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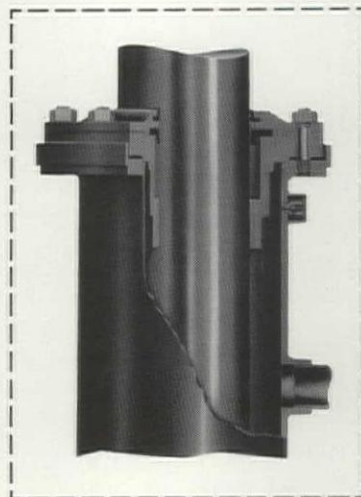


ROBERT FROST LIBRARY, AMHERST COLLEGE, Amherst, Mass. Architects: O'Conner and Kilham. General Contractor: George B. H. Macomber Co. Dover Oildraulic Passenger Elevator serving six floors, installed by Bay State Elevator Co.

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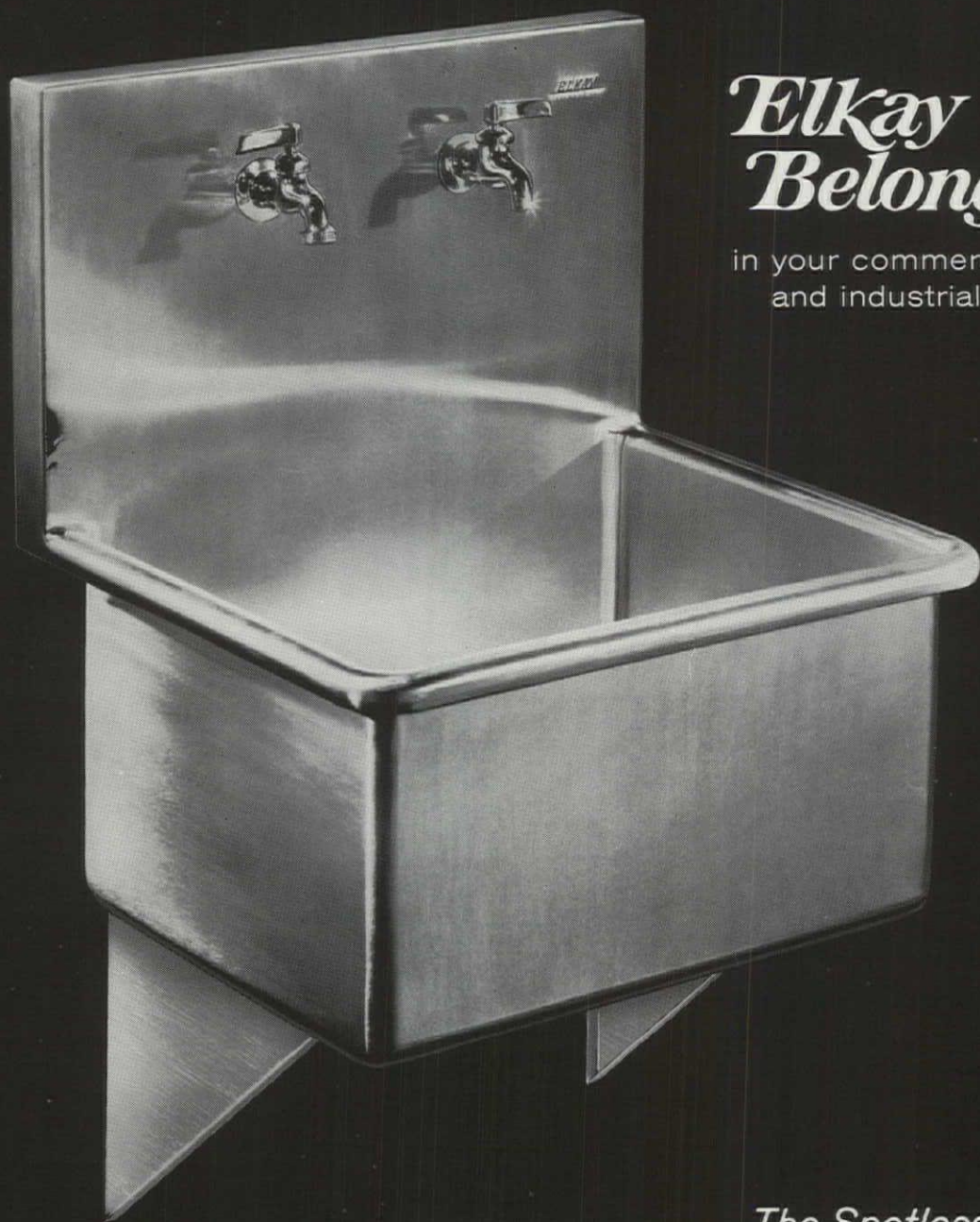


Cutaway of Oildraulic® Elevator cylinder showing polished plunger and Rota-Seal packing.

SALK INSTITUTE FOR BIOLOGICAL STUDIES, La Jolla, Calif. Architect: Louis I. Kahn. General Contractor: George A. Fuller Company, Inc. 14 Dover Oildraulic Elevators installed or specified for various buildings in the project. Dover Elevator Co., Los Angeles.

For more technical data, circle 283 on information card





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VOL. XLVII, NO. 4

## Comment & Opinion

**A Growing Concern:** As new products enter the building industry at an ever-accelerating rate, the proper dissemination of information about their uses, and existing ones as well, takes on serious implications. A significant aspect of all this is found in recent court decisions which have placed the responsibility for the selection and application of materials primarily on the architects' shoulders.

**Meeting the Need:** The Institute, through its committee structure, is stepping up its activities in programs and procedures concerning product use and development, and is maintaining a more profitable liaison with all segments of the industry.

One such activity is the production of a comprehensive design manual for roof systems, expected to be off the press in early 1968. Leonard Haeger, AIA, is preparing the manuscript under the guidance of a five-man editorial board, with the roofing industry lending both financial and technical support to the project.

**A Working Tool:** Another example is the recently issued "Policy Statement on Building Product Develop-

ment and Uses." In the words of one architect, "it is great, simple, clear and direct to a vital point."

The statement is available free of charge as a three-hole punched sheet, printed front and back (see Architects Information Service card). However, some of the points made in one of the three sections might well be repeated here. The following excerpts are from the portion entitled "Obligations of the Parties":

**Manufacturer**—The manufacturer should supply the architect with all essential data concerning his product . . .

Particularly important is information on the product's compati-

#### General Articles

Complete listing . . . . . 49

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#### Cover

A catalog of urban scenes.



bility and interfitting with interrelated products . . .

The manufacturer is expected to supply pertinent data concerning the compatibility, physical relationship and maintenance of his product. . . . Whenever the manufacturer has specific knowledge of an improper use of his product, he should furnish such information in writing to the architect . . .

The manufacturer is expected to recognize that he is responsible for the failure of his product to perform in accordance with written data supplied by him or his authorized representatives . . .

When a product has been installed in accordance with the manufacturer's written instructions and written recommendations, and such product fails, then the manufacturer has the responsibility therefor.

**Architect**—The architect is responsible for proper design. He is expected to inform himself with respect to the properties of the products he specifies. . . . He is further responsible for uses contrary to supplementary written information on proper use and installation procedures of the manufacturer.

The architect's use of a product and its installation should extend to its compatibility with and relationship to adjacent materials and assemblies, notwithstanding the manufacturer's similar obligations.

**Contractor**—It is the responsibility of the contractor to inform himself concerning the application of the products he uses and to follow the directions of the architect and manufacturer.

If the contractor has knowledge of or reason to believe the likelihood of failure, he is expected to transmit such knowledge to the architect and ask for written instructions before proceeding with the work.

**Owner**—It is assumed that the owner or other person responsible for operation and maintenance of the project will properly maintain the material and equipment in accordance with manufacturer's recommendations.

**Continued Next Month:** Thus ends the excerpts from the policy statement. But we will have more to say on the overall subject in May as we look at "The New Producer," exemplified in the Building Products Exhibit at the forthcoming AIA convention in New York City, and at the industry's attempts to upgrade its advertising and product literature, as was evident at the recent conference. ROBERT E. KOEHLER

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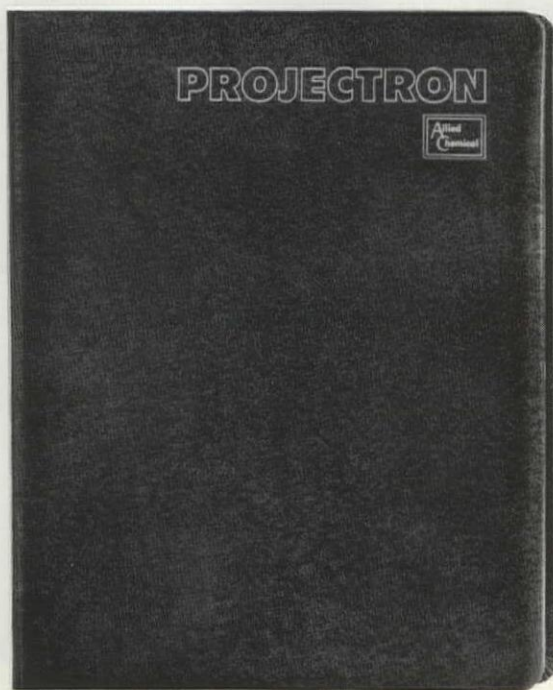
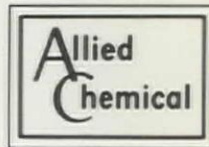
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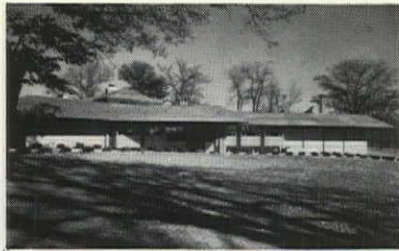
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**The place:**



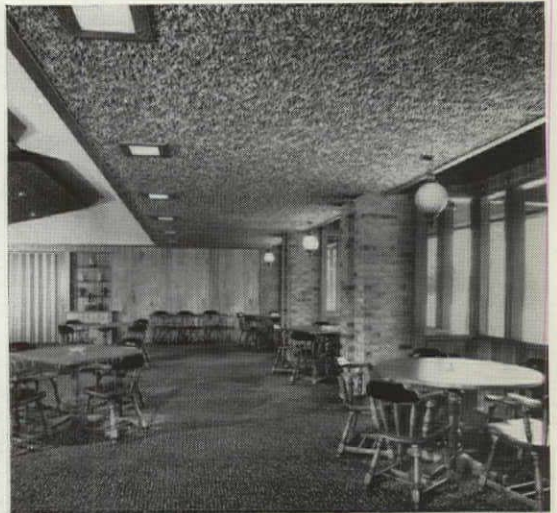
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# Newslines

## Best Turnout in History Seen for Convention; Lindsay Among Speakers

The 1967 convention of The American Institute of Architects is expected to enjoy the largest attendance of any convention in AIA history. Attendance of between 4,000 and 4,500 is anticipated.

Expectations for the huge turnout are based on the level of interest expressed in business sessions and the program and the New York location. The May 14-18 convention, headquartered in the New York Hilton, will be the AIA's 99th.

"The New Architect" is the theme, and four leaders in education, architectural practice, city architecture and technology will deliver afternoon lectures that will be followed by workshop sessions.

They include New York Mayor John V. Lindsay who will discuss "Design" using Manhattan as a case study.

Dr. Harold Taylor, educator and author, will talk on "Education and the Future of the Architectural Profession." Charles Luckman, FAIA, will discuss "Architectural Practice," and the final seminar presentation will be made Thursday with Arthur C. Clarke, astronomer, science fiction writer, lecturer and inventor, talking on "Technology."



Lindsay



Taylor



Luckman



Clarke

The Purves Memorial Lecture will be delivered by Dr. Marshall McLuhan, author and theorist.

Among honors to be conferred are the Architectural Firm Award, to the office of Hugh Stubbins &

Associates of Cambridge, Mass., and the Institute's Citation of an Organization, to the Boston Architectural Center.

Awards for distinguished achievement will be given Costantino Nivola, New York, Fine Arts Medal; Ivan Chermayeff, New York, Industrial Arts Medal; William C. Hedrich, Chicago, Architectural Photography Medal; Sister Mary Remy Revor, Milwaukee, Craftsmanship Medal; and Richard Kelly, New York, Allied Professions Medal.

Leon Chatelain Jr., FAIA, a past president of the Institute, will receive the 1966 F. Stuart Fitzpatrick Memorial Award. Established in 1960 but not given the past two years, the award is presented for outstanding national achievement in the unification of the building industry. Chatelain, of Washington, D. C., has been a recognized leader of the industry for more than 15 years.

Six men who have rendered "distinguished service to the profession of architecture or to the arts and sciences allied therewith" will receive honorary memberships in the Institute. They are:

Joseph F. Addonizio, executive director of the New York State Association of Architects AIA; John D. Entenza, editor, publisher and currently executive director of the Graham Foundation for Advanced Studies in the Fine Arts; James V. Fenelon, executive director of the Minnesota Society of Architects AIA; John Erik Jonsson, honorary chairman of the board of Texas Instruments, Inc.; Edgar Kaufmann Jr., author and educator; and Benton M. Spruance, lithographer, painter and teacher.

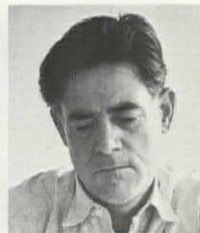
Jonsson is a director of many firms and a former mayor of Dallas. He has been a sales executive for the Aluminum Company of America and in 1964 received the American Society of Metals' Advancement of Research Award. He was selected as Industrialist of the Year by the Society of Industrial Realtors the following year, and last year won the Bene Merenti Medal.

Kaufmann, author of five books on Frank Lloyd Wright and adjunct professor of architecture at Columbia University, comes from the Pittsburgh family which commissioned Wright to design the Falling-water house.

Spruance is a pioneer in color lithography whose works are among the collections of a number of art museums.



Stubbins



Nivola



Chermayeff



Hedrich



Sister Mary Remy Revor



Kelly



Chatelain

Among other features of the convention is the Institute's 17th Building Products Exhibit in which 120 building product manufacturers, occupying 175 booths, will present displays that are said to include a number of new developments.

The convention gets underway Sunday, the 14th, with the opening of the products exhibit, registration, tours, meetings and other events. Monday morning's inaugural session will include the Purves lecture.

The reception for Institute Presi-

*Continued on page 21*



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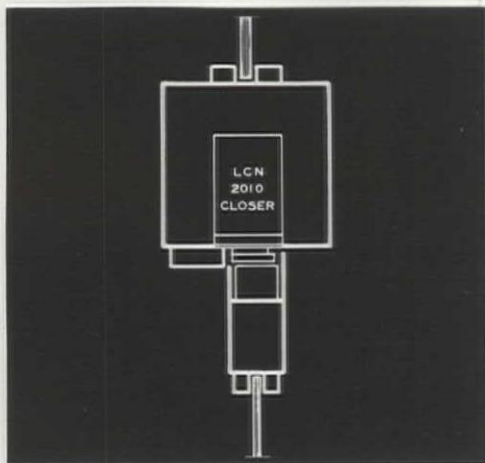






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Newslines from page 14

dent Charles M. Nes Jr., FAIA, will take place Monday night at the Metropolitan Museum of Art.

Tuesday night Host Chapter activities—the New York Chapter AIA this year is observing its 100th anniversary—include architects at-home or at-office parties and a boat tour.



Student winner Underwood.

A Host Chapter party will be held Wednesday night at Lincoln Center, and on Thursday night the Annual Dinner and Ball will be held in the Hilton. This event includes the investiture of new Fellows and the presentation of the AIA's highest award, the Gold Medal, to Wallace K. Harrison, FAIA.

Students will hold seminars, mixers and social events including a Bowery party on Friday night.

Also to be presented is the \$5,000 seventh annual Reynolds Aluminum Prize for Architectural Students. It goes to Kent C. Underwood of Ohio State University for his design of a retractable aluminum stadium dome.

The Honor Awards Luncheon will take place Monday, alumni luncheons on Tuesday, AIA business sessions on Tuesday and Thursday and Host Chapter tours of Friday.

## National Urban Group Includes Four Architects

Four architects are among 15 professional and civic leaders serving on the newly appointed National Commission on Urban Problems.

The commission, which is concerned with codes, zoning, taxation, development standards and low-cost housing, is headed by former Sen. Paul H. Douglas.

Architect members are Lewis Davis, AIA, of Brody & Associates, New York; Ezra Ehrenkrantz, AIA, president of Building Systems Development, Inc., San Francisco; Jeh Johnson of Poughkeepsie, N. Y.; and Chloethiel W. Smith, FAIA, of Washington, D. C. Commission members were named by President Johnson.

Continued on page 26







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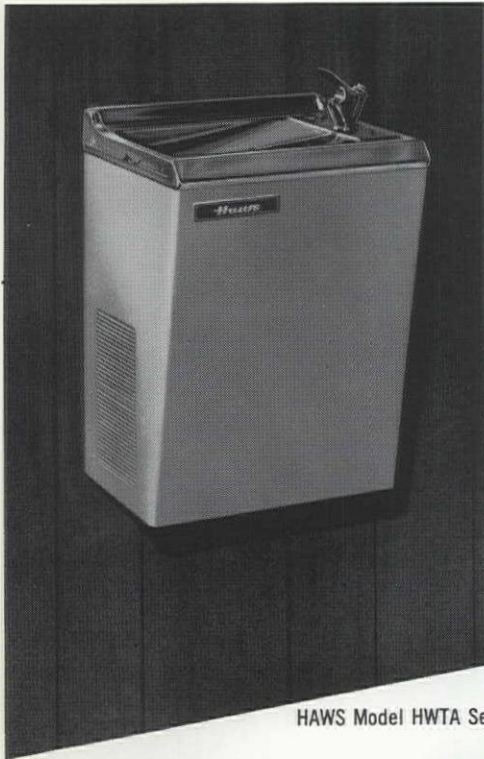
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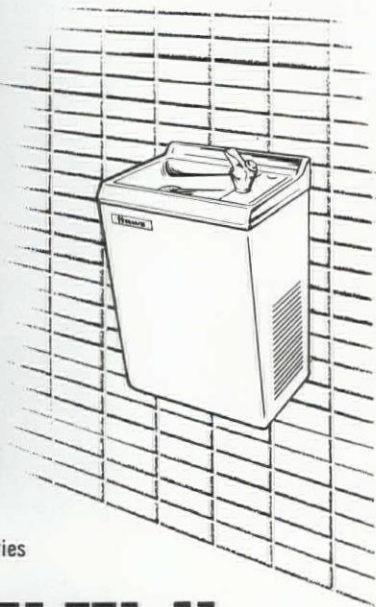








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The President said the group's mission is "to work with the Department of Housing and Urban Development and conduct a penetrating review of zoning, housing and building codes, taxation and development standards. These processes have not kept pace with the times. Stunting growth and opportunity, they are the springboards from which many of the ills of urban life flow."

The commission is also "to recommend the solutions, particularly those ways in which the efforts of the federal government, private industry and local communities can be marshalled to increase the supply of low-cost decent housing," the President added.

### **Italian Art Committee Makes Film Available**

An hour-long film, "Florence: Days of Destruction," is available on a free-loan basis for public and private use.

The film was donated to the Committee to Rescue Italian Art which said prints can be ordered from these distribution centers of Association Films, Inc.: Ridgefield, N. J. (600 Grand Ave.); La Grange, Ill. (561 Hillgrove Ave.); Dallas, Tex. (1621 Dragon St.); and Hayward, Calif. (25358 Cypress Ave.).

The color documentary, narrated by Richard Burton, is an account of the flood of Nov. 4 which ravaged one-third of Italy and heaped immense damage on the museums, archives and libraries of Florence.

The film's showing, the committee hopes, will be useful to help raise funds for the restoration of art works.

### **Vieux Carre Road Dispute Submitted to Court Test**

The plaintiffs, numerous persons and organizations including the New Orleans Chapter AIA and the Louisiana Architects Association, "plan to appeal the case to the Supreme Court if necessary."

So announced the Vieux Carre Property Owners and Associates, Inc., as a declaratory judgment legal action was filed recently in Civil District Court, Parish of Orleans, New Orleans. The action is to test the legality of a proposed six-lane elevated interstate highway along the riverfront area of the Vieux Carre or French Quarter.

*Continued on page 28*

For more technical data, circle 235 on information card



The real challenge of a toilet compartment is to "take" the day-by-day beating of hard use---schools, plazas, dormitories, factories, bowling lanes, filling stations, Y. M. s, public restrooms are typical. An important reason why all Weis Compartments are now equipped with **SOLID BRASS HARDWARE.**



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Named as defendants are the New Orleans city administration, the City Planning Commission, the Louisiana Department of Highways, Louisiana's governor, the federal highway administrator, the US Bureau of Roads and the acting Secretary of Commerce.

"This proposed expressway," said the Vieux Carre group, "financed by 90 percent federal, 10 percent state and city participation, has been bitterly contested for sev-

eral years by hundreds of individuals and groups throughout the nation as destructive to the quaint and distinctive character of the area, second only to Independence Square in Philadelphia in national historic importance.

"The state Constitutional Amendment of 1936 provides that the protection of the 'quaint and distinctive character' of the area be regarded as a trust of the State of Louisiana. If this trust is to be legally adhered to, the segment of I-310 (the interstate highway) affecting the legal boundaries of the

Vieux Carre cannot be constructed as an elevated eyesore."

The group said it intends to exhaust the appeal process if necessary "as a test case in the protection and preservation of our historic and architectural heritage."

### Contract '67 Show Said Rife with New Products

More than 500 products and designs never before shown will be on display at the Contract '67 trade show, exhibit officials say.

The April 25-27 show will be held in New York's Coliseum. The products to be unveiled by exhibitors are expected to forecast revolutionary advances in the concepts of furnishings and equipment for business and institutional interiors.

### Architects' Opportunities Seen Bettered by Private Financing of Dormitories

The federal government is inclined toward greater private financing of college housing, a trend that can facilitate more imaginative architectural design.

This was said at a recent Chicago seminar called "Privately Financed Housing—Is It Right or Wrong for Your Campus?" Sponsored by the Simmons Company, the seminar brought together educators, architects, financiers, private developers and college students.

J. Trevor Thomas, director of the College Housing Division of the US Department of Housing and Urban Development, said a reduction to 3 percent in the rate for federal housing loans to colleges "attracted applications from colleges previously obtaining private financing at somewhat higher but still reasonable interest rates." To ensure that federal loans are not merely substituting for private credit, legislation will be proposed to adjust the present statutory rate to what he called a more reasonable level.

The clear implication of the legislation, Thomas added, is "that the resulting interest rate would be enough higher to make at least some of the college housing bonds attractive to the private capital market."

Wilmont Vickrey, AIA, partner in the Perkins & Will Partnership, Chicago, said privately financed residential halls offer "a significant opportunity to create new concepts of student living."

The architect said that "without the planning controls imposed by

*Continued on page 30*

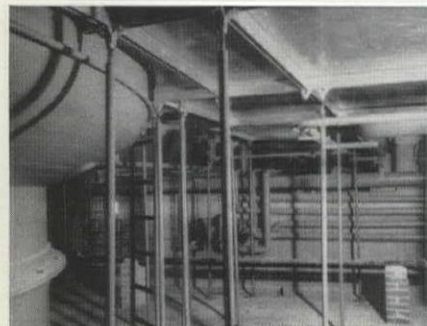
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## An affirmation of creative form:

## AMERICAN BUTTERNUT

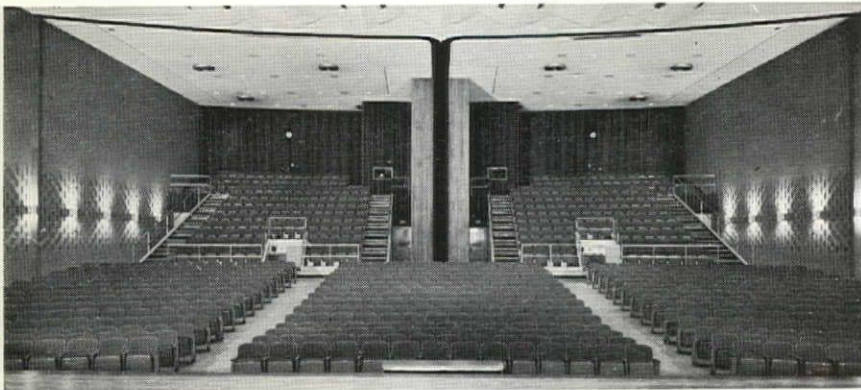
With its roots firmly planted in American heritage, American Butternut has long been a paneling favorite with discerning architects of virtually every persuasion. Even a momentary glance at its elegantly graceful grain inspires the creative eye to search out design possibilities for this quietly beautiful masterwork of nature. To the restless imagination of the architect who seeks beauty within function, freedom within structure, American Butternut becomes an affirmation of creative form.



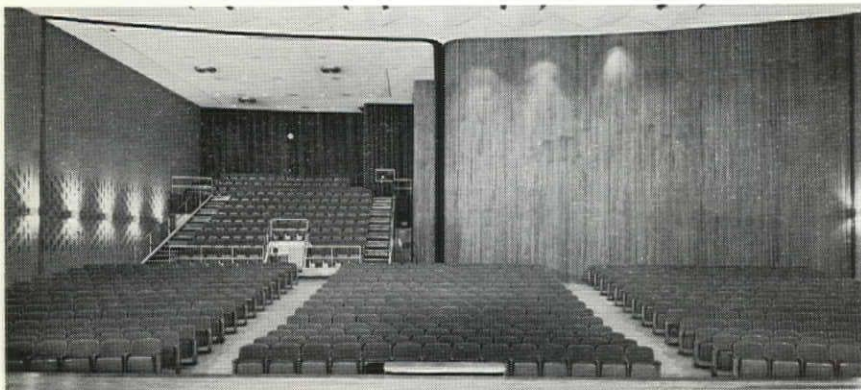
**CHESTER B. STEM, INCORPORATED**  
GRANT LINE ROAD, NEW ALBANY, INDIANA



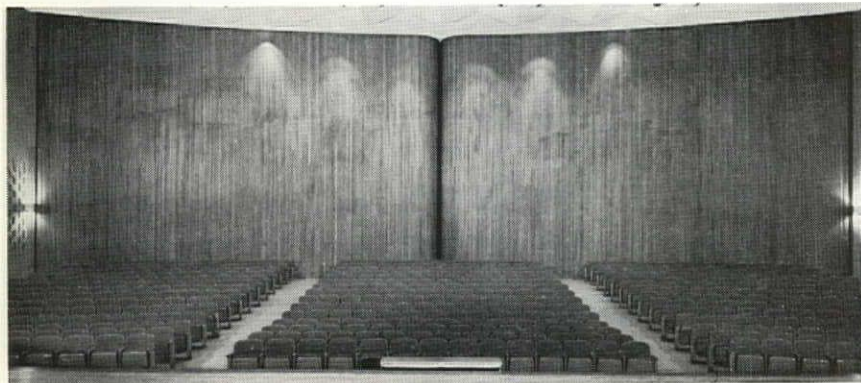
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### PRECISE COSTS AND TECHNICAL DATA UPON REQUEST

For more technical data, circle 232 on information card

## Newslines from page 28

federal and state agencies, unique educational and social amenities can be incorporated, increasing the spectrum and choice" in dormitory accommodations on a given campus. Study carrels, satellite resource centers, seminar rooms and accommodations for a complete range of recreational activities are contained in a number of new facilities.

A panel of four students from the University of Wisconsin and North Central College, Naperville, Ill., said the features most wanted in student housing are quietness and privacy and the freedom to live independently. The students said they favored private, off-campus housing because such facilities usually offer these features.

Representatives of six private development firms formed a panel which answered questions about dormitory construction and financing. Said one panelist, Richard Lamb, president of College Inns of America: "We have never found an architect who will guarantee the cost of a building. We, as private developers, are a free enterprise operating for profit and we make it our business to know how to make sure that a building will stay within a given budget."

Thomas said the HUD College Housing Program since its inception in 1960 has provided loans to accommodate 750,000 students.

The housing needs of the colleges continued to spiral, however, and the lowering of the interest rate to 3 percent further intensified the demand for federal loans—so much so that early last year there was an application demand of \$760 million and an authorized program level of \$300 million. A moratorium—still in effect—had to be placed on further applications.

Thomas said the backlog will be reduced sufficiently before the current fiscal year's end to permit the lifting of the moratorium.

## Decision Expected Soon On Huge SST Program

The US government is expected to soon decide whether to go ahead with the building of a supersonic air transport.

What that decision will be has been guessed about over the past few months. There were a few signs it might be negative; there was perhaps more compelling evidence it will be positive.

Continued on page 34



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In any event, the Boeing Co. and General Electric Co., winners of a competition to build the SST airframe and engines respectively, have been financing developmental work out of a \$200 million appropriation set aside from last year's budget. But funds are running out.

So a decision is expected within the next month or two. The significance to architecture of the SSTs and the entire range of air travel development was discussed in an article by Morris Ketchum, Jr., FAIA, in last month's AIA JOURNAL. The coming air epoch, Ketch-

um said, is a plethora of challenge and opportunity for architects.

The SST question has polemicists on both sides of the issue. Those against the venture with some relish pointed to President Johnson's scant mention of the program in his budget message.

But the 1968 budget request of the National Aeronautics and Space Administration included millions of dollars for supersonic research, and this was viewed by SST proponents as a happy sign.

The cost of SST development runs into the billions of dollars and terms under which private industry, including the airlines, is to pay

back the government remained to be fully resolved. The terms involve direct costs, interest and royalties and it appeared that questions surrounding these factors would have to be settled before the SST program could move ahead.

### AIP, 50 Years Old, Looks into Next 50

The American Institute of Planners is marking its 50th anniversary by looking into the next 50 years.

"The Next Fifty Years—The Future Environment of a Democracy" is the title of the AIP's meeting to be held in Washington Oct. 1-6.

The AIP, with a membership of 4,300, was founded in Kansas City, Mo. in 1917.

Postmaster General Lawrence O'Brien said an urban planning stamp "pointing to the need for federal, state and city cooperation to halt the decay of cities" will be issued for the occasion.

### EDUCATION

#### First Architecture Grants Made by Arts Council

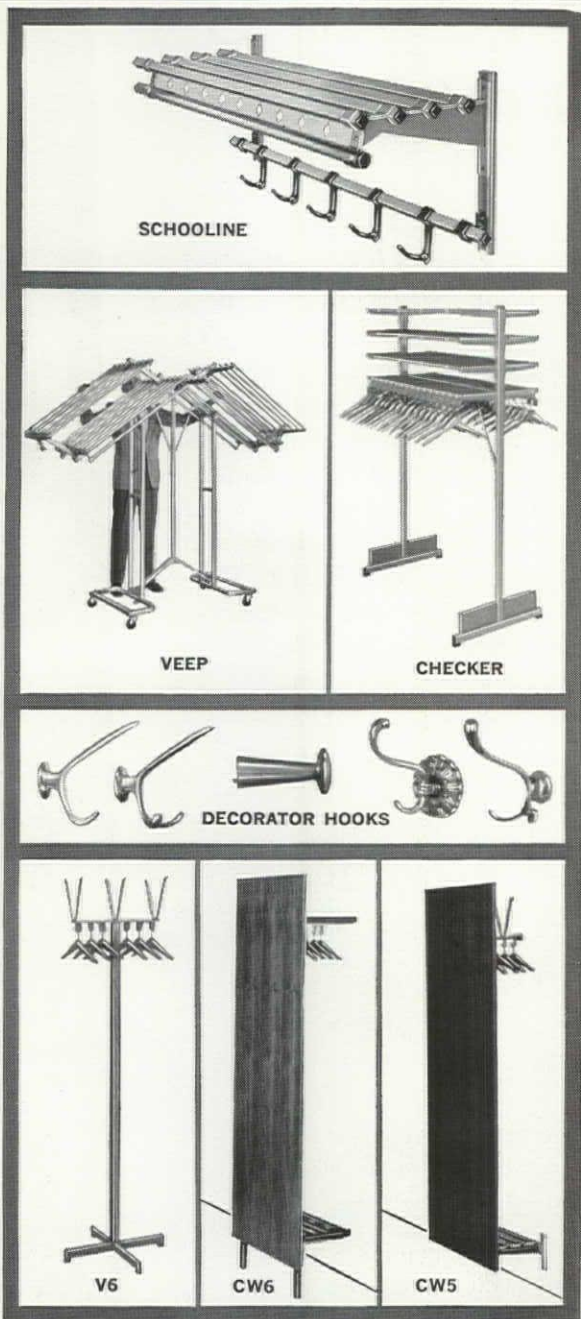
The first grants by the National Council on the Arts in the fields of architecture, urban planning and landscape architecture have been made.

They include up to 50 individual grants of \$750 each to undergraduates in schools of architecture, to be used for travel in the US.

Eight other grants, ranging from \$10,000 for a study of road sign graphics to \$50,000 to develop design techniques to preserve Hawaii's beauty, were also made.

► Frederic D. Moyer, professor in the University of Illinois department of architecture, has been elected president of Scarab, national professional service organization. Scarab's invitation-only membership is made up of 500 architects, landscape architects and urban planners.

► Roger Montgomery, AIA, professor in the School of Architecture of Washington University, St. Louis, and head of its Urban Renewal Design Center, was named the first incumbent of the Albert P. Greensfelder Chair. The chair was created after the St. Louis Regional Planning and Construction Foundation, established more than 25 years ago by the late Mr. Greensfelder, awarded a \$200,000 grant for use in the university's urban design program. *Continued on page 36*



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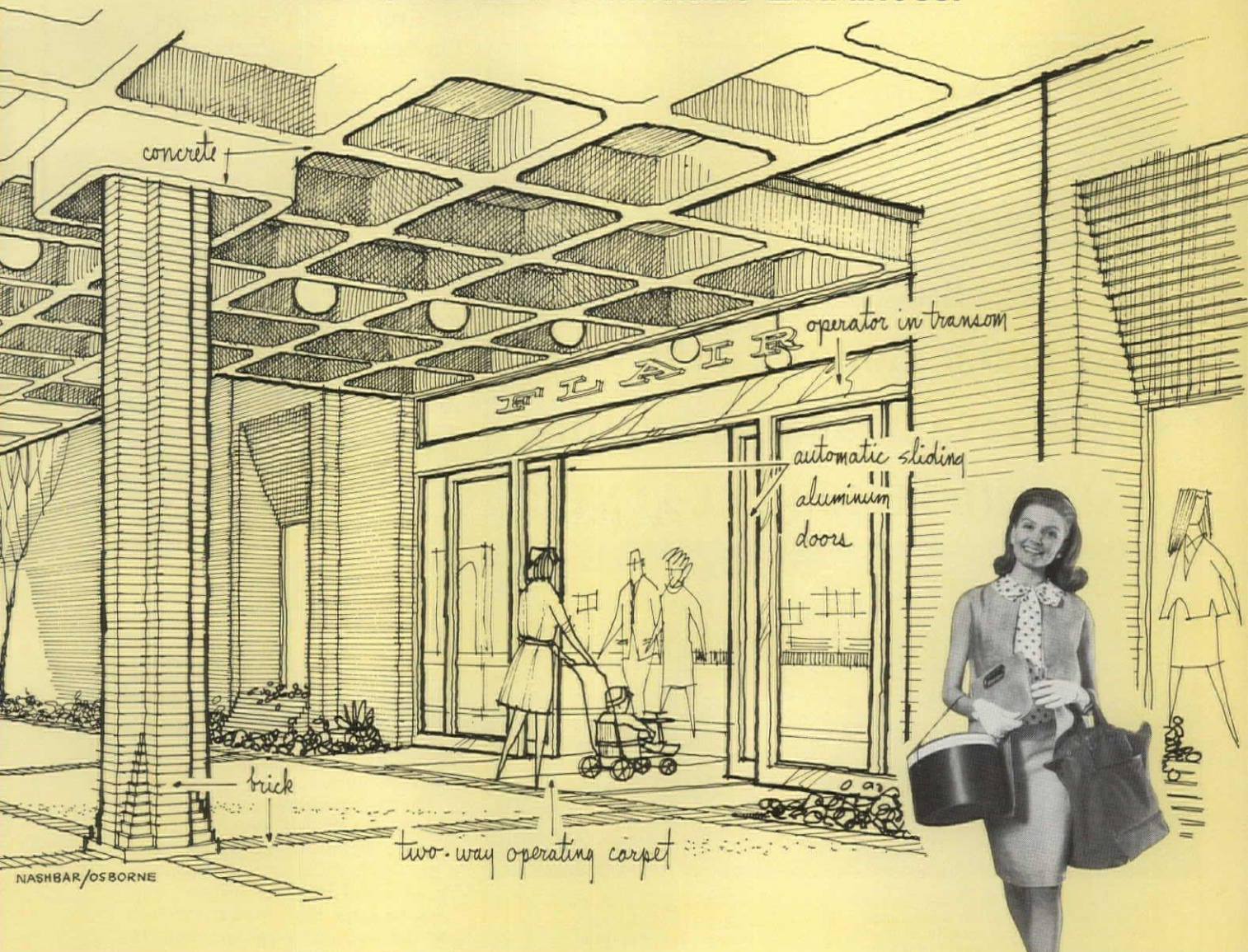
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► The Boston Architectural Center has underway a series of seven lectures, running to May 15 with a concluding presentation by Felix Candela, on new developments in concrete technology.

► Thirty University of Illinois students are living in France under what is said to be the first formal architectural education program ever offered by an American university in Europe.

Spending a semester at La Napoule on the Mediterranean with

three faculty members, the students are examining historic and contemporary European architectural developments.

► Theodore J. Prichard, FAIA, was honored at the dedication of the University of Idaho's new Art and Architecture Building with the unveiling of a plaque citing his inspiration to students. He heads the university's art and architecture program and has been on the faculty 41 years.

► A program in urban planning will be among new graduate courses Howard University will offer next

academic year for the first time.

► "Since New Jersey offers no adequate architectural drafting courses to high school graduates, an acute shortage has developed and there is presently a great need for both design and drafting talent in the profession."

So spoke James A. Swackhamer, president of the New Jersey Society of Architects, as he announced the establishment of an atelier in the Essex County Technical School, Bloomfield, N.J.

### Institute Seeks Comments On Legislation, Programs

A new Institute "clearinghouse" seeks the ideas and comments of architects across the nation for the improvement of federal housing, urban development and transportation programs.

Andrew F. Euston Jr., director of Urban Programs, said the comments will be considered in the preparation of Congressional testimony as well as for use in government relations generally.

The views-gathering activity—called the Federal Establishment Appraisal Program—is an outgrowth of a top-level meeting held at the Institute last year. In that session, Housing and Urban Development Secretary Robert C. Weaver and five HUD assistant secretaries gained the views of 18 architects, landscape architects and planners. The meeting also triggered a canvass of 80 practitioners in the design and planning professions.

A digest of the comments of those surveyed has been transmitted to HUD. The survey was praised by Under Secretary Robert C. Wood for both its approach and swift execution.

The Octagon meeting and survey are, however, but the first steps in what Euston hopes will become a continuing dialogue between architects and HUD. He urges members to send him their comments on the federal programs and to furnish any critiques they may have on federal legislation.

Euston said that on some specific matters questionnaires will be furnished to architects regarded as particularly experienced in specific areas.

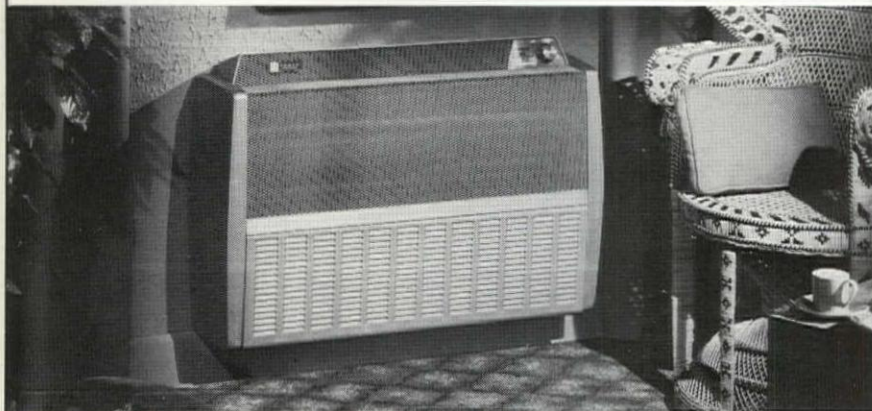
Among anticipated situations in which architects' views will be valuable are the Ribicoff Committee hearings. A major concern of the hearings, soon to be resumed, may

Continued on page 43



\$5,525 saved in annual heating costs by Salem Towers Apartments in Malden, Massachusetts, with Temco Pre-Vent thru-the-wall Gas Furnaces in 80 apartments. Estimates for heating them electrically were \$11,125 . . . compared with just \$5,600 a year for the Pre-Vents.

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**S** See Sweet's Architectural Catalog File, Section 29a/Te

For more technical data, circle 290 on information card



be the design of urban highways, Euston said.

Staff personnel to the Institute's national committees are actively contributing to the clearinghouse program, Euston said.

### Historians' Award Made To Richard Krautheimer

Richard Krautheimer, author of "Early Christian and Byzantine Architecture," has been awarded the Alice Davis Hitchcock Book Award of the Society of Architectural Historians.

The work of the Jayne Wrightsman Professor of Art History at the Institute of Fine Arts, New York University, published by Penguin Books (Pelican History of Art series), was cited as the most distinguished piece of scholarship in the history of architecture published in 1966 by a North American scholar.

Another of Krautheimer's books, "Lorenzo Ghiberti," written in collaboration with his wife, Trude Krautheimer-Hess, received the Charles Rufus Morey Award in 1956.

A graduate of the University of Halle-Wittenberg, Krautheimer has taught at Marburg University, the University of Louisville, Vassar College and has lectured at the American Academy in Rome. He has received many honors including the American Council of Learned Societies award for Distinguished Scholarship in the Humanities.

### Necrology

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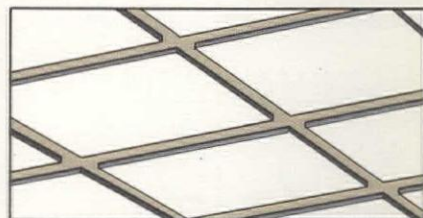
Richard Munday's Trinity Church has been justly called a "supreme and matchless reminder of Colonial America." Among its many outstanding features is the delicately groined ceiling, which provides beautiful design and superb lighting.

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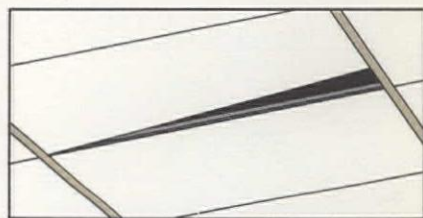
The Statler Hilton Studios, Inc. selected *Lo-Tone*® Fissura and Gothic tiles from the Conwed products line for the main ballroom ceiling of the Hilton Hotel Corporation's Hilton Inn, Terrytown, N. Y. (shown above). The structure was designed by Carey and Martell, architects, Pleasantville, N. Y. These *Lo-Tone* tiles, combined with exquisite chandeliers, provide a rare blend of beauty, lighting, and acoustical control.



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# UNFINISHED BUSINESS

BY WILLIAM H. SCHEICK, FAIA  
Executive Director

## Present at the Board Meeting

AIA Board members are as adept as anyone with clichés. The "Senator" from Colorado is a gold mine. Here are some favorites:

### PROPS and GIMMICKS



My other HAT - which I must now put on.



My predecessor's SHOES which I never hope to fill.



An AXE - one of which I do not have to grind.



My own HORN - which I do not wish to blow.



The COIN - the other side of which we must look at.



CARTE-BLANCHE - which we are not about to give this committee.

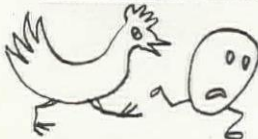


The BROAD BRUSH - with which I must paint this picture.



Our CARDS - which it is now time to put on the table.

### ANIMAL FARM



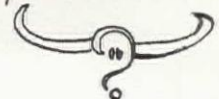
The CHICKEN and EGG - which one of which comes first we never know.



The BULL - which we now have by the tail.



The sleeping DOG - which we should let lie.



Old friend DILEMMA

### HUMAN ELEMENT



The BABY - which we risk throwing out with the bath water.



The DEVIL's advocate which I hate to be.

JOE ZILCH, AIA member whose views are most often quoted.

### GEOMETRY

The POINT which I do not wish to belabor.

The LINE - on which I am frankly going to lay "it".

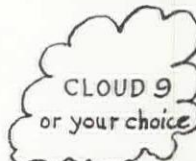
### ODDS and ENDS



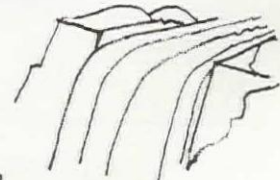
The top of my HEAD - from which I will make my next statement.



The YEOMAN whose service our committee has performed.



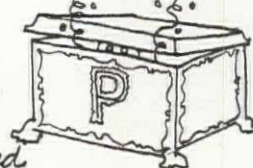
The CLOUD on which my colleague is stranded.



The DAM over which much water has gone.



My TEETH - which just got kicked in by the last resolution.



PANDORA'S BOX - which we fear the next subject will open.

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AIA JOURNAL/APRIL 1967 47



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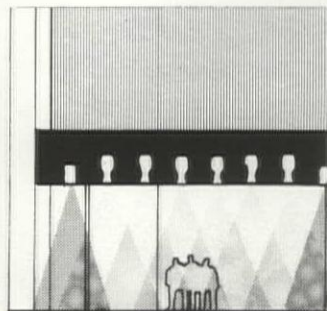
# from Bradley!

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81



**CITIES: What's the Matter?** ..... 50

- Bigger and better and much more expensive
- Downtown is the name for a variety of choices
- Who decides? And who grabs the tab?
- Getting around town is like ridiculous
- Tax policies are the salt in urban wounds
- All class enclaves pay a penalty
- Nobody has ever seen a city that ...

**Planning the Powder Room** ..... 81

Male architects are taken on a workability tour of an impenetrable area

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# CITIES

What's  
the  
Matter?



PANEL

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Archibald M. Woodruff Jr.  
Provost, University of Hartford  
Paul Ylvisaker  
Commissioner, Department of  
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Trenton, N. J.

Because of last-minute illness,  
Messrs. Dolben, Weiner and  
Woodruff were unable to participate  
in the panel discussions; however,  
each of them has reviewed  
the report which follows.

What kind of cities do we want? What must we do to get them? ■ These are the two most urgent issues facing urban America today. ■ They are issues about which everyone is talking, writing, making speeches. But the more talking and writing, the greater the confusion seems to grow. Much of the talk seems to come from people who don't like cities and just want to get away from them; too much comes from people who think the needs and problems of our cities can only be solved from Washington. ■ In the hope of wringing some order out of considerable disarray, The American Institute of Architects joined the National League of Cities, the Lincoln Foundation and the Luce magazines in sponsoring a 1966 roundtable conference of experts, described by New York Mayor John V. Lindsay as the "Who's Who of urban development." The purpose of the conference was to determine whether a broad area of agreement might be found behind all the confusion—and all the seeming contradictions. ■ The panelists represented many different disciplines and viewpoints. Among them were the president of the AIA and seven colleagues; president and executive director of the league; president of the American Institute of Planners; incoming president of the National Association of Home Builders; three mayors; chairman of the National Housing Center; the federal urban renewal commissioner (now executive director of Urban America); chairman of the federal Advisory Committee on Intergovernmental Relations; planning director of the federal Bureau of Public Roads; chairman of the realtors' Build America Better Committee; chief economist of the US Chamber of Commerce; president of the Institute of Public Administration; chairman of the Division of Urban Planning at Columbia University; chairman of the economics department at the University of Wisconsin in Milwaukee; and the director of the Institute of Urban and Regional Development at the University of California. ■ What was probed for was found: The roundtable revealed a broad area of almost-unanimous agreement on nearly every urban problem. It should be clearly understood that no one panelist subscribed to every conclusion and recommendation in the consensus which follows.

PERRY PRENTICE, HON. AIA, MODERATOR



# Rebuilding urban America ■ twice as big ■ twice as good ■ and a lot more expensive

Our urban problems would be hard enough to solve in a static urban economy with a static urban population, a static racial and social mix, and a static transportation method and system—but our urban economy and population are anything but static. On the contrary, our urban economy, society and technology are all undergoing great simultaneous changes; our urban population is doubling to a projected 1999 level well over 250 million-plus, and before 1999 our urban wealth will at least quadruple, as the average income of twice as many families doubles to a projected \$15,000-a-year-plus-of-today's-purchasing-power. And even now, before these increases, our urban transportation system is already near the breaking point.

So within the next generation, our cities will have to be almost completely rebuilt twice as big and, we hope, at least twice as good. Within a generation we will have to erect and find the money for more new urban homes, business buildings and facilities than we have built in all the years since Jamestown and Plymouth Rock. We will have to replace at least half of all today's urban dwellings because they will no longer be good enough for anyone to want to live in when the average family has sufficient income to qualify for a \$25,000 FHA-financed house. (This means we should build at least half as many new homes to replace decaying housing inside or close in to our cities as we add on the outskirts.) And we will probably have to replace half of today's business and industrial buildings because they will no longer meet the vastly different needs of 1999 business.

In addition, many of our cities will almost certainly have to be restructured to fit some new and

radically different means of transportation. High-density cities like New York are finding that the additional facilities needed to bring in just one more car per day during commuter hours will cost \$21,000; low-density cities like Los Angeles are finding the cost, in money, time and space, of relying solely on the automobile equally bad.

Most of today's cities "just grew" (and often "grew" too fast) in response to yesterday's different social and economic demands. This is one reason why most central cities are already in deep trouble with problems they have neither the money nor the authority to cure—most of them problems that call for major rebuilding and/or restructuring. They are deep in problems concerned with slums, traffic, parking, sprawl, ugliness, housing; with recreation needs; with air and water pollution; with overtaxation and undertaxation.

They are stuck with far more than their share of the costs created by national problems like education, poverty and segregation. Their municipal costs are climbing twice as fast as their local tax base.

They are choked by obsolete political boundaries that 1) encourage both people and industry to seek tax havens in the suburbs and 2) make co-





ordinated planning difficult and often just plain impossible. They are losing prosperous families and their money to the suburbs almost as fast as they are herding more poor families and their costs into the slums. They are losing blue-collar jobs to the outskirts almost as fast as they can add new white-collar openings downtown. They consume four times as much land as they use. They are stuck with a tax system that penalizes improvements and subsidizes obsolescence, blight, sprawl and the spread of slums, and they are stuck with a concept of landed property that lets landowners capitalize for their own private profit all the economies and advantages of urbanism, so city dwellers must pay twice over for the multibillion-dollar values they themselves create living close together—values they have already paid for once by an enormous investment of both public and private money.

North, south, east and west, big cities and small, new cities and old, all alike suffer in greater or lesser degree from all these problems. High-density cities like New York may have more trouble with congestion; low-density cities like Los Angeles may have more trouble with sprawl, but the latter has congestion at its center and the former has sprawl on its outskirts. The bigger the city, the bigger its problems have seemed to grow; the older the city, the more deeply they are likely to be entrenched. And the former president of The American Institute of Architects adds a word of urgent warning:

"We cannot remake our cities without solving their painful social problems. As blight, congestion and lack of good-enough schools drive middle-income residents from our urban centers, the poor move in, the gap between the rich and poor grows, and the suburban noose draws tighter. If the present trend continues, the untrained and undereducated poor will become the dominant population group in almost all our major cities within the next few years. The consequences of allowing our cities to become the poorhouses of America had better be recognized while there is still time to avoid them."

Despite all these troubles and problems, there must be something very good, very compelling and very magnetic about our cities because year in and year out more and more people are flocking to live in or near them. America's whole population growth in the next generation will be concentrated in cities and their suburbs; by the year 2000 they will add something like 150 million more people. Just when our cities seem to be suffering from more troubles than ever before, they are in fact enjoying the greatest urban and suburban boom the world has ever known.

Thus the building and rebuilding of our cities becomes an enormous problem and an enormously exciting challenge—a far greater opportunity than if there were less need to do almost everything over, new and better.

To meet this challenge and seize this opportunity, our cities will need all the help they can get—from architects and planners, from the upper-income families who have fled to the suburbs to escape the cities' problems, from the state governments and from the federal government, of course.

All of us applaud and welcome the growing interest in urban problems shown by the federal government, but, alas, this interest is still finding expression more in words than in dollars. The federal government is busy casting itself in the role of the great benefactor of cities and the great subsidizer of urban improvement; but the hard fact is that the federal government takes many, many times more money out of our cities in taxes than it would dream of returning in subsidies.

In 24 years the Housing and Home Finance Agency and its successor, the Department of Housing and Urban Development, has not kicked back to the cities a nickel of taxpayer money for housing and urban development; in every year but two, its receipts from insurance and other nontax sources have exceeded its expenditures. For fiscal years 1966 and 1967, HUD actually budgeted *minus* \$100 million of tax money for housing and urban development. City dwellers pay most of the federal taxes, but the farmers still get back from Washington eight times as much money as the cities; by some calculations, 13 times as much. And most of the money the cities do get back is earmarked, not to ease the cities' present financial burdens but to encourage new



For good or evil, the process of rebuilding urban America is already underway and accelerating. Results so far: a mixed bag of monotony and variety, harmony and incongruity, altruism and exploitation. And newness, newness everywhere.





municipal spending by offering to share the increased cost of meeting responsibilities the cities are not yet meeting.

This is no time to think small about the money our cities will need. It will cost not billions but *trillions* of dollars to correct what is wrong with our central cities today, while they are doubling their metropolitan populations and their more-and-more affluent citizens are doubling their demands for better everything.

Between now and the year 2000, someone will have to put up close to \$1,500 billion for new and renewal nonfarm housing alone (nearly half of it urban replacement housing); someone will have to put up at least another \$1,000 billion for new and replacement commercial, industrial and utility construction; and someone will have to put up at least another \$1,000 billion for all the new and better community facilities needed to go with the new and better housing: new streets, highways, parking; new and better schools and colleges; new park attractions, playgrounds, transportation; new smoke controls, sewers and sewage treatment, water supplies; hospitals, etc., etc., etc. (Metropolitan New York alone projects a need for 61 more college campuses for 1.3 million more students, 100 more hospitals with 45,000 more beds, etc.).

Over 33 years, the money needed to build and rebuild our cities twice as big and twice as good will average out to over \$100 billion a year, and even in tomorrow's far more affluent economy, it is just plain nonsense to hope that even half that annual amount will be provided by any government: national, state or local. Governments will be hard pressed to find enough tax money to meet the \$30 billion-a-year need for more and better community facilities.

The rest can be found only by harnessing the profit motive, much more effectively than now, to urban renewal and urban improvement, and making as much as possible of this enormous enterprise attractive and profitable for the investment of private capital. Private capital will get its money's worth only if we make good planning, good design and good building more profitable than bad. And it will be a lot easier to interest private capital in urban betterment if the local tax

system is modified to encourage new construction and better land use, instead of (as now) penalizing improvements and subsidizing blight, slums and sprawl.

"Tomorrow's cities can be designed to provide much greater efficiency, much greater joy and delight than people have any notion of," says city planner Ballard.

Adds Mayor Naftalin: "Right now today few cities measure up to their greater opportunities for better living."

And Mayor Maier: "We can and must make tomorrow's city a far better place for its people. All our urban institutions must work together to make tomorrow's city a place where each citizen will have a chance to achieve his own full potential in an atmosphere of freedom, opportunity, openness, community and, let us hope, culture."

And ex-Parks Commissioner Hoving: "Cities should be much more fun for everybody—poor and rich alike."

With our fast-growing affluence and our fantastically expanding technology, there is no earthly reason why American cities should have to be dull or ugly or dirty or polluted or traffic-choked or expensive to live and work in.

There is no reason why cities should sprawl far out beyond their boundaries to blight the countryside with leap-frogging and premature subdivision.

There is no reason why cities should let slums and other inadequate, obsolete or decrepit buildings clutter and pre-empt most of their good close-in locations.

There is no reason why our cities should waste most of their land, most of their streets, their

Some of the newness has been carefully planned to blend with the legacy of the past; to make optimum use of precious land in the city center; to please a child who wants to take a ride on a turtle.





parks, their open space, their waterfronts, their rooftops.

There is no reason why cities should waste most of the third dimension that could multiply their convenience and their livability at much less cost than sprawl.

There is no reason why people who like high-density living should not also enjoy open-space recreation quite near at hand, nor any reason why people who prefer low-density living should not enjoy it *much* closer to where they work and shop.

There is no reason why good urban planning should constantly be frustrated by obsolete political boundaries.

There is no reason why city governments should be kept too broke to make their services good and desirable instead of just cheap and tolerable.

There is no reason why our cities should not be good places to bring up children, with good schools and provision for safe outdoor play nearby.

There is no reason why our central cities should be abandoned to the poor and the disadvantaged, or why they should be stuck with so much more than their share of the problems of poverty and segregation.

There is no reason why all our thinking about cities and city living should lag 60 years behind our time.

Making our cities twice as livable for tomorrow's twice-as-big and twice-as-affluent urban populations will take a lot of money; it will take a lot of replanning, redesigning and rethinking—both thought and forethought.

But we are all agreed that tomorrow's city could, should and would offer its people far better, easier, healthier, more convenient living closer to where they work, shop and play, IF.

We are likewise agreed that tomorrow's city could, should and would offer its business far better and more profitable working conditions closer to bigger markets, closer to supporting services, and closer to more abundant and more specialized labor, IF:

*If we accept the simple mathematical fact that for most people, urban living has to mean living close together, and if we focus our planning and spending on practical ways to make living close together more rewarding and less expensive.*

*If we stop looking backward and dreaming that tomorrow's urban life could be more like yesterday's village life, and relinquish the notion that low density is somehow better for everybody.*

*If we make good use of the new tools offered by today's fantastic new technologies—new tools so numerous that we can mention only two:*

**1.** Airconditioning, which the ex-vice president of the National Association of Home Builders

calls "the greatest improvement for indoor living and indoor working since we brought the toilet indoors," an improvement that makes cities as livable in summer as in winter.

**2.** The electronic elevator, which—almost unnoticed—is changing the potentials of urban living almost as much as the automobile.

*If we make sure the city has a vibrant downtown to draw people and business from far and near to live, work, shop and have fun.*

*If we give some governmental agency the responsibility, the authority and the money needed to coordinate and make sense out of today's chaos of conflicting urban and suburban planning.*

*If we stop asking local government to pay costs that are not essentially local—costs that are borne by the central government in almost all other lands.*

*If we restructure our biggest cities as radiating clusters of high-density land use.*

*If we persuade or compel city people and city industry to stop trying to get something for nothing at other people's expense, i.e., stop trying to save a little of their own money by choking the city streets, polluting the city water, polluting the city air, etc.*

*If we harness the profit motive forward instead of backward to good land use and good planning, so private enterprise will find it profitable to assume, without subsidy, most of the cost of rebuilding our cities bigger and in every way better.*

*If we stop letting landowners make city living expensive by capitalizing, for their private profit, all the benefits of today's huge urban investment of other people's money.*

*If we stop waiting for massive state and federal aid before tackling all the little jobs that need doing first.*

*If we give more thought to making cities good places for rich and poor to live in and enjoy, and less thought to getting out of them.*

*If we can find a cure for the problems and costs of segregation and one-class neighborhoods.*





# Where the action is ■ downtown means higher densities ■ diversity ■ multiuse

For people, this means living closer together to maximize their freedom of choice in housing, career and employment opportunities, direct personal contact and confrontation, meeting people and making more kinds of friends. This closeness also increases freedom of choice in places to shop, and places to pursue leisure-time cultural and recreational activity.

The more people who live close together, the greater their variety of choices should be and the greater their chance of being able to get what they choose to want. The more people who share the cost of each choice, the smaller its cost to any individual, and the greater the combined ability of the group to support cultural activities and special services they could not otherwise afford.

Some people like to live closer than others. Some people choose high density because they want to be closest to the center of urban life; people who work downtown have an added reason for living close to downtown. Other people choose lower density because time-saving is less important to them than having their own little half-acre; people who work in an outlying research center, university or factory have an added reason for living farther out.

But these differences are only differences in degree. Cliff dwellers and suburbanites alike are drawn to the city to enjoy advantages only close-in living can offer, and most suburbanites wish they could enjoy their kind of living without traveling so far each day to get it.

For business, minimizing the handicaps of distance means easy access to more abundant and more specialized labor, to a greater variety of supporting services, to government offices, to low-cost mass transportation, to supplies in greater volume and greater variety, and to more customers and bigger markets.

For business as for people, the consequence of closeness and concentration should be greater efficiency, greater economy and lower costs.

Some kinds of business have to locate closer to the center than others. Some must locate downtown for maximum access to markets, to clients, to supporting service or to a great variety of labor. Other kinds of business are more self-contained and so find it more profitable to trade maximum access for greater space—to accept less accessibility on the outskirts in order to get more space than they could afford at the center. Still others may find easy access to a freeway more important than easy access to downtown.

But once again, the difference is only one in degree. The advertising agency downtown and the factory in the suburbs are both drawn to the city for advantages only closeness can offer, and most suburban industry would relocate closer to the labor center and the transportation hub if closer-in land were cheaper.

The shape and pattern and density of our metropolitan areas are changing as cars and trucks lessen our urban dependence on mass transportation to a single center, and the telephone makes semipersonal contact fast and cheap over great distances. Motorized road transportation has made, is making and must continue to make an enormous contribution to ease and flexibility of urban movement and urban contacts. And it is no longer necessary to go to the transportation center for so many kinds of shopping, or to find employment in those kinds of industry that are least dependent on quick access to markets or supporting services (notably big factories).

But however their pattern may change, the reason and purpose of cities remains unchanged and unchangeable—the same today as in the railroad age, the canal-boat age, and the stagecoach age—to bring people and businesses together for ease and variety of access and contact.

Overcrowding is no problem at all on Park Avenue with up to 1000 people to the acre. Overcrowding had nothing to do with the explosion in Watts, where the density was not much more than 20 to the acre.

At the urban densities that command the highest rents from those best able to afford to live as they like (i.e., on New York's Park Avenue, Chi-



ago's Gold Coast or San Francisco's Nob Hill), there are only three US cities whose entire population could not live, work, shop, skate, swim, play tennis, worship, attend concerts and go to the movies on the 18,000 acres within three miles of the center, leaving all the land outside that three-mile circle for heavy manufacturing, golf courses, market gardening, low-density living and acre zoning.

For example and specifically: At the density proposed for New York's new World Trade Center and Battery Park Addition, the biggest city's whole population could live and work and shop and play in Manhattan Island and the close-in quarter of Brooklyn, leaving most of Brooklyn and all of Queens, the Bronx and Richmond for open space. At the density which tenants seem to like in Chicago's Marina City, the whole population could live and work and shop and find plenty of recreation within two blocks of the Chicago River between Lake Michigan and the Merchandise Mart.

We are not suggesting that all our cities should be rebuilt for any such concentration. And most certainly we do not recommend that all the people of any big city should concentrate downtown, for many people would do better to live closer to some satellite density planned and developed around some activity that benefits from being near the city, but does not need to be right at the hub (such as a university, a big manufacturing plant or a shopping center).

Nevertheless, we think the simple geometric and mathematical facts about living close are important to remember. And we are all agreed that our cities should be planned for living and working as close together as is compatible with the

other requirements of good business and the good life.

None of us is against low-density living with private outdoor space around each home. On the contrary, all of us wish people who want low-density living could enjoy it much closer to town than they can today, to save them the countless hours they now waste getting to and from their homes, and we all agree with landscape architect Halprin that "Low density offers people something that high density doesn't, especially for families with young children."

But we wish more people would face up to the obvious fact that as our urban population doubles, the only way to bring low density close in is to develop much higher density at the center, with much less land waste everywhere. Says city planner Ballard, "With rising population we will have to design our central cities to much higher densities to make any sense at all." Mayor Naftalin adds, "The test is how we combine high density and low density."

And almost all of us sympathize with the former AIA president who says, "Sprawl city—and by that I mean the great megalopolis spreading from Boston to Washington, from Pittsburgh to Milwaukee, from San Francisco to San Diego—is too wasteful because you duplicate your services, your streets, your utilities, all the civic functions people pay for in taxes. You spread them out thin; you use up your land. In the process you destroy the countryside and waste our heritage."

If the No. 1 reason and purpose for cities is to maximize the advantages of closeness and overcome the handicaps created by distance, it follows that sprawl is the direct denial of that reason and purpose.

Two generations of urban Americans have been obsessed, bewitched, dazzled and blinded by the outward explosion touched off by the automobile, which made millions of outlying acres





newly accessible and deflated the price of close-in land by temporarily lifting the pressure to maximize its use.

Ninety years ago, the limit on urban spread depended upon how long it took to get to work by foot or by carriage. Sixty years ago the limit had been doubled, defined by how long it took to get to work by foot and train or trolley. Thirty years ago the spread limit had doubled again, to how long it took to drive to work on streets laid out for horse-drawn traffic. Today the spread limit has doubled once again, and now depends upon how long it takes to drive to work with an assist from our multibillion-dollar expressways.

We have been so obsessed with this two-dimensional explosion that we have given far too little thought to the third dimension. Average building height in every city except New York and Chicago is still only about two stories; average ground coverage is still only about 15 percent; in some central cities, nearly half the ground is preempted by streets and parking lots. Many municipal costs per family are multiplied as the urban

radius sprawls farther and farther out; average families spend more than half as much money on their cars as they spend to eat, and almost two-thirds as much as they spend to own or rent their homes; and millions of workers spend a quarter as much time getting to and from their jobs as they spend actually working.

Making today's urban area twice as big horizontally for tomorrow's twice-as-big urban population would be impossibly costly in dollars, intolerably costly in wasted land, unbearably costly in added travel time to and from work and to and from open-space recreation. Doubling their area by growing up instead of out would cost far less and add only seconds instead of minutes to everybody's travel time.

Whether we like it or not, most urban growth in the next 30 years will have to be up, not out.

The problem is not whether we would like to grow upward, but how to grow upward in a way everybody would like.

Even sprawling Los Angeles is finally learning this simple lesson and building three times as many new apartments as single-family detached homes; even in suburbia, the trend from coast to coast is to two-story houses instead of one.

Today's greatest land waste is not the vacant lots and underused acreage of suburban sprawl. It is our failure to put more high-value, close-in land to more than one use, on more than one level. For example, in Chicago only half the land inside the downtown Loop is profitably rented above the retail level, and right beside the Loop, land enough for half a million people to live and work and play on is used only for railroad yards that would better be covered over. Los Angeles actually squanders nearly a quarter of its downtown on single-level parking.



People and cars and dogs and signs and lights crowd into the center city. The action happens on a number of levels, figuratively and literally, as at Marina City and Reston. As land gets scarcer, air rights assume more importance, and architects plan latter-day Ponte Vecchios and give old candy factories a face-lift. But with any kind of luck, the city dweller can still find a little bit of space to rest his feet, walk his dog, buy a drink, or watch the girls in their summer dresses.





Architects, planners, builders and civic officials were all too slow to grasp the full significance of two great changes:

1. Today's high-speed automatic elevators make vertical transportation much quicker, cheaper and more convenient than horizontal and
2. Whereas most products can be used only once at a time, the new economy of vertical transportation makes it possible to use land simultaneously as often as a hundred times, with each repeated use apt to be more desirable than the use below (i.e., with the highest floors commanding some of the highest rents). The lower levels are best for stores, parking, schools and other places of assembly, but the upper floors are much more valuable for offices and apartments.

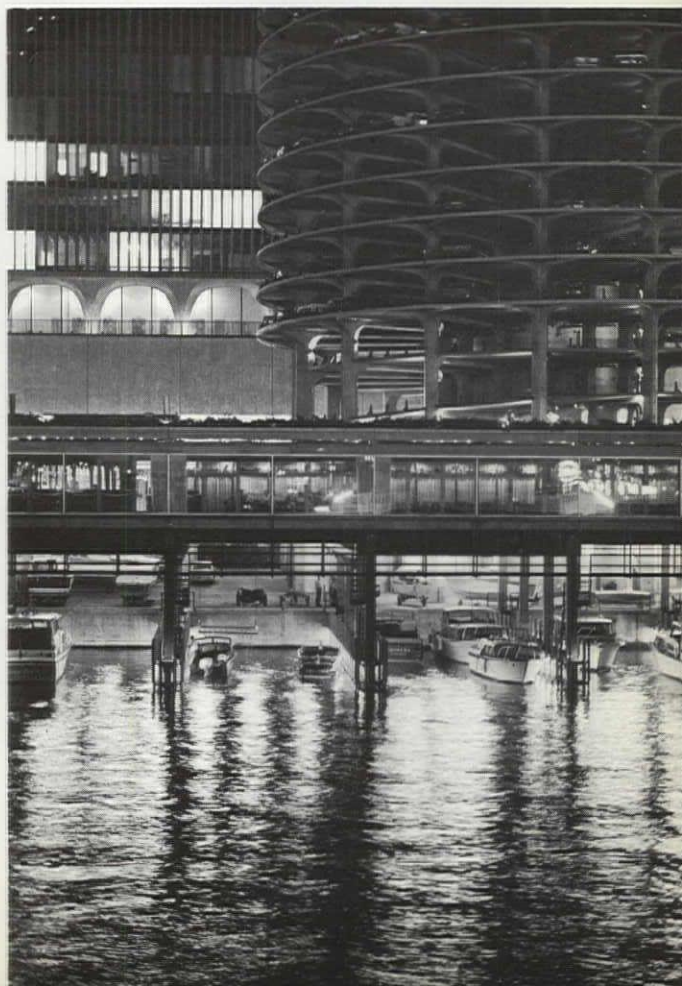
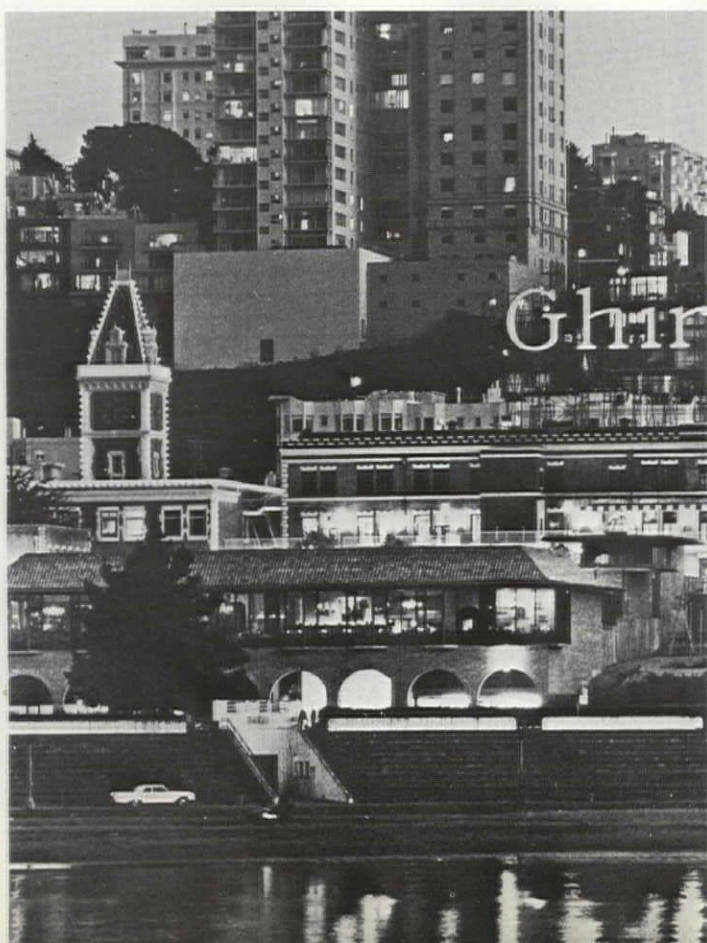
Just because land has been used once for a railroad yard is no reason why it cannot be used again for a sports arena or an office building or an apartment or all three. Land used once for a

store on the lower floors can be used again for a residential hotel. Land used once for a block-size parking garage can also be used for a block-size city park. A school building site can be used again for a football field on the roof.

Now, at last, architects, planners and developers are beginning to correct this multibillion-dollar waste by learning the economics and applying the economics of horizontally stratified land use. They would have stopped the waste sooner had it not been subsidized by today's ubiquitous practice of underassessing and undertaxing underused land. Chicago's Loopside railroad yards and Los Angeles' one-level parking lots would have been built over for multiple use long ago had they been taxed at more nearly their potential multilevel land-use value, instead of a fraction of their actual single-level value.

Twenty years ago, examples of stratified land use were hard to find, except that in nonprestige neighborhoods people "lived above the store." New York had an office building built over a church; Chicago had a church perched on top of an office building. Chicago had the Merchandise Mart and New York had a dozen luxury apartments and the Waldorf-Astoria sitting over the New York Central tracks; New York had one luxury apartment with a small swimming pool and two tennis courts in the basement. Cincinnati had a new hotel terraced on top of a department store.

But now the change is coming with a rush. New York is tearing down its monumental Penn Station to make room for a new below-ground ter-





minal under a new sports arena and a new office building; covering the Pennsylvania yards with an office building wrapped around a terminal warehouse; and getting set to recover the land cost of new schools by letting private builders erect high-rise apartments above them. Washington is wrapping high-rent offices around parking garages that occupy otherwise hard-to-rent interior space and seeking free land for public housing over new expressways. Philadelphia is running pedestrian malls block after block below street level. Bartlesville has a Frank Lloyd Wright tower—half apartments, half offices.

Chicago offers the outstanding example of stratification's potential in Marina City, which puts 40 stories of apartments on top of 20 stories of parking on top of two levels for shopping on top of a marina for 200 pleasure boats, all integrated with 16 floors of offices, a theater, bowling alleys, tennis courts and a swimming pool, thereby setting a precedent that New York, Denver, Pittsburgh and San Francisco have been quick to follow. Hartford has bridged two avenues to create a three-city-block open plaza, two stories up on the roofs of the street-level stores, banks and garages. Apartments in many cities are including swimming pools and other recreation in space that would otherwise be wasted. And most cities are beginning (not always wisely) to require off-street parking under all new high-rise buildings, even in areas where more parking facilities can only serve to bring in more cars and create more congestion.

Examples of multilevel, multipurpose reuse of the land are still too few, but the trend is obvious and the potential for making high densities much pleasanter, more efficient, more economical and more convenient is enormously exciting.

This exciting potential includes the much broader use of many devices, such as:

- arcaded sidewalks to permit wider downtown streets
- decked-over streets to create pedestrian malls between one-floor-up shop windows
- nursery and primary school classrooms, day-care and babysitting centers built into every high-density apartment block (already standard practice in Russia)
- coed bachelor apartment houses with swimming pools and other recreational centers on the

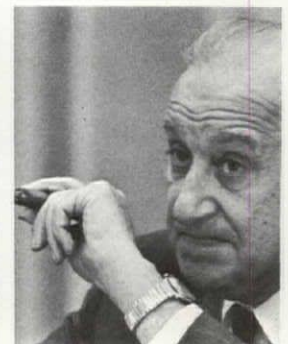
lower floors, to solve that most urgent middle-income urban problem—boy meets girl, girl meets boy

- outdoor play and recreation space high above the streets, either on the rooftops, on an open floor or in interior courts built over street-to-street lower levels
- underground sidewalks running for blocks, as in Rockefeller Center
- ample off-street loading facilities replacing the almost-unrentable ground floor under central-city loft buildings (like New York's now-almost-impassable garment center)
- highways decked over railroad and rapid transit rights-of-way.

Whenever land is put to stratified multipurpose use, human activities should get top priority on light and air; service functions should go underground (as in Victor Gruen's revolutionary plan for rescuing downtown Fort Worth).

The essence of urbanism is variety, and only a vibrant night-and-day "downtown" (i.e., center of urban life) can provide and support the variety of shopping, services, contacts, job opportunities and culture and recreation needed to make the city a magnet, drawing people and business from far and near. Without such a magnet, there is no good-enough reason for people to want to live in the city instead of outside. And without such a magnet, it will be difficult, perhaps impossible, to persuade enough middle-class families to return from the suburbs to the central city.

Downtown variety needs thousands of people to support it; it takes great variety to bring in thousands of people. The bigger the crowds, the greater the variety they can support; the greater the variety, the bigger the crowds. To support this maximum variety, downtown needs people not just 9 to 5, but all day long and far into the night; and it helps to have people living and sleeping close in, as they do in most of the cities whose downtowns have the strongest pull: New York, Chicago, San Francisco, Denver, New Orleans, Washington, Boston and Philadelphia. The more





attractions downtown can offer, the more people will want to live close; the more people who live close, the easier it will be for downtown to support more attractions, night and day.

The more compact downtown is kept, the easier it will be for more people to take advantage of its variety for business and pleasure. The easier downtown is to get to, the less pull it will need to draw people in, and the farther it will pull from.

A strong downtown magnet is well worth spending money to create, if the city has none. It is well worth spending money to preserve and strengthen, if such a magnet is already present and pulling. But there is a limit to how much public money should be spent to protect the real estate investment in pre-Depression buildings, in what used to be—but no longer is—the heart of town.

Downtown is not a location; it is an activity; it is where the action and variety are *today*—not necessarily where the action and variety used to be. New York's Wall Street area has not been a true downtown since before the Civil War. Today it is just a high-rent, one-purpose satellite in an off-center location, miles from the nearest railroad station, bus terminal or airport connection; miles from the shopping center, the amusement center, the cultural center and the fastest-growing commercial center. Likewise, what calls itself downtown Los Angeles has not yet been remade into a true downtown, even though the multimillion-dollar public investment in expressways has made it the easiest-to-reach spot in that hard-to-find-yourself-anywhere metropolis, and even though the multimillion-dollar investment in new office buildings shows promise of making it once again the business center.

Says architect Gruen: "In Los Angeles, if you want to find the best hotel, you don't go downtown. If you want to see a first-run movie, you never go downtown. If you want quality and variety of merchandise, you never shop downtown, for the stores there are just a shabby second-rate shopping center, catering to the low-income areas south and east. Everything connected with the better way of life has moved away. Until just recently, Los Angeles downtown has been supported mostly by the huge civic center, which employs 10,000 people on the public payroll, and by the political lawyers and financial lawyers and the like who feel they must stay close to the seat of government."

As for New York's Wall Street, there are no big stores there, for stores cannot live on the lunch-hour trade; there are almost no restaurants there other than quick lunches, for restaurants cannot prosper on one meal a day. There are no hotels there, no theaters, no movies; even the aquarium is gone; and after 6 p.m. and on weekends there are almost no people.

## Who's going to make the decisions ■ who picks up the check ■

A more chaotic chaos would be hard to dream up than the chaos over what government should do what, and what government should pay for what, to meet our urban needs.

Responsibility is divided horizontally four ways between local, county, state and federal government. It is divided vertically scores and sometimes hundreds of ways, first between the central city government and all the surrounding town and village governments, and then again between all these governments and a still greater proliferation of special tax districts, administrations and authorities—bridge authorities, park authorities, water districts, sewer districts, fire districts, school districts, library districts, garbage districts, hospital districts, etc. Within the local governments, authority is often divided still further, with the school board going its own way to spend more money than anyone else. In Washington the same confusion is repeated. Both the Senate and the House scatter responsibility for urban affairs legislation among half a dozen uncoordinated committees. Fifty different federal agencies are now working on the problem of water supply and water pollution (up from 25 found by the Hoover Commission in 1955). Grants for urban renewal come from one department, grants for roads come from another, grants for pollution control from a third. The Interior Department is spending \$25 million to preserve and beautify the historic heart of Philadelphia, but the millions of dollars needed to cover over the expressway that will cut it off from the river will have to come (or not come) from the Commerce Department.

No city government collects anywhere near enough money of its own to take on the whole job



of coping with all problems that confront it. One reason no city government has enough money is that few states let the cities collect enough taxes, even if they want to. The second reason is that few cities like to collect any more taxes than they have to; they would rather get grants-in-aid from the states or from Washington. The third reason is that most cities are afraid to raise taxes for fear of speeding the exodus of industry. The fourth reason is that the cities' only exclusive revenue source is the property tax, and most states make their cities collect most of their property taxes, not on land (which is undertaxed) but on improvements (which are already so overtaxed that the tax inhibits even some of the most needed improvements). The fifth (and perhaps the biggest) reason is that in this country, local government is stuck with enormous costs that in other countries are paid as a matter of course by the central government, so, paradoxically, the local tax burden in most cities is too high even though the tax take is too low!

One result of keeping city governments poor is that too few city services are good enough. A second is that few suburbs want to be annexed to cities that can't afford good schools and other top-grade services. The third result is the proliferation of special tax districts to pay for services the cities have no money to provide (Los Angeles has 246 of them). Fourth, cities are afraid to raise more taxes even if they could, for fear of driving still more people and businesses to tax havens in the suburbs. Fifth, many industries are moving to suburban tax havens anyhow. Finally, the sixth result is that nobody can tell just who is responsible for what. Schools, for example, are paid for partly by the local school district, partly by the state, a little by Washington, with the state setting the standards, the local authorities picking the teachers and the federal government decreeing the racial balance. Streets and highway costs are split four ways, and the city cannot control how new state and federal highways cut them up. (Says the past president of the AIA, "We rip our cities with motorways and delude ourselves that we are doing it in the name of progress.") Too many in-city expressways are allowed to split neighborhoods like a Chinese Wall; even depressed roadways like Detroit's divide the two sides like a river.

Most of us agree that the political boundaries of our cities are archaic and should be brought in

line with today's realities by annexation, by metropolitan federation or otherwise. All of us agree that the tax limitations and tax policies forced on our cities are archaic and should be corrected.

Too many planners today are planning at cross purposes. Highway planners plan new roads and new interchanges with too little regard for the way they destroy neighborhoods and cut cities to pieces, and how many families they dislocate. City planners plan for urban growth while suburban planners too often plan to block it by large-lot zoning. Suburbs want upper-income families planned in, factory workers planned out, city money planned in, city problems planned out. New York's bridge authority plans \$21,000 per car to bring more cars into a city already half-paralyzed by too many cars which nobody plans to park. San Francisco's Bay area plans a billion-dollar transit system that is sure to force rebuilding everything near each station, but nobody plans what to rebuild. Neighboring Oakland and Berkeley each make great plans so uncoordinated that they leave streets dead-ending at the city



Modern America is a society of consumers, and conspicuous consumption leaves an ugly residue around and through the city—beer cans, rusting cars polluted streams, all seen through a miasma of smog.



line; plans that would put Oakland's heaviest industry right next to Berkeley's waterfront park.

And the minute any plan starts taking shape, speculators too often double its cost by skyrocketing the price of land needed to carry it out. "Good land planning is impossible in the face of land speculation," is the dismal dictum from the International Housing Center in Rotterdam.

Getting anything done about good plans is difficult and discouraging at best. It is doubly difficult and discouraging in urban America, where it is next to impossible for any government or government agency to get the clearly recognized responsibility, authority or money needed to coordinate scores and hundreds of conflicting plans and see that a coordinated plan is carried out.

Perhaps the worst consequence of today's chaos and confusion over what level of government should do what is this: The federal government is being asked to get involved in a lot of local problems that could better be handled locally, while the local governments are being forced to pay a lot of not-really-local costs they cannot afford.

One big reason so many city governments are too poor to pay their full part in making their cities pleasant for people and profitable for business is that, in the US, most of the cost of public education is charged to local government (sometimes the city itself; sometimes the school district). These costs were small enough for local government to carry when few children went beyond eighth grade, and schooling meant mostly the three Rs; they are now far too heavy to charge against the revenues traditionally reserved for local government (i.e., the property tax), and they will soon redouble.

*The United States is almost the only country on earth where the central government does not pay all the costs of free public education.*

So instead of saying that our state and federal governments are helping our local governments pay for schools that are a local responsibility, it might be more correct to say that our local governments are crippling themselves financially to help our central governments pay for schools, whose support should be the responsibility of the central government.

A second reason why our city governments are too poor to make their local services good is that the local property tax is still being tapped for

many of the costs of poverty and many of the costs required by today's much-more-generous spending for poor relief. These costs are set by state and federal policy, and most of us think they should all be paid out of state and federal taxes. Urban poverty is now concentrated in the central cities, so Professor Netzer's research for the Brookings Institution states flatly that "Before the tax differential between cities and suburbs can be erased, the cost of poverty services will have to be taken off the back of the property tax."

Poverty and education are not local problems or local responsibilities in the same sense, or to anything like the same degree, that police and fire protection, water supply, garbage collection, sewage disposal, parks and playgrounds, local streets, off-street parking, suburban commutation and urban mass transportation are local problems and local responsibilities. Half the people on relief in almost every city and half the ward patients in the city hospitals came there from somewhere else; half the children in the city schools came from somewhere else and will grow up to work somewhere else.

The director of the Advisory Commission on Intergovernmental Relations stated it: "Because welfare and educational programs have lost their essentially local character and have acquired critical importance for the well-being of state and nation, they should no longer be left to the vicissitudes of local boundaries, the geographic distribution of taxable properties, the policy leanings of tax assessors, or even the political courage of local governing boards."

Poverty and education now account for more than 60 percent of all local government spending. They cost local government more than all the revenue now provided by the only revenue source reserved for local government—the property tax.

If these not-primarily-local poverty and education costs were all paid by the state and federal governments that call the tune for them, our local governments would have plenty of money of their own to cover all their own, strictly local costs and make all their own local services good without sending their mayors to the state capital or to Washington, hat in hand, to beg for subsidies.

The first rule of good management is to fix responsibility (including financial responsibility) where it belongs. Instead of asking the state and federal governments to subsidize strictly local





costs like parks and sewage disposal, it might be much wiser to ask the state and federal governments to face up to their own primary responsibilities—the states on education, the national government for poverty. With some 60 percent of the property tax load thus removed, cities and counties could pick up the difference and meet their own clearly local responsibilities.

Shifting the basic cost of education to the states would not necessarily require giving the states any more control over local schools than they now exercise, and communities that want better schools than the statewide standard could still afford to supplement what the state was willing to spend.

Living close requires more, rather than less, willingness to cooperate, to share the cost instead of trying to get away with something for nothing at somebody else's expense (usually the taxpayer's). The implications are enormous. For instance:

Industries, utilities and apartments should not expect to hold down their own costs by pouring tons of soot and garbage ash into the air to fall on somebody else's property, for someone else to pay for cleaning up. (In New York, this cleaning bill is officially estimated at \$500 million a year; almost as much *each year* as it would cost to put smoke control devices on all the city's garbage incinerators and factory and utility chimneys.)

Towns and factories should not expect to save money by pouring untreated sewage and waste into our streams for someone else to purify for reuse.

Drivers should not expect to foul up traffic by parking free or cheaply at other taxpayers' expense, on land priced up to \$100 a square foot. As long as motorists can park free, or almost free, on busy streets, how can we expect them to pay by the hour for off-street parking?

If the primary reason for cities is to minimize the handicaps of distance and maximize the advantages of easy access, it is almost unbelievably foolish to subsidize traffic congestion by letting parked cars cut four-lane roadways down to two.

Transit riders should not expect to ride long distances for a fraction of the cost, by getting the city to subsidize most of the fare.\*

(But all of us recognize that as long as commuting to the cities by expressway gets a subsidy running

as high as 10 cents a car-mile, mass transportation will also have to be subsidized. It is much cheaper to subsidize mass transportation than to subsidize driving to work at the present scale.)

Most notoriously, upper-income commuters should not expect the state or federal government to subsidize their flight to the suburbs by paying half the cost of their commutation.

Urban landowners should not be allowed to get rich by getting other taxpayers to pay the cost of all the public facilities without which their land would be good only for market gardening, and not much good at that.

We all sympathize with the cities' money problems; we all agree that the cities need money relief from state and federal governments.

But too many of our cities' money problems are of their own making. Cities would need less money help from above if they could screw up their courage to stop subsidizing obsolescence, blight and sprawl by undertaxing valuable underused land, and subsidizing water waste, traffic jams, air pollution and water pollution by far-below-cost user charges. We could get much better cities much sooner if our cities would just stop subsidizing their worst faults.

The purpose of cities is to maximize the citizens' freedom of choice, but that does not mean citizens should be free to do as they choose at somebody else's expense (specifically, that of other taxpayers). Most of us think the best way to let people decide for themselves what they want and what they don't want is to let the market govern their choice, by letting them pay for it.

People who choose to drive to work should be willing to pay what it costs to park their cars. People who choose to burn their garbage should be willing to pay for adequate smoke-control devices; industries which choose to dump industrial waste into our streams should be willing to pay the cost of first purifying their own waste; landowners who want a neighborhood park which would increase the value of their property should be willing to pay an annual assessment to buy the land. (This neighborhood assessment policy is one big reason why Minneapolis citizens enjoy the best neighborhood park system in America.)

\*Panelist Cruen dissents. Says he: "Mass transit is such an essential city service that it should not just be cheap; it should be free, like the sewers. And this would save all the money now wasted collecting fares, which can run more than a quarter of the total cost of the transit system."



# Getting there isn't half the fun ■ parking problems ■ mass transit ■ commuters

Metropolitan New York will have more than 30 million population within a generation; metropolitan Los Angeles will reach 15 to 20 million.

Small cities can and should be centered around a single high-density hub, but big cities must inevitably be structured or restructured as close-in clusters of high density, radiating from a still-higher-density hub, for obvious and complementary reasons.

There is no reason why low-density land users such as one-floor factories or suburban shopping centers should pay for central-city space. These land users benefit by being near the urban center but need not be right in it, for they are largely self-contained, i.e., they do not need maximum access to supporting services, markets, diversified labor, etc. (Central-city colleges should adapt themselves to central-city land use in compact buildings like those around them.)

There is no reason why assembly-line workers, shopping center customers, etc., should travel all the way downtown 200 times a year. For them it is much more efficient and economical to relocate their destination closer to where they live.

Low-density land use in a maximum-density center defeats the whole purpose of the center. There is no reason why lawyers or admen, for example, should have to waste time crossing a ruralistic college campus to reach a client's office.

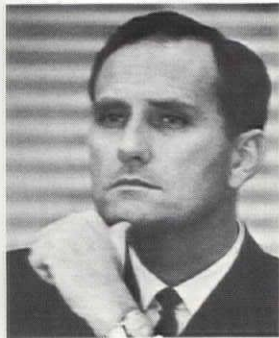
Each of tomorrow's clustered satellites should combine good high-density living at the center with good low-density living between satellites.

Each should make multilevel, multipurpose use of its most central land. Each should have a quick and economical connection to downtown by highway and/or mass transit. Each should include as great a variety of shopping, services and amenities as its area can support (but obviously this local variety will seldom be anywhere near as great as the variety made possible in downtown, which has the whole metropolitan area to draw on and serve).

Recognizing the need of high-density cluster development close in, Paris is planning six new suburban centers, each with 250,000 to 400,000 population, with a strong regional government overall. This French scheme of high-density subcenters close in is almost the direct antithesis of the not-too-successful British attempt to grow low-density, garden city "new towns" far out beyond the green belt. It follows quite closely the precedent set in Sweden, where Stockholm has already built two close-in model satellites, Vällingby and Farsta, both within nine miles of the center. Now New York's Regional Plan proposes rationalizing the metropolitan sprawl around 12 suburban subcenters, each of which will soon have a million people living within a 10 mile radius.

Sometimes whole new towns like Baltimore's Columbia and Washington's Reston will be needed. More often, existing centers (like Newark, New Brunswick, New Rochelle, Yonkers, Jamaica and White Plains around New York) will have to provide the nucleus for tomorrow's clustering satellites, for the costs of starting a brand new town are staggering. People hesitate to move there until jobs and shops are ready; shops and jobs try to wait for people; and the developer of a medium-size town may well have to sink \$60 million before he turns his first profit.

Brand new towns can profit by one great advantage: They can be coherently planned to offer









better living in tomorrow's world than older communities handicapped by having "just growed" to meet yesterday's needs.

But—to those who would sponsor new towns or new suburban centers, we offer these three bits of caution and criticism:

- Too many of today's new towns are too far out to give people easy access to the variety only the central city can provide. And each passing year makes it harder and costlier to assemble a big enough acreage close enough in.

- Too many (if not all) of today's new towns are planned just to siphon off what is best in the central city, leaving behind all the problems like poverty and segregation. The greater the success achieved in this escapist maneuver, the greater the danger that the new towns will destroy themselves, by destroying the central city on which they must all depend for many essential services and attractions.

- Too many of today's new centers are planned too small, and will soon be a mess. For example, the Northland Shopping Center on Detroit's city line was such an outstanding success that what was planned for a million square feet of stores is now 1.4 million, and around it has grown a whole new urban complex of high-density apartments, hotels, laboratories, restaurants and even Detroit's only legitimate summer theater—all requiring parking and sitting in a lake of parking five times as big as the building it surrounds. People living in the high-rise apartments can see the shopping center nearby, but they cannot get there on foot because they find it unbearable to walk through these vast parking areas and cross the multiline highways constructed to make the center accessible.

This development now sprawls over 450 acres. It could have been achieved with much greater convenience and economy on a hundred acres, if only the planners of Northland could have foreseen what a magnet their model shopping center would be and had had the means to implement that foresight.

As for new cities (as distinct from new towns), all of us think they are a fine idea, for there is a limit to how much population today's metropolitan areas can accommodate pleasantly, and how much industry they can accommodate efficiently. When, as and if a new city is built, we hope it will escape all the mistakes our older cities have made. But the hard fact is that no new community big enough to be called a city is being built and only one is being planned; and Bill Levitt, who ought to know, says it will require at least a billion dollars to finance the development of a new city of 100,000 population.

Big old cities like New York, Philadelphia, Boston and Chicago, tightly structured by railroads and mass transit, find it hard and perhaps impos-

sible to adjust to the street parking needs of the automobile. Whether New York elects to spend another \$21,000 per car for new approaches to bring more cars into lower Manhattan, there is no room on the streets for more cars, and no parking space off the streets for them, and the more people who come in by car, the more people who decide just to stay out to avoid the congestion.

Conversely, new cities, loosely structured by the automobile, will find it hard and perhaps impossible to adjust to reliance on mass transit, which is efficient only if many thousands of people want to get to a reasonably small number of destinations from a reasonably small number of points of origin. Los Angeles shelved its mass-transit plans when a traffic survey showed 230 points of destination, some of them spread over a three-mile diameter and few of them important enough to justify track-bound transportation to reach them.

In Washington, Gruen's transit survey for the National Capital Planning Commission projected a need of first restructuring the District around a dozen new urban subcenters at the major stations of the proposed transit system, each incorporating a bus terminal and a big parking garage to make the station an easy point of interchange from other means of transportation, and each providing the incentive for a 150-acre high-density development incorporating housing, retailing, cultural entertainment and employment facilities.

Meanwhile, the Bay area around San Francisco is going ahead regardless, with an \$800 million, 75-mile mass transit project that could have some startling results. For one thing, it will give landowners around the 30 stations a windfall profit of more than \$800 million, i.e., an unearned increment that could (but won't) be recaptured to pay





off the entire cost of the system. (Most of the cost of the Erie Canal 140 years ago was paid off by a special tax on the lands whose value it multiplied.)

BART will also start a building boom around each station that could, for example, rebuild San Francisco's Market Street 30 stories high, with something like an eight-square-block platform providing direct access to 2 million square feet of office space and shopping. (Nothing so coherent will happen, because no one is planning for it.)

Some kind of subcentered restructuring will probably be necessary anyhow to make big cities livable as they redouble their population, but it is foolish to think mass transit can replace the private car (especially on the periphery), or that any single means of transportation can meet all the needs of tomorrow's big cities. The Bay area transit system is not expected to absorb more than 10 percent of the trips now taken by auto. Says economist Wheaton: "People accustomed to the convenience of driving direct to their destination will take a lot of persuading before they will walk to a bus, bus to rail transit, ride to their station, and then bus and finally walk again to where they want to get." But others cite examples in New York, Chicago and Philadelphia where better mass transportation has brought thousands of commuters back to the rails.

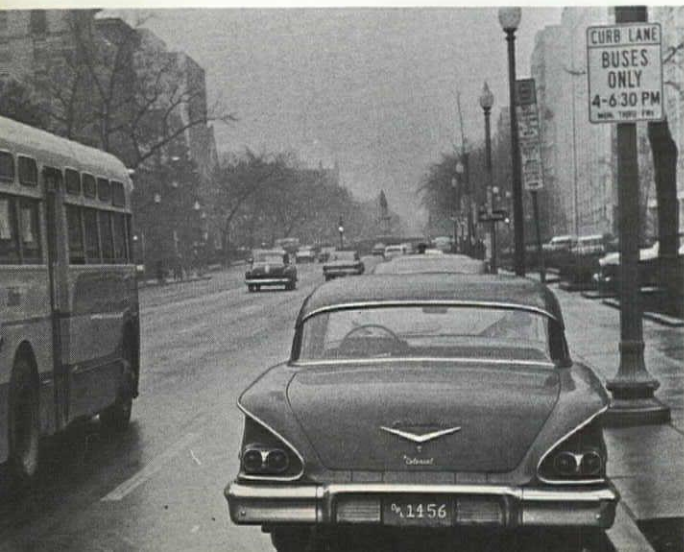
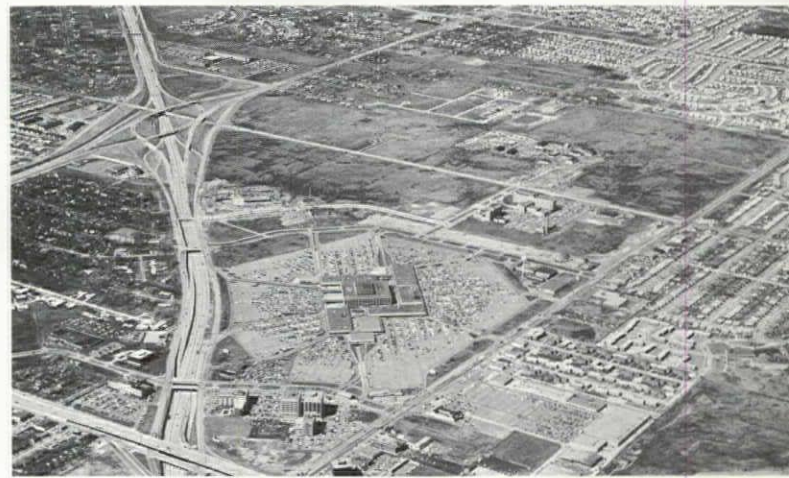
Moving jobs to the outskirts is no cure-all for highway congestion in commuter hours, for there is no use expecting people to make nearness to their jobs the No. 1 consideration in choosing where to live. In New York thousands of commuters from Westchester ride the subway from Grand Central to Wall Street, passing on their way thousands of commuters from Staten Island and Brooklyn who work near Grand Central. In Los Angeles, thousands from the valley jam the freeways on their way to work in Orange County and vice versa. Almost everywhere, morning and evening rush hours find some freeways traffic-jammed in both directions.

The bigger the city, the bigger the cost of putting primary reliance on automobiles to handle the commuter rush. A three-lane expressway, costing up to \$95 million a mile, can carry no more

workers to their jobs in an hour than a single seven-car train, and New York's estimate of \$21,000 for the capital cost for bringing in one more commuter car is exceeded by Washington's \$23,000. Neither figure includes any money for adding more parking facilities, though each added mile of expressways requires seven times as much space to park the cars it brings in. Already parking lots and local streets give over to the automobile 54 percent of the downtown area in Atlanta, 50 percent in Los Angeles, 40 percent in Boston, 44 percent in Denver.

Sooner or later—and we hope sooner—most big cities will have to work out their own new balanced solution to their traffic and transportation problems. This solution will almost certainly involve some return to much more use of man's original means of locomotion: walking. It will also involve much more reliance on high-speed vertical transportation, and wide acceptance of moving sidewalks and the revolutionary new low-cost systems for automated mass transit that are already well past the design stage. It will also reflect some equally revolutionary but still visionary changes in cars and trucks.

In many cities, traffic and transportation will probably entail keeping cars off some of the busiest streets and reserving them for pedestrians, as in Gruen's very successful reshaping of downtown Fresno, California.



The suburban shopping center—mecca for the affluent society—can be a nice place to visit, but it's literally hell on wheels getting there. Some communities try to cope with cars by arbitrarily excluding them from downtown and creating "pedestrian malls." Others try banning on-street parking—except for the exceptions.





# The upside-down urban tax structure ■ low on land ■ too high on improvements

One part of the realty tax is the tax on improvements. The other is the tax on the unimproved value of the land on which the improvement stands. It would be hard to imagine two taxes whose impacts on urban development are more different.

Heavy taxes on improvements are bound to discourage, delay or even deter owners from making improvements; the bigger the improvement tax, the smaller the owner's incentive to spend good money to improve his property, instead of investing the money somewhere else or putting it to some other use.

Contrariwise, heavy taxes on unimproved land values (more correctly, site values, or perhaps still more correctly, *location* values) tend to encourage, speed or sometimes even compel improvements. The bigger the land tax, the bigger the leverage on owners of underused property to do something to increase its earning power—or sell it to someone who will.

Heavy taxes on improvements are bound to lower the supply and raise the cost and rent for improvements, but land taxes heavy enough to bring more land on the market are bound to lower the price of land.

The dualism of property was recognized by the classical economists, and few students now question the conclusion reached long ago by Turgot and Adam Smith that taxes on unimproved land values cannot be passed on (except under rent control, which survives only in New York State), so it is nonsense to suggest that heavier taxes on the land under slum properties would make the poor people who live in slum buildings pay more rent.

Almost all of us agree with the conclusion reached by Dr. Netzer's research for the Brookings Institution that "the present property tax tends to discourage investment in new construction and rehabilitation. A change to the site-value tax will encourage building and rehabilitation. . . . Heavy taxation of land values would increase

substantially the holding costs of land, and thus encourage more intensive utilization." More than two-thirds of today's property tax now falls on the improvement, less than one-third on the land. So shifting the whole weight of a 3 percent-of-true-value property level to the site would require a 10 percent rate on the land to produce the same revenue.

Nothing less than a 10 percent rate would be adequate to make the owners of underused land release it when it is needed for more intensive use, instead of holding it off the market waiting for higher and higher prices. And with the federal government absorbing more than half the local levy as a tax deduction, and the present euphoric expectation that land prices will continue to soar 15 percent a year compounded, many believe that the land-tax rate would have to be even higher than 10 percent to be effective.

If we want private enterprise to make its maximum contribution to rebuilding our cities bigger and better, it is foolish to penalize and discourage that contribution by overtaxing improvements. As all bankers can figure, but too few tax men seem to realize, a 3 percent-of-true-value tax on improvements actually costs improvers almost as much as a 50 percent sales tax paid off on the installment plan over 60 years at 5 percent interest. And it should be obvious to everybody that, in an





economy where every business decision must first be checked against its tax consequences, the equivalent of a 50 percent sales tax can be a mighty powerful and effective deterrent.

An improvement tax like Boston's 6.1 percent-of-true-value is the installment plan equivalent of a 10 percent sales tax, and such a levy can make improvements so unprofitable that even prime building sites will have a negative value (i.e., be worth less than nothing). So the only way Boston could induce Prudential Insurance to pay \$3.7 million for 28 prime Back Bay acres for Prudential Center was to cut the maximum tax on new buildings to about half the tax on existing structures—a concession worth much more than \$3.7 million to Prudential. No other industry's products—except liquor and tobacco—are taxed as heavily as the building industry's product.

If we want to get rid of slums, it is foolish to subsidize them by assessing and taxing slum properties only half or a third as heavily as good housing with the same market value (i.e., by tying the land assessment to the building assessment and assessing the land as almost worthless because the building on it is almost worthless, instead of assessing the land high because the location could be valuable if put to a better use). In the words of New York City's 1961 adviser on housing and urban renewal: "No amount of code enforcement or tenement rehabilitation can keep pace with slum formation unless and until the profit is taken out of slums by taxation." Almost all of us agree with the Joint Economic Committee of Congress, which found that "state and local governments have failed to make maximum use of the enormous potential inherent in the property tax for either the prevention or the cure of poor housing and other blight conditions. In fact, since today's property tax is based mostly on the value of the improvements, those who permit their property to deteriorate, reducing area property values, are rewarded with lower property taxes. Landlords who enhance the value of their property have their assessments raised."

If we want to speed up the replacement of obsolete buildings such as now pre-empt most of the land in and around most central business dis-

tricts, it is foolish to keep them standing and profitable by taxing not only the aging buildings but also the land under them, less and less as the buildings get older and more and more rundown. Tract-by-tract research conducted by the Urban Land Institute, with the cooperation of the Milwaukee tax commissioner, showed that it would be profitable for private enterprise, *without any subsidy*, to tear down and replace practically all the obsolete buildings downtown if the property tax were all on the valuable land they cover, so the tax burden on the replacement would not be many times heavier than the tax burden on the relic. Says Professor Gaffney, who conducted the research: "Today's property-tax practice is slowing down the replacement of obsolete structures by 20 to 30 years."

One very big reason so many cities are in trouble downtown is that they "grew" like Topsy without, at the same time, cleaning out the decay of age at the center.

The horses and carriages of our grandfather's day are gone with the wind, along with the cobblestone streets, trolley cars, steam trains and coal stoves, but most of the buildings our grandfathers knew are still standing today. Nearly a third of all the people of Manhattan still live in railroad flats that were banned before 1900, and these slums are so underassessed and undertaxed that it has cost an average of \$486,000 an acre to buy them up for demolition!

Too often, renewal has come too late. Too many cities have let old buildings stand so long that their neighborhood has died around them. St. Louis is not the only city whose core is ringed with rubble because it waited too long for the bulldozer to force a renewal that should have gone on year by year and piece by piece while the area was still alive.

If we want to minimize suburban sprawl and stop blighting the countryside with premature subdivision, it is foolish to assess and tax pressure to release their land at a reasonable price when it is needed for orderly urban growth. Too many assessors seem to confuse the property tax with the income tax; they assess valuable land far below its asking price as long as it is producing no income. On Long Island, idle land priced at \$20,000 an acre is commonly assessed as low as \$500 an acre.

If we want to lessen the cost of slum clearance, it is almost unbelievably foolish to inflate the price of land needed for urban renewal by undertaxation. Once again, consider how New York has had to pay an average of \$486,000 an acre for the slum properties condemned and demolished for





public housing. One reason for these high prices is the low tax these properties had been paying. At land costs like that, how can anyone expect private enterprise to provide good housing for low- or even middle-class families without enormous subsidies?

If we want to check the land-price inflation that threatens to price good new homes out of the market, it is foolish to subsidize that inflation by assessing and taxing land lightly, and then penalize the homebuyer who has just paid too much for his land, by taxing him too much on his house. Since 1954, while all other homebuilding costs have been held steady or actually lowered, land costs have been soaring 15 percent a year compounded, and before the 1966 tight-money crisis, a three-to-one majority of homebuilders voted this their most urgent problem.

Likewise, if we want to make low-density living possible closer to downtown, it is foolish to subsidize the waste of central-city land by undertaxation. The Urban Land Institute research referred to before showed that full utilization of the land within three or four miles of the center of Milwaukee would satisfy most of the demand that is now proliferating sprawl, thereby making land available for low density less than half as far out as now.

If we want to hold down the cost of municipal services, it is foolish to undertax underused urban land and so encourage sprawl right inside the city limits, for almost all these costs—water supply, sewage disposal, garbage collection, streets, fire protection, police protection, as well as gas, electricity, telephone connections and other utilities—are multiplied by distance.

In brief, there is hardly an urban problem today that is not aggravated by today's practice of undertaxing land and overtaxing improvements.

State governments must take much of the blame for the undertaxation of land and the overtaxation of improvements, for most states presently compel cities to apply the same tax rate to land as to improvements, and most states condone the practice of assessing land half as heavily as improvements.

The states must take full responsibility for the shocking proliferation of suburban tax shelters, where the tax rate is sometimes only one-tenth as high as the city rate because the suburbs can get away with bringing in industry while keeping out industrial workers with children to educate.

Local assessment inequalities are made worse by state-sponsored exemptions. These include the limit of a few hundred dollars which some states impose on the assessment of any land that is farmed (even when it may be held for development at many thousands of dollars per acre), and the homestead, veterans' and senior citizens' exemptions, by which some state governments

have sought to subsidize favored voters at the expense of local tax revenues. The limit on homestead exemptions is usually set at or below \$5,000 of assessed value, but where assessments run to only 25 percent of market value, this means that a home worth \$20,000 may be completely tax-exempt.

Federal tax policies (or practices) likewise make urban problems worse:

- Speculative land profits are taxed not more than half as heavily as ordinary income, *provided* the landowner does nothing to improve his property for sale (i.e., provided he does nothing to earn his profit).
- The 25 percent capital-gains tax makes land assembly for large-scale development difficult, for a locked-in owner can often mortgage his property for almost as much as he could realize on a sale after deducting the gains tax.
- Letting each new owner depreciate the same building all over again is one more serious deterrent to replacement. The older and more decrepit





the building, the shorter its life expectancy for tax purposes, and the bigger the depreciation the new owner can take.

- Shoddy construction is encouraged by the accelerated depreciation-allowance which makes it advantageous for the builder to sell out within seven years.
- Neighborhood assessments are denied the income tax deductibility enjoyed by local taxes. This is just about the most serious deterrent to neighborhood financing of neighborhood improvements.
- Federal corporation and income taxes dilute the impact of the property tax by letting corporations deduct 52 percent of the local levy from their federal tax bill, and letting individuals deduct up to 80 percent. (On the good side, it should be recorded that this helps make the tax on improvements tolerable by cutting its impact in half.)

But on the bad side, it should also be recorded that it helps inflate the price of land, by absorbing more than half the tax cost of holding idle land off the market.

With the federal government absorbing 50 percent of the local land tax, and assessors assessing idle land at not more than 20 percent instead of the theoretical 100 percent, the effective yearly tax cost of holding a \$100,000 tract off the market is not the \$3,000 it is supposed to be but a quite negligible \$300.

Good living in the city should be inexpensive, because there are so many people to share the cost of the multiplicity of community services, amenities and attractions that the city offers.

Actually city living is more expensive than country living, and one big reason is that we let landowners capitalize all the economics of urban cost-sharing for their private profit. The greater

the saving achieved, the more the landowner can add to his ground rent. Of this, the simplest example is cited by Winston Churchill: When London abolished the penny toll which workers had to pay for crossing the Thames to reach their jobs, rents on the workers' tenements were promptly raised a shilling (12 pence) a week.

By definition, the unimproved value of urban and suburban land derives, not from anything any past or present owner has done to improve it but from an enormous investment of other people's money to create the community around or near it. Some of this investment is made by private enterprise; some is made by those who support hospitals, museums, colleges, etc.; much of it is made by government.

No matter who makes the investment, the landowner cashes in on it. When New York extended the subway beyond Spuyten Duyvil, land prices in Riverdale zoomed upward. When taxpayers spent \$350 million to bridge the Narrows to Staten Island, landowners there got a much-bigger-than-\$350-million windfall. Spending \$800 million taxpayer dollars for Bay area rapid transit will almost certainly enrich landowners around its stations by at least an equal amount.

For a smaller-scale example, consider the prediction by the New York Regional Planning Association that taxpayers will have to invest \$16,850 in highways, schools, water, sewers, etc. for each family added to the metropolitan population. Change that "per family" to read "per lot" and it becomes clear that *other* taxpayers will have to invest \$16,850 in community facilities to enable a landowner to sell his suburban lot for \$8,000.

What all this adds up to is that citizens and suburbanites must pay twice over for all their community facilities. First they pay for them on their tax bills, their charitable donations or their business investments. Then they pay for them all over again, in higher ground rents to landowners who have been allowed to capitalize all this investment of other people's money into the price of their land.

Under today's tax and assessment policies, the owners of idle and underused urban and subur-





ban land make only a minimum contribution to the huge community investment needed to make their land reachable, livable and richly salable. The less they do to improve their property and the longer they keep it idle or underused, the less they are taxed to help pay for the community facilities needed to multiply its value. Said Winston Churchill: "The landowner's profit is often in direct proportion to the disservice he does the community by holding his land off the market until other people's investment has multiplied its price."

Many municipal costs are multiplied by distance, and correspondingly reduced by reducing distance. Consider, for example, water distribution. If demand for water doubles in a fixed area, all we need is to expand pipe diameters. But if demand doubles by doubling the service area, we must double our pipe mileage; increase the cross-section of our old system at its base to transmit the extra load to the new extension; increase pressure at the load center to maintain pressure at the fringes; and increase the allowance for peaking.

Or consider the far more urgent problem of streets and highways, which now cost local taxpayers more than any other item except schools. The greater the sprawl, the more miles of streets needed to get from A to B, and the more cars that will have to travel more miles along those streets. Fewer people can get where they want to go on foot, and fewer can get to and from where they want to be by mass transit. Residential sprawl does not take cars out of the traffic centers; on the contrary, it brings in more. Sprawl is not a flight from traffic congestion but its principal cause.

Multipurpose high density can even out the peaks and valleys of demand and utilize municipal services seven days a week around the clock; conversely, specialized areas waste these costly services most of the time. For example, New York's Lincoln Center for the Performing Arts comes to life only from 8 p.m. to midnight and during matinees; New York's Wall Street area is alive only from 9 a.m. to 6 p.m. five days a week. The rest of the time it is so dead that the girl arrested for posing nude on the Sabbath on the steps of J. P. Morgan was acquitted because there was no one within blocks whose morals could be corrupted!

With high-density stratification, private enterprise seeking tenants and customers can be expected to absorb many costs that are otherwise borne by the taxpayers. For example, private enterprise pays *all* the costs of transportation and utility services above the street level (a cost that runs close to a third of the first cost of high-rise construction); and private enterprise is beginning to find it profitable to offer built-in amenities and recreation (swimming pools, etc.) that might otherwise have to be provided by additional facilities in public parks.

High-density stratification often permits major savings through round-the-clock use of facilities. For example, Chicago's Marina City owes much of its \$200,000-a-year garage revenue to triple use of part of its parking space for apartment tenants by night, for business tenants by day, for bowling alley and theater patrons in the evening.

The renaissance that saved Pittsburgh started when its business and political leaders decided their city was worth saving and took on the job of saving it. The first thing they did was tackle a local problem no one else could correct for them—the air pollution that had made Pittsburgh almost synonymous with smoke.

The same kind of civic leadership made Fresno the model of what small cities can do to revitalize their downtown—a model which is bringing visitors from all over the world to study, praise and imitate. The same kind of civic leadership inspired (but alas could not execute) the plan for saving downtown Fort Worth, and the same kind

Urban land is too valuable to underuse part of the time—mostly after dark, like Times Square, or only in the daytime, like Wall Street. Cities can afford playgrounds, like New York's Riis Plaza or Longfellow Park in Minneapolis. But they can't afford abuses—like turning expensive, close-in land into graveyards for people or cars.





of civic leadership explains the award-winning project for clearing the oil derricks out of downtown Oklahoma City to create the most beautiful, the most practical and the most fun downtown in mid-America.

Some of our cities' problems may be too big for the cities to meet without outside help (most specifically, the problem of poverty, which is a national rather than a city problem); but most of our cities' problems are too small and too local for any outsider to take on. Consider, for example, the first six things the slum dwellers in Pittsburgh's notorious Hill District asked the Redevelopment Agency to get done for them. They requested that the city:

- collect our garbage
- repair our streets
- put in more street lights
- tear down 357 vacant and boarded-up buildings as a neighborhood nuisance
- provide safe playgrounds for our children (perhaps on the boarded-up building sites)
- give us a voice in determining what is to be done with our own neighborhood instead of having all the decisions made for us by somebody else—perhaps somebody in Washington.

Only the city itself can clean the streets. Only the city can stop the multimillion-dollar waste of free-for-all air pollution (much of it from the city's own chimneys). Only the city can stop the multimillion-dollar waste of make-work and conflicting building codes—a waste that adds at least 10 percent to the cost of building and rebuilding. Only the city can ease downtown street congestion by coordinating traffic lights, designating one-way streets, requiring all street and under-street repairs to be done at night, banning on-street parking and otherwise discouraging the downtown use of private cars. Only the city can lower the foolish minimum ceiling height for parking garages to cut their cost and maximize their car capacity per cubic foot. Only the city can make streets and parks safe at night. Only the city can end the scandalous and underassessment and undertaxation of slums and other ill-used and underused land.

There are hundreds of other small things our cities could and should be doing to help themselves without waiting for outside help—small things whose cost could be proportionately small, but whose cumulative value could be very big indeed.

Everybody talks about the need for open space, but most of the talk is about special tax concessions to help farmers keep on farming on close-in land that has become too expensive for farming, or to help golfers keep on golfing on close-in land that has become too expensive for private links.

Some of us think farms and private golf links belong a few miles farther out, where thousands

of people won't have to drive added miles past their "no trespassing" signs on their way to work.

All of us support the movement for wildlife preserves, state parks, national seashores, etc., but all of us wish there could be more talk, more action, and more private and public spending for the kind of *close-in* urban open space without which only the rich can enjoy the good life in our cities.

The open space our cities need most of not just something green and shady to look at. The open space our cities need most is open space people can use and have fun in, and its use-value will depend on how many people can use it how much, how often, how safely and how near home.

Every neighborhood needs its own neighborhood park and playgrounds. The denser the neighborhood's population, the greater its need for nearby outdoor recreation; and the poorer the neighborhood, the more urgent this need is apt to grow. A dozen small parks close to home can often be more important than one big park too far away.

Neighborhood parks must always be tailored to neighborhood needs. One that would be fine in a high-class residential area might be no good at all in the slum. Good neighborhood parks need not be expensive to equip or maintain; imagination and clear thinking about what kind of park facilities the neighborhood needs can sometimes make a small budget go a long way toward both first cost and maintenance cost. New York is budgeting only \$37,500 apiece for 200 small new parks in crowded areas, most of them on tax-defaulted lots the city already owns.

Neighborhood parks are beneficial in other ways than merely providing recreational space close at hand. They are also good indeed for neighborhood property values, so property owners petitioned for one and volunteered to finance its first cost by a special neighborhood assessment at so much per front-foot. (This plan may need some subsidy in the poorest sections.)

But neighborhood parks and playgrounds can meet only part of the urban need for outdoor recreation. There are many activities and enjoyments for which only the bigger central parks can provide the needed space and draw the crowds needed to support them. For example, only a big central park can support frequent outdoor concerts or a zoo or a large skating rink or space enough for riding and hiking, etc.

For city children, safe outdoor space to play in is almost as important as good schools to learn in,



but most cities spend 50 times as much for schools as for parks and playgrounds. New York, for example, allocates only seven-tenths of 1 percent of its budget to parks and recreation.

As for city adults, those who can afford it show how much they want open space and open space recreation by moving to the suburbs or by jamming the expressways for their weekend exodus; either way, they spend far more money to get to open space and open space recreation than it would cost to provide good open space and open space recreation close at hand right inside the city—private open space for those who can afford to be exclusive, public open space and recreation for everybody. In a recent survey in Milwaukee, most people put better recreation facilities in that city's fine park system first on their list of desired civic improvements.

We all agree with the director of the Institute of Public Administration that "Instead of spending millions of tax dollars for highways to help people escape from the city to find outdoor recreation, we should pay more attention to providing recreational facilities inside the city." In San Francisco, enormous numbers of suburbanites drive *into* the city to enjoy the city's parks and beaches; some say that as many suburbanites drive in as citizens drive out for recreation. More cities should study and follow San Francisco's lead.

New York could serve as a good example of what needs to be done (and has recently begun doing something about it). New York has more waterfront than any other city in the world—540 miles, much of it city-owned, with 35 miles of beaches—but the city pours in nearly half the untreated sewage that makes almost all its waters unsafe for swimming and even kills off most of the fish. New York has 37,750 acres of park land, most of it underdeveloped and way out where few people can enjoy it. Says the former park commissioner: "Most of the people of New York have to get their recreation on vacant lots that are stinking with garbage and littered with old cars and mattresses. The ball fields our kids have to play in are ridiculous and disgraceful."

Until last year, New York has wasted most of its billion-dollar-plus investment in Central Park; says the former president of the AIA: "Central Park has been a big wasteful space that people couldn't use, a beautiful dead spot in the daytime and a dangerous place at night." New Yorkers still get less use and fun out of Central Park's 846 acres than the Danes get out of 22 acres in Copenhagen's Tivoli Gardens, among whose trees and flowers are six big restaurants, an open-air theater, a dance hall, two bandstands providing almost continuous afternoon and evening music, a lake and an amusement park complete with miniature railroad, etc.

## The urban ghetto ■ black ■ white ■ with a lot of gray areas

Racial segregation is not a local problem; it is a national problem. In origin it is not an urban problem, but it has been dumped on our cities to solve, with nearly 95 percent of all Negroes outside the South urbanized. It is now many cities' No. 1 problem, and one city governments cannot cure without many kinds of help, including all-out cooperation from state and national governments. It is a problem nobody can solve until millions of people, both white and nonwhite, understand it better and pitch in to play their own large or small part in the solution.

And unless somebody solves it, many great cities like Washington, Philadelphia, Detroit, Baltimore and Chicago may find themselves deserted by the white middle-class and abandoned (except for small enclaves of luxury housing for the rich) to the nonwhite poor, trapped in the slums by their poverty, and the nonwhite middle-class, trapped on the border of the slums by segregation and the lily-white suburbs' refusal to let them in. Already Washington has become 63 percent nonwhite, Detroit 39 percent, St. Louis 37 percent, Philadelphia 30 percent, Chicago 30 percent. Between 1950 and 1960, as everyone knows, Washington offset a growth of 181,000 Negroes with a loss of 226,000 whites; Chicago, a growth of 321,000 Negroes with a loss of 399,000 whites; New York, a growth of some 700,000 Negroes and Puerto Ricans with a loss of some 800,000 other whites.

In Russia the government builds all the new apartments around big hollow courts that provide



safe play space for the tenant's children (as well as nursery schools and shared baby-sitting and day-care facilities). In America it is hard to find examples where the open space around new high-rise apartments is widely used.

Sooner or later, as urban population swells, the logistics of moving millions of people out of the city for weekend outdoor enjoyment will become intolerably costly. It is high time to start giving much more thought and spending much more money to make our cities good places for outdoor as well as indoor living, instead of devoting so much thought and money to getting out of them.

We need to develop a whole new urban package that will give people with children what they need inside the city, instead of making parents who can afford to go move out. And we need to give much more thought to making city life pleasant and rewarding for the poor, who are now pouring into our cities, not so much because they want to but because they have no other place to go for jobs.

Racial segregation is not a single problem but the sum of many different ones—a different community problem for almost every city and neighborhood, a different personal problem for every segregated nonwhite. Different as all these are, they are all parts of two basic problems—one almost new and seething with new bitterness, the other old and deep rooted in old prejudices.

One problem is the plight of the 5 million-odd urban nonwhites who are almost desperately poor—the plight of the 45 percent of all Negroes the 1960 census found living in “deteriorating” or “delapidated” housing.

The other problem is the frustration of the other 5 million-odd nonwhites who are no longer poor—5 million-odd urban nonwhites who, against great handicaps, have earned their way up to family incomes over \$6,000 (up from 4.74 million indicated by census in 1963). These million nonwhites have adjusted their lives to middle-class aspirations but still find themselves denied middle-class acceptance and status.

These two very different problems call for equally different housing solutions, money solutions, opportunity solutions, timing solutions—

and nothing but more confusion can result from confusing the two.

It is just plain nonsense to think all nonwhites are alike and to act as though their problems could be solved in the same way. The fact is that there are more differences among nonwhites than among whites because on top of all their other differences is superimposed a wide range of difference in how many white ancestors they have and what social, educational and financial advantages this white blood may have given their grandfathers. Caste lines among nonwhites are at least as strong as among whites, not just in lands like Haiti and Jamaica whose population is nearly 100 percent nonwhite but in this country too.

College-educated nonwhites (and there are more Negroes in US colleges today than white men in English universities) have the same aspirations as college-educated whites, and have good reasons for feeling they should be accepted for what they are, instead of being rejected for what their great-grandfathers were. Middle-class nonwhites (and nonwhites have to work a lot harder to achieve middle-class incomes and values) have the same aspirations as middle-class whites, only more so. After long years of frustration they are more eager for status; market surveys show that they spend more of their incomes to be nicely dressed, spend more for “personal care,” buy more expensive shoes, spend more for their home entertainment equipment. They limit their families to fewer children, work harder on their lawns and planting, and seem to have made good neighbors in every tract where they are accepted, from Levittown on the East Coast to Eichler on the West.

These people do not need special relief or special subsidies. They do not need special schools for their children, for their children have little trouble keeping up with white classmates. What they need now is recognition of their past achievements, freer access to better-paying jobs (Negro incomes still average 47 percent lower than white), a wider door to escape their present segregation on the edges of the nonwhite slums, and a better chance for further progress toward assimilation into the rest of our social and economic life.

These nonwhites moving up have little in common with the poor nonwhites sunk in the slums except their color and their common resentment of segregation. They have so little in common that when New York tried to speed desegregation by moving poor Negroes out of Harlem's slums into new public housing in middle-class areas, the middle-class Negro owners of nearby homes protested as angrily as their white neighbors.





Most of the Negroes now crowded into urban slums are newly arrived fugitives from the farm mechanization that wiped out a million field hands' jobs in the South, and sent them fleeing to the cities to seek jobs for which they had neither skills nor training. On top of this came a mass migration of 700,000 penniless Puerto Ricans, mostly to New York, and a mass migration of Mexican peons that made Los Angeles the world's sixth largest Spanish-speaking city. For this huge and sudden influx, the cities—north, south, east and west—were completely unprepared, without jobs, housing or schools ready to receive them.

The newcomers were equally unprepared for urban living. Old established urban Negroes welcomed the Negro newcomers with little enthusiasm, and the Spanish-speaking newcomers with even less. Poor whites greeted them with open bitterness and hostility, for they threatened their low-pay unskilled-labor employment just at a time when automation was eliminating millions of cheap-labor jobs,

*Poor nonwhites need much better housing*, but the sad fact is that as long as there are 6 million fewer decent homes in the urban housing inventory than there are urban families in need of homes, it is inevitable that 6 million urban families will have to live crowded into substandard units. Most of these 6 million victims of the urban housing shortage are bound to be the poor, and a disproportionate number of the very poor are nonwhite.

So we agree with HUD Secretary Weaver that the best answer to the nonwhite slum problem and the housing segregation problem is to build enough good housing so there will be a good home available for everyone. Some of this new housing will have to include building new low-rent units, but most of the low-rent need could be met better by trickle-down work, just as the auto needs of low-income families are better met by second-hand cars than by cheap new models. With today's land costs, today's building-trades wages and today's code and labor restrictions, private enterprise cannot hope to build good enough new homes cheaply enough for poor people to buy or rent without big subsidies. Two of the wisest contributions government could make to better housing for the poor would be to help finance the purchase and resale of sound used dwellings, and to help finance low-cost modernization.

But more good enough housing is only a small part of the answer.

*Poor nonwhites need freedom to move out of their racial ghettos* and live closer to available jobs—but when all restrictions are ended, most nonwhites still will prefer living with their own people, just as almost every other ethnic group has tended to stick together for a generation or more; often for three generations.

*Poor nonwhites need better schools and better education*, but bussing white children to non-white-neighborhood schools cannot be a good enough answer, when it means holding white children back because poor nonwhite parents cannot give their children the advantages needed to start even and stay even. School buildings in nonwhite-neighborhoods are notoriously inferior, partly because they are old buildings in old neighborhoods; teaching in nonwhite-neighborhoods averages below the white-neighborhood level, mostly because the teacher's work is harder and the pay no more.

But in all fairness it should also be realized that New York, for example, spends as much per pupil (well over \$1,000) to educate nonwhite children in the public schools of Harlem as the tuition charged by the city's most exclusive private schools—quite a bit more money than most lily-white suburbs pay to educate their own. Furthermore, in Philadelphia and elsewhere the drive for school desegregation is tending to turn segregation upside down, with more and more white children taken out of public school, and more and more desegregated public schools getting to be almost 100 percent Negro. How will this affect the willingness of the white population, which carries some 95 percent of the local tax load, to pay increased taxes for better schools that few of their own white children will be attending?

*Nonwhites need more human contact with the rest of the community*. The primary cause for the trouble in Watts was *not* that the housing in Watts is so bad (it isn't; not so long ago Watts was a fairly good middle-class white neighborhood). It was not because the area is overcrowded (it isn't; the density in Watts is not much more than 20 per acre). The primary cause of the trouble in Watts is the fact that it had been allowed to become an island apart. Not enough people outside had any contact with their fellow citizens walled off inside Watts. So it took a riot that cost \$40 million and 34 dead to make outsiders realize that Watts had no good hospital for 87,000 people, no modern schools for more than 30,000 children, no movie house, only one public swimming pool and almost no public transportation to let people get to the kind of jobs they could hold. No wonder 30 percent of all the job seekers in Watts are unemployed; no wonder its residents felt forgotten, bitter and almost hopeless.

*But most of all, poor nonwhites desperately need more money, more jobs and more job opportunities*, particularly more jobs for male heads



of families and for young people, both boys and girls. Everybody knows that unemployment among nonwhites is more than twice as heavy as among whites, averaging out to 8.2 percent, but too few people seem to understand the peculiar pattern hidden behind the 8.2 percent average—a pattern which helps explain the bitterness of Negro youth, and also accentuates the matriachal character of Negro home life which, in turn, accentuates the school problem of poor Negro children. An unemployment rate of 8.2 percent is bad enough, but what the “average” conceals is a jobless rate that often exceeds 30 percent among some of the nonwhites most in need of jobs.

Unemployment among college-educated Negroes is actually much less than among college-educated whites, because so many companies are making a special effort to find qualified nonwhites to hire. Unemployment among middle-class Negroes has to be small almost by definition (otherwise they could not enjoy middle-class incomes); unemployment among adult Negroes with less than a grade school education is also low, probably because they seem willing to take menial jobs that nobody else wants. And one-third more Negro women than white have jobs outside the home—despite a 34 percent unemployment rate among teen-age Negro girls (three times the unemployment rate among teen-age white girls).

In other words: Negro unemployment is concentrated among Negro men who were high school dropouts, and is heaviest of all among young Negro men, who are most likely to have young children. In big city slums, their unemployment rate often runs higher than 30 percent.

A tragic consequence of this unemployment pattern is that the No. 1 breadwinner in too many slum-trapped nonwhite families is a working mother, and in some 40 percent of these poor families there is no man at all because the working is either deserted or unwed (in Harlem 43.4 percent of the children are illegitimate). So there is no one at home all day to care for and bring up the children. Of all Negro children, 36 percent live in broken homes; in the slums this percentage is much higher.

What all this adds up to is that the hard-core problem of nonwhite segregation is very largely

a poverty problem, and it cannot be solved until employers, labor unions and the government (mostly federal) work out a good way to let nonwhites escape from poverty and male unemployment. Says Philadelphia's Joseph V. Baker: “A Negro does not need a college degree to put gasoline in an empty tank, or to turn a wrench as far as the threads have been cut, or to collect tickets on trains.”

Desegregation, in the sense of living next door to white neighbors, is mostly for upper- and middle-class nonwhites. For the great mass of poor nonwhites, desegregation means mostly a chance to escape from poverty, slum housing and male unemployment, plus a chance for better education to help their children work their way up.

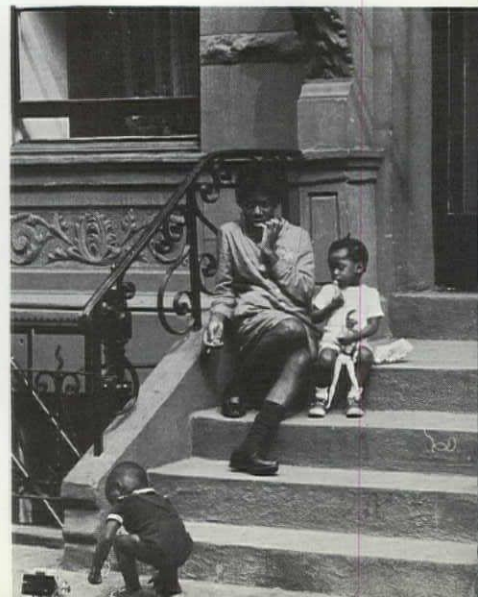
No local government can solve all the problems of the nonwhite poor, but few of their problems are likely to be solved unless and until local governments take an active part in their solution. For example and specifically:

- Only local governments can deflate the bootleg price of slum housing by code enforcement and/or taxation. Dean Abrams' block-by-block research shows that in Philadelphia, vigorous code enforcement has so deflated central-city housing prices there that a large percentage of the 14,400 row houses now vacant can be bought (or put) in decent move-in condition for \$4,000 cash or less. (Compare this with an average cost of \$20,500 for new public housing, and \$12,300 now budgeted by the Housing Authority to buy units and do them over completely, regardless of how much fixing up they really need.) If FHA or other special financing is made available, this \$4,000 cost would make it possible for even relief clients, black or white, to buy or lease decent used homes. Pittsburgh, on the other hand, has been fearful that strict code enforcement might leave the 10,000 families homeless, and in New York the mayor's special housing adviser declared in 1961 that “no amount of code enforcement can stop the spread of slums unless and until the profit is taken out of slums by taxation.”

- Only local governments can locate some of



Poverty helps create urban ghettos, but it isn't the only villain. Segregated suburbs are chilly toward the middle-class members of racial minorities, who could afford to move out of the ghettos. Then too, some don't want to.





their own employment centers where they will be easy for the nonwhite poor to reach.

- Only local governments can tear down the obsolete and decaying school buildings found in most nonwhite slums, and replace them with up-to-date plants less likely to encourage high school dropouts (the average nonwhite boy quits school after the ninth grade).

- Only the local government, with financial support from Washington, can provide the nursery schools and the day-care centers needed to keep the preschool slum children of broken homes and working mothers off the streets, giving them some of the care, attention and mental stimulation middle-class children get from their families, so these slum children will be ready to keep up with their classes when they reach school age. This kind of need is already met by the state in Russia (another case where most mothers work outside the home) by including day-care centers, playgrounds, nursery schools and primary schools in the center of every new apartment block. In this respect it is high time for American cities to catch up with Russian ones. In New York, 80 percent of the 600,000 relief recipients whose support costs local, state and/or federal taxpayers \$700,000 a year belong to no-male-breadwinner families.

- Only the local government can provide or encourage the kind of bus or jitney service poor nonwhites need to get from where they live to jobs they can hold.

- Local government can provide neighborhood centers to help slum owners who want to improve their property understand and take advantage of all the various state, federal and foundation grants and aids available to them.

- Local governments can pressure the state to stop forcing them to discourage and penalize improvements with increased assessments and taxes. (Personal interview surveys in Newark and elsewhere make it clear that fear of higher assessments is a prime reason why slum property owners won't spend money to maintain or improve their properties.)

- Finally, the job needs of the nonwhite poor will not soon be met until local government cooperates in attracting and encouraging not just high-wage industries but also the kind of lower-wage industries and services in which unskilled workers could expect to find steady jobs.

Racial segregation is the worst kind of segregation because it is so rigid, so hopeless and so humiliating; but we deplore all one-class neighborhoods big enough to segregate their people from the larger community.

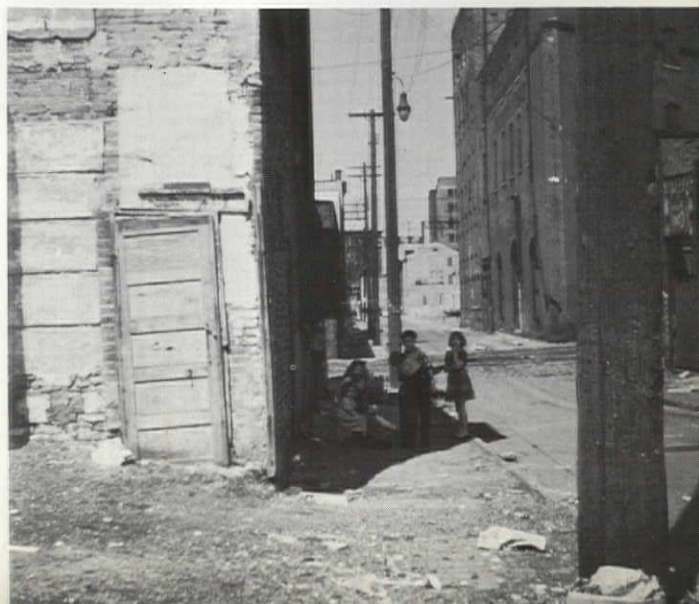
Suburbia is the great segregator, segregating not only white from nonwhite but also the lower-middle-class from the middle-middle-class, and the middle-middle-class from the upper-middle-class and the wealthy. We think this is as bad for

those who are segregated in as for those who are segregated out. For example, it makes it harder for those who are segregated in to employ the kind and variety of help they need, while at the same time making it harder for many of those who are segregated out to get the kind of service jobs they need and could fill.

Small enclaves of people with the same background and about the same income are perfectly natural and no problem at all; there is no reason why millionaires should live next door to relief clients, and no reason why relief clients should want to live between millionaires. But there are many good reasons why rich and poor, white and nonwhite should live close enough together to know how the other half lives, and to share the community of life and the openness of opportunity whose sharing is the first essential of urbanism. Big one-class or one-race neighborhoods frustrate ease of contact and ease of access; they deny variety, opportunity and the exchange of services; and the bigger the one-class or one-race ghetto, the more complete the frustration and denial.

Middle- and upper-income families pay in more ways than one for their flight from the city to one-class enclaves in the suburbs. They pay in travel time and all the extra hours they spend getting to and from the center. They pay in lost leisure, doing household chores they could otherwise find someone else to do. They pay in loss of variety and stimulation because they live too far from town. (Says the former AIA president: "One-class neighborhoods are just plain dull.") And they pay in higher prices and heavier state and federal taxes for supporting on relief millions of people who, in a better-integrated metropolitan society, might be self-supporting and helping to meet the labor shortage and up the gross national product in our full-employment economy.

It is more than a coincidence that the most underprivileged people in urban America must also be the most heavily subsidized (in Philadelphia, for example, 80 percent of the relief clients are nonwhite).





## The city that never happened—so far

Unfortunately, nobody has ever seen or experienced a city that comes anywhere near measuring up to today's potential. Nobody has ever seen or experienced a really good city—a city that takes full advantage of today's better technology, design and planning. ■ Nobody has ever seen a city planned so almost everybody could walk to work in less time than it takes to get there now by car, train or subway. ■ Nobody has even seen a city planned for all the convenience and economy of three dimensions instead of two. Nobody has ever seen a city where full utilization of the center at high density lets the people who prefer low density enjoy it close to town. ■ Nobody has seen a city whose best close-in locations are not cluttered with obsolete and inadequate old buildings that should have been torn down long ago—old buildings that live on and on only because urban decay is now subsidized by underassessing and undertaxing obsolescent properties. ■ Nobody in our generation has seen a city whose busy streets are not choked with parked (and moving) cars; or a city whose air is good to breathe and whose water is good to swim in. ■ Nobody has seen a city that provides plenty of usable open space for fun and recreation where open space is most needed; where all the children could safely play outdoors within two blocks of home—often without even leaving their own building. ■ Nobody realizes that with today's technology such a city could cost much less to live and work in than the anachronisms that urban Americans live in today. ■ What's wrong with today's cities could be cured a lot faster if people could be given a better understanding and a clearer vision of what kind of city to demand and insist on getting. ■ Computers can now predict quickly and quite correctly all the effects of changed planning, zoning, transit and highways. This is an important development that should be a great help to city planners and city officials in choosing wisely between alternative programs, but it cannot close the communications gap between planners, with their eyes fixed on the future, and average citizens, with their understanding stuck in the past. ■ Perhaps what our cities need now is a new Hugh Ferriss to give their citizens a fresh vision of what tomorrow's cities and tomorrow's city living could and should be like.



# Planning the Powder Room

BY DENISE SCOTT BROWN

Architects, like dentists, doctors and, to some extent, lawyers, auto mechanics and TV repair men, must frequently depend on their colleagues for those very services which they normally render to others. We as architects share with the public the experience of living, working, sheltering and occasionally suffering in the handiworks of other architects. This provides us

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with a built-in feedback of experience on which to base our own design. In addition to this, we can expect some feedback from the general public. For example, I heard of an Italian architect on an inspection visit to a recently completed housing project he had designed. On the stairs he met a woman carrying a large basket of wet wash up to the roof where he had put the drying lines. "Are you the architect?" She asked threateningly. "No," he lied, and fled.



But there are some areas where, in the nature of our society, personal experience is impossible for the male architect, and feedback from the public unlikely. Such an area is the ladies' powder room. I have long had this problem in mind. As I have used these facilities in office buildings, theaters, academic buildings and drive-ins throughout the land, I have become convinced that the architect's lack of personal experience and involvement in what he is planning constitutes a real problem here—the more so since I imagine he is unaware of it. It seems that I am in a peculiar position as architect, city planner and woman to be of help to my colleagues seeking practical information on powder room design of a type not found in the Graphic Standards.

But a few preliminaries. First, this is a delicate subject. On the second day of my first office experience during the summer vacation between high school and college, my employer (it was a small office) started to initiate me in the mysteries of bathroom facilities. He had an old book with engraved illustrations of various toilet bowls (which he called "lavvies") of a type I had never seen before, with floral decorations inside and out. I formed the impression then that architects are an uninhibited but strangely old-fashioned lot. However, I shall endeavor here to combine the delicacy of a lady with the directness of a confirmed and unrecalcitrant functionalist of the 1930s type. In this I shall have as my model an elegant and honored antecedent,<sup>1</sup> who, writing for a different era on another aspect of the same topic, managed to combine the refinement of a gentleman with the

straight-shooting clarity, vision and sense of responsibility expected of the highest-caliber professional.

Second, I shall not be talking of esthetics. I shall not even bring up the beauties of the view of Philadelphia's City Hall and the late lamented Furness office building, which one had from the ladies' room of Burnham's Wanamaker store; nor the view of New York from the ladies' room in the Regional Plan Association offices in the Herald Tribune Building. We are dealing with sterner stuff.



Nor is our concern here the difference of cultural patterns: of the English, for example, whose toilet partitions are about 18 inches higher and 12 inches lower than those in America—leaving the visiting English woman with a strange sensation of isolated vulnerability. Or the Italian with integrated (male and female) facilities. Or the Scandinavian with, at times, no doors. Or the grim ridiculousness of the South African *apartheid* laws which require, in a public building, separate male and female facilities for each racial group. Nor the strange American custom of providing neither sign nor lock, so that American ladies, before taking possession of a toilet booth,

<sup>1</sup> Chic Sale *The Specialist*, Carmel California: The Specialist Publishing Company, 1929.



must either push the door or peek under it.

We shall be dealing primarily with a logistics and storage problem. The main question: what to do with the coat? And secondarily the handbag and/or gloves, book pile and shopping bag, and on occasions hat and umbrella. And the whole is aggravated by the fact that each of the sequence of operations performed in the powder room requires a different relation of a lady's possessions to her person and involves, therefore, a different storage problem.

I have nothing against the accommodations of the normal toilet booth. Those little spring-back package racks are suitable for all except the most lightweight packages (or the AIA JOURNAL—but if you took it with you, you would probably be reading it, anyway) and serve the added function of barring the door after the bolt has come off. And the hooks are adequate. But why do architects believe that that is the only spot in the ladies' room where a lady needs to hang up her coat and store her possessions? What must she do with the coat when she is washing and tidying up? Put it back on? An elementary analysis will show that there should be at least as many coat hooks *outside* the toilet booths as there are inside, and probably more. And I suggest that where there is a space shortage or a circulation problem, the *outsides* of the

ing under the top shelf at the inter-sink-niation. It is essential that the umbrella stay in sight during all powder room operations, lest some visually deprived soul mistake your \$12, stainless steel-tipped, malacca-handled Bonwit for her \$2 Woolworth.

Now we move to the mirror. This *should* involve a move, even though subsequent exit patterns (including coat-retrieval from the back of the toilet door or other suitable location) may require several extra steps and some cross-circulation. But ladies should not keep other ladies from washing their hands, while they occupy the sink to powder their noses. And face powder in the sink bowl is unesthetic.

At this point the make-up outfit, thus the handbag, must be before one, on a shelf *not less than 12 inches wide*. (Who are the sadists who provide a standard ladies' room mirror shelf 4 inches wide?) And so that one's possessions do not spread horizontally along the shelf, obscuring the view for other ladies, a second, lower shelf should be provided for the pile of books (the shopping bag, at this point, can probably stand on the floor) and beneath that, a row of hooks just for safety's sake. While we're on the subject of mirrors, this one should be long horizontally, preferably related in foot run by some yet-to-be-empirically-determined mathematical identity to the total number of sinks provided. (We architects are just going to have to learn to use the new tools and put an end to intuitive guesswork.) This should mathematically ensure that enough ladies get to see enough of themselves; but just in case the computer errs, a slight ramp up, as in a theater, should be provided, so that tall ladies can see themselves over the heads of short ladies.

Then there is need for a second mirror—a vertical one, near the exit, but with room enough for a middle-distance view. It is nothing short of cruelty to expect a lady to leave the powder room without a middle-distance, full-length view of herself. (While we are on the subject, architects who provide mirrors in elevators do a kindness to nervous ladies—and gentlemen?—going for interviews.)

So now we have covered the storage problem, and suggested that in dealing with it adequately we may aggravate the already-difficult circulation problem. But circulation is an architect's problem. I'm sure this can be dealt with by the male professional without advice from me.

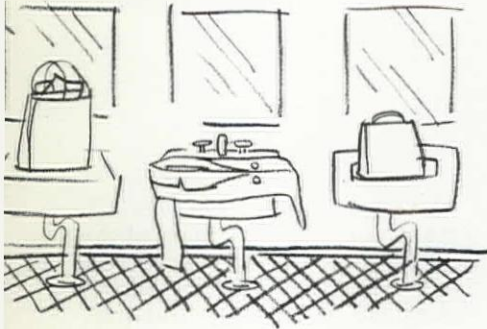
What about types of facility? I think one general rule applies (possibly to men too). The powder room is not the time or place to start exploring. In this area we are all children of tradition, and feel happiest with what we know. I am reminded of an experience I had in a public institution somewhere in the land, whose only feature to remain in my memory was its extraordinary lavatory (fr. L. *lavare*, to wash) arrangements. A circular bowl, perhaps 60 inches in diameter, with an obvious water source at its center and no visible means of activating it, stood at waist-height in the center of the room. Search finally revealed a ring footbar which, when pressed, gave rise to a ring of water jets. These at no point on their perimeter provided sufficient water to cover the palm of the hand. Was one, I wondered, intended to circulate around the bowl in order to gain the necessary supply? Visions arose in my mind of a mystic rite, a combination of Maypole celebration and Scottish sword dance, as circulating ladies perform the ritual hand-washing, alternating the while, between jumping on the footbar and over each other's possessions.

Do they, I wondered, have a similar facility in the men's room? Or have they provided something more ritually suitable, in the nature of a trough or well?

Then for the driers. Again, you can't teach an old dog new tricks. There is no way for a lady to dry her face with one of those hot-air driers without letting the water trickle down her neck. Also, rubbing your hands fast for minutes on end is boring. And if the drier breaks down and the towel supply has been abolished, there you are. Don't let anyone tell you they prevent chapping. They don't. No, the traditional paper towel is best. One function the hot-air drier can perform very well, however, is to warm up your winter boots.

Now here is a trickier matter. There is a fixture (devised, no doubt, by a lunatic scientist) called the "female urinal." I have pondered about this contraption and I cannot see its advantages. I cannot even think of a way in which a lady could use it at all, let alone with the speed and convenience which its masculine namesake affords the other half of the population.

These are, of course, personal opinions, but from a small amount of empirical research—i.e., from noting the exclamations of surprise and astonishment, and the efforts to acquire alternative traditional



toilet doors might do very well. Storage of the other pertinalia presents an even harder problem. Some you can't hang on a hook, some are precious and some you need with you. You can't balance them on the sink rim; it's too narrow, and even where sinks are of the inset type, the surrounds are usually too small and often wet. Umbrellas are even worse. A lady with an umbrella sticking out at right angles from her person as she washes is a menace. The whole problem could be neatly solved by two shelves, one above and one below the sink; and by a hook hang-



accommodations where possible, from other powder room users—I would assure you that these unfathomable objects are viewed with suspicion by womankind in general (especially those under 6 and



over 30) and I believe I can guarantee that where there is a choice, these booths will be the least-used in the room. The female urinal (and here I speak from experience of both) is somewhat less convenient than the Asian squathole.

Then there is the question of showers. In Italy they provide hot showers in the gasoline station restrooms. This helps to sell gasoline to tourists. In all schools of architecture there should be provided a hot shower in the ladies' powder room—for how can a girl be expected to charette for three days and three nights without rest if she cannot even have a shower? And this is what we expect. Failing this, and at an absolute minimum, we should provide at least one enlarged toilet booth containing a toilet and a sink with hot and cold water. This should be a standard provision in all ladies' washrooms, to allow for the sometimes necessary private ablutions of women and children.

So much for the detail arrangements of the actual powder room. Somewhere in my mind I have an uneasy feeling that perhaps this is not a problem handled by architects at all. They merely supply a certain amount of space based on a rule-of-thumb allowance per person, or possibly per sales-foot, of the order:

$$X = \int \int \int \frac{y'}{t'} \quad ij \quad m(n-1) \quad z.$$

where  $x$  is total towel-rail space, and  $z$  is the number you first thought of.

Perhaps, in other words, "they" (whoever they are—SMERSH perhaps) supply it all ready-made. Well, if that is the case, architects, where is your pride? Only by involving yourself deeply in the technico-industrial manufacturing processes of the 20th century, will you be able to keep "them" responsive to the human needs of

human beings (in this case, women). Powder rooms are for people.

There are a few other problems, perhaps of a type more innately interesting to architects, which may be dealt with in passing. The first of these is the locational problem: How do you find it? Architects should remember that this is a particular problem in the case of a lady, since she may not ask. (Yet the solution is not to make it so obvious that you cannot miss it, even when not searching. For in that case, a true lady will not use it.) I feel that in the game of hunt-the-toilet, a lady with a professional education in architecture and city planning has a distinct advantage over her sisters. For there are certain laws, which, consciously or unconsciously, designers follow. These are:

**1. Functionalism**—This means it's likely to be next to the men's, behind the elevators. (But if it's an International-Style house you're in, it's that thing like a ship's funnel set in the plate glass window and opening off the patio.)

**2. Symmetry**—If the men's is 100 yards down the corridor to the right third door on your left, then the women's is 100 yards down the corridor to the left third door on your right. Or if the men's is at the second, fourth, sixth and eighth half-landing on the escape stair, then the women's is at the third, fifth, seventh and ninth. Don't try the first floor. There won't be one. In fact, don't trust this law too implicitly, since some masculine domains have strange, undecipherable laws of symmetry such as a ladies' room for every three-and-one-third gentlemen's rooms until the fourth floor, and thereafter, one every four floors. In this case one must ask, since it would require too much walking to break the code.


**3. Symbolism and affective properties**—Toilets are likely to be found in places that look reticent and private, such as crannies under the stairs, behind the woodshed, or, in Italy, quite informally, off small alleyways. This too can be deceptive. If a building offers no public facility but you are sure there must be one for the staff somewhere, look in a large, public space for a small, nameless door, which can be locked from the outside and which resembles a cleaner's closet. That will be it. But it will be locked.

I am in favor of maximum use by architects of such locational communications, rather than the dependence on signs. It is so much more subtle. But, unfortunately,

they alone will not be sufficient. For example even such simple algorithms as we have outlined will not be retained in the minds of some people, notably academicians, when they have something else on their minds. So considerable confusion will occur, and difficult social situations of the "Fancy-meeting-you - here - Professor - Abernathy" sort. Hence heraldic amplification of the locational pattern is required.

Simple signs saying *Women* or *Men* are best. *Ladies* and *Gentlemen* is too "tasteful." And so is *Powder Room*, and inaccurate as well, being descriptive of only one in a sequence of operations. Shun the corny. A Latin-American friend of mine (male gender) was once faced, in a nautical London pub, with the signs "gulls" and "buoys." After puzzling a moment, he determinedly entered the "gulls." To overcome the language barrier, those little silhouettes of 18th century aristocrats which one sees tacked to the door in hamburger palaces with aspirations are inoffensive, and would be useful if there was ever a language problem.



In Europe this problem has had to be tackled really seriously. It is not necessary to learn to ask for the powder room in 15 different languages, since most nations use, in addition to their own signs, the acronym WC or the symbol 00. However, I did hear of an interesting new attempt at a simple lavatory *lingua franca*, obviously contemporary with the attempts to internationalize and standardize all European traffic signals. It consisted of a combination sign, a triangle in a circle, thus  to indicate, generically, "restrooms." Then when the prospective user has been brought closer to hand, the sign separates out for male and female. Very neat. Just what you need, I thought. A simple language of basic forms, able to be shared by everyone, no matter what tongue. Then I got to pondering. And I leave you with my puzzle: When those signs separate out, which is which? □



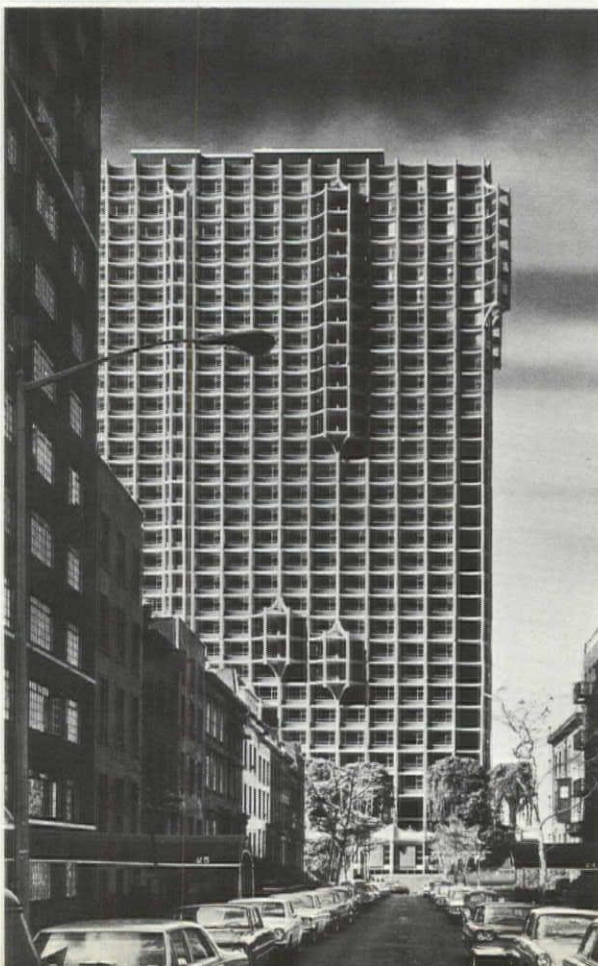
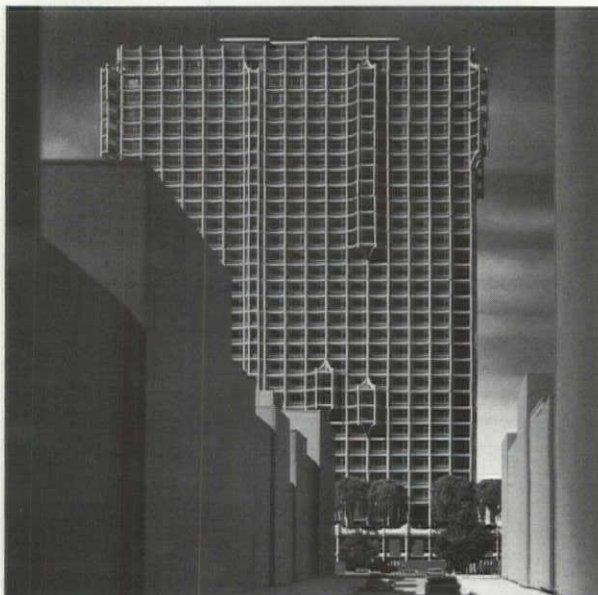
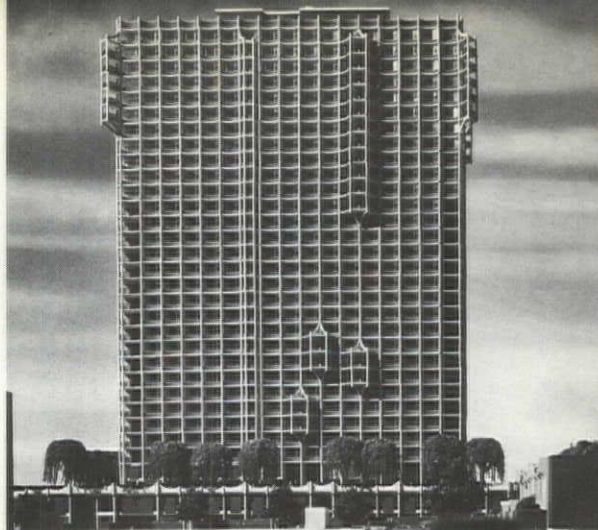
## How to Make the Most of Your Models

*A photographer offers  
a technique within the grasp  
of any office.*

Seeing the relationship of a building to its natural and man-made environment is a matter of increasingly critical importance. Architects for all their visual literacy and their deep concern for the interplay of buildings and the spaces between them are not always free of blind spots in trying to envisage this relationship. For clients and the public, the problem is perhaps greater.

Any aids for the visualization of a building in its surroundings, therefore, are welcome to the cause of urban architecture. Such aids do exist and are used by numerous architects. One is a model of the proposed project surrounded by models of what already exists in the project area. Another device uses a detailed model of the proposed building and, with some clever but hardly complicated photographic maneuverings, produces an amazingly realistic result. This latter method is employed by a Jersey City, New Jersey, photographer, Louis Checkman, and here is what he does:

- He takes a picture from Green Street, say, looking toward the Maple Street site. Then he records two measurements—the distance from the camera to the site of the planned building and the height from street level to the camera lens.
- By scaling the two dimensions on the model of the proposed building, he establishes a camera vantage point for a photograph of the model.
- He places the print of the model on an enlarger easel and the negative of the site view in the enlarger. He projects the site view to the model print, adjusting the scale of the site image to that





Trying out a new building in its neighborhood—Across page is of model of Cadman Plaza, by Whittlesey & Conklin, shown in a mock-up environment (middle) and in its actual Brooklyn Heights surroundings. At top of this page is a model of Edward Durell Stone's Huntington Hartford Gallery in its Columbus Circle setting, and at bottom is Kelly & Gruzen's Central City, the model integrated with an aerial view of Manhattan. Next page, the Lower Manhattan plan of Harrison & Abramovitz and an urban renewal scheme of James Raymond Mowry, AIA, for Binghamton, New York. Latter two model presentations show relationship of proposed buildings (in white) with existing structures (in gray).





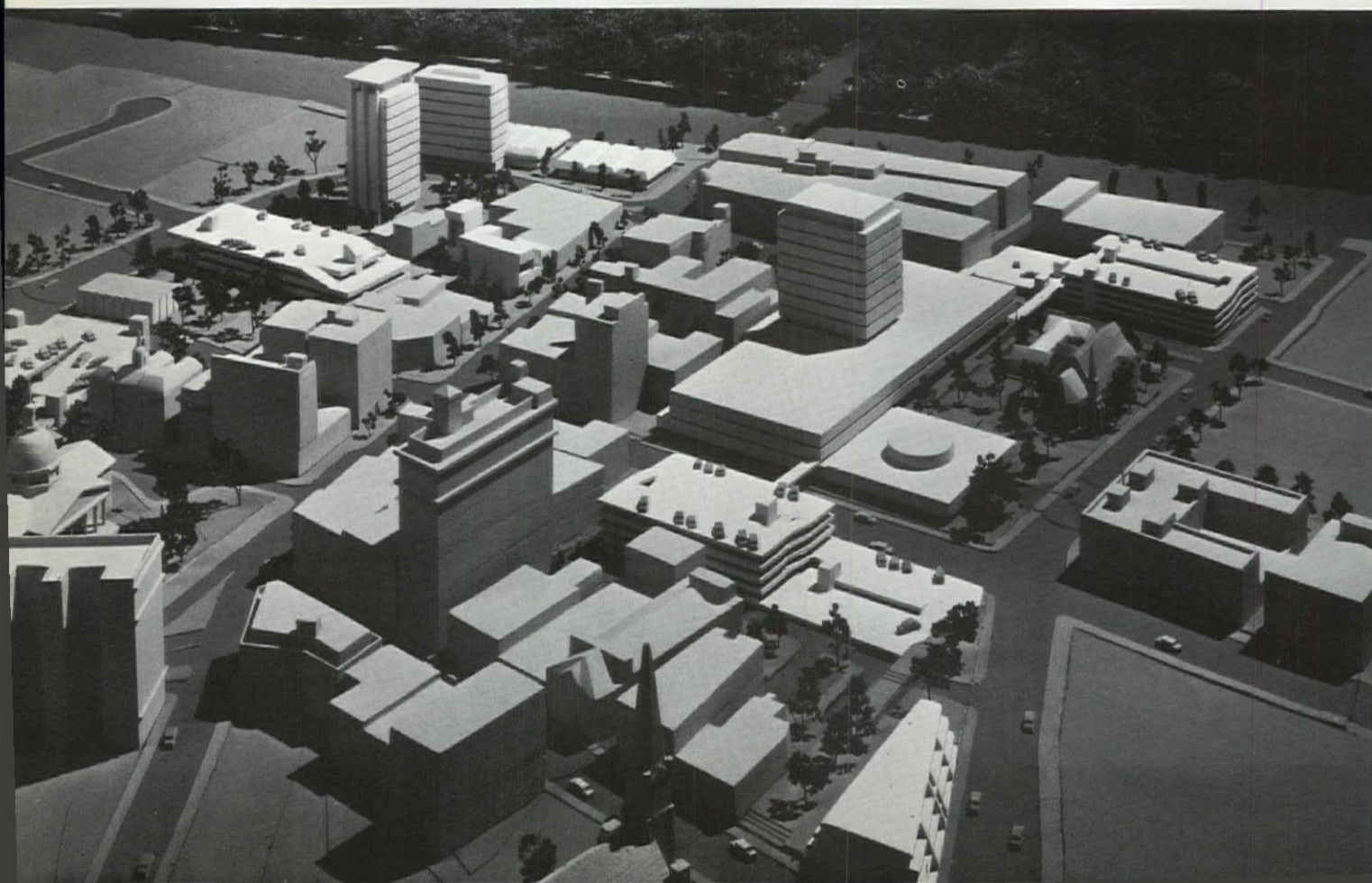
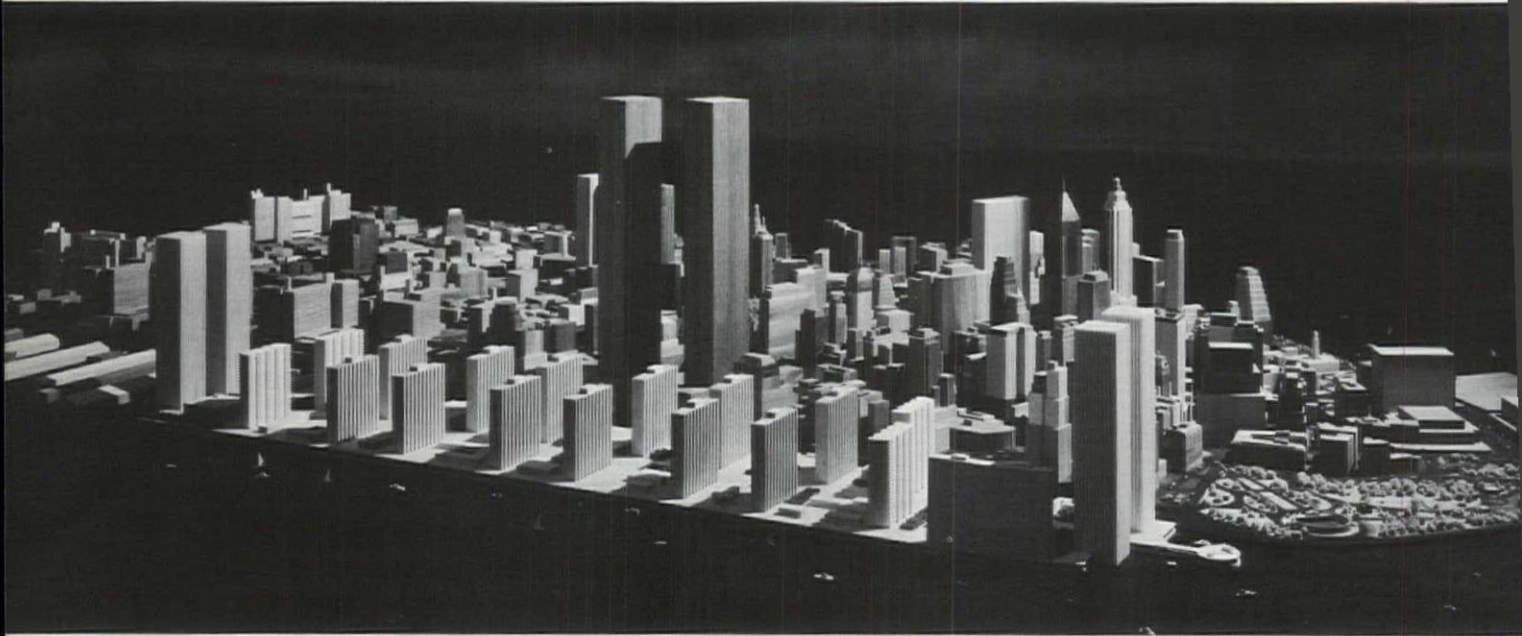
of the model, and makes a print on single-weight paper.

- He then mounts the print of the model on rigid cardboard and carefully cuts the site view where the building meets the sky and horizon.

- Next, he carefully cements the site print to the mounted model print and from this paste-up makes a copy negative. The final print is made from this copy negative, and the result is a view of the building on Maple Street from Green Street, well before a spade of soil has been turned at the site.

The effect is a kind of reality before the event.

The technique requires, of course, a sophisticated, professionally made model. Also valuable in the study of proposed buildings' relationships with the spaces and masses around them is the model technique of producing existing buildings to scale and roughing in the proposed structures to indicate height, size and placement. No attempt is made to indicate actual architectural design. Such models are made in a number of architectural offices. Examples of both techniques were seen in an architectural photography exhibit assembled as a public service by Norman Adler Associates of Binghamton, New York. □







# The Applicable, Adaptable Enclosure Method

BY JOHN R. DIEHL, AIA

The principles, rules and advantages of the enclosure method of cost control are explained by a Princeton, New Jersey, architect who has used the method in all stages of design for more than a decade. He has found it to be the most reliable method, one easily related to floor area requirements and budget limitations, and a valuable aid in conceptual design. This article is adapted from "Creative Control of Building Costs," the forthcoming McGraw-Hill book.

Nothing can shroud the naked truth of bid tabulations. When the tabulation's revelation is painful, the architect might be inclined to assure himself that he had, after all, read, digested and done all he could. But self-assurance cannot diminish the cold realization that the program is too large or too small for its budget, a realization which, at the bid stage, has arrived too late.

Architects, builders, bankers, brokers and owners—every operative involved with a proposed structure—risks possibly more on the accuracy of preconstruction cost estimates than on any other group of unknown factors encountered in construction. The methods of cost prediction range from the most involved and intricate systems to ludicrous schemes rooted in superstition and cynicism.

Some knowing persons hold that the accuracy of early cost prediction methods bears little relation to the complexity or degree of detail involved in the preparation of an "estimate." And who would deny the foolishness of analyzing the cost of *flemish bond* at a time when it is not known whether the wall will contain *bricks*?

I remain impressed by the oft-quoted advice, given half in jest by the late, noted architect, Harvey Wiley Corbett, who said the most convenient index of building construction cost is the price of beefsteak. Few architects will risk the consequences of budget overrun on

a cost control basis such as this, but many are also acutely aware that the most elaborate and sophisticated estimating procedures are likely to be even less helpful in the early design stages.

It is indeed one thing to anticipate a *wide difference* in the prices bid by various contractors for the construction of a proposed building so completely described in its documents that estimators can count virtually every nail, and quite another to expect a designer to predict costs with *greater accuracy* at a time when a blank sheet of drawing paper lies before him. Yet it is at this point that the architect makes decisions most vitally affecting his client's budget.

More often than not, in fact, construction cost limitations are set even before the design problems are fully known. Regardless of this technical dilemma, construction costs are necessarily controlled in the predesign stages, a fact that accommodates the basis upon which most building enterprises are undertaken. So whether easily accepted or not, it is clear that architects are elected to bear certain added economic responsibilities that compound the cost prediction problems inherent in design.

### Design Is a Special Case

Problems of cost projection vary with different purposes; known procedures match the different problems only approximately and in varying degrees. The real estate appraiser employs methods quite different from those of the contract estimator or financial planner. Building design is a special case, its conditions fitting none of the more widely used cost estimating systems.

The importance of cost prediction to rational decisions in the selection of the materials and methods of construction is understood to be fundamental to architecture. But it is not easily accomplished during the design, for none of the more analytical methods of cost projection can be employed by the

architect until his work is finished. It is uneconomical to produce the several complete designs for comparative evaluation by quantity take-off and pricing methods.

To determine the probable cost of a building that has already been designed and adequately documented, an estimator will most likely separate the project into construction operations and price material separately from labor in the units by which they are normally purchased. Cubic feet of sand and gravel would be priced on a different market from carpentry labor, etc. Sensitive and accurate though it may be for the builder, the method is relatively useless to the designer who must predict outcome before there are such quantities to consider.

The design process itself seems to allow the possibility of a "solution" on the first trial—the economic structure of the profession assumes this. At any rate, most architects approach each design study as potentially the final one. To accomplish this obviously requires of the designer an act of synthesis that takes construction costs into account along with the other design considerations. Since even the most creative persons are obligated to control inductive thought by standards which are derived analytically, designers in all fields have developed various abstract devices to guide their thoughts, including those concerning costs, along rational and realistic routes through the maze of alternatives presented by their imaginations.

### Costs in Terms of Function

A statistical approach is automatically taken on quantitative matters to afford prediction of effect without requiring immediate empirical data as the basis for each decision. Like other quantitative elements, cost is reduced, often intuitively, to units that can be expressed in terms of function and performance in order to economize on the mental process. Thus designers are prone to talk of "tons"





of refrigeration, "footcandles" of light, "square feet" of floor area, "pounds of load" supported per unit of material, etc.

The architectural designer wants to know the cost of a material in its functional place, not merely its price on the market. Most helpful to him is the total cost of an element of structure as it will exist in his building, including labor, material and builders' charges. He would like this information in terms of such units as square feet of surface and lineal feet of span or length, the measures of his own work.

He can make choices between floor finishes by comparing the total in-place cost of one material with another. He can select a method of floor construction by comparing the combined in-place cost (per unit of floor surface) of all components of various floor systems. In order to so compare, he collects cost information from a variety of sources and converts it to statistics in his own form. In this way each architect tends to develop a personal cost "vocabulary."

Even formal construction cost estimates of completed design work prepared by architects are usually derived by this procedure, often referred to as the "In-place Cost Method of Estimating." Although the actual cost information upon which this procedure is ultimately based must come from standard quantity surveying and pricing methods, seldom does the architect himself analyze costs in terms of market units. He never estimates the cost of materials separately from the cost of labor, since he neither buys and sells building materials nor hires and supervises construction labor.

He tries to maintain a comprehensive notion of the total value or cost of construction. He likes the vantage point that gives an objective view of the product together with its parts.

He has seen the products of his own design completed; he knows how they have performed; he has found out what they have cost and has analyzed the effects of their alternatives. Designers are aware that approaching cost in terms of the units of function or effective-

ness—how much wall, to do what, for how much money—relates performance to price directly and simplifies the evaluation of alternatives.

Predicting costs by the in-place method, certainly more convenient for the designer than some other systems, becomes noticeably more reliable when supported by detailed analysis. The cost of a wall is the sum of the costs of its components, and the determination of the latter, again, is possible only in the more advanced stages of design. The more detailed the analysis of a design, the more design information must have been available. The in-place method is therefore found to be of greatest value in the intermediate stages of design, after conceptual work and before detailed design.

### Early Procedure Still Needed

But the architect is still left without the tool he needs most: a reliable procedure for quick cost comparison on which to base early decisions and reduce costly trial and error. This need leads to the universal use of even more abstract cost units. Most elementary of these, and perhaps the most widely used throughout the building industry for rule-of-thumb estimating, appraising and programming purposes, is *cost per square foot of floor area*.

The reasons for the popularity of this unit are obvious. Cost is expressed in terms of floor space which is recognized as the primary functional quantity of most buildings, and floor area is easily and quickly measured either on drawings, in existing buildings or even projected as an abstract quantity. The proposer of a building may well have a notion of the amount of floor space required long before any thought has been given to the configuration of the structure.

By guessing at a price per square foot, construction budgets are often established before the architect is consulted. The architect himself generally makes extensive use of this convenient unit of cost, most particularly in the schematic stage.

Be this as it may, it does not follow that because the quantity of space (floor area) is some measure of a building's utility, the cost of the building will be directly, or even closely, related to this quantity. The fact that it is not will be recognized immediately upon observing that floor area costs ranged in 1966 from less than \$8 per square foot for simple structures to more than \$40 for highly subdivided and

expensively equipped buildings.

In addition, wide discrepancies are introduced because of variations in accepted standard definitions of measurable floor area. Depending on many factors of design, function and the method of measure, one idea of the floor area of a given building may exceed another by 100 percent or more.

Most experts agree that predicting construction costs by the probable price of a square foot of floor area is, at best, a sketchy procedure which if not accompanied by the most cautious and experienced judgment can be dangerous. In short, the method has not fulfilled the architect's need for cost control.

Another statistical method long applied to early cost prediction involves the measurement of the geometric volume of buildings. While perhaps both less sensitive and more complex in procedure than the floor area method, this system also chooses its units in terms of building space. But since space measured by volume is, for obvious reasons, less directly related to utility or function than is floor area, and since the same disadvantages pertain, the method is now considered by many to be inferior.

### A Method Gaining in Use

Although not so widely used as the preceding examples of statistical estimating, the use of units of enclosure has been gaining acceptance. This newer approach to early cost prediction requires slightly more complex procedures than the floor area method but no more so than in the measurement of cubic contents. Enclosure unit is both a more sensitive and a more accurate method than the other two. It also has the advantage of being applicable at almost any stage of design and is adaptable to cost analysis in varying degrees of detail.

The procedure is to collect cost data in terms of units of enclosure surface, i.e., square feet or square yards of exterior walls, partitions, floors, roof, etc. These units vary determinately with respect to the functional units of building space on the one hand, and to the quantities of construction materials on the other. For practical purposes it may be assumed that the bulk of materials and labor employed in a building is actually represented by its enclosure. If this is true, we have a unit of measure that is highly sensitive to variations in not only the amounts and, therefore, the costs of labor and materials represented by a given design, but one which is



also sensitive to variations in the amount of building space provided.

The convenience of this method is easily demonstrated. Given sufficient statistical information and a knowledge of construction cost factors, a designer can quickly correlate cost with performance information for the solution of a specific problem. For example, an architect working on the design of a floor plan with enclosure costs in mind knows constantly how much money he is spending, virtually, as he draws lines indicating walls and partitions.

As with floor area units, however, those using this method must understand that a line representing 3 lineal feet of partition, 9 feet high, involves not only certain quantities of several materials and types of labor but also represents prices that vary independently of the quantities. The extent of this variation must be known or assumed if specific construction systems are to be compared.

Herein lies the need for the designer's understanding of the various factors affecting the cost of construction. Herein also lies another advantage of the system: It can be expanded in later stages of design to become in-place cost estimating. For overall cost control, however, necessary corrections of this type tend to be smaller than the normal variations of other units and are much more readily accommodated.

In my own architectural practice, I have used this method of cost prediction in all stages of design over the past 12 years. The projects ranged from simple residential alterations to multibuilding complexes costing more than \$20 million, from simple open structures to highly subdivided and complex hospitals. Drawings for numerous other projects as well as literally hundreds of scheme variations have been analyzed by the enclosure method.

#### Variation Not So Wide

Adjusted to 1965 dollars, the actual costs of completed projects in this experience ranged from a low of \$3.60 to a high of \$9.30 per square foot of total enclosure area. This figure is derived by dividing the sum of all related construction expenditures by the total combined area of all floors, roofs, walls, partitions and similar items of enclosure. It will be noted that these unit costs vary upward to approximately 2.6 times the low figure compared with a conservatively estimated normal variation in floor

area unit costs of more than 5 times.

In other words, buildings vary in cost per square foot of floor area on the order of from \$8 to \$40, while enclosure unit costs vary only half as much—and no attempt was made to correct for inordinately disparate examples.

The mensuration is simple enough. The area of planes passing through and parallel to each element of enclosure is measured in square feet. An enclosure element is taken to be the sum of its components and may be any exterior wall, partition or interior wall, roof or the like. The enclosure area represented by a floor system, for example, is expressed as the area of a single plane, whether or not the system includes separate ceiling and deck elements. Similarly, walls and partitions are measured as having a single surface; both faces are included in the one measurement. Consistent rules must be applied in dealing with stairs and other special items.

The data collection procedure is also simple. Horizontal elements such as floors and roofs are measured from drawings in the same way floor area is normally determined. While the area of vertical elements such as walls and partitions can sometimes be taken from elevation or section drawings, experience has shown it is more convenient to use plan drawings for all measurements. The total combined length of partitions and walls is taken from the plan and multiplied by their height.

#### Minutes to Determine Enclosure

The use of a dial type "linometer" or "plan-measure" is found most efficient for this purpose, being sufficiently accurate and much faster than either "scaling" or the tabulating of dimensions. With standard procedures and a minimum of practice, the amount of building enclosure represented by any plan drawn to scale, regardless of its sketchiness or refinement, can be determined almost in a matter of minutes.

Each scheme study, as well as later plan studies of all design projects, should be measured for comparison. A standard form should be used for recording the information. In general, it will be found useful to record the data by floors, using a summary form to consolidate the figures for the entire structure. Partition, wall, floor and roof totals should be tabulated separately so that maximum use can be made of the data for additional estimating and analytic purposes.

The enclosure quantity, and combinations of this with other building quantities, provide interesting opportunities for advantageous design study that architects trying these systems will come to appreciate.

For enclosure to serve the purpose of cost projection effectively, the user must understand certain things about the nature of the quantity itself. He must also agree to certain rules. For example, if it is to be granted that building costs do, in fact, vary somewhat directly with the amount of enclosure area, the following must also be accepted:

1. Building cost (C) is the total of all costs of construction chargeable to the space-enclosing structure itself, including fixed mechanical and electrical equipment, but specifically excluding such items as land costs, site improvement costs, owner's administrative expenses, furniture and other costs not clearly related to enclosure.

2. Enclosure (E) is the total quantity of all defining elements of the structure as described above, measured in square feet. Items of enclosure include walls, partitions, floors, roof. Columns, piers, stairs, railing, stacks and similar integral items of construction should also be included, provided consistent methods of measurement and calculation of equivalent quantities are used.

3. The enclosure unit cost (c) is the quotient resulting from the division of the total related building costs (C) by the total quantity of enclosure (E) or:  $c = \frac{C}{E}$ .

4. All units of enclosure are assumed to have the same value, i.e., a square foot of partition is taken to represent the same cost as a square foot of roof, exterior wall, parapet or balcony.

#### Compensating for Partitions

It may be noted that partitions, for example, ordinarily cost less per unit to construct than exterior walls. In the overall sense, this difference is largely compensated for by the fact that building cost (C) represents all construction components, including mechanical and electrical work. It will be observed that a building subdivided into small spaces by partitions, even though the partitions be of relatively inexpensive construction, requires more electrical outlets and switches, more doors and hardware, more heating and ventilating controls and outlets, etc. than does an unsubdivided space. These extra costs are assumed to be chargeable





to partition work, thus tending to equalize the unit construction cost.

The enclosure unit cost of a warehouse will be closer to the enclosure cost of an apartment building than the respective costs per square foot of floor area of the two building types, as noted before. The probable reason is that the primary difference in the latter is affected more by amount of wall area per unit of floor area than by the actual construction cost of walls. Although it may seem contradictory, it is on this basis that it is further assumed that such variations as do exist in the enclosure unit costs of different buildings tend to closely represent the actual differences in the quality of construction.

One could therefore expect to be far more correct in estimating the probable cost of a hospital by the application of enclosure cost units derived from the analysis of a warehouse than by trying to adjust the floor area unit costs of the warehouse for the same purpose. Under less exaggerated extremes of comparison, the architect can look forward to a broad range of interchangeability in unit enclosure costs among different building types and therefore extend the effects of his cost experience.

To measure architectural elements having either nonplanar or complex forms, the architect must use his best judgment to arrive at reasonably equivalent quantities. Because the units and quantities of enclosure will be found to have other useful applications in design study if kept reasonably close to geometric truth, factoring as a means of determining equivalent quantities should be avoided. In estimating cost by the floor area method, the space in basements or other unfinished sections is often equated to more expensive space by arbitrarily reducing the measured quantity.

There is no need to resort to such devices when dealing with enclosure. A stair, for instance, can be reduced to a quantity of enclosure simply by measuring the total area of all treads, risers, landings and railings. Treads and landings, of course, are equal to the floor area occupied by the stairwell on each floor; riser area equals one-half the

vertical cross section of the stairwell; railing area in a typical, equal run stair tower approximately equals the area of a vertical plane taken longitudinally between the landings.

Free-standing piers or columns are usually measured by vertical planes running with the greatest width. Built-in cabinets or case-work is sometimes measured as a second wall. No interruption is recognized for windows, doorways or similar wall openings.

Furred spaces, toilet partitions and the like are open to question. However these may be regarded, the user of enclosure quantities must, as noted before, follow consistent rules for his determinations if the information derived is to have widest application in his work. As the method's use becomes more widespread, combined experience no doubt will tend to establish universal rules and standards of procedure which will, hopefully, enhance the interchangeability of data throughout the profession.

#### **Easily Related to Floor Area**

In addition to being a quick and effective way to measure the quantity of construction and the probable cost represented by a design, the quantity of enclosure also can be easily related to floor area, the other quantity so highly representative of primary building function. This provides the architect with an even broader analytic tool, one that will dig even deeper at the beginning of design.

Moreover, it is accomplished with little or no additional work since, if a proper tabulation is made of the enclosure as taken from the drawings, floor area can always be identified as a separate item. For this purpose, relationship between the two quantities is established by the ratio ( $e$ ) of floor area ( $A$ ) to total enclosure ( $E$ ):  $e = \frac{A}{E}$  = the number of enclosure units yielding one unit of floor space.

Much can be learned about the general geometric characteristics as well as the economics of a building simply by knowing this ratio. Here again is a number that varies over a relatively small range—so small a range, in fact, that in the interests of sensitivity, attention should be paid to at least the third decimal place. Almost all buildings have enclosure ratios falling between 1.5 and 4.5. Most ordinary structures will actually fall between 1.75 and 3.75.

To produce lower ratios requires multistory construction. A 20-story

building 100 feet square in plan, having a story height of 10 feet, will produce a ratio of 1.45, if it contains no interior partitions. Typical, reasonably efficient, high-rise apartment buildings usually have enclosure ratios of from 1.8 to 2.2.

Other kinds of residential buildings tend to have high enclosure ratios. This seems to be due to their high degree of interior space subdivision and the fact that the area of their roofs is divided over less floor area. One-story houses that are somewhat extended can be expected to have ratios of 4 to 4.5. A three-story office building having medium to large interior spaces would require a reasonably efficient configuration to produce an enclosure ratio of 2.75. If some degree of spatial freedom is due the architect, he should allow a ratio of at least 3.0 to solve any important problem.

Aside from being something of an efficiency index and an aid in economic analysis, the floor area-enclosure ratio can be an aid to some extent in projecting other probable quantitative effects of design variations. Determining the cost of a square foot of floor area by multiplying the ratio by the estimated unit enclosure cost brings with it the accuracy inherent in the enclosure method of estimating, thereby eliminating the irrationality associated with floor area estimating. If a program of design requirements establishes both the area of floor desired and a construction cost limitation, the architect can easily test the reasonableness of the given budget by determining that the ratio required to produce unit enclosure costs consistent with those for similar construction is feasible.

#### **For Accuracy and Simplicity**

He can do this far more accurately and simply through the enclosure method. Another use that has been made of this figure is in the projection, prior to conception, of certain geometric characteristics of design schemes, thus establishing direction to the design effort with commensurate savings in trial and error work.

The more the architect works with enclosure quantities the more familiar he becomes with this most significant property of buildings. As he develops a vocabulary of enclosure units costs, enclosure floor area ratios etc., the more accurately and quickly he can predict the outcome of his various efforts. In the long run, this will not be limited to predicting costs alone. □



## Selecting Incandescent Downlighting

BY SEYMOUR EVANS

Initially it was established that lighting design can be analyzed at three basic levels: the functional, the structural and the behavioral.

Articles 1 and 2 discussed the behavioral aspects, i.e., the interweaving of energy-producing sources (lighting fixtures), energy-interpreting sources (man) and energy-reflecting sources (architecture). One of the important points made earlier is that the proper use of a uniform-aperture lighting system, within an architecturally disciplined grid, can invoke surprise and atmosphere instead of blandness and monotony.

The basis of this system is a structural vocabulary of equipment which will be presented in this and

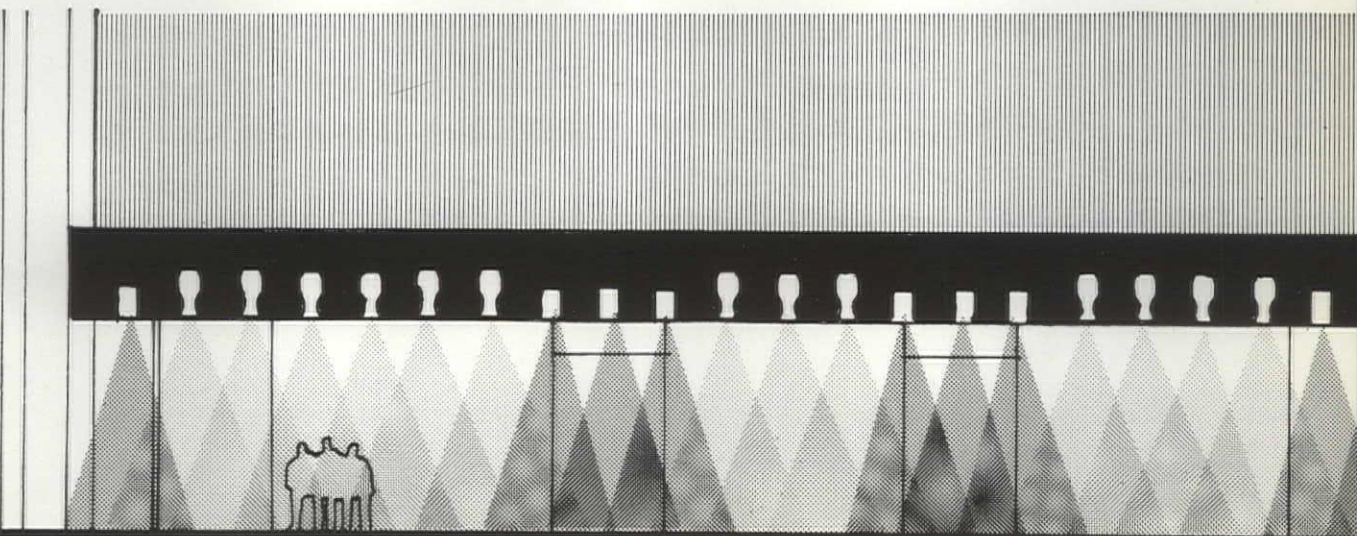
the following article, the former to be concerned with incandescent downlighting and the latter with incandescent wall washing. All the fixtures included fulfill the criteria of low brightness and high efficiency while performing many different functions. It is hoped that they will become a standard reference for selecting concealed-source incandescent equipment.

While the drawings show fixtures of two apertures—7½ and 10 inches—the uniformity of the system may vary according to the manufacturer chosen or the group of lamps used. These provide systems in which by the use of lamps with varying beam characteristics, it is possible to preselect and target the mood within a given space, still

within the framework of a coherent ceiling layout.

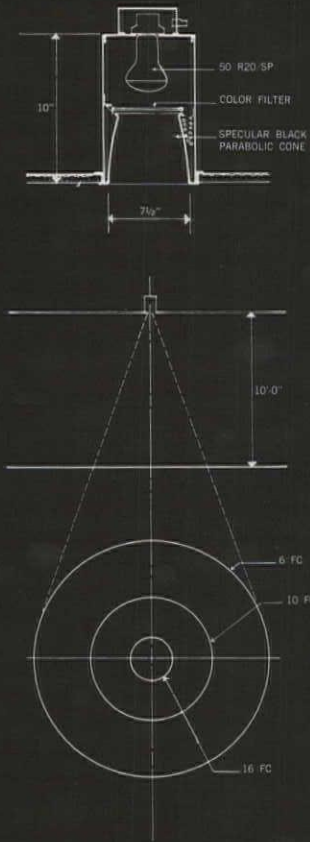
Not all of these fixtures are presently available from manufacturers' catalogs, but all have been made at one time or another to the author's specifications. Professional insistence upon uniform apertures will insure the required fixtures, albeit somewhat reluctantly at first. Skill in intermixing them within the grid and between color-filtered and non-color-filtered light will result in lighting that produces both the required amount of illumination for vision and the desired atmosphere for the human environment.

The drawings give both specification references and the floor patterns of emitted light for all the fixtures. □

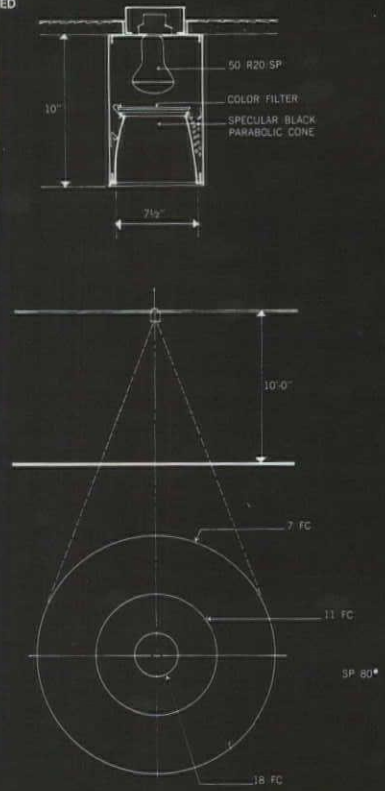




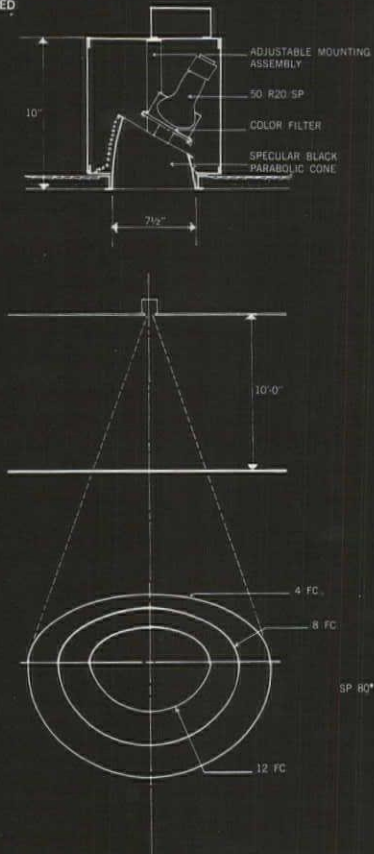
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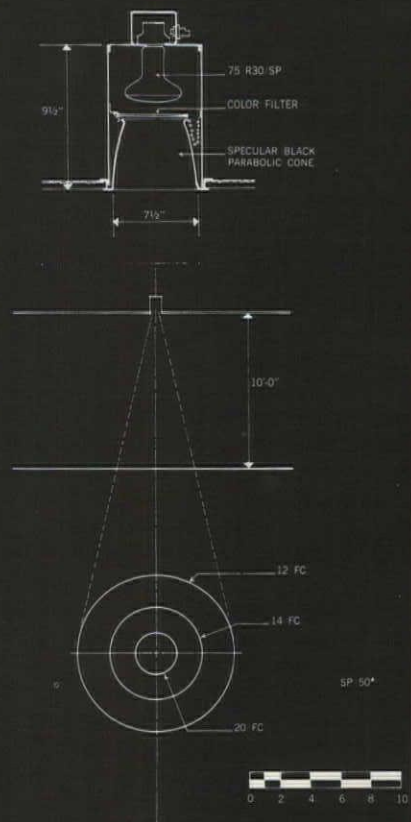
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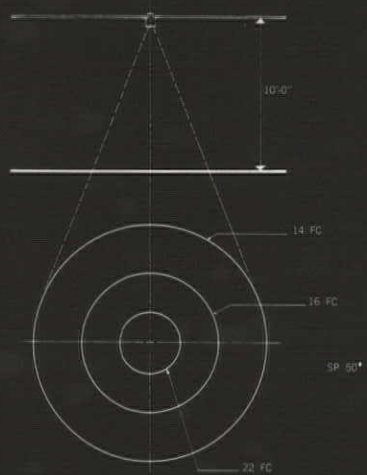
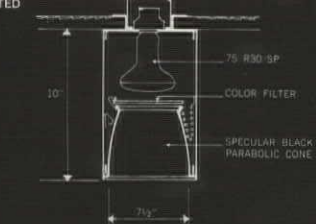


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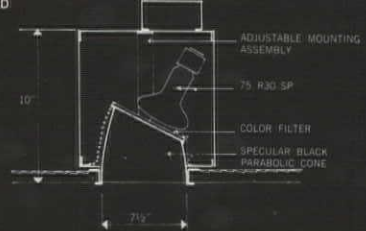




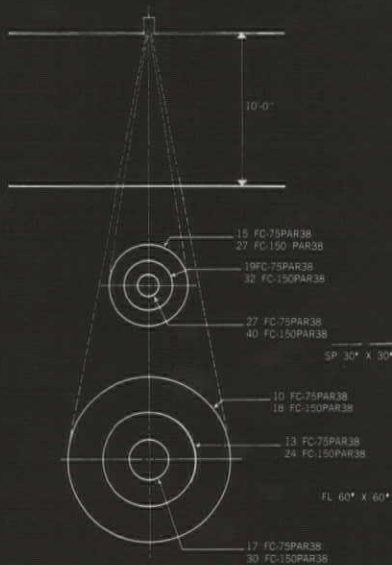
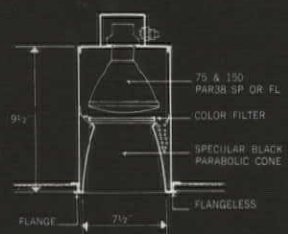
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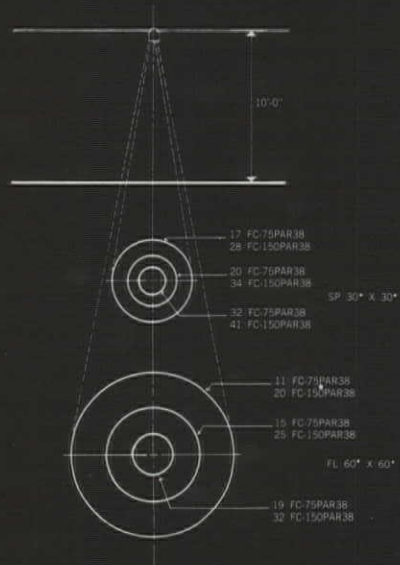
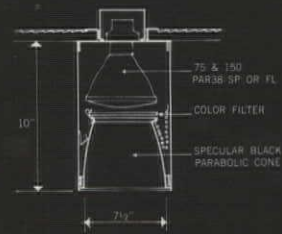
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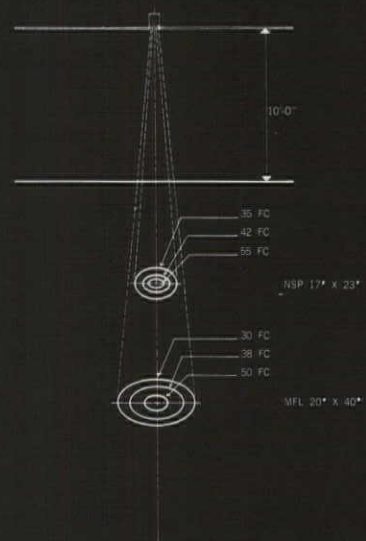
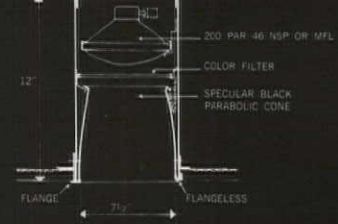
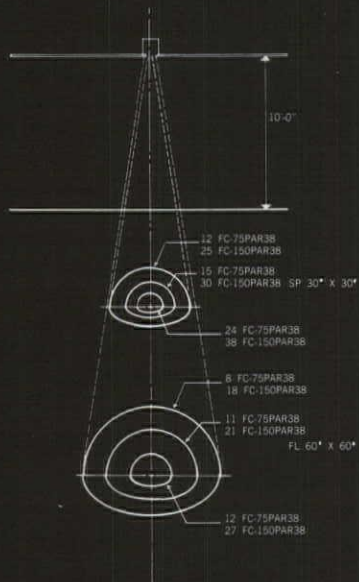
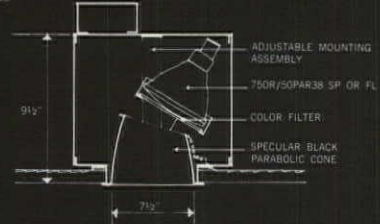
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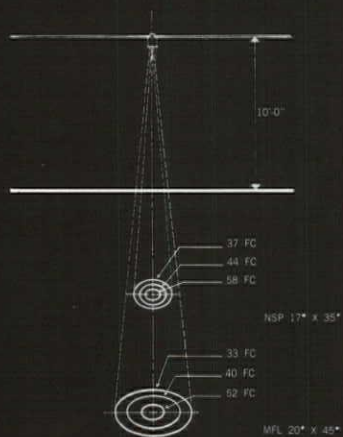
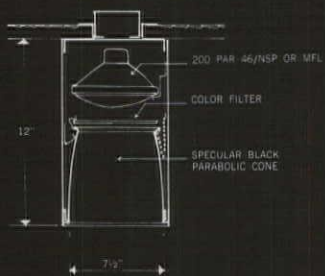
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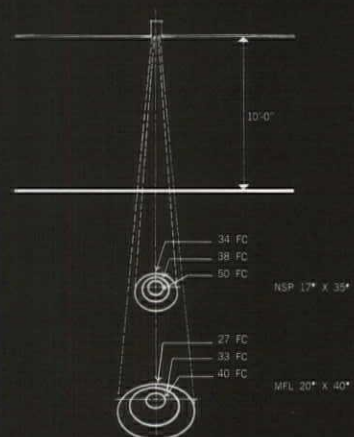
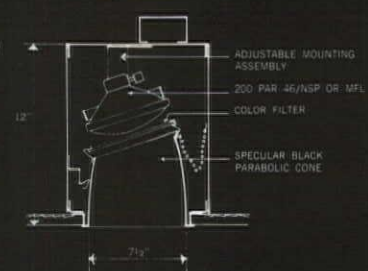




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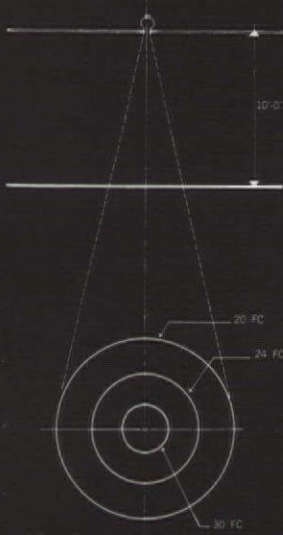
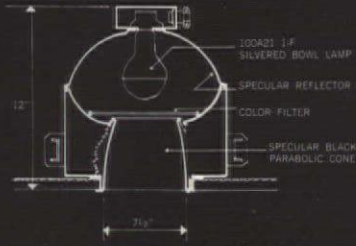


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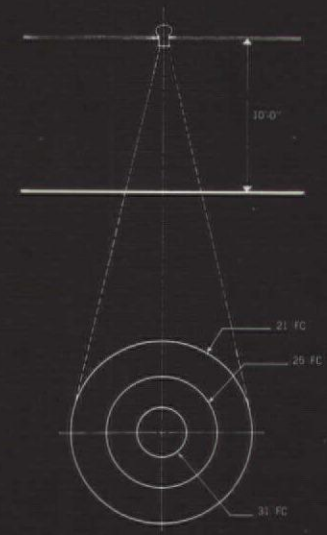
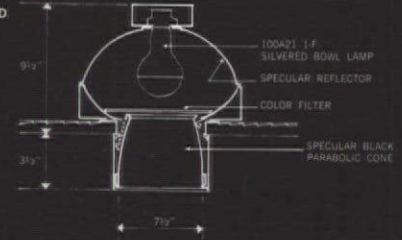




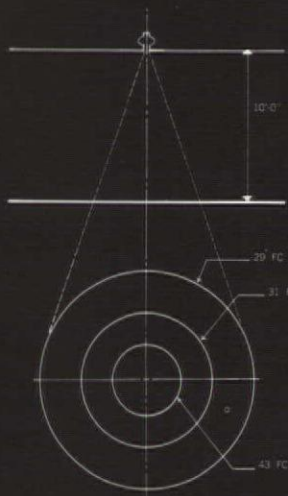
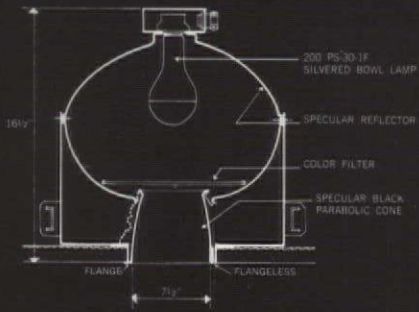
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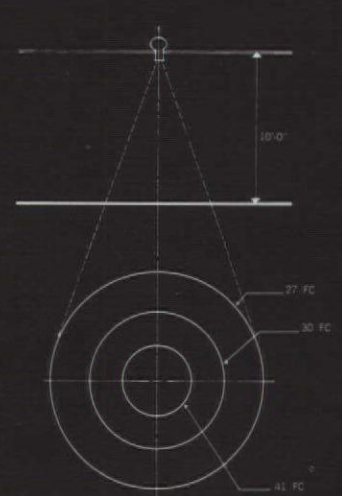
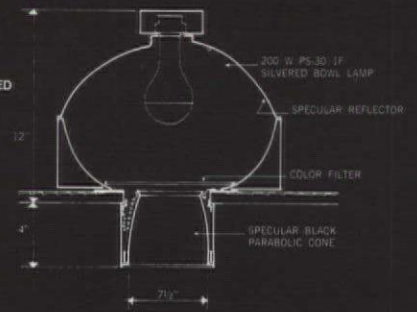
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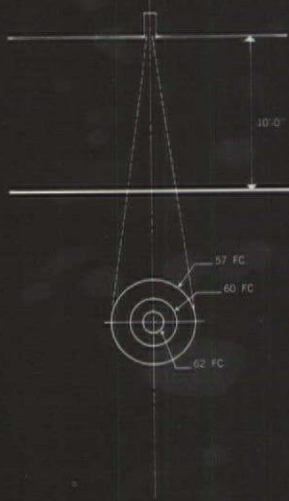
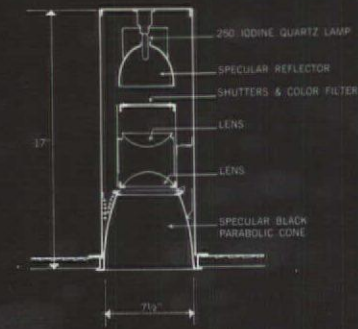


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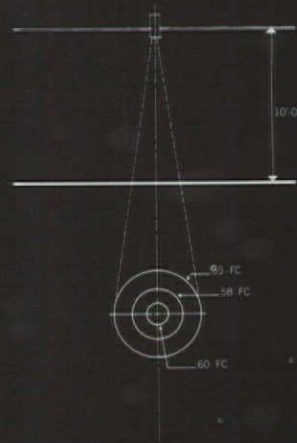
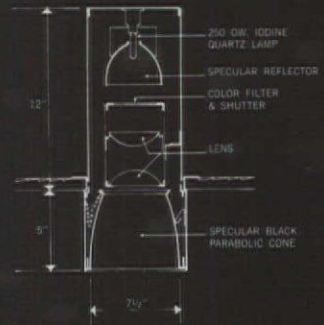




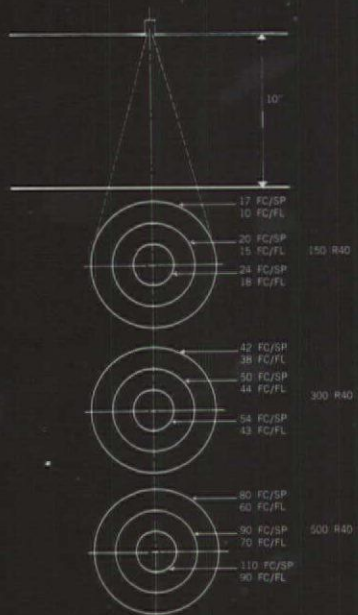
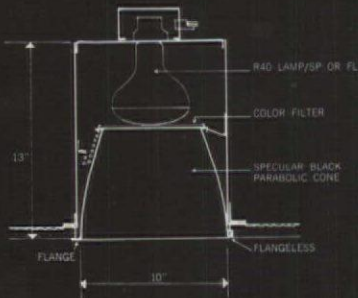
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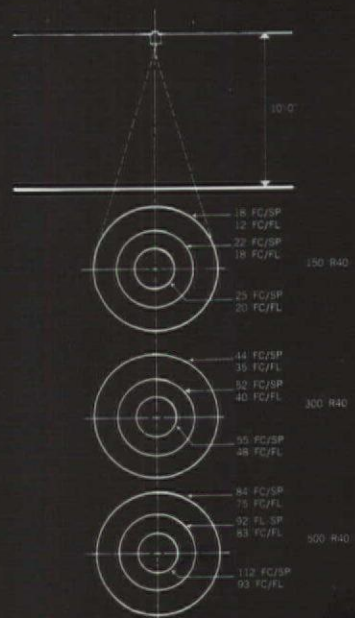
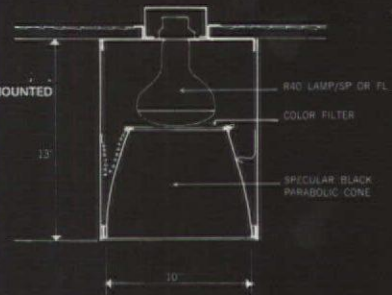
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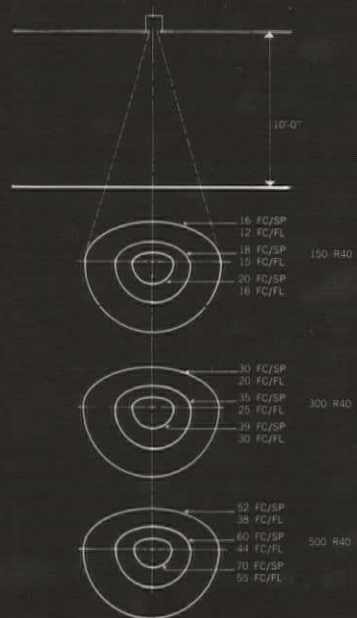
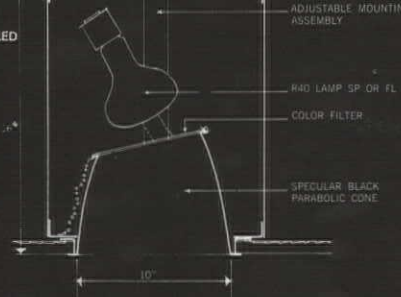


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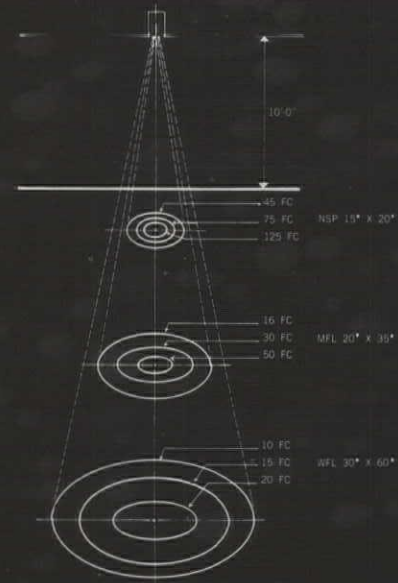
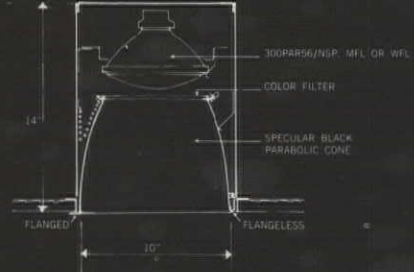




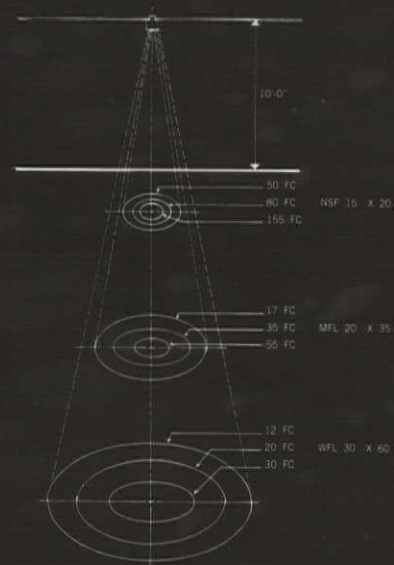
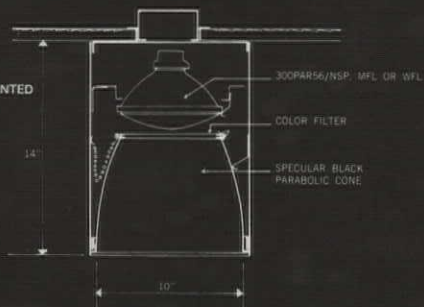
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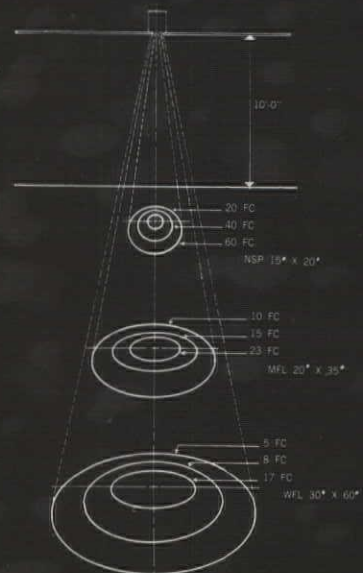
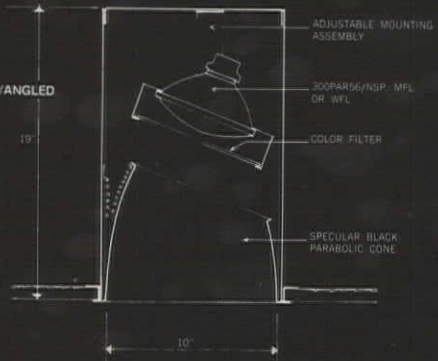
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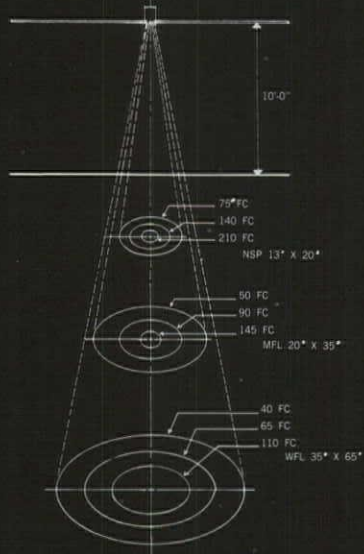
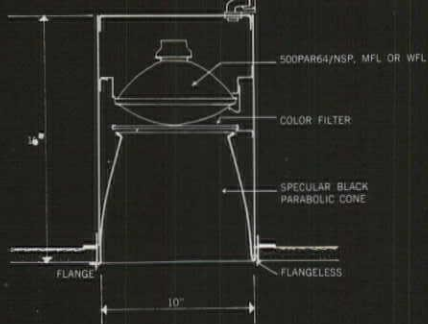


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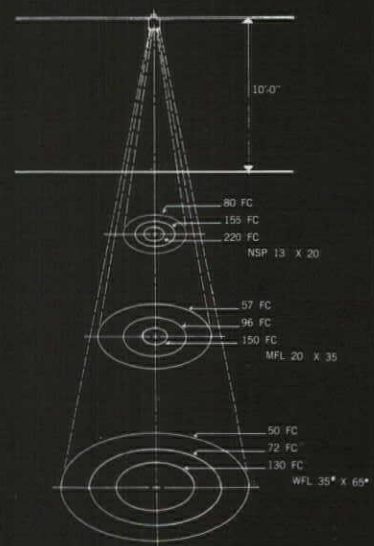
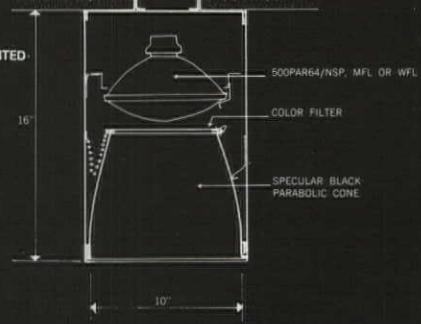




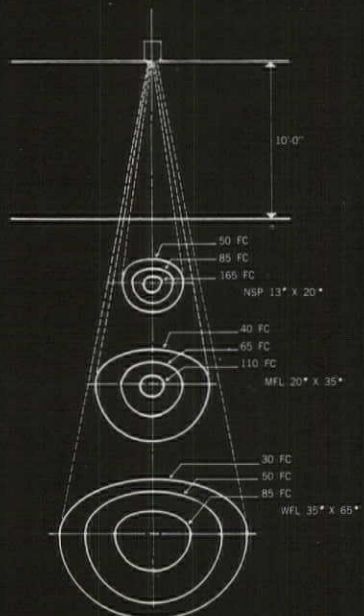
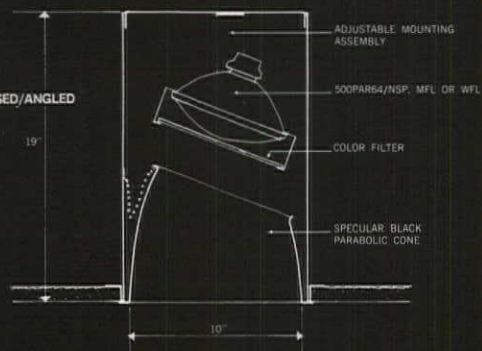
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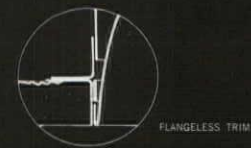
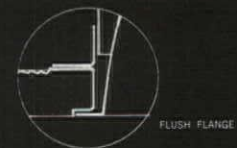
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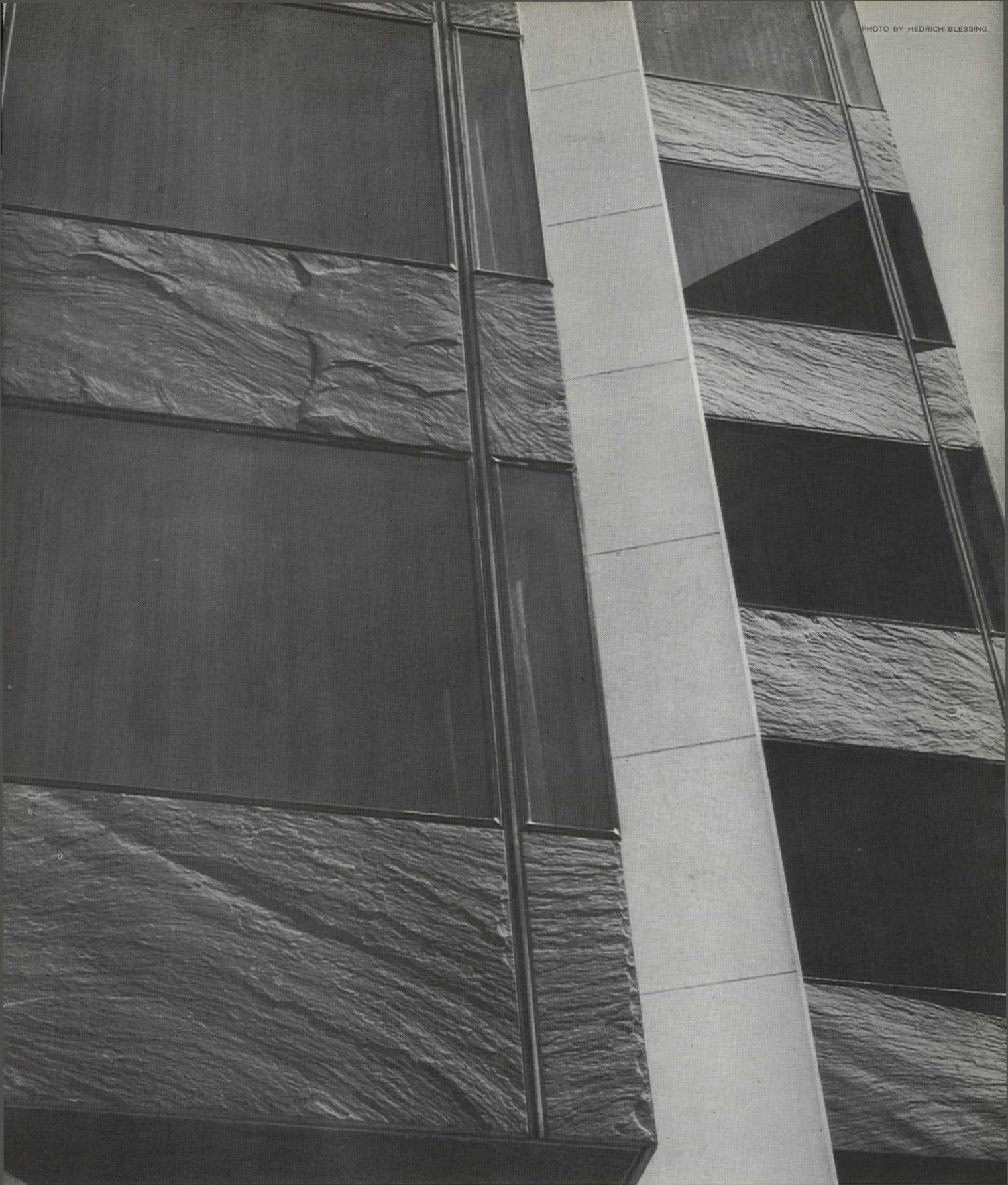
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# Reshaping Public Housing

**An analysis for the AIA JOURNAL by Robert J. Lewis, reporter for the Washington Star who writes extensively on urban affairs.**

From a small beginning in the Roosevelt New Deal, public housing has expanded to nearly 800,000 units in 2,600 US towns and cities. The federal subsidy to reduce rents alone has reached an annual rate of \$250 million. Yet public housing has never achieved real popularity as a government program and is today probably less popular with families eligible for its benefits than ever. This many of its defenders sadly report.

The answer is not to junk the 30-year-old program but to begin refashioning it on a massive scale under far-reaching new legislation allowing prodigious changes in its image, its character and its social effects, concluded members of the National Association of Housing and Redevelopment Officials at a national forum in Washington.

The four-day February sessions constituted a new high in self-criticism for NAHRO—an organization of 2,000 local public agencies and 6,000 state and local housing and urban renewal employees. The day-and-night program and discussion also appeared to foretell policy changes that will place the organization more firmly than ever on the side of a broad program of federally sponsored social planning to back up government-aided housing and urban renewal ventures.

Traditional projects and traditional methods were analyzed and found wanting by numerous speakers. A forthright comment from Elizabeth Wood, former Chicago

Housing Authority executive director and now a Housing and Urban Development official, noted that public housing developments appeal to fewer and fewer "normal families."

"Projects appear to be unsuccessful in attracting and retaining a sound proportion of normal families whose earnings fall in the upper range of the low-income market," Miss Wood said. She explained that as a HUD official she had carried out a six-month study of the public housing program "in respect to the new social climate and its goals" and added:

"There has been a steady increase in the proportion of occupancy by families whose incomes are derived, in whole or in part, from public assistance and public benefits, predominantly broken or elderly families. These households not only have the lowest incomes of all in the public housing market but require the most service.

"Such households constitute 51 percent of all occupants of public housing. In many individual projects, the proportion runs much higher. They clearly do not attract enough of the normal, mobile families essential to the creation of healthy social communities."

Besides harmful social consequences, said the acting chief of HUD's Community Service Branch, the trend has reduced income, raised operating costs and forced local authorities to cut down on maintenance and use higher subsidy amounts.

"This trend raises the question of national social policy as well as fiscal policy," Miss Wood went on to say. "If the trend continues, two

things will probably happen: The program need for subsidy will increase, and the projects will become social and economic ghettos."

Though not emphasized at the conference, the large postwar migration of Negroes to the cities has intensified public housing problems and raised questions about the "project" approach. In Washington, for example, low-income families eligible for public housing occupancy are divided roughly on the basis of 70 percent nonwhite and 30 percent white, while actual tenants number 98 percent nonwhite, studies have shown.

Such preponderantly high ratios of nonwhite occupancy encouraged the administration to seek a changed social and racial balance. Successful sponsorship of 1965 legislation authorizing purchase and lease of 100,000 units of "scattered site" public housing over a four-year period is being relied on to help make public housing more acceptable.

Under this legislation, 40,000 units—new or existing—are to be leased by public housing authorities from private owners. The remaining 60,000 units to be subsidized are for purchase and rehabilitation from the existing private housing supply.

Besides this program—designed to spread public housing to widely scattered neighborhoods in small groups and as single houses—the legislation authorized about 140,000 conventional project units for the four-year fiscal period ending in 1969—a yearly authorization far higher than any in the past.

These and other provisions of new housing legislation—encompassing such steps as rent-supplement housing, the Model Cities scheme of harnessing social action programs to urban renewal on a "big neighborhood" basis, "Turnkey" public housing, 221 (d) 3 moderate-income housing linked to public housing in "combination projects" and a host of other programs have begun to revolutionize federal housing assistance and are being counted on to transform further the public housing image.

Noting legislative changes against the background of the past, George T. Rockrise, FAIA, adviser on design to HUD Secretary Robert C. Weaver, told the 800 delegates he

*Continued on page 106*

HUD's Mrs. Marie McGuire at dinner in her honor during NAHRO meeting, with Ira Robbins, left, former NAHRO president, and HUD Secretary Robert Weaver.







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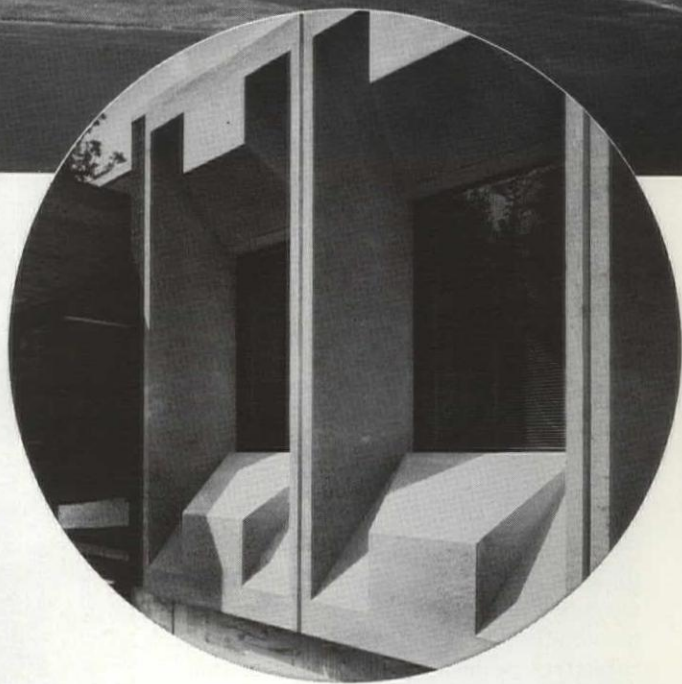


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expected public housing will "play a vital part" in the future model community.

But, he said, such projects will need "social insights that will directly influence" design and management.

"To stop the flight to suburbia and to stop the intensification and spread of the slum and the ghetto, overall housing planning at all economic and social levels must become an integral part of comprehensive planning for the city," Rockrise added.

Rockrise praised NAHRO for collaborating with the AIA and housing officials on a "Pacemaker Project" now undergoing study by HUD. "The proposed combination of sociological, environmental and technological skills to produce a carefully researched and programmed mix of low- and middle-income housing complexes clearly exemplifies the multidiscipline approach we must employ," he said.

"With assignable housing units as a basis," he explained, "Pacemaker proposes to involve, to the fullest extent possible, other federal assistance programs of open

space, urban beautification, neighborhood facilities and social services, coupled with local resources in a small number of selected cities which indicate the highest levels of cooperation."

Rockrise said that across the country "we are faced with violent objections to public housing appearing in established neighborhoods." He said the objections were not surprising.

"No wonder," he explained, "—until we learn to program and design more human-looking neighborhoods, neither the tenants nor the neighbors are happy with the efforts.

"Add to this the pressures of conventional economics and we put housing projects end to end—result, superghetto Chicago or St. Louis rather than early Cincinnati's English Village or San Francisco's Holly Park or, more lately, Seattle's Jefferson Terrace."

Keynoting the forum was 37-year-old Harvey G. Cox Jr., author of *The Secular City*, the avant-garde book calling for a new "theology of political and social change," and a Harvard divinity school associate professor of church and society.

Cox said failure of the nation to deal with economic and social problems has led to a "crisis of our society." He assailed the nation's \$73 billion defense budget as "just too much" and called for a "reordering of national priorities."

In one of the highlights of the forum, Vice President Hubert Humphrey urged national support for the Model Cities and antipoverty programs.

The Vice President, pointing out that President Johnson had asked Congress for \$412 million to finance the Model Cities renewal program, called on delegates to help persuade Congress to appropriate the full amount.

"The President put every dollar in his budget that was authorized, but what did I hear from leaders in Congress on the Appropriations Committee?" Humphrey asked.

"I heard 'Cut it out. Cut it all out. Cut out those spending programs.'"

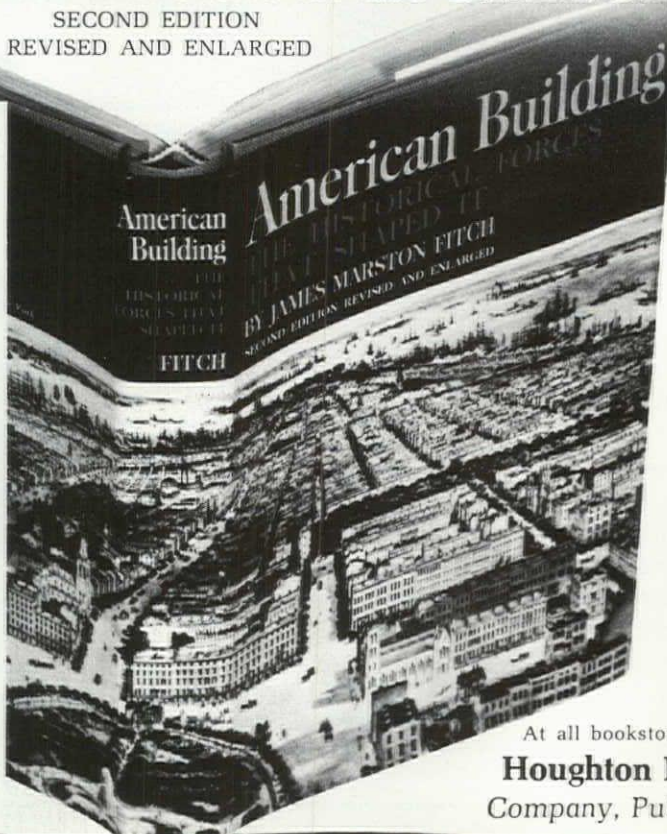
Urging delegates to beware of what he called "pie-in-the-sky" schemes to finance urban aid that ranged in cost from \$250 billion to "trillions" of dollars, the Vice President warned that appropriations in these dimensions are "just not going to happen." □

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## Books

**Division Street: America.** Studs Terkel. New York: Pantheon, 1967. 381 pp. \$5.95.

This is a collection of 70 profiles of people, a spectrum ranging from a poor Appalachian migrant to the vice president of an auto corporation. These people have one common attribute, however: They all live in a city—Chicago.

The "characters" in this book, although ordinary, are not unperceptive to the deficiencies of today's urban environment. Their observations in many cases parallel those made by the authoritative individuals who convened at the roundtable on cities (see the feature presentation in this issue of the AIA JOURNAL): inadequate space for vehicles; racial discrimination in employment, housing and education; limited recreational facilities for children and teen-agers; urban renewal which is at once poorly planned and destructive to the city's heritage; and alienation—person to person, person to city.

Through interviews that the author has transcribed, people voice their opinions and fears about their environment. For some, the greatest concern is the bomb or the civil rights movement, the Vietnam war, poverty, education or capitalism. But for all the spokesmen, the problems of the city pervade and often direct the currents of their lives.

We recognize anew that architecture, for one thing, cannot merely be a matter of utility; it must be a social communication as well. The worth of a city like Chicago lies in the well-being of its people, a well-being which architecture affects in a significant way. We hear a retired musician complain that the glass and steel high-rises "make the city look cold"; and that the resultant expansion gives the impression that people are "moving to get away from people."

Urban renewal, too, elicits various reactions: feelings of loss and irreparable change, impersonality. One young man said about renewal: "It is based on the mistaken premise that you can create a home environment if you give people all the 'sanitary' necessities." Disenchantment arises concerning the ethics of "progress": An old tavern owner tells how renewal is causing the real Chicago to be buried, and an architect feels

*Continued on page 112*

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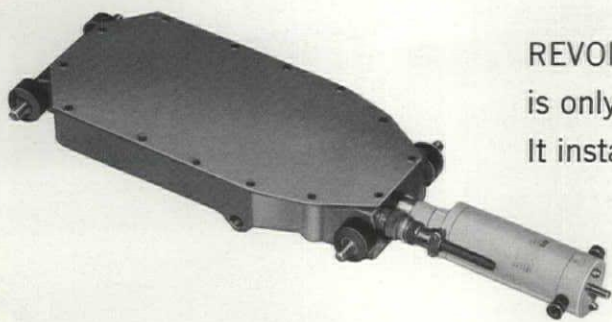


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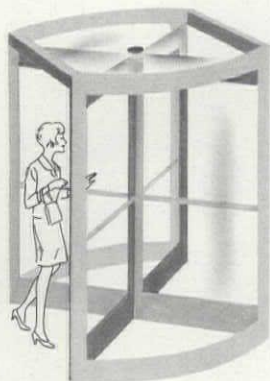
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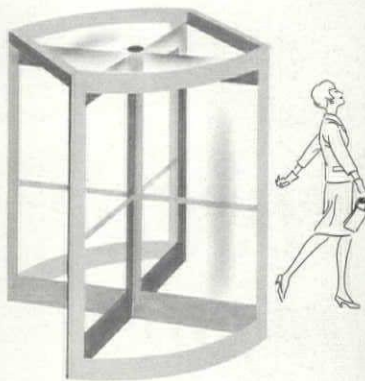
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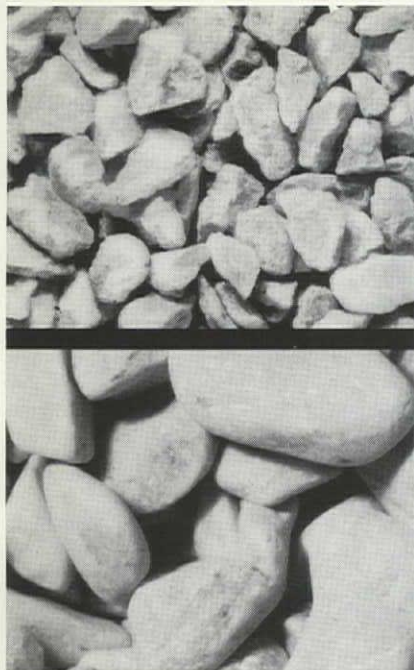
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## Books from page 108

that it is "in the throes of being born." With renewal there is always the danger that neighborhoods—the sense of community involvement which is so vital—will be lost. If people cannot maintain social orientation, they pass into a "society without roots."

The diverse urban problems revealed through these individuals are not fresh ones; they have been considered for decades. But because there have been no significant solutions, the problems must continue to be delineated, not only by the effectors but, perhaps more importantly, by those directly affected. This book posits no unique theories or revelations. It is an affirmation by ordinary urban dwellers that, as one person stated, "We must conquer the city or be conquered by it." N. LEAH BABCOCK

**Who Designs America?** Edited by Laurence B. Holland. Garden City, N. Y.: Anchor Books, 1966. 357 pp. \$1.45.

In 1964 there was a two-day conference on design in America at Princeton sponsored by the University's Program in American Civilization. The participants represented the professions of industrial design, urban planning and architecture. According to the editor, the conference papers collected here are substantially as they were presented.

The purpose of the conference was to consider "tangible problems posed by the modern environment in connection with broad questions of aesthetics and human value, with emphasis on those specific problems that best represent the challenge to good design in American culture."

Eric Larrabee's summary of the proceedings and the papers themselves indicate that contemporary architecture came in for its share of sharp criticism during the conference. In an essay by Boris Pushkarev on "Scale and Design in a New Environment," he quotes Paul Rudolph on the esthetic level of current building design as testifying: "Indeed, the average is probably lower than mankind has ever seen." Pushkarev calls this statement frightening, and it is sobering, too, when Pushkarev says that "not even the best of our architects are innocent of contributing to ugliness."

There are 10 essays collected here, all provocative and worthy of attention by those who want to

Continued on page 118

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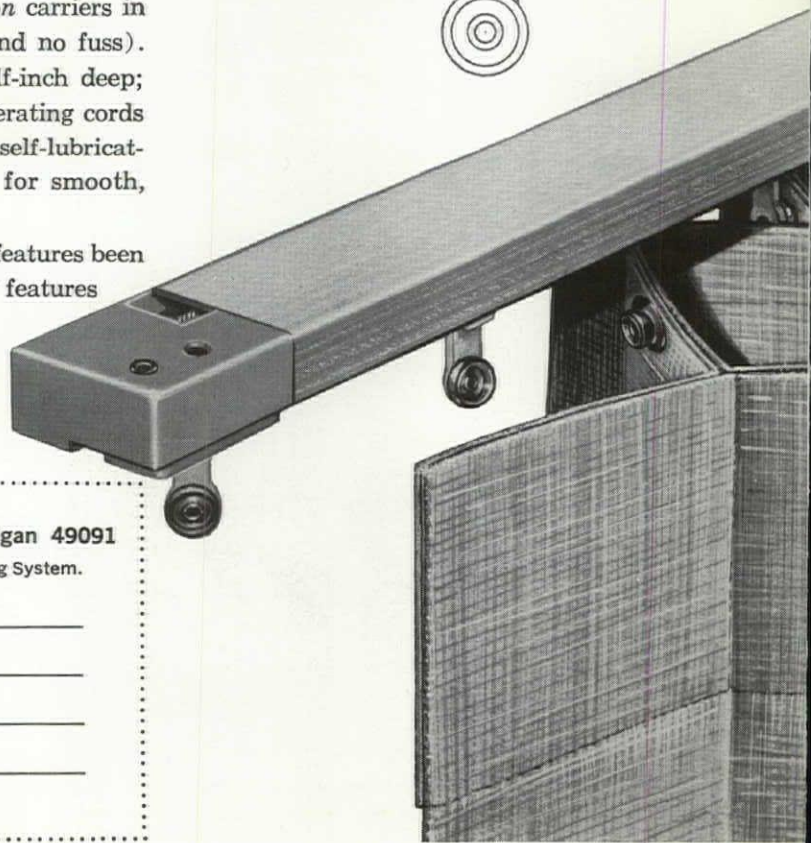
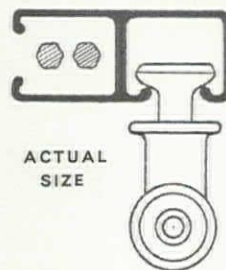
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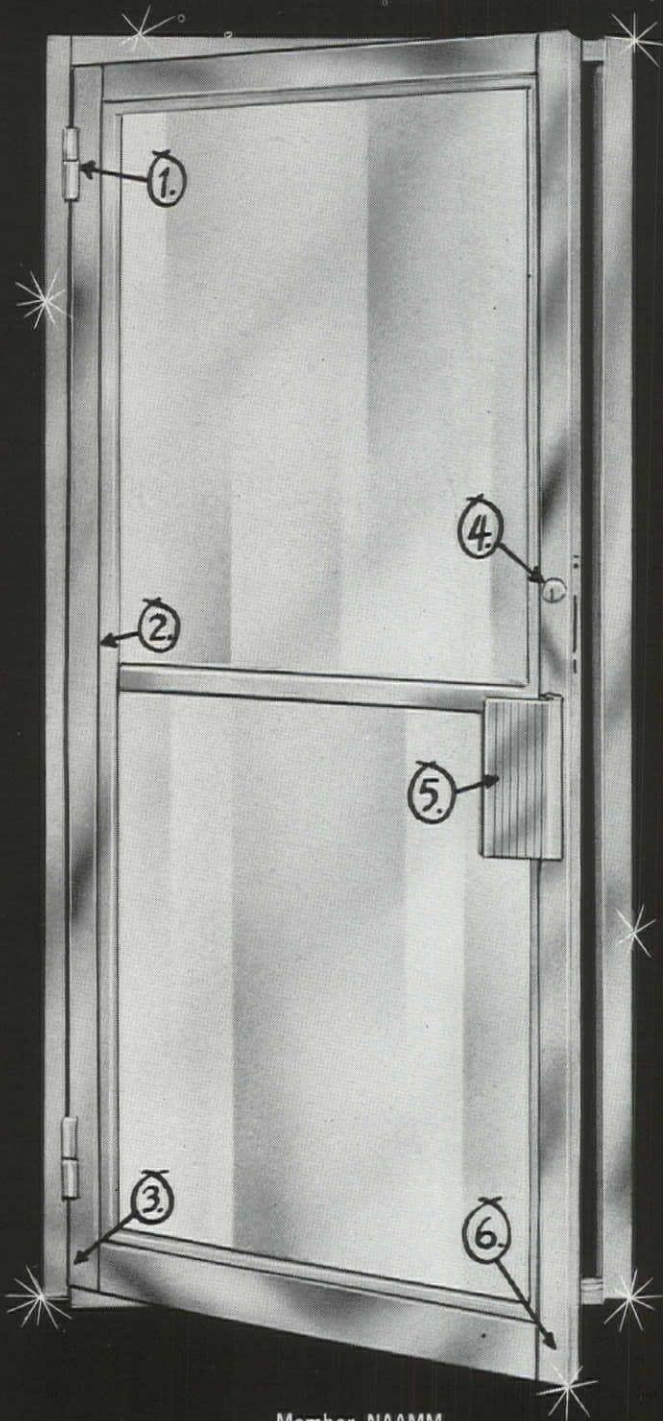
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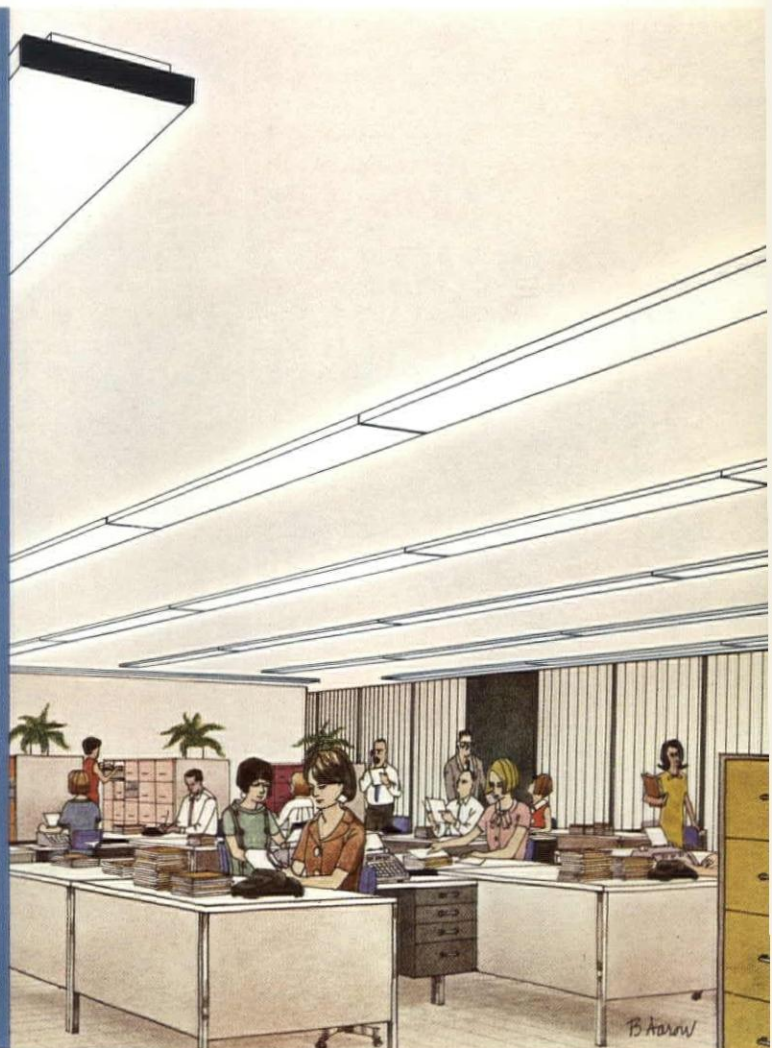
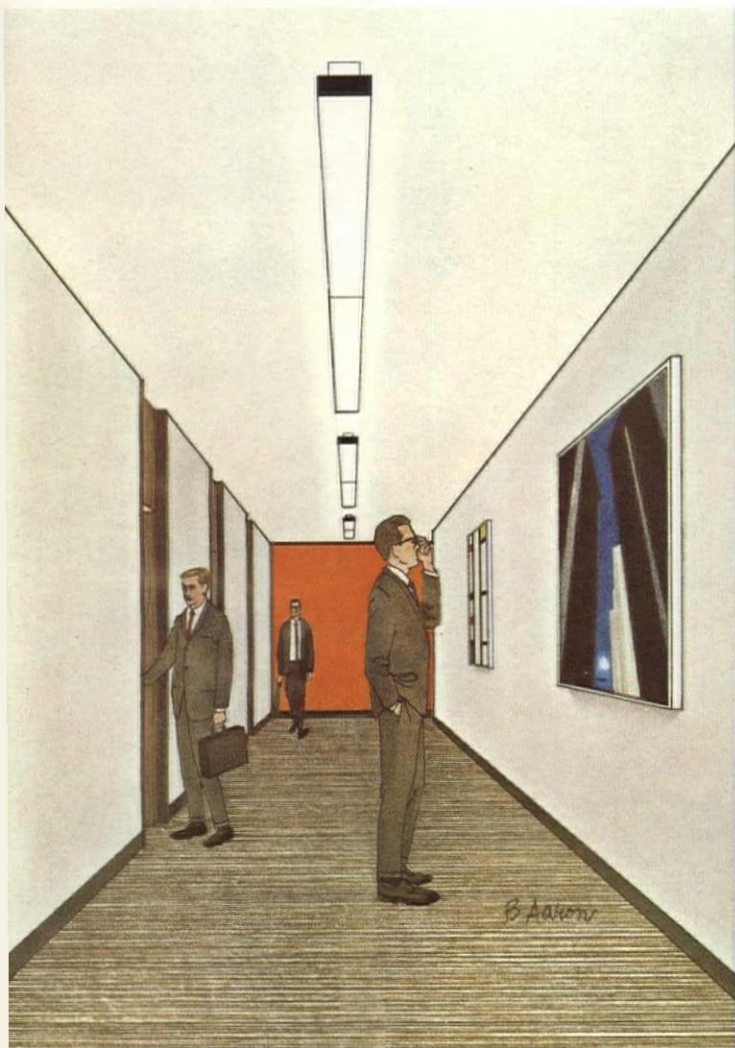
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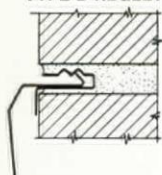


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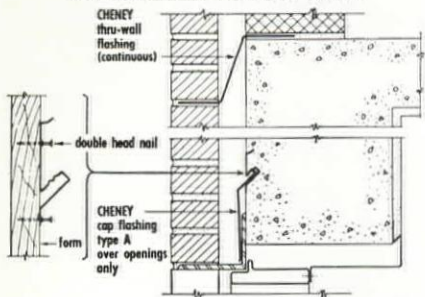
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#### Books from page 112

give really serious thought to the ugliness surrounding us and to erasing the impediments to a beautiful environment.

**Decorative Designs in Mexican Homes.** Verna Cook Shipway and Warren Shipway. New York; Architectural Book Publishing, 1966. 249 pp. \$12.95.

This is the fifth book by the Shipways on Mexican homes, and it is understandable if it does not have quite the substance of its predecessors. There are 250 photographs, drawings and plans covering a variety of subjects, among them studies of balconies, fireplaces, stairways, doors, tables, pottery, sunshades, beds, ceilings, hardware, bars.

**Art and Architecture in Italy, 1250 to 1400.** John White. Baltimore: Penguin Books, 1966. 449 pp. \$25.

This addition to the distinguished series, the Pelican History of Art, is concerned with one of the richest periods in art history. White, a specialist on the Italian 14th and 15th centuries, gives equal attention to painting, sculpture and architecture. Primary emphasis is placed upon Tuscany, but the art works of other sections of Italy are included too. There are 192 plates as well as other illustrative materials, plans and diagrams.

**New Furniture; Neue Mobil; Muebles Modernos.** Edited by Gerd Hatje and Karl Kaspar. New York; Praeger, 1966. 152 pp. \$12.50.

This is another of the volumes on furniture design, taking its place with the seven that have preceded it. The editors commend one group of firms who courageously have gone against the prevailing tendency to fancy shapes and have reproduced the new classic chairs of Breuer, Le Corbusier and Mies van der Rohe. They also give due credit to George Nelson for his new conception in office furniture. The general picture, however, in furniture design is what the editors call "rather blurred at present."

**Landscape Vocabulary.** Warner L. Marsh. Los Angeles: Miramar Publishing, 1964. 320 pp. \$8.50.

This is a useful compilation of terms employed by the landscape architect. It does not, in general, include botanical or horticultural terms, or names of plants, but does cover a wide range of words from such disciplines as geology, ecology, engineering, etc. □

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# Calendar

## National

- April 10-14:** Concrete Reinforcing Institute Annual Meeting, the San Marcos, Chandler, Ariz.
- April 17-19:** International Conference on Urban Transportation, Pittsburgh Hilton Hotel, Pittsburgh
- April 20-21:** American Institute of Steel Construction Annual Conference, Sheraton-Palace Hotel, San Francisco
- April 25-27:** Contract '67 Industry Trade Show, the Coliseum, New York
- May 7-10:** National Association of Architectural Metal Manufacturers Annual Convention, Bismarck Hotel, Chicago
- May 12-13:** NCARB Annual Meeting, Barbizon-Plaza Hotel, New York
- May 12-14:** ACSA Annual Meeting, Barbizon-Plaza Hotel, New York
- May 14-16:** Illuminating Engineering Society Annual Theater, Television and Film Lighting Symposium, Hollywood Roosevelt Hotel, Hollywood, Calif.
- May 14-18:** AIA Annual Convention, New York Hilton Hotel, New York
- May 29-31:** Construction Specifications Institute Annual Convention, Hotel Fontainebleau, Miami Beach

## AIA Regional and State Conventions

- April 12-14:** Michigan Society of Architects, Lansing
- April 20-22:** Gulf States Regional Convention, Roosevelt Hotel, New Orleans
- Oct. 3-7:** Florida Association of Architects, Diplomat Hotel, Hollywood-by-the-Sea

## AIA Committees and Related Meetings

(At the Octagon unless otherwise noted)

- April 27-29:** Documents Review
- May 12-13:** Preconvention Board Meeting, New York Hilton, New York

## International

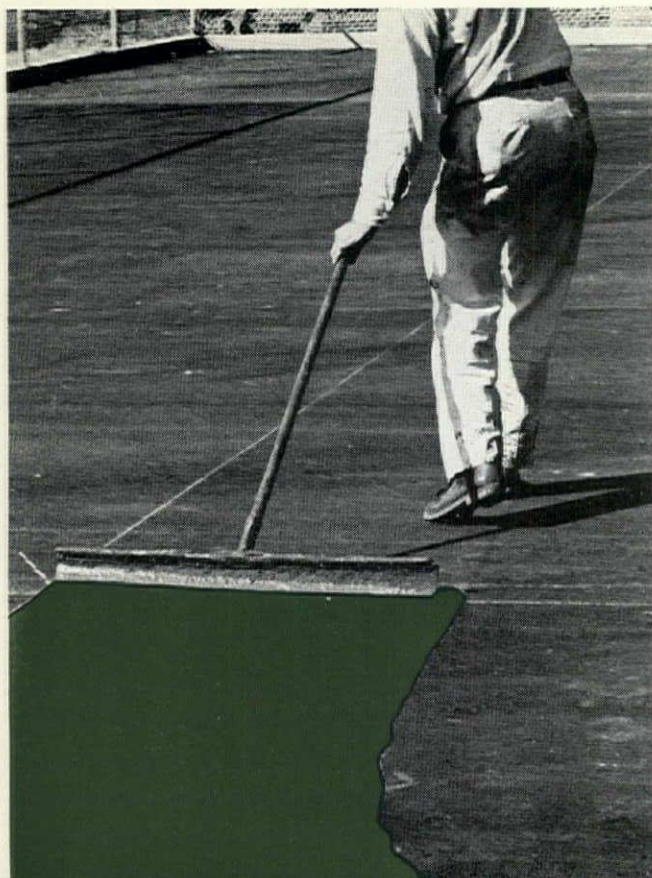
- June 18-23:** International Design Conference, Aspen, Colo.
- June 19-28:** International Commission on Illumination Session, Shoreham Hotel, Washington, D.C. (attendance by application only, to US National Committee of CIE, Secretary, L. E. Barbrow, c/o National Bureau of Standards, Washington, D.C.)
- July 3-8:** UIA Congress, Prague
- Aug. 28-Sept. 2:** 1967 International Ecumenical Congress on Religion, Architecture and the Visual Arts, Hilton Hotel, New York

## Competition

- National Football Hall of Fame, New Brunswick, N.J. Program available from Charles W. Moore, AIA, Professional Adviser, 1082 Chapel St., New Haven, Conn. Registration closes April 15.

## Tours

- Northwest Study Tour of European Design, June 22-July 16. Directed by Richard D. Roselle, White Henry Stuart Bldg., Seattle, Wash. 98101.
- Mexican Architecture and Interior Design Seminar-Tour, meeting Mexico City, Sept. 30, 14 days. Reservations accepted in order received with deposit of \$50 per person toward cost of \$358, airmailed to T. H. Hewitt, Apartado Postal 5-251, Mexico 5, D.F.

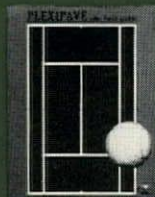


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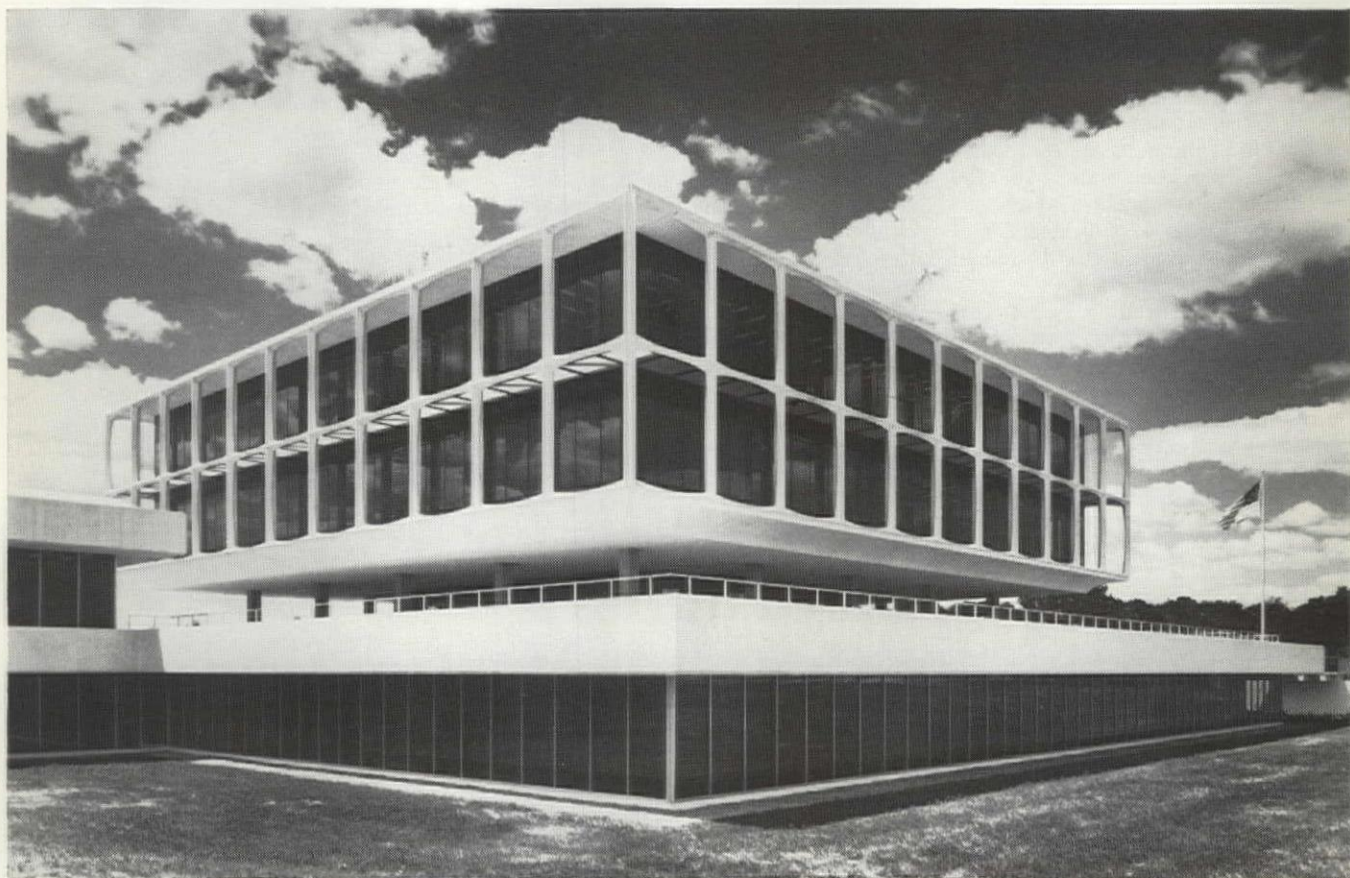
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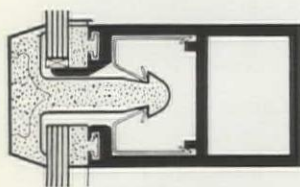
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\*Performance test data published March 1, 1965, by Pennsylvania State University.

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# Letters

## Expo & the US Pavilion

EDITOR:

We have read Mr. Diamond's article in the February issue with great interest as to his appraisal of the quality of site planning and the design of some of the pavilions for Expo 67.

In respect to the facts, however (and in the interest of maintaining the high standard of accuracy that should be the working principle of every professional journal), we must correct the author's text in regard to his paragraph on the US Pavilion.

The architects for that building are R. Buckminster Fuller/Fuller & Sadao, Inc./Geometrics, Inc. Cambridge Seven Associates are the architects and designers of the interior platforms and exhibits, and are not associated in the design of the US Pavilion itself.

The geodesic bubble is 200 feet high, constructed from slotted and welded steel pipe, not from crimped steel rods. The structural system below the Equator is a geodesic system modified with lesser circles to

resolve joining with the three horizontal ground planes. It is not based upon a Mercator projection, which is the Cartesian projection of spherical arcs of latitude and longitude on a flat plane. The plastic panels are all hexagons, so there is no geometric strategy required to efficiently use rectangular panels.

PETER FLOYD

R. Buckminster Fuller/Fuller & Sadao, Inc./Geometrics, Inc. Cambridge, Mass.

## Housing & Human Needs

EDITOR:

After reading the article "Unique Impotence or Universal Impact" in January, I have the impression that the "Brave New World" has already arrived, but we are coping with it instantly, immediately, totally, in a meaningful, ongoing and viable fashion. We call it by another name.

Thus one is able to proceed from the hypothesis that the profession needs "a detailed understanding of the range of human needs and how to meet them through environmental design" to the concept that we "must think of housing as a replaceable consumer product"; to the suggestion that, as a result of this and other concepts, "architects will devote less time to 'one-shot' solu-

tions and more to analyzing human needs in relation to the environmental factors"; and the further suggestion that "mass-produced standardized products often leave more room for personal choice and expression than architect-designed houses." Why?

Do automobile manufacturers consider human needs in relation to the environment? And is it perhaps partly because the auto is a replaceable consumer product that they do not?

Is there, indeed, perhaps something incompatible between the full range of human needs including those of the spirit and housing considered as "a replaceable consumer product . . . built to satisfy all the scientifically determined physical, psychological and esthetic requirements of consumers"?

It is an incompatibility which can only be resolved in the jargon of "double-speak" which posits the very theories within which it justifies itself—as with the concluding paragraph of the article, quoted above, which appears in the form "mass-produced standardized products *should* [writer's italics] permit room for personal choice and expression."

D. B. ALEXANDER, AIA  
San Francisco, Calif.

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EDITOR:

"Forty-eight Hours in Harlem" [Jan.] describes meticulously recent rehabilitation experiments in New York City.

There is a discrepancy, however. The caption for the photographs showing the prefabricated kitchen-bath unit being lowered into a prepared slot cut through all floors (pp. 61, 62) refers to Harlem although the text rightfully notes that this experiment is on East Fifth Street.

True, East Harlem is spreading, but it has not yet engulfed New York's East Side that far.

ELISABETH COIT, FAIA  
New York, N.Y.

## A Daily Joins the Cause

EDITOR:

In an editorial acclaiming the new Harris County Center for the Retarded (architects: Barnstone & Aubrey), the *Houston Post* wrote: "Great architecture need cost no more—and often costs less—than architecture which is merely elaborate or imposing."

Isn't it nice to see these concepts written up on the editorial page of a daily outside of New York?

SIMONE SWAN  
New York, N.Y.



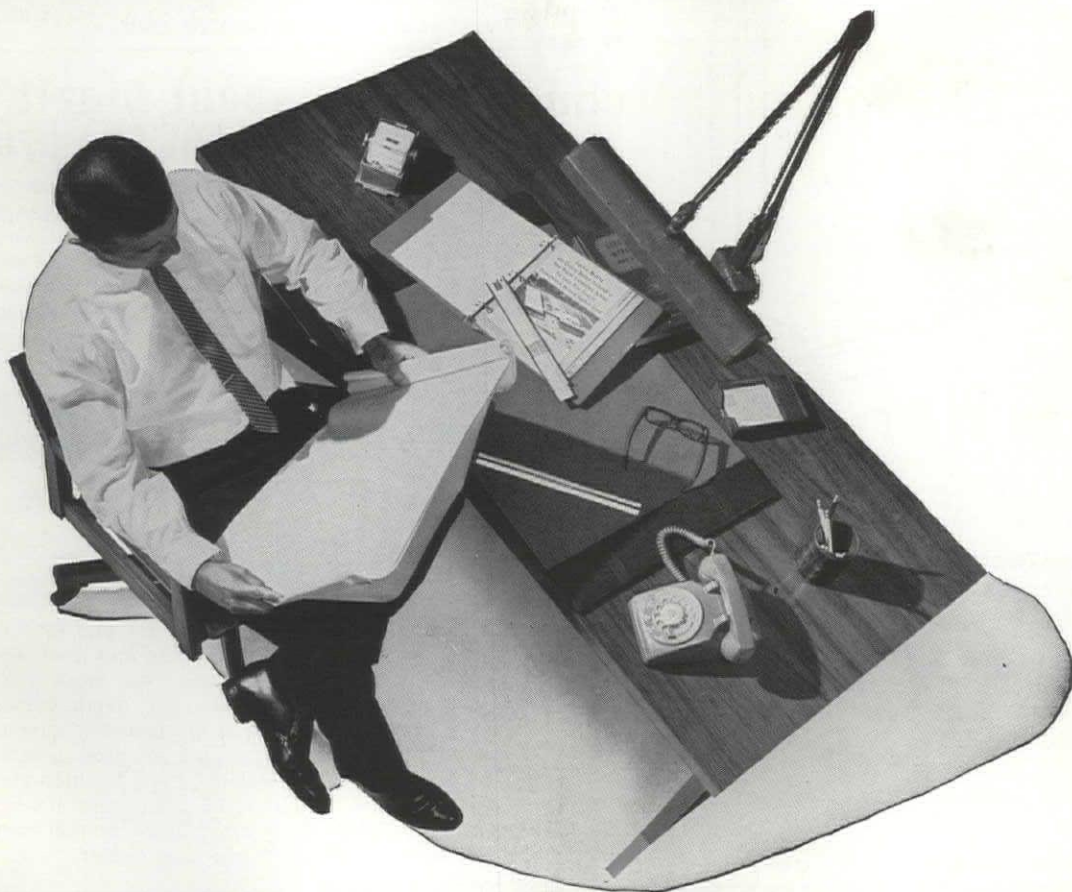
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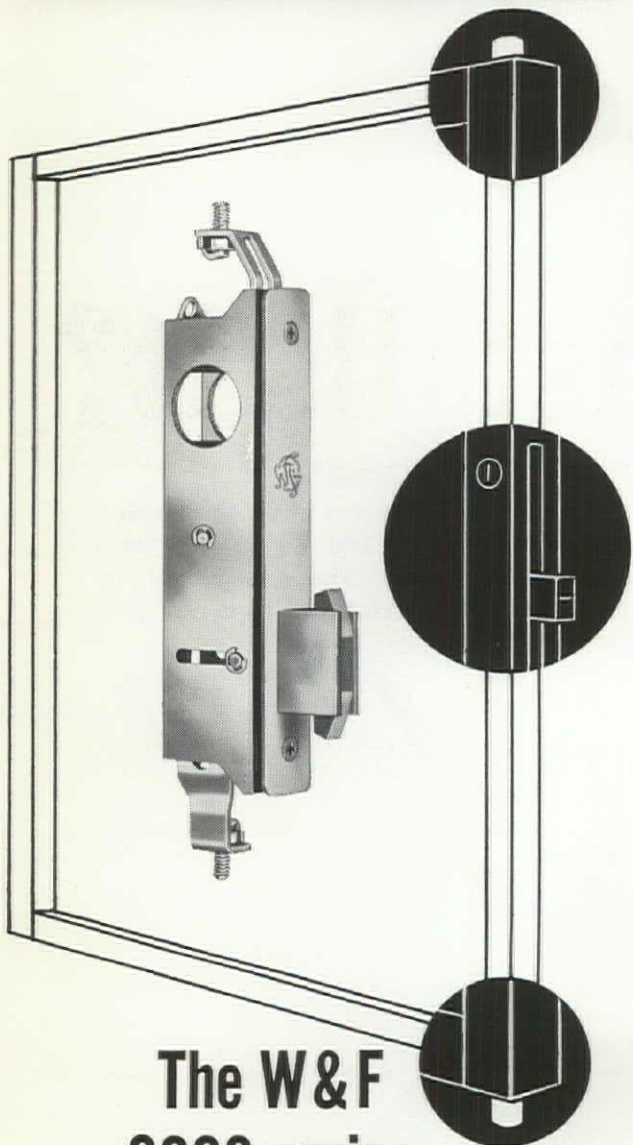
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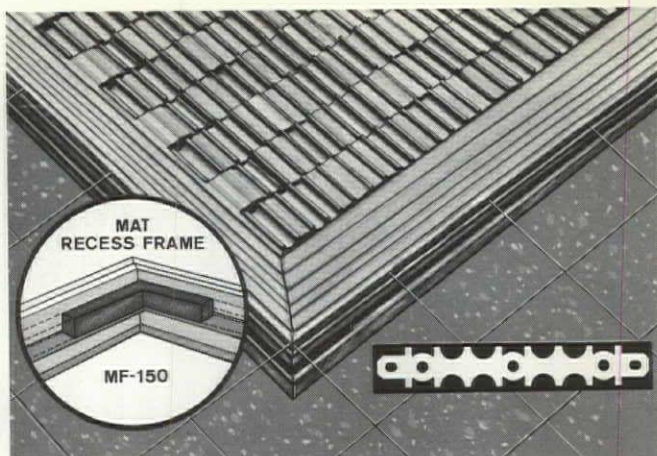


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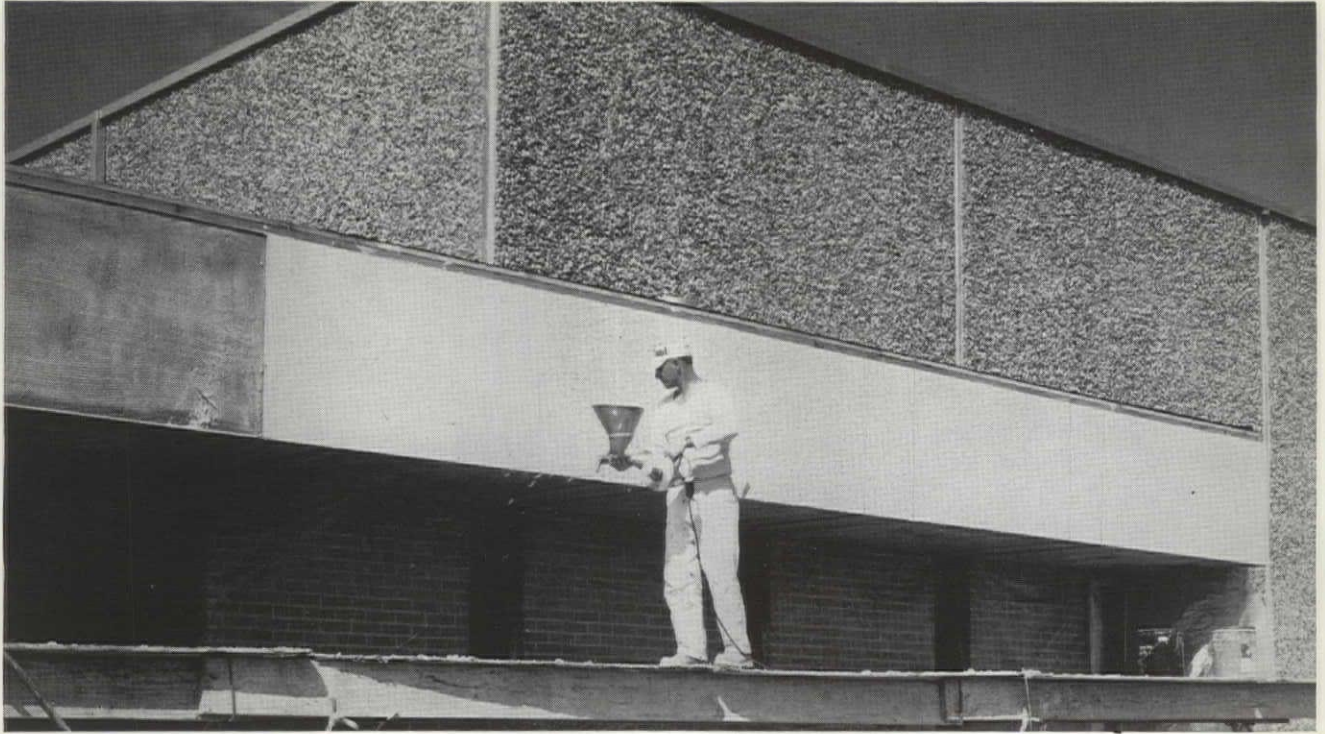
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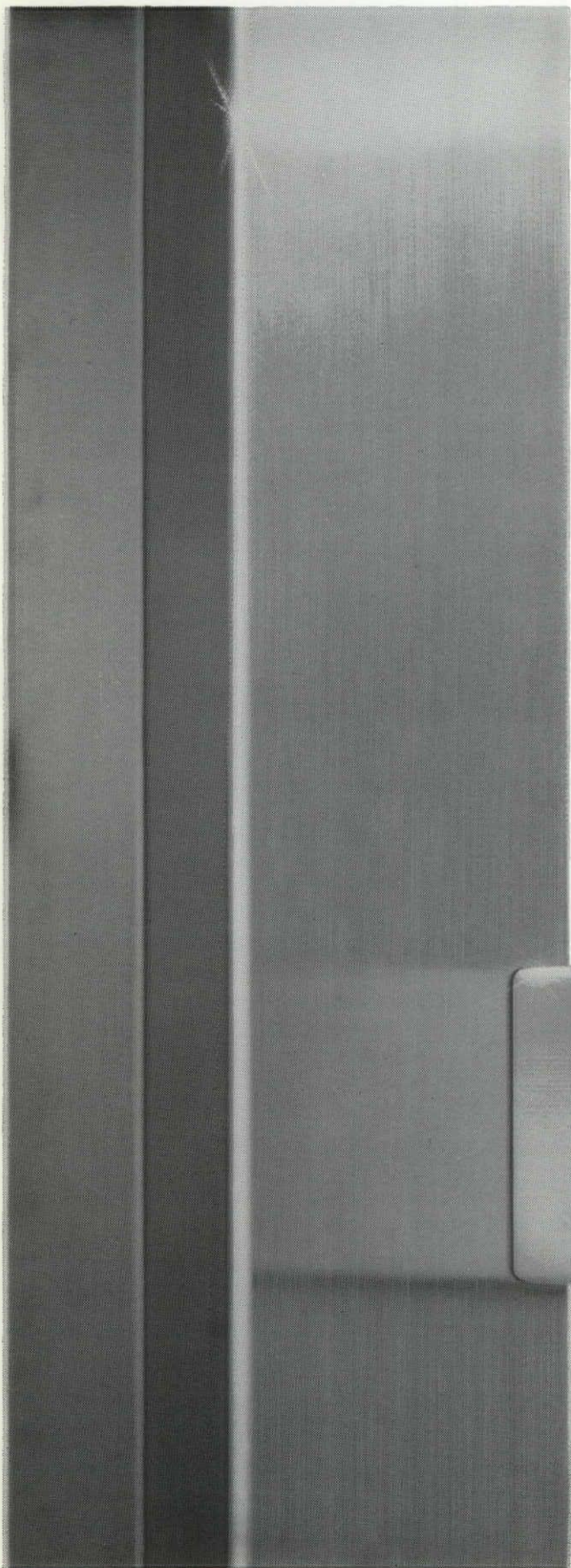
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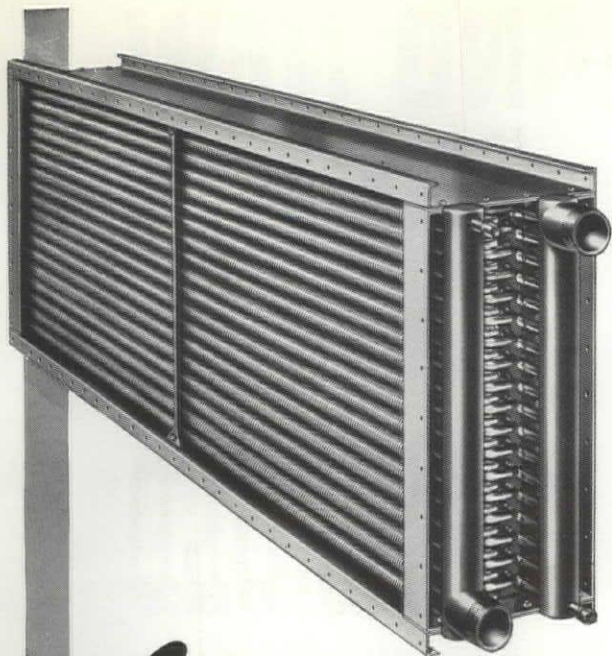
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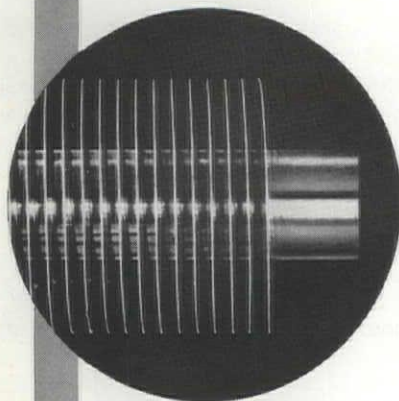
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AIA JOURNAL/APRIL 1967 127



## Next Month

**The New Architect:** "New demands and needs, and new technologies, are making the new architect," says Institute President Charles M. Nes Jr., FAIA. And so the 1967 convention will provide an in-depth examination of this new professional, analyzing where he stands today and pointing out some of the ways in which he may prepare for the future.

**A Twofold Approach:** May's Official Convention Guide likewise will look at the future of the profession, with three architects delving into practice itself and with an educator projecting the changing role of the architectural schools. What these professionals have to say should be of interest to the stay-at-homers as well as the conventioners.

**New York, New York:** "A city of constantly accelerating, almost unbelievable change; of enormous and troublesome energy; symbol of many of the hopes and accomplishments of the New World: New York—the perfect setting for a convention whose theme is "The New Architect," to again quote President Nes. Thus the second part of the May editorial package will focus on the host city itself.

**The Gold Medalist:** One of New York's own will receive the Institute's highest honor this year. A study of the projects of Wallace K. Harrison, FAIA, will review "his demonstrated ability to lead a team in producing significant architectural works of high quality over a period of 30 years."

**All Around the Town:** Several other articles will examine New York from different points of view. One will discuss the program intended to preserve the city's architectural heritage; another will look at contemporary buildings in light of the controversial Bard Awards; a third will explore Mayor Lindsay's "fun city" in a visitor's guide including some offbeat activities.

PHOTO CREDITS: *Milwaukee Journal*—p. 14 (Sister Mary Remy Revor); Maude Dorr—p. 14 (Richard Kelly); Walter Daran (portraits), New York Convention and Visitors Bureau, Hank Tenny, J. Alexander, General Electric Co., United Press International, Jim Sheppard, Balthazar Korab, John Dennison, New York Department of City Planning, Tidyman Studios, Orville G. Lee, AIA—pp. 50-80.

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# 15 YEARS OLD



**And you can't tell the difference! A properly installed Vulcathene® Corrosion-Resistant Drainline System never fails, never needs maintenance, and never shows sign of change.**

Vulcathene has been proven time and time again in 15 years of grueling service—handling alkalis, salts, organic compounds, mineral acids, radioactive wastes, and laboratory and production wastes of all kinds.

Temperatures from  $-65^{\circ}\text{F}$  to  $200^{\circ}\text{F}$  don't affect Vulcathene. It's tough and resilient enough to withstand impact and shock. And, using the patented Polyfusion method, you can install a top quality Vulcathene system in about half the time of other materials—with substantial savings in time and dollars.

Over 25,000 installations and 545 code approvals show the wide acceptance of Vulcathene. Completely integrated polyolefin systems—sinks, pipe, traps, fittings, couplers, adapters, and dilution tanks—are available in stock from 1½ to 6 inches. See our catalog in Sweet's Architectural or Industrial Construction Files or write Dept. 4604, Nalgene Piping Systems Division, 75 Panorama Creek Dr., Rochester, N.Y. 14602.



**NALGENE PIPING SYSTEMS / NALGE COMPANY**

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