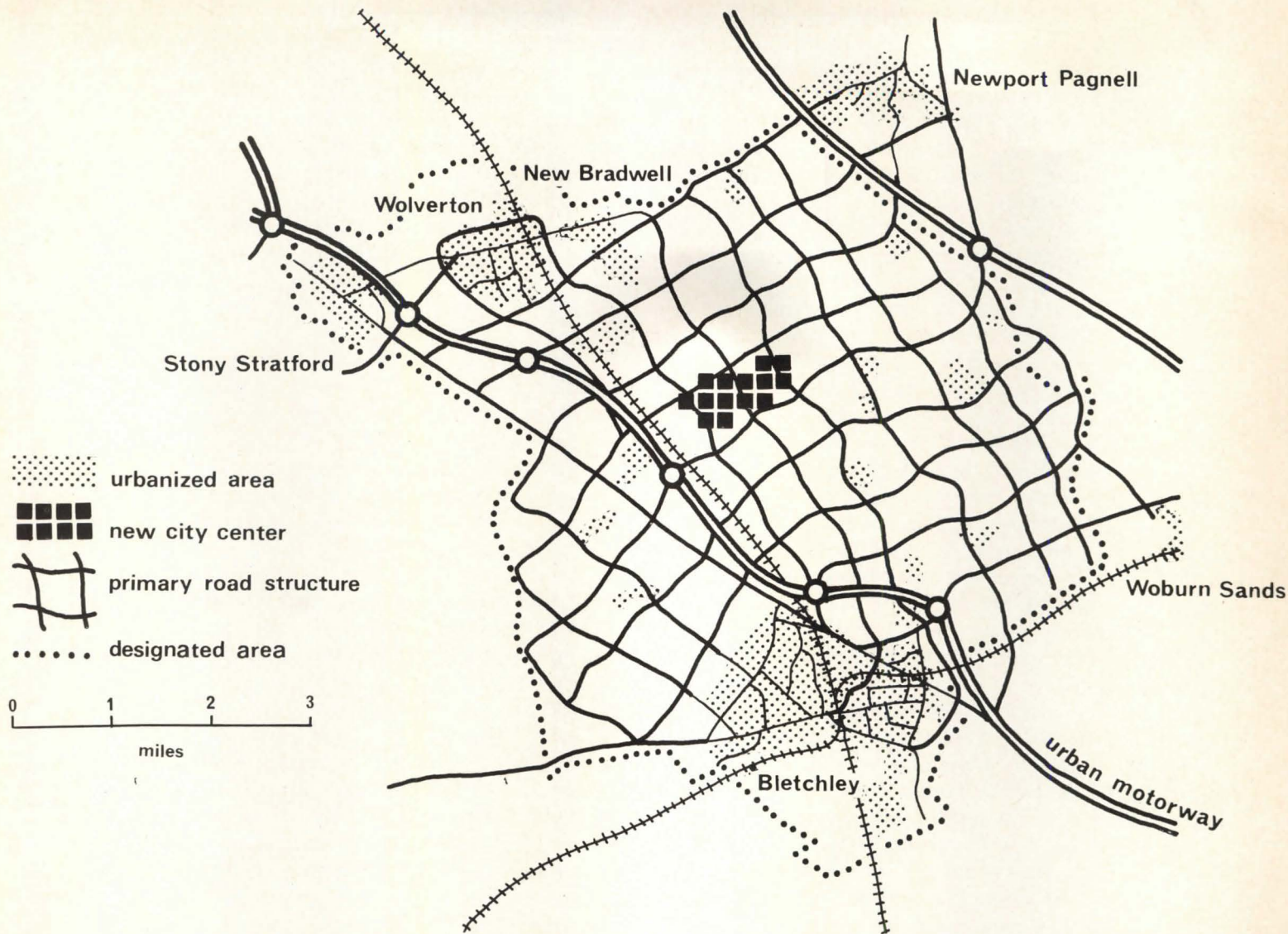
A developer (public or private) decides to build a new town and begins to assemble land. He does this secretly because he believes that if people get to know what he is doing, the price will rise beyond the limits he can afford. If he is successful in acquiring the land before the local community gets to know about it, he will be accused of working behind closed doors and "why weren't we consulted" problems will arise. If the plans to buy land leak out before the developer is ready (and this can happen), all kinds of awful images will crowd the minds of local people, who are likely to be white, middle income and conservative. They will be certain that the development will be high density, low income, full of children, that no one will pay taxes and, worse still, that some of the people will be black. The whole operation is looked upon as a plot by some city to export its

ghetto lock, stock and barrel. If the developer made his intentions known at the outset and took the local community into consideration, he would probably be unable to acquire the land without powers of eminent domain.

In Britain, the process is rather different. Land is designated for a new town, public hearings are held and when it is decided to go ahead, the land is acquired at market values, with the knowledge that eminent domain will be used if necessary. In practice it rarely is, but the fact that the powers are there makes all the difference.

In my opinion, the principal "mechanism" difficulties are:

- The fragmentation of authority and small tax collecting districts, which make comprehensive planning extremely difficult. An influx of lower income families in a community may have an adverse effect on local taxes, although this can be set off against



Milton Keynes, midway between London and Birmingham, will absorb existing towns and villages — the inverse of the “new town in town.”

an increase in the tax base provided by new industry. Conversely, the “exporting” city may be unwilling to lose the tax-producing industry and will therefore be unlikely to encourage the new town. In Britain, the tax system is more centralized and cities are not so completely dependent on a local tax base.

- The problem of finding patient money. New towns can be profitable (the British examples show considerable profits), but the period that must elapse before cash flow becomes positive will be much longer than for some other forms of investment.
- The lack of eminent domain powers, in the case of private developments, and the lack, in public developments, of a means to freeze land values. In Britain, it is possible for new town corporations to acquire land after several years of development at the value it had when the new town was originally designated (plus an allowance for inflation).
- The difficulty of controlling land at the edges of the development. If this is not done, the value of peripheral land will increase and others will benefit from the developer’s investment. The result will be sprawl in an unplanned way, the same as around other towns. In the case of suburban new communities, they will be swallowed up by general expansion and will become lost in overall urbanization.

Added to these problems, the private developer wishing to get federal guarantees under the New Communities Act (Title

IV) will face severe problems of front-end money. He will have to invest large sums in planning to make a detailed application to HUD before he knows whether guarantees will be forthcoming. He will also have to hang on to options which he may have on land during the long period of planning and HUD processing before the guarantees will enable him to borrow the money to buy the land.

Although Title IV is a great step in the right direction and, generally speaking, the regulations are perfectly acceptable, in my opinion the legislation does not go far enough in offering assistance to developers or in helping to locate new communities. If it is accepted as national urban policy to encourage developers to build new towns, then much more comprehensive legislation will be necessary to achieve effective programs. For instance, under the present system the location of new communities is really left to an ad hoc decision by a developer. In one area, an imaginative developer may see an opportunity for a new town; in another area there may have been no one with his vision but there may be an equal need. In this way the location is not governed by any overall objective view of regional dispersion but by a completely hit and miss system.

It would be better, for instance, if HUD were to commission regional studies determining where new cities could be located and then to advertise for developers to submit proposals or applications to develop these cities. The system could involve private enterprise just as much as the present one, but the locations would have been previously studied and determined by

either federal or state governments, depending on the particular economic and social requirements of the regions.

There are several basic kinds of new town community/city which serve different needs and which may be relevant in America over the next 30 years. I would define these as follows:

THE SUBURBAN NEW COMMUNITY: This is predicated on the need to concentrate suburban growth at node points such as transportation interchanges and to make some sense out of the sprawling expansion that is going on. Like Kevin Lynch⁷, I see nothing wrong with "giant urban regions," but there is a great deal wrong with "spread city." Studies have shown how these areas serve the affluent (with at least two cars) but are completely inadequate for less wealthy people from the point of view of the distribution and availability of essential services.⁸

The model is probably Vallingby outside Stockholm, which was planned in an effort to concentrate suburban growth. It is located on a rapid transit line connecting it with central Stockholm and has as its core a subregional shopping center. It is clearly not a self-contained new town but provides a superior environment for 23,000 people. This kind of mini new town may be much more appropriate to the American situation than the detached new town and could have a considerable effect on the structure of the suburbs. There could be many of them at transportation node points around a central city. Perhaps we should think less of satellite cities and change the image to suburban constellations.

THE NUCLEAR NEW TOWN: This is the classic pattern evolved from Ebenezer Howard and the Garden Cities Movement through the British Legislation of 1946. It exists as a largely independent town separated from others by miles of countryside. Seen from the air it is a single-centered town in a green setting. The size may vary considerably but is often around 60,000 to 100,000. Most of the first generation of British new towns are of this kind, as are Reston and Columbia.

The philosophical background suggests that a town should be fairly small and compact and combine the benefits of town and country. Howard's reasoning was based on a horror of "foul and squalid" cities, and his Utopian ideas were conceived as antidotes. Although this type of new town has had a considerable success in Britain, current proposals are now for much larger cities acting as regional growth points, and this later policy may prove to be more relevant in the US.

THE POLYCENTRIC NEW CITY: This is a relatively recent development which overlays a large new city on an area where there are already several smaller communities. These become subcenters in the matrix of the city. It is the inverse of the suburban new community which is slotted into an existing matrix. This can best be illustrated by the plan for Milton Keynes⁹, which is the largest new city underway in Britain and which will have a population of about 250,000 by 1990. Within the designated area, 45,000 people live in four towns and a number of villages

and hamlets which will eventually become component parts of the city although their character will be preserved.

The plan has been conceived in different forms from those of earlier new towns and does not attempt to lay down in detail the ultimate structure of the new city. Many of the proposals in the plan are for social and institutional initiative although there is a framework of transportation and other basic services. The goal has been to arrange the necessarily fixed elements so that there will be considerable scope for changes in patterns of life to be incorporated as the city is built.

A Possible Strategy for the US

If there is a will in the US to alter present patterns of growth and to create improved environments for millions of people, I would suggest that the following should be among the major strategic elements:

1. Widespread publicity informing people of the effects of increasing urbanization and demonstrating the choices that are open. It should be possible to persuade suburban communities that even if they can escape the worst effects of the city, their children may not.
2. Changes in tax structure or the use of special impact payments to cushion the blow of increasing local taxes. This would involve action at state and national levels.
3. Legislation enabling statewide corporations to acquire land for new community development by eminent domain if necessary. The New York State Urban Development Corporation is leading the way in this field and may be the model for many others.
4. The introduction of more sophisticated development control mechanisms than the conventional zoning ordinances. This would probably involve the gradual acceptance of the principle of compensation and betterment, whereby those who are prevented for societal reasons from developing their land are compensated and those whose land appreciates through the actions of society are taxed.
5. A much greater degree of federal commitment in the form of loans and guarantees. In the long run, this would not be a burden on the taxpayer as the developments create wealth and new taxable structures.
6. From a physical planning standpoint, effort should be concentrated on the creation of suburban new towns at node points and on preserving large cohesive green wedges of countryside. Coupled with this a national strategy of creating several major new growth points for eventual populations of several million people may be more relevant to American needs than the construction of small self-contained new towns.

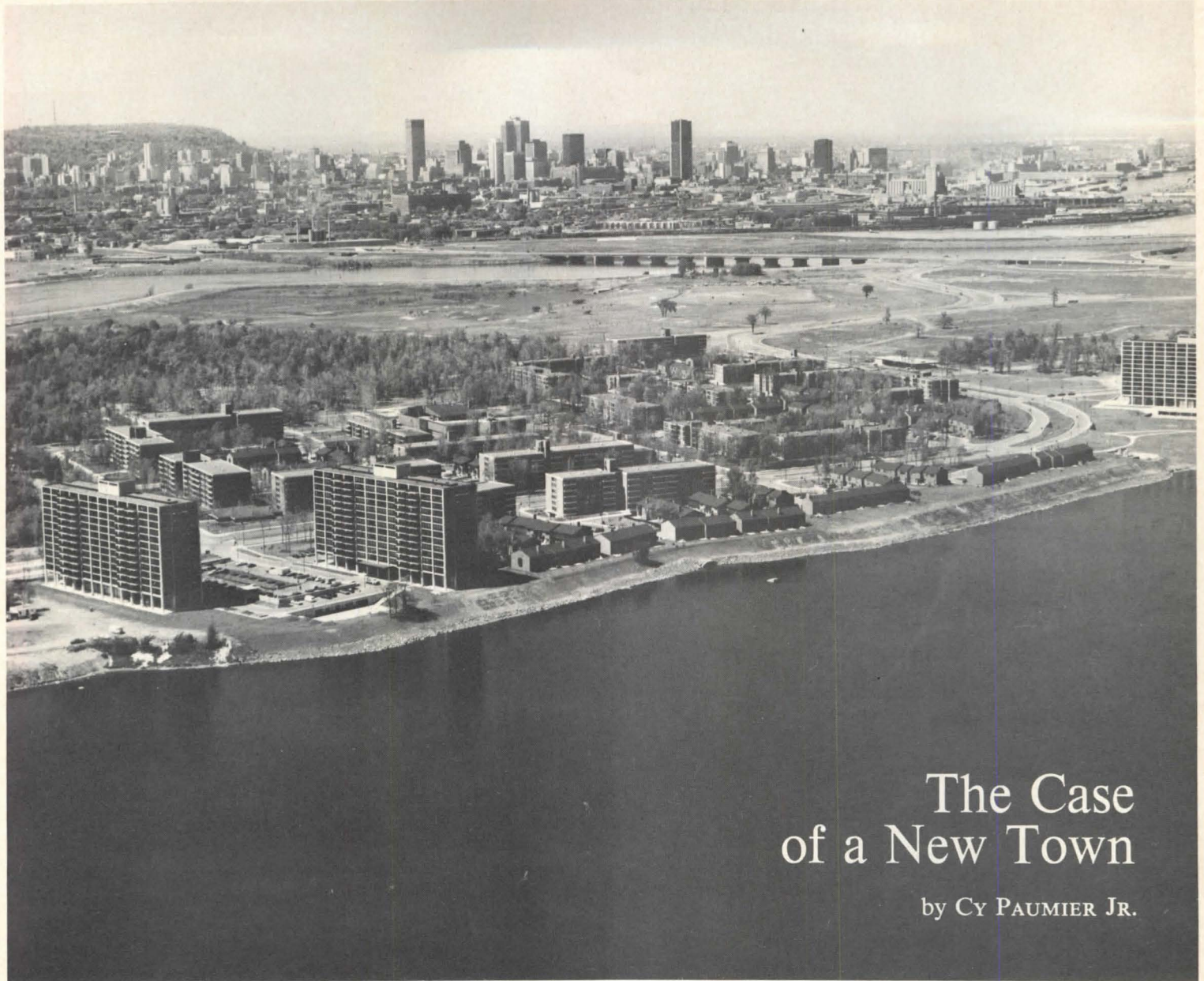
If actions along these lines could be seen as complementary to the redevelopment of core areas in the central cities, instead of being regarded as competition, then achievements over the next 20 years could be very real indeed. □

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The Case of a New Town

by CY PAUMIER JR.

The dramatic is not the hallmark of Nuns' Island near Montreal. Rather, the new town is an example of land planning which works to the advantage of both residents and investors. As such, it is worth a closer look from planners in the US, where sprawl is now creeping from the suburbs and into new towns.

Nuns' Island, which is what might be termed a new town in town, was built first of all because the site, 1,000 acres less than 10 minutes from downtown Montreal, offered a rare economic opportunity. But it would be wrong not to point out that economic interests by no means were the only incentive of the developer, Metropolitan Structures, Inc., of Chicago. The company, or more specifically its president Bernard Weissbourd, was inspired to set out on this venture for still another reason: that of planning and building a community which might become an example for new towns in the US, for residential renewal in the cities and even for high density building in the suburbs.

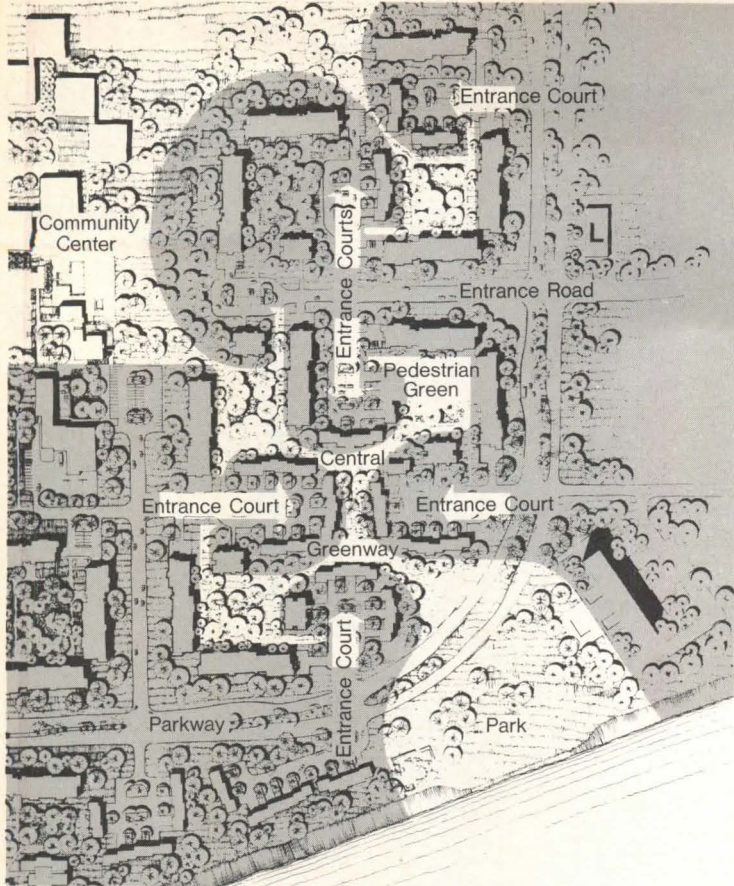
The thinking behind the Nuns' Island concept, with desirable tracts being what they are today — scarce and costly — is that land must be utilized to better advantage both when it comes to providing more homes and retaining more open space. Consequently, the island is planned for 30 units per acre, a density that is advocated by a number of planners and to which

Weissbourd subscribes. Therefore, at the very outset this figure was fairly well established. But the amount of open space left, even with this density, retained as it is in large, usable expanses, makes the community a sought-after place to live. Of some 2,000 units now finished, just about all are rented.

The island, which is part of Montreal's neighboring City of Verdun, had been the property of the Sisters of the Congregation of Notre Dame for some 200 years when it was sold in 1956 to Quebec Home & Mortgage Association. The Champlain Bridge, which was built just before Expo 67, connected the uninhabited island with downtown Montreal, making it a natural for what would be almost an extension of that city. But prospective developers were deterred by the size of the undertaking, for the landowner was not interested in dividing the property into lots.

Then in 1965, Metropolitan Structures undertook a six-month feasibility study of the island and at the end of that year leased it for 99 years. The master plan took 12 months, during which the planning team* grappled with such problems as how

*Johnson, Johnson & Roy, Inc., Ann Arbor, Mich.; La Societe, B.L.M. (an engineering consortium of Beauchemin-Beaton-LaPointe and Lalonde, Valois, Lamarre, Valois & Associates, Montreal, and Moffat & Nichol, Long Beach, Calif.); Barton-Aschmann Associates, Chicago; Philip David Bobrow, Montreal; the Office of Mies van der Rohe, Chicago; and Stanley Tigerman, AIA, Chicago.



Montreal's skyline is background for Nuns' Island with the two first phases of construction completed (preceding page). Plan above indicates how open spaces are linked for walking. Additional landscaping is underway around highrise, as shown on plan.

best to design the road pattern to move people from a fixed point of access to the island; the location of utilities and other services; and the selection of building types and how they were to be sited. Three alternatives came out of the study, all with the same density and a similar distribution of building types but with different approaches to vehicular access and circulation.

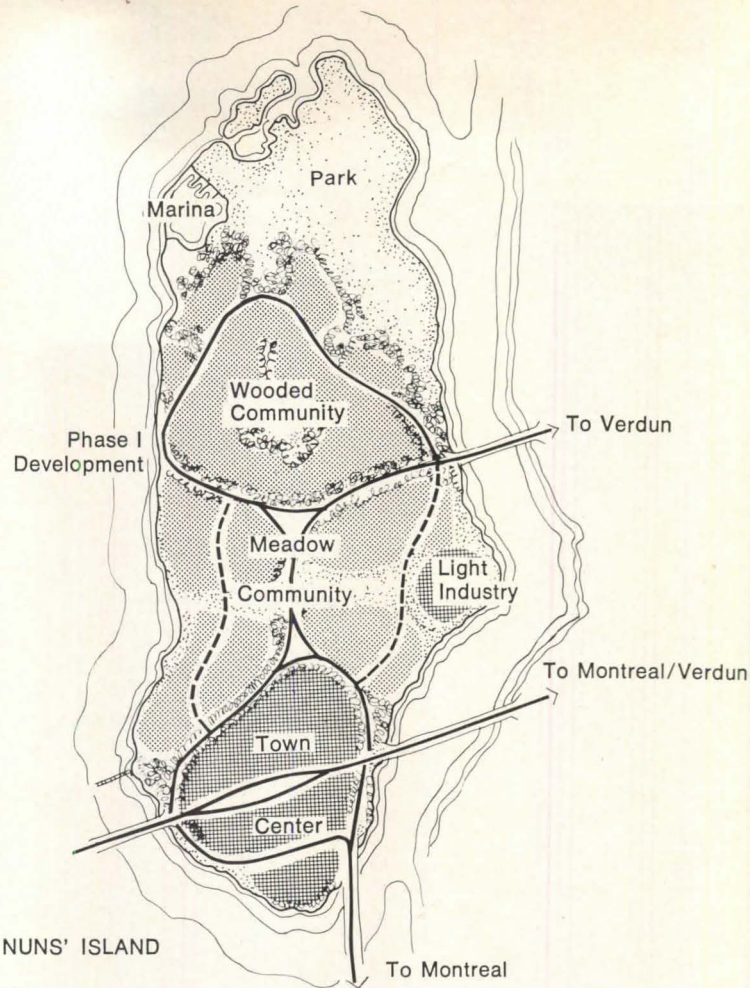
One alternative proposed a ring, or loop, road system, paralleling the shoreline. This, however, would have created an "island" in the center, cut off from the water by traffic lanes.

A second alternative would have created a singular road that hugged the northern edge of the island, paralleling the shore closest to Montreal, with fingers penetrating to the south shore — an exciting approach, but incapable of handling the projected traffic load, which engineers determined would require three lanes in each direction.

The solution finally accepted and developed — the spine road system — offered the opportunity of creating two distinctive residential communities, one in a meadow area and one in a wooded one, each with a direct relationship to the water's edge. This solution also solved the traffic volumes confronting the planning team.

A high-speed, mass transit link to Montreal was considered as part of the original concept. However, both municipal rail or subway systems represented extremely long-range commitments, beyond, in fact, the life of the development program. The multimillion-dollar investment thus required of the developer could not be justified. However, Metropolitan Structures did agree to subsidize public bus transportation to and from the mainland the first year, at a cost of \$31,000, until the service was taken over by the Montreal Transportation Commission.

A concurrent concern was the building code which, in

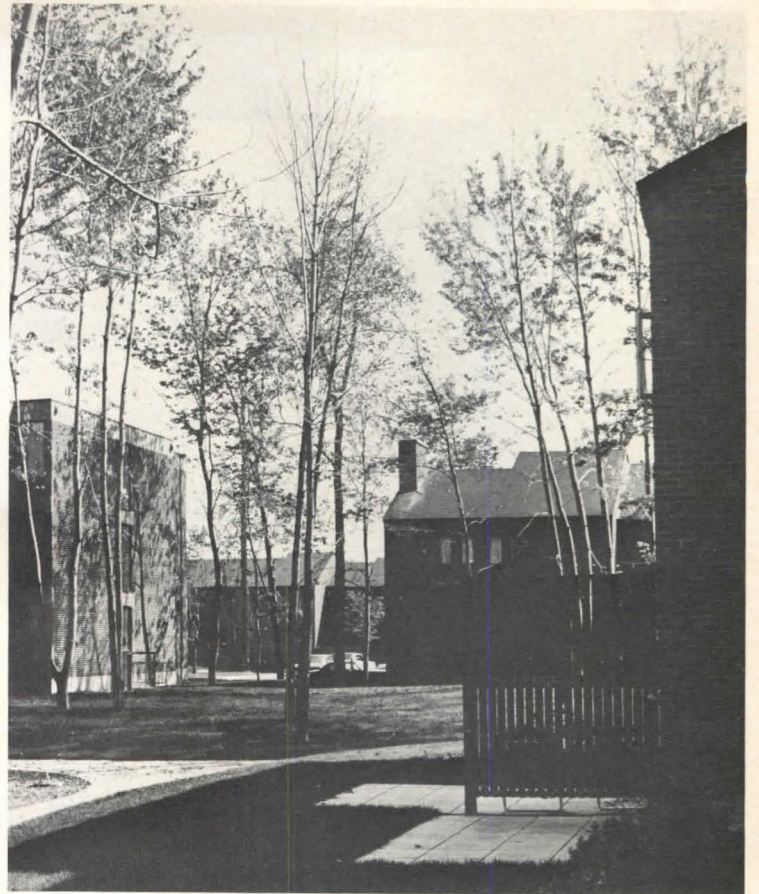
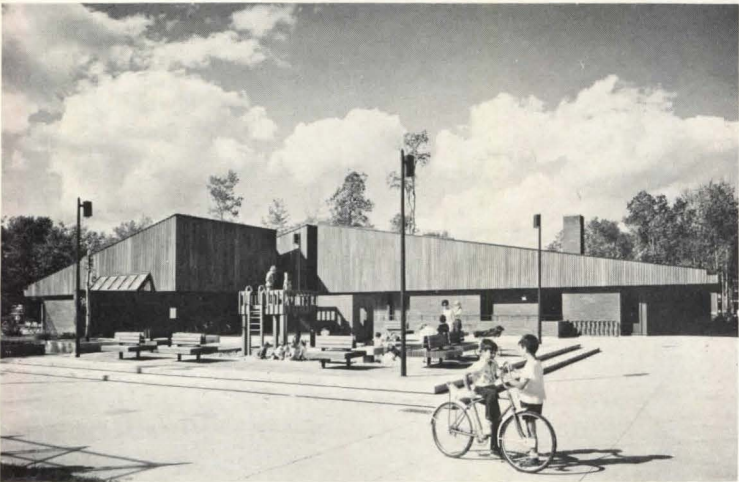


Verdun, did not contemplate highrise structures. Subsequently, agreement was reached with the municipality for acceptance of the land plan as the zoning plan and adoption of the National Building Code of Canada — a performance code — for the actual construction.

Previously arranged by the land owner was a financing agreement which called for Metropolitan Structures to deed all public facilities, rights-of-way and streets to Verdun in return for an ultimate \$20 million municipal investment in roads and services. Under terms of the agreement, the municipal bonds are repaid from Nuns' Island taxes only; residents of Verdun do not finance island improvements, and island residents do not pay off existing obligations of the city itself.

Under the master plan, Nuns' Island is divided into four zones: a residential zone, accommodating five neighborhoods of some 10,000 people each in a total of 15,000 units; a 250-acre recreation zone with playing fields and a golf course (following completion of landfill operations); a light industrial zone; and a business/commercial zone. The ratio is 400 acres for residential, 362 acres for public (parks, schools, roads) and 218 acres for commercial uses. Both the industrial and business/commercial zones are highway oriented, adjacent to the Champlain Bridge.

A vehicular parkway system links the four zones, with the parkway also serving as the primary organizing element to form the boundary between the two communities and the commercial/office center. The traffic plan separates high volume traffic, routed on the primary roads, from secondary, cul-de-sac streets used by neighborhood residents. It also eliminates the need for any resident to cross a primary road to reach community and shopping facilities.



In addition to a major recreation area, there is open space accessible for everyday use. Each neighborhood has — within a short walk — a community center with tennis courts, swimming pool, etc.; apartment buildings are clustered to form small play lots.

The combination of central parks within each community, the parkway and the organization of highrise buildings along the river's edge and within the commercial/office area is the key to the physical structure and visual order of the island.

In the residential zone, the meadow community is divided by the parkway into two neighborhood areas, each with a central park that relates to the parkway on the interior and to the river's edge on the exterior. Schools, shopping, community centers and recreational facilities are located in or adjacent to the central park of each residential neighborhood, linked to open spaces in the neighborhoods themselves by pedestrian greenways.

Similarly, the neighborhoods in the wooded community focus on a 30-acre central park or are river oriented, again with all linked by pedestrian greenways and underpasses which lead from the community facilities through the neighborhoods to the water's edge and riverfront parks near the highrise structures.

Pedestrian greens are created by the clustering of apartment buildings in quadrangles. This arrangement forms one-acre parks for each building grouping, ideal for passive recreation and small play lots for children.

In addition to the major recreational zone and the pedestrian greens, play lots to serve a broader age group were also planned in the park areas along the river's edge.

Primary recreation space for older children, teenagers and adults will be concentrated in the central park of each community. Facilities for softball, tennis, basketball, volleyball and hockey will be used by the island's schools during school hours and by the community during other periods.

In all, five community centers and a similar number of convenience shopping centers are planned to serve the neighbor-

hoods in the meadow and wooded communities — all within five-minute walking distances of all residential units in each neighborhood. Additional pools and community facilities will be built in relationship to highrise apartment buildings along the river's edge.

The fact that residents don't have to drive in order to participate in island activities puts them in more frequent contact with each other. The first, 4,000-square-foot community center is the hub of the neighborhoods' social and recreational life. The center has a swimming pool, tennis courts and other outdoor facilities, meeting rooms for both youngsters and adults, a lounge for dances and small parties and a bilingual kindergarten. Also available are golf, horseback riding and fishing, and there is a marina for boat owners.

Construction of the residential zones has so far been in two phases. The first began in the island's wooded zone in 1967. At the same time, work began on landscaped earth dikes to protect low-lying areas and on filling operations in the southwestern section, future site of the major recreational zone.

Phase 1, which was completed in late 1968, includes five three-story garden apartments (12 units each), nine four-story elevator apartments (48 units each), a 15-story highrise apartment building (204 units) and a series of three- and four-bedroom two-story townhouses, which bring a single-family scale to the development. The total is 805 dwellings.

The three-story buildings are of frame construction; the four-stories have precast concrete floors supported by conventional masonry walls; the highrise is poured in place concrete; the townhouses are of wood masonry construction. Earth-tone brick predominates the exteriors.

Architect for Phase 1 was Philip David Bobrow, Montreal;



River-oriented Phase I highrise is linked to interior residential neighborhoods by a pedestrian underpass; lowrise apartment houses have one-acre parks for each building grouping.

consulting architects, the Office of Mies van der Rohe and Stanley Tigerman, AIA, both of Chicago.

Phase 2, completed last spring, includes two additional high rise buildings, eight six-story buildings, four three-story buildings and 95 townhouses for a total of 1,271 units. Architect was Edgar Tornay, Montreal; consulting architects, the Mies office and Donald Lee Sickler, AIA, of Baltimore.

In response to market demand, Phase 2 highrises incorporated balconies, the first designed for Mies buildings. Also, the three-story buildings include elevators and one-bedroom apartments, while the three-stories of Phase 1 were without elevators and with only two- and three-bedroom units. The highrises share an indoor pool, in contrast to the outdoor pool designed for the highrise in Phase 1.

Phase 2 buildings adhere to the design quality of the first structures and maintain a continuity of architectural thought, but have a subtle diversity intended to reinforce future design stages. The exterior colors are earth tones, complementing the

tones of the brick in Phase 1, with olive brown accent color on all repeated exposed surfaces other than brick.

To keep the community from becoming monotonous, free-standing and continuous building elements have been combined for both diversity and harmony. Consequently, each quadrangle has both mid-rise buildings and two-story townhouses, which prevents the tall buildings from seeming overwhelmingly large. Similarly, townhouses along the river's edge contrast with both the highrise buildings and the six-story structures which are oriented to the interior.

While permanent school facilities are under discussion with both Catholic and Protestant school boards, 200 elementary school children are attending classes in temporary quarters. The Catholic School Board of Verdun is providing the teachers; classes are conducted in both French and English. Metropolitan Structures subsidizes the operating cost of the school to insure that classes are held on the island rather than in Verdun; older children bus to schools in that city.

A series of office buildings, totaling 4 million square feet, and an enclosed shopping mall will form a town center for the island. The first office building, a five-story, 70,000-square-foot structure by Bland, Lemoyne & Shine of Montreal, with Sickler consulting, is expected to be completed by the end of the year. Another one, of 30,000 square feet and designed by Dawson & Syzmanski, Montreal, will be Quebec headquarters for Olivetti Canada Ltd. Early in 1971, construction will begin on a 160-unit Howard Johnson motor hotel.

Land Design/Research, Inc., of Columbia, Maryland, is currently preparing a site development plan for the town center zone and is also providing the land planning and design co-ordination service on total island residential development.

Nuns' Island is developed entirely through private funds; the project is expected to take 15 years from conception to completion, with a total investment of \$350 million. Because Metropolitan Structures is a private company, financing has been largely through mortgage with some equity investment. Mortgage financing for the first two phases has been by Metropolitan Life Insurance Company.

A Chicago investor group headed by Joseph, Gerald and Willard Gidwitz, owners of Helene Curtis Industries, Inc., has invested \$4.5 million. In return for 50 percent of the rental income from the first 3,000 units, Pittway Corporation, Chicago, has invested \$3 million of a committed \$4.5 million.

When fully developed, income on residential rentals alone is projected at \$3 million a month. In addition, Metropolitan Structures receives income from the leasing of industrial and commercial facilities.

A recent study of island residents revealed an average annual income near \$9,500 with some 40 percent earning more than \$10,000. Rents range from \$120 to \$400. In an area where mortgage interest is as high as 10 and 12 percent, homeownership is out of reach for most, and the island is therefore an all-rental community.

This fact, and the favorable lease terms of the land (\$21,000 annually the first 10 years, escalating to \$1,285,000 in the 15th year) have helped reduce costs. Smaller tracts could be a savings factor for new towns in general — provided they are used to better advantage and with all possible inventiveness in order to retain as much everyday open space as possible. □

Mr. Paumier served as design coordinator of the Nuns' Island planning team and is now director of land planning and landscape architecture for the Rouse Co., Columbia, Maryland.

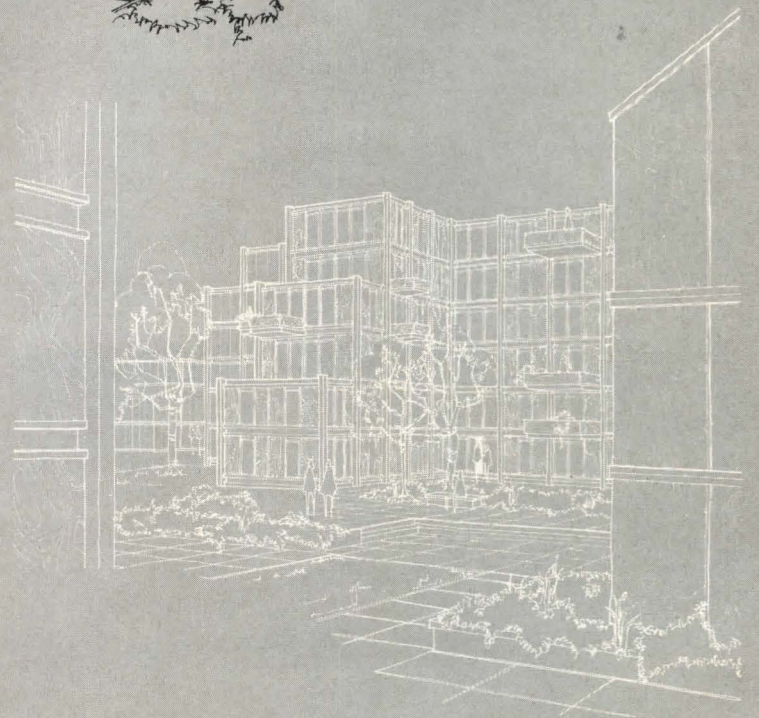
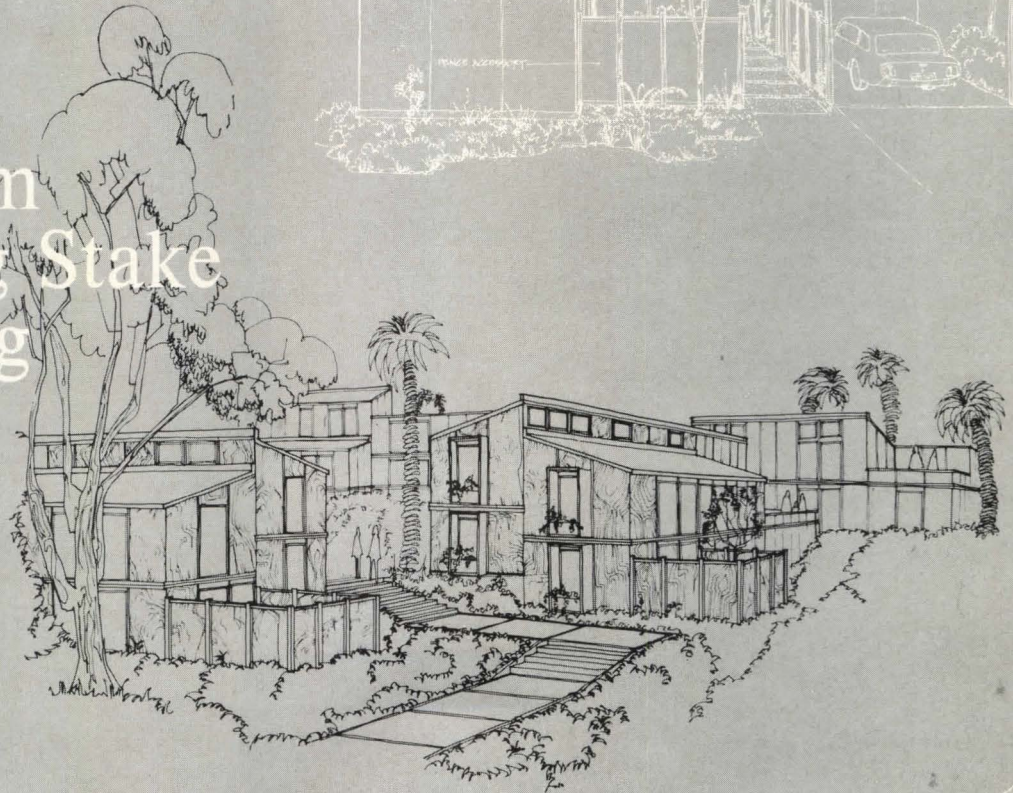
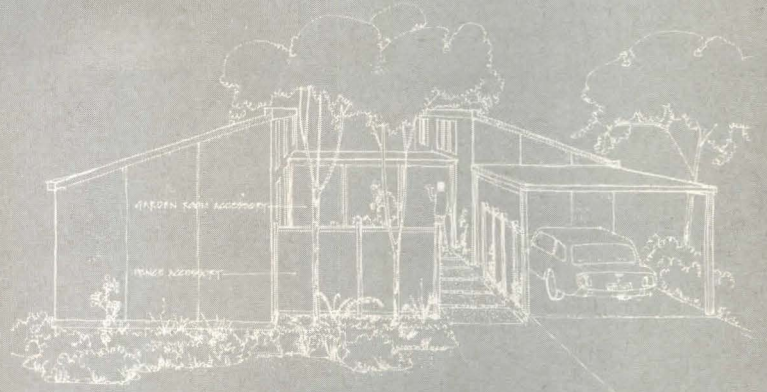
PRACTICE

John T. Law Associates of Palo Alto, California, putting the accent on husband/wife teams and on youth, finds both professional and financial rewards in working with developers.

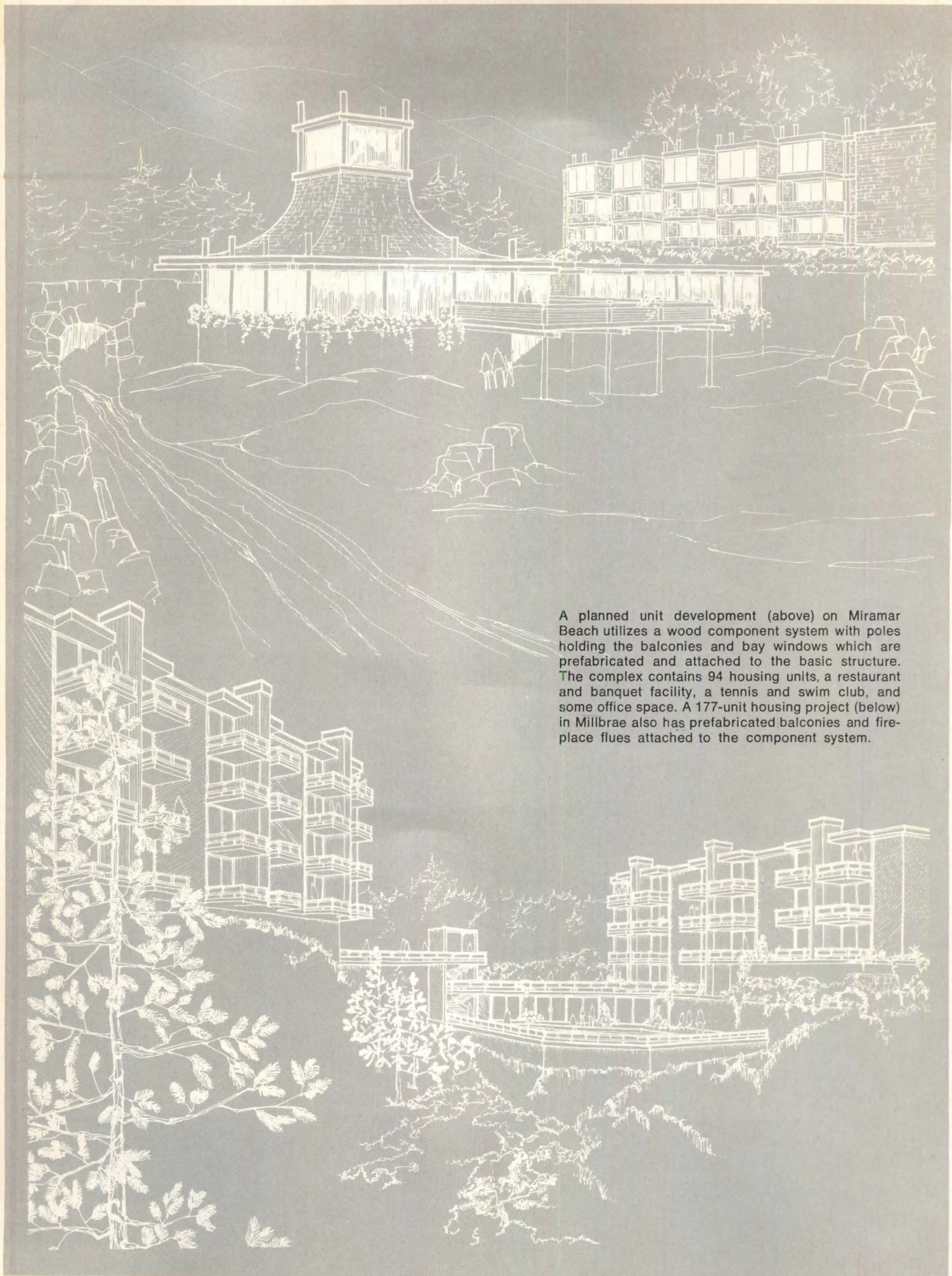
PROFILE

Small Firm with a Big Stake in Housing

by JACK FRASER



Transamerica Housing System developed by Law's office is composed of wood sectional structures made from units 12 feet wide and 36, 48 or 60 feet long. Sections shown here are joined by an atrium; stacked to create two- and three-story townhouses; and placed in steel and concrete frames.



A planned unit development (above) on Miramar Beach utilizes a wood component system with poles holding the balconies and bay windows which are prefabricated and attached to the basic structure. The complex contains 94 housing units, a restaurant and banquet facility, a tennis and swim club, and some office space. A 177-unit housing project (below) in Millbrae also has prefabricated balconies and fire-place flues attached to the component system.

When the Pacific Coast Builders Conference scheduled a seminar on mass housing last summer, the program committee turned to John T. Law, AIA, as the architect on the panel. And little wonder. He is not only the designer/planner for several housing developers but also part owner of two corporations that are building low cost housing and a member of California's Advisory Committee on Factory-Built Housing.

The 37-year-old founder of John T. Law Associates in five years has established a practice that makes money and wins notice in the nation's most turbulent and populous state. In addition, he maintains a rapport with his colleagues as president-elect of the Santa Clara Valley Chapter of The American Institute of Architects and with students as an instructor at Stanford University's Department of Architecture. He might even earn a kind word from Women's Liberation. "Our employment of husband/wife teams is part of our fresh approach to making work lively and fun," he says.

Law manages his panoply of hats by working from 7 a.m. to 7 p.m. and often longer, almost every day of the year. "I couldn't be happier," he hastens to add. "The opportunities for architects right now are endless."

Beginning in 1965 from his pastoral Portola Valley home, he has expanded his firm to a staff of nine in Palo Alto and has reached an annual construction value of more than \$5 million. Projects include, besides mass housing and custom residences, master planning, commercial and industrial buildings, a community for the rehabilitation of alcoholics and another for recreational camping.

Raised in New Jersey and Massachusetts, the son of a scientist, Law points out, "I decided to be an architect during my junior year at Exeter Academy when I discovered that the two subjects I enjoyed most, math and art, could be combined in the field of architecture."

He went on to Harvard University where he worked summers with construction crews erecting projects ranging from the world's largest steel plant to private tennis courts. While serving as a pilot in the Air Force, the architect helped supervise construction of 600 housing units designed by Bassetti & Morse at McCord Air Force Base near Tacoma, Washington.

By that time, Law admits, "I thought I knew all there was to know about how to build housing until I did a guest house for my wife's parents in Bedford Village, New York. I ended up working 14 hours a day, seven days a week, and discovered I still had a lot more to learn."

During his last two years of graduate work at Harvard, Law worked for The Architects Collaborative under Benjamin Thompson, FAIA, remodeling campus dormitories. "Ben gave me a great deal of responsibility, and I admired him as a great designer."

Law moved to California in 1961 to work for John S. Bolles, FAIA, "whom I respected as a businessman, among other things." Two years later, he joined the firm of Ernest J. Kump, FAIA, working on such jobs as the College of Virgin Islands and the renovation of Kump's castle in Austria. "Ernie gave me good all-around experience, and when I started my own office, he helped me get clients," Law comments.

Commissions for the first two years of his own practice consisted mainly of houses. There were some restaurants, too. "They're like stage settings — fun," he says.

Commercial work got underway in 1967 with an office building in Redwood City for a previous residential client. In that same year, Law moved the firm to the Stanford Financial Square "to be near the best local developers," as he puts it. "We spent additional money—more than \$4,000—to create an interesting office environment, and we are working for two of the developers in our building today and hope to work for the third very soon."

"When you start working for good developers, you can afford to drop the bad ones because the former become repeat clients," Law continues. "We enjoy being associated as a team with people who make correct decisions in their specialties and who respect our opinions in ours."

"We believe that by working for developers, we are more influential in the real decision making that is shaping our environment. We become part of the development team, not necessarily assuming all the risks or profits of the developer, but we do share them. Developers are motivated by money. We convince them that taste can be upgraded and consumers will pay more for a better product."

Today, John T. Law Associates is designing such projects as lowrise apartment units for Millbrae overlooking San Francisco International Airport and a 10-story, 162-unit apartment house for San Francisco's Russian Hill. The firm is also doing a considerable number of industrial research buildings, specializing in tilt-up construction, for Boise Cascades Building Co.'s industrial parks. "We're learning to make the process as simple as possible," Law says. "The same technique could be used to mass produce housing."

His favorite building continues to be an 180,000-square-foot concrete box for Nutting Associates in Mountain View, a manufacturer of computer games and vending machines. "Costing \$6 per square foot, it is producing a much higher income than anticipated. It's the first concrete building we did and rather simple. But I enjoy driving by it every time," the architect remarks.

The office is organized as horizontally as possibly, with the three associates on an almost equal basis with the principal. They are Jack Woodson, 29, from San Carlos, California; John Barksdale, 26, Denver; and Kathy Schmidt, 25, Sioux Falls, South Dakota—all picked from Stanford's graduate department. "Our casual sense of equality creates a sincere enthusiasm among the staff members to do their best at all times," Law says. "We work 60 hours a week and eat our lunch in 15 minutes while we criticize each other's work."

Another innovation in the office is the emphasis on husbands and wives working together. Ever since he married in graduate school, Law has been recruiting women employees for his firm and finds them particularly valuable in the custom residential work. His wife Peggy does all of the specification writing and she and Mrs. Schmidt do most of the client contact in that area. Support positions are filled by Mrs. Woodson, Mrs. Barksdale and Mrs. David Hammond, the wife of the structural engineer.

"Women have the patience required to build models, do renderings and catalog samples and brochures," Law concludes. "The wives are enthusiastic about their work and the opportunity to associate closely with their husbands' profession. Such unorthodox arrangements have caused some brow-raising among my contemporaries, but since I have four daughters, a capable wife, an excellent designer in Kathy Schmidt and talented associates' wives, I have the philosophy that women should be utilized to their maximum potential." *continued on page 42*

Mr. Fraser, formerly a reporter and urban affairs writer for the *San Jose Mercury and News*, is assistant director of Public Relations at AIA Headquarters in Washington, D. C.



Principal Law, Woodson, Mrs. Schmidt and Barksdale discuss a project in the office, the entrance to which is seen at right. The firm's founder and his wife often review specifications in the office space that they keep in their Portola Valley home.



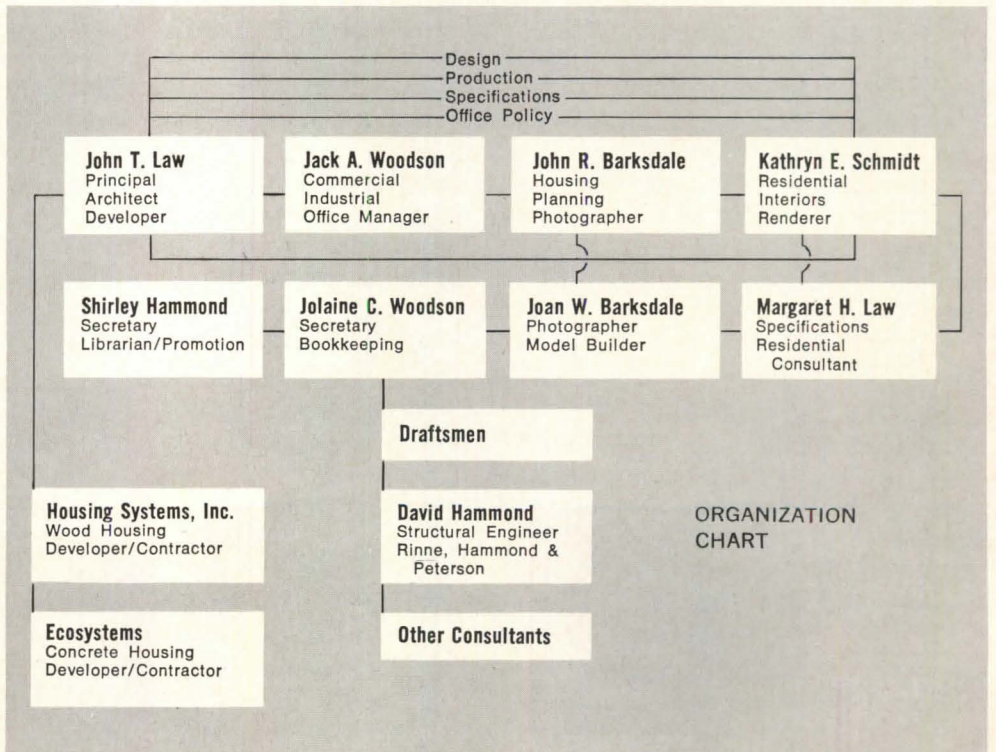
STAFF BREAKDOWN

| | |
|-----------------------------------|---|
| Principals | 1 |
| Associates | 3 |
| Architectural Designers-Draftsmen | 3 |
| Specification Writer | 1 |
| Secretary | 1 |
| | 9 |

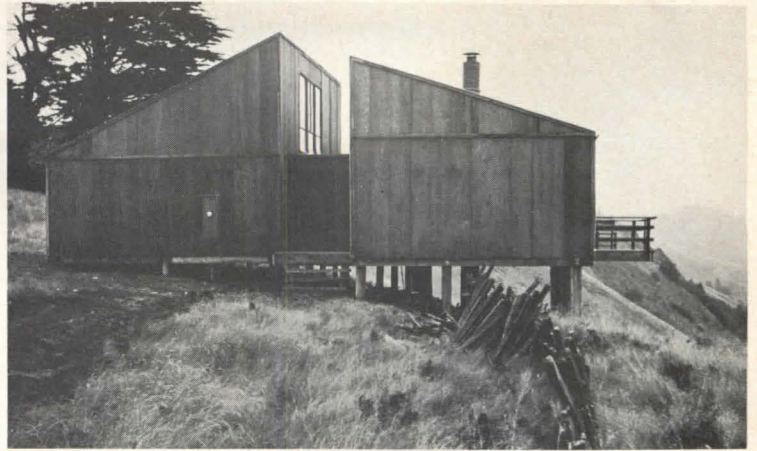
1970 GROSS BILLINGS (Projected)

| | |
|-------------|-----------|
| Residential | \$ 60,000 |
| Housing | 100,000 |
| Public | 20,000 |
| Commercial | 110,000 |
| | \$290,000 |

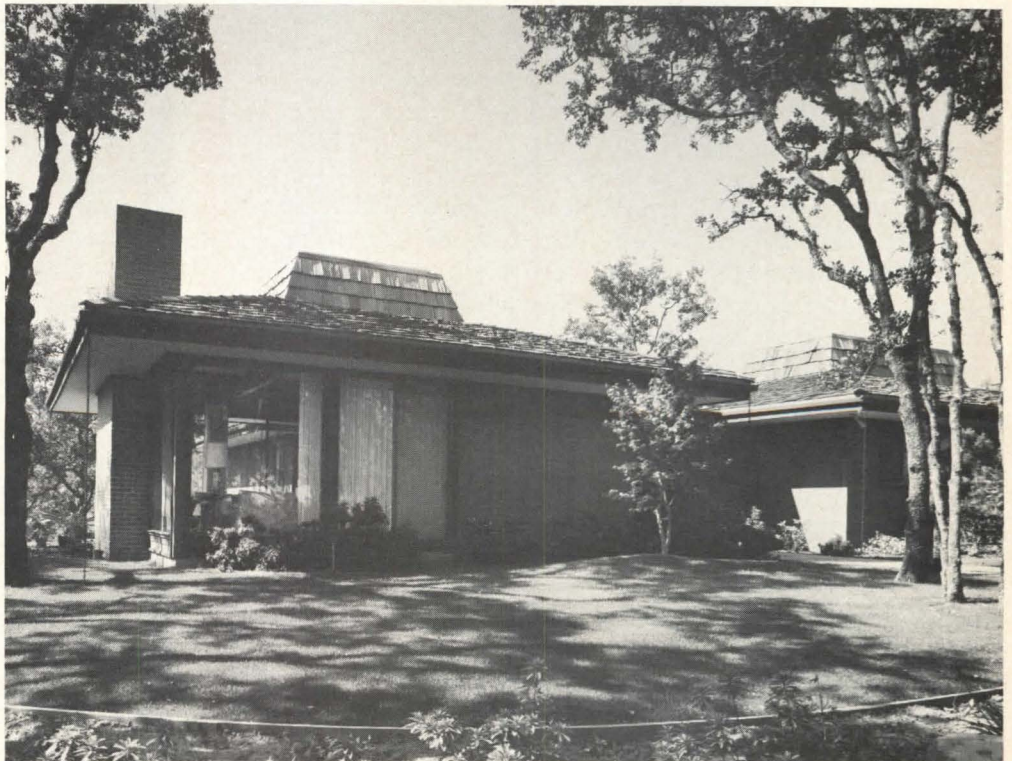
ED. NOTE: A director of both companies, Law owns 10 percent of Housing Systems, Inc., and 25 percent of Ecosystems. John T. Law Associates provides all planning and architectural work for both firms in a normal client relationship; both do engage in development and contracting work.

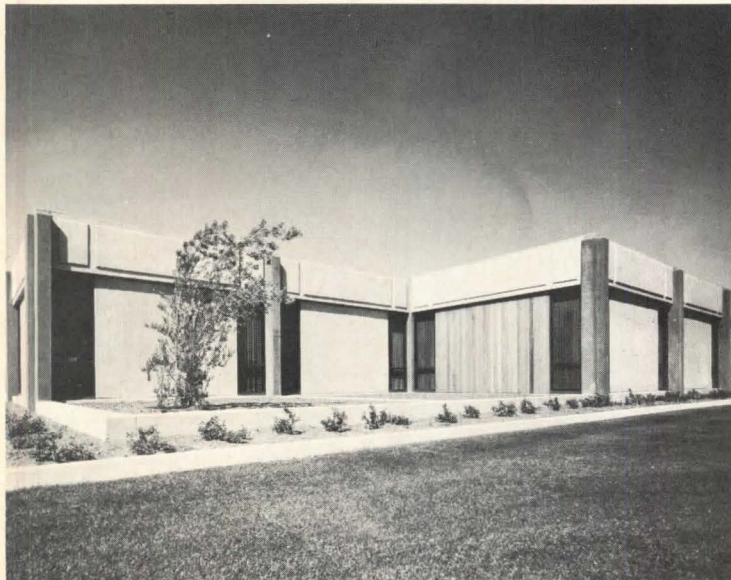
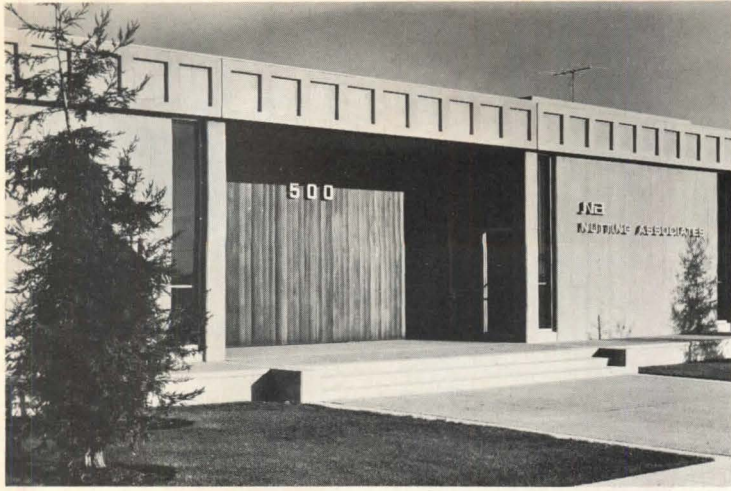


ORGANIZATION CHART



These three houses suggest the firm's innovative approach. The Brumbaum Residence (top), Mendocino, served as a model for Housing Systems, Inc., being built at \$10 per square foot; the Eberhart Residence (center), Half Moon Bay, is an experiment with plywood component construction; the Burrill Residence (below), Portola Valley, illustrates a custom house where modular construction was used to decrease erection costs.





Among modular concrete buildings are two in Mountain View: one for Nutting Associates (top), Law's first and favorite tilt-up structure, and another for Portola Land Company, to be joined by two similar units.

The firm bills all of its work on an hourly basis and emphasizes efficiency to clients. "All clients want guaranteed maximums when we start working with them," Law explains, "but many develop enough confidence in us to accept our hourly billing without maximums on repeat work."

Outside the office, he is involved in a number of activities in addition to those already cited. He is a member of the housing and urban affairs committee of the California Council AIA; a past president of the San Jose Chapter of the Construction Specifications Institute; an associate member of the American Institute of Planners; director of East of Bayshore Design Center; chairman of the Architectural and Site Control Commission of Portola Valley; and, just for good measure, secretary of Christ Church, Portola Valley.

Yet, despite all this involvement, Law keeps looking ahead. "We are talking a lot lately about how to expand. For the next two years, we plan to emphasize the improvement of our efficiency and the quality of our work. Then we plan to get bigger."

He sees many exciting potentials. In an old lumberyard in rural Oakley, east of San Francisco Bay into the Central Valley, farm workers are assembling single-family homes for themselves and Mexican-Americans. The houses are fabricated in sections which are trucked to nearby walnut orchards and vegetable fields. One section of 43 houses has recently been

completed; other projects are in the design stage. Law is one-tenth owner of Housing Systems Inc., the corporation which owns the lumberyard plant. The Farm Home Administration arranged \$1 million in loans so the families could purchase the prefabricated dwellings.

The all-wood houses, running from 1,000 to 1,300 square feet, cost \$10 per square foot. Some sell for as low as \$15,000, including developed lots, which has to be a bargain in today's tight California market. The state's 1969 housing report estimated that 500,000 units were needed immediately, along with several hundred thousand rehabilitations required.

"I believe that a systems-oriented design and construction procedure is the only way this backlog can possibly be met," is Law's view. "It's faster, more efficient, to build in a factory where people can work at \$3 an hour under good working conditions compared to out in the field where the worker gets \$8 an hour under less efficient conditions. The trailer industry is building at \$8 per square foot. We are building for \$10 per square foot and the average tract builder at \$13."

Russell D. Jones, director of administration for Boise Cascade and the man who drew the original legislation which inspired California's factory-built housing act, thinks assembly-line manufacture will chop "only a few cents off each square foot of cost," perhaps \$500 on a \$25,000 house. But there are other vital savings, mostly in time. Law thinks the reduction in labor costs alone could range from 20 to 40 percent.

"In the 100-mile radius around Oakley there's enough demand to fill all of our company's production for at least the next five years at the rate of one house a day," Law believes. "I think the practical level is three to four houses a day or 1,000 a year before quality slides," he adds. His second factory expects to produce at that rate.

"Each of the Oakley houses has at least one interesting interior space in the public areas, and top-quality materials are used throughout. Exterior variety is created by a relationship between masses and roof shapes, colors and landscaping. In mass housing and industrial parks, the quality of the relationships between buildings is more important than the appearance of individual structures," Law maintains.

He thinks that architects around the country ought to explore ways to get into housing production right now and not wait. Plenty of technology already is here to produce less costly houses.

Three problems loom for Law's corporation and for architects who want to join the movement:

- More capital will be needed to expand production.
- Local labor unions may resist off-site fabrication.
- Local planning commissions are normally not willing to consider new ways to use land.

"The most frustrating thing to date is that in rural areas (where the FMA low interest mortgage aid is available), planning commissions are so unsophisticated that they can't understand good site planning and will not allow clustering of units which would leave open spaces and preserve scenic quality," the architect explains.

Meanwhile, John T. Law moves on. "We are always open to new ideas and new ventures. As society becomes more sensitive to the earth's delicate social and ecological balances, our abilities as architects become more valuable. Developers are beginning to realize that we have the broad understanding that is required to complete a money-making project. We must work with these money makers, temper their ideas, increase their profits and ours, and save our environment." □

Humanizing the Urban Life

INTERNATIONAL
RELATIONS



FPAA President Augusto Gautier, AIA, of Puerto Rico welcomes the congress at the opening ceremony in the Tapia Theater in Old San Juan.*

Commenting on the far-reaching theme of the 13th Panamerican Congress of Architects, "The Architect and the Humanization of Urban Life," in his welcoming remarks, Puerto Rico's Governor Luis A. Ferré referred to the appropriateness of the site when he said:

"The heart of our capital city, as you probably are aware, is one of the oldest urban creations by our European forebears in the New World. Indeed, next year we will be celebrating the 450th birthday of Old San Juan.

"So this congress has for its backdrop magnificent examples of the architecture of the past; in the foreground—and I understand that there are those among you who feel a certain anguish about it—is the new San Juan that is springing up almost daily," continued the Governor, an honorary member of The American Institute of Architects.

Sharing in that "anguish" about the new city during the week of September 13 was Sibyl Moholy-Nagy, a principal speaker, who asked the Puerto Ricans, "How will you justify your imitation Miami Beach?" and then added, "The restoration of Old San Juan shall not serve forever as a sufficient alibi."

Returning to the theme itself, Mrs. Moholy-Nagy, too, found it a useful vehicle in developing her address in which she denounced R. Buckminster Fuller as "the Pied Piper of technology" and the exponents of the International Style as "false prophets."

Said the New Yorker, visiting professor at the University of Houston's College of Architecture, "This congress could be of decisive importance for future attitudes toward a man-made environment because its keynote acknowledges, to quote a publicity release, 'architecture as dominant . . . the new nature of man.'

"This is in sharp contrast to the prevailing attitude of program makers in North America," she pointed out, noting that her observations were based on 25 years of teaching. "All conferences I can remember in the 1960s were frantic attempts to align buildings either with mass sociology or with systems technology, neither of which is architecture.

"The last resort in all propositions for an ideal city is references to the magical year 2000 when a grateful generation of our grandchildren would docilely move into utopias

of their elders. I am speaking from a very broad experience when I say that the term 'architectural design' has acquired an almost obscene connotation in American schools, journals and confrontations."

Mrs. Moholy-Nagy explained that the architect has become the scapegoat for all our environment failures when he is, in fact, only "a contributor to the sum total of our culture—neither a nincompoop or the Messiah."

Cities, she reminded her audience, are not divinely inspired but can be revitalized through density and scale; through public communication spaces (the street as a link); and through architectural autonomy and solidarity.

Indeed, it was the city to which the delegates from 15 of the 17 countries compris-

* Seated in the first row: Antonio Miró Montilla, executive director of the Puerto Rico Public Buildings Authority; Ramón Corona Martín, UIA President, Mexico; Angel Viera Martínez, speaker of the Puerto Rico House of Representatives; Luis A. Ferré, Governor of Puerto Rico; Enrique Soler Cloquell, chairman of the Puerto Rico Planning Board; Jaime L. Marqués, FPAA secretary-general, Paraguay; Samuel Inman Cooper, FAIA, FPAA second vice president, Atlanta; Horacio Díaz, chairman of the Puerto Rican delegation.

ing the Panamerican Federation of Architectural Associations (FPAA)* addressed themselves in the working sessions. Since only a small portion of the 300 or so registrants were in attendance at any one time, a seminar-type of discussion was employed, with translations made in Spanish and English.

The central question seemed to be this: What are we doing, and what have we done in the past, to make our cities so inhuman? No matter what the country, the specific issues raised were one and the same: matters of open space, a sense of security, trees versus cement, density and possibilities of choice in housing, the sizes of our urban centers.

US delegate Richard Sharpe, FAIA, of Norwich, Connecticut, referring to an earlier slide presentation documenting the history of urbanization, pointed out that 30 or 40 of the examples shown were "cities of the dead in which we would not live. Cities are *for* people but also *by* people. The incentive for life is not present in the ghettos of our cities today."

Sharpe went on to say that "Smaller cities are not only going to survive but will replace major ones. New York and the others are unlivable."

* Argentina, Brazil, Canada (missing), Chile, Colombia, Cuba (missing), Ecuador, Guatemala, Mexico, Panama, Paraguay, Peru, Puerto Rico, United States, Uruguay, Venezuela.



Richard Sharpe, FAIA, later to be chosen second vice president, is escorted to the stage. Lecturer Sibyl Moholy-Nagy spends much time with students, at congress and Department of Architecture, University of Puerto Rico.

The problem of communication was another area which concerned Sharpe. "We architects are in telephone booths talking to each other," he declared. "We must find a way to communicate with our potential leaders. Our societies, our campuses, must be neutral ground — plazas, that is — to serve as a link between the profession and the decision makers."

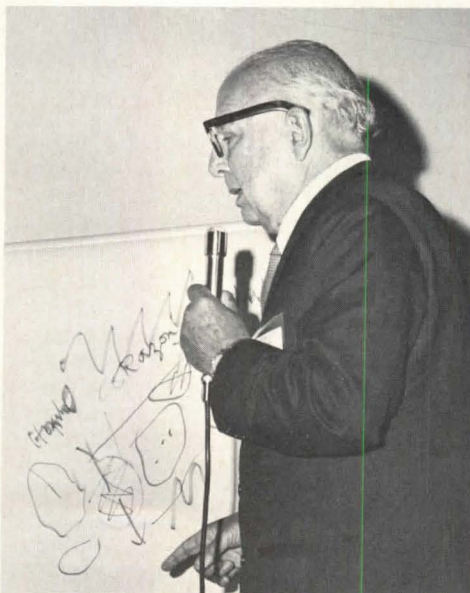
Summary findings were drawn up at the end of the congress, listing 17 resolutions dealing with the "dynamic humanization process" and concluding: "We must educate the architect in this respect without relieving his design capabilities. Educate him in human, social, mathematical and modern technology. We will humanize him with the appropriate integration of disciplines through a continued educational program throughout the professional years."

The statement congratulated "the architects, the government and the citizens of San Juan for the restoration of the old city which gives an excellent example to all the other countries of how to protect the urban and architectural values of the past as a focal point of the culture of our city."

Earlier in the week, the Supreme Council of the FPAA had met on a half-dozen occasions to modify and approve new bylaws, a study of which had been undertaken the past two years by a special commission, of which Sharpe was a member.

One bylaw change dictates that "the FPAA president shall not be the president of the next congress (scheduled for São Paulo, Brazil, and Asunción, Paraguay, the latter part of 1972) but of a separate, independent structure." Traditionally, the congress has been held in the homeland of the president.

In addition, the Executive Committee (formerly the Supreme Council) adopted a separate section for general regulations deal-



Panelist Carlos Raul Villaneuva of Venezuela makes a graphic point at a working session.

ing with work programs on the Inter-American, national, individual and educational levels.

During the congress, delegates of Brazil and Paraguay announced that a formal agreement had been signed the preceding week by and between the two national architectural associations with the following primary objectives:

- to promote joint conferences for the exchange of professional information
- to exchange articles of professional interest in their respective national publications
- to establish a regular schedule of working conferences
- to give support to each other's professional activities
- to promote the exchange of educators and technicians.

Following this report, other countries announced similar efforts presently underway by and between these national sections: US, Canada and Mexico; Colombia and Brazil; Peru, Colombia and Venezuela; Uruguay and Argentina.

As a final note, two resignations during the congress should be recognized: that of Jaime Marqués, Hon. FAIA, of Paraguay, as secretary-general, "who for the past 18 years has essentially sustained the total life of FPAA," in the words of Sharpe; and that of Samuel Inman Cooper, FAIA, of Atlanta, who retired from the Supreme Council after 15 years of active service on behalf of the Institute.

ROBERT E. KOEHLER



Newly elected FPAA President Raphael Norma of Mexico confers with Gautier, his predecessor. Governor Ferré (below) addresses the inaugural, hosts the congress at La Fortaleza.



Speaking a Worldwide Language



INTERNATIONAL RELATIONS **uia**

UIA delegates gather on the US Capitol steps following a luncheon with several members of Congress and a tour of the building.

"There is a global trend to metropolitanization of population requiring a new level of open space design. Open space in cities is becoming too precious for a casual approach." So noted Charles DuBose, FAIA, of Hartford, Connecticut, the US member of the Commission on Town Planning of the International Union of Architects, as representatives from 14 nations* were gathering in Washington, D.C., for a conference hosted by The American Institute of Architects.

"Architects as members of the urban development team must insist that the spaces between buildings can be designed with the same care as the spaces within buildings, for it is only through the exercise of the designers' ability to humanize space that the city will be a truly fit habitat for man," DuBose added.

At the end of the September 21-25 sessions, the architects and city planners urged a worldwide drive to inventory open space and to find ways to preserve it against "disastrous" urban growth. They told of the press-

ing need to inform and arouse the public in most nations, since developed and developing countries share a common trend toward urbanization.

They advocated land banks, new kinds of public and private ownerships, regional planning authorities and other measures. Otherwise, "We will have only a mere sample of nature completely surrounded by concrete" or inaccessible "closed space," declared Luben Tonev of Sofia, longtime teacher and city planner and since 1965 president of the Town Planning Commission.

"Very soon I fear we may be asked to design all closed spaces," warned Chloethiel Woodard Smith, FAIA, of Washington, D.C.

Luigi Piccinato of Rome, university professor, architect and city planner, told the delegates that plans to better arrange the growth patterns of most of the world's cities are dying quick deaths. The public must be convinced of the need for open space or places to help cleanse air and water, provide room for recreation and leisure, and offer relief from solid circles of highways, subdivisions and industry, he added. Land speculation, outmoded land use patterns based

on cities of the Middle Ages and government planning for highways, housing and industry are responsible for vanishing open space which is necessary for man's survival, Piccinato explained.

Carl Feiss, FAIA, of Washington, emeritus US member on the commission, advocated UIA's conducting for the United Nations a worldwide inventory of valuable open space plus suggesting ways to retain it — an idea which UIA officials have taken under consideration.

Even a country as wealthy as the US probably would not approve public spending on the magnitude of billions of dollars for open space acquisition, and so new approaches are needed. Jorge Wilhelm of São Paulo, Brazil, and A. Raouf el Kassem of Damascus, Syria, both architects and teachers, endorsed joint public/private development of land. Military installations no longer used and abandoned railroads and waterfronts could make good open space and parkland, said Dr. John P. Keith, president of New York's Regional Plan Association.

Scenic easements which give tax benefits in return for keeping natural beauty is

* Austria, Brazil, Bulgaria, Czechoslovakia, France, Greece, Hungary, Italy, Lebanon, Mexico, Portugal, Spain, Switzerland, Syria.

another alternative, pointed out William L. Slayton, executive vice president of the AIA, who moderated the open space sessions, which were broken down into three scales: urban, metropolitan and regional.

"A study done of the 106 largest US cities revealed that, on the average, 20 percent of the land area is underdeveloped and uncommitted land," reported Dwight F. Rettie, *director of the Open Space and Urban Beautification Division of the Department of Housing and Urban Development*. Even in crowded slums space for at least small parks is usually available, he said.

Older cities with a more dense population often actually contain more public parks and open space than newer suburbs. Current growth patterns in the fast-growing suburbs provide very little open land of a magnitude to combat air pollution and offer recreation and relief to residents.

Many parts of the world still contain plenty of open space. In fact, rural regions in a number of countries have lost population in the last decade, pointed out Aristo-



Delegates are entertained by the Slaytons in their I. M. Pei-designed house, stop at Dulles International Airport during a countryside tour.

menis Provelegghios, architect and teacher from Athens. Yet seacoasts and urban centers are increasingly congested. What is needed is a settlement policy, aided with government incentives, to stimulate a better distribution of population and industry. Just such a policy is getting close attention from the Nixon Administration, reported Samuel C. Jackson, HUD Assistant Secretary.

A public philosophy of "Come and get it" has prevailed in recent decades in the US, making it difficult to mobilize support for open space preservation, said Representative James H. Scheuer (D.-N.Y.), an honorary AIA member and former real estate developer. Piccinato labeled the philosophy as "greed" in his country. A new "land use ethic" which would return to earlier US history with planned communities and some common public space is needed, Scheuer explained. "We must educate the public to understand where building absolutely must not take place," commented Piccinato.

New highways that radiate from cities in circles remain the greatest block to better urban planning, noted Henri Calsat of Paris, consulting architect to that city's public works department. It would be better to direct new homes and industry to modules with open wedges between, he suggested.

In the US, Minneapolis-St. Paul are pointing the way to effective new regional planning through their seven-county Regional Metropolitan Council, said AIA Executive Vice President Slayton. The Twin Cities' approach allows existing government levels to continue operations while at the same time providing overall regional planning direction. This type of planning to direct orderly development is now being mandated for 10 urban areas in Switzerland, reported Claude Wasserfallen of Lausanne, a government architect and planner.

It was noted that a rash of second-home

or vacation communities spreading in the US and Europe threatened to acquire many key recreation areas before they can be preserved for the public. Feiss, in particular, commented that the Appalachian Trail already has been bisected at two places, within 100 miles of Washington, by such developments.

Open space enthusiasts "must develop a responsibility" to also help solve transportation, industrial development and housing problems, "or we risk the loss of the precarious respect we are beginning to achieve in providing a better environment," said Matthew L. Rockwell, FAIA, director of the Northeastern Illinois Planning Commission, based in Chicago.

"As designers we must look to the people and work with them," said George T. Marcou, Washington planner. "Planning czars" may stir so much public opinion by high-handed methods that no solutions are possible in a city, warned Representative Scheuer. HUD and the Department of the Interior are striving to provide recreation areas close to cities and accessible to the poor, cited Jackson and George B. Hartzog Jr., director of the National Park Service.

In addition to the public symposium and private commission meetings, delegates also inspected slums, historic and renewed parts of the nation's capital, and the fast-urbanizing Virginia and Maryland countryside by bus and by airplane. America the Beautiful Fund and the Federal Aviation Administration helped arrange the tours.

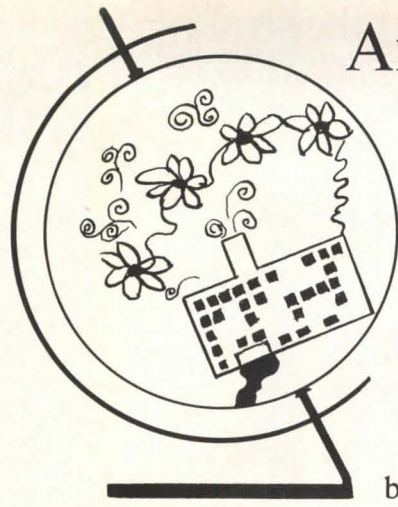
Proceedings of the conference will be published and distributed by the AIA under a \$36,500 urban renewal demonstration grant awarded by HUD.



AIA Fellows Charles DuBose and Carl Feiss.



AIA Executive Vice President William L. Slayton (top) chats with Commission President Luben Tonev and AIA President Rex Whitaker Allen, FAIA. Luncheon host Senator J. W. Fulbright (D-Ark.) greets AIA First Vice President Robert F. Hastings, FAIA, and UIA President Ramón Corona Martin.



Architecture in an Ecological View of the World

by IAN L. MCHARG

Employing the device of a fantasy, a landscape architect shows the architect how the world really works and demonstrates that it is an interdependent, interacting biosphere in which it is difficult to decide what is environment and what is man. This article is based on excerpts from an address delivered during the "Day of Awareness" at the AIA convention in Boston.

The first proposition I have to make is that the attitude of man to environment which permeates the Western tradition is a fantasy. It has no correspondence with reality, no survival value, and it is the best guarantee of extinction.

Once upon a time, I met a scientist who was engaged in an experiment to send a man to the moon with the least possible luggage. This experiment was conducted 10 years ago when it was thought that going to the moon was worthwhile and would take quite a long time. The experiment then had to be a recirculating process.

It consisted of a plywood capsule simulating a real capsule, in the lid of which was a fluorescent tube simulating the sun. Inside the capsule were some algae — microscopic, photosynthetic plants — some bacteria, some air and a man. The man breathed in air, consumed oxygen and breathed out carbon dioxide which the algae breathed and gave out as oxygen which the man breathed. The man became thirsty, drank some water, which, when he urinated, went into the water solution with the algae-bacteria. The algae transpired, the transpirations were collected, and the man drank. The man became hungry, ate some of the algae and defecated. The excrement went into the water medium with the algae and bacteria, the bacteria reconstituted the excrement into forms utilizable by the algae which grew, which the man ate. Now that's how the world works.

What we need to do is to recognize that that capsule is a beautiful simulation of the world-at-large. There is only one input: sunlight. There is only one output: heat. There is a closed cycle of water and food. We are plant parasites. We don't know how to accomplish photosynthesis; we have to depend upon microorganisms which know how to reconstitute the wastes of life. Our requirements are oxygen and food.

This little experiment absolutely changed my life 10 years ago. It can change more lives. Let us use it here for instructional purposes.

What we need is a celebratory event which I will describe as Fireworks at Cape Kennedy. We require a cast of characters for our Independence Day event.

We need to assemble a cast of arch-destroyers. We collect

all of the ossified, calcified, implacable Generals Overkill, those people in the Defense Departments of all countries, for whom it is not enough to be able to kill every man, woman and child in the world a thousand times, but who must devote their energies and half the treasury of the United States to killing every man, woman and child in the world two thousand times over. We assemble them all and measure each one for an algal-bacterial waistcoat-capsule.

We also assemble the mutational retrogressionists of Atomic Energy Commissions — those people who attack the world at its gonads, who are unmoved by the knowledge that every increase in radiation is an increase in mutation. They began life, in my imagination, pulling wings from flies, gravitated to cherry bombs, made their way to high explosives and realized full gratification only by the accomplishment of atomic explosions. We must assemble them at Cape Kennedy and give them their algal-bacterial capsules.

Then we collect those particular putrescences, the scientists engaged in biochemical warfare who are not satisfied with the bubonic plague but must cultivate more virulent forms. And we move down to the "reign of death" people, those engaged in the business of selling death in the form of herbicides, pesticides and toxins to satisfy stockholders, the great captains of industry who carelessly, cynically, void their excrement into the environment, who engage us in enormous gluttony by which 6 percent of the world's population consumes 60 percent of the world's nonrenewable resources. And we assemble, too, those negligent automobile manufacturers of Detroit who give the greatest amount of pollution for the least amount of transportation — those people who are engaged in the aphrodisiac business but should be in the business of transportation.

And so we have this vast array of all the destroyers, every one of them with a Saturn rocket and with an algal-bacterial waistcoat because they are going off into space. With 500,000 cheering schoolchildren waving American flags and with bands playing the national anthem, we send the lot of them into space — all these animated, planetary diseases who masquerade as men and whose best efforts are to inflict lesions on the world body. Bang! Bang! Bang! They are off in space.

If one listens intently, he will begin to hear an Aeolian hymn of regeneration. All the lesions inflicted by men on the world body will begin to heal; every single wound will generate new cells. But we can't wait because we have to follow the path of General Overkill; we have to follow him in space because his conversion is our conversion. We carry within ourselves, right

from our mother's milk, this same implicit, explicit view of man and nature. We may not be to the same extent the destroyer General Overkill is, but even architecture has within itself a profound sterilizing power, an inordinate ignorance, malice and arrogance.

General Overkill spends lonely weeks in space, and the earth is a distant orb. He is extremely lonely with only two companions to address: the algae and the bacteria. "I am divine," he says. Man is made in the image of God — no atoms; no molecules, no cells, no unicellular organisms, no plants, no animals, save one, is made in the image of God. This means there is only one moral arena: the acts of man to man. God looks carefully if you commit adultery; if you covet your neighbor's wife, He will rap you straight across the knuckles. But if you kill every whale in the world, kill every Ponderosa pine, devastate great areas, make Lake Erie septic, apparently neither God, the churches, the priests or the courts care about the acts of man to nature.

General Overkill says, "I am divine." The alga doesn't say anything, just holds its hand up to the sunlight. The General says, "I have dominion over you." That's what the Book of Genesis says, that man is given dominion over life and nonlife. And if you have any doubt about the intended meaning, the text continues, man shall multiply and subjugate the earth. Subjugate.

Five or six weeks pass, and the General, who went to West Point and knows about probability theory, realizes that this is a recirculating system. He realizes that the biomass of the algae and bacteria is equal to the biomass of the General. There's going to be a time, according to probability theory, when everything that had been algae and bacteria at the onset will be General; and everything that had been General at the onset will be algae and bacteria.

What's true of the capsule is true of the world — the same interacting, recirculating process. The General realizes it is an interacting system, and there is going to be a point in time when everything that had been algae and bacteria will be General. He contemplates the assumptions about exclusive divinity, dominion and subjugation. He concludes that divinity is pervasive, not exclusive. The algae know how to accomplish photosynthesis; the General and modern science do not. The bacteria know how to reconstitute waste; neither the General nor modern science does. Any act of dominion or subjugation on the part of the General can only inhibit the capacity of the algae and bacteria to perform that which they can perform uniquely. If the General subjugates them, he will kill them. This, of course, involves him not only in self-mutilation but in suicide.

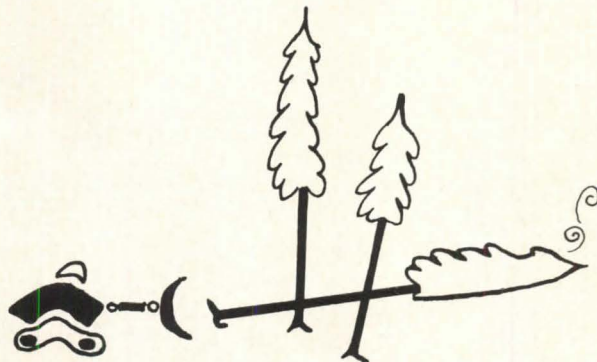
And so the General learns the lesson we all must learn: Any relationship which concludes that man is exclusively divine and everything else is rubbish is an illusion and a fantasy. The acts of man to man are sacramental, and the acts of man to nature must be sacramental also. There is absolutely no place for subjugation. The exercise of dominion and subjugation extended to the world can only mean self-mutilation, suicide, genocide, biocide — an absolutely profound lesson.

We have to know the way the world works. Architecture is a device to deny the student any possibility of understanding human physiology, psychology, human behavior or the realities of biophysical processes. This is a horrifying thing to say but absolutely true. I speak as one who teaches in an architectural school and who has visited every important school of architecture in the US.

Let us return to the General. He has learned that there is one system: nature. It is an extension of ourselves; we are an

extension of nature. There is no division between man and environment; we are one thing. There is one world, one biosphere which shares one history of which we are present, sensate expression. There is only man/nature.

Recall that the Defense Department has an alliance with the Atomic Energy Commission. Yet it would be calamitous if this ally left some radioactive material in the capsule. Now any increase in radioactivity inside the capsule is likely to cause mutations in either the General, the algae or the bacteria. So the General says, "In my capsule, no increase in the level of radiation." If that's good enough for the General it is good enough



for us. Every increase in atomic radiation whether from atomic testing, reactors, Gas Buggy or Alaskan harbors is going to show up in increased numbers of cases of leukemia, skin cancer, bone cancer, mutation deformations, still births; in sum, mutational retrogression.

It would be calamitous if any of the General's cohorts in biochemical warfare who are destroying Vietnam happened to leave some pesticides or herbicides in the capsule because the herbicides would kill the algae, the pesticides, the bacteria — and that would take out the General. The General says, "We've got a great thing going in Vietnam, but in my capsule there will be no agents of biochemical warfare, no pesticides, no herbicides." If it's good enough for the General, it is good enough for the world.

The question is, under what conditions do we let this man and all the others back? (There are tens of thousands of these arch-destroyers going through this same experience in space in my fantasy.) It's a great experiment because if you lose them, what have you lost? Nonetheless, we have to be decent enough to say, "No, you are arch-destroyers, but if you are indeed converted, we will let you back." Under what conditions? I would require a plain prayer.

The General would address the sun and say, "Shine that we may live." He would address the earth simply as "home." He would say to the oceans, "ancient home." He would speak to the clouds, rain, rivers and say, "Replenish us from the sea, we erstwhile sea creatures who have escaped from the sea by only the length of a single cell." He would say to the atmosphere, "Protect and sustain us," knowing that the life-giving oxygen within that atmosphere was derived from all the breaths of long dead and now living plants. Then he would address the plants with inordinate deference, saying, "Plants, live, breathe, grow

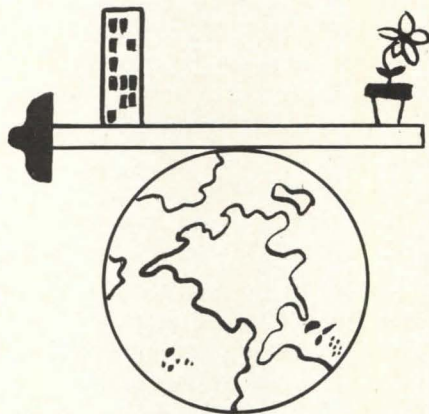
Mr. McHarg is chairman of the Department of Landscape Architecture and Regional Planning at the University of Pennsylvania and a principal in the Philadelphia planning firm of Wallace, McHarg, Roberts & Todd. A member of the President's Task Force on Children and Youth, he is author of the recently published *Design with Nature*.

that we may breathe, eat and live." He would say to all the decomposers — carrion-eaters, worms and grubs — "Decomposers, please reconstitute the waste of life in life and the substance of life after death in order that life may endure."

When he says these things with understanding and deference, we can say to the General, "Come on home; welcome to the blue, green, glorious, wonderfully rich, diverse, ancient and enduring world, where the evolution of life has persisted for 2½ billion years. Welcome back with this new deference, born of understanding, which allows us to say that you may now exercise your creative will upon this earth, and we may give you this freedom in the full certainty that your interventions will contribute to our possibility of survival and the more distant possibility of fulfillment."

In the capsule is a beginning of another view which says this is an interdependent, interacting world, and it is very difficult to decide what is environment and what is man and the difference between them. The only differences between the algae, the bacteria and man are the apertures of the genetic code. They are united.

Almost all architects, planners and landscape architects (although the latter are less criminal than the rest) should be handcuffed and their licenses taken away until they learn the way the world works. At the moment, one can toss a coin and decide the consequences of the acts of almost any architect or planner. The consequences of their interventions, honorable and



passionate men though they be, have an equal chance of being neutral, detrimental or beneficial. This is calamitous. So we must find another view which guarantees that simple, decent and honorable men work within a context which corresponds to reality so that their small, modest interventions accrete toward something which is creative and enhances life.

There is something called creativity. Moreover, creativity has nothing to do with precious art. Creativity in fact has permeated all matter and all life in all time and does so now.

Creation can be defined as the employment of energy and matter in order to raise matter and energy to higher levels of order. Its antithesis is reduction or entropy which consists of matter and energy going from a higher to a lower level of order. You can envisage this reduction by thinking of a forest and measuring everything in it. Measure all the oxygen, carbon, nitrogen, phosphorus, macronutrients, micronutrients — everything. Then burn it, and nothing will have happened. No matter has been created or destroyed, but the matter has gone from highly developed and ordered biological elements to inert and simple ones, heat, carbon dioxide and water.

Evolution, of course, is the reverse of this, and so is creati-

ty in which matter is raised from a lower to a higher level of order, like taking the inert world and suddenly covering it with a bioskin. All the creativity which has engaged all matter and all life in all time is represented by the orderings of matter, represented by the atoms in the periodic table, the evolution of compounds, life forms, ecosystems and the biosphere. All of the ordering accomplished by all life in all time, all the potential represented by them in cells, tissues, organs, organisms, ecosystems, their apperception, symbiotic relationships and a genetic potential — these constitute the sum of creativity which all evolution has accomplished in all time.

This conception, that matter and energy are creative, have been creative and are now creative is a very different view from the one which assumes that nature is a sort of backdrop to a human play in which man plays his uniquely creative role. In the ecological view, we are uncertain about what creative role man has. We know that he is an arch-destroyer of geological dimensions, but his creative role in the biosphere is hard to discern.

We can't possibly believe in a malevolent God who would deny the possibility of any creative role to man. There must be a creative role for man. That is our challenge, prospect and future. The conception of the biosphere as a creative process which engages all matter in all life in all time is a new, and for me, profoundly important conception.

Evolution has been both creative and retrogressive, but the sum of all the processes has been positively creative. This allows us to look at all the creatures which surround us and all the processes in quite a different way as creative process. If evolution has been creative, let us see what attributes evolution has demonstrated because these then reveal criteria for creativity. Evolution has proceeded from greater to lesser randomness, from simplicity to complexity, from uniformity to diversity, from instability to stability, from a low to a high number of species, from a low to a high number of cooperative mechanisms. Indeed, in sum, from the tendency to degradation, which is entropy, toward a tendency to increasing order, which is negentropy. That is a marvelous model.

When I went to Harvard, Dean Hudnut used to say of modern architecture, "simplicity at any cost." This was indeed the name of modern architecture. Simplicity in the biological world is a pejorative term because simplicity is the antithesis of complexity and evolution moves from simplicity to complexity. So when an architect designs a simple building, this probably reveals not the complexity of the situation he is trying to solve but simply his simple-mindedness.

We have a model of creativity which applies to any system whether it is a house, an individual, a family, a community or an institution like The American Institute of Architects, or cells in an organism, or the ecosystems in the biosphere. We have a conception about creativity and the dynamics of the process. If we see a trend from complex to simple, it is retrogressing. If it goes from instability to stability, it is evolving.

There is another term which indicates the degree to which any process is evolving or retrogressing, is being creative or reductive. And this term is the conception of fitness. Whether you know it or not, you are engaged in the business of fitting. Architecture should not be called architecture; it should be called fitting.

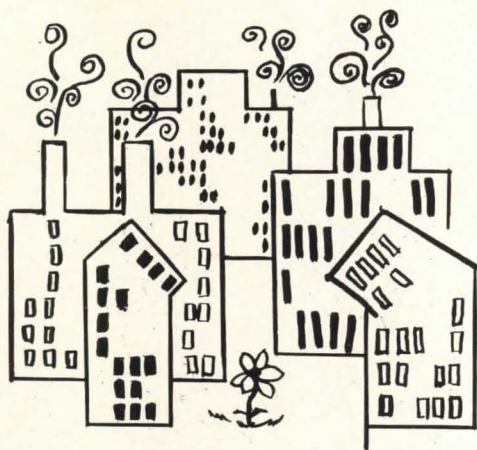
This verb "to fit" is of profound importance. Charles Darwin said that the surviving organism is fit for the environment. On the other hand, Lawrence Henderson has said that the actual world, with all the variability of environments, constitutes the fittest possible abode for all life that has existed, does or will exist.

You can think of yourself, your cells, your tissues, your organs, your institutions and consider all available environments for them. Among the multiplicity of environments, there are most fit environments. There is a requirement, not only to find the most fit environment but also to adapt that environment and/or yourself in order to accomplish fitting. The fit survive, according to Darwin.

So we are engaged inextricably in the process of finding fit environments and adapting them and ourselves. We are in this business of adaptation for survival. That is the real definition of architecture.

Where you find that most fit environment and adapt it and yourself to accomplish a fitting you accomplish a *creative fitting* in thermodynamic terms. This is real creativity in which every organism and every ecosystem is intensely involved throughout all life.

You are engaged in a creative process, which has nothing to do with long hair, whether you wear sandals, whether you wash or don't wash. This is the implacable test which engages all creatures in all time and must engage all men in all time in



order to insure survival. When done, it is creative, and the measure of its creativity is survival of the process.

Because this whole system is in fact one system, only divided by men's minds and by the myopia which is called education, there is another simple term which synthesizes the degree to which any intervention is creative and accomplishes a creative fitting. And that is the presence of health. Wherever you find health — physical, social, mental in human societies, or physiological in nonhuman ecosystems — you have found absolute, explicit, irrefutable evidence of creative fitting. Any process which has found the fittest environment, which has been able to adapt that environment and itself to accomplish a creative fitting, is healthy. Wherever pathology is found at any level, in cell, tissue, organ, organism, institution or ecosystem, there is evidence of a misfit, a reductive misfit; and the extension of this pathology will lead to the death of the species, the institution or the ecosystem.

There is also the subject of form. Form and process are indivisible aspects of a single phenomenon. There is no such thing as abstract form; there is no such thing as capricious form or unmeaningful form. Form and process are indivisible. If one wishes to describe an atom, molecule, crystal or compound, he can describe it only in formal terms. If one wishes to describe a cell, tissue, organ, organism or ecosystem, he can do so only in formal terms. All form is meaningful. The degree to which meaning can be perceived is a function of the ability of the observer to perceive the meaning which is intrinsic. One can only

understand what is in terms of evolutionary history — evolution of form and process.

The only way to understand the Appalachian Mountains is in terms of the fact that they once were an ancient sea; the only way to understand the molehills of the Piedmont is to know that they were once 27,000 feet high. One can understand that which is only in terms of that which has been. That which is, has been and is in the process of becoming. It was process-form, is process-form and will become process-form.

Every form reflects processes engaged in the business of creative adaptation toward the end of survival; form is only one superficial expression of the processes. Butterflies don't want to be pretty to make us happy. Sphagnum moss doesn't want to look like sphagnum moss. Sphagnum moss is, and as a process is, absolutely appropriate to the business of surviving while being sphagnum moss. Form and process are indivisible. Moreover, there is generic form to cells, crystals, vascular processes, nervous systems, plants and animals. All we have been talking about are processes — processes that have been subject to evolutionary tests over unimaginable periods of time and have been refined by the test of survival. The processes survive not only in terms of process but also in generic form.

There must be generic form in architecture, which leads us to something which must be called adaptive architecture — not architecture to gratify the muddy psyches of architects but architecture as a device by which man can adapt toward survival and the more distant prospect of fulfillment.

One has to think about the client, whether an individual, an institution or a society. We must identify the organism and the environment because we are in the business of trying to accomplish a creative fitting, which creative fitting is inescapably involved in the business of form. There will be a form of fitting which is most fitting.

Homeostasis is a device which, without the intervention of the brain, is able to deal with the environment of energies and interpose various membranes and processes between these energies and the internal system. Without thought, we can maintain 98.6 degrees body temperature, and when we fail by a degree or two, we have a fever. Homeostasis is able to deal with environmental energies and through homeostatic controls maintain equilibrium. Architecture is in the same business but dealing with a larger array of environmental energies. So we have the conception of the organism, its own homeostatic devices and all the other energies which constitute the environment. We have all of environment variability, the organisms and their proclivities. We seek to find the most fit environment of all.

That's not enough. We must adapt the environment and ourselves. We have to adapt in order to insure survival and fulfillment of the system. We have to identify the environment, which brings me to my bailiwick because I am engaged in trying to find fit environments, to identify regions, as a range of opportunities and constraints for all prospective land uses and fit these demands to available resources.

What I really do is called ecological planning and simply consists of inventorying the environment so that one understands the way the world works, not only as biophysical process but also as opportunities and constraints for all prospective land uses.

First, you have to assemble those people who are competent. This is an outrageous novelty which architects don't ever consider. The great problem with ecological planning is that you are not allowed to speak in the absence of evidence. We'll start at the beginning because, first and most important, is bedrock geology. That gives us 500 million years of evidence. We employ

the man who knows about bedrock geology, and he describes the geological history and geomorphology of the region.

Then we hire the biometerologist who understands climate. Then we ask the two to get together because the interaction of climate and bedrock geology over the past million years is reflected in surficial geology. If you understand surficial geology, you then are in the process of understanding hydrology. That enables you to understand why rivers are and where they are; whether there is underground water or not.

Once you understand about surface and ground water hydrology, you are able to understand about soils because they are only a byproduct of a process which can be explained in terms of the interaction of climate, bedrock geology, surficial geology, physiography and hydrology. If you understand about soils, then you understand about plants because plants are variable with respect to environments, which variability is comprehensible in terms of climate, geomorphology, physiography, hydrology and soils. If you understand about plants, you understand about animals because all animals are plant related, which leads you to understand about that special animal called man.

So one has to assemble those people to identify the region under study as phenomena, at the end of which you know why escarpments and caves and kettles and deltas are where they are. They are not only there, but their form and type explain what they are and what they have been doing and what they are in the process of becoming. Once you have identified the area as phenomena, you ask the same natural scientists to go over the same ground to reconstitute the region as processes. Then you assemble them all together to reconstitute the area as one single, interacting biophysical process, and then you have an ecological model.

Once understood as interacting biophysical process, the same data can be reconstituted as a social-value system. It is now possible to identify and locate all of the most propitious and the least detrimental attributes of air, land, water, life and location for all prospective land uses.

So if you can identify what the land use is — whether it is a new town, an atomic reactor, a sewage plant, a highway, a single house or garden — you can identify what is most propitious for that thing or that person, community or institution in terms of factors of climate, bedrock geology, surficial geology, physiography, hydrology and limnology, soils, plants, animals and land use. If you can identify all these needs, you can find the most propitious location. It can be done in a handcraft way or we can ask the computer to find these places where all these most propitious factors coexist. By this method we can solve the problem of location.

We can do this for every prospective land use — for agriculture, for urbanization, for recreation, for forests, all by type. Man identifies the most propitious factors which he requires and asks nature for the locations which provide them.

But we must identify those who ask nature for the most fitting environment. We have to find out what their needs and proclivities are. We must identify these in terms of social phenomena, social processes and interacting social process. This allows us to enter the orthodoxy of city planning to assess the present and make projections into the future. These can be constituted into growth models, each associated with explicit hypotheses linked to the generating forces of growth. These are, then, demands in terms of land and resources. When demands can be matched to the opportunities and constraints which the region represents, there is then the basis for a plan.

Thus you have a creative fitting. And the most important

conclusion for architects is that there are implications of form in fitting. There is no capriciousness in nature. The architect who believes that the white paper represents a site upon which he is going to invest his professional skill is mad. Written upon that white paper, whether he sees it or not, are 4½ to 6 billion years of physical evolution, 2½ billion years of biological evolution, a million years of human evolution and perhaps some thousand years of cultural evolution. All are written upon that land in biophysical and cultural processes having intrinsic form with implications for the form which he must give.

We are on the edge of time when we could, if we wished, feel the world's pulse, where we could use this ecological view to monitor the world. If instead of being so absolutely destructive, if we could abandon this cultural inferiority complex which is the base of our attitudes to nature — these poor, whimpering, puny creatures who were mute and defenseless in face of an implacable nature and in this impotence developed that bile of vengeance which explains the lesions and lacerations inflicted upon the life body of the world — if we could abandon all this and say we would like to be good stewards, we can develop ecological planning and design so that every honorable and decent architect may add his modest interventions to an enduring, cumulative, creative process.

We can, in fact, monitor the world from satellites continuously. We can augment this with high-level aerial photography. We can supplement this with ground truth. We can take this information from these sources and digitize it through high-speed scanners immediately to computers. And we can have an ecological model of the sort I have described, which actually simulates the on-going biophysical processes. These can be consistently enriched and corrected. We can write programs asking for intrinsic suitabilities for all prospective land uses — for urbanization, for agriculture, for recreation. Anything we want to ask, we can have the world reveal to us.

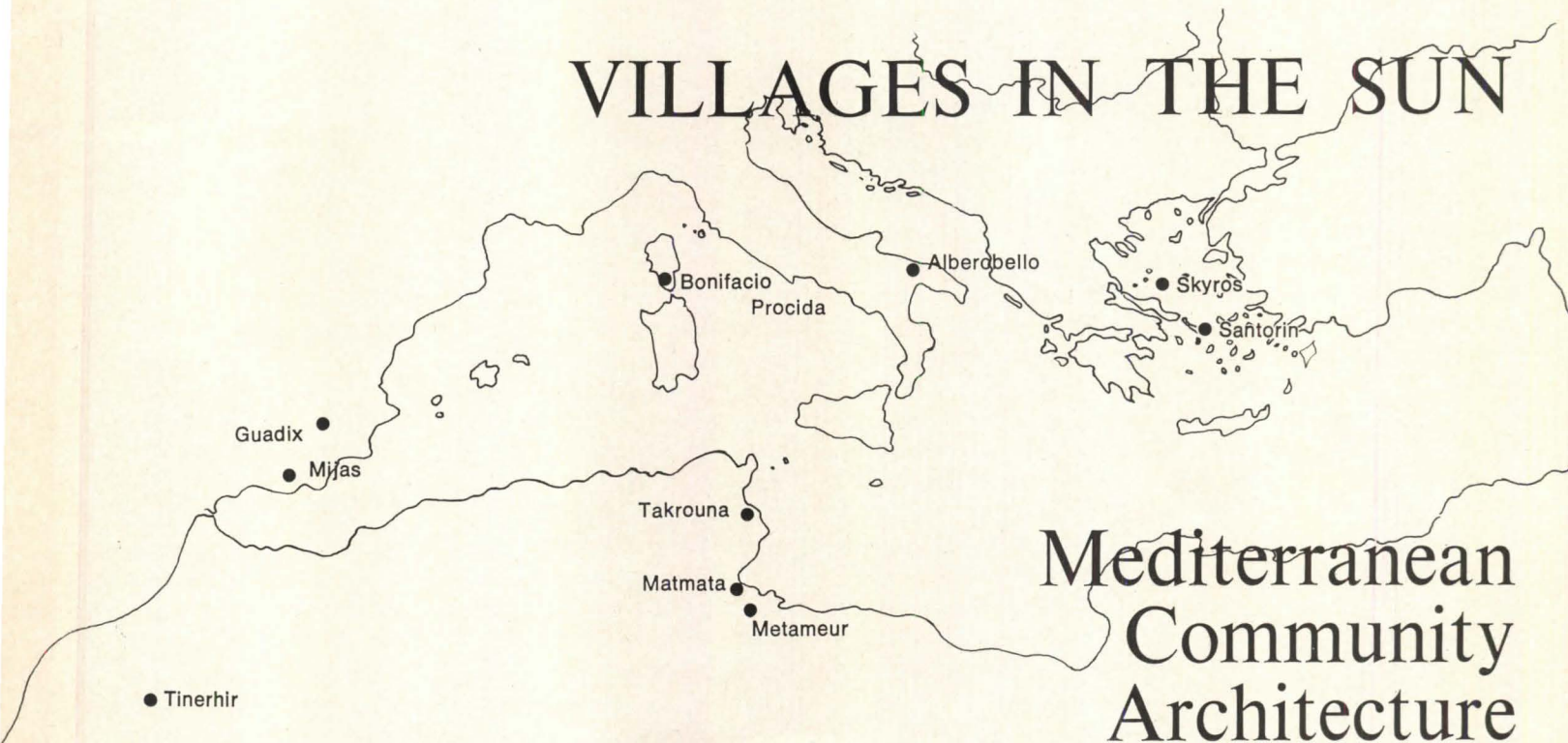
This is a view of a working world of which we are a part. We can use this unique gift of human consciousness and be able



to act as an enzyme, as an intelligent steward of nature. That possible destiny allows us to transform ourselves from geological destroyers to incipient creators.

Now this is a fantastic dream, and architecture must find a place in it. Architecture must absolutely reconstitute itself, as must all of society. You have traditionally assumed the leadership before. You have to reject the metaphysical symbol which has been ours for 2,000 years and replace it with another one: the ecological view. It exists for our use. It is marvelous because it does correspond to reality. It does offer the possibility of survival and a dream of fulfillment beyond dreams. □

VILLAGES IN THE SUN



Mediterranean Community Architecture

by MYRON GOLDFINGER, AIA

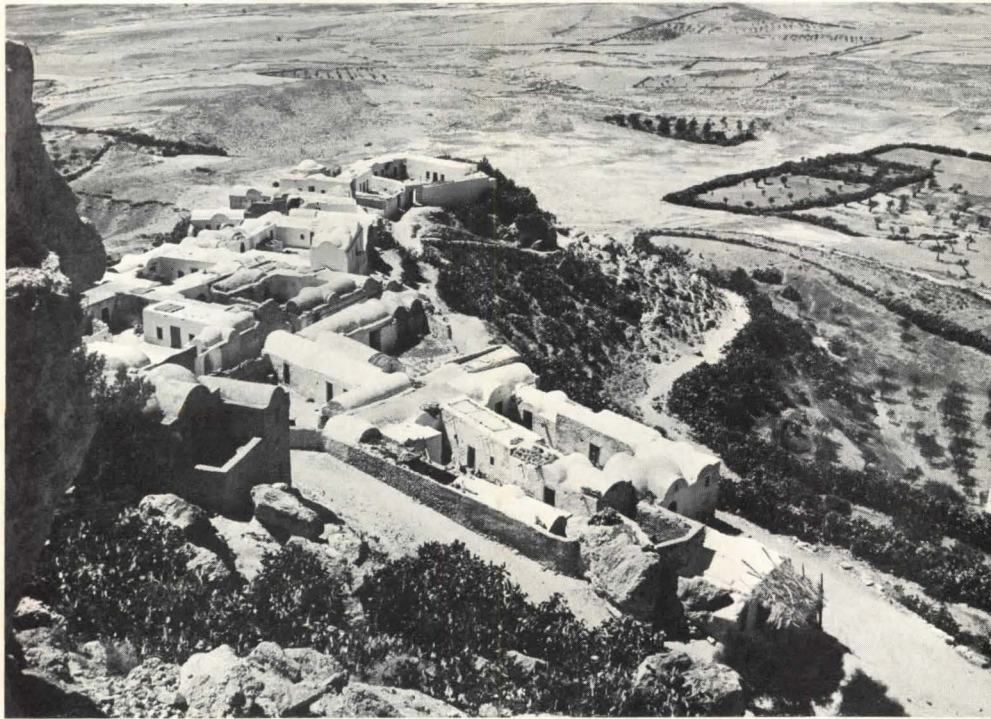
Myron Goldfinger, who maintains an architectural office in New York City, spent seven years studying and photographing in Mediterranean villages while preparing the book "Villages in the Sun" (selected text and photographs reproduced here with the permission of Praeger Publishers). In the book, Goldfinger presents, by means of analytical text and photographs, 25 villages in Greece, Italy, Corsica, Spain, Morocco and Tunisia. Noting that differences in climate, site, materials and tradition have resulted in typical local patterns of design, he emphasizes that all these villages have common characteristics which make them demonstrably successful as communities. The American Federation of Arts in New York City has prepared a rental exhibition of 35 panels of Goldfinger's photographs. The exhibition reflects solutions to eternal problems faced by architects and planners in designing communities which relate to residential, vocational and esthetic needs.

Until this century of greatly accelerated achievement, man has built his habitat of local materials, in a strong, natural and simple manner. His plan was direct and certain, based on function and necessity.

Now with the confusion of mass materials and mass building, in response to technological development, population growth and urban centralization, this direct relationship is terminated. But, despite demands for rapid solutions to the need for more housing, we must not forget our relationship to the sun, the wind, the rain and the land, the social and psychological demands of our society and the ingenious ways man has for centuries sheltered himself.

Through our research into the valid aspects of an earlier community architecture, we can discover the basic roots of the development of community architecture and proceed with an enlarged vocabulary and clearer ideas to better planning and building of our urban communities.

Today, there are two major problems raised by the changing conditions within our cities. First, there is a lack of cohesive order and sound judgment in the multiplicity of isolated structures. Second, the vast development of anonymous public residential structures has created large and monotonous expanses of building conformity lacking any vital ingredients for the enhancement of living. Together, these extreme conditions have completely destroyed neighborhood patterns and identity and have drastically affected the social orders of the original neighborhood residents while achieving nothing for the new



Overall view, Takrouna

Tunisia

There are no particularly uniform relationships among the villages of Tunisia. In the temperate north, the village form develops from the repetition of the atrium house, and the most interesting of these, the Berber village of Takrouna, is dominantly located atop a plateau cluster. The dwellings are barrel-vaulted structures about courtyards, protected from the strong winds, with white, reflective roofs and natural sidewalls.

In the south, very different solutions occur to a common hot, dry climate because of varying geography. Some villages in desert areas consist of isolated, rectangular block houses in rows parallel to the wind direction. Where stone is available, rude barrel-vaulted dwellings and storage chambers called *ghorfas*, some six or seven stories high, form protective, oval village clusters. Many villages are cut into the rock cliffs in the mesa region, and an entirely artificial troglodyte community exists at Matmata, where the inhabitants have completely burrowed into the soft earth.

urbanites. There is no feeling for urban unity, and less feeling for the urban community.

In our search to improve our conditions, we may look for spiritual guidance to the towns and villages of the Mediterranean — contained communities similar in size and scale to our new suburban villages and our urban neighborhoods. Mediterranean villages have developed organically within economical and repetitive forms whose roots are similar to our own community structures.

What is achieved is a harmonious working arrangement with the site: coming to terms with rather than pompously destroying it, building it rather than leveling it, defining it rather than distorting it.

What is achieved is a place for human experience; a rich variety of forms and spaces in which to live; a structural framework that permits the expression of the individual and the participation of all the community.

By better understanding the nature of the unit form as developed earlier by traditional Mediterranean builders and by a deeper awareness and concern for the social needs of people today, we may eventually solve the problems facing us. Since population demands will soon force the rapid development of building systems, we can return to the spirit of the Mediterranean village, not through imitation or romantic interpretation but through our productive capacity to develop the unit additive form out of advanced technology and through our belated concern for man's spiritual and spatial needs.



Ghorfa structures, Metameur



Neighborhood courtyards, Matmata



View from the sea, Bonifacio

Corsica

The town of Bonifacio, on Corsica, is located atop a sheer cliff. The boldness of the buildings crowded up to its edge matches the boldness of the building site itself. The limitations of the protective site have led to a relatively high density of four- and five-story dwellings, no different from today's economically spurred vertical growth of urban concentrations.

The imposing shoreline composition has been accidentally achieved by the indecisive fallen-rock form at the base, the sharp horizontal strata of intermediate rock and the vertical building cluster at the top. Severe contrast has evoked a dynamic visual response; yet the three elements work in unity to achieve a balance of total form. Such determination of structure and organization is rare. Happy accidents occur frequently in our urban complexity, yet few attain such satisfactory results.

Spain

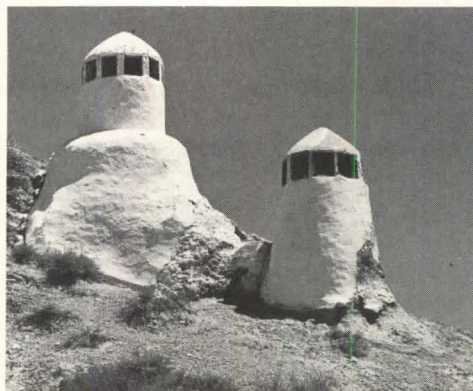
The communities of Andalusia in southern Spain are united by common climatic and geological factors leading to similarity in construction materials and techniques. Differing site conditions, however, have produced a variety of village forms. The farming village of Mijas is made up of parallel rows of houses running along the contour lines of a steep hillside. Because of the linear development of the village, each house overlooks its neighbors, receives excellent light and ventilation and enjoys both intimate and expansive vistas. The terraced rows of dwellings are connected by a steep, vertical primary street that leads to a major square.

In contrast, the troglodyte village of Guadix near Granada takes advantage of the earth as insulator and protector and, further, sculpts its unusual environment to create a total form of great plasticity, accentuated by clustered chimney forms. Tufa hillocks have been eroded by weather into curious shapes, many of them conical mounds. In this area, a tribe of gypsies has scooped out of the hillside and established an underground community of some 10,000 people.

The unique characteristic of this village is the ingenious way in which the inhabitants have molded the earth to their needs, imposed an order of design and yet respected the natural condition. Chimneys shoot up singly or in clusters, setting up the major repetitive visual order of the village and affording light and ventilation. The village of Guadix expresses the balance between art and nature, and presents man as an earth sculptor.



Street scene, Mijas



Chimney clusters, Guadix



Public stairs, Santorini

Greece

Architecture on the Aegean islands of Greece attains a classical serenity, order and dignity. Although the unit architectural forms vary from island to island, they are related by a subtle response to natural surroundings, and although the brilliant white cubes contrast sharply with their dark rock bases, there is always a harmonious relationship to the natural environment. The lack of forests and the abundance of stone have produced primarily a masonry architecture. The individual artisan-builder has expressed himself in the details with vivid color and imagination. Within the village structure there are always smooth and easy associations of forms and plastic continuity.

The town of Skyros in the Sporades is an example of cubistic architecture that bends freely to the terrain, yet maintains a sophisticated order and unity. Each unit's whitewashed perimeter walls project above its roof in a low parapet. Viewed from above, this creates a cellular town structure distinguishing every building unity yet maintaining the unity and continuity of the whole.

Most of the two-story dwellings are built into the hillside and provide direct access to the upper level from the rear street or courtyard. The buildings in straight rows generally have rear yards, and semienclosed courtyards appear between clusters of houses. Major churches are isolated from the habitation units by their own courtyards and serve as neighborhood visual focal points.



Overall view, Skyros



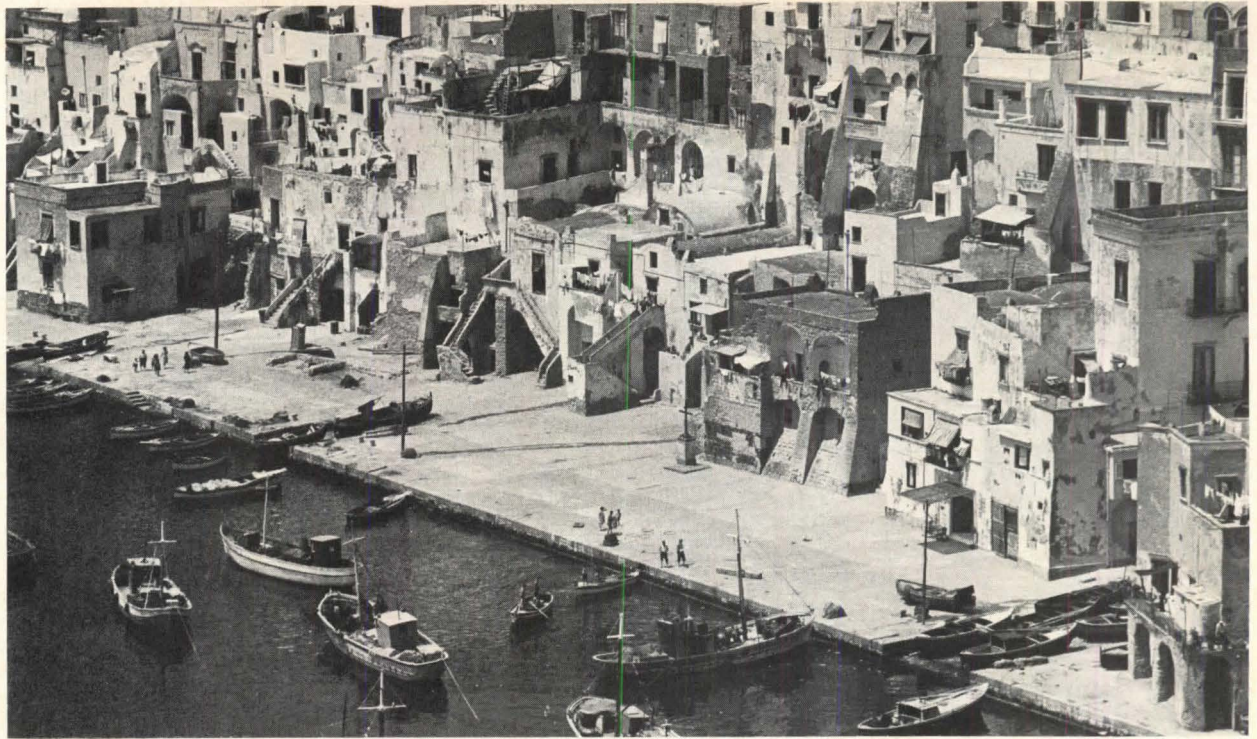
Oasis, Tinerhir

Morocco

The roots of Mediterranean community architecture in Europe can be traced to the cubistic farmhouses and villages found in the vast stretches of south and central Morocco. There are climatic and geographic extremes that determine the variety in the structure and form of the villages.

At the western end of the Valley of the Dades in southern Morocco lies the oasis of Tinerhir. The forest of palms and the green fertile fields are embraced by a wall of habitations that reflect the red earth color of the surrounding flatlands yet stand apart as a result of the sharp articulation of the intersecting forms, thus creating a rich, crisp geometric chiaroscuro.

The uniqueness of the village plan lies in the major focus provided by the large negative central space, with the buildings themselves forming the perimeter ring. Although the spatial form may be compared to a large public park or green within the walls of a modern city, the contrast here is more intense and the psychological impact more satisfying, since it supplies not only an area for recreation but the water and food essential for survival.



Harbor promenade, port of Coricella, Procida



Overall view, Alberobello



House stair, Alberobello

Italy

Italian Mediterranean architecture is abundant in variety and vitality. In the valleys of Apulia, an agricultural society cleared the land of stone to plant olive and almond groves and created the unique all-stone structures called *trulli*, whose conical form goes back to neolithic civilization. These unit structures occur as isolated clusters in the landscape, and at Alberobello link up to form a complete village of sweeping visual continuity and dynamic human experience.

Thousands of isolated farmhouses, generally formed of 3 to 20 units, dot the fertile almond and olive groves. In the large *trulli* houses, there is an interesting progression of movement from unit to unit, with subtle changes in the height of the domed ceilings, variations in the openings and carved niches in the wall surfaces. Small courtyards between dwellings serve as work spaces; occasional projecting stairs, integral with the wall structure, lead to drying areas on the sloping roof surfaces.

The coastal villages near Naples were established by fishermen; their dwellings either terrace down steep hillsides to the water in horizontal layers or define harbors with a wall of four- or five-story structures. These systems have enabled the fishermen to observe the conditions of the sea. The port of Coricella, a small fishing village on the volcanic island of Procida, steps down a steep hillside in a rich configuration of pastel-colored cubes that terminate in sweeping, projecting staircases on a wide, flat base. The base, protected from stormy seas by a parallel stone jetty, serves as both a work surface for the fishermen and a promenade and social center for the whole village. □

Approaches to the Predesign Phase

by CHESTER E. ROEMER, AIA

"The creative process is in formulating the problem. Once that is done in the right way, it's all routine tablework. The problem is solved." - - Piet Hein, Danish author and cartoonist.

The predesign phase could be termed the project or the problem *definition* stage, and the design phase the beginning of the problem *solving* stage. The predesign phase should clearly establish certain data in an organized framework to allow the design work to proceed in a straightforward manner. Such information should consist of:

- statement or analysis of the nature, philosophy and basic aims of the project
- space program and its functional relationships
- owner's project budget, including all projected costs of the project
- documentation of parameters or control such as climatology, site analysis, topographic survey, subsoil investigations, code and zoning restrictions
- establishment of scope of architect's work with budgets for all phases, including extra services.

Programming, which justifies an additional fee, would certainly be part of the predesign phase of any project, as would other expanded services such as site analysis and selection, financial feasibility studies, hiring and directing special consultants, computer or systems analysis and making measured drawings or studies of existing structures for additions. These expanded services would enlarge and complicate the above list, which would have to be individually tailored to each special job. Programming is well covered in *Emerging Techniques-2: Architectural Programming*, produced by The American Institute of Architects. Here, we are limiting our consideration to projects carried out within basic architectural services.

There are many benefits to such an organized approach or process. One of the first is that it sets up good rapport with the client in an orderly manner and defines the *total* project. Another important result is that it forces the client to recognize that there are many other costs involved with a job besides construction and architects' fees. By enumerating these other costs for such things as surveys, consultants, additional services and an established contingency, the architect overcomes any misunderstanding with the client as to what is or is not included in the project budget. In the process, it defines the scope of the work and allows for instituting separate fees for interior design, landscaping design, etc. Perhaps the greatest benefit internally to the architect is that, if the predesign phase is properly executed, it provides a consistent package of information with which the architect can begin the *design phase* and which should result in increased efficiency all around.

The exact techniques or forms used by different architects in the predesign phase can, and probably should, vary considerably: The purpose and approach are the key factors. Some offices might prefer to have a checklist; one developed by the AIA Committee on Production Office Procedures is shown on the next page. Perhaps some architects may want to add to or subtract from this list; some may want to develop forms

to use in conjunction with it. Two of the most useful forms employed by our office are the owner's project budget sheet, which is shown below, and our own internal budget sheet which allocates hours and dollars for each phase of the project for each department.

The owner's project budget sheet is completed and given to the owner. It may appear overly simple and naturally requires a backup breakdown. However, it makes the owner aware of financial commitments affecting the overall project which are frequently overlooked or neglected in the design stage: allowances for surveys and subsoil investigations, reproduction and advertising costs, contingency and building cost escalation, to name a few. The completion of this form also creates budgets and fees for the already-cited supplemented or additional services. There is a distinct advantage to establish agreed-upon budgets before the design work begins, even though these may have to be modified as the work progresses.

The second form I have mentioned is our internal budget sheet which shows the total fee and scope of work and breaks this down into budgets for each phase of the work. Each phase is further broken down into hour and dollar budgets for each department. This breakdown should recognize a planned profit,

overhead and any other miscellaneous direct expenses such as travel, renderings or other contract requirements. Again, there is a real advantage in having a working budget for all departments, including an estimated time schedule, before the design work gets underway. Most architects have developed their own project budget sheets based upon their own method of operation and their historical experience or performance on past projects. Those who have not, or wish to modify or expand their method of estimating and controlling project budgets and costs, should consider procedures outlined in another AIA publication, *Profit Planning in Architectural Practice*, prepared by Case & Company, Inc.

These are just a few ideas on how some architects approach and carry out the predesign phase of their projects. My recommendation for each architect is to think about predesign and develop the most meaningful way for his office to carry it out. At this phase of the project, we are really just defining the problem, but I am convinced that a good, clear definition carries us well along the way to solving it. □

Mr. Roemer is executive vice president for production and construction services, Hellmuth, Obata & Kassabaum, Inc., St. Louis.

Owner's Project Budget Sheet

loh+k

DATE _____

BUDGET FOR _____

BUILDING COST:

| | | |
|--|------------------|-----------------|
| a. Building Construction (Including Fixed Equipment) | \$ _____ | |
| b. Site Development | _____ | |
| c. Utilities | _____ | |
| | SUB-TOTAL | \$ _____ |

PROJECT COSTS:

| | | |
|--|------------------|-----------------|
| d. Land Acquisition | _____ | |
| e. Surveys, Soil Borings & Materials Testing | _____ | |
| f. Planning Fees | _____ | |
| g. Special Consultants | _____ | |
| h. Reproduction Costs | _____ | |
| i. Contingency _____ % of BUILDING COST | _____ | |
| j. Interest during Construction | _____ | |
| k. Legal, Administrative & Advertising | _____ | |
| l. Insurance During Construction | _____ | |
| m. Additional Construction Services | _____ | |
| n. Landscaping | _____ | |
| o. Landscaping Design Fee | _____ | |
| p. Movable Equipment and Furnishings | _____ | |
| q. Interior Design Fee | _____ | |
| r. _____ | _____ | |
| s. _____ | _____ | |
| t. Anticipated Increase of Building Cost _____ years at _____ % per year | _____ | |
| | SUB-TOTAL | \$ _____ |

Notes

- (1) To be supplied or confirmed by Owner.
 (2) _____
 (3) _____

TOTAL \$ _____

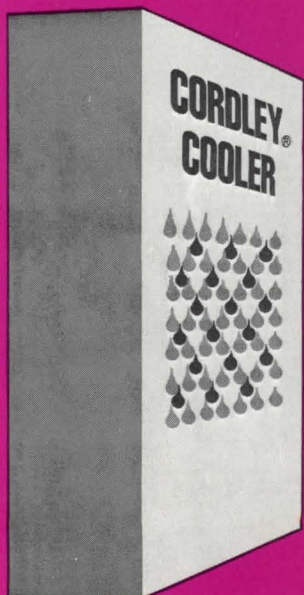
Predesign Phase Checklist

- 1.0 Owner/Architect Agreement
 - 1.1 AIA document most suitable
 - 1.2 Define scope of services
 - 1.3 Establish terms of compensation
 - 1.4 Establish scope of project
 - 1.4.1 Feasibility study—extra compensation
 - 1.4.2 Facilities desired
 - 1.4.3 Future expansion capabilities
 - 1.4.4 Site available
 - 1.4.5 Construction/total cost/limitations
 - 1.4.6 Preliminaries/working drawings/construction phase
 - 1.5 Source of funds
 - 1.5.1 Owner
 - 1.5.2 Lending agency
 - 1.5.3 Governmental participation
 - 1.6 Engineering consultant
 - 1.6.1 Owner's choice
 - 1.6.2 Architect's choice
 - 1.7 Special consultants and services
 - 1.7.1 Survey—property and topographic
 - 1.7.2 Subsurface exploration—borings
 - 1.7.3 Landscaping and sitework
 - 1.7.4 Food service, library, school, hospital, others
 - 1.7.5 Models and/or special renderings
 - 1.7.6 Detailed estimates of probable construction costs
 - 1.8 Testing services
 - 1.8.1 Steel concrete
 - 1.8.2 Radiation protection
 - 1.8.3 Soil testing and others
 - 1.9 Field inspection services—above customary services
 - 2.0 Preparatory work checklist

Establish prior to commencement of design work
 - 2.1 Design program
 - 2.1.1 By architect—as extra services
 - 2.1.2 By owner
 - 2.1.3 By combination of architect/owner
 - 2.1.4 Establish overall cost budget
 - 2.2 Site prerequisites
 - 2.2.1 Site selection—if necessary
 - 2.2.2 Survey—property and topographic
 - 2.2.3 Subsoil explorations—borings
 - 2.2.4 Applicable zoning, codes, ordinances

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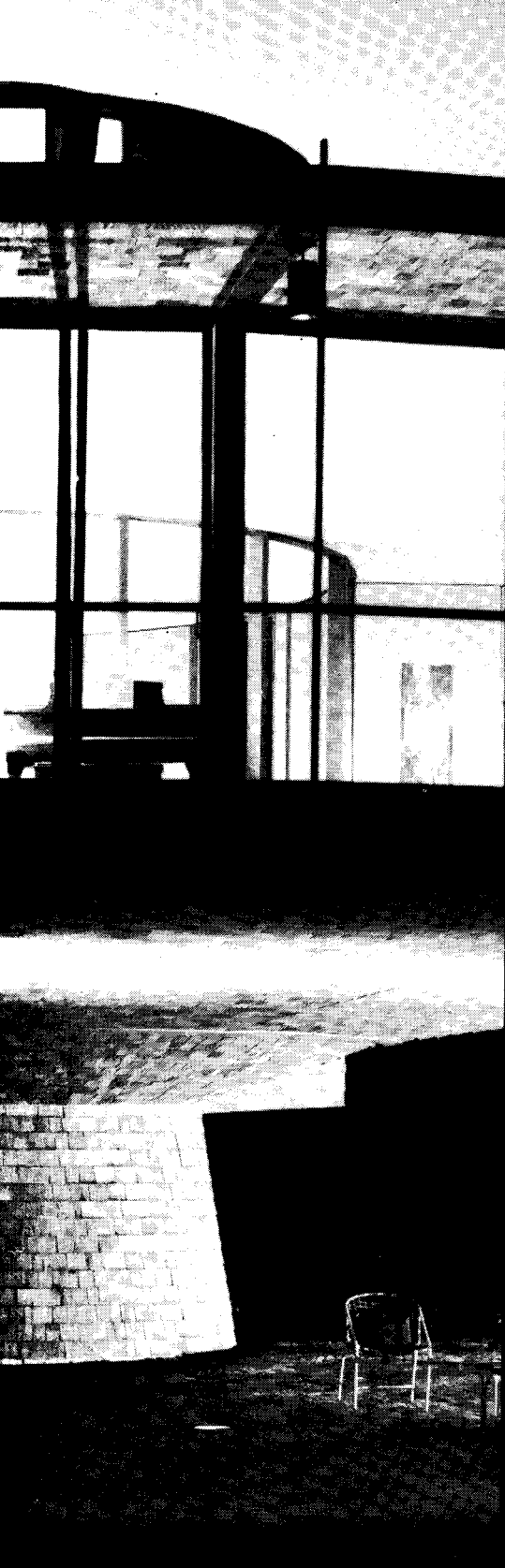
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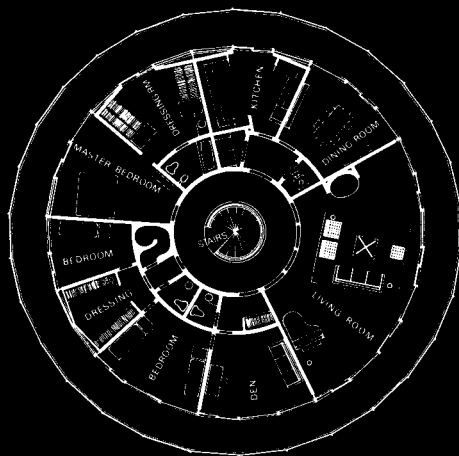
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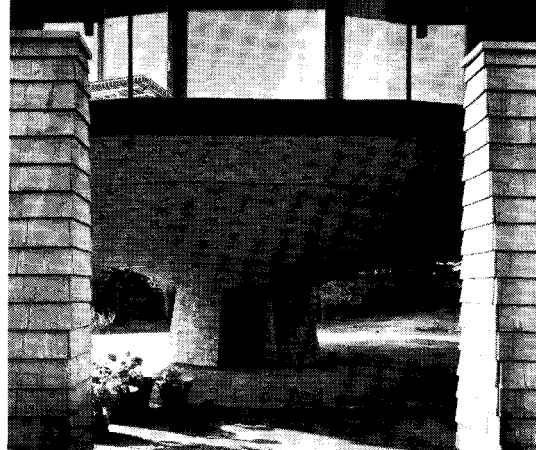


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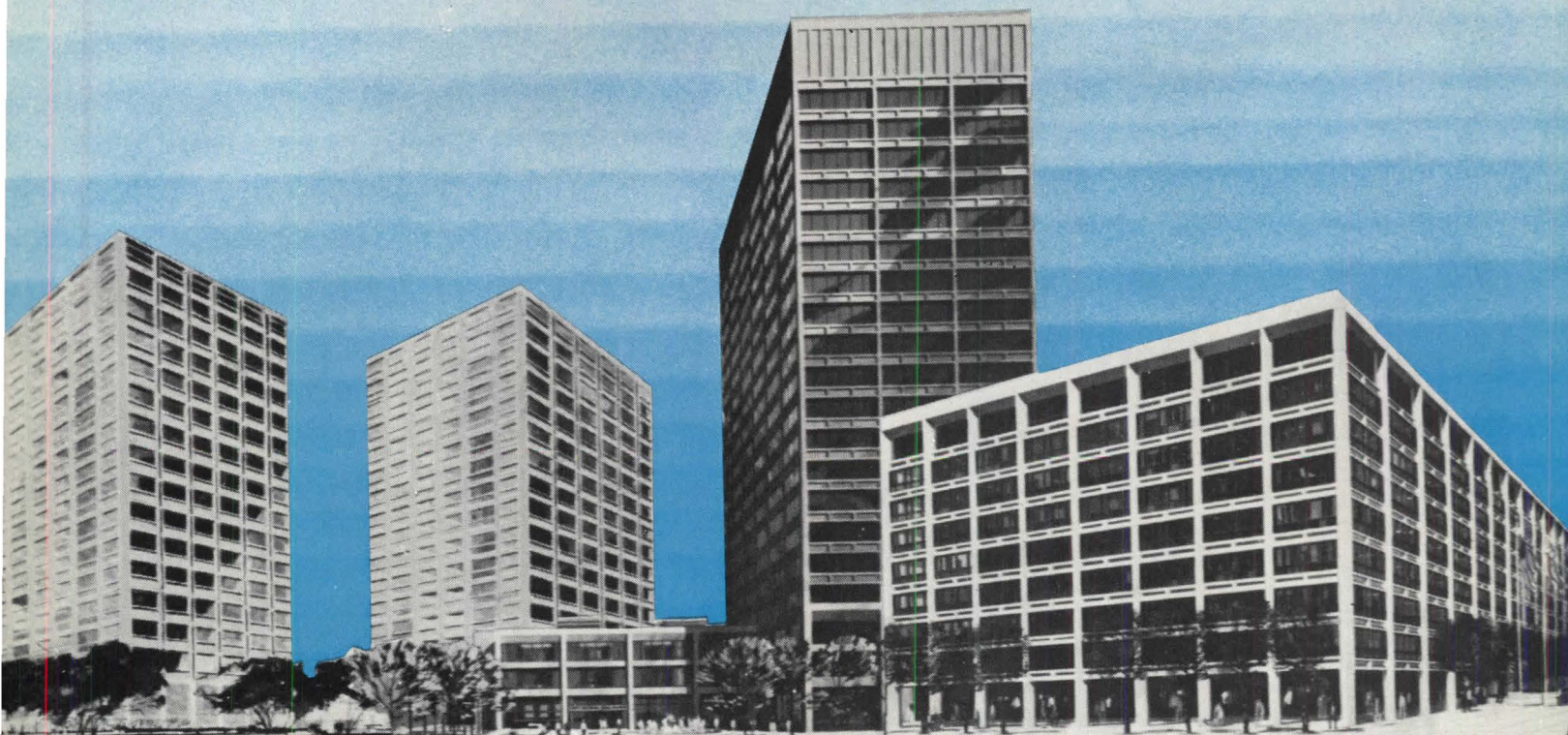


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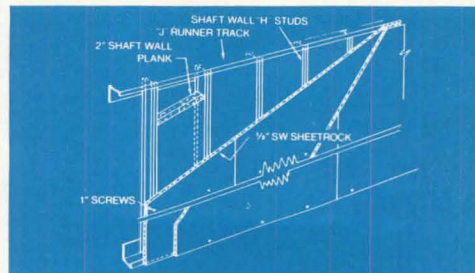
Architects: Minoru Yamasaki & Associates,
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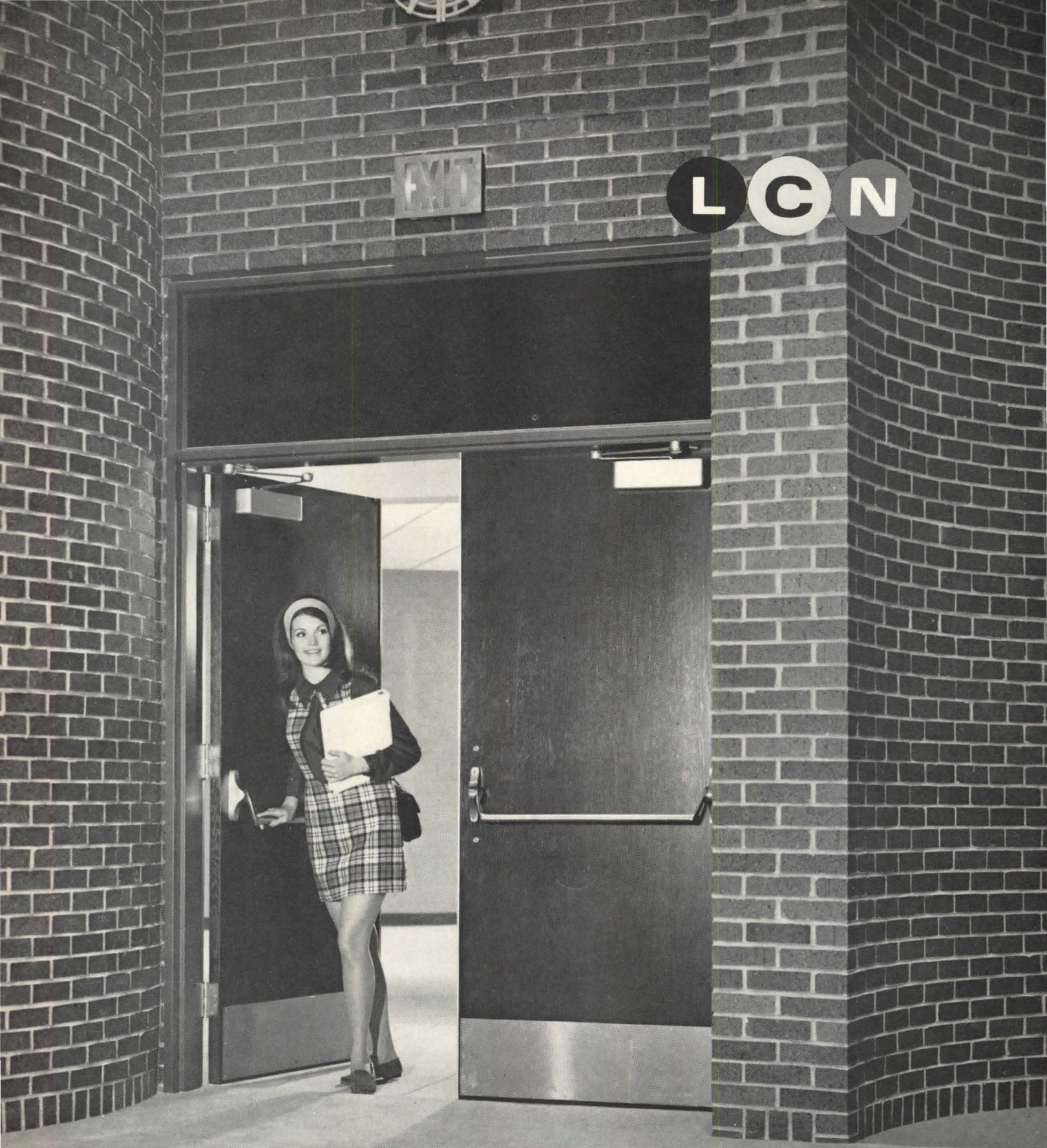
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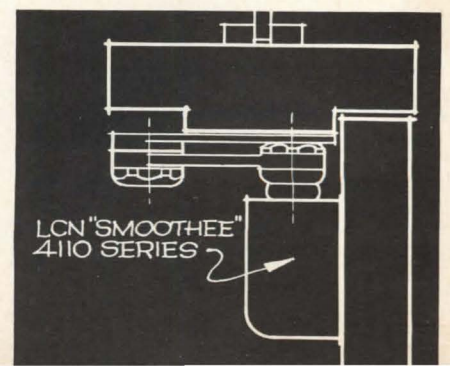


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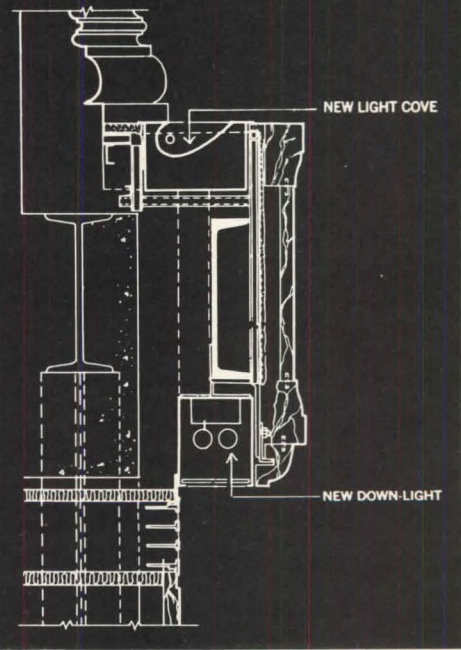
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Cross section of perimeter light source. The quartz lamps are cooled by flow of air from the lower fixture up through a ventilating chimney to the upper fixture and out around the reflector.

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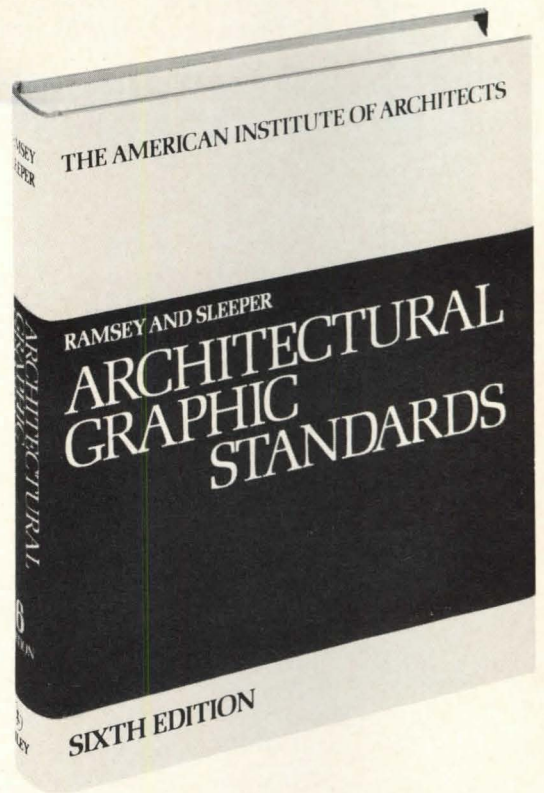
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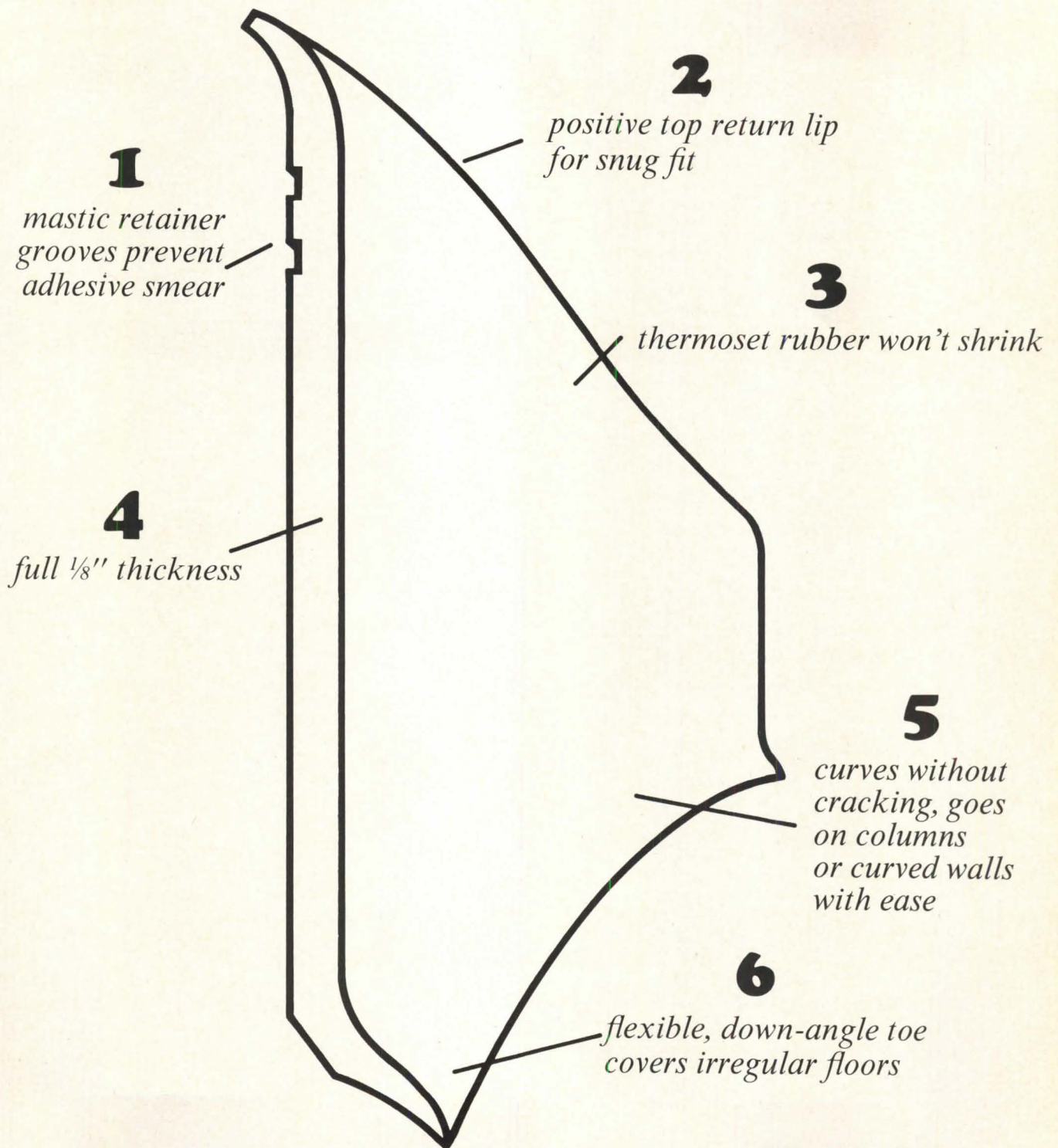
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'What Do We Do on Tuesday?'

Leaders of Greater Miami and southern Florida have instituted a once-a-year-thing when they isolate themselves on a cruise ship and talk about urban quality. Here is a report of the second annual workshop.

"Buy a pretty basket, darling" may be words not often associated with city growth problems, but they were heard frequently by the participants in the second annual Urban Quality Workshop held aboard the M/S Sunward of the Norwegian-Caribbean Lines during a weekend cruise to Nassau, September 25-28. All the sessions of the symposium were held on shipboard, to be sure, but there was time ashore to explore the town of Nassau, to swim near the golden beaches of Paradise Island and to shop for pretty baskets.

The workshop was sponsored by the Florida South Chapter AIA, University of Miami's Center for Urban Studies, the Greater Miami Chamber of Commerce, the Building Industry Advancement Fund, the Construction Industry Advancement Fund and the Norwegian-Caribbean Lines. James L. Deen, AIA, was symposium chairman, and Carl E. B. McKenry, director of the Center for Urban Studies, was moderator. According to McKenry, the purpose of the second workshop was "to zero in on Miami's burgeoning population problems" and "to stimulate community leaders to think in greater depth on matters of urban policy."

Once on shipboard, the decision-making mariners gathered in the theater to hear Deen introduce the theme of centralized vis-à-vis decentralized urban process with what he termed a "subliminal experience" through the use of many slides. He demonstrated visually the concentration and dispersion of urban activities in a number of European cities.

The seminar sessions began in earnest on Saturday morning. Sandwiched between them were social events in which the 50 Miami business and professional leaders and their spouses had an opportunity to develop informally the ideas generated during the more sedate meetings. Clearly the participants were concerned about the growth of Greater Mi-

ami and the implications of this growth for the quality of the urban environment. There was a series of talks in the first session by a panel of experts, and the two subsequent meetings were devoted to the development of ideas of the panelists through discussion by the participants.

The first panelist to speak was Robert F. Hastings, FAIA, president-elect of The American Institute of Architects. The key to his remarks was contained in the words: "The crisis is not in our cities; rather the crisis is in our hearts." He said that the real problem in changing cities is a personal one, starting with every citizen. The architect asserted that national priorities have to be preceded by personal ones. He asked members of the workshop whether they were willing to make the hard choices confronting them, such as giving every family a free choice in its housing, providing a minimum income for all families or limiting the growth of population. Hastings asked: "Are we willing to pay the price? Are we willing to control growth?" Presenting a plethora of problems which have to be met and hard choices which have to be made between different directions of development, he concluded his challenge by urging activity in the public policy areas of housing, growth and the management of cultural and human resources. There must be a clearly stated public policy on such issues, he argued, and pointed out that the AIA at the national level is searching for answers. Hastings did not present design solutions to the problems he posed; rather he urged a change in the heart of man.

As executive associate of the National Urban Coalition, Herb Franklin, the next speaker, brought to the workshop the wisdom of his experience in dealing with the realities of the American city. He pointed out that politics and ideology intrude to prevent the realization of ideals. Where Hastings called for a change in the heart of man, Franklin asked for practical politics, saying that litigation can be helpful in altering hearts and minds. Questioning the desirability of new towns as the only solution to present urban growth and arguing for an adequately financed housing policy with a new towns policy as a linkage, the urbanist stated that both redevelopment projects and new towns are really land use programs.

The third panelist, Luna B. Leopold, who is a scientist and ecologist with the US Geological Survey, was critical of the practice of preparing grand plans without first specifying objectives. He stated: "Plans are not viable when the objectives are antithetical." The speaker suggested that too many cities invite expert outsiders to come in and tell them what to do rather than taking the time and trouble to ask the citizens what they really want.

Leopold proposed a process of policy plan-

ning for the community built upon locally conceived and understood objectives with alternative approaches to the realization of the objectives as well as varying goals—all to be established through a local policy planning process. Then it is possible to talk about concrete plans and to bring in professional expertise to get at the facts, he remarked. The ecologist made the provocative statement that the last five years of the '60s represent the most advanced stage of American civilization we will ever know; he apparently anticipates a steady deterioration unless there is a change in the process of policy planning and unless attention is given to the democratic determination of goals.

The work of the New York State Urban Development Corporation was the substance of Robert E. McCabe's presentation. As its general manager, he knows whereof he speaks. Describing the structure and function of this invention for the management of urban conditions confronting New York State, McCabe pointed out the powers provided this new instrument by the New York Legislature and discussed the acceptability of such a potent tool by other states. He was frank in pointing out the necessity of such authority as eminent domain if the control of urban development is to be adequate.

The final panelist was Heikki von Hertzen, president and planning director of the Housing Foundation of Finland, founder of the new town of Tapiola, Finland. He described the development of Tapiola and argued for a new town's solution for the containment of urban growth and for the achievement of urban quality.

The panelists thus provided the program for discussion by workshop participants. A dialectic between the advocates of environmental quality and economic development emerged. Individuals stated their thoughts about the growth problems of Greater Miami and the region, but no precise policies developed from the encounter. Perhaps the work of the third annual workshop will be to take up the next step—that is, to plan policy.

Certainly the leaders will have to make the hard choices mentioned by Hastings. They will have to ask themselves if they are willing to pay the price for urban quality. The citizens will have to involve themselves in the politics and ideologies of urbanization pointed out by Franklin. They will have to concern themselves with the serious business of establishing goals and of planning policy in the manner suggested by Leopold. The decision-makers will have to consider the new institution, as presented by McCabe, which can help insure a desirable quality of urban life. They will have to come to a decision about the solution offered by von Hertzen for ordering urban growth through a system of new towns.

The workshop was successful in confronting the leaders with the alternatives for



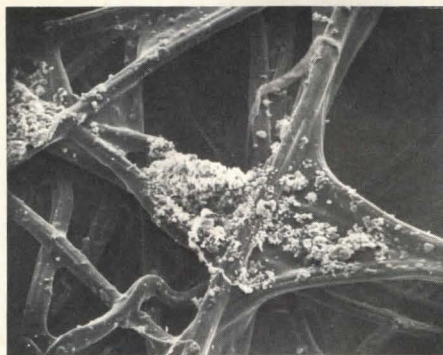
Most workshop sessions take place in the M/S Sunward's main lounge. To the right, moderator McKenry, panelists Hastings and Franklin.

Greater Miami. Now it is necessary to make a choice about the directions the leaders will take in establishing goals and planning policy to achieve those goals. On Sunday night, the participants sat in a place called the Crow's Nest Bar for the concluding session. Moderator McKenry reminded them of a question raised at the end of the 1969 workshop: "What do we do on Tuesday?" Again the question was posed. The conclusion was reached that on Tuesday the leaders would be more sensitive about what is really at stake when one seeks to improve the quality of urban life.

As short as it was, such a shipboard seminar seems separated from the typical conference experience. The intimacy of the ship intensified the intellectual exchanges. The fact that these leaders of the Greater Miami region were able to withdraw from the pressures of work and home for even a brief time provided the possibilities for new perspectives on the future of their city and region. The process of withdrawal was pleasant and stimulating, but problems persist upon the return. The question now confronting the members of the second annual Urban Quality Workshop is whether they have the will to implement the ideas encountered during the course of the cruise. The words of Hastings can be pondered for a long time: "The crisis is not in our cities; rather the crisis is in our hearts." And to them may be added the clincher: "What do we do on Tuesday?"

MARY E. OSMAN

Portrait of a Killer



The photograph above is guaranteed to jolt you. It shows a very tiny area of a cloth mesh filter used in a common, commercial air filtering system. The elongated members are part of the filter; the tiny particles are a variety of air pollutant materials, similar to those floating in southern California air — the kind that will kill you if absorbed into the respiratory system in excessive amounts. This is no brief, however, in the Florida-California competition for which is the sunniest and best state for healthful living.

Chances are that most people have never seen air pollutants with such remarkable clarity as the photograph af-

fords. It was taken by Norman Hodgkin, president of the Newport Beach, California, firm of Micrographics, using a Scanning Electron Microscope. The microscope is a high-precision tool which can be used for the observation of an area as small as one-millionth of an inch. The object under study can then be enlarged up to 100,000 times and photographed for close scrutiny.

The photograph here is magnified 400 times. It dramatizes why exhaust emissions from the air above some California freeways turn into a gagging grey mass before one's eyes. It shows why eyes then turn red and watery, noses start dripping and throats begin to hurt.

The microscope can provide highly magnified photography of things besides air pollutants, such as surface detail, growth design, stress and breaking qualities of materials. The diverse applications can be used in such fields of work as biology, geology, aerospace and architecture, to name a few.

The repulsive killer, captured on the cloth mesh of an air filter, bears silent witness to the claim of scientists that air pollution is indeed mankind's sworn enemy. □

Roma Barocca:

The History of an Architectonic Culture

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translated by Barbara Luigia La Penta

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by Moshe Safdie

Beyond Habitat is a highly personal statement—almost a diary—covering the author's life and career before Habitat, his struggle to transform Habitat from a "design solution" on paper to a living reality, and his more recent architectural work and his general ideas on housing and other matters since its completion. The book is illustrated with halftones of his buildings.

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Russia: An Architecture for World Revolution

by El Lissitzky

translated by Eric Dluhosch

Between the October Revolution of 1917 and the imposition of the rigid doctrines of "Socialist Realism" under Stalin in the early thirties, the arts, architecture among them, were developing with great freedom of invention and expression in the Soviet Union. El Lissitzky, a leading proponent of socially oriented architecture, here reviews the achievements of his postrevolutionary compatriots and outlines his own program for future action.

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Boston/Architecture

by the Boston Society of Architects

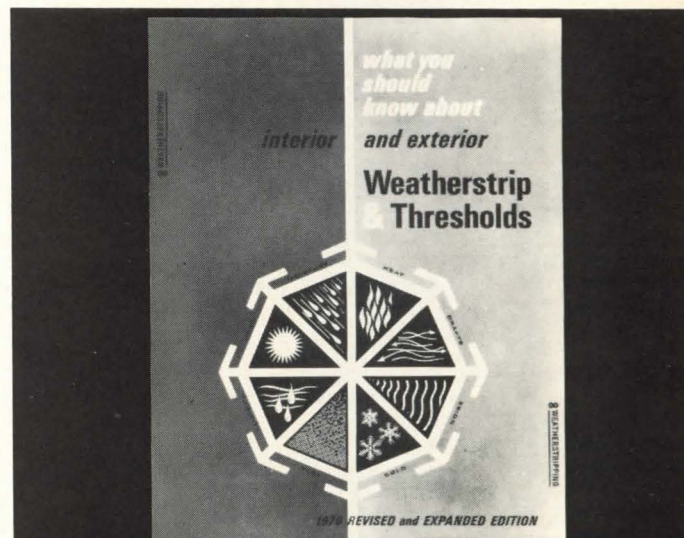
Originally prepared to introduce Boston to members of the American Institute of Architects meeting there in June 1970, this book now serves a wider purpose of presenting America's most architecturally interesting city to both architects and nonarchitects, whether in or not in Boston.

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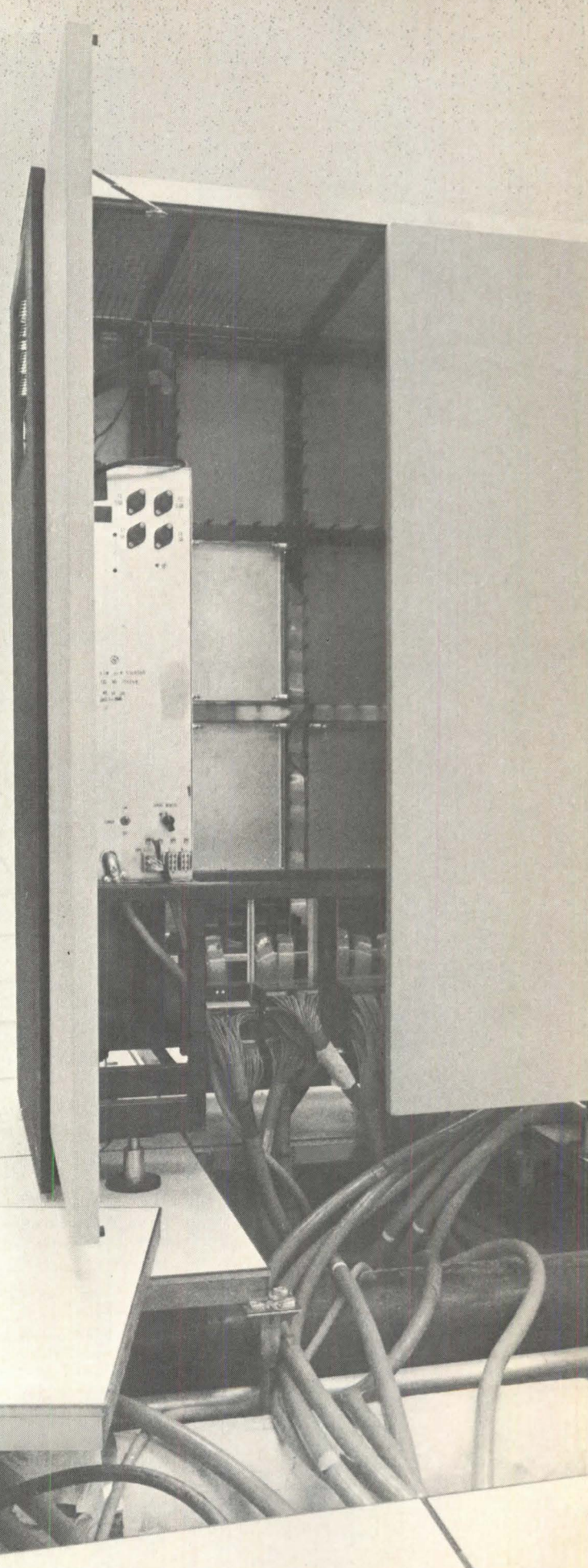
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Nader: From Autos to Architecture

The consumer deserves his say about what is built—or shouldn't be built—in the eyes of Ralph Nader. Condensed here is his luncheon speech before the National Council of Architectural Registration Boards in Boston.

One of the reasons everybody should spend time in the slums, if they don't happen to live there, is to get an idea which can only come from touching the scene of the enormous psychological impacts of a systematic 24-hour-a-day esthetic deprivation: ugliness all around, dirt, pollution, drabness, depravity, decrepitude, destruction to structures, etc. This esthetic deprivation deserves a great deal more study. So long as it still is a sort of process of intuition, so long as we can all agree in a kind of impressionistic way, so long as it doesn't take root to more fundamental styles, then our policy makers, real estate speculators and those who determine the level of esthetic deprivation will not be brought to heed.

Look at the highrise slums in Chicago. I should like to meet the architects who built those structures. It is important to begin to take the architects and the policy makers, who curb the flexibility of the architect and who demand his unquestioned allegiance or obedience, and subject them to a public forum of inquiry, asking them precisely what led them to their decisions. How much of it was cost consideration? How much was quality? How much was pressure to find permissible use of land? To what extent was it lack of courage? One might take perhaps 10 or 12 of the more serious and judicious examples around the country and develop public forums to try to make this inquiry in an insistent way and in a manner that is transcribed for analysis by anyone who cares to read the results of the proceedings.

The interesting aspect of this would be to follow through from A to Z precisely the pattern of the decision making and the issues that were involved and the pressures that were taken in account or ignored. It is known, for example, that many buildings are the result of rather intense negotiation processes with city officials. What kind of negotiation processes? To what extent should the public have participatory roles in the early negotiation processes before we are confronted with a *fait accompli*?

There is no building that can be built in any city that does not have an immense pub-

lic interest as to whether it causes traffic congestion, pollution, blight and deprivation of visibility, etc. How many of us can go through certain cities and say there is something about that city that makes it livable, and one of the things that makes it livable is that we do not have those towering skyscrapers that cut our relationship with the skies and horizon. And so any building, certainly of significant size, has to be more than the routine of codes and ordinances.

We are now in a different era, and the negotiation process should be made far more public, should allow the intrusion or participation and interest all across the board. Otherwise, we are going to get the usual back-room deals with certain kinds of concessions and pacts in return for the commitment to erect a particular building.

Cost considerations being what they are, all levels of architectural unsplendor are justified on that basis. I'd like to see the evidence first; I'd like to see what the alternatives are even within the given cost restrictions. I'd like to see, for example, to what extent these large buildings are paying their way just on the basis of the property tax assessments. There is an indication in some large cities that the largest buildings are not paying their way by any means. They are extracting the kinds of concessions which involve public subsidy, and that is another anchor point for public participation in the negotiating process from site selection to design to construction to operation.

This, of course, will be treated with the cry that this is an infringement on freedom of enterprise and the like. It is quite clear that our answer to many laws in this country have reached the point where they are exercised in many areas by private as well as public power. We have seen how urban renewal has been transferred from a service to the poor to a windfall for the rich.

And so to say that this kind of participatory process by the public is an infringement upon freedom is disingenuous, to say the least. The problem of cost is also interesting in terms of secrets that are always involved and the kinds of inflexibilities in building and housing codes. The rigidity of building codes has long been a concern of architects, individually and as a profession. Of course, we have here labor unions who get a commitment in a type of skill. We have all the topics involved in making very expensive use of different kinds of materials, processes and applications. If this is such a serious problem, if it is costing the nation a great deal of anguish, why isn't more being done about it in a more vigorous way?

What I hear, or what is emphasized, is how easy it is in the absence of disclosure, openness and participation at the earliest stages of the decisional process to hoodwink the public and to have all parties in a kind of self-righteous way actually rationalize their own kind of deficiencies or their own lack of initiative to stand up to what the profession calls for.

Take the proper style. Style in some areas of our economic life is really a serious type of obstacle to function, safety and efficiency. Style is, basically, to be able to withdraw from the kind of design ability the people in your profession can bring to corporate boards

who are trying to use this type of technique. Many people hold that they can't have this both ways; either they have to have style or safety.

I'd say this was really ingrained in the automotive consumer. I have often wondered why architects don't take a more serious interest in the design of this largest consumer durable, that of the automobile, and try to bring some sort of credibility and sanity to their lesser contrived designs along the lines of General Motors or Ford. The problem of esthetics and cost require a certain heed in these times of public conformance. I have often seen the results of what I call professionally sponsored public forums, no holds barred, on very concrete controversial issues. A number of them were held in the auto safety area for the seat belt problem.

The entry of black students into architectural study is going to have significance far more than just being able to develop a certain acceptable percentage or to give the brushoff on the basis that there is a representative sample from the population. There is something far more important at stake here.

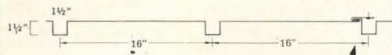
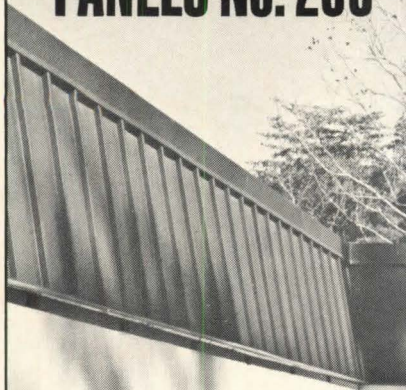
How many blacks are in the architectural profession? Are they bringing with them the urgencies and pressures to pay attention to the needs of the poor, helpless society from which they spring? Or do they simply move into the profession, escalate into servicing the kinds of clients that are adequately served, rather than representing the urgent pressing gaps that we see all around the city? You should encourage, demand and develop ingenious ways for greater entry by minority groups and also provide the kinds of opportunities that will encourage them to bring the anguish and the pain of their own subgroups within the concern of the overall professional deliberations.

The design of public housing indicates a measure of challenge here for those who are concerned. Housing is becoming what I call the "exclusionary economy" in our economy. In viewing the evolution of the enterprise system, we have seen up until the last few decades the extension of modern industry continually reducing the costs and increasing the availability of services to the greatest number of consumers. Now watch what has happened in the last 20 years.

Insurance has been developed more and more as an exclusionary force. More and more insurance companies are interested in creaming off the top and forgetting the red lining in various districts and segments of the consumer body. Banking has the same problem. More and more do not have access to banking services. The government has been coming in with guarantees and subsidies, but this is not the direction in which the economy should go. The more government steps in in these areas, with the unwillingness of industry to service the customer, the less incentive there is going to be for industry to find new ways to meet greater volumes and needs.

Housing, of course, is a similar situation. It was only about 20 or so years ago when elementary and secondary school children were given brochures comparing the US and Soviet economies. Almost at the top of the list was that the Soviet citizens never could own their own homes; they had to live in apart-

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ments, whereas the American citizen had great opportunities to purchase his own home. It seems like a hollow echo these days when you hear the government saying that people better consider mobile homes now because that is about all that is left within their budgets.

So it seems that the whole housing market is sliding down to oblivion or pricing itself out of the range of even the comfortable middle class. This seems to me a very important area for investigation by the architectural profession. A major contribution would be to find out why housing is dwindling away or has become distorted and overpriced.

Here again we have to ask ourselves just what is going on in the negotiation process between government and the housing industry. We need to establish interest here, determine who is responsible for what, and who is going to do and should be doing what. I don't know any better equipped force to do this than an independent profession. The ability to stand on an issue and stand independently of any client or corporation or employer restraint is a measure of the level of integrity and initiative of a profession.

It is unrealistic to expect that any working practitioner, involved in the daily problems of his clients, can do anything more than speak out once in a while or support some more remote activity of his work. That so-called public interest advocacy cannot be done as a part-time job or as an avocation. It has to be done by at least a significant percentage, 5 to 10 percent of the professional members, who don't have clients, who are professionals and spend all their time at the scene of the action monitoring the professional commitments before regulatory agencies or legislative bodies or in forums at the local level. Monitoring, scurrying, studying, disclosing, underlining, suggesting, working to displace the outmoded and to create the needed, full-time and supported by the rest of the profession.

These public interest members of the profession would literally be as free as humanly possible to advocate while others continue working in the day-to-day practice at serving their clients. I mean not just evaluating the pros and cons of a particularly large building in a particular area of a city but developing certain kinds of esthetic standards and certain kinds of applicable and priceless assets that the youth can carry to a nation.

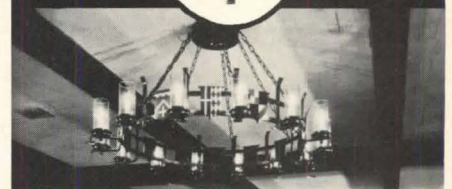
We see it more as nonmotivation, as a social pattern among the young. That is not a necessary attachment to being young, and never has been. It has never been throughout history. There have been periods when nepotism, apathy and conformity have been ignored by all of us.

Many of the more innovative, more impatient and more committed want to go into their professions and work in the public policy area. They want to be professionals without clients. They want to be public interest members of the profession. And if medical students, for example, want to work on the auto safety problem, where is their career going? I would suggest that at least 5 or 10 percent of the profession must increasingly mount the ramparts and deal with these problems effectively. □

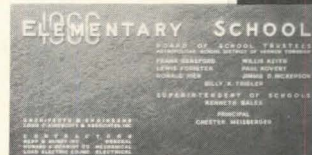
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books

Architecture and Politics in Germany, 1918-1945. Barbara Miller Lane. Cambridge: Harvard University Press, 1968. 278 pp. \$15.

To understand architecture in its socio-economic context, tracing the political developments under which it must evolve, is an uncommon phenomenon among American architectural writers. Works of architecture usually are considered emanations of artistry, assigned to a certain position within the hierarchy of styles and mannerisms, or related to serving the needs of clients. Comparisons and evaluations of esthetic characteristics often are treated as if existing in a vacuum.

The remarkable study of Mrs. Lane, a historian, reveals the nature of architecture in combination with two of the most drastic historical examples. We see unfolded before our eyes the details of that rather recent part of architectural history which was connected with the dramatic life and death struggle in Germany between the World Wars, first during 14 years of the Weimar Republic and then during 12 years of the Nazi Reich. The dramatic political events highlight also the dramatic architectural struggle.

Aside from being the scholarly and well-illustrated study it is, Mrs. Lane's book has the particular value of furnishing the kind of material which serves clearly as a mirror of history in general.

The revolutionary associations of modern architecture of the '20s, which were expressive of a new culture, found their counter-revolutionary symbols in the Nazi classicism of party buildings, cyclopean "Ordensburgen" and "folk" style housing. The "Germanness" of Nazi architecture is juxtaposed to the innovation of the Bauhaus and the Berlin school of modern architecture as well as the parallel movements in Holland and Switzerland. As far as the continuity of modern architectural expression is concerned, the reader may be more interested in the already legendary social concern of that revolutionary period than in the stultifications of Nazi architecture, which, of course, must be studied and recorded but will have little room in our hearts.

Mrs. Lane carefully traces developments step by step. She effectively documents and illustrates the architecture of both periods, including the work of the great masters of the revolutionary period, such as Gropius, the Taut brothers, Mies, Mendelsohn, Poelzig and many others.

The last 60 pages are devoted to a selected bibliography, extensive endnotes and a detailed index. H. H. WAECHTER, AIA

Planning Design Criteria. Joseph de Chiara and Lee Koppelman. New York: Van Nostrand Reinhold, 1969. 368 pp. \$25.

Here we have a combined *Graphic Standards* and *Time Saver Standards* for the metropolis. And may God have mercy on our

souls. We are but a step away from putting all the data in this book on computers; thus you won't be able to get a dime for your drafting tools.

The sheer volume of information in this book is overwhelming. But its portent is frightening, for this approach to design—well intended as it may be—is too easy for the nondesigner to grab. In fact, the data is so extensive that one really wonders if it is all that accurate.

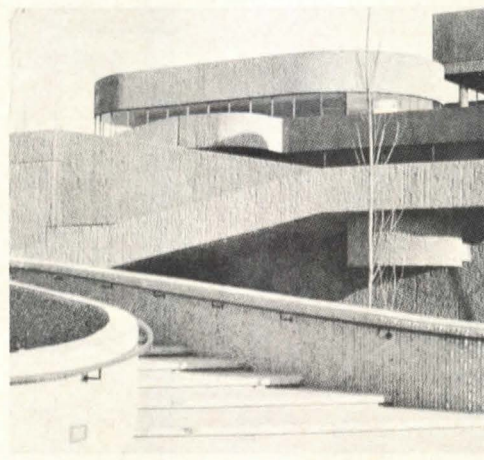
This reviewer can't buy this approach. We do need a system for getting accurate and up-to-date data on command—on anything. But we need much more an informed public and designer-philosophers who can project imaginatively, yet realistically. Most of all, we need humane ideas for what to do with it all.

Good luck to "Fun City," to whose designers and inhabitants most of this book seems to pertain. PAUL D. SPREIREGEN, AIA

The Architecture of Paul Rudolph. Introduction by Sibyl Moholy-Nagy, captions by Gerhard Schwab, with comments by Paul Rudolph. New York: Praeger, 1970. 240 pp. \$20.

This handsome book on the works and projects of Paul Rudolph is divided into the following categories: early houses; early schools and university buildings; houses and residences since 1960; educational, cultural, administration and school buildings since 1960; apartment houses and new towns; and new projects.

The introduction assesses Rudolph's contributions to architecture. Says Mrs. Moholy-Nagy: "If he achieves a new link in the long chain that binds urban past to urban future by welding industrialization to design without submitting to the fascist dictatorship of technological systems control, he will be the genius of a new human environment. Even without this goal reached, there is sufficient three-dimensional proof in his work of great courage, comprehensiveness of talent, profound faith in the architect's mission."



The Hollywood Style. Arthur Knight and Eliot Elisofon. New York: Macmillan, 1969. 219 pp. \$22.50.

Lacking an aristocracy of birth, we have necessarily had to create another — of taste, accomplishment, wealth, style or plain snaziness. Herewith a presentation of the homes of the idols. This is a book of inside tours few can obtain. Yet the sense of design in these houses is very much an element in American popular taste, particularly our domestic dream taste. The architect will probably never know just how much his clients have been conditioned by this interior imagery.

Harry Bertoia: Sculptor. June Kompass Nelson. Detroit: Wayne State University Press, 1970. 137 pp. \$11.50.

Many have admired the sculpture of Bertoia which embellishes architectural structures all over this country. This beautifully illustrated book contains critical analyses of individual pieces and includes as well a biography of this Italian-born American artist. Two appendices give chronologies of the artist's life and architectural commissions, the latter being virtually a catalog of Bertoia's major works. He was awarded the AIA's Craftsmanship Medal in 1956.

First Annual Yearbook. Edited by John J. Ross. Pittsburgh: Pittsburgh Chapter AIA, 1970. 205 pp. No price given.

Congratulations to the Pittsburgh Chapter AIA on the publication of its first annual yearbook. Well designed, it is a compendium of the representative work of members of the chapter. Edited by AIA member John J. Ross, the yearbook illustrates that the architect "is aware that his profession is a social art . . . and that he considers all society his client" and "the total geophysical environment his site."

The Changing Campus: People and Process. Edited by Frederick W. Mayer and Carl V. Schmult Jr. New York: Society for College and University Planning, 1970. 69 pp. No price given.

Collected in this publication are the papers from the third annual conference of the society. There are four major groupings: academic planning; the federal government's impact; physical planning; fiscal planning.

The Development of the Playhouse: A Survey of Theatre Architecture from the Renaissance to the Present. Donald C. Mullin. Berkeley: University of California Press, 1970. 197 pp. \$15.

Theater structures have taken a remarkable variety of forms as is demonstrated in this survey of playhouse architecture. In each period trends and developments are described with specific, illustrated examples.

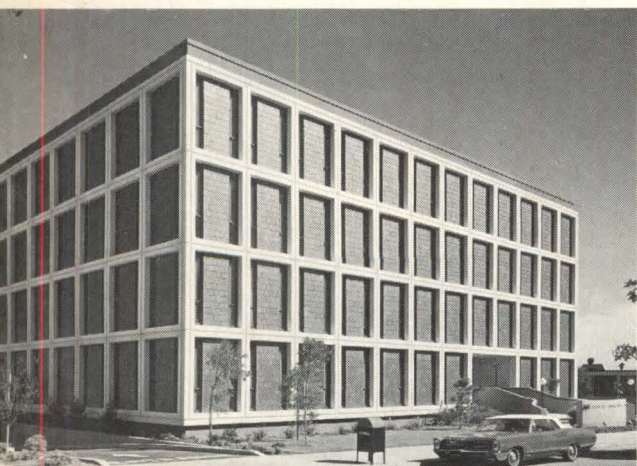
Manual of Steel Construction. 7th ed. New York: American Institute of Steel Construction, 1970. Various pages. \$12.

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letters

NCARB's 'Leading Role'

I found the Comment and Opinion column on the work of NCARB in the August issue a timely topic. One can foresee the leading role of this council in the national and international affairs of our profession provided that the necessary legislative steps are made similar to those taken in other countries. Thus the chores of the "modern minutemen" will be reduced to a minimum and the expensive work of lobbyists stopped.

EUGENE PADANYI-GULYAS
Architect
Billings, Mont.

Keep Those Slide Shows Clicking

I was somewhat disappointed in the article on "How to Make a Slide Show Click" in the April issue. My disappointment, however, is not confined to this article. It applies to all of the literature on the use of slides for conveying information about architecture and the environment.

Photo magazines are successful if they induce readers to buy new equipment from advertisers. Photography manuals and many

photo magazine articles are published to proclaim the ability of the photographer or equipment. They tend to treat photography as a form of art for art's sake. Certainly not bad per se, but not helpful in using slides for environmental communication. Detailed material on architectural photography is usually written for view cameras. "Portrait" architectural photography frequently shows how to make a building seem better looking.

What one is able to determine about "slide show" architectural photography comes by trial and error. One must evaluate the results by observing the response to lectures and talks in which a variety of material is used. Keep track of how many jobs you get, and how many proposals are adopted by public agencies and how well the enemy responds at a public hearing. Some of the things I have "learned" in this manner conflict with the guidelines in the article. While the photo contest may be a way of developing some expertise in the area, it has a way to go.

One basic concern is that we may develop an in-group of slide evaluators. It is easy to take pictures and show them to professionals who understand the framework for

the information. They demand a certain lever of technical competence and, given their own experience, derive a grasp of content. This is "professional perception." It is much harder to use slides to develop an understanding of the framework and the content.

E. M. RISSE
Assistant Professor of Architecture
Rensselaer Polytechnic Institute
Troy, N.Y.

More on the Boston Post-Mortem

As I read the report on the convention in the September issue, hope for the future faded. At the last moment (on p. 82) a ray of light did show through in the letter from Robert H. Mutrux, suggesting a remnant of hope.

FREDERICK VANCE KERSHNER, AIA
Tulsa, Okla.

After reading the general reports on the Boston convention and the letters to the editor in the September issue, I must concur in the reflections of James Gambaro, FAIA, concerning the convention. It was the first convention I have not attended in over 20 years, fortunately.

A great disappointment indeed was reflected by the state of extreme disarray in which the convention was managed—more particularly the business and student affairs.

It is important that the Institute either have more responsible planning or abandon all future conventions and resort to voting by mail.

SAMUEL Z. MOSKOWITZ, FAIA
Wilkes-Barre, Pa.

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Nov. 16-18: Component Editors and Executives Meeting, Washington, D.C.
Nov. 27-28: Association of Student Chapters Annual Forum, University of California, Berkeley

National

Nov. 14-21: Offshore Seminar for the Building and Investment Communities, Barbados
Nov. 15-18: National Conference on the Arts and the Human Environment, Conference Center, University Park, Pa.
Nov. 18-19: Building Research Institute, Fall Conference and Annual Meeting, American Hotel, Washington, D.C.
Nov. 30-Dec. 2: Symposium on the Use of Computers for Environmental Engineering Related to Buildings, National Bureau of Standards, Gaithersburg, Md.
Dec. 4: Joint Committee on Employment Practices Annual Seminar, Stouffer's River Front Inn, St. Louis
Dec. 17-19: Ecological Symposium, Architectural Interiors, Inc., and Florida International University, in cooperation with AIA Regional Development Committee, Manger Motor Inn, Tampa
Jan. 17-21: National Association of Home Builders Annual Convention, Houston
Jan. 28-31: Society of Architectural Historians Annual Meeting, Conrad Hilton Hotel, Chicago
Feb. 13-18: Engineering Foundation Conference, Asilomar Conference Grounds, Pacific Grove, Calif.

International

Nov. 20-22: International Reinforced Plastics Conference, Brighton, England
Dec. 14-18: World Congress of Engineers and Architects, Hilton and Sheraton Hotels, Tel-Aviv

Awards Programs

Nov. 27: Entry fees due, 1971 AIA Honor Awards. Contact: AIA Headquarters.
Jan. 29: Entry forms due, Design in Steel Award Program. Contact: American Iron and Steel Institute, 201 E. 42nd St., New York, N.Y. 10017.
Feb. 1: Nominations due, R. S. Reynolds Memorial Award. Contact: AIA Headquarters.

Fellowships

Dec. 31: Applications and submissions due, Rome Prize Fellowships. Contact: Executive Secretary, American Academy in Rome, 101 Park Ave., New York, N.Y. 10017.

Call for Papers

Dec. 1: Author, subject and abstract due, Joint RILEM-ASTM-CIB Symposium on the Performance Concept in Building Construction, Philadelphia, May 1972. Send submissions to: RILEM-ASTM-CIB Symposium, 1916 Race St., Philadelphia, Pa. 19103. □



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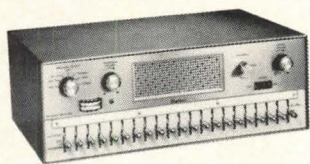
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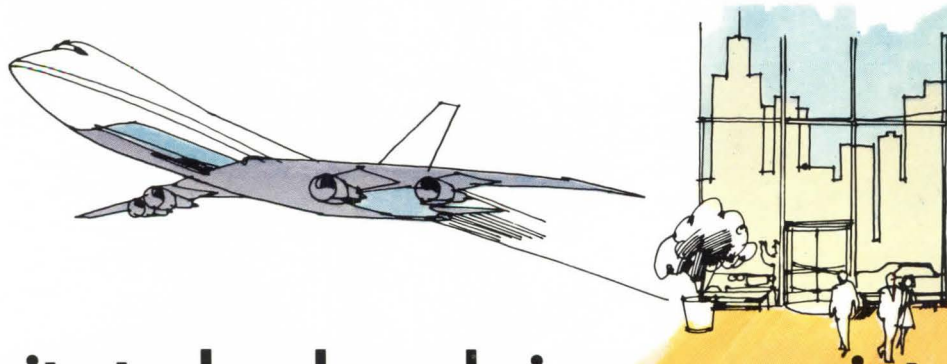
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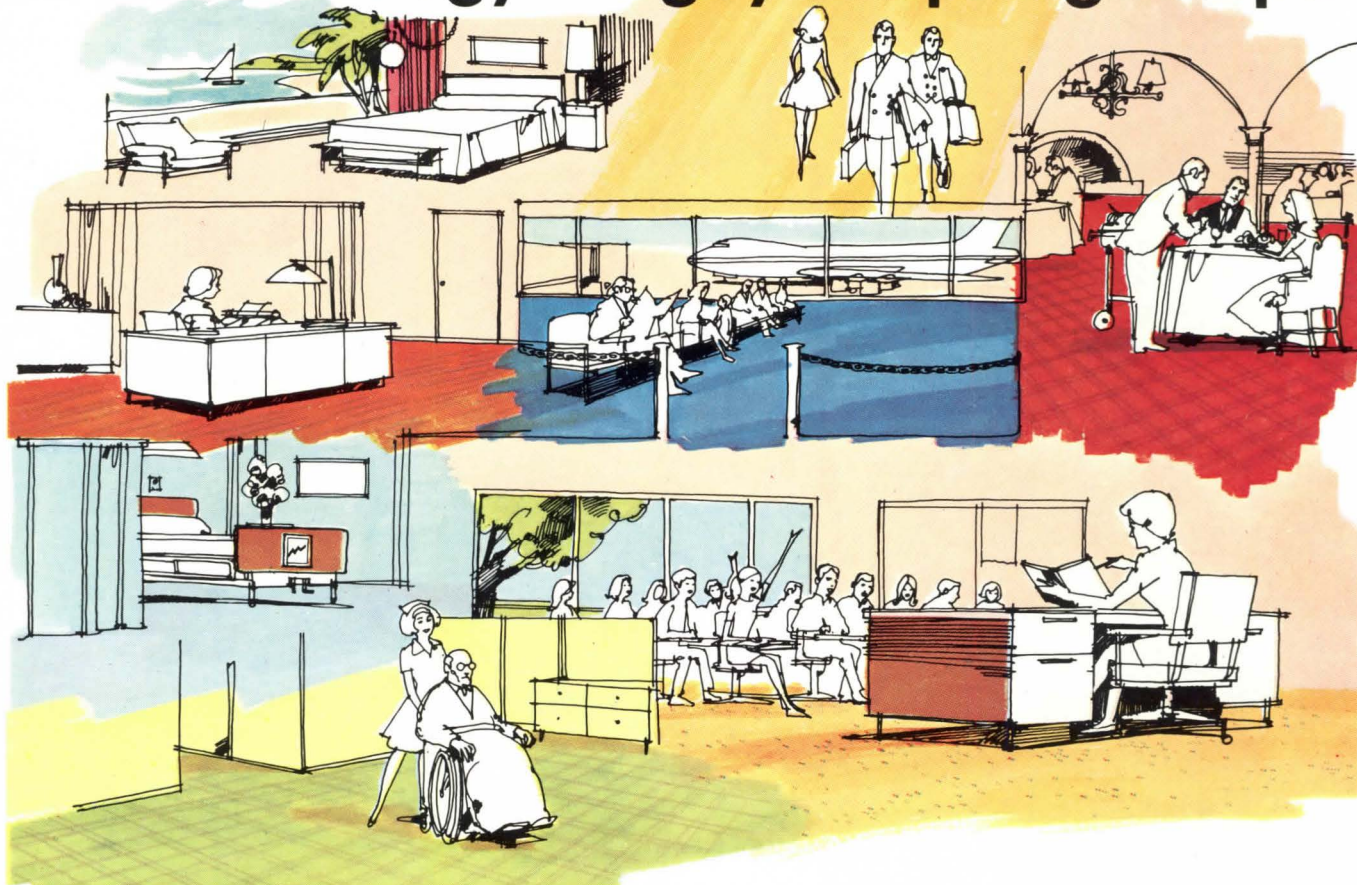
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