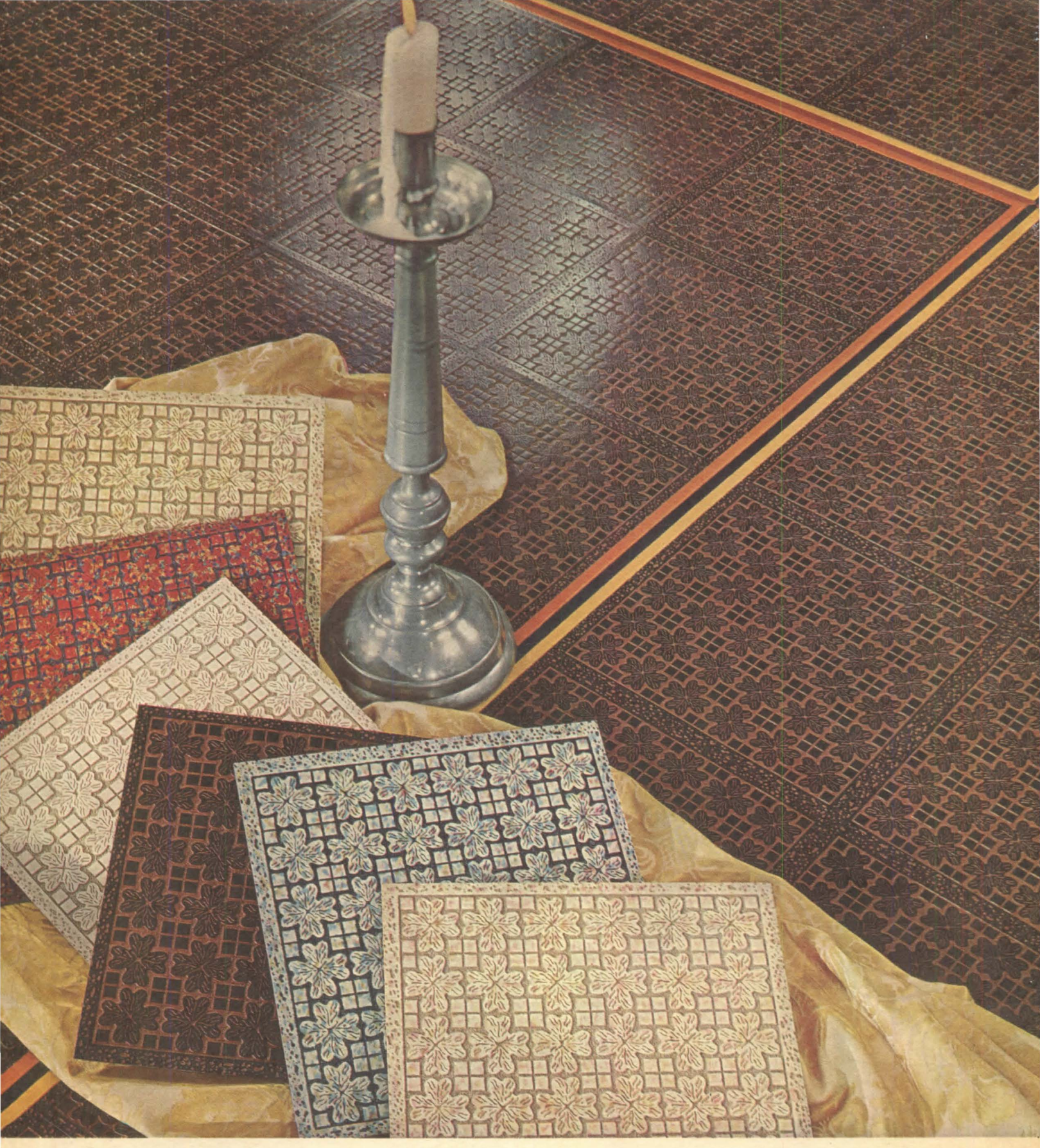
E ARCHITECTURAL FORUM / JULY–AUGUST 1965

FORUM



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THE ARCHITECTURAL FORUM
Vol. 123 No. 1 July/Aug. issue
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Cover: Detail of Expo 67 housing (page 69)

PUBLISHER'S NOTE

This issue of the new Architectural Forum is the first of two double-issues we will be publishing every year: In July/August, and in January/February.

The purpose of these double-issues is to give the Editors a chance to focus on a single subject of major significance. Such issues require elaborate advance-planning, as well as a crystal ball or two: A subject chosen several months ahead of publication may not be of earth-shaking significance when it is finally presented.

The double-issue you are reading now was planned several months ago. Its subject is Housing in the City, and we seem to have been lucky once again: as this issue goes to press, the House of Representatives has just passed President Johnson's omnibus housing bill, and the Senate is about to do the same. In short, Housing in the City is about as hot an issue inside the U.S. today as any.

The reason this is so can be explained by citing three or four facts: first, all significant civilizations in recorded history have been created in cities. Second, American cities are rapidly becoming uninhabitable; the average population-density of the U.S. is about 50 persons per square mile, but the average for Manhattan is 75,000 per square mile. Third, the reason many people like cities is that cities offer an exciting mix; yet our cities are being torn asunder by racial and social strife. Fourth, at the current rate of U.S. population growth, we must, during the next three decades, build living places for 100,000 additional people every single week.

So that is what this double-issue is about. Moreover, Urban America Inc. has commissioned Chermayeff & Geismar to design a travelling exhibit on the same subject, to be distributed by the American Federation of Arts. The exhibit will be ready in September.

We'll see you then. Have a nice summer and, meanwhile, don't worry too much about your densities. L.W.M.

The radiant ceiling panels of the IRC System are finished in baked enamel for easy cleaning. There are no floor-mounted, wall-hung, or window-sill units to clean or to get in the way.

ENVIRONMENTAL CONTROL IN HOSPITALS

Designing to meet a medical facility's special conditions of temperature, humidity, air cleanliness and circulation

The environmental requirements of today's hospital increase the demand for total air conditioning. Thirty years ago, air conditioning a hospital was big news. In fact, air conditioning *anything* was new and exciting; the concept of a controlled indoor environment had just dawned.

Many basic ideas now common in air conditioning practice were born in that period. Force-fed by the pressure of great building programs, they matured and were refined into highly efficient systems. But they had their limitations.

The vast volume of air used to heat and cool a large building required extensive mechanical equipment and ductwork. Wet refrigerating coils had a bad habit of accumulating and propagating airborne contaminants. These deposits tended to develop into colonies of bacteria and other micro-organisms which passed into the air stream during the system's operation.

Great strides were made by filter designers to reduce this hazard. But one weakness of the filter remains: it has to be serviced regularly and faithfully by human beings — and is subject to consequences of their vagaries.

Need for a New Approach

The basic ideas of the 1930's were great in their day, but we are now in the mid-1960's. The need now is for an up-dated approach to hospital comfort control — one that takes into account the special conditions of the hospital.

Designing an air-conditioning system to satisfy these particular requirements differs from designing for other building types. Problems indigenous to hospitals are:

(1) The need for 100% exchange of air.
(2) Complete control of airborne contamination.
(3) Temperature, humidity, and air movement favorable to a patient's health and comfort.
(4) Cleanliness and ease of maintenance.
(5) Economy—both in first cost and in operation.

There is a new awareness of air conditioning as a contributing factor in sanitation, as well as comfort. Obviously, it is inconsistent to spend time and money to create aseptic conditions in surgery and other critical departments by sterilization methods and then permit contaminating influences to exist in the air conditioning system.

Growth of New Technics

Technological advances over the past decade have placed at the disposal of the hospital architect new equipment, methods and procedures that are capable of improving environmental conditions in medical facilities — at the same time, contributing to economy of installation and operation.

One of the newest developments is the Inland Radiant Comfort System. Here is a completely new concept in total air conditioning specifically designed for the needs of the hospital.

This system combines three widely accepted, proven components into one engineered design: (1) a radiant-acoustic ceiling, (2) a chemical air conditioner, and (3) a cellular steel floor. Because of the integrated design, each component assists in the functioning of the others.

100% Exchange of Air

The arguments for and against using only *outside* air as an air-conditioning source, instead of recirculating *inside* air, are academic. If it weren't for its record of excessive costs (*until now*), everyone would prefer to start with outside air, condition it, feed it into the patient's room, then exhaust it. Outdoor air, by action of the sun and massive dilution, usually is less contaminated than recirculated air, both given the same degree of filtration.

Recirculating inside hospital air is a touchy procedure completely dependent upon filter efficiencies which can be variable, due to maintenance problems. Equally or more hazardous is to attempt flushing air completely in some parts of the hospital and not in others, depending upon balanced pressures to prevent cross-contamination.

No one prefers these compromise measures. They were forced upon hospital designers by the high cost of conditioning the large volumes of air required by conventional, all-air systems. To add the cost of conditioning outside air was to prohibit it.

This is no longer so, with the Inland Radiant Comfort System for hospitals. By efficiently handling only a small amount of air, the IRC System introduces 100 per cent outside air throughout the hospital and does it at no extra cost.

This contrasts with conventional air conditioning systems which generally are based on the principle of using large quantities of air, most of it recirculated. Decontaminating air in large quantities not only is impractical, but the fan horsepower to move such air adds to the expense of operation.

With Inland's modern system, it is practical to exhaust all air without recirculation. The air can be decontaminated very effectively, because of the small amount used.

Radiant Panel Ceiling System

The inherent advantages of radiant-acoustic ceiling panels help to make this new Inland technology a sound approach to hospital air conditioning.

As its name implies, the radiant-acoustic ceiling heats and cools by the principle of radiant heat transfer and, at the same time, provides acoustical control to the room space.

Acoustical treatment is simple. Perforations in the aluminum panels, with glass-fiber insulation above, give this ceiling system an excellent acoustical rating — noise reduction coefficients as high as .90. Sounds disturbing to a restful atmosphere, e.g., the extra noise level during visiting hours, are dampened.

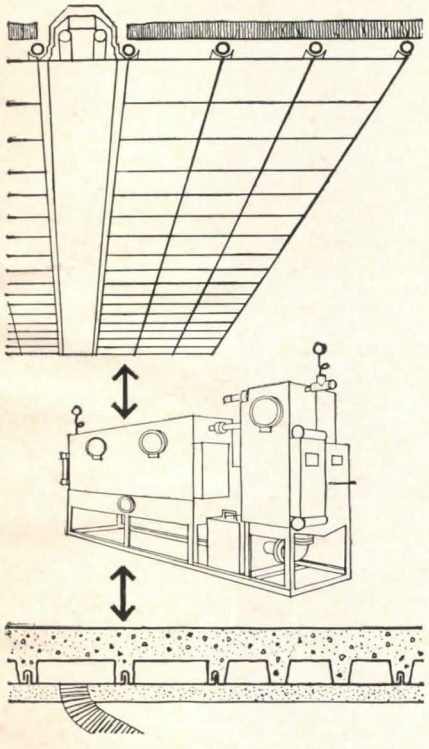
The radiant-acoustic ceiling acts as a single, wall-to-wall heat exchanger — heating when the thermostat calls for heat, and cooling when circumstances require. The ceiling heats in the same manner as the sun. Low-frequency waves of heat energy travel in straight lines from the ceiling to every part of the room, bathing all surfaces in warmth.

This steady, gentle comfort is patient-oriented. Physiologists have determined that more than one-half of our body heat is lost by radiation. Therefore, the most practical method of maintaining comfort is to control the rate of heat gain or loss by radiant means.

Here's where radiant heating is ideally suited to the needs of a hospital patient. It bathes his body in continual warmth, free of drafts. Even without a blanket, the rate of his body heat loss is kept at a uniform rate throughout the day and night. Because radiant heating is not dependent upon moving air to raise room temperature, there are no hot blasts from registers, no strong convection currents.

Radiant cooling obeys the same physical law of radiant energy transfer as radiant heating, but in reverse. Now, the ceiling is made cool and it absorbs heat from all surfaces in a room, including a patient's body. The human body loses heat most comfortably through radiation, without chilling drafts.

Only ventilation is required of the air system. Ventilating air is supplied at low velocity and held to desirable humidity levels.



The Inland Radiant Comfort System is made up of three basic components, carefully engineered to work together more efficiently than any one of them could work alone. The components are not new to architects and mechanical engineers. They are: (1) a radiant-acoustic ceiling, (2) a chemical air conditioner, (3) a cellular steel floor (optional in hospital construction).

All three of these components have long records of successful performance as individual products. It is the way in which they are used together — in integrated design — that accounts for the efficiency of the IRC System: The radiant ceiling handles virtually the entire heating and cooling loads in the hospital. The chemical air conditioner controls humidity and purifies the air. Reduced air volume makes it possible to use the cellular steel flooring for air distribution, eliminating tons of ductwork.

Chemical Air Conditioning

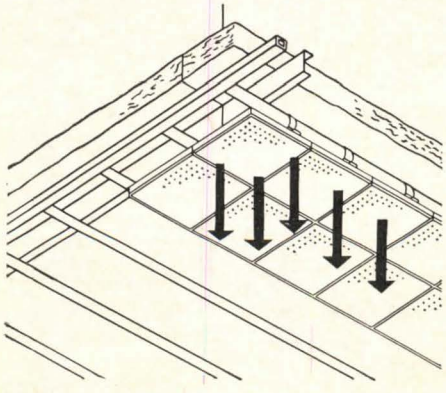
Chemical air conditioners have long been recognized as superior devices for controlling humidity and air purity in operating rooms, recovery rooms, and other critical hospital areas. In the integrated design of the Inland Radiant Comfort System, a Kathabar® Chemical Air Conditioner* treats the hospital's entire ventilation-air system.

Air is conditioned by a spray of lithium chloride. This traps up to 97 per cent of all airborne impurities.

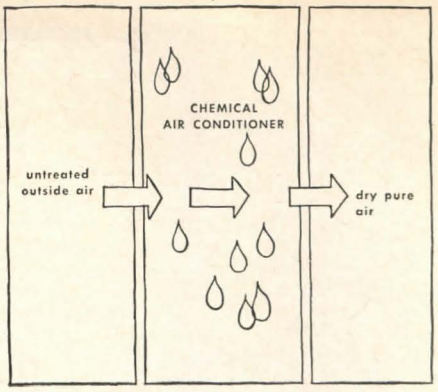
Conventional air conditioners use refrigeration coils to cool and dehumidify the air. For many years, these wet coils have been recognized as breeding places for colonies of bacteria and micro-organisms.

Trouble arises when matter from these colonies blows off into the hospital's air stream. Elaborate filter systems have been designed to remove this contamination from the air, but their complete effectiveness frequently has been questioned. Hospital administrators, bacteriologists, and others have been shocked at the contaminating effect of conventional air conditioning systems.

*Surface Combustion Division, Midland-Ross Corp.



The radiant-acoustic ceiling acts as a single, wall-to-wall heat exchanger. Heating and cooling are accomplished by means of aluminum panels attached to grids of water pipes hung in the manner of a conventional suspended ceiling. Hot or cold water is circulated through these pipes to heat or cool the panels. Heat loss and noise are reduced by an acousti-thermal blanket.



Chemical air conditioning removes the latent (humidity) load from incoming outside air. A non-vaporizing solution of lithium chloride with a great affinity for moisture is sprayed into the air stream. Condition of the air as it leaves the dehumidifier at a specified humidity level depends upon (1) solution concentration and temperature, and (2) temperature of cooling tower water.

Substantial Construction Savings Possible

Where hospital plans include a steel frame, significant savings in construction costs accrue from the IRC System's third basic component, a cellular steel floor.

Ventilating air is carried through cells in Inland Celluflor, eliminating tons of expensive ductwork. This not only saves money on materials and labor, it reduces the space required between floors. This can drop the total height of a multi-story building by as much as 5 per cent, without sacrificing a cubic inch of interior space. Obviously, there are consequent cost savings all down the line — including savings on the foundation, since building weight shrinks with the height.

There are other advantages to consider here, during the planning stage of a new hospital: The greater erection speed of steel-frame construction. The flexibility of electrification made possible only by a Celluflor steel floor.

Breakthrough in Hospital Comfort Control

Of great importance to the hospital architect, the Inland Radiant Comfort System delivers all of its advantages well within the budget for an ordinary hospital air conditioning system. Key to its economy is its concept of three basic components working together. By balancing the high performance of these components through careful engineering, the IRC System saves on both first cost and operating costs.

Further information is available in a new brochure, "Breakthrough in Hospital Comfort Control." Write for your copy today. Address Inland Steel Products Company, Engineered Products Division, Dept. H, 4033 West Burnham Street, Milwaukee, Wisconsin 53201.

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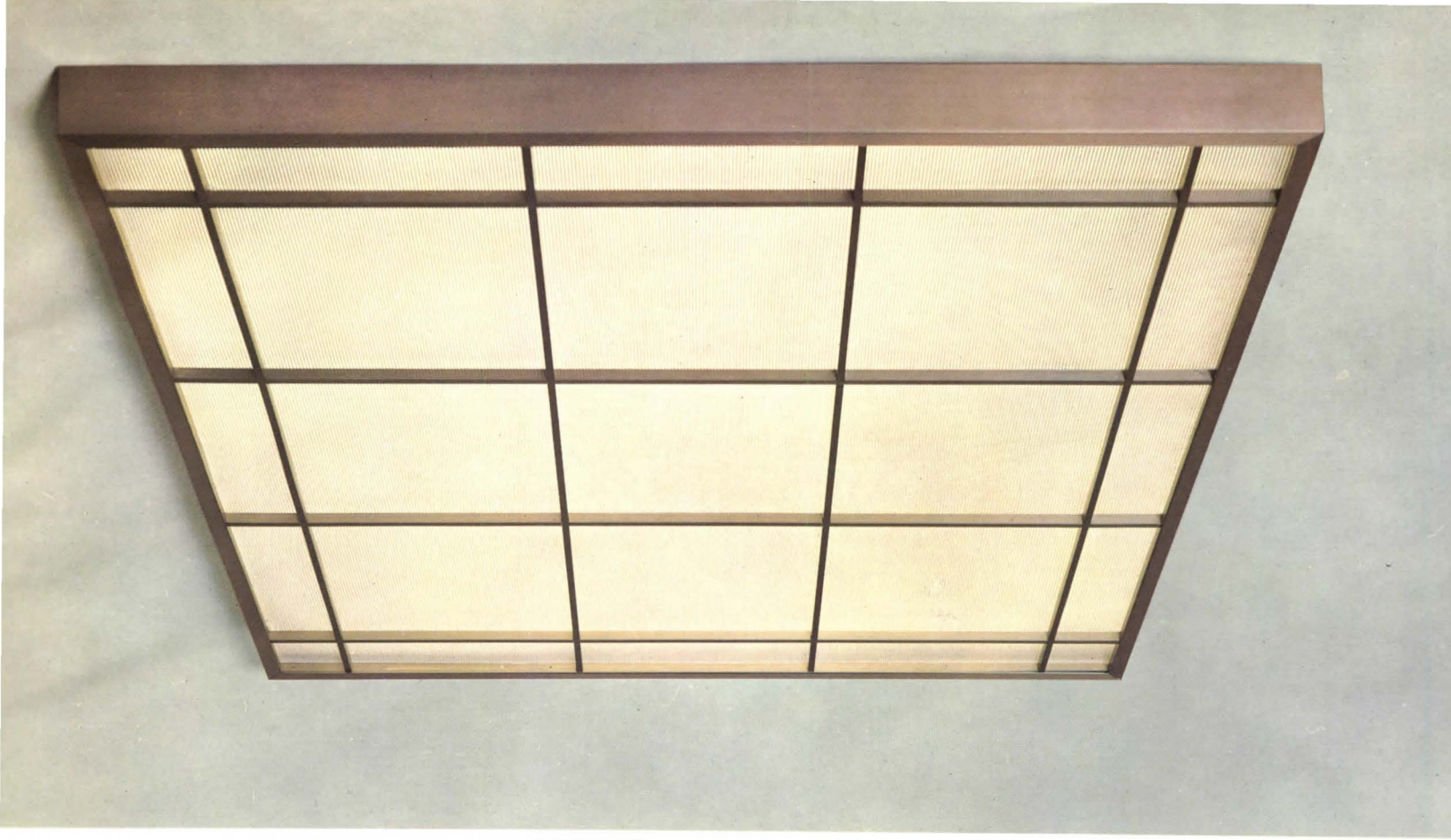

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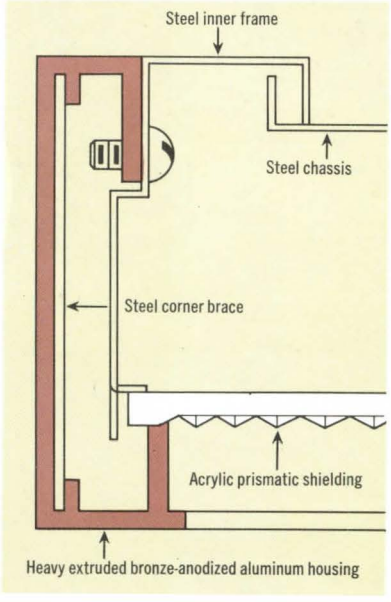

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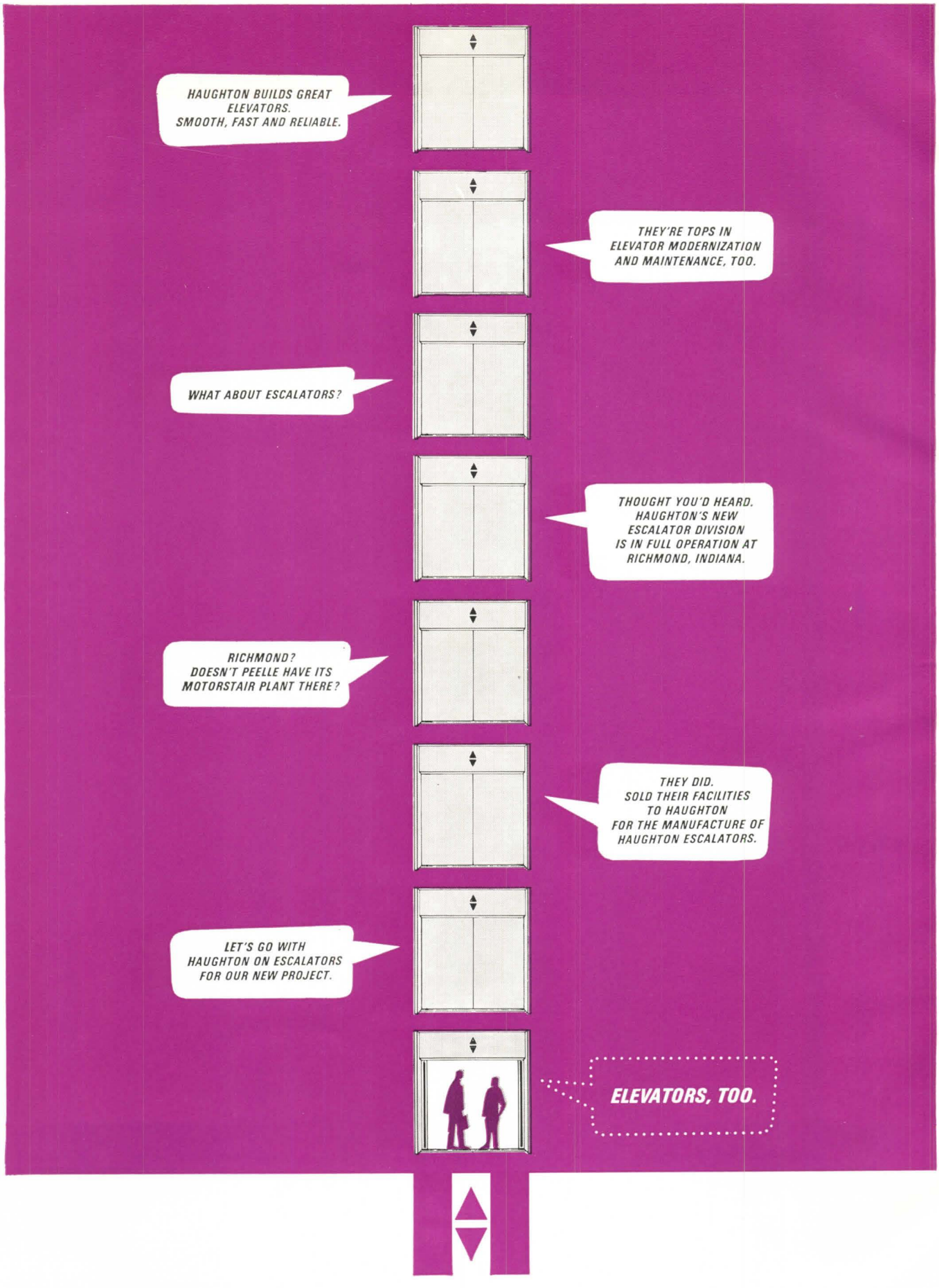

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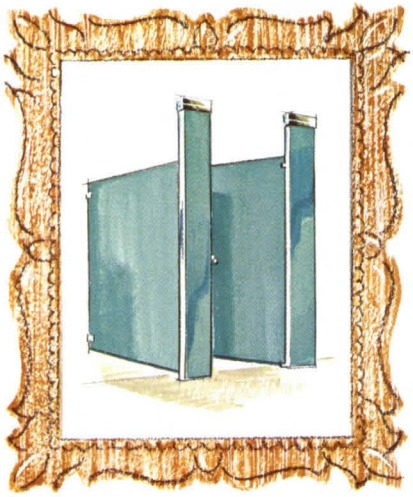

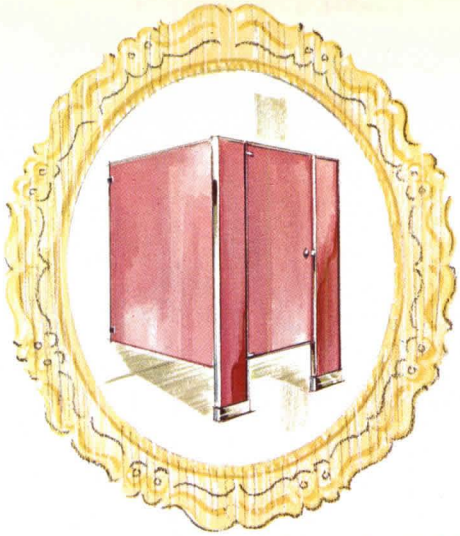

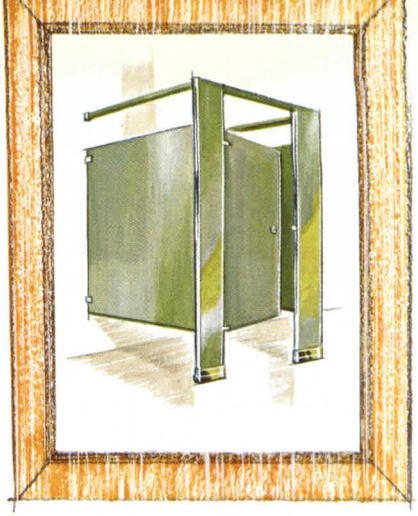

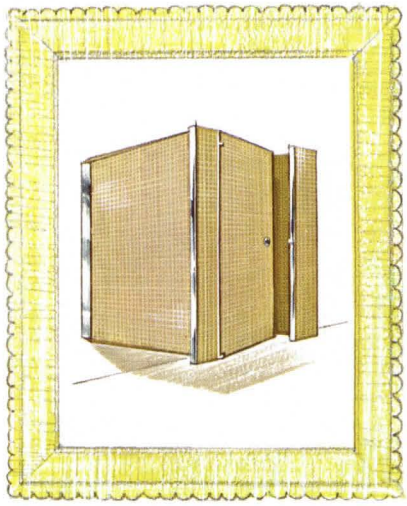

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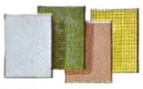
IS AVAILABLE IN THE WIDEST RANGE OF MATERIALS AND FINISHES • BAKED ACRYLIC FINISHES IN 22 COLORS  PORCENA *(porcelain on steel)* IN ALMOST UNLIMITED  RANGE OF COLORS AND TEXTURES • DU PONT * Tedlar® COATED VINYL • RIGID PLASTIC  LAMINATES • STAINLESS  STEEL  ETC. . . GENUINE Sanymetals ARE BUILT TO DESIRES AND SPECIFICATIONS . . . YOU NAME IT!

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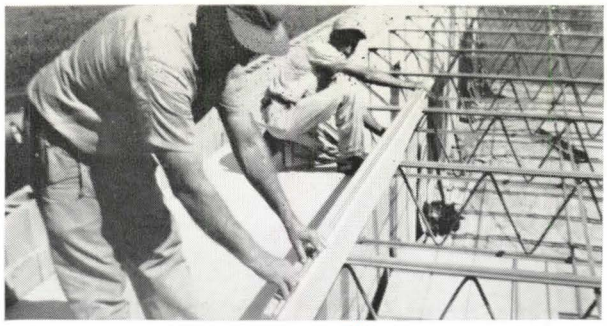

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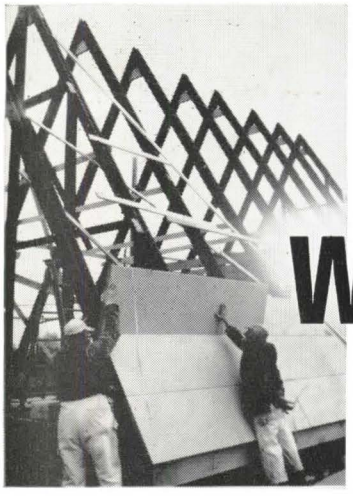

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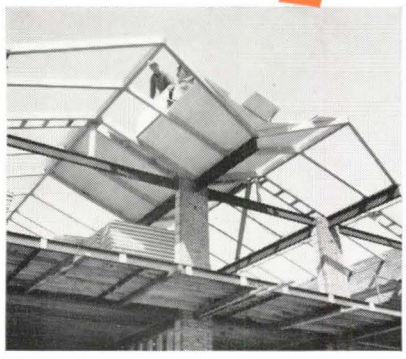

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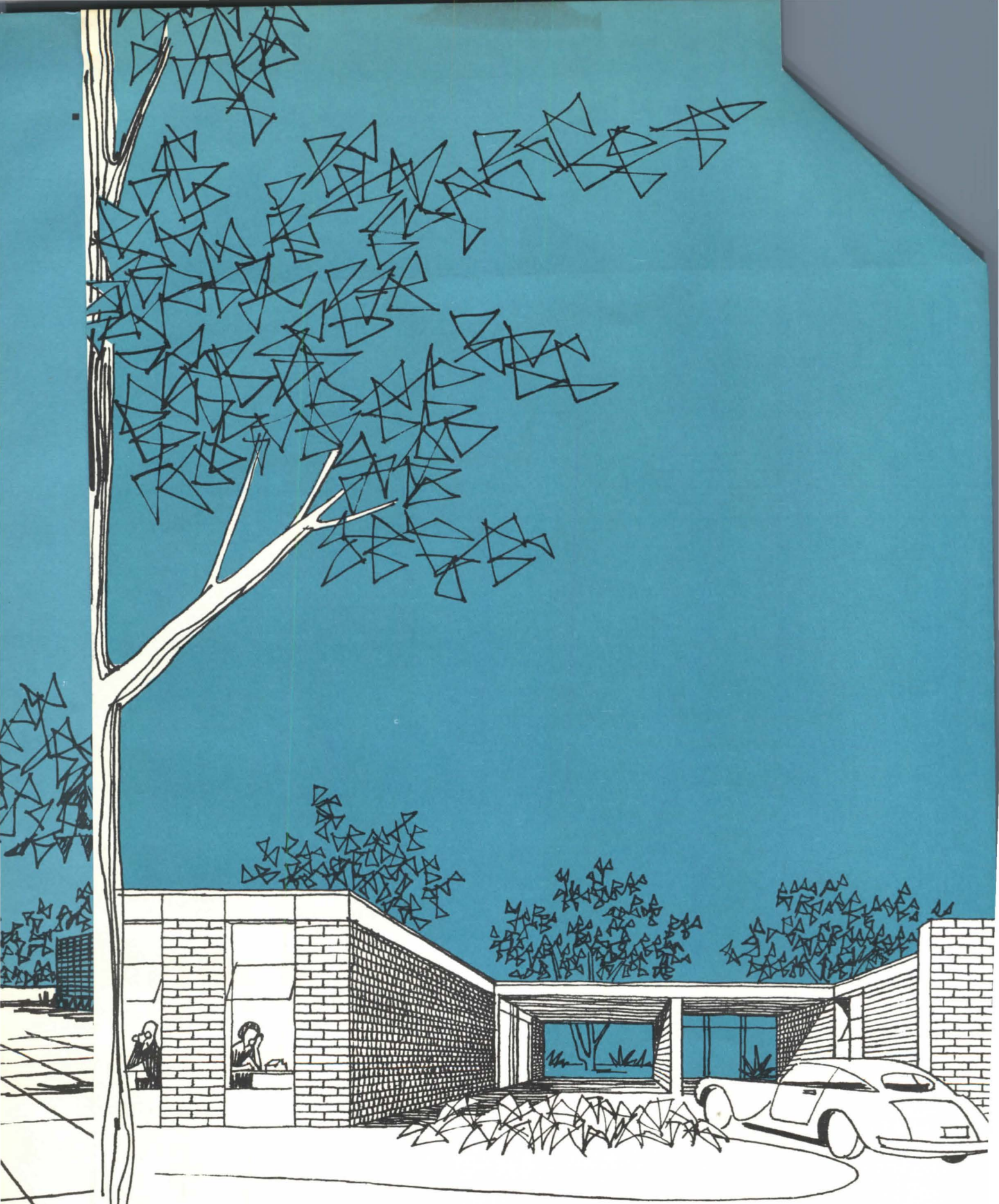

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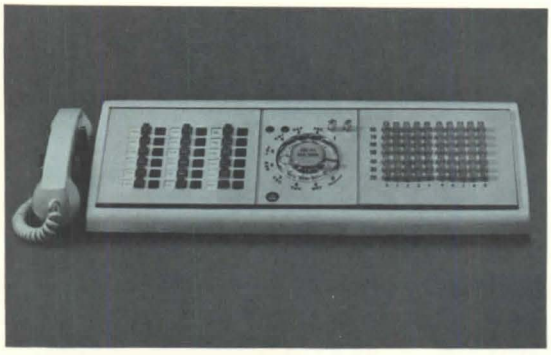

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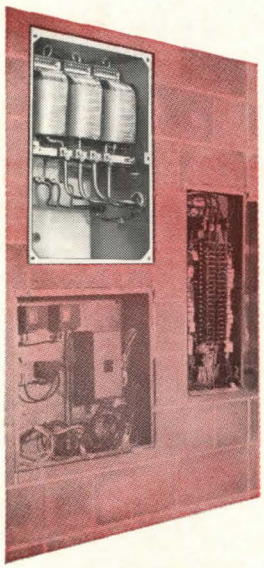

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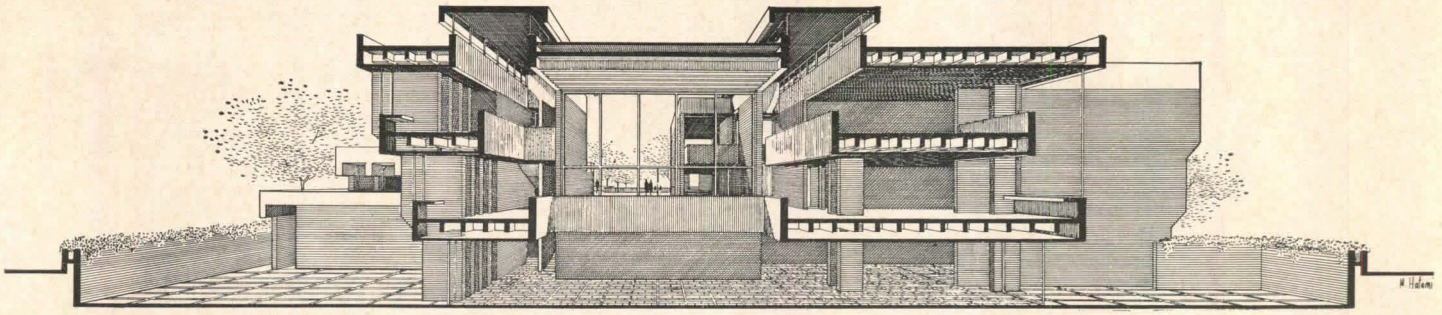
Zonolite prototype building #9: A college library



Marvin Hatami designs a college library.

Utilizing Zonolite® Masonry Fill Insulation in walls reduces initial equipment costs, saves $700 per year on fuel, substantially raises indoor wall surface temperature.

What would seem to be an added cost for insulation, in reality, is a highly profitable investment for your clients.

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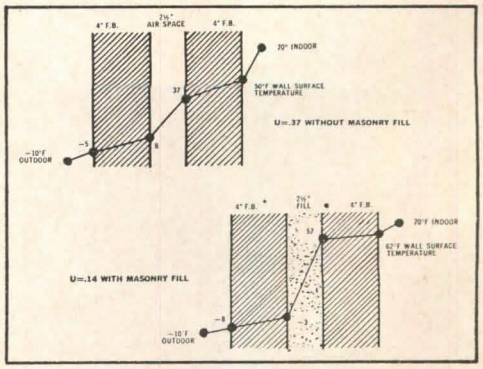

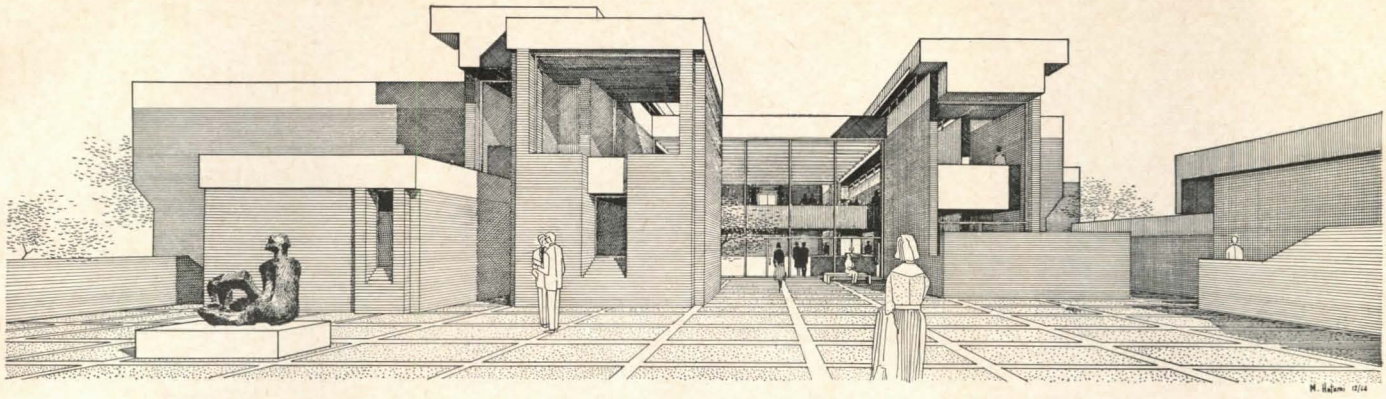

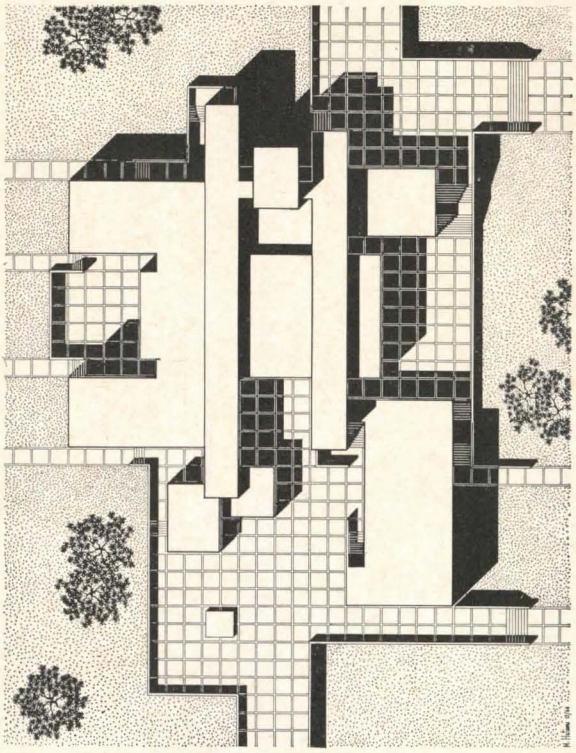

DESIGN CONDITIONS			Winter Heat Loss in BTU/Hr. Assuming 70°F Indoors —10°F Outdoors		Summer Heat Gain in BTU/Hr. Assuming 95°F, DB 64°F, WB Outdoors 78°F, DB 65°F, WB Indoors	
Walls	Without Masonry Fill	**With Masonry Fill**	Without Masonry Fill	**With Masonry Fill**	Without Masonry Fill	**With Masonry Fill**
	4″ Face Brick 2½″ Air Space 4″ Face Brick	4″ Face Brick 2½″ Zonolite Fill 4″ Face Brick	962,000	**364,000**	201,000	**76,000**
Roof	Roofing, 3½″ Concrete		225,000	**225,000**	107,000	**107,000**
Floor	4″ Concrete on Grade		56,000	**56,000**	—	—
Glass: Solar & Transmission	¼″ Heat Absorbing Plate		730,000	**730,000**	443,000	**443,000**
Ventilation	15,000 DFM		1,080,000	**1,080,000**	229,000	**229,000**
Lights	175 Kilowatt		—	—	596,000	**596,000**
People	500		—	—	200,000	**200,000**
Totals			3,053,000	**2,455,000**	1,776,000	**1,651,000**
% Savings with Masonry Fill			$\frac{3,053,000-2,455,000}{3,053,000} \times 100 = \mathbf{19.6\%}$		$\frac{1,776,000-1,651,000}{1,776,000} \times 100 = \mathbf{7\%}$	

Additional facts of significant interest are available in our Bulletin MF-113. For your copy, please write Dept. A, Zonolite, 135 South LaSalle Street, Chicago, Illinois 60603

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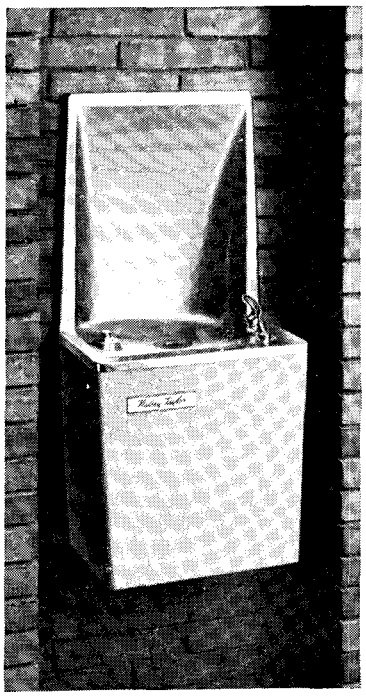

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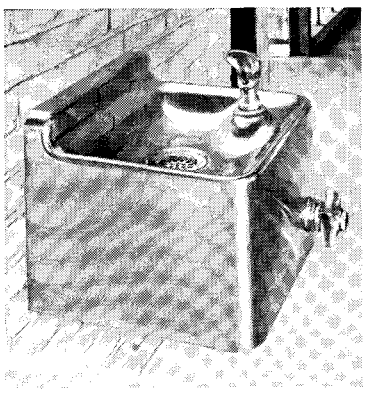

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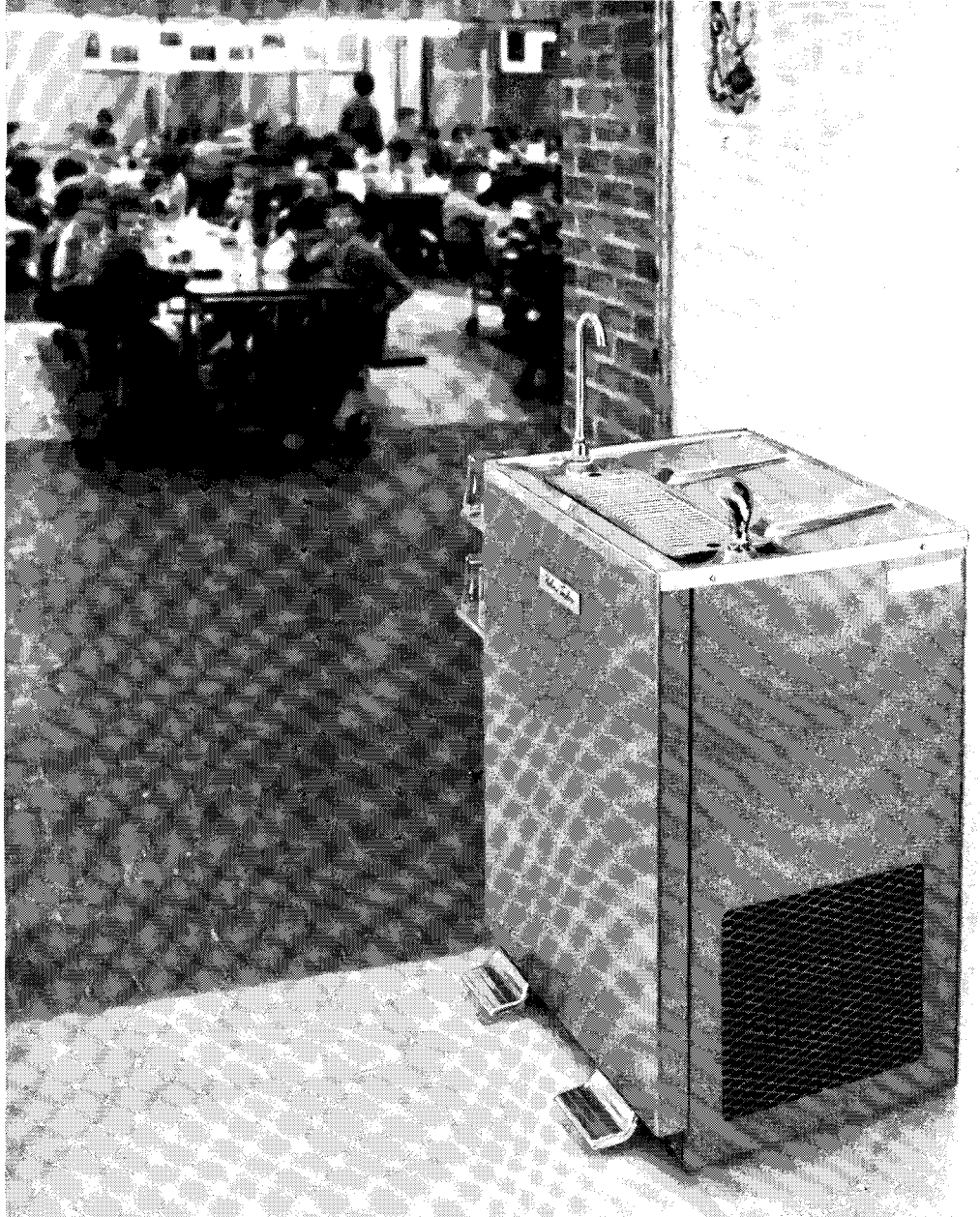

COLD WATER

by the glass or by the swallow

Only 30 inches high, this low-level water cooler has been designed for elementary school cafeteria service. Can be equipped with one 2-stream mound-building projector and one glass filler, two projectors, or two glass fillers. Stainless steel trays for glass storage can be attached to either side panel.

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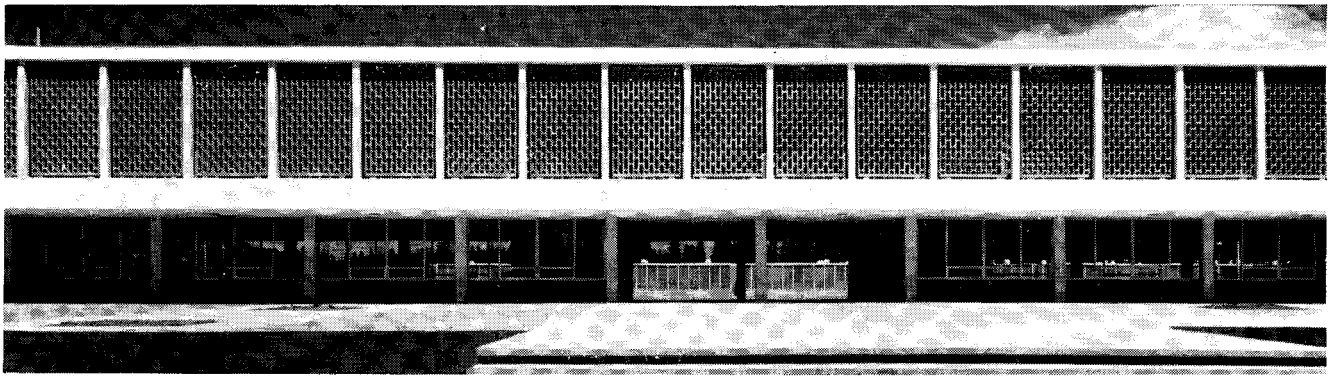
The spectacular all-concrete Corrections Center at Shelton, Washington looks more like a college campus than a prison. Even the traditional iron bars have been replaced by decorative concrete screen walls. This is in character with the job the new $13-million Center was designed to do—educate and rehabilitate the young adults who are its inmates.

Unique among the 14 structures on the 400-acre site is the Multi-Purpose Building, which boasts its own "wings of an angel"—155 small and three large hyperbolic paraboloid roofs. Measuring 390 by 420 feet, the building houses a huge gymnasium which doubles as an auditorium, a dining room that can accommodate all 720 inmates at once, and a completely-equipped vocational-training center.

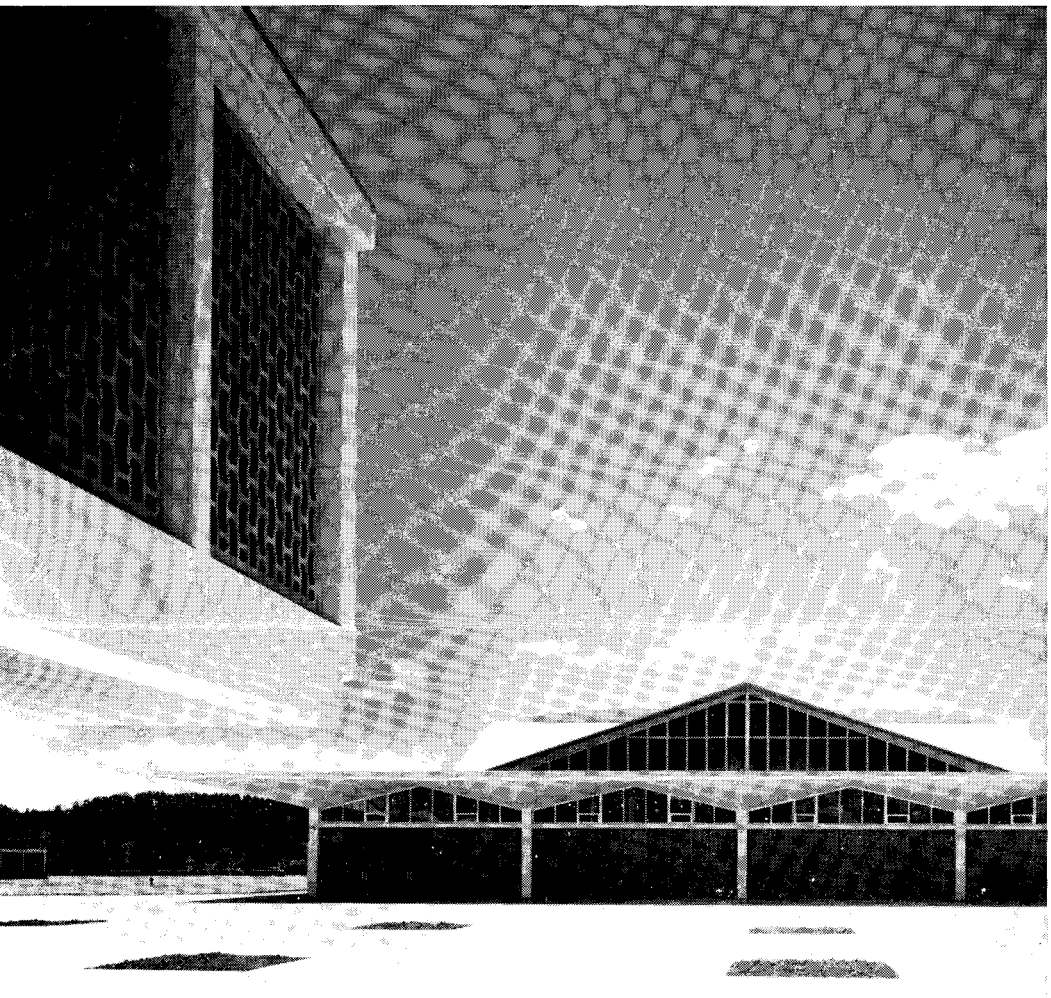
Economical, fire-safe reinforced concrete was the basic structural material for the entire complex, processed and tested for rigid quality control at the construction site. Lone Star Portland Cement was used for all cast-in-place concrete; "Incor," America's first high early strength portland cement, was used for all precast concrete units.

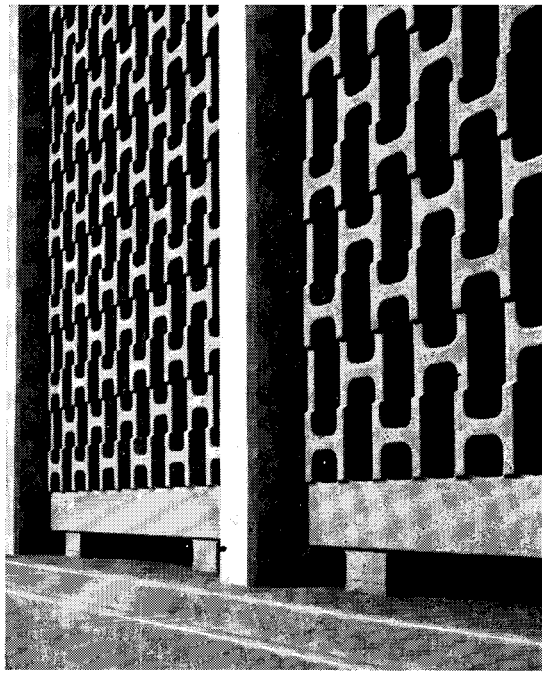


Owner: DEPARTMENT OF INSTITUTIONS, STATE OF WASHINGTON; Architects: BASSETTI & MORSE, Seattle, WALKER AND MCGOUGH, Spokane, CURTIS AND DAVIS, New Orleans; General Contractors (Joint Venture): MUTUAL CONSTRUCTION CO. and HENRIK VALLE CO., Seattle; Ready-Mixed Concrete: MOUNT VERNON SAND & GRAVEL CO., Mt. Vernon, Wash.

The Multi-Purpose Building's 158 hyperbolic paraboloid roof sections were precast with "Incor" cement. Efficient turnover of demountable forms proved highly economical in this multiple use of h/p roof structures.

"Iron bars do not a prison make" in the Center's attractive Educational Building (above and below). An open design allows light to filter through the window wall of precast reinforced concrete panels.





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FORUM

One of our favorite readers, Dr. Frank Stanton, President of CBS, has just received an anonymous postcard which deals in an unflattering way with Dr. Stanton's new Saarinen-designed home, and he has asked us to help him track down its author.

Well, the postcard reads (in part) as follows: "Dear Sir, I've been meaning to write you about the sooty, charcoal monster you have just built . . . a brand-new building that appears at the very start to have the accumulated grime of 50 years. There it stands . . . absorbing light of all wave lengths and reflecting virtually nothing—unless perhaps bad taste. All I can say, Sir, is 'A curse on this your new old house.' (signed) A disappointed neighbor."

Although the postcard was mailed from Clark, N. J., and the handwriting was patently disguised to resemble that of left-handed basset hound, the authorship of this curse seems perfectly clear to us: We need not remind Dr. Stanton that his only "disappointed neighbor" is, of course, a network known as ABC, whose

lopsided new *new* building (above) has gone up directly next to CBS. P.S. Dr. Stanton received the above message just as he was leaving for Washington to deliver an address on "The Importance of the Arts to Business."

WASHINGTON

NEW DEPARTMENT, NEW TOOL

Congress last month gave American cities front-row status by creating a Cabinet-level Department of Housing and Urban Development. Then, later in the month, it gave the Department an enormously important new housing tool by adopting the rent subsidy program as part of the Administration's $7.3 million omnibus housing bill.

The full significance of the rent subsidy program, we suspect, was not even understood by many of those who voted for it. For the first time in our history, it gives federal encouragement to private, nonprofit groups and individual investors willing to accept a limited return to produce housing for the ill-housed poor (and also for the aged, the handicapped and those dislocated by urban renewal and other public works). It thus opens the door for vast new sources of financing for low-income housing, including unions, savings banks, insurance firms.

As a social tool, the program offers a new hope for breaking down the barriers that have ghettoized housing for the poor. Subsidies apply not only to new construction; existing dwellings in sound neighborhoods can be bought and rented to subsized tenants. The program thus provides a means of circumventing the site location problems that have crippled public housing.

In shifting the program's target from the lower-middle income groups proposed by the Administration to only those eligible for public housing, Congress has selected the better alternative—if a choice were necessary. But the program would have been better and more flexible had the House let it assist the whole range of income groups who cannot afford decent housing.

Congress partially compensated for this limitation, however, by giving a much-needed boost to the 221 (d) (3) program of middle-income housing at below market interest rates. It set the maximum interest for this type of housing at 3 per cent, thus rescuing it from the ups and downs of the Federal Reserve Board's interest rates.

PRACTICALITY VS. ESTHETICS

Woodside, Calif. requires new power lines to be placed underground, and the Atomic Energy Commission is under orders from Congress to respect such ordinances. But because burying the lines for its new linear accelerator at nearby Stanford would cost AEC an extra $1.5 million, it is now battling in Congress for the right to ignore local ordinances.

By the time the AEC bill got

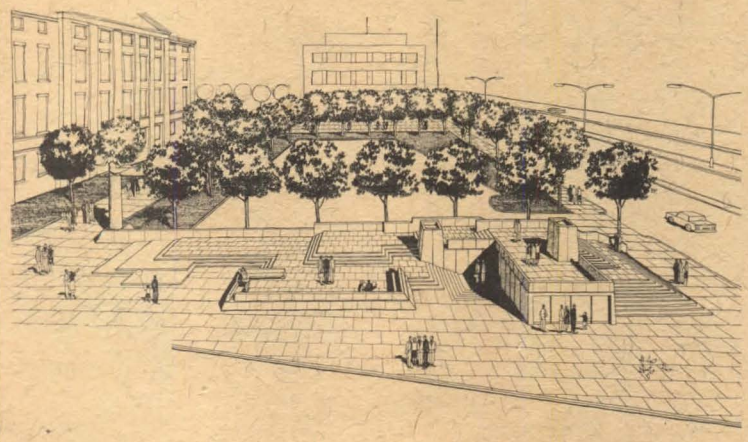
vances made in the last quarter-century. Also, its drafters claim, it could cut construction costs by as much as 10 per cent, mostly through cutting down on bureaucratic delays and procedures.

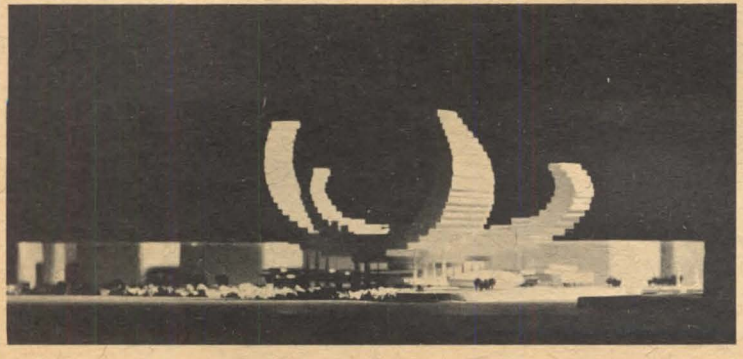
COMPETITIONS

BROOKLYN SQUARE

A series of steps, platforms and terraces (top drawing, below), designed to give form to Brooklyn's slowly emerging Civic Center, has been awarded the first prize in a small but admirable competition sponsored by the local AIA Chapter. The winners—Hanford Yang, Alexander A. Gartner, Secundino Fernandez and Paul Benowitz—managed not only to give definition to the dismal site (and corner) presented to them, but also to fit in, under their complex of interlocking terraces, a small exhibition gallery, information center and rest area. Their reward will be the commission to build their platforms, and the gratitude of their fellow-citizens.

About half of the announced jurors for this competition resigned before judgment day because they felt the site allocated by the Borough was much too small (a sliver of land about 35 feet deep and 160 feet long), and that the Borough's determination to keep the area behind that site as a parking lot would tend to vitiate any design for this corner-plot, however effective. The jurors were right—up to a point: it is true that the entire Center should have been made the subject of a competition, not just a little edge of it; it is true, also, that no Center can be designed piece-meal. But the winning design seems to contain within it sufficient strength—and a potential for further expansion via the parking lot—that it may, just possibly, by its very presence persuade Brooklyn's Borough Fathers to abandon their dimwitted ways.





DENVER CONVENTION CENTER

An exceedingly handsome space-framed structure (center, left) has won the closed competition for a $5.2 million exhibition and convention hall, to be located on a site near Denver's Municipal Auditorium. The winning architects, and ad hoc team called Muchow, Ream and Larson, proposed a building that would bridge one existing street. The interior—essentially one huge, 100,000-square-foot exhibition floor (there are additional facilities in a service basement and on a peripheral mezzanine) can be lit through skylights in the space-frame roof, or artificially illuminated when the skylights are closed by louvers. The sunken plaza shown in the rendering measures 260 by 140 feet—which indicates the scale of the project. A condition of the program forbade the showing of cars in the renderings submitted (no tampering with juries in Denver, anyway!), and permitted that only *one* scale figure be drawn in.

SPANISH RESORT CENTER

That inveterate competition-enterer, Jan Lubicz-Nycz (presently on the faculty of the University of Virginia's School of Architecture) has done it again—"it" being a complex of stepped-back, staggered, organically interrelated and curved buildings resembling, roughly, two Siamese *croissants* on stilts (bottom, left). And this time, thank heaven, J L-N, in collaboration with the Italian architect, Carlo Pelliccia and the U.S. engineer, William Zuk, has pulled it off: their "containers" (which is what they call their handsome *croissants*) have just won the first prize in an international competition for a combination hotel-apartment - complex - auditorium-skating - rink - and - much - more to be built in San Sebastian, Spain, for 375 million pesetas (about $6.5 million). We hope the developers of the scheme have the courage shown by both the jury and the winners.

MORE TO COME

It is amazing that we could, this month, report on two completed competitions in the U.S.; for competitions, open or closed, have been out of fashion for many years

(Continued on page 91)

Housing in the city: Is this the best we can do?

This issue is dedicated to the reconciliation of three viewpoints about urban housing in America. They are:

—That housing is a commodity, to be made, bought, and sold according to the play of a free market and the pull of consumer preferences;

—That housing is a social tool, to be used to improve the lives of the urban poor;

—That housing is the basic building block of urban form, the architectural problem most crucial to the city's physical quality.

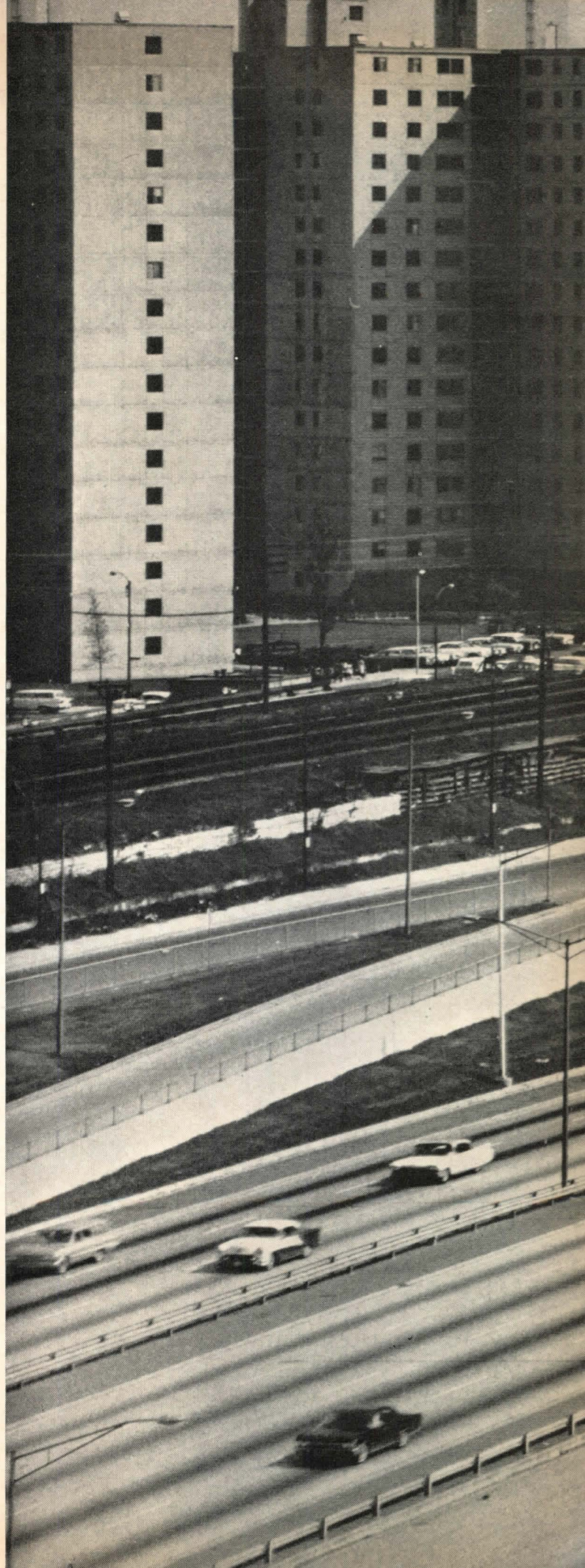
It is the first of these viewpoints which has so far been predominant. The housing "industry" has aped the marketing strategy, if not the productive efficiency, of the auto makers. It has put just enough quality, just enough "styling," just enough "features" into its product to sell. It has successfully blocked government "competition" for a market it does not choose to serve—the nation's ill-housed urban poor.

Government has acquiesced, has all but made this industry a ward of the state, yet government is coming to realize that cities cannot be made of only those buildings which are momentarily marketable. Certainly cities which retain their civilizing function, which serve and nourish and enspirit all who come to them, cannot be made this way.

The free market system will continue to account for most of the nation's urban housing. But how can it be infused and supplemented with programs of strong social purpose? How can it be *guided, organized*—controlled, if necessary—so that there is coherence, and health, and even beauty to the communities of which the industry's products are composed?

The answers will require a further reconciliation, between social purpose and physical form. There is a vocal new band of urban *iconoclasts* who hold that architecture is a distraction from the "real" problems of the city, an abstraction of little meaning to a slum family. As single-minded and self-righteous as the iconoclasts may be, they are difficult to answer so long as architecture is practiced as an abstraction—so long as some architects trade in arbitrary formalism, others give developers or public agencies "what they want" and nothing more, and most restrict their residential clientele to individuals of wealth and taste or to builders who find architecture a salable attraction.

This issue is a plea for making architecture of urban housing, but architecture of a special sort: responsive to the marketplace, to broad social concern, to individual human need. It is a big order, particularly since, as the President has noted, America must virtually match its present housing stock with new dwelling units in less than four decades—DONALD CANTY.




43rd Street
EXIT

Housing policy: It must offer a way out of despair

BY CHARLES ABRAMS

In our time, public policy has become one of the most important forces in determining whether the city improves or wanes, the suburb stagnates or grows, the farm survives or disappears. Public policy for slum clearance, housing, race discrimination, zoning, road building, community facilities, transportation, suburban development, recreation, relief of poverty, and for spending and taxation is a main lever in influencing the patterns of our society and the choices available to it.

Public involvement in housing was introduced in the depression of the 1930's, when the central cities were wincing under the spasms of economic crisis, and some of the New Deal experimenters milling in and out of the White House calculated that spending for public works and propping up the house-building industry were two good ways of lubricating the ailing economy. Their main interest was centered on helping the private builder and mortgagor.

Though the time was also opportune for a major program of city rebuilding, the only interest in this sort of proposal was shown by Secretary of Labor Frances Perkins, who suggested that the clearance of slums might perform the dual purpose of stirring up building activity while incidentally improving the living conditions of the city's poor. Public housing thereafter gained a small experimental appropriation as a part of a huge public works program.

Once started on its course, federal ministrations to the building industry continued—even after a full recovery had begun to set in—until hardly a phase of home building and improvement remained unaided. By 1949, federal housing ventures had grown so discrepant that Congress thought all the housing program should be harnessed to a goal. Goals express aspirations, but, like campaign oratory, they are too often promissory notes with no fixed amount and no due date. The goals in the 1949 act were put as follows:

". . . Housing production and related community development sufficient to remedy the serious housing shortage, the elimination of substandard and other inadequate housing through the clearance of slums and blighted areas, and the realization as soon as feasible of the goal of a decent home and a suitable living environment for every American family, thus contributing to the development and redevelopment of communities . . ."

An expert on housing and real estate law, Charles Abrams has served as a consultant for governments around the world. In May he was named head of the urban planning division at Columbia University's School of Architecture. This article is from his forthcoming book, **The City Is the Frontier** (copyright 1965 by Charles Abrams), to be published by Harper & Row in October. A federal program of rent subsidies, a device which Abrams urges here as one "key to meeting the housing problem," was recently enacted by the Congress (see page 27), although not precisely in the form he suggests.

JERRY COOKE

This was no mean national dedication. But it was in the subsequent portions of the act that the clue to how the goal was to be met was revealed. The law said:

► Private enterprise was to be encouraged to serve as large a part of the need as possible.

► Government aid was to spur private enterprise to serve more of the total need.

► Local public bodies were to be stimulated into sponsoring programs for better neighborhoods as well as providing homes at lower costs, but again only through the medium of the entrepreneur-builder.

► Slums and blighted areas were to be cleared and low-income families rehoused by public agencies but only where private enterprise was not functioning.

Since the welfare of the building industry had won equal place with the people's welfare in the 1949 act, it seemed inevitable that sooner or later the interests of the lower-income families would be forgotten. When the entrepreneurial and the general welfare are bracketed in the same legislation, it should not be surprising that the social purpose will be subordinated. It was.

The urban renewal formula launched by the 1949 act was thought to take care of both the slum-bound cities and their slums. But the legislation which Congress had enacted was evicting many more slum dwellers than it was rehousing. It was only one of the many examples of how legislation passed with the best intentions is ultimately perverted during the administrative process. In the long run, the profit motive somehow operates as the undesignated but effective legislator while the public need is pushed under the rug.

If the enormous credits and subsidies under the federal housing program are to meet the objective of a decent home in a decent environment for every American family, the federal government must be prepared to meet five indispensable rquirements:

► It must acknowledge that sound housing, whether in old or new cities, cannot be secured without making the cities sound.

► It must be prepared to move toward its objective with all the necessary resources and all the relevant powers, without conditioning their use upon the consent of the states or their political creatures. It must be prepared to deal directly with cities or act in the regions of which they are a part when necessary.

► It must be prepared to forego the condition implied in the 1949 act that speculative private enterprise shall be the preferred agent to fulfill the objective. It need not exclude private enterprise and it may employ it on terms that are practical, but to insist that speculative enterprise *must* be the agent even where it cannot or will not function makes the objective meaningless.

► It must not only be prepared to proffer a total program addressed to all groups needing housing but provide them with the opportunities to obtain what they need among a variety of choices suited to their changing requirements, wants, and desires.

► It must acknowledge that the key to meeting the housing problem lies in low-interest financing for low-income groups and in subsidies for all who require it.

Unless these prerequisites are met, the objective stated in the 1949 act will carry no real commitment. If it is to carry a commitment, the general objective—now little more than rhetoric—must be broken down into a series of specific objectives. The objectives for better housing must include at least the following:

1 Home ownership for low-income families

In 1962 the median family income in the United States was $5,956. A family with this income could properly spend $99 a month for its house cost. This was more than what half the nation's families could afford. For 39 per cent the ceiling was $83, for 29 per cent it was $67, and for 20 per cent the limit was $50—or less. No one needs to be a real estate expert to know that good housing at these figures is virtually unobtainable.

In 1964 the average cost of houses bought with FHA insurance was $14,881 for existing houses and $16,561 for new houses. But even if house cost were down to $13,500 with a 5½ per cent 30-year mortgage for the full purchase price, the monthly house cost would be about $127 and require an income of $7,600 a year. The federal government has done almost nothing for the families priced out of the market.

Interest and amortization are the main items in the cost of ownership. An interest reduction of 1 per cent on a 25-year $14,000 mortgage would reduce mortgage charges by about $100 annually. An extension of the mortgage from 25 to 35 years would mean a reduction of about $140. Elimination of the one-half per cent FHA premium charge would reduce it about another $50. Add it all up and the annual saving would be $290. Building costs would have to be reduced by $4,000 to effect the same saving, and a reduction of this size could be achieved only by a miracle or major depression.

If the market for homes is to be widened, direct financing must be made available by direct government mortgage loans at low interest or at no interest whatever when necessary.

A government corporation similar to the Federal National Mortgage Association, the home loan banks, and the federal land banks could do the borrowing on the open market. The government would undertake to appropriate to the new corporation the annual deficit incurred by it through below-market loans.

Thus on every $1.3 billion loaned, the maximum annual contribution by the government (assuming a 4 per cent annual deficit) would be $52 million; and it can be safely anticipated that it would be much less, since only a fraction of the loans would be at 0 per cent and many would be at 1, 2, and 3 per cent. On many of these loans, the low interest rate would have to be only for a temporary period.

Manifestly if a low interest were fixed indefinitely, the home-buying family could sell the home at a profit or its improved income might warrant a higher rate. The program should therefore provide for a fixed initial rate (say three years) with a re-examination of family income periodically thereafter. Thus interest rates would always be geared to the capacity to pay, and the burden of proof would be on the owner. He should be privileged not to disclose his income, in which event his interest would rise to the market rate.

2 Mortgage protection in times of need

Under present FHA practice, the mortgage is insured while the home owner pays the insurance premium. What is needed is a program to insure the home owner against such temporary hazards as

curtailment of income—this would also reduce the mortgagee's risk.

There are two possible ways to protect the home owner against these hazards. A fund could be created from which distressed owners could borrow, repaying the loan not later than three years after the due date of the mortgage. Although this plan would salvage many equities, it has the disadvantage of putting the owner more heavily into debt.

The other alternative is equity insurance. If, as claimed, FHA mortgage insurance is sound, equity insurance against the risks of unemployment and illness is at least as sound; it is also more sensible. Many savings and loan associations, in fact, have arranged for covering the borrower by insurance against the hazards of illness, accident, or death, but unemployment is not yet covered.

The insurance fund would benefit the government by (1) preventing a large-scale loss of homes, a deflationary movement, and a capital depreciation due to a glut in the home market; (2) dispensing in this event with the need for huge federal outlays all at once; (3) making savings and loan societies sounder operations and cutting down on federal advances by the Home Loan Bank System; (4) saving interest on federal bonds issued to the FHA-insured mortgagees upon default; (5) making owners less inclined to drop their homes when values are down; (6) saving the government major expenditures in repairs, foreclosure charges, and resale costs after repossession.

3 A better program of public housing

Conceived as a demonstration, the public housing program has shown that the underprivileged will pay their rent promptly and live as decently as do other citizens; they will raise their standards if they can; they prefer freedom in neighborhoods of their choice to institutionalization. The program also proved that a municipal agency could acquire large tracts of land within a city and operate with little or no graft; that housing for the underprivileged and replanning of neighborhoods are legal public purposes; that bonds on projects rented to the poor are salable at very low interest rates; that our ulcerated urban terrains can be regenerated if there is workable legislation and a practical administration.

These are no mean demonstrations. But the program has tended to defeat itself because of the conditions Congress imposed. A main impediment has been the rigid income limits for admission and for continued occupancy. Though after 1961 over-income families were allowed to remain temporarily, the income limits have been kept.

When a family improves its income it should not be penalized by having to pull the children out of school, give up its neighborhood associations, and move back to a slum. An unsubsidized rent should be fixed for each apartment. The tenant whose earnings go up should simply be asked to pay a higher rent. He should be privileged not to disclose his earnings, in which case he could stay and pay the unsubsidized rent.

Building cost limitations should be liberalized so that projects can become attractive additions to the urban scene. The misassumption of public housing has been that there will always be a stratified class society in the United States and that those with low earnings deserve only housing with low standards.

Another misassumption has been that the buildings will be depreciated in 45 years. They will stand for a century. They should be built not for a permanent poor but under standards that make them desirable for people whether they are poor or no longer poor. If President Johnson's exhortations for "beautifying the city" are to be meaningful, he might set the example in federally subsidized projects.

The housing authorities are being required to house not only the families they displace through their own clearance operations but also those displaced by urban renewal, code enforcement, and public works. The emphasis of the public housing program should therefore be shifted from clearing slums to increasing the housing stock for low-income families.

This would mean selecting more vacant and underdeveloped sites (requiring little or no displacement). Extensive slum demolition for projects should be resumed only when vacancies are sufficient to give the slum dwellers an opportunity to move more freely.

Where sites are chosen in slum areas, public housing should qualify for the same land subsidies as are available for urban renewal. The authorities are virtually the only agencies venturing into the deeper slum jungles, and they deserve treatment at least equal to that given the entrepreneur. With lower land costs, they might build to less formidable heights and to more attractive designs.

All local housing authorities should build smaller projects that blend with existing neighborhoods. Massive, institutional projects in many cities have debased public housing in the minds of both the public and the tenants. In smaller communities, more public housing should be built as single-family units for rental with provision for resale to the tenants.

Multiple dwelling projects should be disposed of by sale or lease to nonprofit corporations whenever feasible so as to reduce the monolithic aspects of large-scale public ownership. No single income group should be confined to a single choice of its landlord or the type of housing it wants. Disposition of public housing projects should not imply the end of public housing but its expansion. The emphasis should be to provide more and more cheap housing and less and less public ownership or operation.

More federal appropriations are needed, particularly if other federal programs cause additional displacements of families. But such programs should not specify public housing as the only form of shelter available to low-income families. New devices are needed that give the less privileged more to choose from—in public, private, and nonprofit enterprises and in rehabilitated as well as new buildings.

4 A more diverse housing stock

If a monthly rental subsidy equal to the present subsidy for public housing were made available to eligible low-income families, private builders or nonprofit associations could provide considerable housing for them in the city or the suburbs at feasible rents. This would encourage a more sensible distribution of families. They could choose housing near their work or near better schools. It would help dissolve the racial and economic segregation in the present city-suburban dichotomy. The private building industry would be assured of a vast market for new and rehabilitated

GEORGE CSERNA

dwellings, whether conventionally financed or built under Section 221(d)(3), 221(d)(4), as cooperative housing, or through other federal programs.

The subsidies to families could be reduced or discontinued as family income increases. They should not be payable on slum buildings since the primary aim should be to encourage more and better construction of new houses and rehabilitation of old ones. Low-income families displaced by urban renewal would be eligible for subsidies and so should any family normally qualified for public housing.

The current housing program is geared to a mythical family of husband, wife, and two or three children. It lacks adequate provision for nonaverage types such as single persons, working mothers, workers at home, widowers with small children, large families, itinerant workers, and other families with special problems. It also assumes that this average family is white, well off, can drive a car, and will either live in a suburb or pay a ransom for an apartment in the city's core.

Yet there are probably more nonaverage families than average ones, even if we exclude the low-income and minority families. Apartments for large families are almost nonexistent, even in public housing. There is no excuse for discriminating against familes of eight or ten persons. Nor is there any good reason for ignoring the needs of the working mother when facilities for child care would save many from despair as well as save cities relief costs for mothers unable to work and care for their children at the same time.

Housing for the elderly is still in embryo. Nor are there adequate programs to help older workers secure work near their homes. Discrimination against such workers is nationwide, and only a few states give them protection. A reluctance to upset pension plans and group insurance schemes militates against them.

Nonprofit associations such as church and welfare groups have sometimes emerged as primary agencies for home building. Often such groups require small sums for preliminary or organizational expenses. Advance of such seed money could make the difference between project development and project stillbirth, between genuine nonprofit operations and those undertaken for profit by entrepreneurs. What these organizations need above all is guidance in sponsoring undertakings. A nationwide nonprofit agency with adequate personnel and experience set up to build or supervise the building and management of the projects by the local groups would do much to launch such a movement.

Making sites available under the urban renewal program for these efforts would expand the number of undertakings. Modification of Section 221(d)(3) is also required. Since interest rates presently fluctuate with the government rate, a maximum interest should be fixed; the minimum rate should be low enough to accommodate lower-income families. Loans should not be confined to urban renewal areas. Existing as well as new housing should be eligible for the low-interest loans and so should owner-occupied homes.

5 A realistic program of slum clearance

Clearing American slums has developed such political savor that little thought has been devoted to determining whether slum clearance does harm or good. A city that has cleared all its slums can have a bigger headache than a city with a surplus supply, for in a city that cleared all its slums, the overcrowding and the high rents of the new housing would make the poor man's plight incomparably worse than if the slums remained. Slum clearance is authorized:

► When the dwellings are so dilapidated or dangerous that there is no alternative but to raze them.

► When the cost of altering or improving them is excessive so that it is cheaper to build new structures.

► When there is an excess of slums, and clearance will not result in a rise in rents or overcrowding of the slum dweller.

► When the site is needed for a genuine public use, or where its location bars the essential development of the city.

► When, as part of a housing program for the slum dwellers, decent housing is provided for them in advance of the clearance and the new housing is what the slum dweller wants. This requires a variety of housing programs that afford evicted families reasonable alternatives.

Slum clearance is not authorized during a housing shortage or solely

because the houses are old or because the city can get more taxes by ousting the poor to make way for the higher-income families.

Similarly, one should not consign one- or two-family homes to the wreckers simply because fewer families will be displaced. If the homes are in a socially solvent community and the site is not urgently needed for major improvement, the justification for leaving the neighborhood alone may be stronger than for clearance. In identifying a slum for clearance, public officials should consider not only the buildings but also the values of the neighborhood to the city as a whole.

6 Freedom to choose a place to live

The pattern of housing segregation has stubbornly persisted. The struggle between social justice and property rights involves altering the established practices of the organized building and real estate industries and touches upon the vested interests of a large and powerful middle class.

The force of Negroes' numbers in the cities has given the Negro greater confidence and more political power, but whether he will win the right to move and to live where he chooses will depend primarily on his capacity to compete economically for housing in the more open areas of the metropolises. It will also depend on how successful the suburbs will be in keeping him out when he is able to bid for their housing.

More than antibias measures will be needed to win him that freedom in the suburbs. A first step should be a federal measure providing home ownership at interest rates the Negro and other low-income families can afford. The profit motive being what it is, private builders might build for the Negro market. Nonprofit groups might also do so. Rent and interest subsidies would also help.

If the federal government not only conditioned all its aids (FHA insurance and assistance to the savings and loan associations) on nondiscrimination, but also enforced its orders effectively, the suburban barrier might be breached. Effective enforcement would mean conditioning federal housing and other aids on the repeal of subtle restrictive zoning and similar exclusionary devices.

7 The preservation of existing housing

There are three keys necessary to open the door to large-scale rehabilitation. One is the solvency of the cities and of the particular neighborhoods within them. Better parks, schools, and community facilities can help make a neighborhood better and spur individual house improvement.

Sound financing is the second key. The factor which makes the rehabilitation economic is lower interest and amortization. If the interest and amortization are cut, no actual increase in rents is necessary to earn the same profit. If, in addition, the city were to encourage rehabilitation by rebating taxes, the owner's profit would go up by the amount of the rebate.

No owner, however, wants to increase his debt or go to the trouble or revamping his building unless he receives a reasonable increase in rents. If owners of existing buildings can be shown how they can have better buildings as well as larger profits, considerable improvement in the physical inventory of the nation's dwellings might follow.

The third and most important key is to create an effective demand for the rehabilitated dwellings. The structures most in need of repair and rehabilitation are those inhabited by lower-income groups. The owners will not spend the money if their tenants can't pay the rent increase required.

A family subsidy program to assist all families who cannot pay the extra costs of the reconditioned dwellings is therefore indispensable. This would upgrade dwellings in areas where they are most needed as well as guarantee a market for the dwellings. It would improve low income neighborhoods and offer an alternative in addition to public housing. In each area, the pace of rehabilitation should be speeded or slowed to avoid excessive evictions, rocketing rents, and rises in local construction costs.

Rehabilitation by renewal and public housing agencies should accompany private rehabilitation. The value of buildings should be written down by capital subsidies where necessary, and the properties sold to private or nonprofit groups on suitable terms after the buildings are improved.

Rehabilitation of the neighborhood and the reactivation of the city must go hand in hand with rehabilitation of structures. While sound financing programs can help, strengthening the city and rebuilding the social aspects of neighborhood life are vital elements in inspiring investment.

8 A more responsive building industry

Despite its influence, the building industry functions only for part of the market. A federal policy which expands the market for low-income families when demand for unsubsidized housing dries up could fulfill a social purpose while guaranteeing a more even balance of activity and avoiding local and national building recessions.

There are impediments at the local level to which federal and state policy could address itself. Local codes and ordinances, in some instances, have raised land and building costs substantially unnecessarily. Ignorance of new techniques and of new materials as well as vested interests in maintaining the obsolete prevent needed changes.

Zoning ordinances are often designed to exclude the low-income family or to capture as much revenue as possible for the particular community with a disregard for the welfare of other people in the region. Excessive lot requirements not only preclude settlement by those of smaller income but force developers to look for less restricted and less costly land further out. This leaves gaping sections of unused land. The new home buyers spend unnecessary hours getting to and from work, while the public spends unnecessary millions to provide them with the roads to make the journey.

The states should set up independent commissions empowered to review building codes and zoning ordinances on their own initiative or on a complaint either by an aggrieved individual or a neighboring community. Simultaneously, HHFA should set up a separate department dealing with codes and should condition federal aid upon enactment of realistic codes and building ordinances. Cities affected by the exclusionary laws of their neighbors should be permitted and prepared to challenge practices that prevent their lower-income families from buying homes within their means.

9 Planned new towns for orderly growth

The new lands that hug the central cities are being developed today by thousands of small home builders who build wherever they can buy a snatch of land they can develop, mortgage, and sell. As the land presently is being developed, what will remain between the new mushroom developments and the central city will be thousands of stray lots, slumlands, scrub, or dumps that will mar the intelligent development of the region.

The logical way in which the nation's environment might be preserved for those who live after us is for the states or the federal government to acquire the land needed for the extension of existing cities and for the development of new cities. Authorities could be set up with representation from both sovereignties. The land would be planned, the schools provided, as well as water, drainage lines, and open spaces; the improved land would then be sold for private development. This would entail no lesser role for the private builder than he has played under the existing land development procedure. Only the sequence of the public and private efforts would be altered.

We have been called upon, said President Johnson, "to build a great society of the highest order, not just for today or for tomorrow, but for three or four generations to come." Yet unless something more relevant and more comprehensive is offered, we shall see in the very first generation acres of speculative sprawl controlled by a myriad of jurisdictions, each of them armed with governmental powers over their environments superior to that of the federal government itself; our central cities will steadily fade as solvent communities.

We can make our existing cities worth living in by replanning and rebuilding their slum sections realistically and with adequate provision for rehousing their people. We can provide small parks as the focus of every neighborhood. We can revitalize the city's business centers and link them to the highways that now spread only outward to the suburban centers. We can provide more open spaces, recreation, and better schools, and make them available to families at all social and economic levels.

But without a firm federal position, these things cannot happen.

KARL H. RIEKE

Housing design: Quality returns to the city

To a New Yorker, this picture of a new group of duplex rowhouses and high-rise towers might suggest a very "classy" sort of development in the general area of Sutton Place. He might, just possibly, hedge his bets a little, because he may recall that the *new* Sutton Place, when most recently observed, did not exactly overflow with distinguished architecture. Still, any New Yorker—or Chicagoan, or San Franciscan, for that matter—would be quite certain that these buildings were a pretty snazzy place in which to live.

The truth is, of course, that the buildings shown here are located approximately 3,465 miles east of Sutton Place; and that, moreover, they represent one of the most recent efforts, on the part of the remarkable architects of the London County Council (LCC) to provide the basic facilities for a good life for the workers on the Surrey Docks along the Thames, and for their families.

To most Americans this will seem almost unbelievable. The U.S. equivalent of this sort of urban housing would tend to have the look of a penal institution (see pages 32-33)—for, apparently, a good many of us still think that it is sinful to be poor.

In last month's issue of the FORUM, the American-in-Paris Architect Shadrach Woods wrote about *"le nivellement par le haut*—the leveling of standards by raising them toward the top."

We pay lip-service to this ideal, to the creation of a *society* of equal chance. But we rarely seem to translate that ideal into reality by (for instance) building *cities* of equal chance.

The next 28 pages are devoted to examples in the U.S. and abroad which seem to us to reflect the kind of quality of urban architecture and urban design that can produce such "cities of equal chance"—plus some others which reflect the limitations that stand in the way of doing so. None of these examples, especially the U.S. examples, is as low in cost or rentals as this rugged development in London's East End. But each of these examples was shaped by somebody's determination to bring quality back to the urban scene. We welcome that determination.

In London, belief in social ideals shapes an urban setting of rare distinction

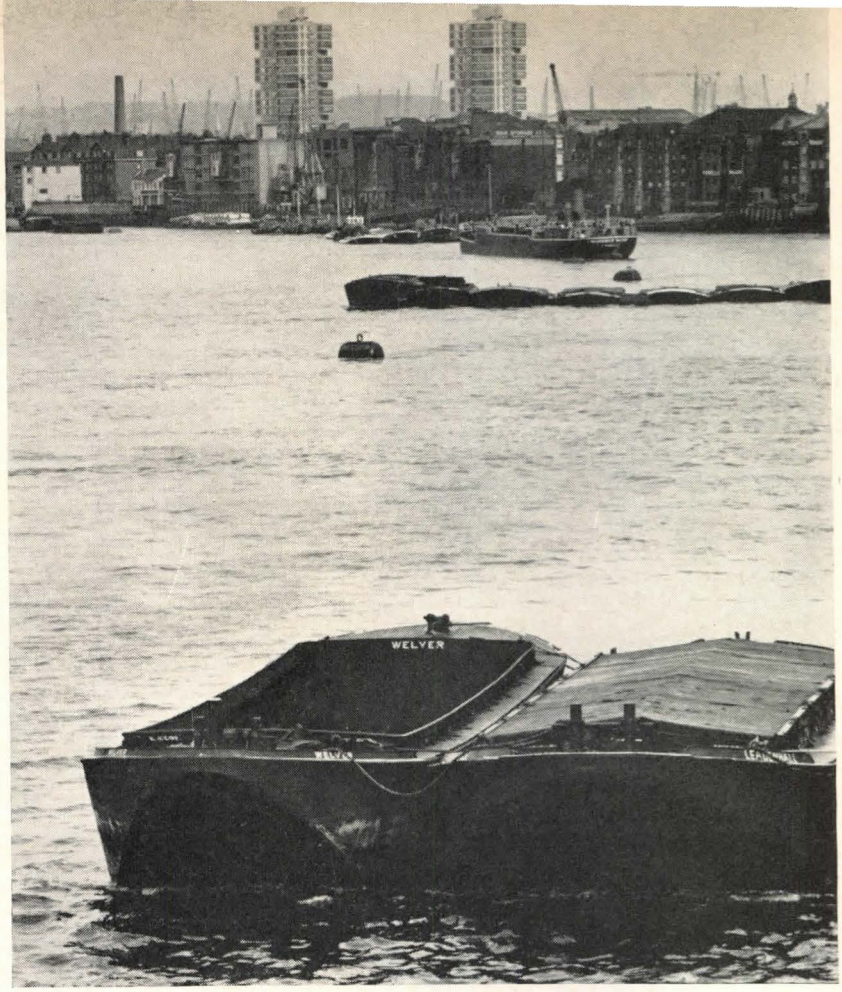
The view from the Tower Bridge across the River Thames (right) used to be of a solidly industrial area: the docklands of Bermondsey, in London's East End. Today this solid mass of depots and docks and related gear is broken by two bold 21-story towers of concrete, brick and glass. These towers dominate the new Canada Estate, built by the London County Council for almost 300 dockworkers' families.

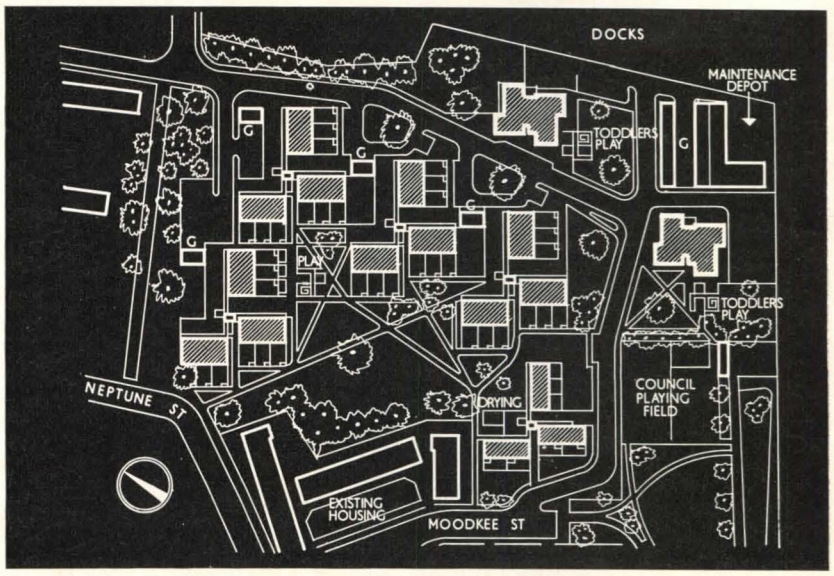
At close quarters, Canada Estate turns out to be a complex of highly unusual three- and four-story walk-ups, in addition to the rugged towers visible from across the river. This combination of high- and low-rise structures is no arbitrary play with architectural forms and spaces—though the result *does* produce dramatic contrasts in form as well as space. It is, instead, a most reasonable solution to a complex program.

Thus the towers contain one- and two-bedroom apartments (four to each floor), presumably designed for childless families or families with only one child. The four-story walk-ups, on the other hand, contain two duplex apartments, one on top of the other, with three or four bedrooms each.

The architects have turned this complexity in requirements to impressive advantage: the inhabitants of the tower blocks enjoy spectacular views of London, while the inhabitants of the duplex walk-ups enjoy all the advantages of living in a house of their own, with walled gardens for the downstairs duplexes, and balconies for those upstairs.

In sculptural terms, the architects have turned their program to advantage also: the variation in the sizes of the tower-apartments produced an expressive silhouette, with every fourth floor recessed; and the variation in the sizes of their walk-up duplexes enabled the architects to break out of the straightjacket-box in these buildings as well, and to create a variety of open spaces from narrow alleys (left) to playgrounds.





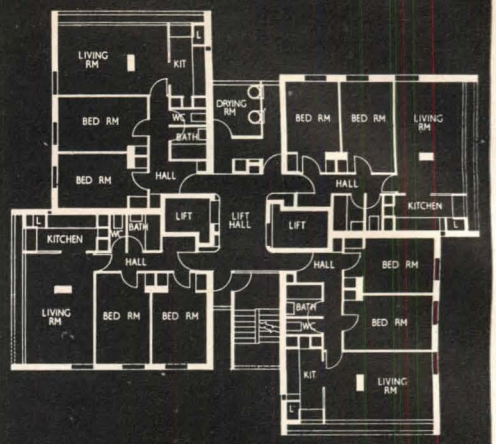
The plans of the principal units (right) reveal not only the ingenuity with which variations in apartment and duplex sizes were used to create variations in architectural form; they also reveal very considerable insight into the *needs* and habits of the people for whom this housing was built.

The pinwheel-plan towers give each apartment two, or even three exposures, and they do this without ever permitting one apartment to look out into that of a neighbor. Further, the arrangement of various facilities both within the apartments and in the public areas reveals careful attention to detail: the generous storage facilities in all units (complemented by storage stalls in the ground floors and basements of the towers); the laundry rooms on each tower floor; the elaborate facilities for garbage disposal; electric fireplaces (sic!) in apartment living rooms; the large kitchens, big enough to take a dining table, in the big-family duplex units (which have *real* fireplaces in their living rooms!); and numerous lesser details. In addition, Canada Estate has garages or parking facilities for about one third of the tenants.

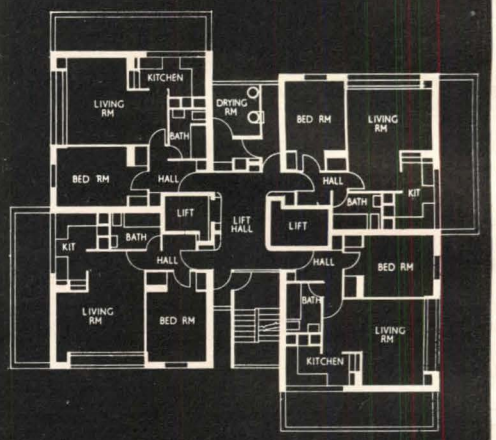
In the walk-up units (see plans at right) there has been an ingenious effort to simplify access to the upstairs duplexes and, at the same time, to create a kind of "sidewalk atmosphere" for the upstairs families. In more typical walk-up units, these upstairs families tend to be somewhat isolated from their neighbors. The device used here is a three-armed pinwheel plan, the center of which is a boldly sculptured stair-tower (right).

Each stair-tower provides access to nine upstairs duplexes in three buildings, by means of covered walkways at the third-floor level. In addition, the stair-towers carry water tanks, and contain laundry facilities and garbage disposal units for all the families in the three-armed complex. There are four such complexes, plus a slightly different, three-story complex containing small apartments for the aged. The latter complex has access walkways at every level.

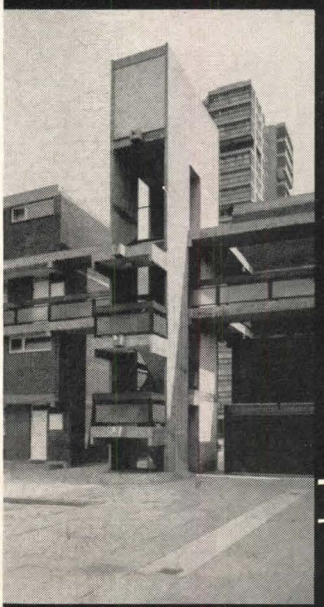
The views on the opposite page show some of the playground facilities near the towers (there are half a dozen distinctly different play areas at Canada Estate); and the variety in private and public spaces achieved by the imaginative grouping of the walk-up units.

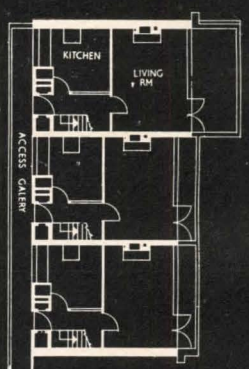


LARGE TOWER FLOOR

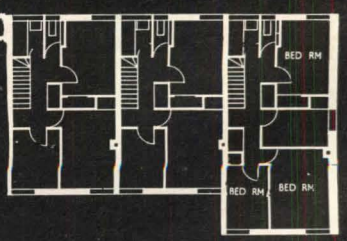


SMALL TOWER FLOOR

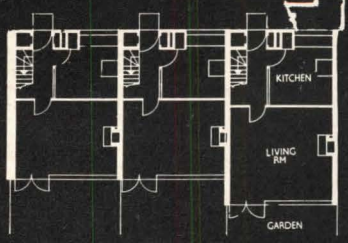




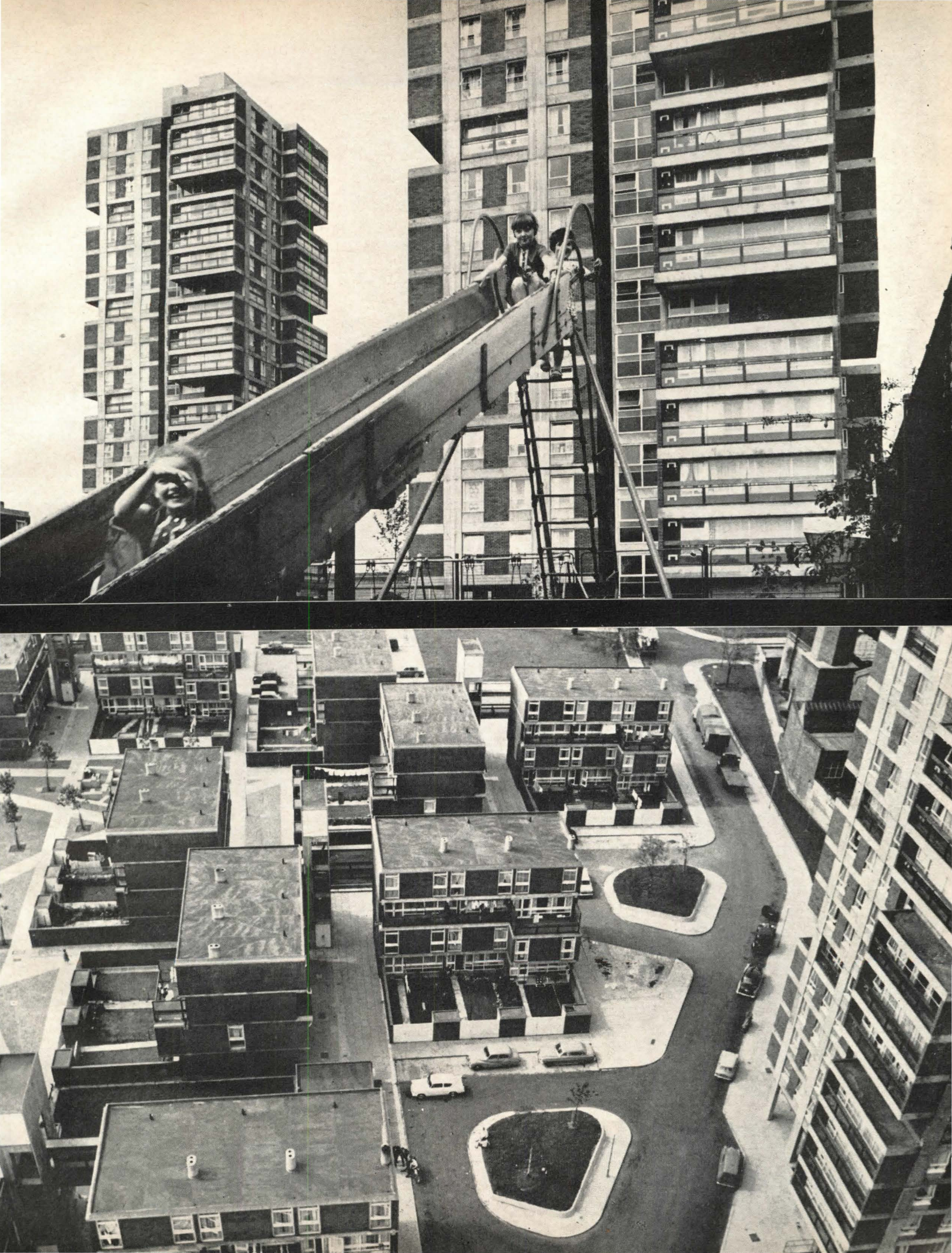
SECOND FLOOR



FIRST FLOOR



GROUND FLOOR



The Canada Estate development was completed in February of this year; and despite its imaginative planning and design, some British critics were highly skeptical about some aspects of the project.

To an American visitor to Canada Estate, such self-criticism will come as a surprise. It is quite true that the roughly formed concrete seems a bit crude, that the open spaces are a bit desolate without finished landscaping, that there are some minor flaws in the planning of one or two apartments, and that some of the unusual features of the bulidings (which we have rationalized in functional terms) may have been the product of esthetic considerations. (And why not?)

Some of this self-criticism seems a bit baffling, though designers and administrators of U.S. public (or private) housing could use a heavy dose of such striving for perfection.

But in defense of Canada Estate it must be said that its construction costs, even when interpreted in terms of the actual purchasing power of the pound, are well below those of much U.S. public or private housing. Moreover, the admitted crudeness of the exposed concrete and of other details of which some critics may complain seems (to an outsider, at least) thoroughly in keeping with the toughness of the surrounding docks and their very muscular structures. A genteel project, in such a setting, would have seemed sissy. Indeed, a genteel project, in *any* urban setting, might seem more than a little pretentious.—PETER BLAKE.

FACTS AND FIGURES

Canada Estate, Neptune Street, Bermondsey, London, England. Architects: Hubert Bennett (LCC); F. G. West (deputy); K. J. Campbell and J. G. H. D. Cairns (principal & deputy housing architects); C. A. Lucas (section architect); and various job architects and members of the design team. Consultants: J. C. Craig (senior planning officer); J. H. Humphreys (structural engineer); P. F. Stott (engineering & electrical services). General Contractor: Tersons Ltd.

Total project cost: £875,983. Cost per square foot (gross) of towers: about £4. Site: about 7 acres. Density: 136 persons per acre.

PHOTOGRAPHS: pages 40-41 Greater London Council, others John Donat.

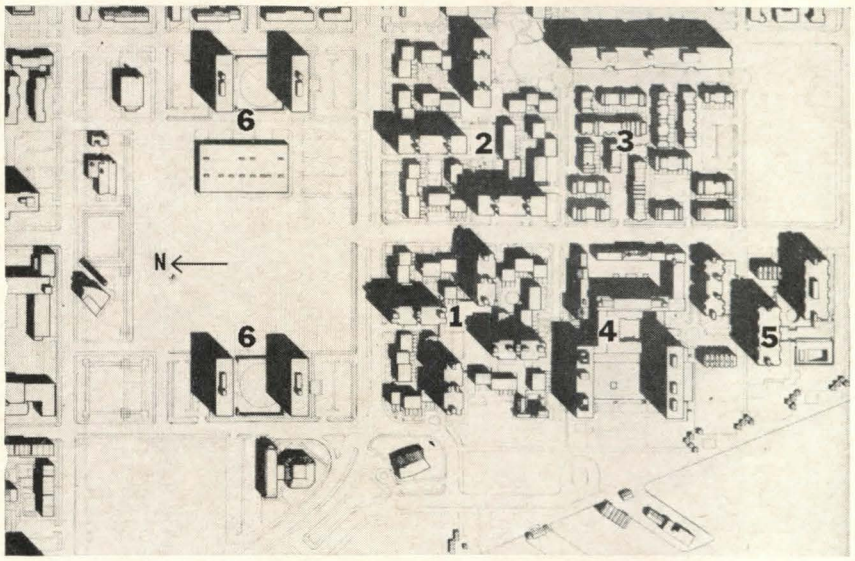
In Washington, the power of persuasion helps overcome a maze of controls

If the United States is not yet able to produce low-income housing to match Great Britain's achievements, we can, and occasionally do, offer good planning and design to our middle and upper classes—though even then it isn't easy. Tiber Island, a residential complex of high-rise apartments and low townhouses near the Potomac River in Washington's southwest urban renewal area, is a case study in how good architect-planners with sufficient powers of persuasion, perseverance —and luck—can come up with something in spite of a maze of controls and regulations.

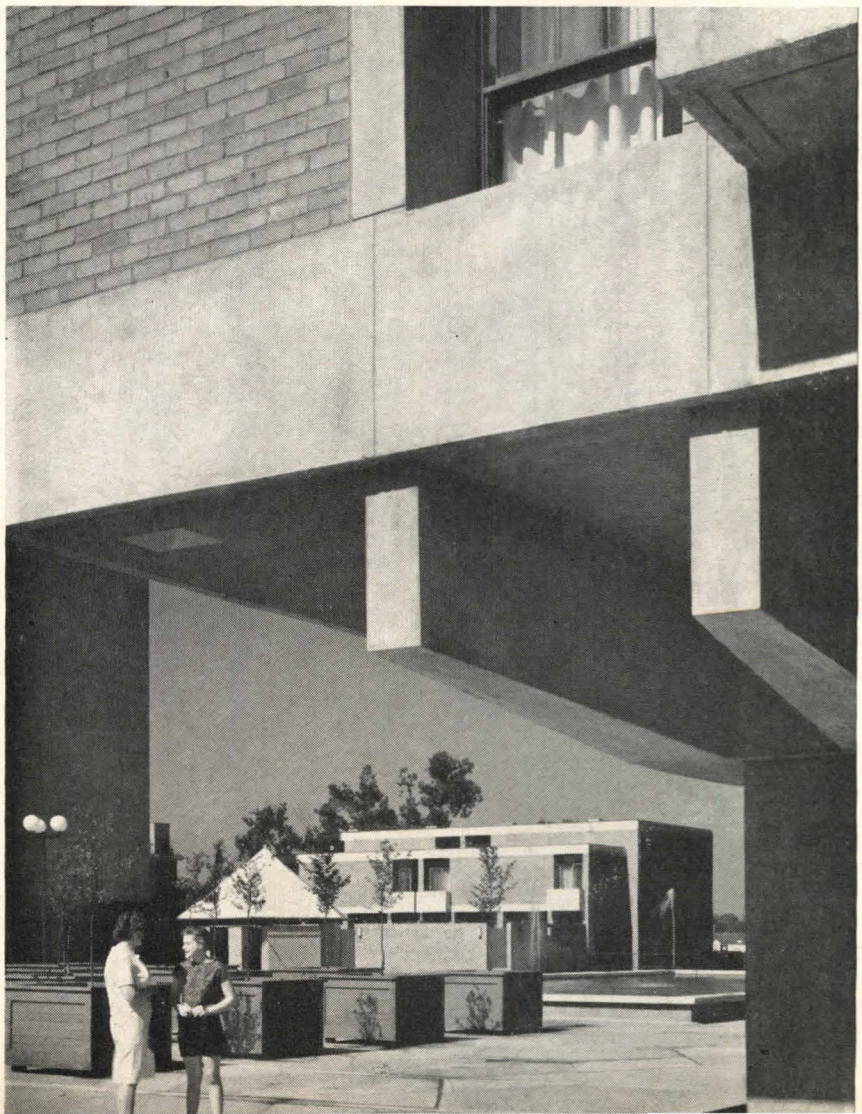
Keyes, Lethbridge, and Condon, the architects for Tiber Island, have turned the trick with seeming effortlessness: the project's four massive eight-story apartment buildings and 85 two- and three-story row houses—all built of exposed reinforced concrete and sand coated grey-tan brick—work with comfortable ease in their relationships. But the tranquil, unruffled yet powerful quality of the composite belies the more than six-month struggle it took to raise the project above the level of government-imposed mediocrity.

Not the least of the problems was zoning, which required among other things that all houses built for sale have their own lots, off-street parking and individual utilities, and front on a street—which meant, if taken literally, that reasonably priced row houses would have had to be ruled out.

The way Keyes, Lethbridge and Condon approached these restrictions was to develop a good scheme and then think up a rationale for convincing the Redevelopment Land Agency, the District government, FHA and everyone else involved that the scheme fell within reasonable interpretations of the rules. One result of this approach was that Tiber Island contains no row houses in a legal sense. That it does in a real sense is due to the District government's willingness to look upon them as apartments, thereby neatly eliminating most of the restrictions against them.



Flanking Tiber Island (1) in Washington's rapidly filling up Southwest are five other large-scale residential complexes: Carrollsburg Square (2), a companion piece to Tiber Island also designed by Keyes, Lethbridge & Condon; Charles Goodman's River Park (3); Chloethiel Woodard Smith's Harbour Square (4); Morris Lapidus' Chalk House Apartments (5); and I. M. Pei's Town Center Plaza (6). All are either completed or under construction.

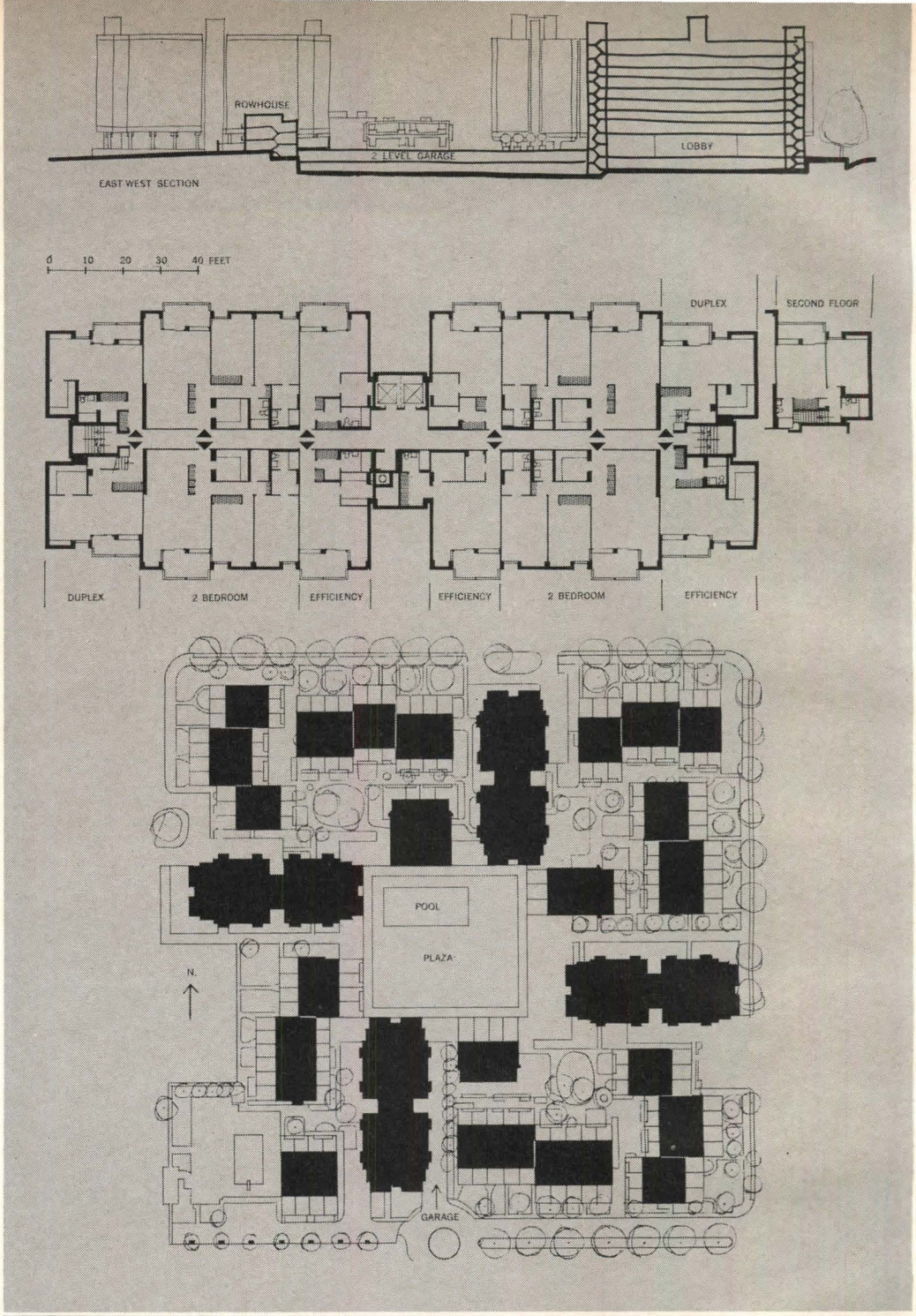


Only the 64 houses on the perimeter of Tiber Island's site can be sold—in this case under a condominium arrangement priced from $40,000 for two-story, two-bedroom houses to $74,550 for three-story, four-bedroom units. The 21 houses contained wholly within the site must be rented because they do not front on the street. The high-rise buildings contain a total of 368 efficiency, one- and two-bedroom apartments renting from $130 to $260.

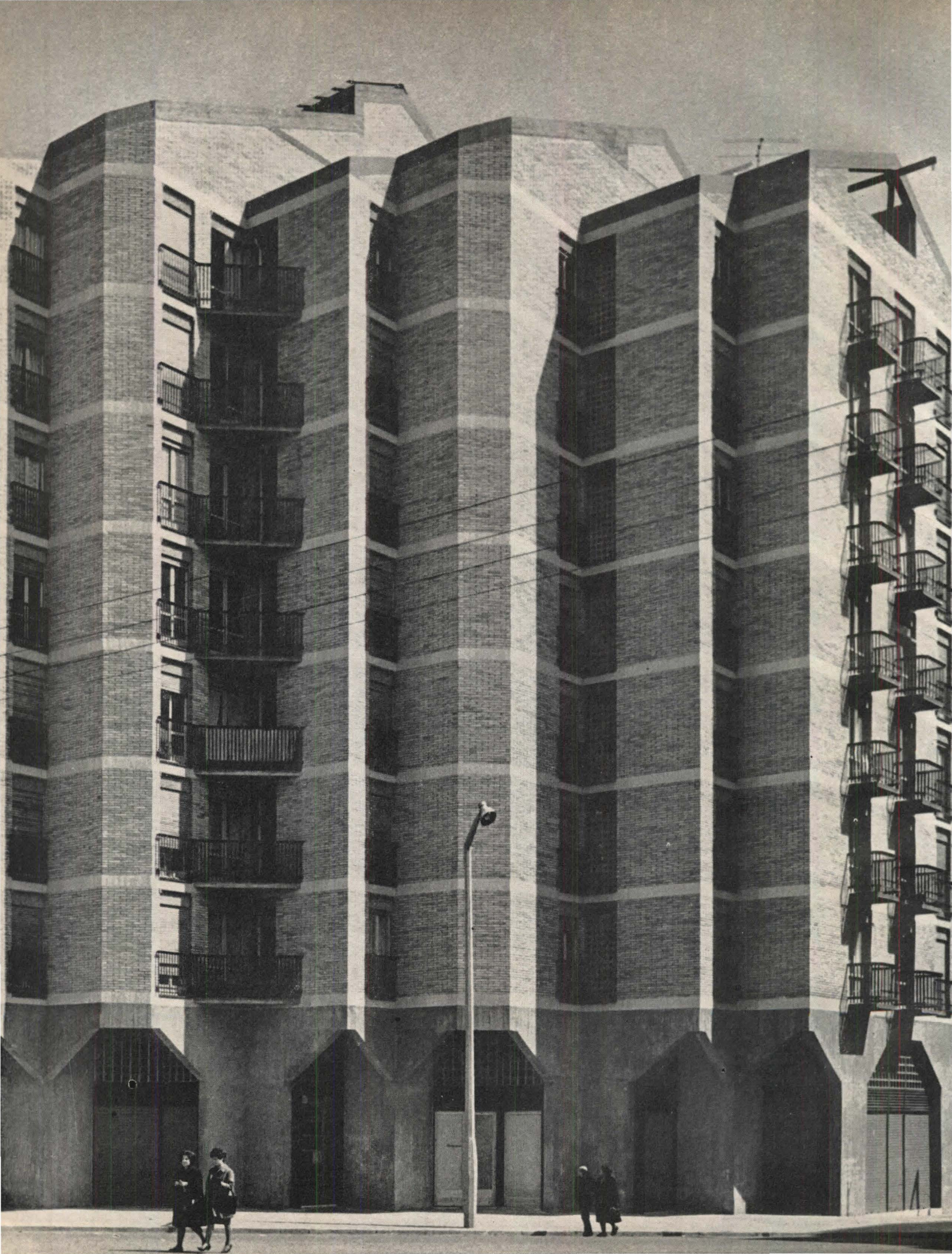
The architects' handling of the interplay between these high-rise and low-rise elements (site plan, right) achieves both a variety of outdoor spaces and a high degree of privacy. In the center is a great open square which joins the four apartment slabs jutting out from it pinwheel fashion. Piercing the square on its perimeter are the enclosed courts of the 21 rental houses, and beneath it is a two-level parking garage (section, right). A series of smaller open spaces spin off from the central plaza: first into courts for the row houses grouped at the corners of the site, then into tighter spaces connecting the houses to the streets, and finally into private walled gardens. In nearly all cases, the townhouse groups either present a blank wall to the apartment blocks or are far enough away to prevent a direct view from the apartments.

Keyes, Lethbridge and Condon's scheme was the winner of a design competition—an arrangement which partner David Condon considers a big boost in achieving a good job. "It gave us a terrific running start," he says, "and once we had won the competition, it gave us time to plan our retreats so that our design would suffer as little as possible."

KLC's commanding design and their determination to keep it from being whittled away have paid off handsomely. They have created not only the best addition yet to Washington's Southwest, but a new standard of architectural quality for U.S. urban renewal.—James Bailey



FACTS AND FIGURES
Tiber Island residential development, Southwest urban renewal area, Washington, D.C. Owners: The Berens Companies, Chas. H. Tompkins Co.; Architects: Keyes, Lethbridge & Condon; Landscape Architect: Eric Paepke; Structural Engineer: Carl Hansen; Mechanical Engineers: Kluckhuhn & McDavid Co.; Site Engineers: Eberlin & Eberlin.
PHOTOGRAPHS: J. Alexander



In Barcelona, an architectural heritage is transformed into a modern tradition

BY SIBYL MOHOLY-NAGY

The following article traces the development, in Barcelona, of a concept of urban living during the past hundred years or so. It begins with a brief resumé of the historical roots of that concept, and then describes, in detail, the work today of a small group of architects in the Catalan capital. The buildings produced by this group reflect, in the author's view, "greatest originality—combining contemporaneousness with respect for the past, and elegance with adherence to severely limited budgets." The picture at the left shows one such building, the Calle Navas de Tolosa apartments designed by Martorell, Bohigas and Mackay. Professor Moholy-Nagy, the author of this article, is among many other things a member of the Architectural Forum's Board of Contributors.

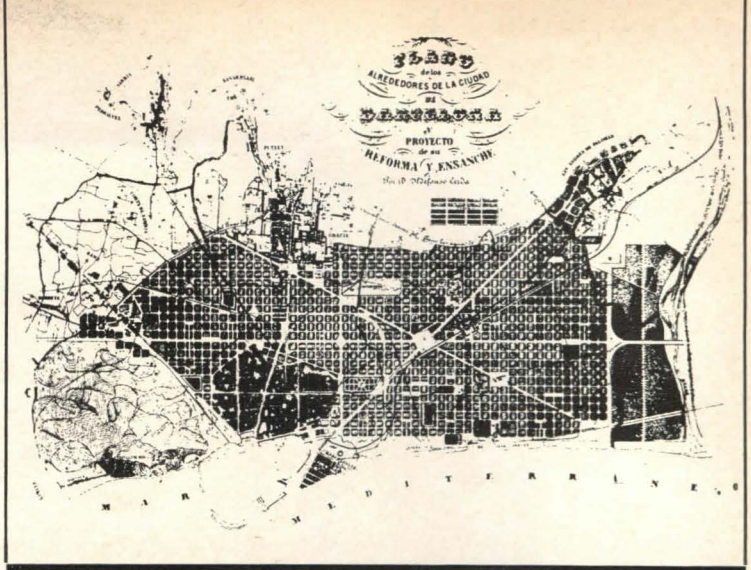
The term "traditional architecture" is not only accepted but honored by the young architects of Spain. Particularly Catalonia, with its millennial history of fighting to preserve its heritage, evaluates each new development in relationship to the architectural values of the past.

While the rest of Spain still clung to the walled symbols of the reconquest, the people of Barcelona tore down their fortifications, burned the citadel, and created one of the earliest and largest city parks in the world (lower left on 1). In 1860 the city council accepted a *Plan for the Extension of Barcelona and a Projection of its Reform and Expansion.*

Its author was Ildefonso Cerda (1816-1889) who, in the best Catalan tradition, had in his youth stormed the city hall with a banner bearing the inscription "Bread and Work." In undertaking the plan, he prepared, by his own account, "to sacrifice myself for the ideal of urbanization."

From an architectural standpoint the revolutionary aspect of this plan lies in its interaction of street pattern and building elevation. Neither can exist without the other. A classically strict modular grid plan is combined with the amenities of pedestrian walks, green spaces and octagonal street intersections. *Nudos* or *plazoletas* result from elevations that have been cut off toward the street at a 45 degree angle (2). Within the limitations of speculative building, this provision of Cerda's plan created an incentive to design rather than assemble facades, since their faces are prominently visible (3 and 4).

Cerda's argument that "the livable city" consists of well-placed and well-connected buildings received a strong impetus from the dynamic tradition of Catalan architecture. Among many others, Francesc Berenguer, Gaudí's unjustly overlooked collaborator, stands out as a designer who reinterpreted anonymous regionalism, superbly suited to site and climate, in concrete and for contemporary uses. Structure, combined materials, and a sophisticated articulation of form through light, are to him ends in themselves. A modest town house in the workers' community of Sta. Coloma de Cervello (5) expresses through the ancient device of the breathing wall Cerda's maxim that the end lot owes to the townscape a well-turned corner.



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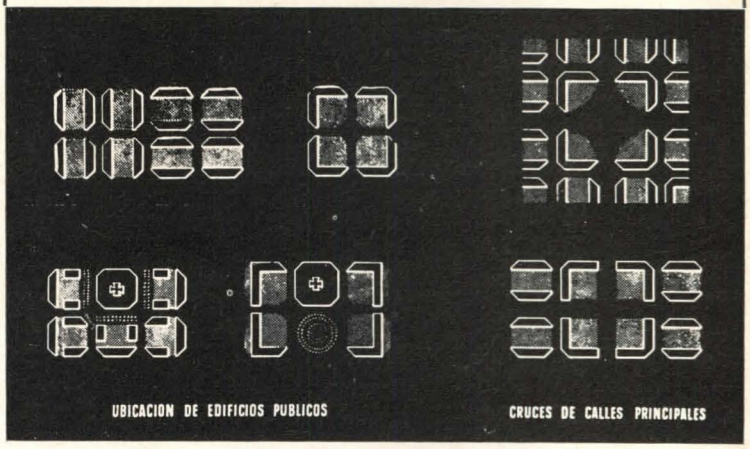

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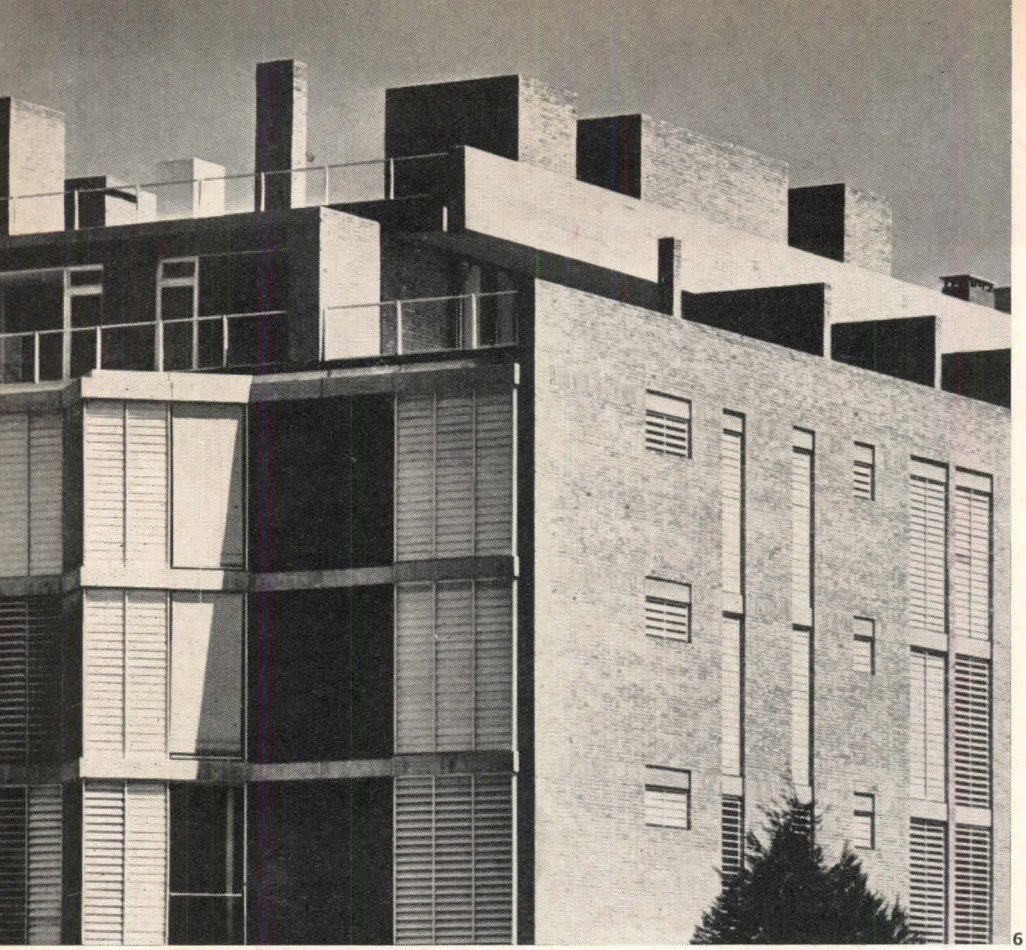

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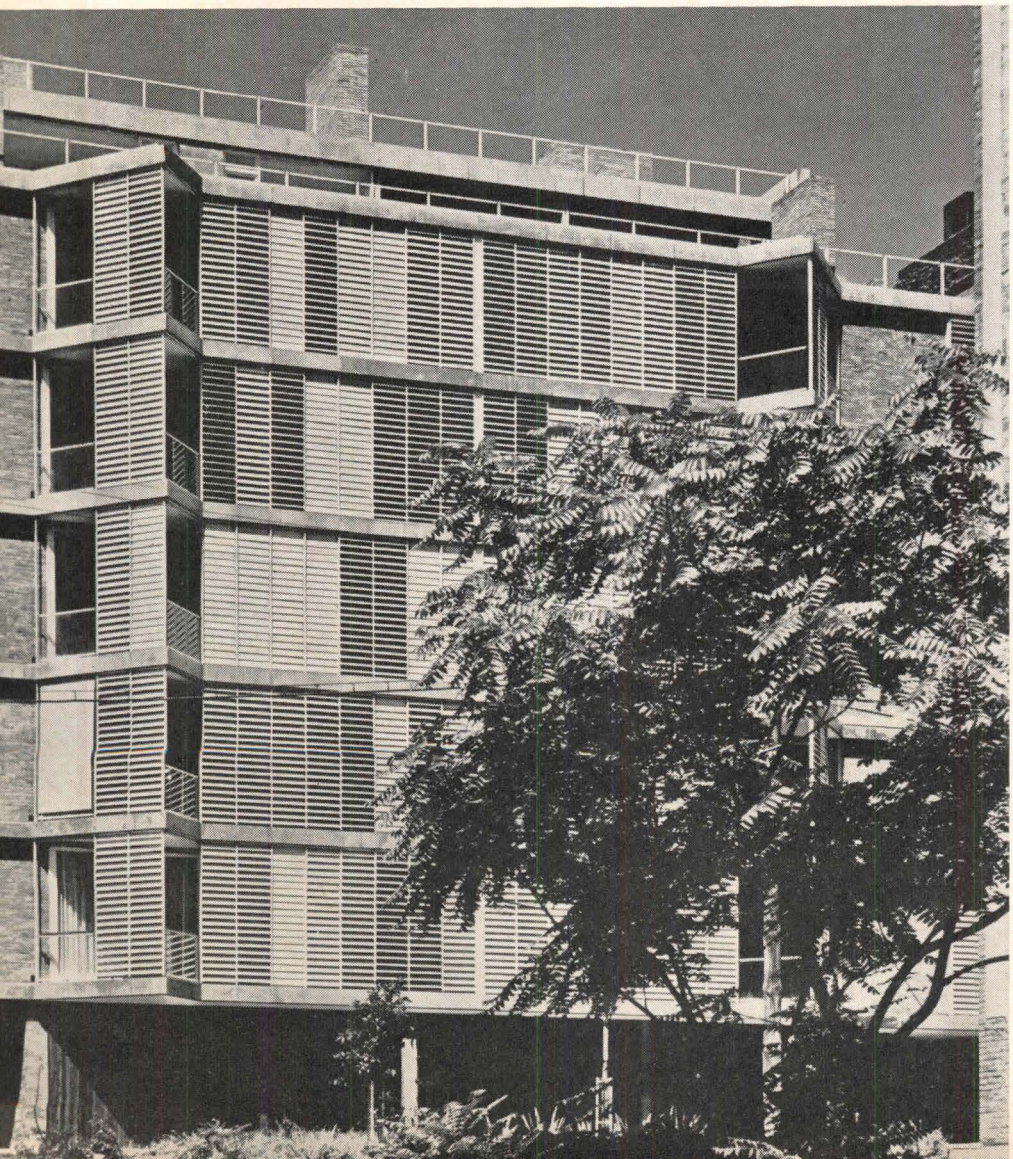

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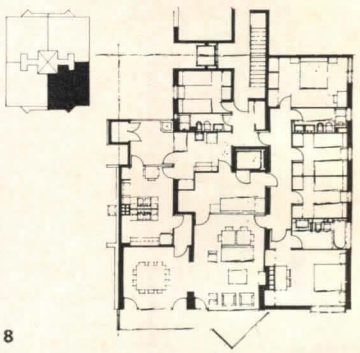
Exploding Barcelona abandoned in its new quarters the restrictions imposed by Cerda's plan for the good of the whole community. Long linear streets have replaced the short blocks and *plazoletas* of the *ensanche*. A new generation of architects, ready to build a new Spain after the war, decided to express its profound respect for the Catalan heritage more in building design than in city planning.

An excellent example of this new regionalism is the apartment building by Jose Antonio Coderch in Barcelona (left). There are 22 apartments in this handsome building, topped by four penthouses whose recessed terraces give a sharp terminal articulation to the elevation (**6**). The plate glass walls are protected from heat and glare by a louvered balcony on the south elevation (**7**) and an adjustable wall curtain on the west side. These are luxury apartments with spacious plans (**8**) and beautifully landscaped grounds in the most sophisticated neighborhood of an industrial city.



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The surprising aspect of Barcelona's modern tradition is its survival and transformation in low-cost housing projects on whose success depends the permanent quality of urban renewal and expansion. To interpret and implement the needs of more than 100,000 new inhabitants per year from the underdeveloped south of Spain has been the task of a young

firm of three partners: Martorell, Bohigas and Mackay. After meeting these unlikely partners one comes to the conclusion that the thing that is wrong with teamwork is conformity. The very diversity of this Barcelona group seems to be the guarantee of its success.

Josep Martorell is a gaunt taciturn type straight out of Cervantes. He is the thinker and innovator with the calm skepticism of an ancient people who have outlived and outthought their oppressors.

Oriol Bohigas is the prototypal Catalan. In the magazine *Serra d'Or,* of which he is co-editor, he fights for an industrial-humanist synthesis; in his practice he can move mountains and administrators.

The youngest partner is David Mackay, an Englishman. His is that deceptively understated urbanity that conquered the world without bloodshed 100 years ago. He is the mediator between the solitary intellect of Martorell and the expansive dynamism of Bohigas. He stands for architecture as the art of the possible.

The main problems facing the Barcelona architects are urban—the housing of almost 1,000 people per acre, without condemning them to an unidentifiable environment that must be even more damaging to the migrant Andalusians than to the American southerner coming north. Among a number of prototypal housing developments, Martorell, Bohigas and Mackay developed two particularly attractive solutions: a low-income, two-bedroom block for a redevelopment area in Cerda's *ensanche,* and a rent-controlled cooperative on one of the new main highways.

The best example of this architectural commitment to designed rather than assembled mass dwellings is the low cost block on the Calle Navas de Tolosa (right and page 52). It took from 1960 to 1963 to make such an unusual solution possible. The site plan (**9**) shows a corner lot in the Cerda tradition. Instead of adhering to the old solution of a flat cut-off at the corners, the chamfered corner is achieved with staggered walls of highly glazed brick. A maximum utilization of site and height demanded seven floors with seven units each. To achieve an average floor space of 195 square feet for each apartment without sacrificing the articulation of the elevation, the structure was cantilevered at 45 degrees over the first floor of reinforced concrete (**10**).

This first floor with its protected openings contains stores and workshops, opening directly on the street (**12**). The banded brick elevation above, interrupted by tiers of black-railed balconies, provides a varied spectacle from the street as the sun moves around the building, heightening the contrast between the reflecting brick surfaces and the deep sculptural hoods of the ground-level openings.

The floor plan (**11**) turns the liability of the highly articulated street elevation into a functional asset. What looks like one harmonious unit is actually two buildings with separate entrances, stairs and elevators. Load-bearing walls at right angles to each other assure each apartment insulation from noise, while windows, recessed into the parallel wall units, keep the inhabitants out of each other's sight line. This civilized respect for privacy and individualized layout gives this minimum-cost project a quality of urban refinement that is missing in our own astronomically priced luxury towers.

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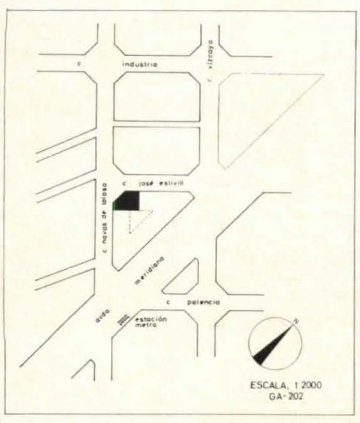

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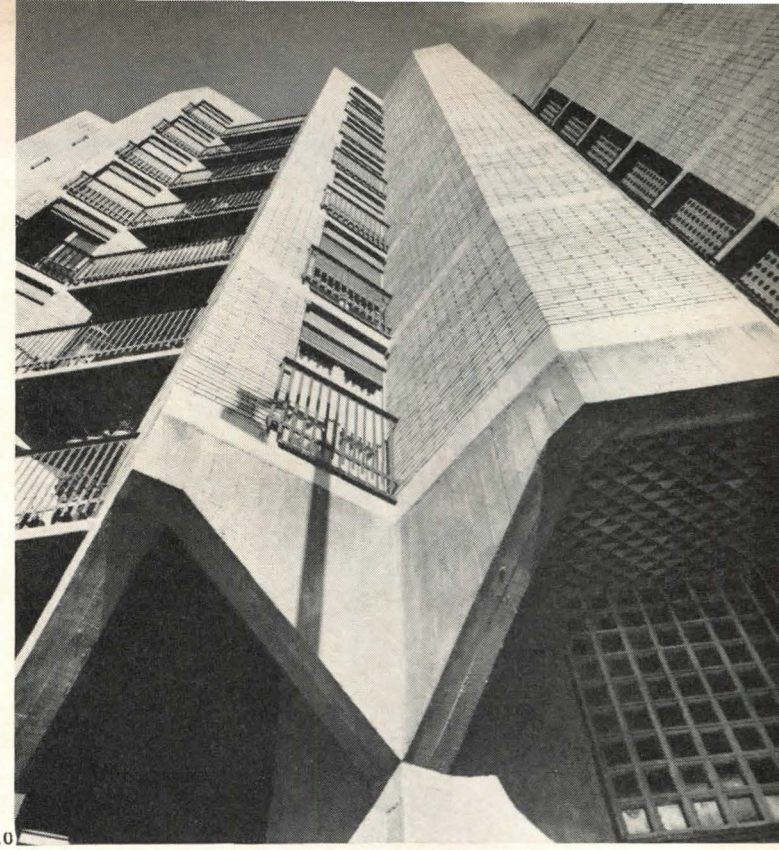

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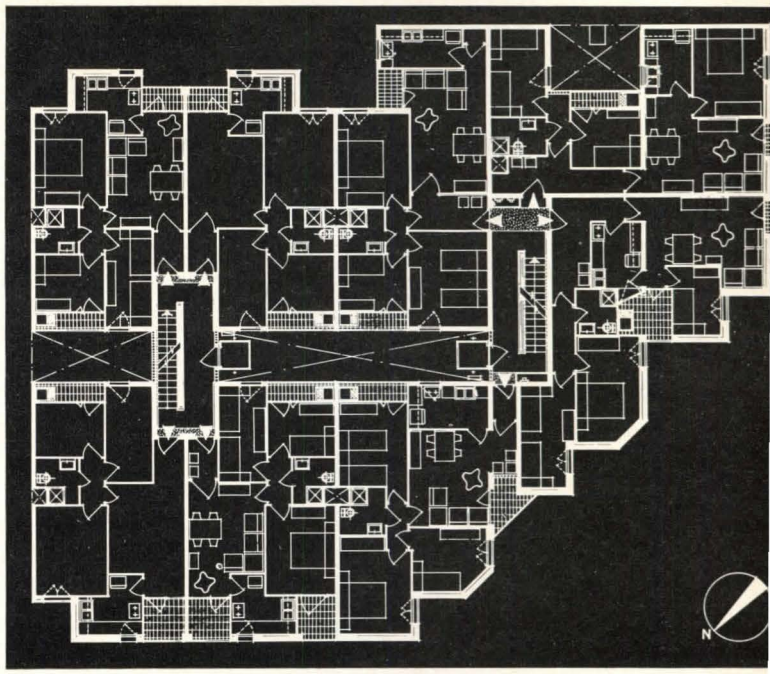

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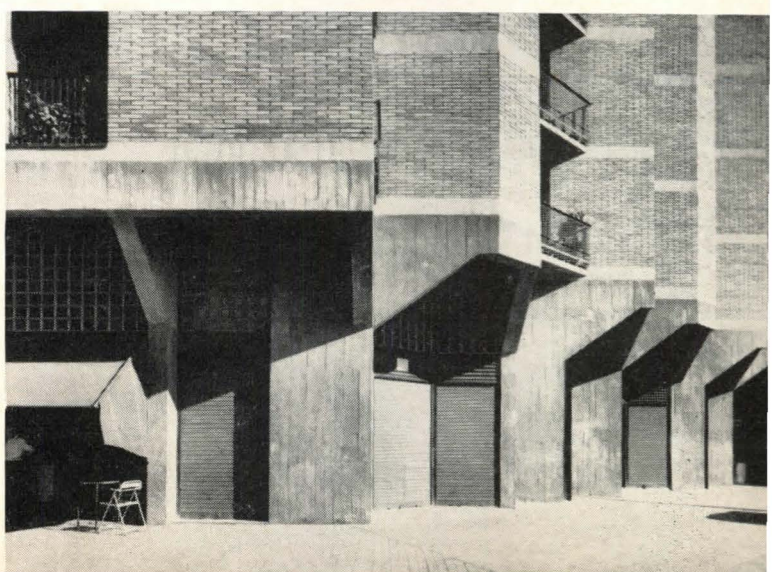

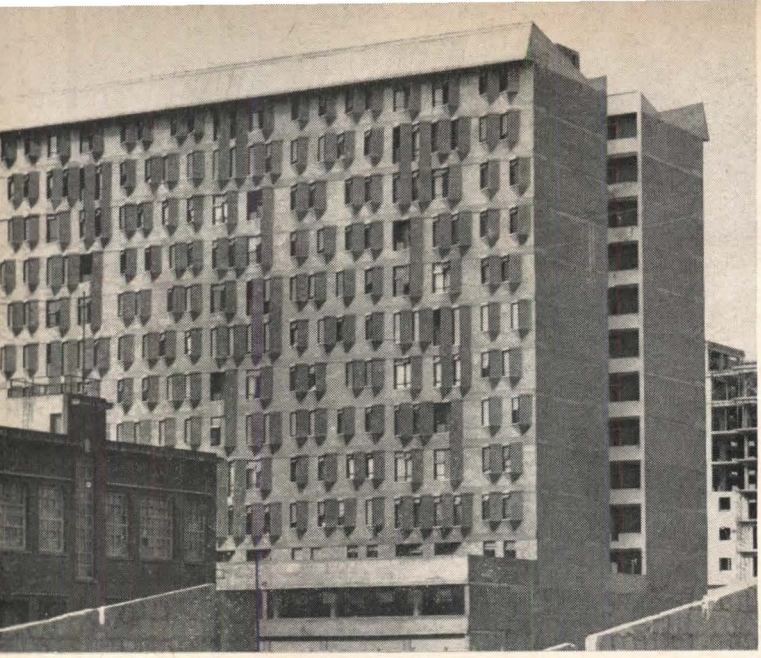

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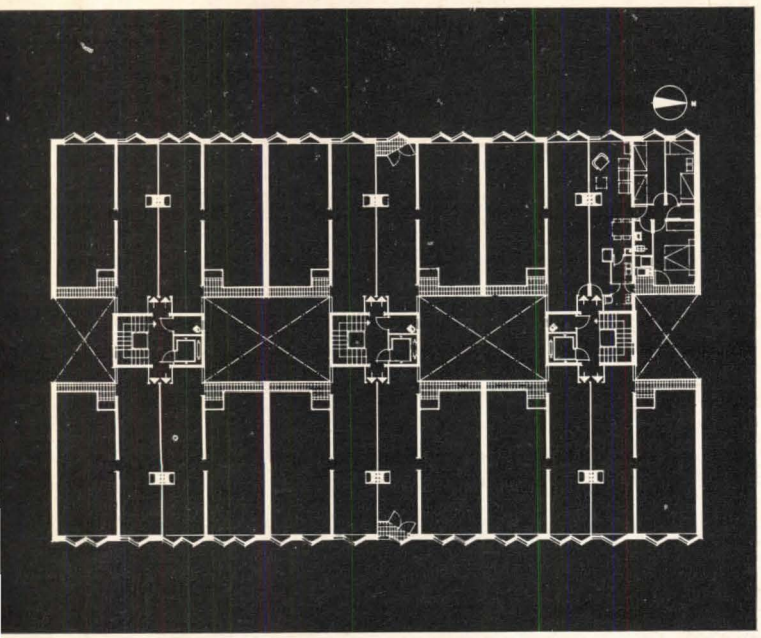

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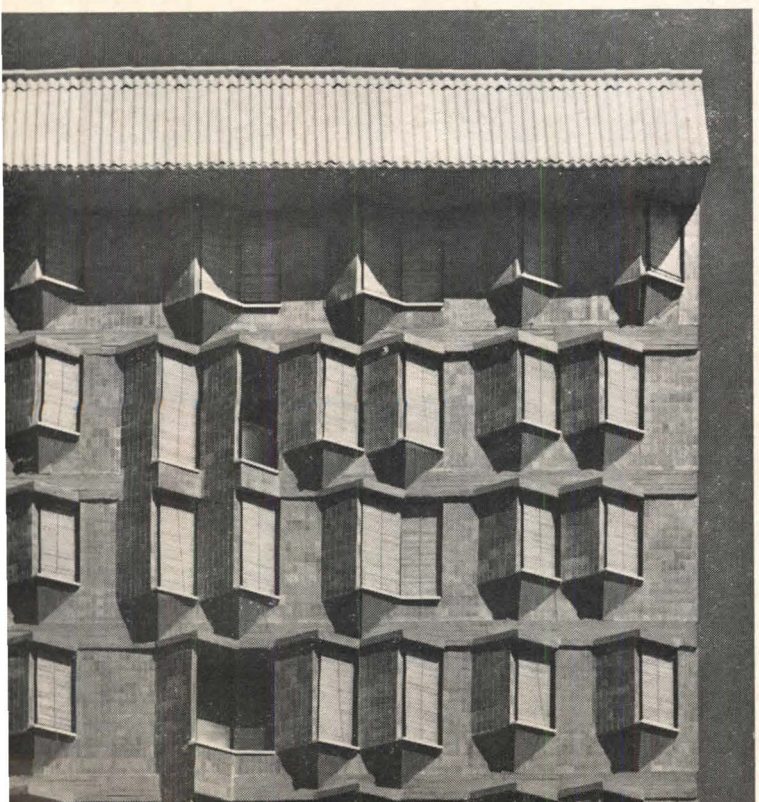

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The other solution of multiple urban dwellings at low cost is prototypal for the inevitable ribbon development along superhighways. The Avenida Meridiana is the major north-south axis, connecting the mountains with the railroad sector of the city. The housing authority chose a linear site and then turned it over to a cooperative group for one part of the project, and to a private developer for the other half. The result is a large block, containing 132 apartments (**13**).

Although cliches like "structural honesty" or "space come through" seem to be untranslatable into Catalan, they come to mind as one looks at the architectural response to two completely different sites. Where everything is movement and change in the Navas de Tolosa, the Meridiana site demanded uniform apartment sizes (228 square feet) and layouts. There is no freedom to accentuate structure sculpturally. Above the open basement columns, the whole structure is supported by evenly spaced load-bearing walls. They divide the building interior into six noise-insulated units on each side of the city block (**14**) separated by an interior court.

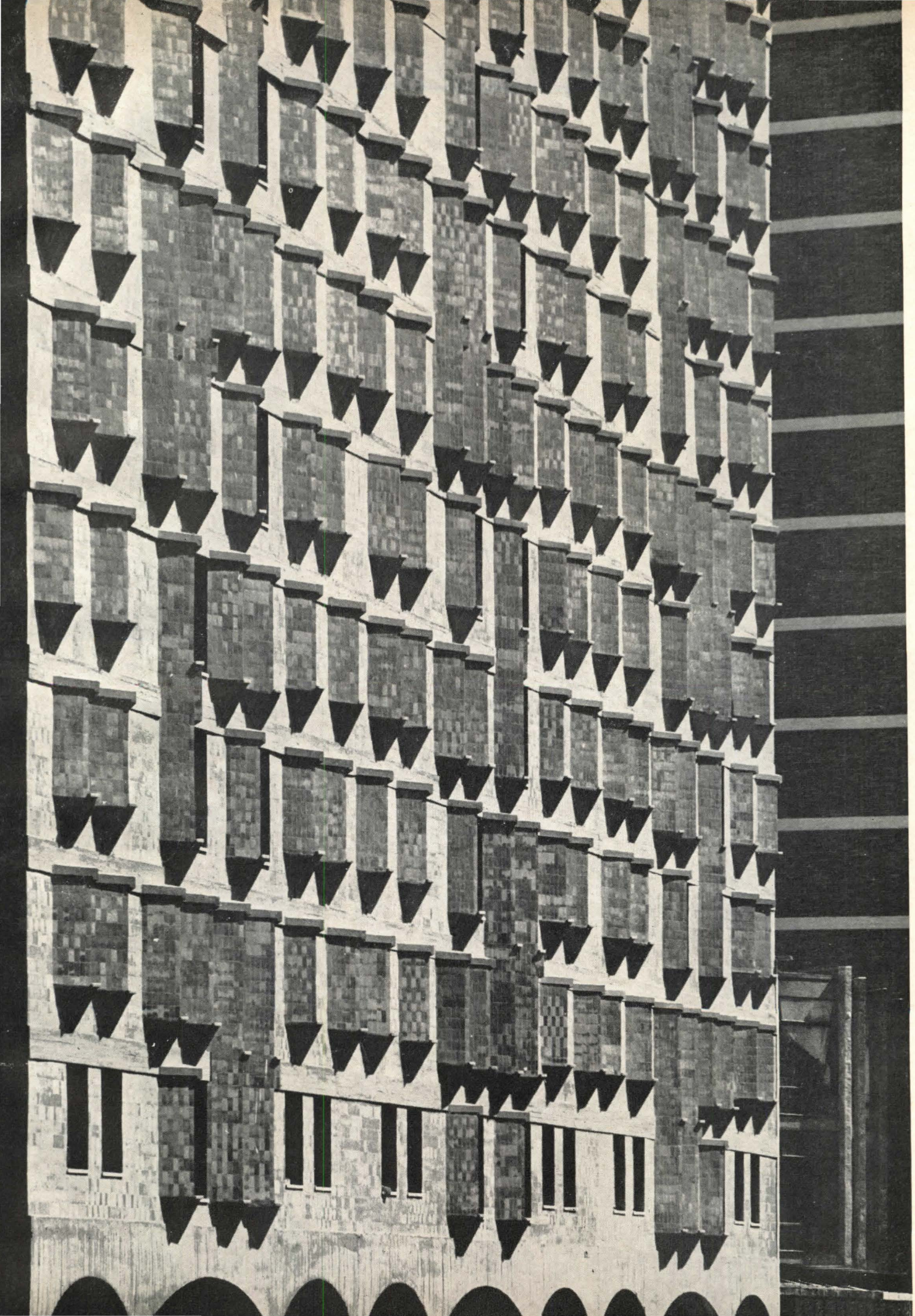
It might be surmised that only in Catalonia would this inevitable uniformity of plan and elevation challenge the architect to search with his most intense imagination for an articulation of form that could be justified in terms of structure and use. Martorell, Bohigas and Mackay realized their ambition, or perhaps better their architectural obligation, by creating a rich interplay between exquisitely tiled bay walls and window openings, set at obtuse angles. Here are the architects themselves, explaining how they did it:

"The bay windows are open to the south and closed to the north, giving protection in winter and admitting only the afternoon sun in summer. A greater diffusion of light than can be obtained with conventionally set glass panes is achieved through calculated light reflections from the slanted surfaces of the bays. At different times and light angles (**15**) and (**16**) these same surfaces reduce glare and contrast. To avoid identical ribbon windows for the limited identical rooms, their functional variation had to become the main feature of the elevations. This would have been too restless on the level of each story. The composition had to be played to the larger scale of the total complex.

"The two main compositional units are the living room window with a two foot sill for looking out, and the bedroom window with a three foot sill so that a bed can be placed underneath. These two basic units have been combined and varied in a large number of constellations. Sometimes they are drawn together as one opening, sometimes they are combined structurally so that the sill of one unit forms a small balcony for the window above, and so on. Each flat is assured in this way a certain identity which the restricted floor plan does not permit, and the elevations have a changing volumetric vibration."

Only the future will show whether this transformation of regional tradition will lend itself to monumental and symbolic structures. On the domestic urban scale Martorell, Bohigas and Mackay have shown that Cerda was right and that the pageant of sensations along the streets of a big city needs buildings as well as people. It also needs a dedication beyond fame and fortune to the tradition that it is the designer who makes the face of the city.

All photos by F. Catala Roca except page 54: large photos, Casali "Domus"; small photo, Maspons & Urbina.



In San Francisco, a renewal effort based on civic pride falls short of expectation

BY CHARLES W. MOORE

The initial units of San Francisco's much heralded Golden Gateway urban renewal are now complete, and open for inspection. They prompt considerable reflection on certain minor eternal verities like "pride goeth before a fall" and "good guys finish last."

In fact, the concept of pride, that curious virtue-vice of our value system, is full of the same overtones as are present in the Golden Gateway. Pride is a Good Thing, as is evident on U.S. Marine recruiting posters, yet it prompts reprehensible actions (which is presumably part of the reason why it goeth before a fall).

Civic pride is similarly perplexing, especially in San Francisco, which has enormous reserves of a rather exclusive variety of it. "San Francisco's special flavor," it says in the Golden Gateway brochure, "is a blend of cool sophistication and warm humanity, of urbanity and informality, of up-to-dateness and tradition. These qualities are captured in tangible form in the Golden Gateway." At least, it is evident, they have been most earnestly sought by the architects.

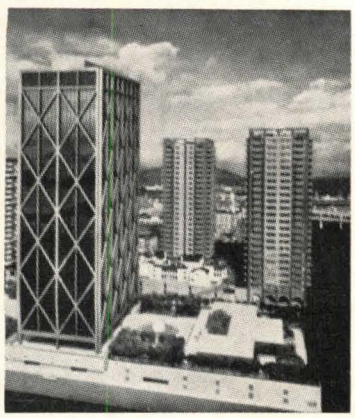
San Francisco does have a special flavor, as is well known, full of urban pleasures on magnificent geography, with a delicately scaled cultural life which invites comparison with what a small central European capital like Prague or Budapest must have been like during the halcyon years (whenever they were). It has a sense of its own importance which would do justice to a capital city, and a concern for its own identity which makes it the enemy of just about every other American city.

It is no surprise, therefore, to see it provide the setting for a self-conscious attempt, within the framework of urban renewal, to clothe its traditional virtues in modern dress. It *is* something of a surprise to see how synthetic and contrived this proud and sophisticated solution appears.

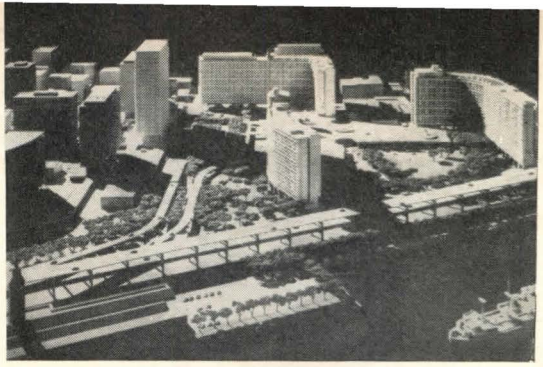
The problem, surely, was not easy. The site, a strip of filled land at the eastern foot of Nob and Telegraph hills, is bounded by piers and the bay on the north and east, and by the downtown area on the south. It had been a vividly picturesque (and very San Franciscan) produce market, of which only vestiges remain, but the obvious value of this very urban site was putting limits on that activity when, six years ago, urban renewal entered the scene.

With it entered San Francisco Urban Renewal Director M. Justin Herman's determination to have the best possible design for the proud and picturesque area. There was, accordingly, a major competition between developers, but based on design, with an important architectural jury, and it evoked a number of brilliant entries. They ranged from Skidmore, Owings and Merrill's serpentine skyscraper in a park (1) to the first of Jan Lubicz-Nycz's by now famous upswept parabola-silhouetted skyscrapers (2) to Anshen and Allen's dense and jagged skyline (3) to schemes from John Carl Warnecke (4) and Wurster, Bernardi and Emmons with De Mars and Reay, (5) which combined high-rise apartments and town houses.

The Wurster, Bernardi and Emmons-De Mars and Reay scheme got the jury's award, partly because of its sensitivity to San Francisco's small scale, and development started. Anshen and Allen were reintroduced to design some town houses, John Carl Warnecke and Pietro Belluschi consulted, and Skidmore, Owings and Merrill reentered the scene to design, just south of the housing, the Alcoa building (shown in model form below, superimposed on a photograph of the apartment buildings) which will be clad in an enormous diagonal grid. Its scale will seek to relate to the bridge in the bay, rather than the delicate housing to the north.



Mr. Moore is the West Coast correspondent of the Forum.



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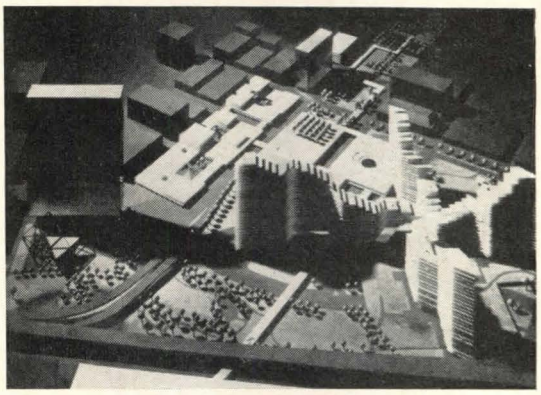

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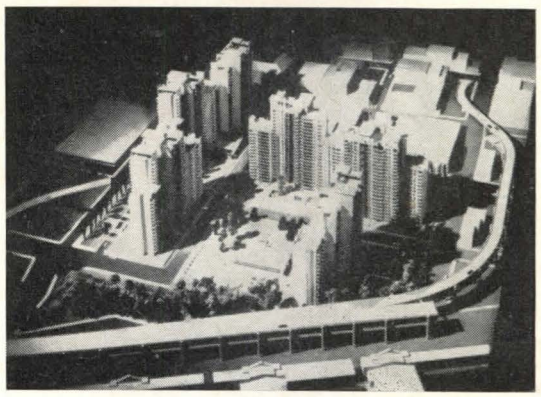

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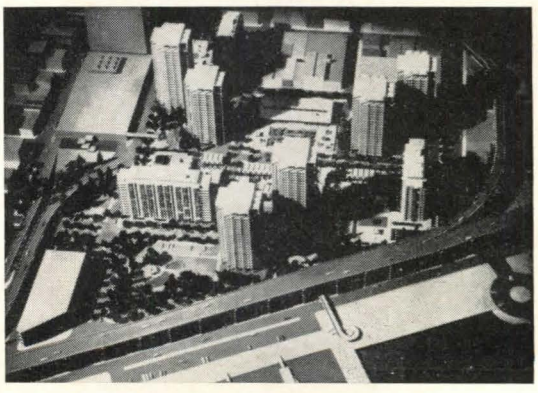

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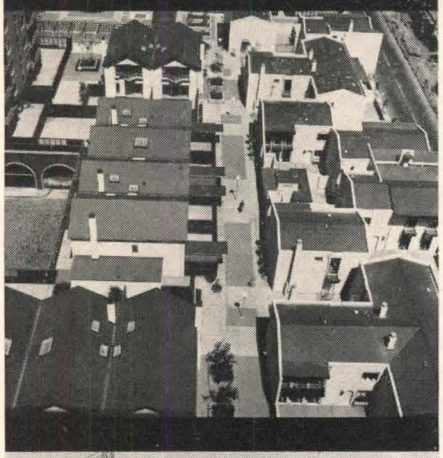

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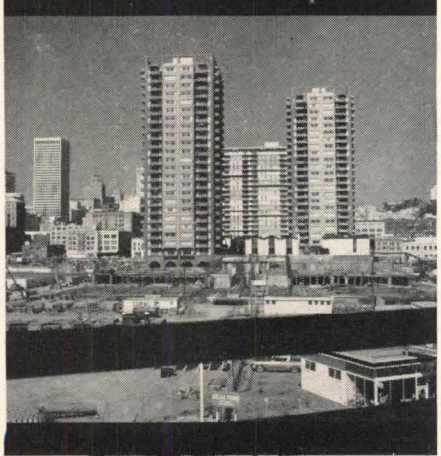

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It sounds a bit academic and vague to note that the architects of the Golden Gateway had a problem of scale, but on the site the problem seems real enough, and by no means simple. Telegraph Hill runs to the northwest. Small wooden buildings climb its sides (6), and everybody in town (except developers from L.A.) thinks it's wonderful, and the Gateway architects have sought assiduously to emulate it (7).

But there is another scale of building visible from the site, in large lumpy buildings to the west, and in the Embarcadero freeway, piers and bridge to the east. (It is the tower of the old ferry building which is caught, in photograph 8, in the coils of the freeway). New buildings here, if they were to be part of some fabric of the city, would have to be the product of some very careful choices.

The design choice in the Golden Gateway was apparently to try to have one's cake and eat it, to erect enormous slabs and point towers for density, and at their base to put pretty little houses for small scale. To make this work, the high-rise had to be widely spaced, in a manner curiously un-urban, though of course it is a little unfair to comment on the loneliness of the first blocks (16). The final effect, its vistas closed by slab towers, should be rather more like photograph 9, and the grassy distances of the adjacent park (page 58), once it is shaded by trees, can be expected to lose some of its surreal quality.

To the tall buildings has been added the extraordinarily sophisticated blandishment of Alexander Girard's color scheme. This latter does not show to best advantage in black and white photographs: it seeks in soft colors, grey and green and blue, on the high-rise to describe individual apartments within, while Christmas red and green hop up the base arcades. The facades thus painted remain regular nonetheless (10, 11, 17), and the arcades inexorable, marching under high-rise, house and plaza alike (12 and 13).

Behind the arcades there is parking and there are some stores. On top of them, reached through little stairs, are plazas on which town houses sit (14 and 15)—plazas adorned with several kinds of paving and ground cover, with carefully designed street furniture and carefully chosen trees and bushes, and even with trellises and wood fences.

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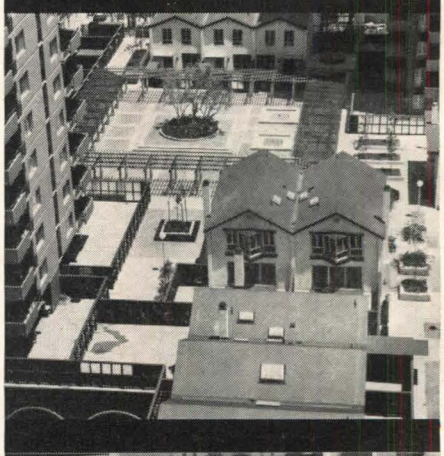

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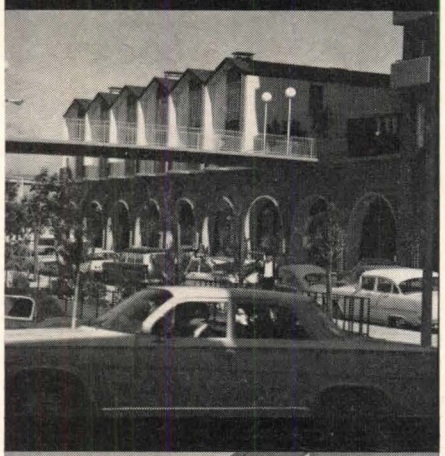

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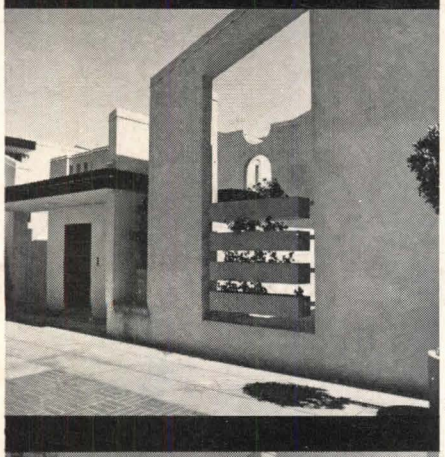

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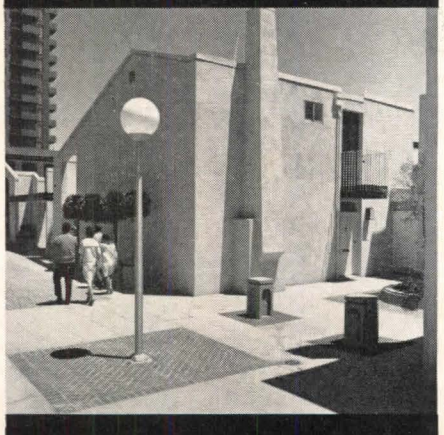

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THE object of the plaza's embellishment, quite apparently, is to achieve a single-family character suitable to the Bay Region, where the very architects of this project have helped create probably the highest general level of domestic architecture anywhere, during the past three decades.

And yet it just doesn't seem real. One always knows that he's not on the ground, really, that the trellises stand on a garage and that the houses have no foundations; and the high-rise—the color-coded high-rise—never ceases to loom overhead (26). The walled "private" terraces become part of a design pattern, and not of a familiar way of life, urban or suburban.

In the realm of design pattern, it must be said for Anshen and Allen, the architects for the town houses which hang out over Washington Street, that they did not hold back. Eschewing the Wurster reticence (18) or the De Mars delicacy (19), they embark into a super-sophisticated decorator world (20-22). (Those are flower boxes in 20, next to an elevator with overtones of a Sullivan tomb; and in 21, bollards take on the aspect of sacrificial altars.)

The fact is (and those movieland houses of Anshen and Allen pick this up) that this is not the realm of single-family domestic architecture, and the attempts to pretend that it is (even in the terraces at the base of the tower, 23) are constantly belied by everything from the inevitable long corridors inside the apartment slab to the great urban views out the apartment windows (24). The urban scene appears able to withstand a considerable amount of frivolity (25); but its patterns are still, at whatever scale, real, workaday (yes, functional) ones and a sentimentality of the suburbs just doesn't inject itself as a part of the city. Whatever the scale accommodations, the continuity is broken.

In a time when most urban mishaps come from unconcern and unfeeling, against which it is most cathartic to rail, it is distressing to report on a piece of the city which is the result of so much good will, so much design capacity, so many high hopes, and so much hard work, which still seems to fail to become a genuine piece of the city. But it is a proud thing, and pride has strange traits. Given time and usage, the Golden Gateway may yet vindicate itself.

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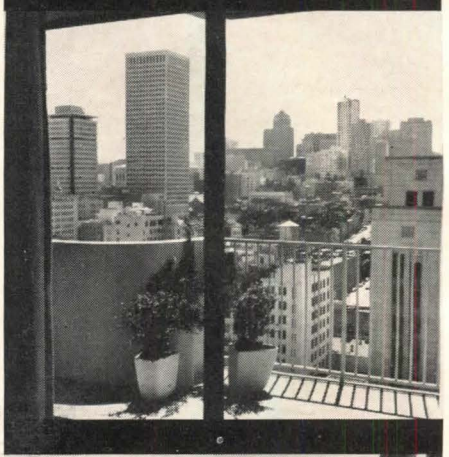

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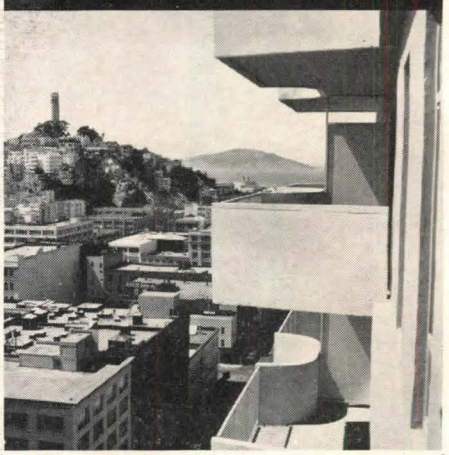

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FACTS AND FIGURES

Golden Gateway redevelopment, first phase, San Francisco. Architects: Wurster, Bernardi & Emmons-DeMars & Reay; Consulting Architects: Anshen & Allen; Structural Engineer: H. J. Brunnier; Mechanical and Electrical Engineers: DeLeuw, Cather & Co.; Landscape Consultants: Sasaki, Walker & Associates; General Contractor: The Perini Corp.

Gross Areas: Apartment Slab, 362,000 square feet; Apartment Point Towers, 183,000 square feet each; Town houses, 61,400 square feet; Shops, 42,000 square feet; Base Structure (parking), 216,000 square feet. Number of Units (all rental): Apartments, 794; Townhouses, 38. Rental Charges: Apartments, from $125 (studios) to $975 (three-bedroom penthouses) per month; Townhouses, from $370 (two-bedroom) to $515 (four-bedroom) per month. PHOTOGRAPHS: George Knight.

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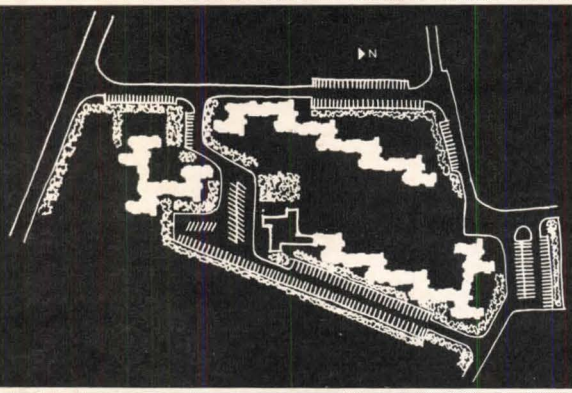
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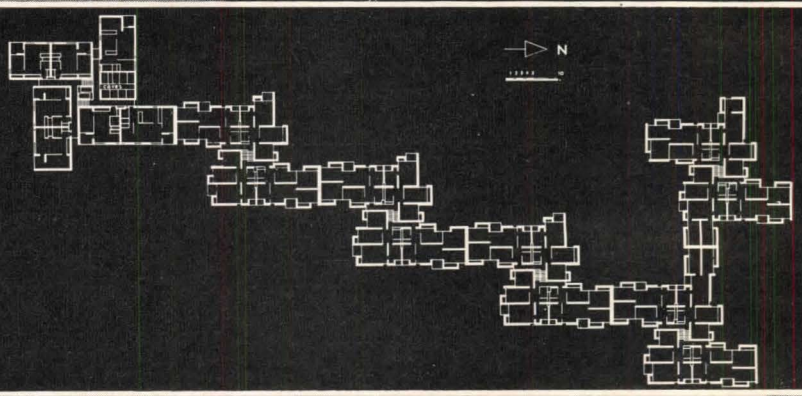
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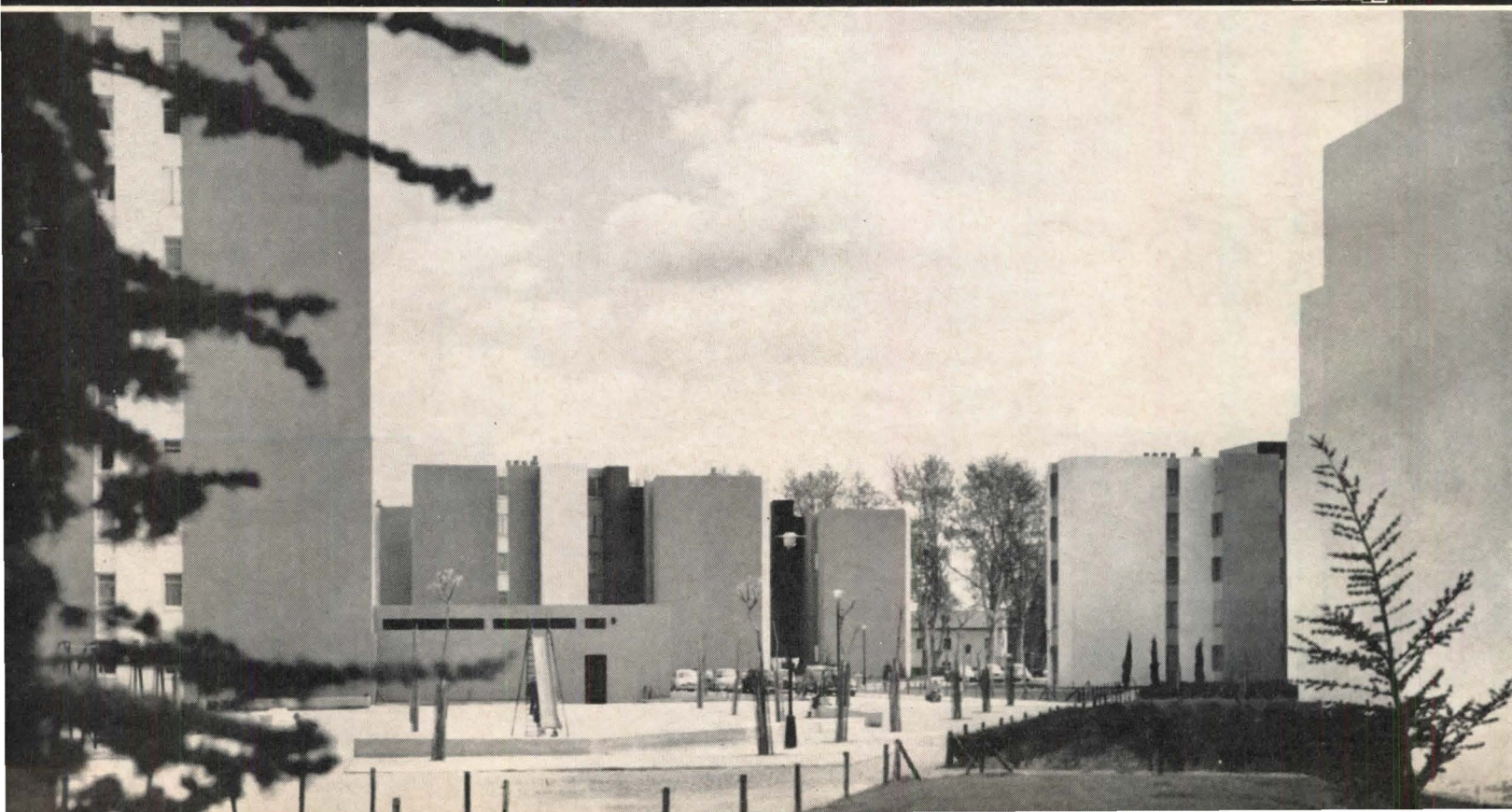


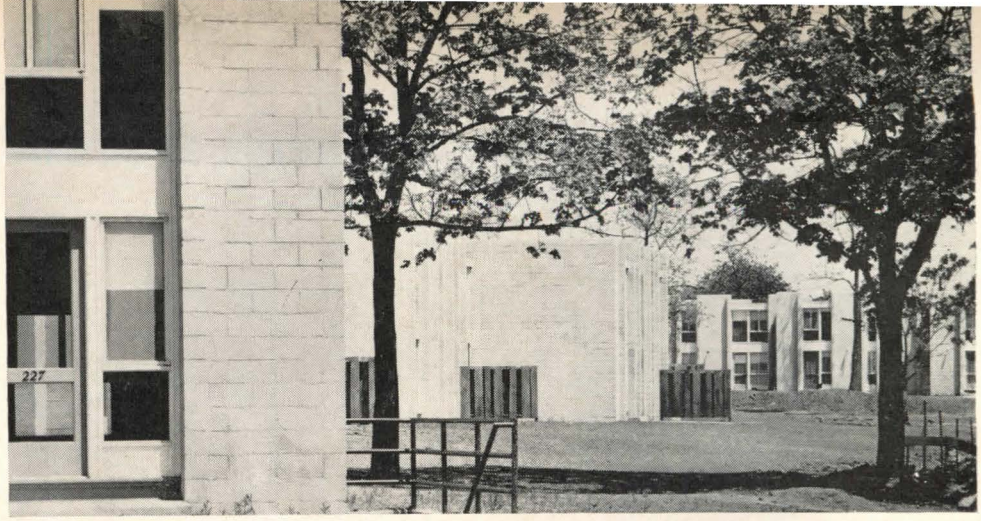
In Nîmes and New Haven, continuous forms broken into human-sized units

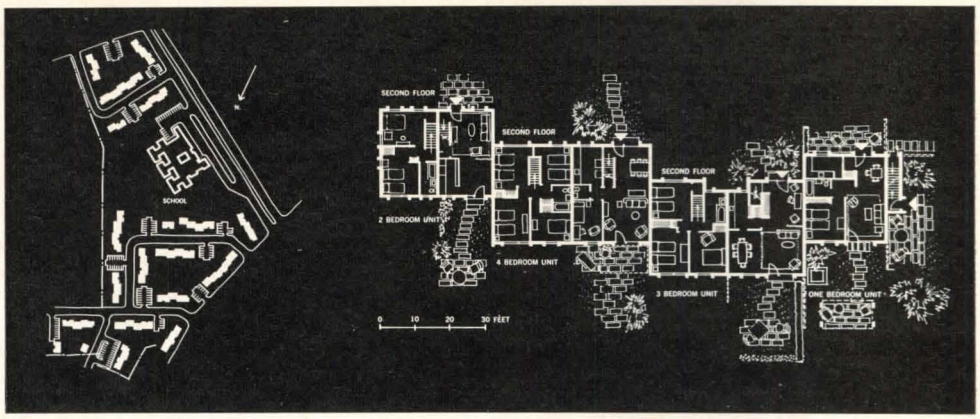
Segments of exterior bearing wall, projecting and receding in response to interior needs, animate the Clos d'Orville project in Southern France by Candilis, Josic & Woods (left). Recessed balconies and windows are shielded from sunshine and lateral views. The ins and outs of the facades produce an effect of opening and closing as the spectator moves among the buildings. Vertical divisions are subtly emphasized by color variations within a range of white and grays, with black accents.

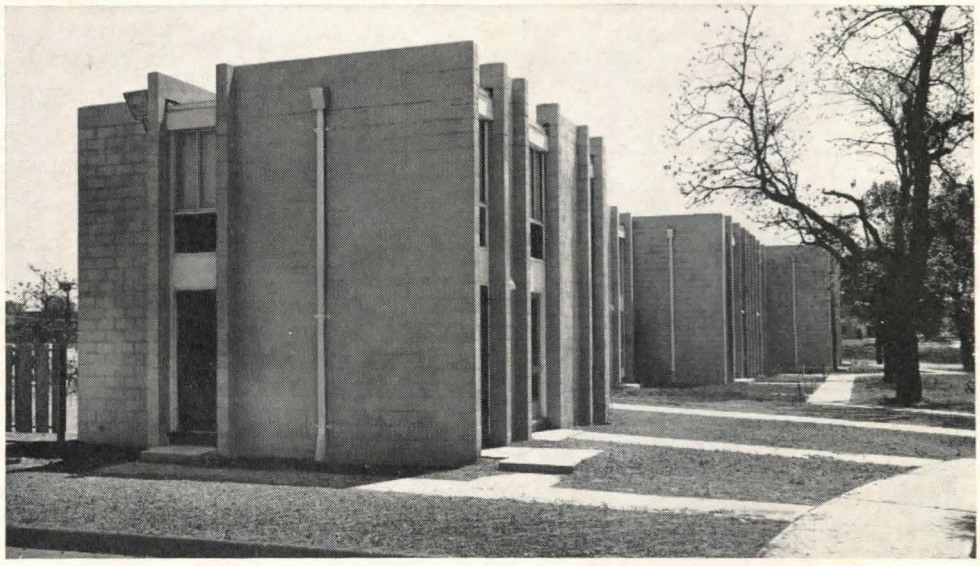
The project contains 359 units, most of them in five-story walk-up structures, with smaller units (of three and four rooms) in a single 15-story tower. The chain-like low-rise buildings are made up of four-unit clusters, each of them centered on a stair core. An irregular perimeter gives most of the units three exposures. The high-rise building serves as an identifying element, dominating the common space enclosed between the low buildings.

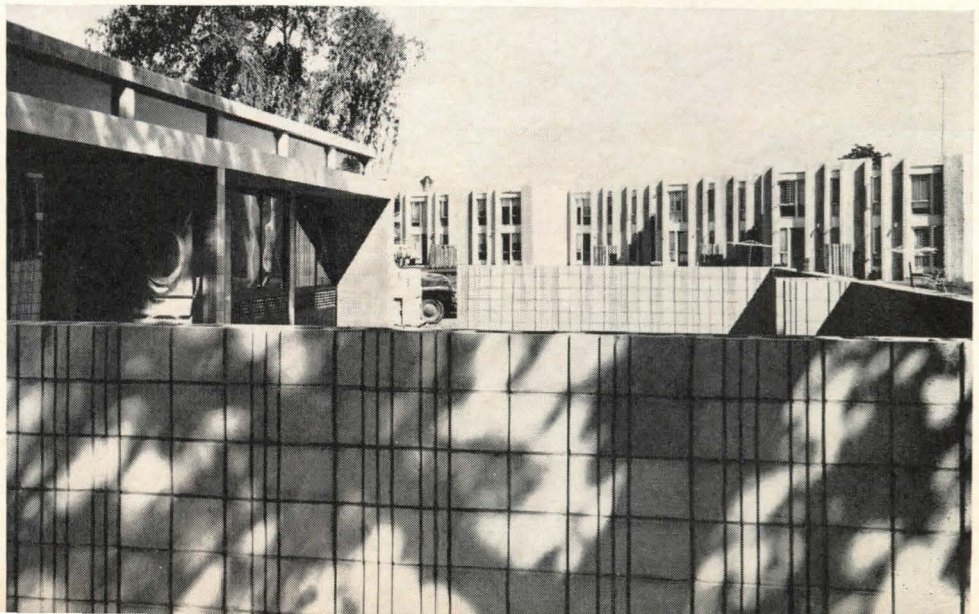
In his Florence Virtue Cooperative Townhouses in New Haven (right), John Johansen has given a bit of privacy and individuality to some starkly simple row houses by staggering them in plan. Taking up the theme of vertical divisions, he has used striated concrete block to create a closely-spaced pattern of projections that further reduces scale, yet gives the project a cohesive image.

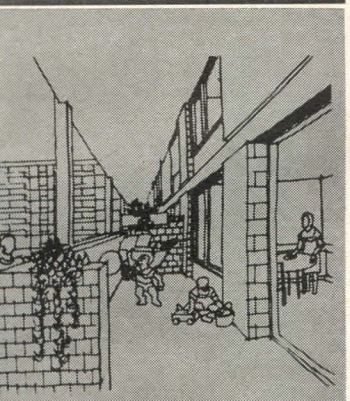
This housing is part of the University Park-Dixwell urban renewal program which also includes rehabilitation of existing houses, commercial redevelopment, and a promising K-4 school by Johansen, now under construction (bottom photo). The project covers nine acres and contains 129 units, varying in size from one to four bedrooms (all variations shown in plan at right). It was built under Section 221 d (3) of the National Housing Act, which provides FHA-insured financing at below market interest rates. Down-payments start at $325, and monthly payments vary from $91 to $129. Income limits range from $5,000 for single persons to $9,300 for families of nine or more.

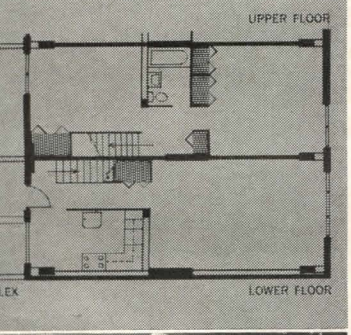












In Harlem and Pittsburgh, limited gains in the fight against rules and red tape

New York State's Mitchell-Lama program for middle-income housing has placed such obstacles in the way of architecture—and architects—that the New York Chapter, AIA, has recently warned its members not to accept work under it. The program offers developers non-competitive land acquisition, partial tax abatement, and low-interest loans financed by public bond issues. But it imposes stringent limitations on just about everything: profits, fees, unit distribution, residents' incomes, nonresidential amenities, and design.

It took two years to get Davis, Brody & Associates' design for the Riverbend project in Harlem (left) past a battery of Mitchell-Lama officials and city agencies. Its most striking departure from the dreary norm of Mitchell-Lama architecture is its system of duplex units served by outdoor corridors with private "front porches" along them.

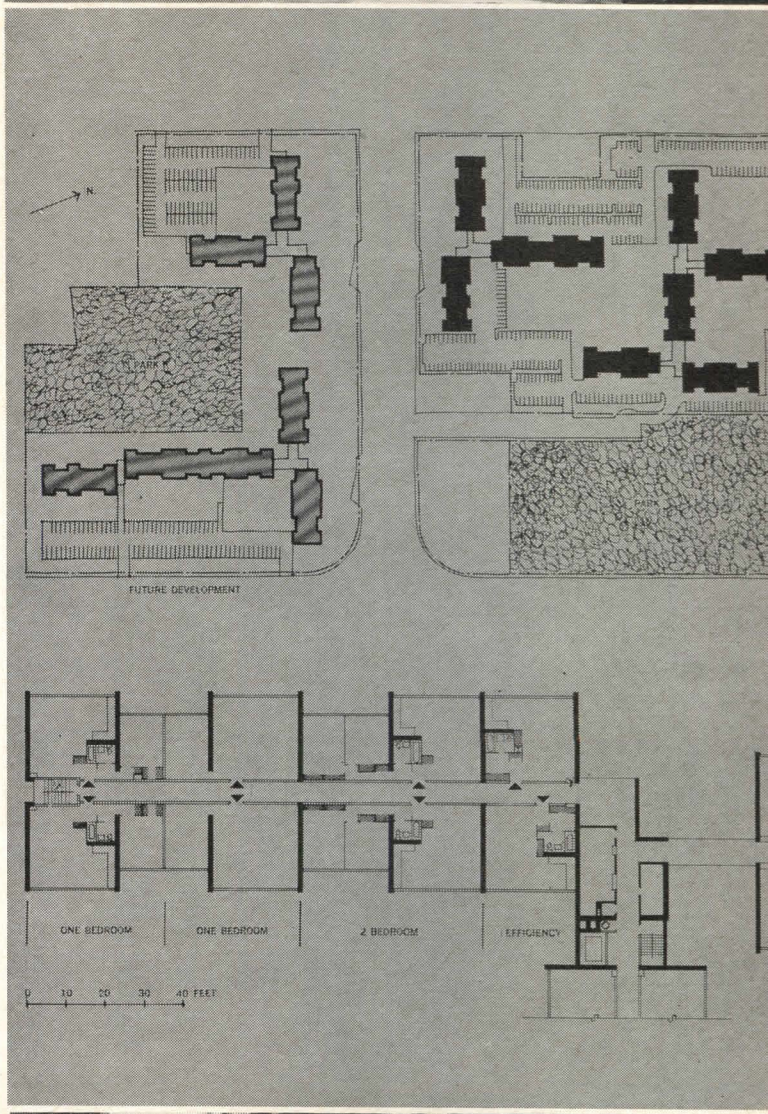
The Riverbend buildings are related to the Manhattan street pattern on the Fifth Avenue side (facing page, bottom). The Harlem River side (facing page, top) has elevated plazas, accessible only to tenants, over parking areas.

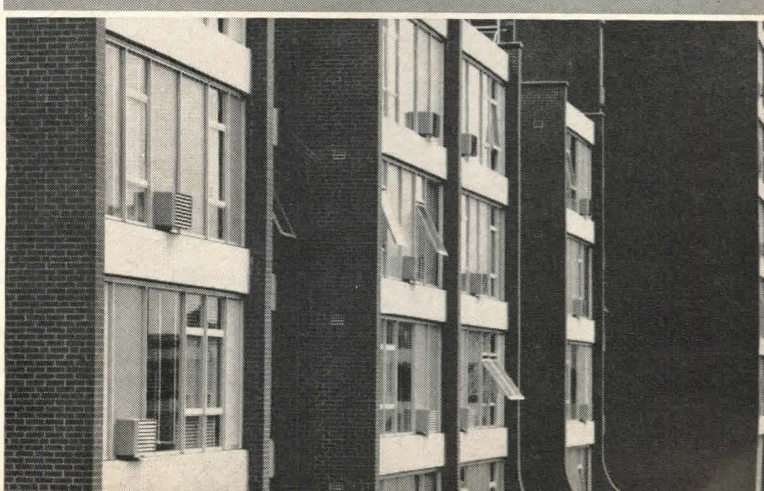
Riverbend will be a cooperative, with down-payments of about $400 per room and monthly charges of about $27 per room.

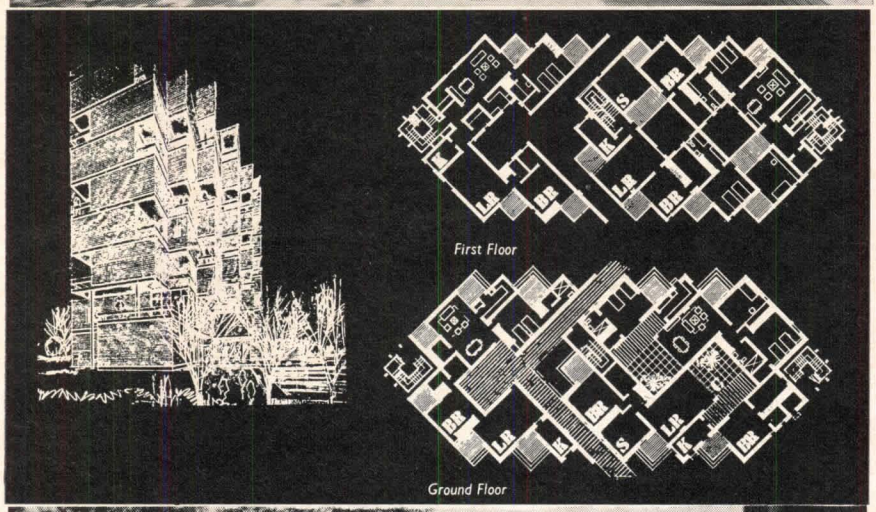
Pennley Park in Pittsburgh (right) is a middle-income rental project (financed under Section 221 d (3)), with 296 units completed and 315 more under way.

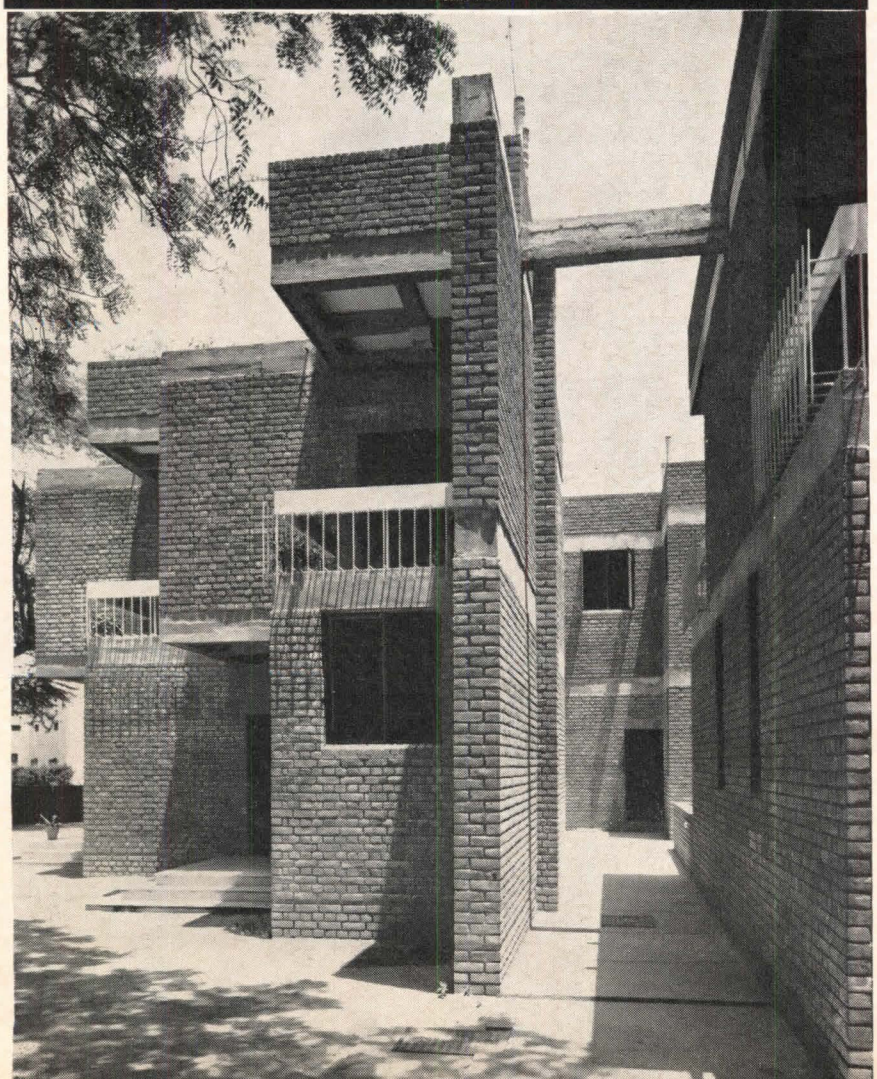
Tasso Katselas' design for the project had to run the gauntlet of approval by the Redevelopment Authority, the local planning commission, and FHA. He feels that the design survived all of their amendments because of its consistent structural theme of brick bearing walls (exposed on the interior) at uniform 22-foot intervals, supporting precast plank floors. Development of plans within this module produced breaks in the facade and an irregular pattern of window openings.

Monthly rentals at Pennley Park range from $90 to $175, and maximum allowable income from $4,200 to $8,800.









In New Delhi and Montreal, cellular solutions for high-density living

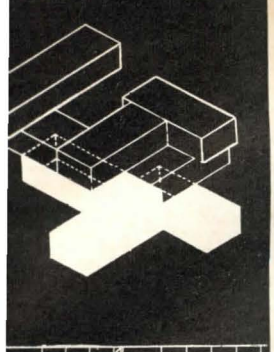
A little project in India (left), containing only eight living units, embodies a system of additive form that could be reproduced indefinitely without loss of visual interest or individual scale. The buildings are made up of uniform 15-foot-square bays, spanned by coffered slabs resting on brick bearing walls. Within these bays, interiors have been developed freely, with totally different plans on the two levels. Variations in openings, reflecting these internal differences, contribute to the unregimented look of the exteriors. Handsome materials and details make a virtue of repetition.

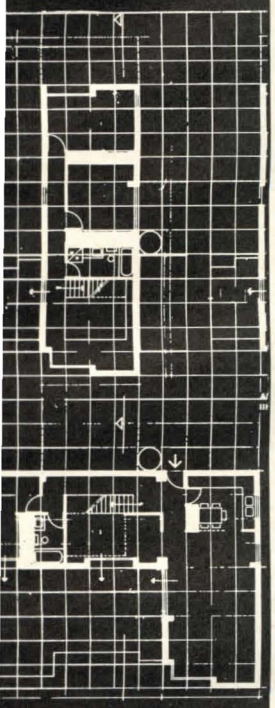
Designed for the National Council of YMCA's by a young firm called The Design Group, the system was intended for a larger development, of which this is only part. The major building was to be a 10-story guest house (perspective shown at left), with more internal repetition, but with many of the same saving graces.

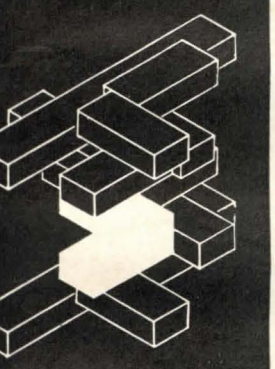
Cellular construction with family-size prefabricated units will come to North America in Habitat 67 (right), a feature of the forthcoming Montreal fair, Expo 67. Moshe Safdie, the 26-year-old architect from Israel who conceived the project, originally planned it to contain 1,200 apartments. The realities of exposition financing have reduced it to a "first phase" of 175 apartments. The fate of the remainder depends on public enthusiasm.

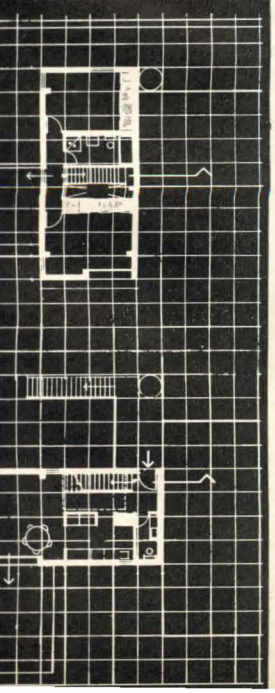
The 375 prefabricated cells of Habitat 67, each 17 feet by 38 feet and weighing 70 to 90 tons, will be lifted into place on a 12-story steel-framed "hill". There will be 15 apartment types, with one to four bedrooms. Each will have at least one roof terrace, exposed to sun and rain to make gardening feasible. The complex configuration of the exterior will give the apartments unusual exposure and privacy.

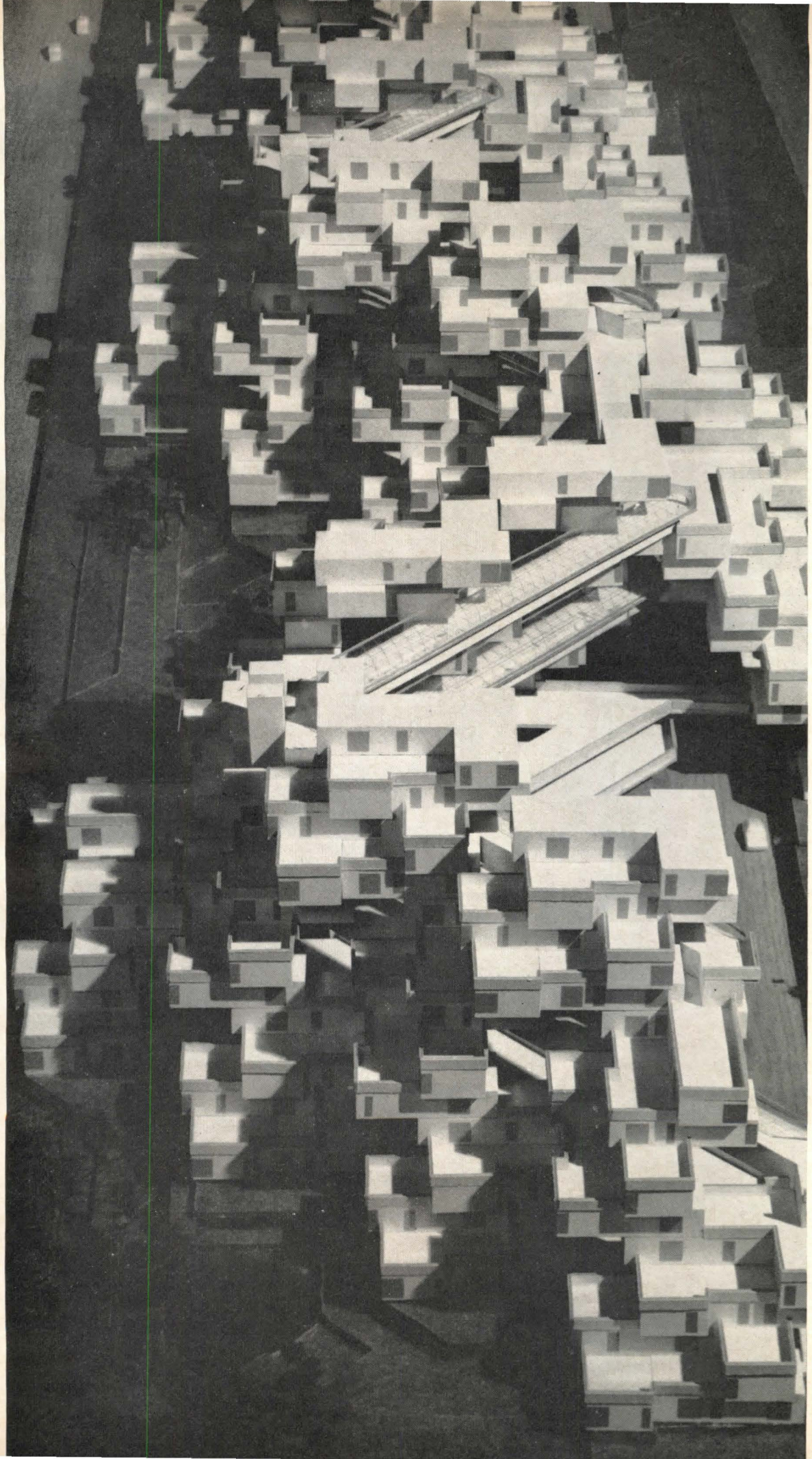
All parking will be on the ground level, with inclined elevators leading to glass-vaulted "streets" on the upper levels. The space inside the steel frame of the hill will be available for development of shopping and community facilities.











Housing progress: Four steps forward; how many back?

In Manhattan, children play in a handsome space that, not long ago, was a trash-filled slum backyard. Its transformation was part of the West Side urban renewal project, in which New York is testing a variety of ways to improve neighborhoods without destroying them. The effort is described on pages 72-75.

In Houston, a young architect preparing an entry for an urban renewal competition began by assembling a group of social scientists to explore the problems of the low-income families whom the project would serve. Their discussions, and the resulting plan, are reported on pages 76-79.

At Pratt Institute, in Brooklyn, a wide range of new building products and techniques that seem to offer the promise of cost savings in construction of high-rise housing are being explored through a government-financed demonstration project. The results to date are summarized on pages 80-83.

And in the new town of Reston, near Washington, D. C., a private developer is engaged in an attempt to determine whether the concentrated patterns of urban housing can be introduced to the fringes of metropolis. A progress report on Reston appears on pages 84-89.

All of these things represent significant advances over current housing practice. And yet, characteristic of the present housing situation in this richest of all nations, all represent progress of a limited sort. The West Side project is an exception to most U. S. renewal efforts, the rule being a greater reliance on the bulldozer and a lesser concern for the buildings—and people—in its way. The Houston competition entry failed to win. The Pratt demonstration project carries no built-in guarantees that the results will be put to use by a housing industry notoriously resistant to change. Reston already is being dismissed by socially oriented planners as a middle-class Valhalla, and by hard-headed developers as an economic folly.

The long-range importance of these four projects is more than a matter of individual achievement, however. Each one indicates a direction—in policy, in programming, in construction, and in large-scale design—well worth exploring if the nation ever decides to make the kind of effort necessary for meaningful improvement of its urban housing supply.

Progress in strategy: New York turns to 'invisible renewal' to save its West Side

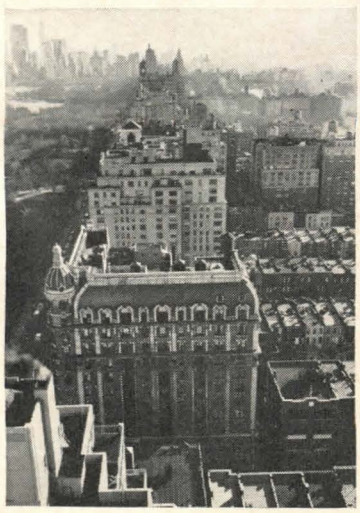
The street scene opposite hardly jibes with the expected image of the middle stages of a major renewal project. Yet both literally and figuratively, New York's West Side Urban Renewal Area represents a significant new look in renewal—a look that hardly shows.

Here, New York is trying a battery of advanced approaches in methods, aims, organization and execution that all but clear away the notion of slum clearance. The result may be a new definition of the term "urban renewal".

During the 1950's, in New York as elsewhere, the term meant wiping out slums and replacing them with high-rise apartments notable for their monotony of design and scrupulously minimal standards of amenity. Often the new buildings carried price tags the former slum dwellers could not afford.

By 1960, New York had added 380,000 new units to its housing supply—a net gain of 256,000 allowing for demolition—but needed 430,000 more. Obviously, new building alone could not close the gap. Ways had to be found to halt the spread of blight, and put existing housing to better use.

Nearly every device the city could think of is being tried on the West Side. The area, ranging from Central Park West to Columbus Avenue and from 87th to 97th Streets, was first designated for renewal in 1956. Along the park stood a row of luxury apartments (below), but 100 yards to the west began sorry rows of once-fine brownstone houses that had become slums. Beyond the brownstones were blocks of dilapidated, overcrowded "old law" (pre-1901) tenements.



The area's population in 1950 was 33,000, 94 per cent white. By 1956, with *no* new housing construction, the population had risen to 40,000, 58 per cent white. The balance was composed of newly arrived Negroes and Puerto Ricans.

Today the population stands at about 26,000, with roughly the same racial mixture. It has been reduced by the work of renewal, but will eventually rise again to 39,000. There is an atmosphere of change on the West Side, a feeling in the streets that something is happening. But it is not an atmosphere of destruction.

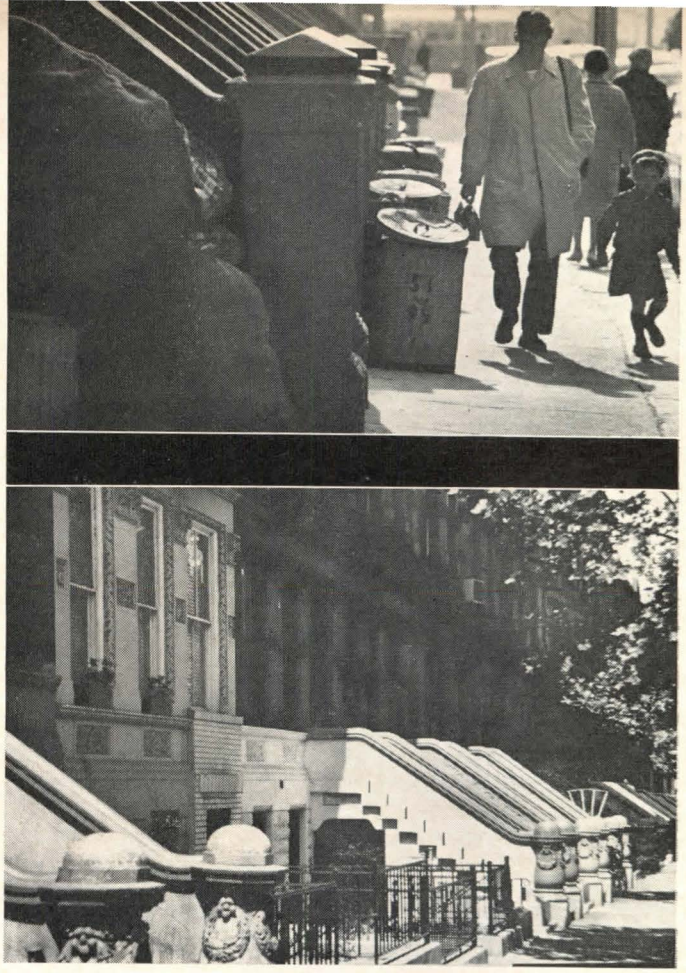
There are open blockfronts on Columbus Avenue where construction will soon start on middle-income housing. Next to them, however, are blockfronts that have been kept intact. The rows of brownstones are punctuated now by freshly painted facades, by new entryways and window boxes, by buildings in the process of renovation and others boarded up, awaiting their turn.

Occasionally there are gaps in the rows, soon to be landscaped, or single apartment buildings of modest scale that give little hint of being public housing. A walk through one of the gaps might lead to a play area, bounded by one of the apartments and the refurbished back walls of a brace of houses, or to a green common "park" in the center of the block.

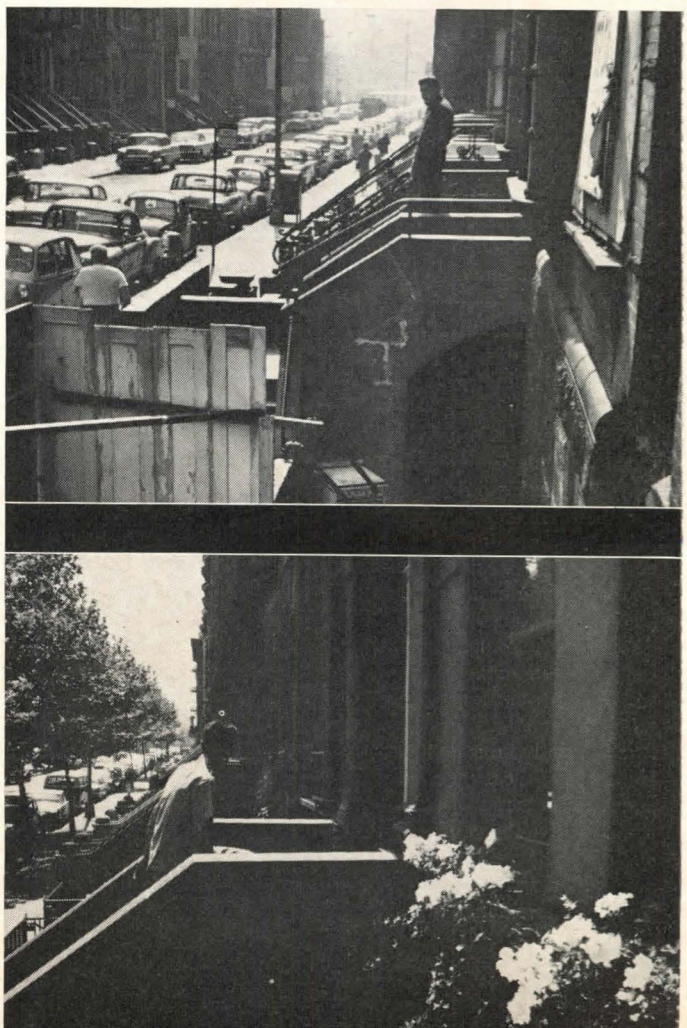
Most important, there is an almost tangible atmosphere of hope on the West Side—of optimism about the future of the area and its residents. This, more than physical change, is the major difference between what the West Side was and what it is becoming.

To achieve this, the city has used every available resource and tool, and has even invented a few new ones. The project was planned for a combination of redevelopment, rehabilitation, and conservation. A deliberate attempt was made to keep it a socially and economically integrated community, and to make the most of its variety of usable buildings.

The plan calls for 1,025 units of new public housing, all in single, small "vest-pocket" buildings like the one in the photo opposite. Another 200 units of public housing will be provided by rehabili-



There is no vast and drastic reconstruction visible along the streets of the West Side, but there is a quietly dramatic substitution of gardenias for garbage, of bright facades for dingy doorsteps. These before and after views symbolize the area's steady transformation.



tation of the brownstones and tenements. It is the first time New York has put any public housing into a renewal area, and the first use of rehabilitation public housing in renewal anywhere.

The West Side also will have 4,900 units of tax-abated middle-income housing (financed with both city and state aid under New York's Mitchell-Lama program) and 1,700 units in private, fully tax-paying apartment buildings. Through "skewed rental," 20 per cent of the apartments in the middle-income buildings will be reserved for families eligible for public housing, who will pay public-housing rates. If their incomes rise, they will stay in the buildings, but their rents will go up until they reach standard rates.

By breaking the area up into small sites, the city was able to seek sponsorship of housing projects from small development firms as well as large ones, and even from individuals acting alone or in cooperatives. Several neighborhood organizations such as Goddard-Riverside Center, a settlement house, are among the sponsors of middle-income housing.

Rehabilitation is planned to provide about 3,100 apartments. Some of the rehabilitation is done by the city directly for public housing, some houses are bought by the city for resale to individuals, some are bought privately for investment and/or owner occupancy. One's own house in Manhattan has lately been a notion reserved for the very rich: the return to the West Side of the middle-class private home owner is hailed as a major step toward permanent renewal. FHA loans and city tax abatement aid private rehabilitation, and a group of banks early provided a pool of funds for loans.

More significant, however, than this bricks-and-mortar-and-money diversity is the human element, what has been called the "sensitization" of the urban renewal process. For the West Side's other keynote is its emphasis on people rather than just buildings, and again a wide variety of tools and procedures lead the way in erasing the image of the heartless bureaucratic ogre of slum clearance.

A basic innovation is the "staging" plan, which divides the area into three sections to be redeveloped consecutively. The project began with a "preliminary stage" during which a school, a 400-unit public housing project, and a good bit of demonstration rehabilitation were completed.

Thus, as Stage I got under way, there was already new housing available for relocation, and it was almost entirely filled with families displaced from the area. Furthermore, *within* Stage I there was a checkerboard pattern of development, so that certain "holding areas" were left to accommodate displaced tenants.

A similiar strategy was followed in relocating shops and businesses, which in earlier days were tossed out with little more than moving expenses. Small neighborhood concerns were moved to temporary sites, then back to their original locations after the renewal work had been completed. The city's relocation department paid for *both* moves, gave the concerns grants to fix up temporary locations, and helped them apply for Small Business Administration loans when necessary.

The relocation department did more than simply find new places for businesses and families. Staffed with trained social workers, it tried to determine what other assistance the displacees required and referred them to other appropriate agencies. (Surprisingly, the West Side was the department's first assignment: in the past, New York had left relocation to the mercies of developers.)

Many of the new social programs on the West Side were based on a "Diagnostic Survey of Tenant Households," conducted in 1963-64 by a consultant, Greenleigh Associates. In the first thorough social survey of the population of a redevelopment area, Greenleigh interviewed 2,500 households slated for relocation, and sorted them out into four categories based on their estimated ability to cope with moving.

Among the areas other than housing needs covered by Greenleigh's caseworker-interviewers were physical and mental health, money management, child care practices, and children's school attendance and adjustment. They found 17 per cent of the families were stable and able to relocate readily without service, 67 per cent would need some assistance but had minimal problems, 14.5 per cent had "multiple impediments" requiring "long-term and/or intensive service," and 1.6 per cent were in the "serious problem" category.

Even before the survey was

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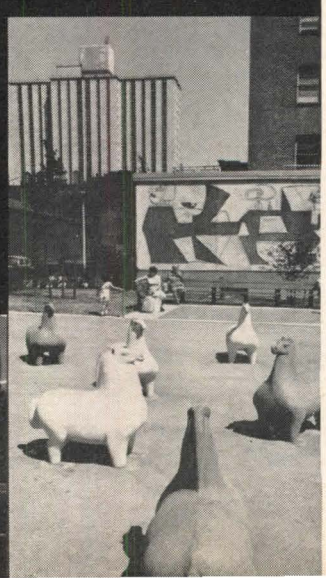

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Among the ingredients of the West Side Urban Renewal Area's new look are "vest-pocket" public housing projects (1), rehabilitation of brownstones (2), sponsorship by community organizations of middle-income housing (3), and imaginative play spaces (4) in public housing, such as this one by sculptor Constantino Nivola at Stephen Wise Towers.

ompleted, two social programs ere started as a result of its preminary findings. Operation Janus, nanced by HHFA and the ord Foundation, provided proessional and volunteer "moverelpers" for the aged. In addition o helping people pack up, the ides advised them on furniture urchasing, helping locate secondand furniture or dispose of unanted furniture, and dealt with novers. Operation Phoenix, operted by Goddard-Riverside Cener with an HHFA demonstraion grant, worked to educate peole as to what services and asistance were available from govrnment and private agencies, nd also provided mover-helpers. The Department of Welfare ent a Social Service Unit into he area, to be available to all whether they were welfare "cases" r not. With Department of Rebcation workers referring probems to other city agencies—welare, hospitals, schools, etc.—there as danger of overlapping and onfusion, so the Mayor apointed a full-time coordinator of ocial services for the West Side rea to work with the city departnents.

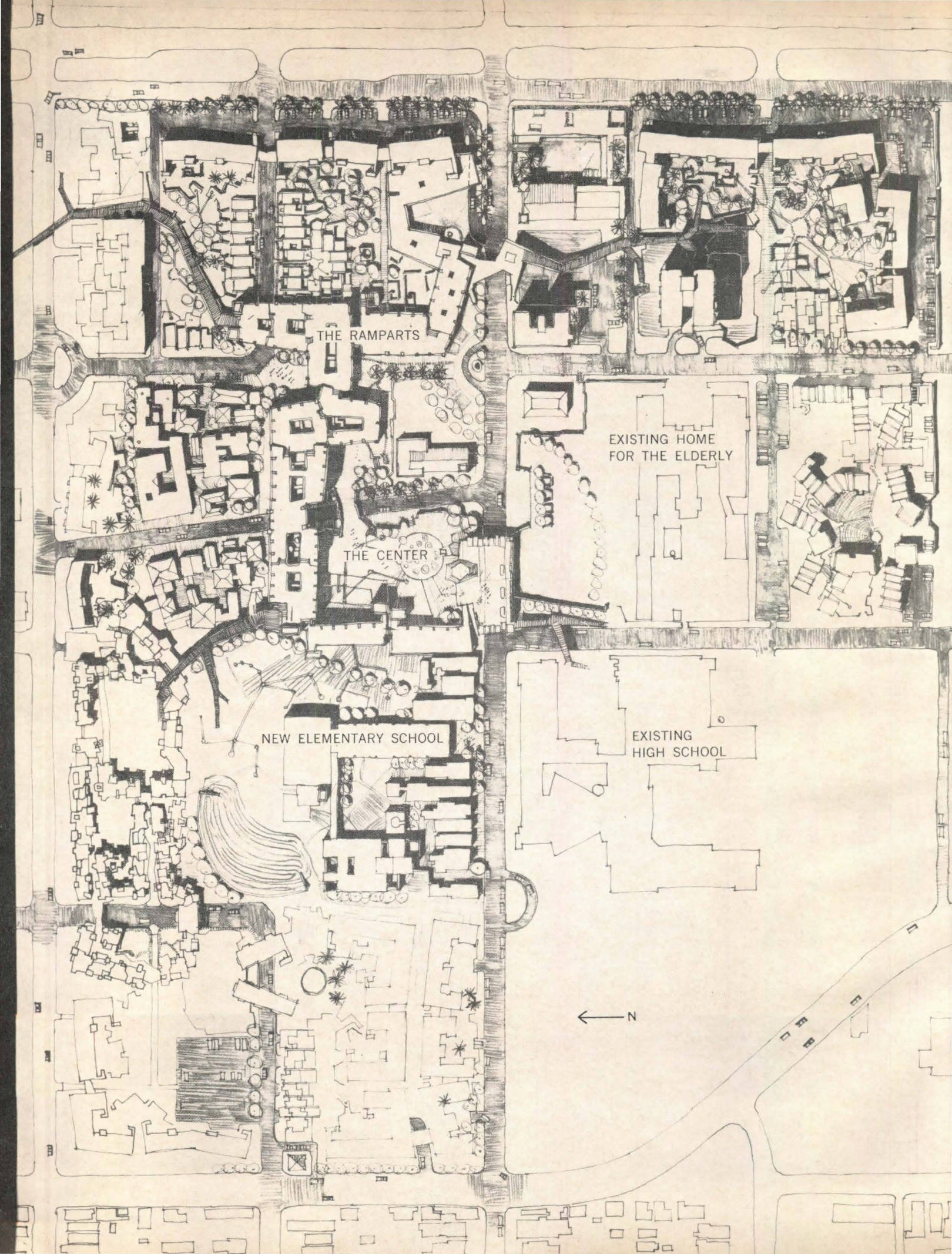
Some of the West Side's experinental programs already are beng put to use in other New York enewal areas. At Bellevue South, large project just approved, adance planning made new public ousing available on an adjacent te before renewal even started, ith priority for relocatees. The epartment of Relocation's Social ervices Bureau is now a permaent unit, and its caseworkers are eeking Greenleigh-type informaon from Bellevue South resients. The project will also have volunteer mover-helper proram along the lines of Operation hoenix.

In the abysmal slums of the ast Harlem Triangle, which has ot even been designated an urban renewal area, an advance soal "feasibility study" will investiate what the residents need and ant before planning proceeds.

Even if some of the West Side rograms turn out to be too comlicated or costly for citywide aplication, it is doubtful that reewal in New York will ever be he same. The West Side project eems well on its way to proving hat renewal can revive neighborhoods—and people—without rendng the fabric of the city.

—Delma Dennehy

PHOTOGRAPHS BY JERRY COOKE


THE RAMPARTS
EXISTING HOME
FOR THE ELDERLY
THE CENTER
NEW ELEMENTARY SCHOOL
EXISTING
HIGH SCHOOL
N

Progress in programming: A renewal scheme based on the problems of people

Last fall, nine representatives of architecture, sociology, psychology, and computer science sat down in Houston to sew the "patchwork quilt" shown at left. It was their apt term for the seemingly chaotic site plan summarizing the entry of Architect H. F. P. Goeters and Developer F. Carrington Weems in the 63-acre West Downtown urban renewal competition in Louisville, Ky.

The quilt was rejected by the competition jury, with some reluctance, in the first stage (see June issue). It has considerable importance, however, as a symbol of an increasingly influential approach to solving one of the knottiest problems of urban design.

The problem is how to give entire new environments, designed from scratch, some of the responsiveness, the diversity, the pleasing complexity of cities that have grown up naturally over the years (see "A City Is Not a Tree," April and May issues). After the Houston group had discussed the kind of environment they wanted to create, Architect Keitt Barkley remarked, "Maybe it takes New York for there to be a Greenwich Village, or New Orleans for there to be a French Quarter." Replied Dr. R. M. Dunham, the psychologist in the group, "Yes, and the government didn't build the French Quarter."

The approach is interdisciplinary, science-oriented, and firmly based on determining the wants and needs of people rather than on preconceptions of physical form. The Houston experience is something of a progress report both on its promise and its difficulties.

The Houston group was brought together by Goeters, then a member of the University of Houston architecture faculty and now associated with Perkins & Will in Washington, D.C. "to see if we could find something worthwhile for architecture in current psychology and sociology," in the words of a report drawn up after the discussions.

"We began by recognizing some of the characteristic social problems that originally helped to inspire the urban renewal program," the report continues. "We thought particularly of the problem people in a blighted area have of meeting society's requirement for social competence and of the questions of social responsibility, like juvenile delinquency.

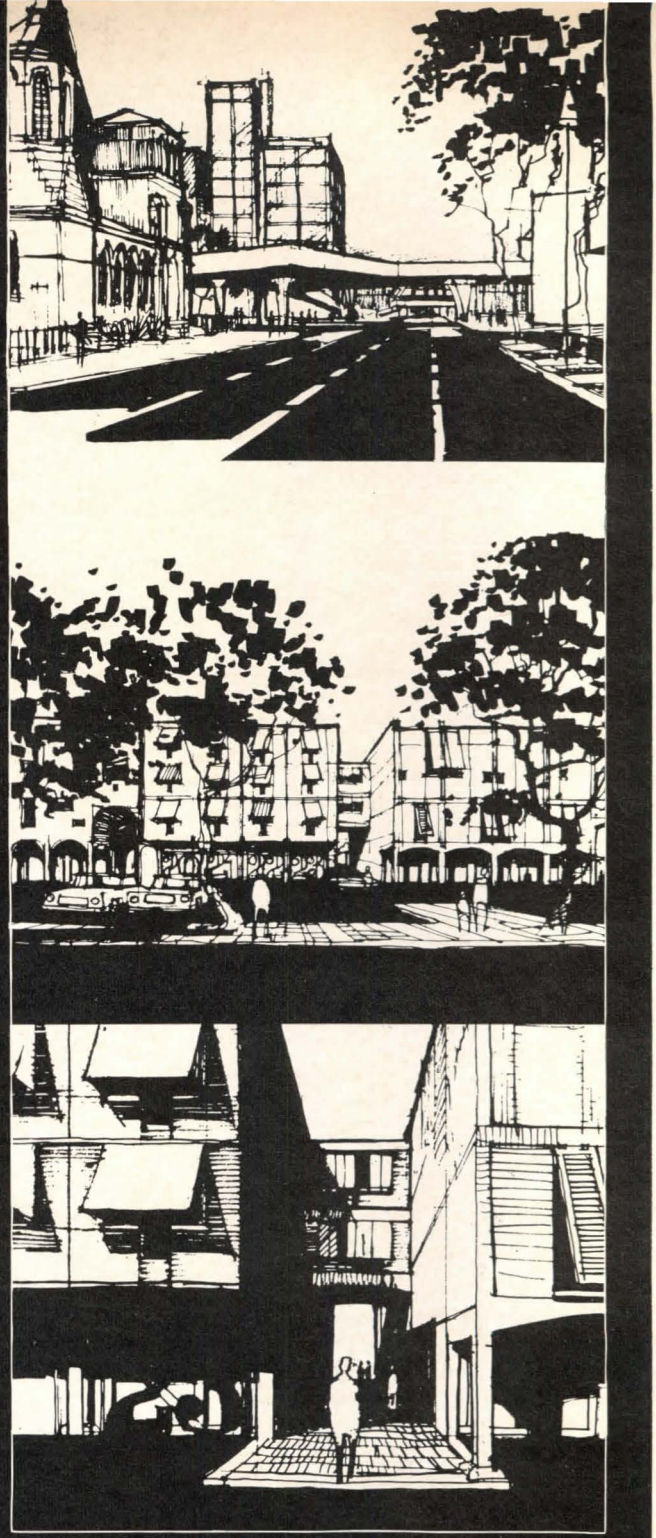
"We know that problems like delinquency have been found to arise where there is not an atmosphere of cohesiveness in which the individual can develop his sense of belonging, of identity. We also know that the development of individual competence is encouraged by exposure to a variety of stimulations.

"Our design," says the report in summary, "was guided by a hope of encouraging the cohesiveness of the neighborhood and by a desire to provide a diversity of experience, primarily visual and social, suitable to support the development of the youth of the neighborhood."

The tension between "cohesiveness" and "diversity" is reflected in the major elements of the plan. The irregular plot—interrupted by a large high school, the site for a future elementary school, an existing home for the aged, library, church, and YMCA—is bounded by a "wall" of four-story apartments. ("I think we ought to have the edge of the project marked off some way," said the psychologist at one point.)

Within this boundary, diversity holds sway. The plan includes row houses, garden apartments, high-rise apartments, housing for students of a medical center five blocks away, and an intriguing neighborhood called Freeway Homes. The group wanted to keep some of the old houses on the site, not just to give a sense of continuity with the past, but also to provide buildings that people could make their own by working them over. ("We ought to allow individuals to manipulate and change the area," remarked Sociologist Elaine Maas.) It was discovered, however, that the Urban Renewal Agency had razed every dwelling. The proposed solution was to move in old houses from the path of a new freeway.

Before the overall plan was developed, Goeters parceled out five neighborhoods among his associates to design as separate projects. He did this, he explained to the group, to create "a conflict between the pieces and the whole so that neither really dominates and both have a strength of their own."



The renewed neighborhood was to be unified by bridges spanning the streets that penetrated the site (top), and by an almost continuous "wall" of apartments around its edges (two sketches above). The "Freeway Homes" section (below) was composed of old dwellings imported from the path of road construction.

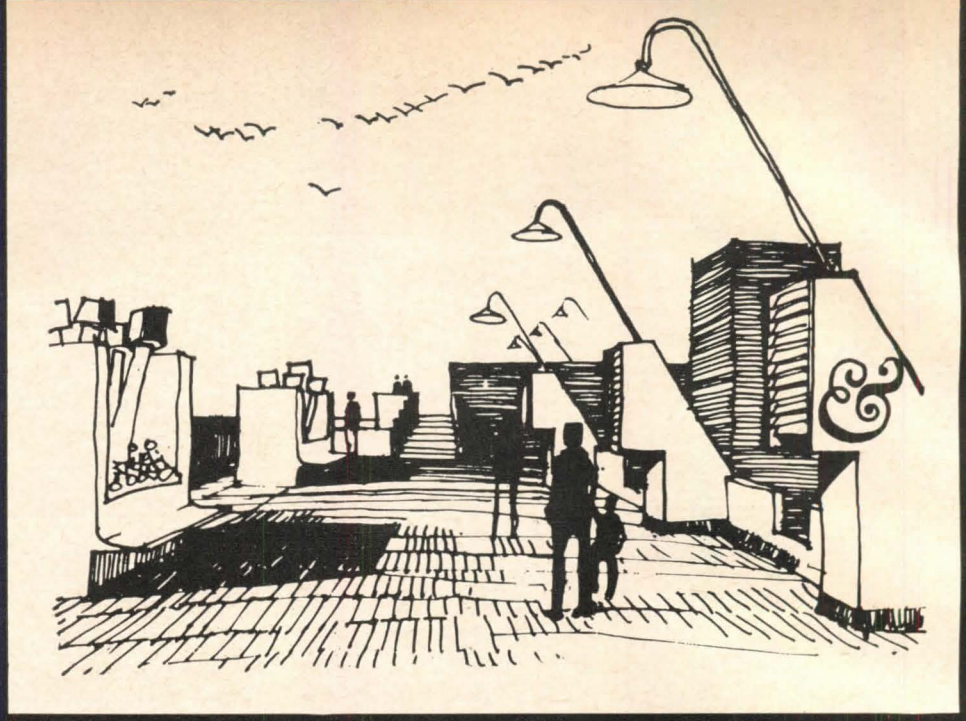
Given this much variety, how could a sense of identity, the feeling of belonging so significant to the social scientists, be encouraged? At one of the meetings, Goeters had a one-sentence answer: "You simply force people to walk." In the overall plan, the individually designed neighborhoods are unified by what he terms "the ramparts"—a winding three-to-six-story spine of dwellings and shops, with a continuous rooftop walkway and pedestrian ramps extending into all corners of the site. Through-streets are either closed or bridged, and autos are kept on the perimeter. The ramparts and ramps become a pedestrian "throughway," in Goeters' term, unifying the entire project.

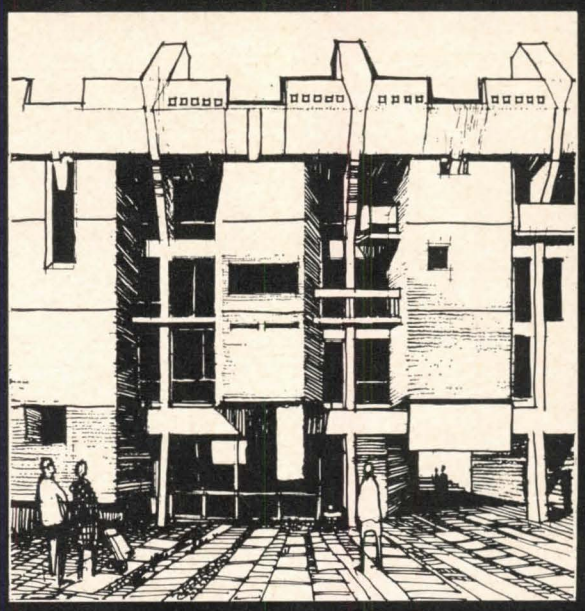
The psychologist summarized other possible contributors to a sense of identity. "We spoke of a cynosure, or totem [a statue of Daniel Boone was the favorite, giving the project the name Boone parish]; of institutional elements, such as a forum or news sheet; the center, providing various services including entertainment; the public pool, helping to identify the area and draw people together; communication devices, including transportation, streets, parks and parklets, to facilitate public mixing and public privacy; and democracy as a social style for the community."

And they spoke of the "Thing." The Thing became a permanent element of the plan one day when the psychologist proposed "to put one thing here that is like nothing else in that part of Kentucky—not so colorful as to sound like we are rebuilding Disneyland, but low-cost entertainment for all ages of people." Added the sociologist, "What he is saying is, make it a place people really want to go to."

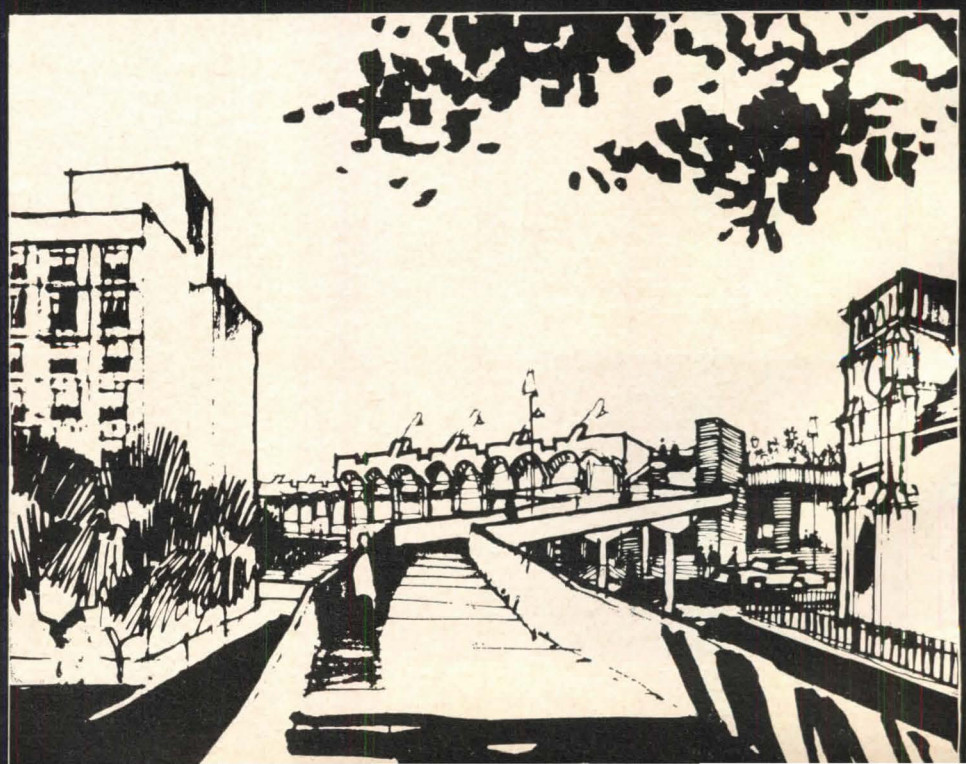
The Thing was left without further definition, a fact that was characteristic of both the group's discussions and the plan. The discussions often found the social scientists speaking in somewhat romantic terms and the architects talking like social scientists, with a good many loose ends left dangling in the excitement of confrontation. Similarly, the plan left a number of matters to be worked out in the competition's second stage.

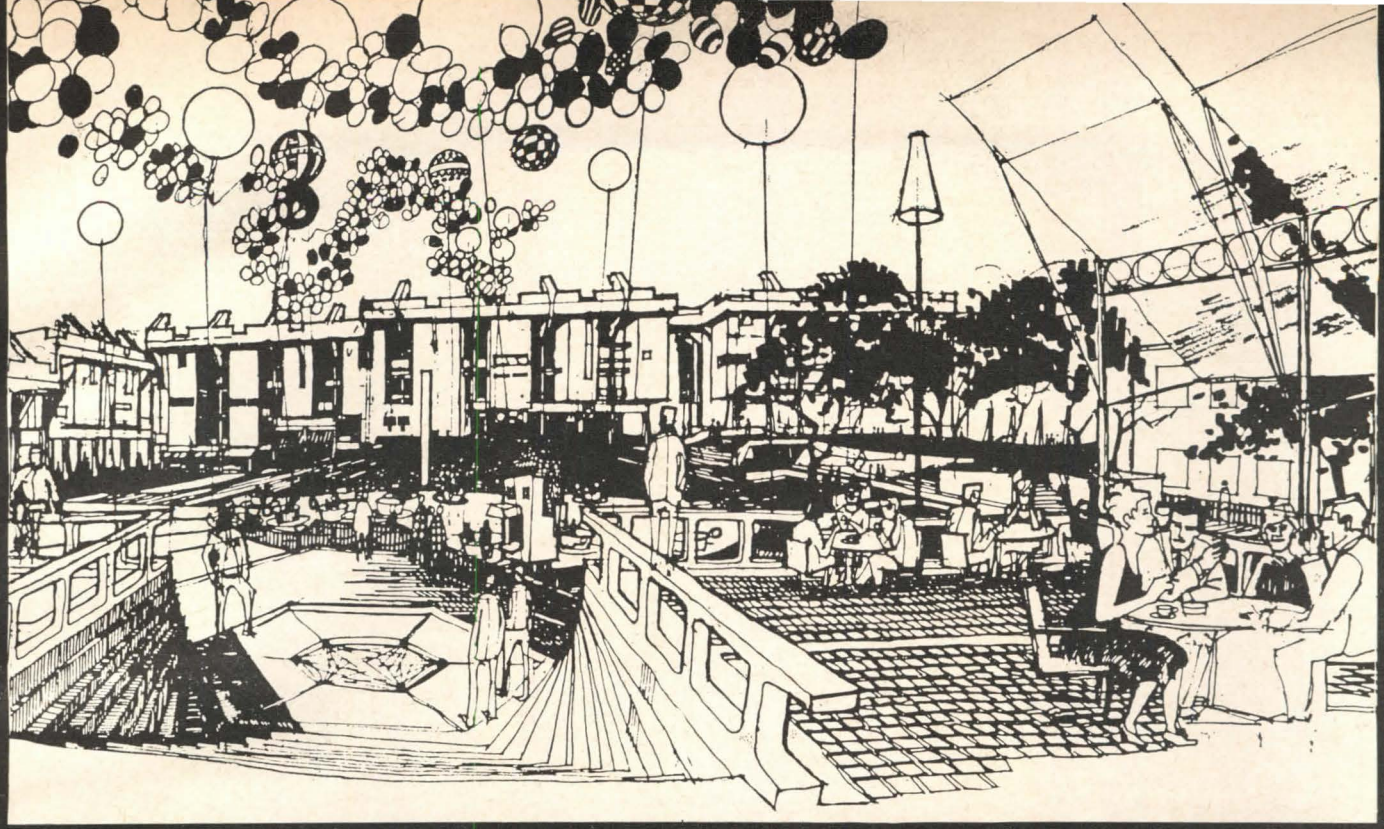
The competition jury cannot be faulted for passing over the Houston entry. Yet it would have been instructive to see what such a group —and such an approach—might have been able to achieve in the way of environment.

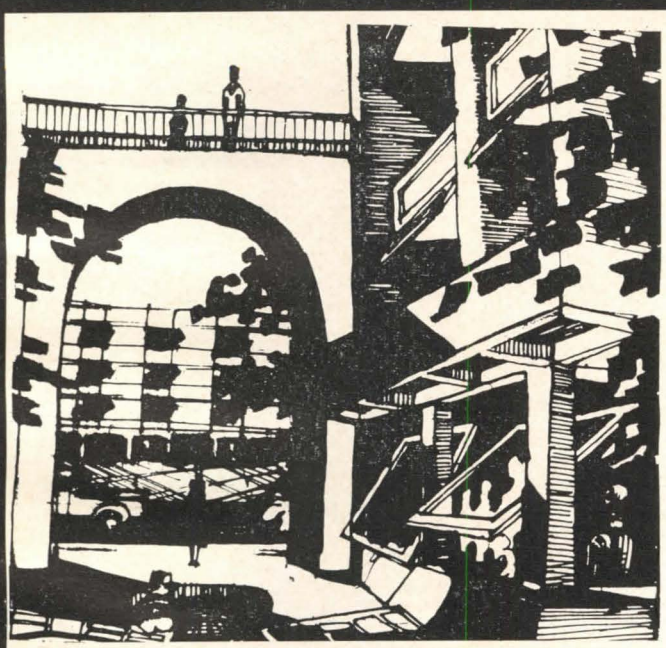


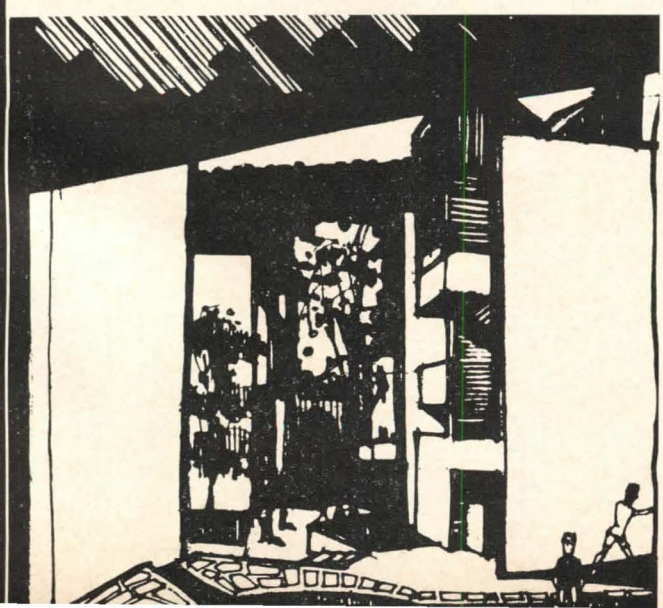


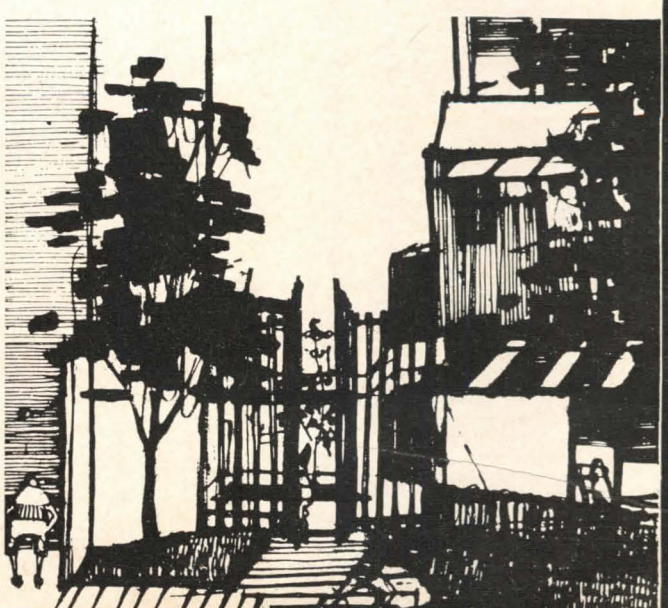
Twisting through the central sector of the site were "ramparts" (above and left), buildings from three to six stories in height containing apartments and shops, their roofs pedestrian walkways overlooking downtown Louisville and the river nearby. From the ramparts, pedestrian ramps extended into every corner of the neighborhood (below). In the community center, stood the Thing—an undefined recreational attraction that was to be "like nothing else in that part of Kentucky"; the drawing at the top right shows it as a suitably amorphous jumble of shapes in the middle of the open space below the ramparts. The four sketches at right constitute a sampling of the project's housing, which was given a variety that went well beyond the competition program. The site was cut into five residential areas, and each was given to a different architect to design before an overall plan was drafted.











Progress in building A research project puts new techniques to the test of use

BY EDWARD T. SHIFFER

The building at left—framed half in steel and half in concrete, with scarcely two walls of the same material—has a potential significance far beyond its 1,500-square-foot size. It is the test structure for a Pratt Institute demonstration project concerned with cutting costs of high-rise housing through use of advanced but available products, some of which are outside the normal limits of present building codes.

The project was made possible through a grant of $237,000 under the Housing and Home Finance Agency's Low-Income Housing Demonstration Program, and work got underway in January 1964. The first step was an exhaustive search for new products and materials which seemed to offer the promise of cost savings, and for economical structural and mechanical systems.

The findings to date are represented in the two-story test building, nearing completion in the Carteret, N. J. industrial park. It will be put through a series of rigorous tests, including the burning out of its interiors, and the results will be applied in construction of a high-rise apartment building.

Three ideas were basic to the project from the start. They were strongly conditioned by the fact that the culmination of the work was to be an actual building, not just another report.

The first idea was that savings could be realized by removing unnecessarily restrictive code provisions, unrelated to actual hazards or to progress in technology.

The second was that the project would not take the easy way out and cut costs by cheapening construction and lowering standards of livability. Cost cutting would have to come from actual efficiencies in planning and construction—use of mass production methods, shortened construction time, reduced site labor, repetition of building elements.

The third idea was that, as generous as the HHFA grant was, it would not finance development of even one wholly new building product. Cooperation from manufacturers in development work, pricing and providing technical information would be vital to success. Happily, 19 firms and associations gave the needed assistance.

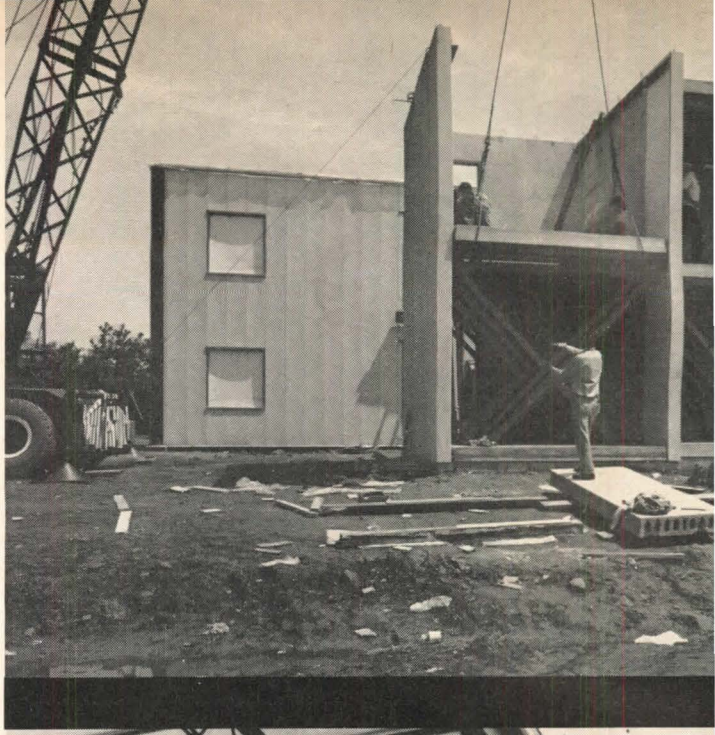
At the outset, a list of technical standards was composed for the project, including standards of building safety and performance criteria for various building components. They included a short but significant section on social and architectural values; the project staff felt that if its work did not encourage better design, any economies would be false ones.

One of the most notable of these standards was establishment of a half-hour fire resistance rating (with no structural failure for one hour) as safe for a high-rise apartment. This was based on research work by the National Bureau of Standards and by German and British agencies which indicated that the actual combustible content of an apartment was dramatically less than implied by present code requirements for two to four hour protection.

After composition of the standards, a list was prepared of all potential cost-saving methods and components known to the project staff and consultants. These were some of the major areas of study:

1. Structure: An apartment building, by its nature, consists of a series of similar cellular spaces repeated both vertically and horizontally. There is virtually no necessity ever to alter the plan.

This led to concentration on structural systems that provide elements of enclosure, and particularly to the box frame with bearing walls and slab floors spanning between. The box frame can be composed of precast concrete panels varying in size and shape from



Mr. Shiffer, a practicing architect and member of the Pratt Institute architecture faculty, is project architect for the housing demonstration program he describes in this article. The staff also includes Robert L. Davison, project coordinator, Olindo Grossi, dean of the Pratt school of architecture; and John Hancock Callender, project director. Consultants are Paul Weidlinger, structural engineer; Fred S. Dubin Associates, mechanical engineers; Goodfriend-Ostergaard Associates, acoustical engineers; Whittlesey & Conklin, architects; and Tishman Research Corporation, construction and cost consultant. The participation of Tishman was made possible by a grant of $25,000 from the Ford Foundation.

the 16-inch-wide mass-produced prestressed panels to those of room size and larger. It can also be made by site-casting complete rooms, as is common practice in Israel and Russia.

Two relatively new methods of in-place castings were studied. One was a process of slip-forming vertical walls straight up without interruption, then inserting floor forms at the top. The floor forms are moved down from the top as each successive floor is poured and hardens, resulting in a smooth and economical sequence of building operations.

The second was the use of sprayed concrete to make both walls and floors. This method requires a minimum of formwork and the placing process is rapid.

Various methods of steel framing also were studied, including the manufacture of room-sized box units (perhaps by truck body or railway car makers) out of sheet steel or rolled framing members. Two factors made steel framing seem particularly promising: the drastic reduction in fire-resistance requirements, lowering the dead weight of the structure and the steel tonnage used; and the development of completely dry floor systems using steel or gypsum board decks over conventional steel framing.

2. Exterior walls: A wide variety of promising wall materials were studied, including industrial curtain walls; steel and aluminum sandwich panels with foam plastic or honeycomb cores; and lightweight precast concrete panels.

3. Partitions and party walls: In the concrete box frame schemes, it was found that the structural walls separating one apartment from another could be as thin as three or four inches if governed by structural analysis alone. However, connection details and construction requirements thickened these membranes into acoustically acceptable party walls.

In the steel-framed schemes, all partitions were non-bearing and methods other than sheer mass had to be found to restrict the passage of sound. Several types of low-cost party walls consisting of alternate layers of gypsum and resilient insulation or resilient clips on studs were listed.

Since the project standards imposed no acoustical requirements on partitions within apartment units, low-cost prefabricated gypsum panel systems were listed for that purpose. The use of resilient floating raft systems was studied for the muffling of impact sound from floor to floor.

4. Mechanical equipment: Previous studies seem to indicate that savings in operating and installation costs will result by heating each apartment or room with an individual system, with the tenant paying for his own fuel. The list thus includes such systems as individual gas-fire radiant baseboard or valance heating; individual gas-fired hot-water and hot-air heating; and various methods of electrical radiant valance and panel heating.

Economies in plumbing were sought through study of a prefabricated, four-story bath-kitchen stack; the use of various unconventional piping materials, and a new Swiss combined waste and vent system.

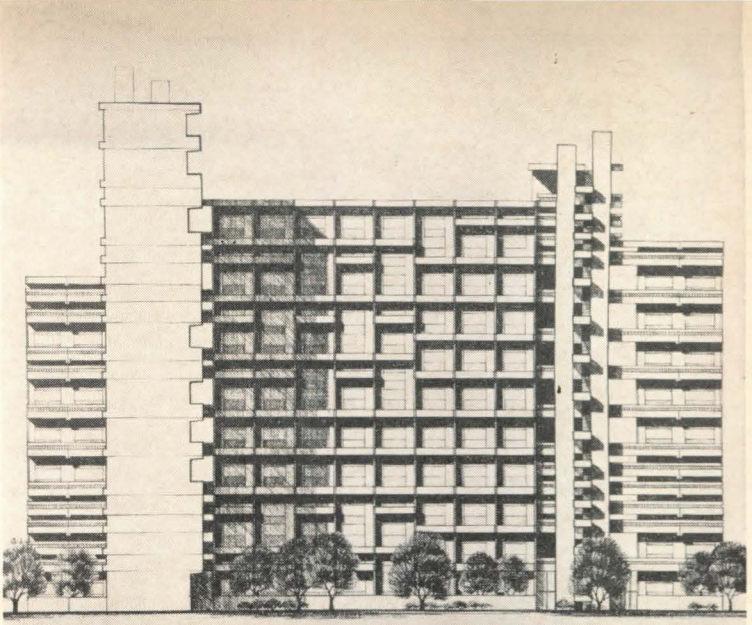
With the list complete, each item was screened for expected installed unit cost, performance, and availability. It was obvious, however, that unit prices could vary by 10 per cent when applied to a particular building, so the next step was development of drawings and specifications for complete apartment schemes on which more accurate price information could be based.

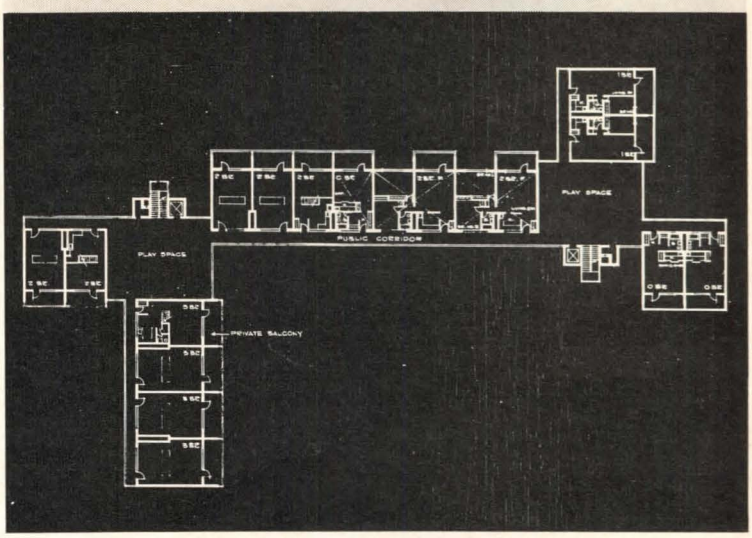
Three such schemes were produced by the project staff (the first two somewhat tuned to the fact that the demonstration building then under consideration was a Navy housing project at Newport, R. I.). They included a duplex building, a tower, and a slab with a double-loaded corridor.

The duplex building is a series of stacks of two-story houses, joined at the living room level by exterior corridors leading to elevator lobbies and outdoor play spaces. All party walls are load-bearing, with spans of 18 and 20 feet between them. An alternative scheme, shown at right, combines duplexes and flats to achieve more varied elevations.

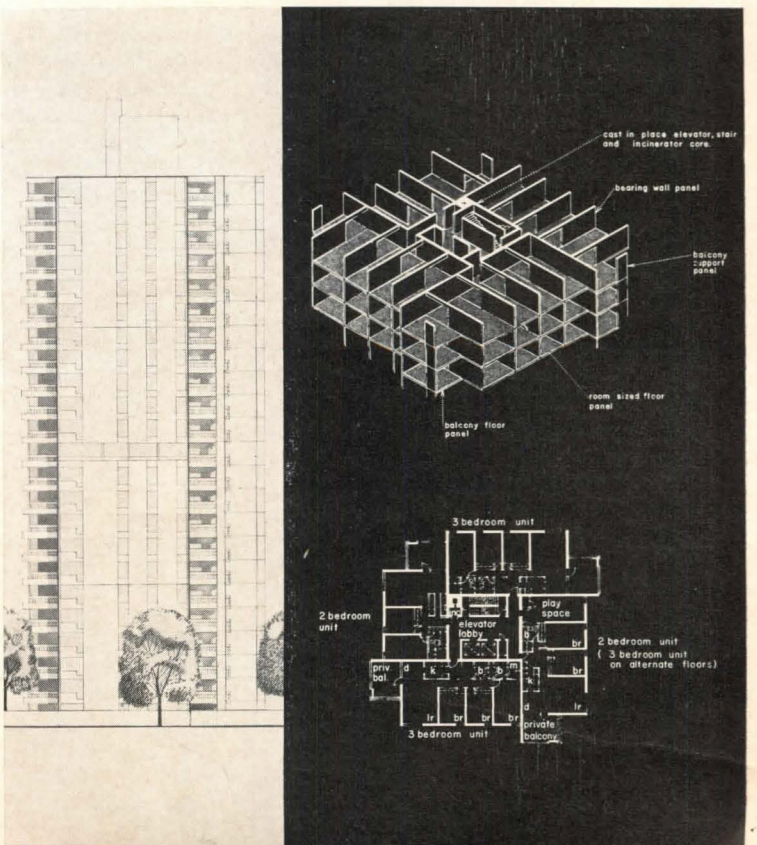
The tower plan is a compact arrangement of four flats on a floor, with spans of 10 and 14 feet and bearing walls or columns occuring within apartment units. The more conventional double-loaded corridor scheme, offering fewer amenities, has 10 flats per floor and spans of 10 to 20 feet.

Contractors, subcontractors, and suppliers submitted prices on all three schemes. A final screening then resulted in selection of the most promising components for use in the test building.





The pricing of components under study in the Pratt project was based on design of three prototype apartment buildings: one consisting of duplex units, or a combination of duplexes and flats (the latter shown above); the second a compact tower (below), and the third a slab with double-loaded corridors.



The partially mass-produced precast concrete system and a less heavily fireproofed, lightweight, completely dry steel system proved closely competitive in the pricing. Thus, one wing of the test building consists of a steel column and beam frame with columns exposed on the exterior, and bar joists. It utilizes three dry floor systems: a 1½-inch steel deck with half-inch gypsum board on top; a 2-inch metal-edged gypsum deck over the bar joists; and a long-span steel deck in a preassembled panel. The other wing is made of two-story-high precast concrete wall panels and mass-produced prestressed hollow core floor panels 40 inches wide.

Both the steel and concrete wings have resilient floating rafts over their structural floors to deaden impact sound. The rafts consist of a layer of glass fiber insulation board or resilient metal channels with mineral wool between, covered by a layer of gypsum board. Asphalt tile finish flooring with an underlay of plywood or particle board is being installed over the gypsum board.

Four exterior walls are under test. On one side of the concrete wing, the walls are precast structural concrete panels insulated with expanded polystyrene and faced on the inside with gypsum board. The walls on the opposite side are made of aluminum-faced, polystyrene core sandwich panels, with the prefinished aluminum exposed inside and out. There are no mullions between sandwiches: the panel connections are made rigid and weatherproof by a neoprene strip forced into the joint.

One side of the steel wing has an industrial steel curtain wall of channel-shaped interlocking galvanized units of 16 inches wide, insulated with glass fiber batts and faced on the inside with gypsum board. The outside bears a thin, factory-applied coat of latex-modified cement stucco which should reduce the need for repainting. The opposite walls are lightweight (25 pounds per cubic foot) precast concrete panels, 3 inches thick, with an expanded styrene bead as light aggregate. The exterior facing is a shop-applied acrylic coating, and only painting is required to finish the interior.

Party walls in the test building are gypsum and glass fiber sandwiches, STC 60, and partitions within units are prefabricated of hollow-core gypsum board.

Heating is by electric radiant ceiling cove units. In the steel wing wiring is in conduit and armored cable, and in the concrete wing, where it cannot be concealed in solid panels, it is in exposed baseboard raceway.

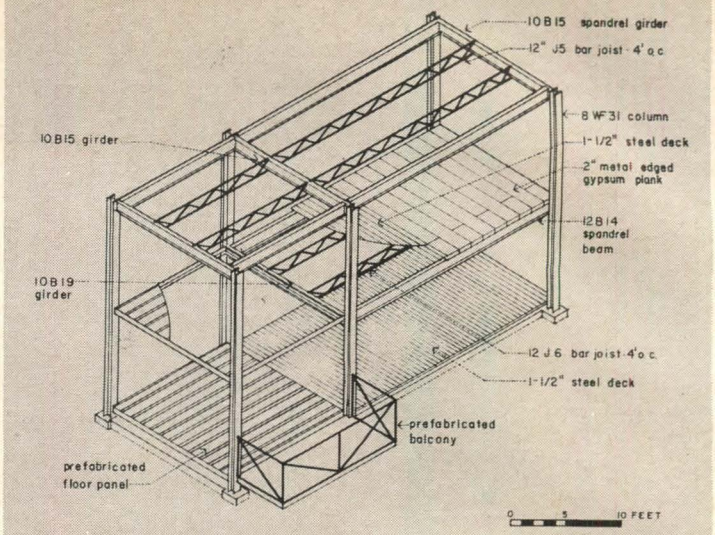
The plumbing systems makes use of a copper version of the Swiss ventless system. A specially manufactured fitting on the main soil stack at each floor mixes air with the water coming down the stack, so that no vacuum is created to siphon the traps. This eliminates the need for a separate venting system, resulting in a considerable saving in piping costs.

The test building is not intended to show prototype apartment units, but solely as a vehicle for a variety of tests. The first of these is the construction process itself: it is hoped that the insights gained in watching this small "scale model" go up will lead to more economical uses of the new components and materials.

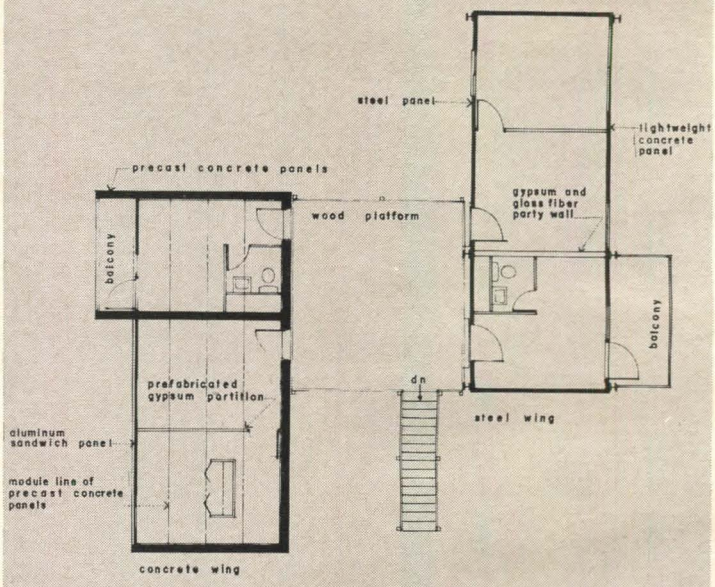
On completion, a series of acoustical tests will cover both impact and airborne sound transmission. The tests will not only evaluate the performance of each assembly, which can be done in a laboratory, but also the conjunction of various assemblies and the effects of piping conduit and buildings tolerances.

Similarly, the fire tests, to be conducted by the National Bureau of Standards, will test not only the fire performance of each component but also its juncture with other components. The tests will be carried out in a way believed to be closest to the actual nature of fire hazards in a dwelling unit: the floor will be given a fire-load equivalent to the actual combustible contents of an apartment unit as determined by the Bureau of Standards surveys. The Bureau will measure the temperature rise in the structural members and on unexposed surfaces of the various components, and also the emission of smoke and gas.

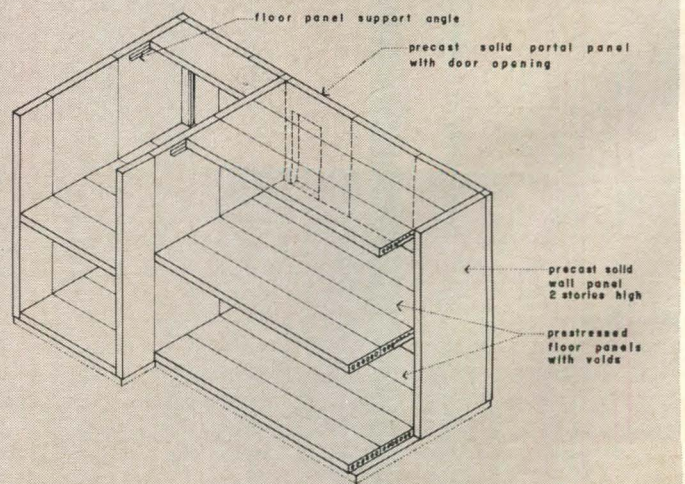
The last step—design and construction of the demonstration building—will make use of the results of the test building program, plus the considerable volume of parallel development work on the part of all the contributing agencies, manufacturers, and associations. From this point on, the matter is somewhat out of the research project's hands. It is up to the building industry—and to architects—to take up these methods and use them to produce more economical and livable housing.



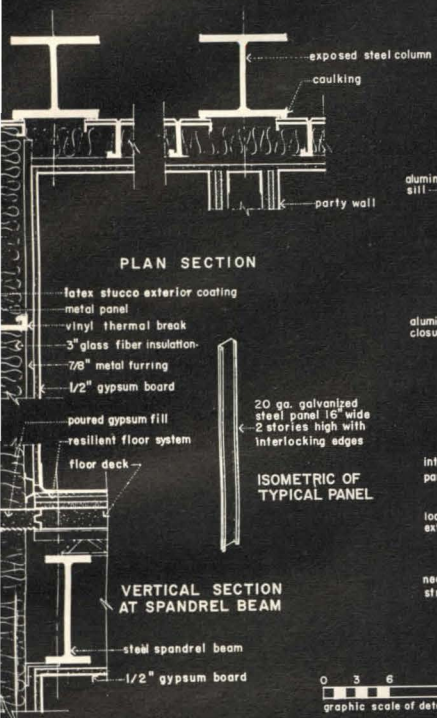
STEEL STRUCTURAL SYSTEM



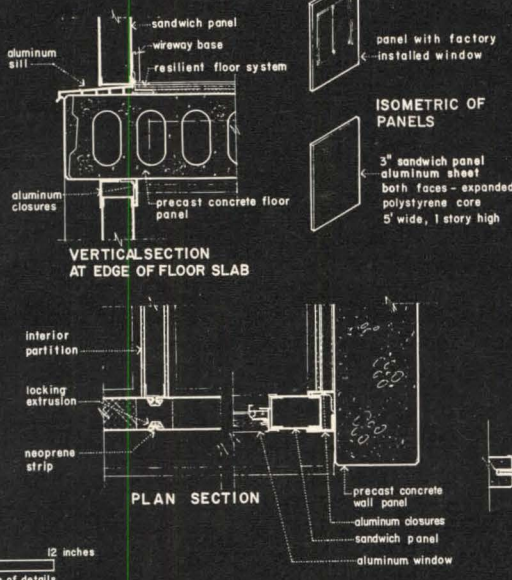
SECOND FLOOR PLAN



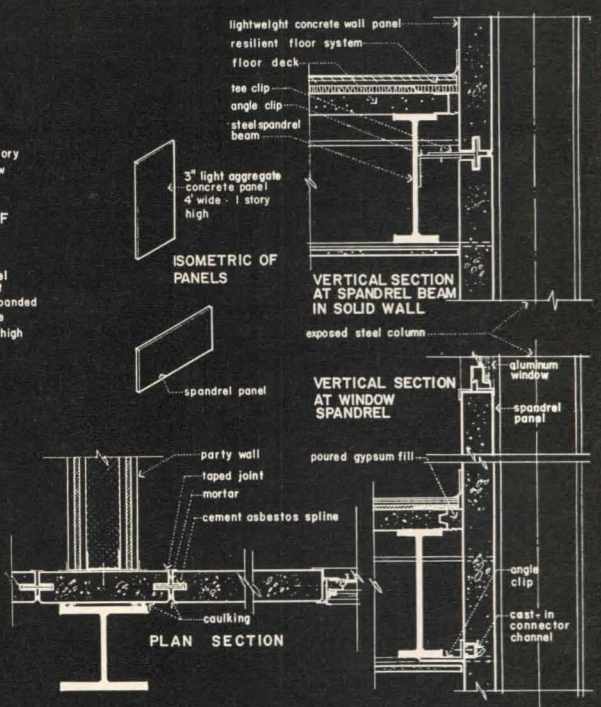
PRECAST CONCRETE STRUCTURAL SYSTEM



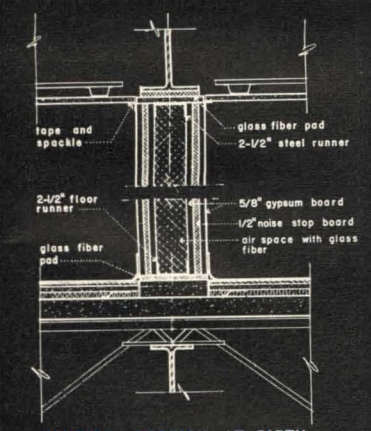
METAL PANEL WALL
steel wing

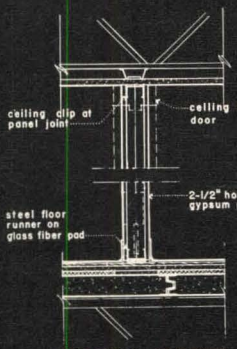


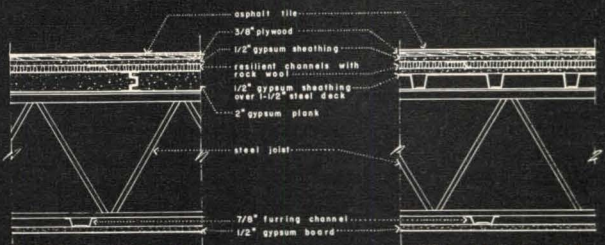
METAL SANDWICH WALL
concrete wing

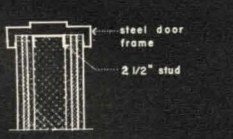


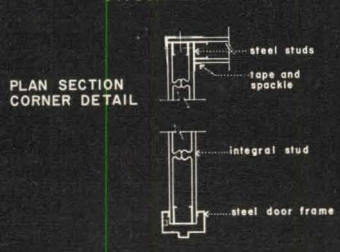
LIGHTWEIGHT CONCRETE WALL
steel wing

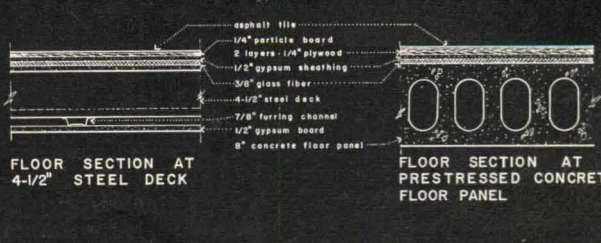












PARTY WALL

PARTITION

FLOORING SYSTEM

Progress in planning: A new town brings urban living patterns to the countryside

Multifamily housing is bound to play an expanding role in the development of the open land around our metropolitan areas. The enormous increase in the population of suburban America in the next few decades just cannot fit into single-family subdivisions.

The new town of Reston, Va., was conceived as an alternative to suburban sprawl as a pattern for low-density development. Its dramatic confrontation of high-density housing and rural landscape recalls some of the new towns of Britain and Scandinavia.

Unlike its European relations, however, Reston is not being built as part of a national program for population redistribution and social improvement. It is being built by a private developer, Robert E. Simon, Jr., in the hope of profit. At least in its early stages, it will provide for only one income group, the upper middle; Simon talks of housing for lower income groups sometime in the future, but he is unlikely to risk it alone. Federal support to new towns—voted down by the present Congress—would have reduced the investor's gamble and required a mixture of income groups.

Despite its lack of social relevance, Reston is of great value as a proving ground for physical planning and design concepts, for patterns that could be applied to other low-density areas. In established communities, untried alternatives to conventional patterns are thwarted by existing "improvements," accumulated regulations, and private interests. (Even the plan of Reston depended for survival on the enlightenment of Fairfax County officials.) In a new town like Reston, unconventional concepts can be given a fair test—in terms of American economics.

The design of Reston is based on a simple concept: working within the over-all density of a typical suburb, living units have been concentrated (15 per cent in high-rise buildings, 70 per cent in rowhouses and garden apartments, only 15 per cent in detached houses) to leave space for a wide spectrum of outdoor activities right at the residents' door steps.

The financial success of Reston depends on the willingness of middle-income Americans to trade the cherished individuality of the private house for this combination of urbanity and nature. And to a large extent, the future of low-density planning in America is riding on Simon's gamble.

As one might expect, rumors trickle along the professional grapevine that Reston "isn't selling well." As of late June—four years after land acquisition and two years after the start of construction—only 180 units had been put on the market and only about 50 sold, returning an infinitesimal

fraction of the nearly $50 million invested to date. But the sponsors are hardly surprised by the reluctance of the public to move in among the noise and dirt of construction, to a place that still lacks stores, schools, and churches (even though, characteristically, the golf club is open and the lake is stocked). The real test of marketability will come in a few months, when the bulldozers move on and the stores in the first village (all now leased) are open.

While the economic success of Reston remains in doubt, the success of its physical form is now becoming apparent. As the first stage of construction approaches completion, Reston already has more spatial interest than all but a few American towns. It has a sheltered plaza opening on a tree-rimmed lake; it has public stairs, elevated walks, and quays; it has picturesque skylines and broad vistas unfolding at the ends of narrow passages. In short, it has the richness of townscape that every subdivision lacks.

But this richness has been achieved at the sacrifice of the cherished feature that every subdivision offers: a private castle for every family. In order to win public acceptance, the design of Reston had to appease the American desire for independence.

Individuality has been the theme throughout the design of Reston. It is not merely the unit types that will vary; no single spot in Reston will be quite like any other. (Compare New York, Levittown, or Chandigarh.)

The first phase of construction, the center of "Lake Anne Village," was first divided into three sections, each distinguished from the others by geography; then the three sections were turned over to three firms: Charles M. Goodman Associates (1); Chloethiel Woodard Smith (2); and Whittlesey and Conklin (3) who had done the master plan for Reston.

The variety of unit types programmed for these three sections was made even greater than the intended norm for the town, so that the developer could test the unpredictable preferences of those who would move to Reston.

Of these three initial housing groups, the one by Goodman (1) probably looks the least like home to the typical prospect. Goodman's 90 houses are lined up tightly around three access courts (facing page, top), portions of which are occupied by pedestrian plazas over covered parking areas. The regular, urban quality of these courts contrasts with the irregular forms of the clusters on the outer side, facing the woods (top right).

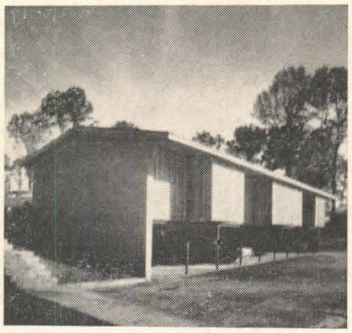
The scheme gives little external individuality to the houses, but gives the residents something else which Goodman finds missing in the typical subdivision: a sense of belonging to a group of houses, somewhat like the traditional block.

Goodman's prominently exposed structural system of precast beams resting on concrete block piers (the only departure from conventional wood-frame-and-masonry at Reston so far) further reduces the individual expression of the houses. It has not been a hindrance, however, to variation in unit plans, of which there are 11 basic types. Unit designs are related to the courtyard plan and the terrain: there are types for the uphill and downhill sides of the courts (with roof terraces on the "uphills" looking out over the "downhills"); there are narrow units for the straightaways and squarish ones for the corners of the courts.

Chloethiel Smith's houses (2) are, by contrast, deliberately homey. They run in broken rows along the contour lines of the lake shore, following the subtlest of changes in elevation. The eight unit types are mixed for picturesque massing, with no set rules about siting. The individuality of the houses has been driven home by painting each a different color.

The sloping roofs are not just a sop to sentimentality, but were designed to form a pleasing composition when seen from the nearby apartment tower, and they do (facing page, bottom). In a new section now being designed by the Smith office, where the view from above is less important, flat roofs have been applied to the same basic designs (with a few plan changes based on selling experience).

Even sheltered parking has been accommodated with a domestic



touch: two-level carports (above) scattered through the area make efficient use of space, act as retaining walls, and look like farm outbuildings.

On the fringe of the first village is a small sampling of what-might-have-been: a sprinkling of all-too-individual single-family houses (below). The plan for Reston

established certain controls over the use of house lots, but their effect will hardly be noticed. There is a sensible system for specifying the location of the house (and any secondary building), rather than the customary setbacks, and there was supposed to be an architectural review board, on which the principal Reston architects would sit. But the board was stumped by the material presented to it. "What could we say," asks one ex-member, "except 'Start all over from scratch'?"

Reston's most impressive lessons in housing design are found in and around the first village center—the section carried out by the master planners for Reston, Whittlesey & Conklin.

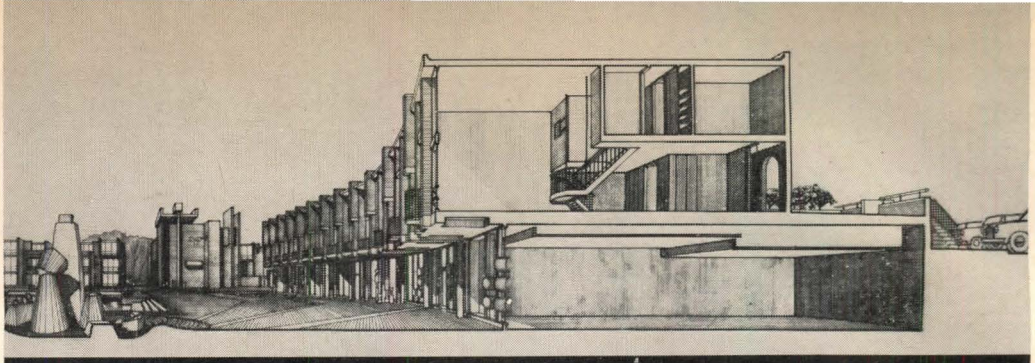
They have met the over-all objective of variety in living units by reacting to specific situations; each variation in terrain and outlook evokes its own response. The interiors of their units are in effect inward extensions of the over-all village design.

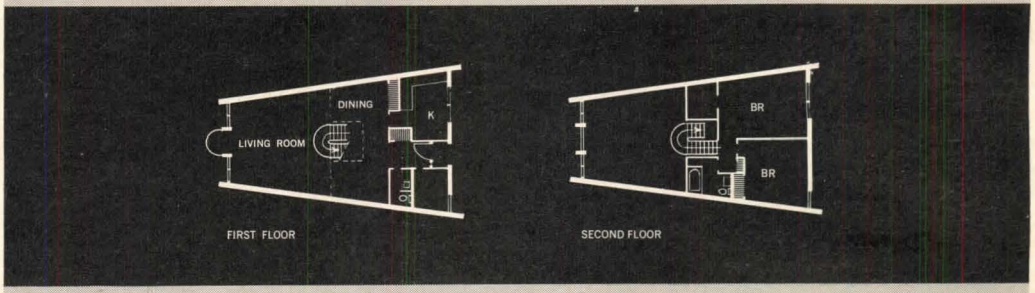
They have drawn up a schematic plan (below right) in which the relation of each unit to the community is represented by symbols that are hard to define, but easy to understand when compared to the actual place. Units with directional views (indicated by arrows of varying strength) have been designed for these views; units with more confined outlook have been given "internal views" (indicated by curling arrows), as in an apartment over a shop (section above right); duplexes facing north toward the plaza have been designed as artists' studios; houses with a sidelong view of the lake have been given a saw-tooth row of corner windows. Even the high-rise apartments are laid out to take advantage of specific views (typical floor plan below right).

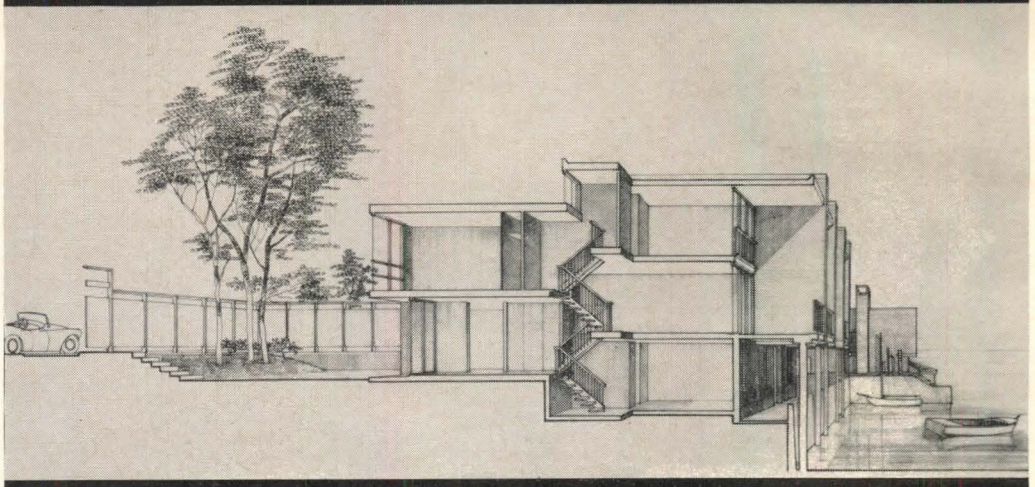
In some areas private and community life are closely interwoven. Lakefront townhouses are built around public easements for a pedestrian walk along the water's edge (section middle right). They can be entered from this walk through a ground-floor recreation room or from the parking area at the main floor level.

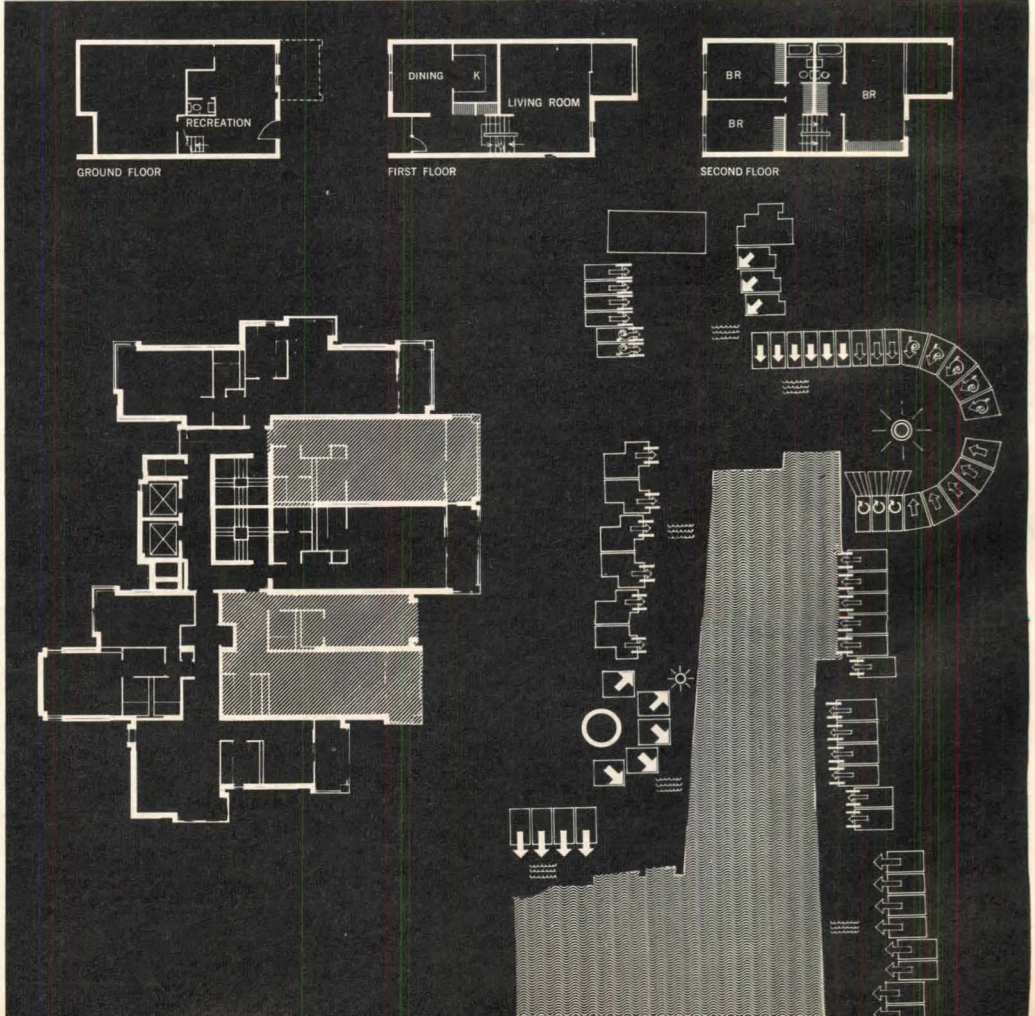
This intricate arrangement of houses around a village plaza represents a hope—a hope that "living" need not be an isolated undertaking, segregated from activities like "recreation," "shopping," and "work"—that a well organized community environment is worth more than an illusion of personal independence. Until a new-towns program brings higher social objectives to land development, it is the best hope we have.

—John Morris Dixon





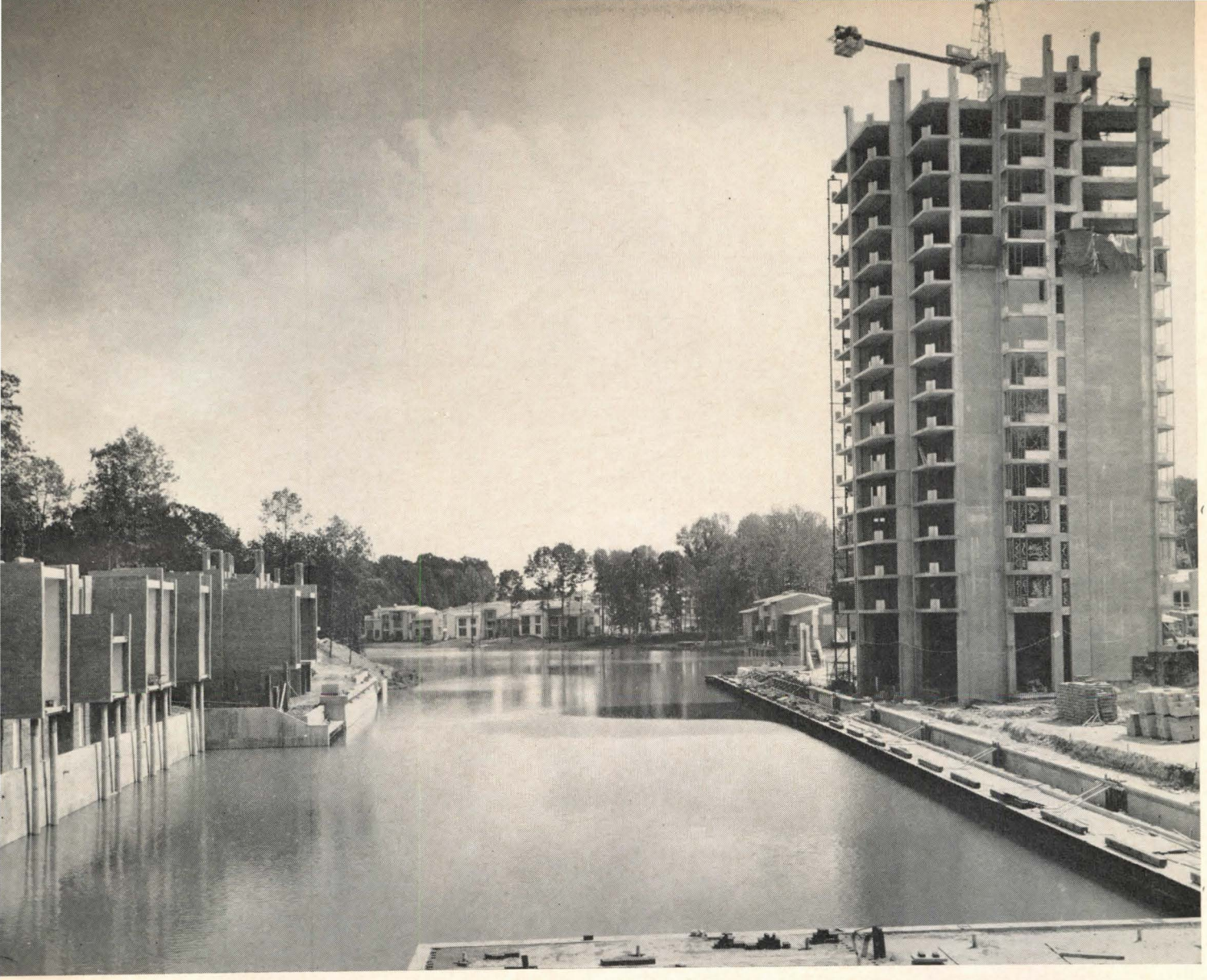


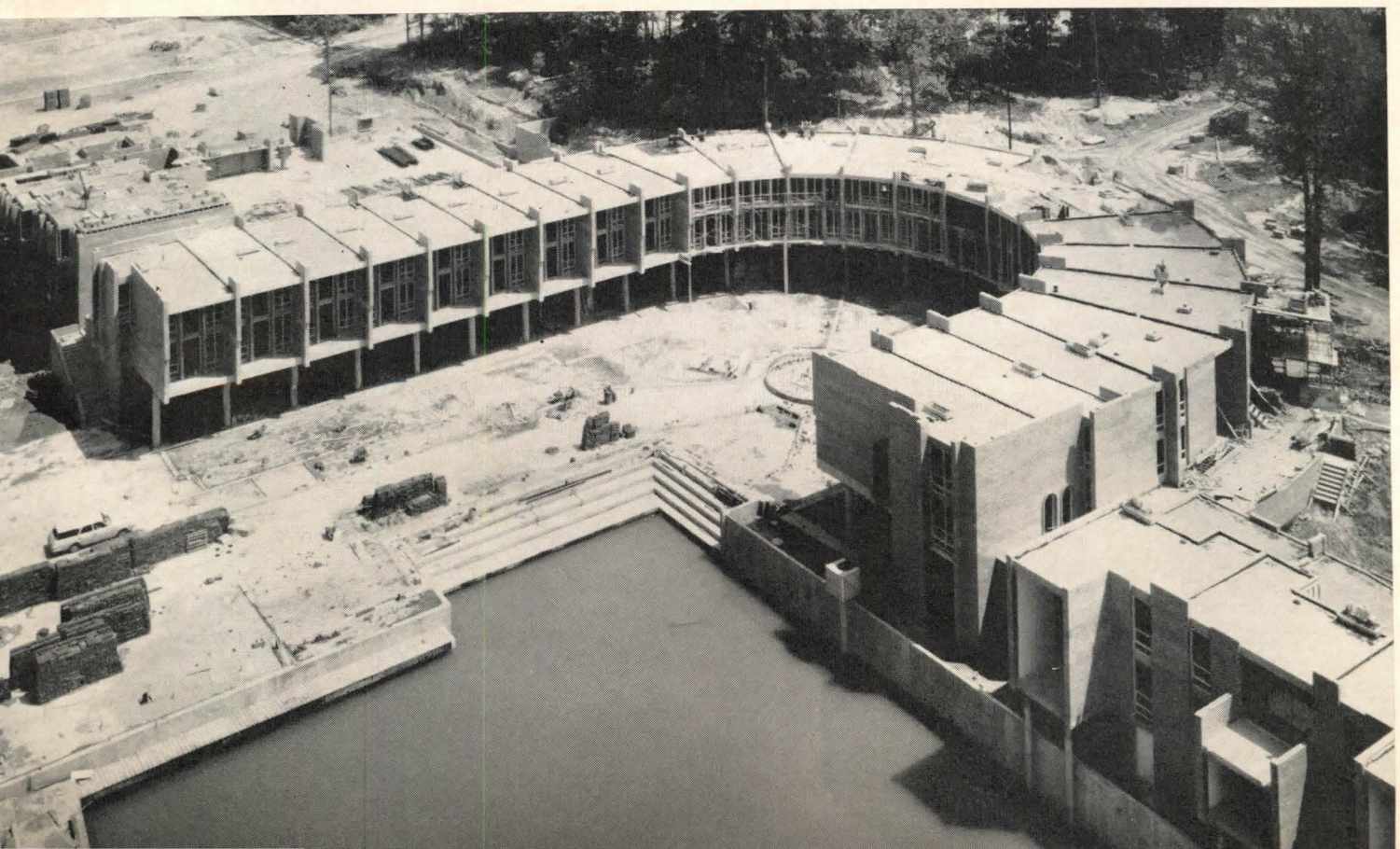


FACTS AND FIGURES

First Village, Reston, Va.; Developers: Simon Enterprises; Architects and Planners: Whittlesey & Conklin; Architects: Charles M. Goodman Associates, Chloethiel Woodard Smith & Associates.

PHOTOGRAPHS: Robert C. Lautman (page 86, photos at left; page 87, top); Gil Amiaga (all others).





Housing action: Too little, not quite too late

There is a somewhat old-fashioned sound to the word "housing." It has the ring of the 1930's about it, bringing to mind issues once passionately fought, for reasons not quite recalled. It has become fashionable, in fact, in some academic quarters, to wish away the notion of a housing problem with a wave of statistics. It has become decidedly unfashionable to be concerned with such matters as the decline in public housing starts, which just last month reached the lowest point in the program's history.

The word is worth reclaiming, and with it the passion. Millions—perhaps as many as six million—of the city's poor live in unspeakable conditions, in slums that somehow survive the onslaught of statistics. The city fills up with the gross and shabby end-product of speculative apartment development. The layers of houses on the city's edges sprawl outward as if the land (and the capacity of transportation arteries) were limitless.

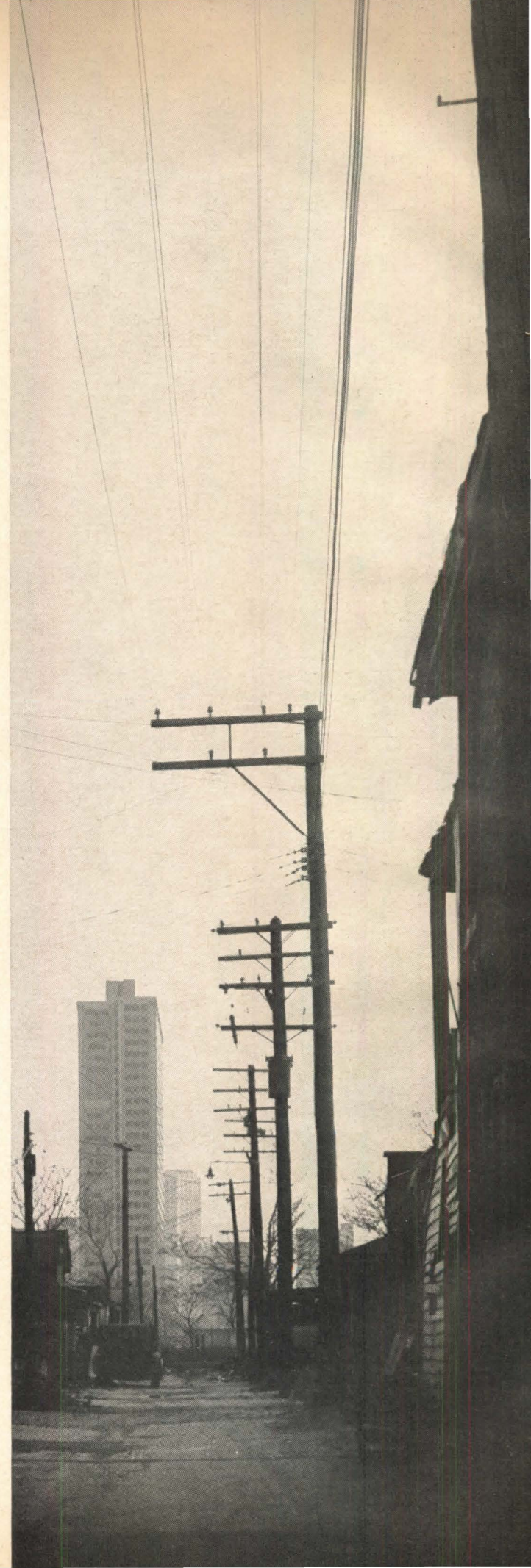
If these facts do not constitute a national housing problem—a problem already immense, and ballooning with the urban population—then a great many people (the editors included) are wasting a great deal of time and concern.

These people also include the President of the United States, whose words and deeds indicate an acute awareness of the problem, if not a willingness to face its implications quite as squarely as some of us would like. While the administration has introduced one promising new device, the rent subsidy (see page 27), otherwise it has been willing to let the housing situation remain just about as it is.

But the Administration—any Administration—is inhibited by fixed attitudes in the lower echelons of its housing agencies (particularly in some regional offices), and, more importantly, by Congress. Congress, in turn, responds alternately to liberal-labor pressure for social action and "building industry" pressure to maintain the lucrative status quo.

The disgraceful hearings on the 1965 housing legislation revealed the dearth of people ready to speak up disinterestedly for the city, for its people, for the quality of life and dwelling which the city provides—and thus for the future environment of a nation that is becoming almost entirely urban. There is a painful need for a new housing movement—more sophisticated and broader in its ideological base than the one in the 1930's—to bring to bear pressures for a comprehensive and compassionate national housing policy.

The urban design professions belong in the forefront of such a movement.



FORUM CONT'D

in this country—while in Europe, few important commissions are awarded without them.

We are delighted at this trend—if that's what it is. Anyway, here are a few more competitions under way, or about to be:

● Washington University, in St. Louis, will hold an open competition for a new School of Law and a new Social Science Center. This competition will be in two stages, and the registration deadline is September 7th. The man to write to is Robert L. Vickery, at the University.

● Philadelphia is having a closed competition limited to three firms, for the design of a new "International House"—a combined residence and "programmed activity center" (whatever that may be) for around 450 students. The three firms are Bower & Fradley; Geddes, Brecher, Qualls and Cunningham; and Mitchell-Giurgola Associates. With Geddes about to take off to head the Architecture School at Princeton, and Giurgola about to depart for Columbia's School, the competition sounds like a re-enactment of the War of the Roses.

● And the City of Fremont, Cal. is about to issue programs on a competition to select an architect for its City Government Building, Hall of Justice, and the Master Plan for a new Civic-Cultural Center. Fremont now has 85,000 inhabitants and expects to have 220,000 by 1980. The City is located on San Francisco Bay, and the man to contact is the Professional Adviser at City Hall.

It looks as if it might get to be a long hot summer.

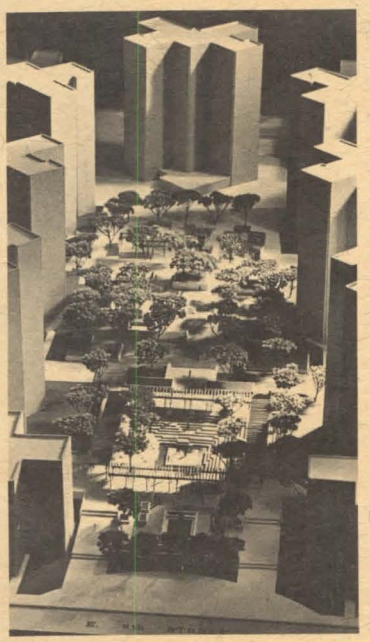
BEAUTY

WHO NEEDS FENCES?

A foundation-supported experiment in improving the environment of New York's public housing projects has been so successful that the sponsors are going to do it again, only better.

Last year the asphalt paths and cyclone fences between the red-brick behemoths of Carver Houses in Harlem were torn up to make way for a landscape that residents could enjoy. The redevelopment made a big hit with the residents and won awards for both the clients—the Astor Foundation and the New York City Housing Authority—and the designers, Architects Pomerance & Breines and Landscape Architect M. Paul Friedberg. The word even got to the White House, prompting Mrs. Johnson to drop by to see what landscaping might do for the city.

The Astor Foundation has now commissioned the same team to redevelop the mall at Riis Houses on the Lower East Side (below)



—with a budget substantially larger than the $300,000 spent at Carver Houses. With this larger budget, designers hope to include several fountains, sculptural planters (done by a real sculptor), and more imaginative play equipment.

LANDMARKS

WE'RE WALKING BEHIND YOU

We strongly endorse President Johnson's well-publicized habit of taking impromptu strolls. It could be the best thing that ever happened to worthy old buildings.

Mr. Johnson took a stroll last May across the street from the White House and, just like that, the old U.S. Court of Claims building (above right) was saved for the ages. The walk was prompted by S. Dillon Ripley, secretary of the Smithsonian Institution, who suggested to the President that the French Renaissance structure (designed by James Renwick and completed in 1860) might make a good museum. So the President took his stroll, and a month later announced that the building was being turned over to the Smithsonian for restoration as a gallery of arts, crafts and design.

We can suggest a number of other good places for the President to stroll. The next time he is in St. Louis, for example, he might take a walk around the Old Post Office. But he will have to hurry; the GSA is getting ready to tear it down (June '65 issue).

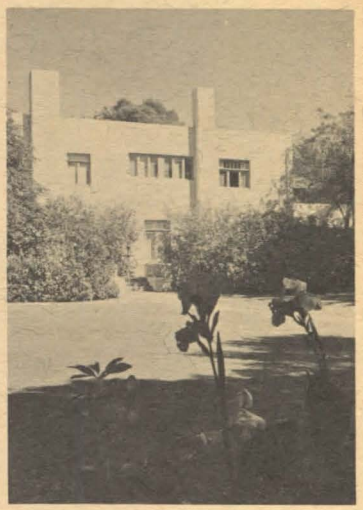
NOTHING BUT TROUBLE

Last month, when Secretary of the Interior Udall presented a plaque to New York's Mayor Wagner, making Central Park an official landmark, Udall said that he was sure an appropriate place could be found to mount the bronze plaque.

Fat chance! While someone suggested, *sotto voce*, that an "appropriate place" might be the soon-to-be-erected Huntington Hartford Restaurant for which the City has donated a large chunk of Olmstead's park, the City's Park Commissioner Newbold Morris suggested (privately) that he'd better put the thing up in his own office, since any plaque put up in Central Park, however firmly embedded in concrete, granite, or a tree, was sure to be stolen by vandals! Elsewhere:

● From Athens, Greece, of all places, has come a disturbing report that some local experts are thinking of putting the buildings on the Acropolis into huge glass cases, since the Parthenon et al. seem to be disintegrating at an alarming clip. One archaeologist believes that the structures may collapse in five years from now, unless something drastic is done to save them.

● In Los Angeles, Irving Gill's masterpiece of early modern residential architecture, the 1916 Dodge House (below), appears doomed by action of the Board of Education, which should know better but doesn't. The Board wants to sell the house and its site to a real estate developer, and pleas by the local AIA chapter and others have failed to



change its mind. On August 30, the Board says, the site will go up for sale and the Dodge house will go into oblivion. When this happens, the West Coast will have lost an architectural landmark that never can be replaced.

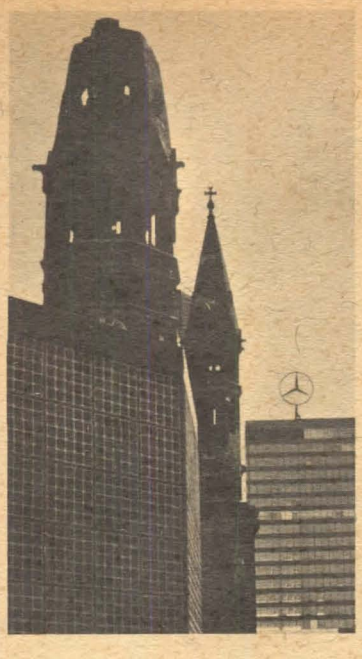
NON-LANDMARKS

MERCEDES GO HOME!

Every so often—for a moment or two—we think that the U.S. may not have the most vulgar, man-made skylines in the world after all! Last month we came across one of those rare moments of euphoria: West Berlin's symbolic center is, surely, the ruin of the strange, 19th century memorial church (with its rather wonderful additions of Egon Eiermann, who designed Washington's German Chancery which we published in May).

Well, for the past couple of years something called the *Europa Zentrum*—a combination Lever House and Neonland—has been rising right behind the Memorial Church, and since the Mercedes-Benz people have rented a good part of the space inside the office tower, the *Europa Zentrum* now carries, on its roof, a huge and slowly rotating stainless steel Mercedes star, looking like a great, big radar-scanner. Annual rental for this choice location: a cool 150,000 West German marks!

What happens, of course, is that just about every view of the church (with its modest little



cross on top) is now smothered by that whirling radar gadget. Local newspaper critics blew their stacks, editorially, and one of them wrote: "If *that* little thing had been up when President Kennedy came to Berlin, he would never have said: 'Ich bin ein Berliner!' He'd have said 'Ich bin ein Mercedes!'." (We think that the late President rather would have enjoyed that crack!)

COCA-COLA GO HOME, TOO!

Our moment of euphoria lasted just that long, and no longer. For later that day we read in the papers that President Johnson had called a conference of U.S. businessmen to advise him on how to "Americanize" our embassies.

We don't know what, if any, advice President Johnson received from the business community, but we wonder if he didn't talk to the wrong people: Mr. Conrad Hilton, for example, has demonstrated in one or two places how *he* would handle the problem (below: London Hilton enhancing Hyde Park Corner), and we can't say that we are carried away into euphoria by that juxtaposition.

And the Coca-Cola Company has made *its* position clear in one or two places also, as on the building across from the Duomo in Milan, where its neon name brazenly faces the portals of Pope Paul VI's former Cathedral. We'd hate to think that the former Cardinal Montini used to respond, absentmindedly, "il miglior ristoro"—it's the sort of reflex that might have gotten him excommunicated, even if Coca-Cola's Jim Farley had tried to intervene in his behalf.

BEAUTY VS. THE BEAST

Have *you* ever wondered why (in this day and age) we still use wooden water tanks on the roofs of so many of our most modern buildings? Well, *we* have, and a good many other New Yorkers are going to wonder, too, in a few months from now.

The reason they are going to wonder is that three, absolutely identical apartment buildings, designed by I. M. Pei, will soon be completed just south of Washington Square. That is to say, they are going to be *almost* absolutely identical—for there will be one very slight difference: one of the buildings will be topped off with a wooden water tank, the other two, not.

This has nothing to do with the well-advertised water shortage throughout the north-east; it has to do with the fact that two of the buildings were commissioned by New York (State) University, and the third was built under the Mitchell-Lama Act, a subsidized housing program. Get it?

We didn't either—until we discovered that the State-commissioned buildings (faculty-housing) are not under New York City Building Department jurisdiction and can, therefore, use a much smaller, superior, built-in metal tank with a pumping system; whereas the third tower does fall under the New York City Building Department's jurisdiction, and the New York City Building Department has, for reasons that are best known to itself, an inordinate fondness for wooden, roof-top water tanks. (The whole thing is really a very touching story—making you feel that up there, among all those seemingly cold-blooded, hard-nosed bureaucrats, there lurks a Lover of Beauty, a man who appreciates the warmth of wood, its texture, its color—yes, its humanity!)

The story made us feel real good inside about the government of this great city of ours.

TRANSIT

STRAPLESS SUBWAY

Riders of the Bay Area Rapid Transit System will travel in a style reminiscent of the private railroad cars of yesteryear. A prototype of the District's one-eyed vehicle (above right), designed by Carl W. Sundberg and put on public display this month, has picture windows; soft, low-level lighting; hushed air-conditioning controlled to adjust to the microclimates the train passes through; wide, upholstered seats; and carpeted floors.

There were a few complaints from the guests invited to the car's unveiling: tight leg room, narrow doors, and no straps to hang from. Transit District President Adrien J. Falk had a quick

answer to the last. "The reason there are no straps," he said, "is because we expect to seat everybody. The schedule will be staggered so there'll be a new train along every 90 seconds." Any time Mr. Falk would like to come to visit us in New York, we'd be glad to put him up in style, in return for some free advice. . .

MOSES TO THE RESCUE?

New York City has a "transportation crisis," said Commissioner John J. Gilhooley last month in a model of understatement. To deal with it he proposed the establishment of a Transportation Authority combining under one jurisdiction the currently separate functions of the Transit Authority, the Triborough Bridge and Tunnel Authority, the Department of Traffic, and the ferry operations of the Department of Marine and Aviation.

The new authority would be responsible for planning and coordinating nearly all of New York's transportation forms, and it would be able to balance off the

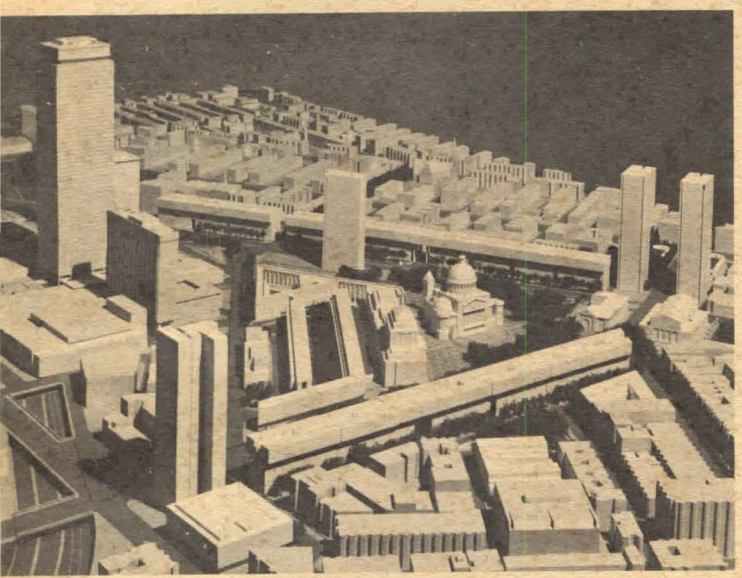
deficits from the subways (over $62 million last year) against profits from bridge and tunnel tolls. The best man to head the agency, Gilhooley says, is none other than Robert Moses. He just lost us.

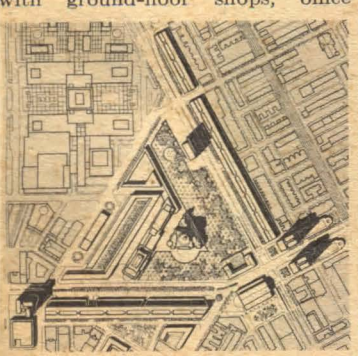
PREVIEW

TWO BOOSTS IN BOSTON

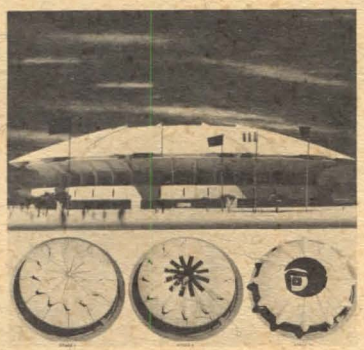
Boston's current building boom received two giant boosts on the same day last month when it was announced that (1) the First Church of Christ, Scientist, plans a $71 million church, housing and commercial development surrounding its Mother Church in the Back Bay, and (2) the Greater Boston Stadium Authority unveiled its design for an $80 million sports complex.

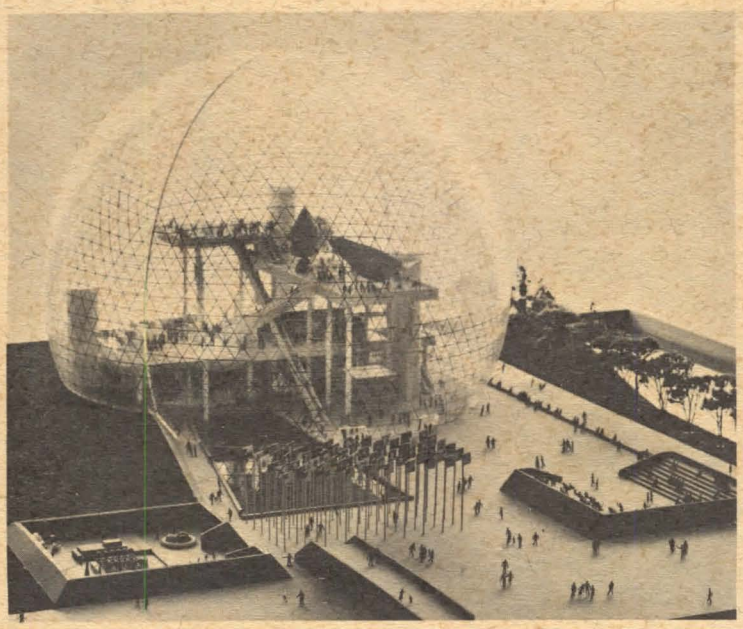
The master plan for the 22-acre Christian Science project (shown in model above and plan below, with shadow lines indicating the church's buildings), by I. M. Pei & Associates, includes a 22-story Church administration building, an auditorium, three 34-story apartment buildings and two nine-story middle-income apartment slabs with ground-floor shops, office space and parking for more than 3,000 cars. The site is adjacent to the new Prudential Center (May '65 issue).

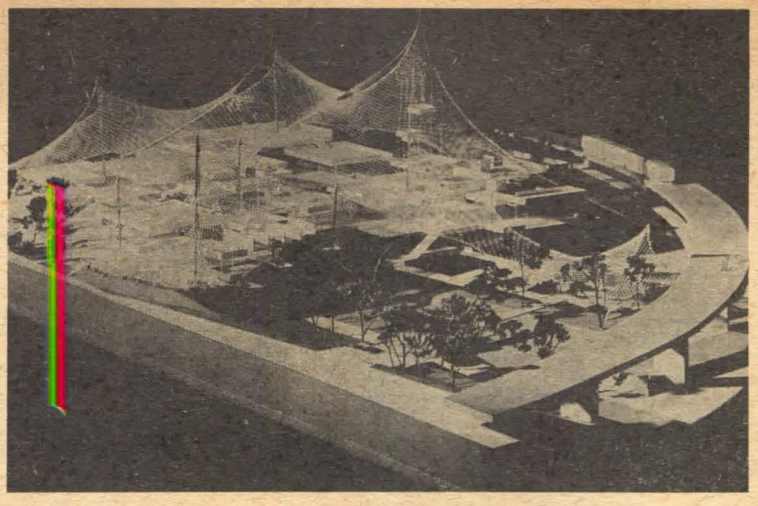




The sports complex, designed by Vincent Kling & Associates, will include a 53,000-seat stadium (below) with a roof that retracts in the manner shown in the diagram. There will also be a mushroom-shaped 18,000-foot arena, and a 3,000-car parking structure.







MONTREAL A GO-GO

The new "fishnet-look" in fashions (which, we are told authoritatively, is referred to as "go-go") seems to have caught on at the Montreal Exposition: at least two of the latest designs for national pavilions unveiled seemed actually to require not very much unveiling. They are the German Pavilion (above), and the U.S. Pavilion (below).

The German "go-go" job is by Frei Otto (who designed the fishnet tent) and Rolf Gutbrod (who did the insides). The collaborative design won in a West German competition.

The U.S. "go-go" pavilion, by comparison, looks positively prudish. It's just a great, big Bucky Fuller dome (metal fishnet, transparent plastic skin). The resulting bubble will be filled with natural light in the daytime, and will glow from inside at night. The insides, by the way, were designed by the Cambridge Seven, a sprightly young outfit we introduced to our readers in our June 1964 issue. Preliminaries by the Seven suggest a series of elevated, overlapping, and connected platforms, each housing an exhibit of one phase of "Creative America."

OK. We like "go-go" in its place, but we're not entirely convinced that this is it. It isn't that we are worried by Frei Otto or Bucky Fuller; it is only that EXPO 67 has just retained an outfit of consultants called Imagenetics of Canada Limited. Our message to Imagenetics is: GO!

PEOPLE

- Richard J. Neutra has become the first architect to receive an honorary degree from the University of Rome.
- The national silver plaque brotherhood award of the National Conference of Christians and Jews will be presented to Ludwig Mies van der Rohe in Chicago August 5.
- David A. Crane, Boston's chief planning and design officer, returns to Philadelphia—and to the academic world—in August. He will be an associate professor of civic design in University of Pennsylvania's Graduate School of Fine Arts, where he taught from 1957 to 1961, and chairman of the school's civic design committee.
- Thomas J. Kent, Jr., professor of city planning at the University of California, and Berkeley Democratic Leader, was named San Francisco's first co-ordinator of planning, housing and development last month by Mayor John F. Shelley. The politically sensitive job was created last September, but Shelley was unable to find a taker. Kent agreed to try it on a month-to-month basis until he sees how it works out.

Walter McQuade

DANISH HAS HAD IT IN CALIFORNIA

On the West Coast—or, as our friends in publishing and the theater pronounce it, the Coast—the interior design of new apartment house lobbies has become a specialty, and the furniture and finishes specified by decorators perhaps provide a good pop index to the area's emotional climate.

Here is an analysis of the current thinking—or feeling—in lobby design as phrased by one of its successful practitioners, the director of design at one of the more capable, most flourishing interiors houses in California, and the creator of many a lobby atmosphere:

"When the country is broke," he says, "it goes early American and Scandinavian. People can't afford anything else, or think they can't. Austerity appears to be inexpensive—and the finishes certainly are. Love that simple wood grain.

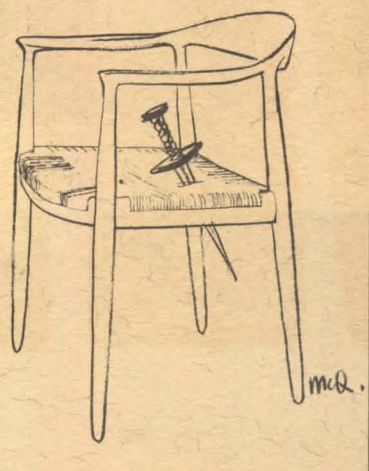
"But when the economy is booming, as it has been lately, the keynote becomes elegance. In boomtime there's more crystal, silver, velvet and silks. Today Italian Provincial is our biggest seller. Danish has had it. The Spanish influence, of course, is still strong in this part of the world; and French Provincial is still, you might say, available. But it isn't being ordered much by anyone except little old ladies—rich, chic little old ladies with blue hair."

Does this decorator sound a little unsentimental? His counterparts of the East Coast are no less so, although there is suede on the arms of their chairs, a glint of gold in the silken upholstery, and pillows, pillows everywhere, not only in the apartment lobbies, but in the apartments upstairs. The calm opulence of the Barcelona chair was influential for several years, but a wave of frothy flourishes is now breaking over its simplicity. Thinking back three years, you may remember that even popular-priced furniture showed some pleasant effects from the restraint of the severely modern furniture—and still does, but to a fading degree. In a parallel course, the cut of men's clothing calmed down for a while too—the old Brooks Brothers, J. Press restraint finally hit it big from coast to coast as the Ivy League, or Natural look.

But, in tailoring as in furniture, goodbye Natural look, hello Italian Provinces. An acquaintance of mine, a man of numerous practical talents, has recently been having his suits made abroad, and as a result he has been sporting turned-back sleeves, double-breasted vests with lapels, and flaps on every one of his many pockets. (An elder friend sighs over him: "He has cuffs on everything but his pants.") This man would look just right sitting in one of the sumptuous new chairs receiving attention from New York designers and decorators recently (see photographs above) part of the "Baroque '70" line imported from Brazil by Chalesko Inc., designed by architect Jorge Zalszupin. It is available in a stripe-grained wood from Portugal called jacaranda, with pillows of suede buckskin, saddle leather, or kidskin, hand stitched (list price $630 to $770).

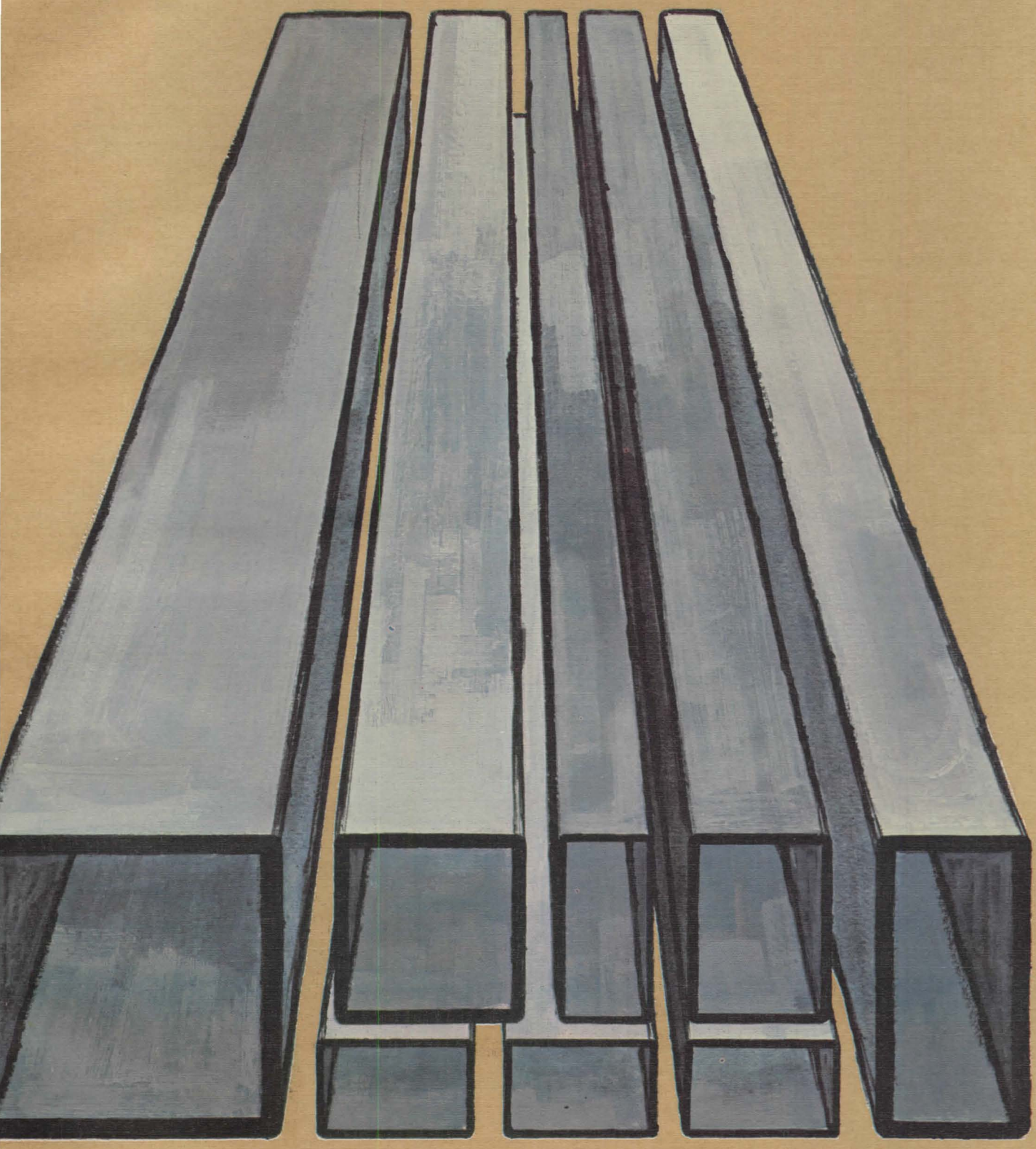
He'd be comfortable as well. This is portable Brazilia, with saddle bags slung over the arms, filled with soft down. When extravagance is hailed in architecture, clearly you're not going to keep it out of the forms of furniture. Brazilian provincial will sell, never doubt it.

But to get back to North America, there fortunately are scientific advances in furniture to match the sweeping styling in the apartment house lobbies. One of the best of these technical achievements has been the development of a self-sealing fabric for covering pillows, which can take the hard wear sometimes received by furniture in these semi-public rooms. This fabric, when cut even by a sharp knife, heals its wound immediately when the knife is withdrawn. Unlike Danish.



PHOTOGRAPHS: Page 27: J. Alex Langley. Page 28: Dick Anderson, Phokian Karas, Robert Damora, Roger Sturtevant, Ezra Stoller. Page 29: Berko Studio, Robert C. Bishop. Page 30: Camera Center. Page 91: David Hirsch, George Cserna, Marvin Rand. Page 92: German Lorca.

UHAT IN THE WORLD CAN ARCHITECTS DO WITH STRUCTURAL TUBING?



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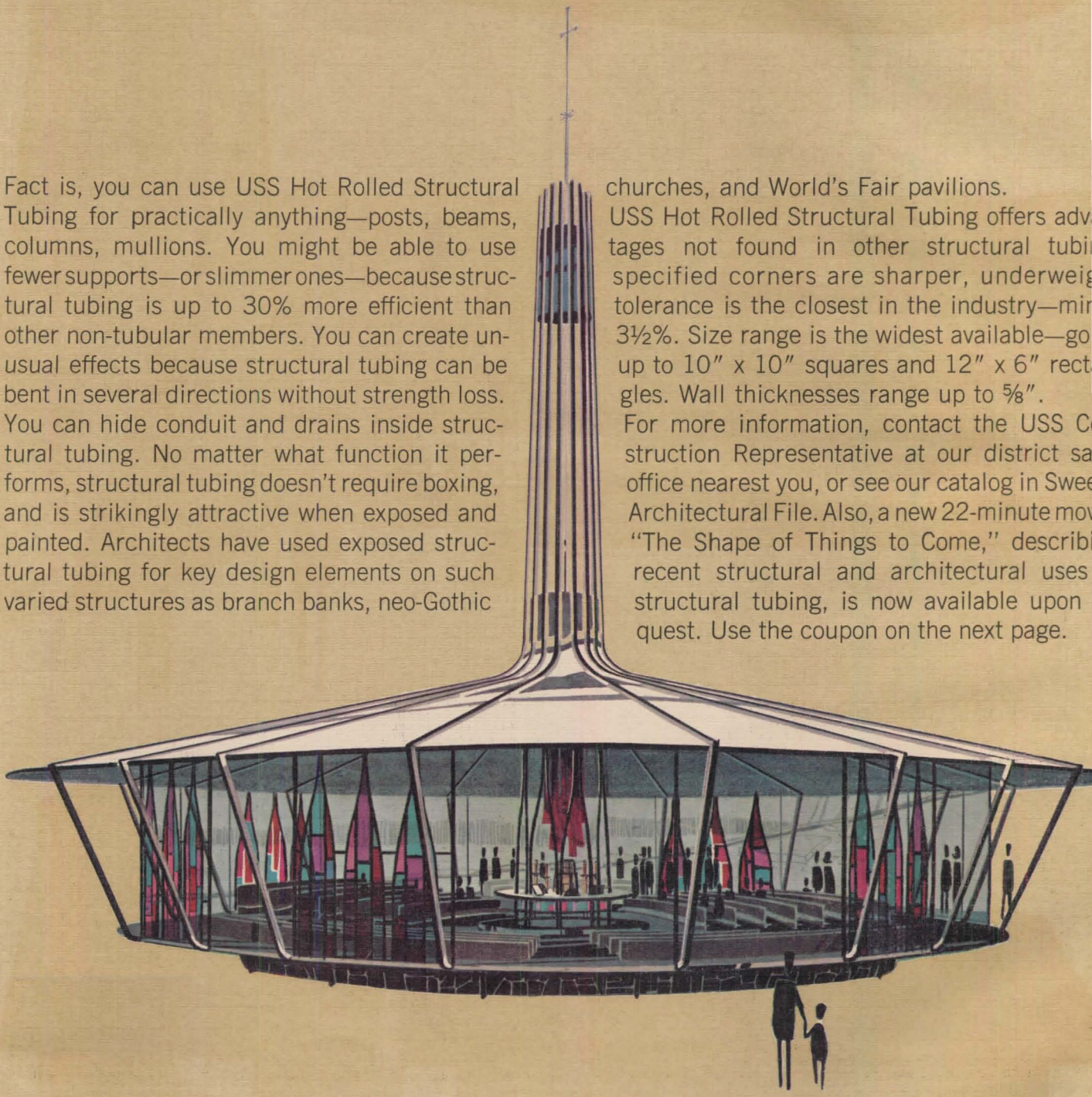
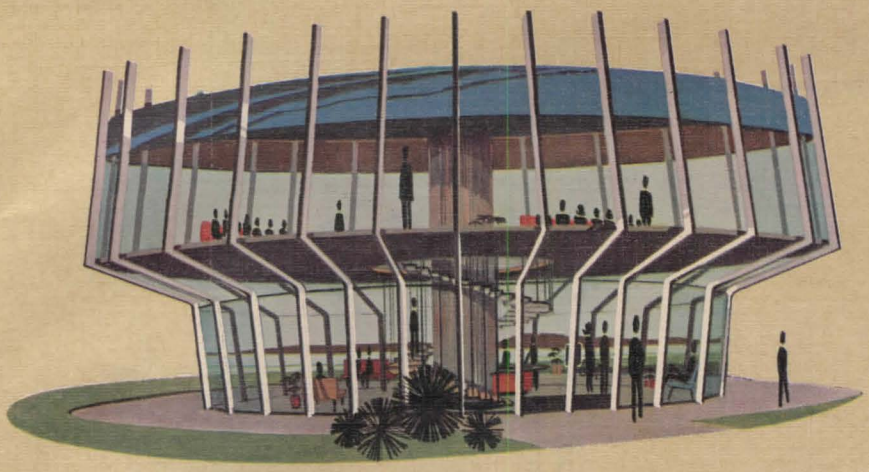
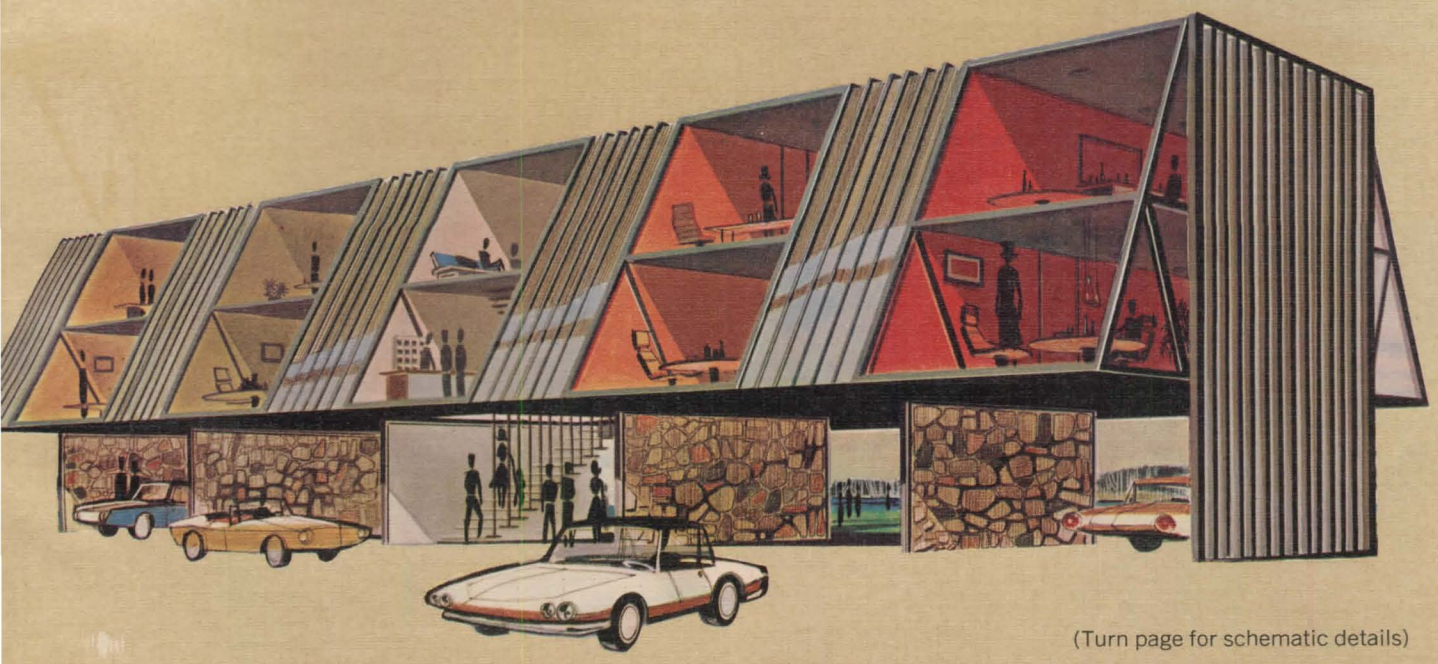


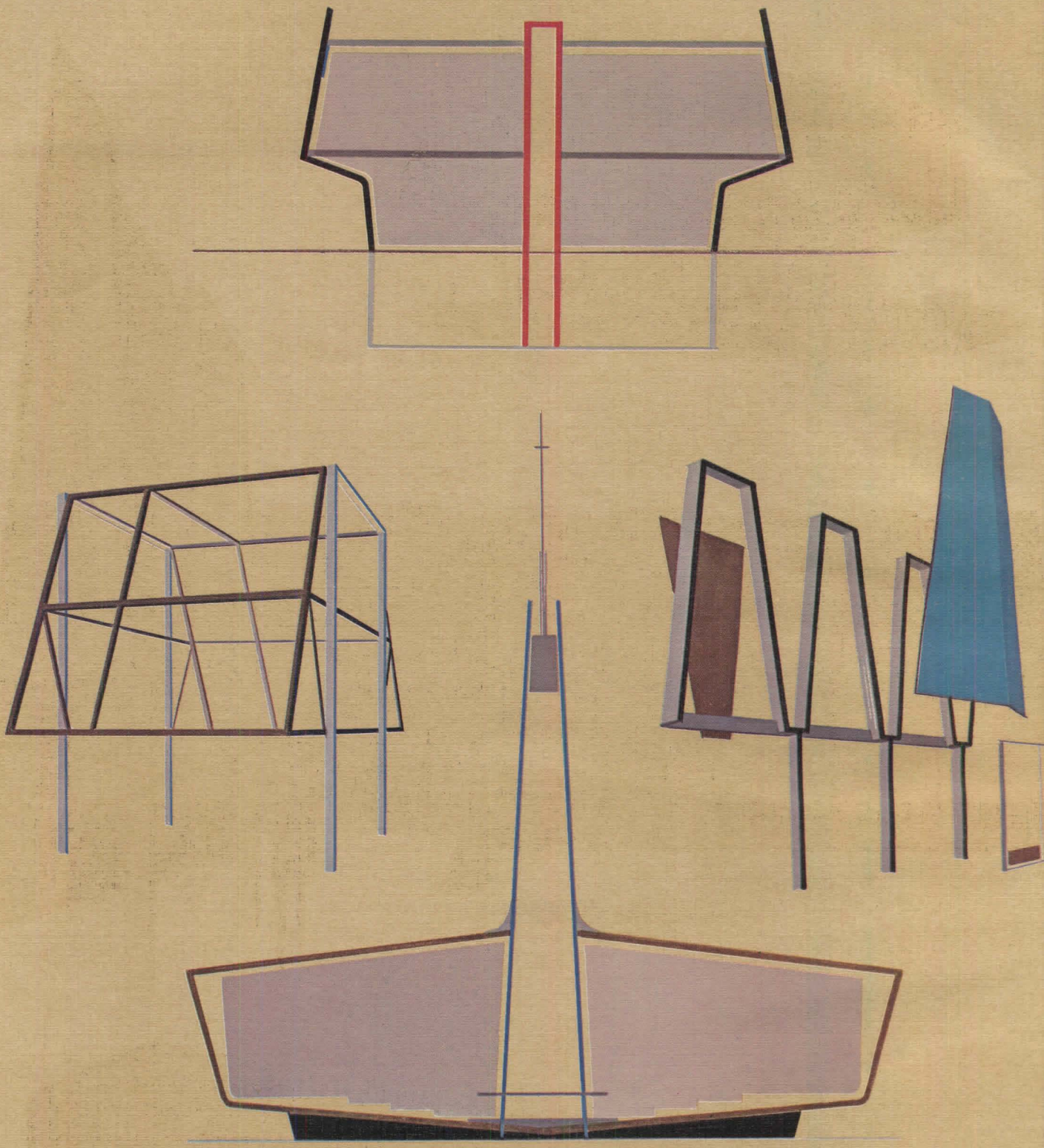
USS TRADEMARK

United States Steel: where the big idea is innovatio





(Turn page for schematic details)



THESE SCHEMATIC DRAWINGS ILLUSTRATE THE USE OF USS HOT ROLLED STRUCTURAL TUBING IN THE CONCEPTS SHOWN ON THE TWO PRECEDING PAGES.

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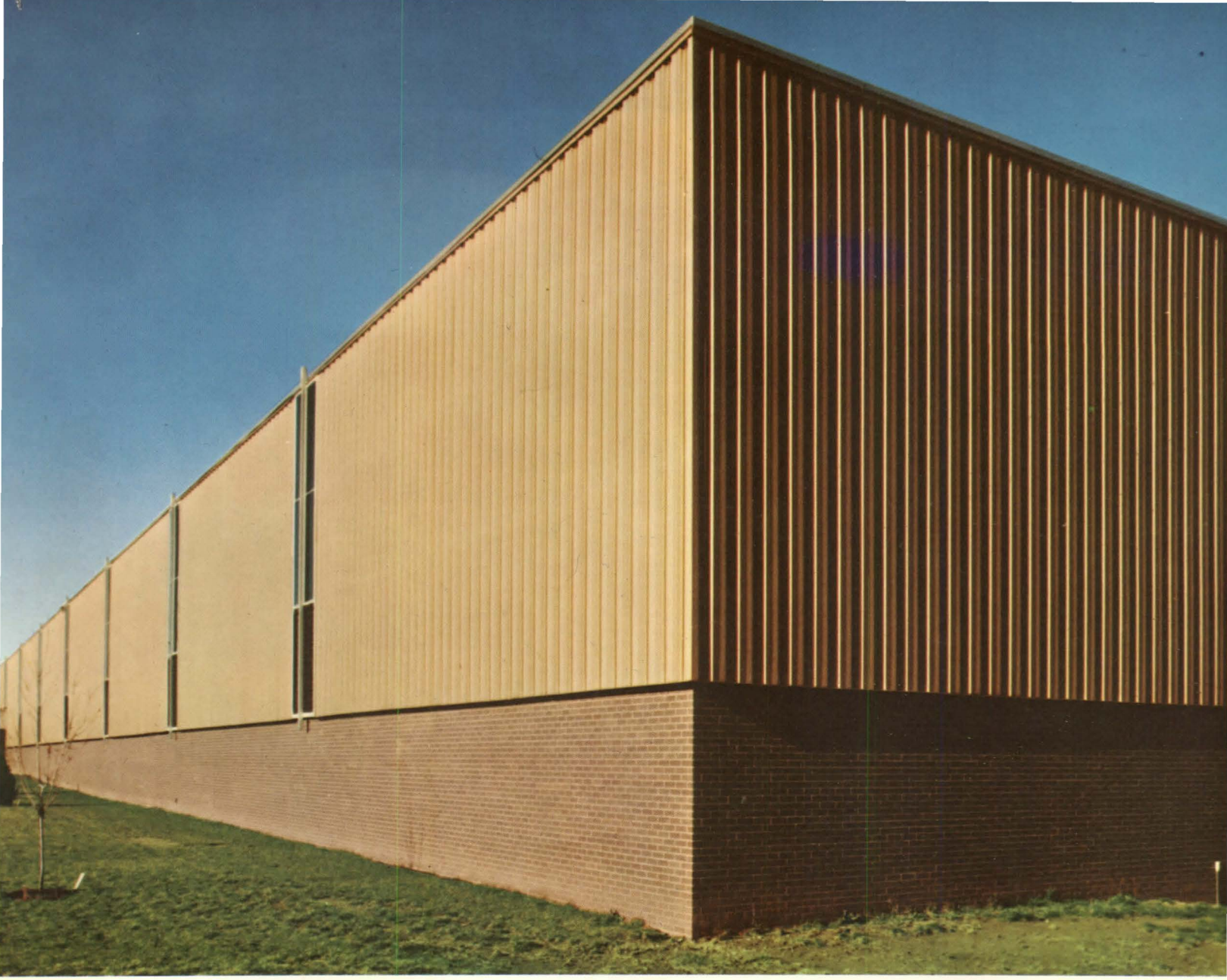

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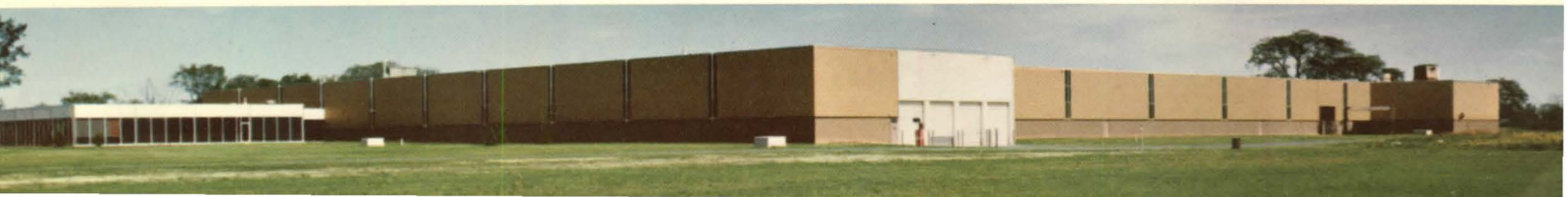


LETTERS

NEW-TOWNS TESTIMONY

Forum: I was shocked by your report on my testimony relative to new communities [June '65]. You were, however, accurate in interpreting my position as being that new communities are not the total or the major part of suburban development. I might remind you—as I stated in the recent Godkin Lectures—that one of urban renewal's most vulnerable features stems from its being oversold by its earlier proponents.

You are in error when you state that mine was less than a categorical defense of the new-community proposal. The point in the hearings at which the matter was discussed occurred in the Senate Hearings, pp. 39-45. In answer to Senator Sparkman's questions, I categorically defended and espoused the Administration's proposals for new communities. Incidentally, such proposals were advanced in 1964 as well as in 1965, and if I am in a position to do so, they will be advanced again.

As far as the opposition is concerned, it jelled without any assistance from me and largely because only a few organizations in the field of planning and housing joined me in support of the proposal. May I suggest that if there has to be a next time for consideration of new-community legislation, some of those who bemoan its lack of support in Congress join me in championing it effectively? If they do with sophistication they will recognize the need to differentiate between land speculation and new-community development. In that context, the opportunities offered to small builders will take on significance.

ROBERT C. WEAVER
Administrator
Housing and Home Finance Agency
Washington, D.C.

The Forum did not and does not question the sincerity of Dr. Weaver's support of the new-community proposals, only the way in which it was stated when, in terms of the 1965 legislation, it mattered most.—ED.

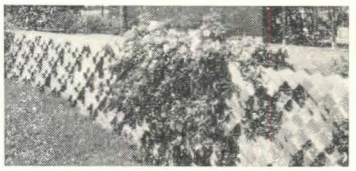
GROUP EFFORT

Forum: We would like to correct the notice in the May issue which listed us as the sole authors of the "Guide to the Architecture of Washington, D.C." This was a group effort: David Rosenthal wrote and compiled the Alexandria and Virginia tours and maps; Mrs. Richard Knight researched authorship and dates; Mrs. F. D. Lethbridge wrote a pair of notable introductions, as well as providing counsel; and the substantial introduction was by F. D. Lethbridge.

WARREN COX
HUGH NEWELL JACOBSEN
Washington, D.C. *Architects*

MISPLACED INSPIRATION

Forum: Here [below] is a photo of a garden wall that I designed for one of the earliest things I did—a house, 1954-55—*before* I ever heard of Uxmal or was aware of Yucatan architecture. It uses the same masonry units as at IBM [June '65]—4″x4″x8″ rather than 4″x4″x12″—and was designed as at



IBM as a strong piece of sculpture relief and to capture light in a dynamic and changing way.

At IBM in addition, by using thousands of these little individual "human scale" units to make the whole, I wanted to express in a poetic way the essence of infinite complication and possibility in the sense of the IBM machine—a symbol of what IBM means to me.

I simply tried to do something human, warm and beautiful, a joy to work in and to see, and to suggest by the walls and patterns a wonderful and interesting complexity—like the insides of an IBM machine. The big sense and image of this building is I think quite simple and serene.

VICTOR A. LUNDY
New York City *Architect*

COMPOUNDED ENHANCEMENT

Forum: Either your photograph of the new San Francisco Plaza [June '65] does an injustice to the winners or else we can be sure that the S.F. Arts Commission will soon be holding a competition for the enhancement of the San Francisco Civic Center Enhancement Competition.

FREDERICK F. SARDI
Charlotte, N.C. *Architect*

The photos released to the press were poor, but the prize-winning design was brilliant, restrained, and flexible. Unhappily, we hear that some of the visual illiterates in charge of San Francisco have decided to set themselves up as art critics—and so the project is in mortal peril!—ED.

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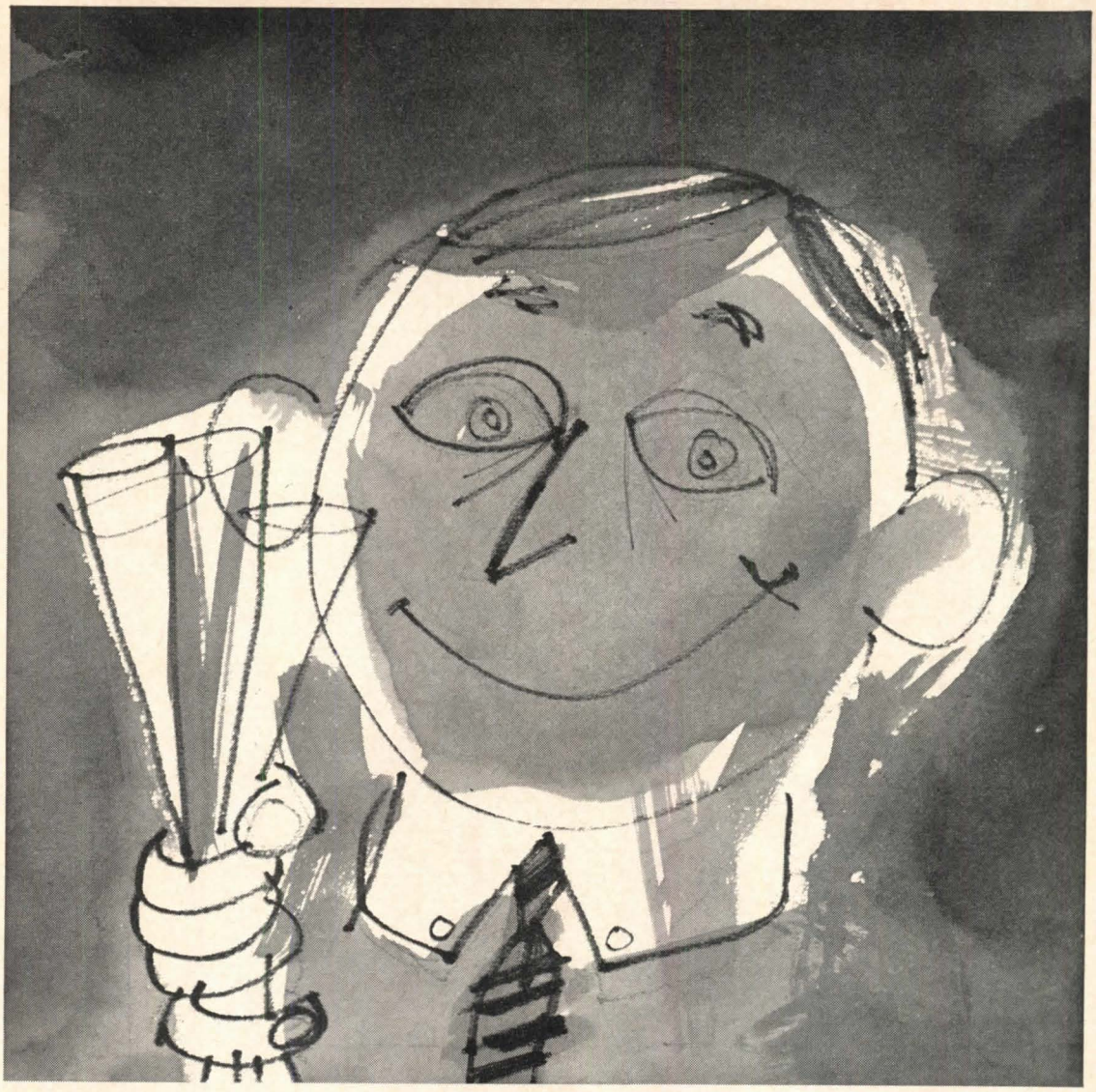

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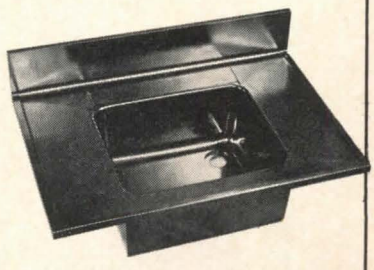

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Consulting Engineer: Thomas S. Beers