

FORUM



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URBAN AMERICA INC., including its National Action Council, is a nationwide non-profit educational organization combining the programs and resources of two national organizations with the common goal of improving cities—Urban America (formerly American Planning and Civic Association) and the ACTION Council for Better Cities.

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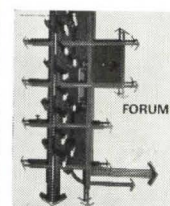
Architects scrutinize architecture in comments extracted from a forthcoming book by Paul Heyer.

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Cover: Movement system for Market East, Philadelphia (pages 34-43). Photograph by Jeremiah Bragstad.

THE ARCHITECTURAL FORUM

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PUBLISHER'S NOTE

In the issue at hand, a rounded public housing project in Chicago is presented as a sincere architectural effort undertaken within fearful limitations; a plan for Philadelphia's shopping core as a bold and pragmatic design, but one which Washington's changing concerns may delay; the new town of Cumbernauld, in Scotland, as having an oddly split visage; a "showcase" Harlem school as a venture-some building put in precisely the wrong place, and so on through the contents.

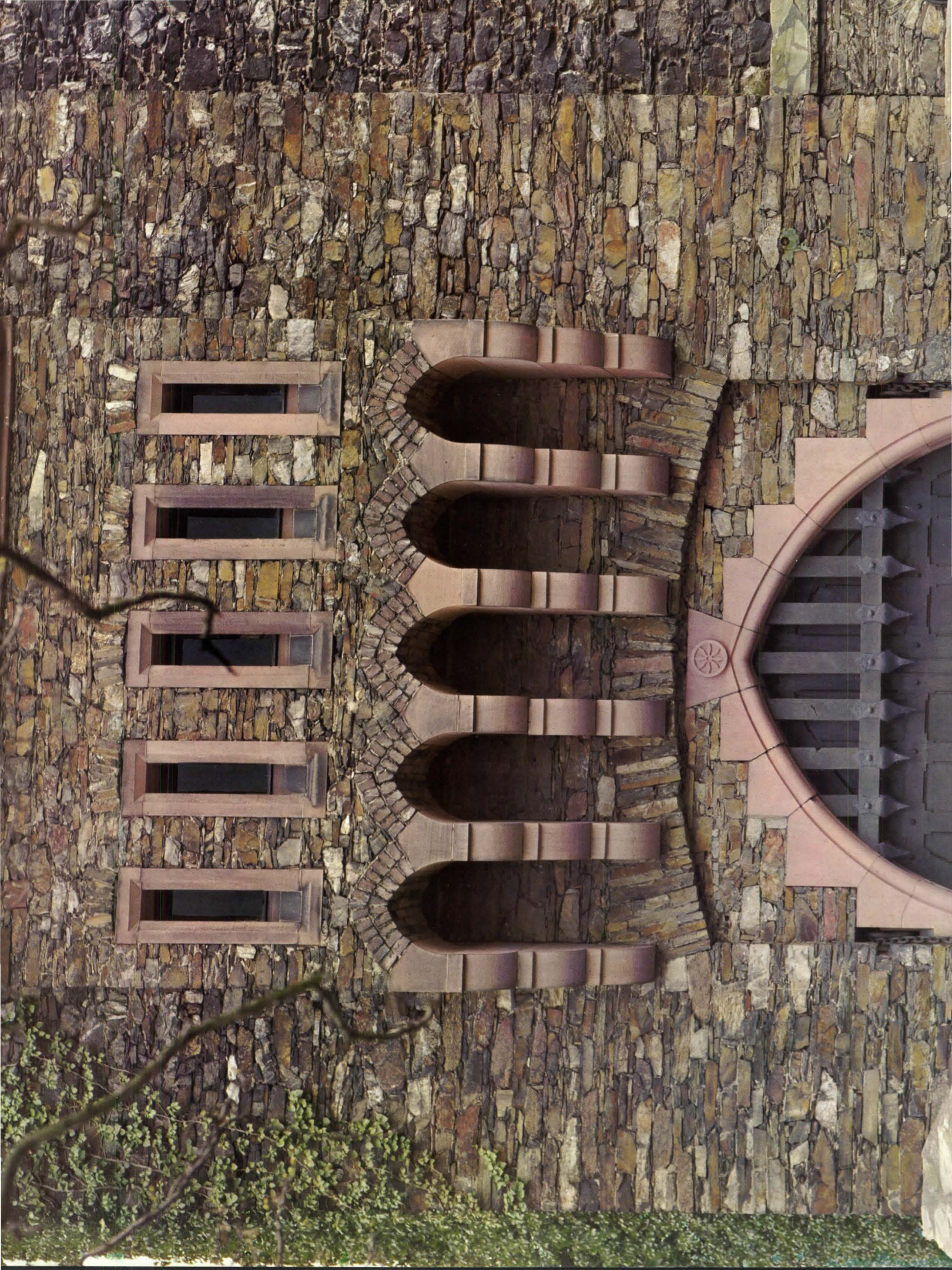
Nearly every bit of praise, in other words, is coupled with reservations of one kind or another. It would be far more pleasant to say only nice things about everything we publish, but it would also be somewhat less of a service at this moment in history.

The messages contained in the stories listed above are that architecture cannot, of and by itself, solve all of the problems of an urban society; that architecture can sometimes worsen them, if insufficient attention is given to the needs of the people who make up this society; and that, in any case, architecture is dependent for execution on a complex of political and economic decisions over which it has little control.

These messages are not only faithful to the realities of the situations they cover, they are also of some importance to architects concerned with maintaining their profession's relevance to a nation of cities. "We are born with a sense of what to do," says Louis Kahn, "but a sense of how to do it we are not born with."

* * *

Kahn says this in an excerpt from the new book *Architects on Architecture*, by Paul Heyer, in one of two articles we take this month from between hard covers. The second is a gallery on "Washington's Forgotten Monuments," from a handsome new volume by William Walton, with photographs by Evelyn Hofer. Because of these two articles, there is no book section; next month we will return from samples to reviews. L.W.M.





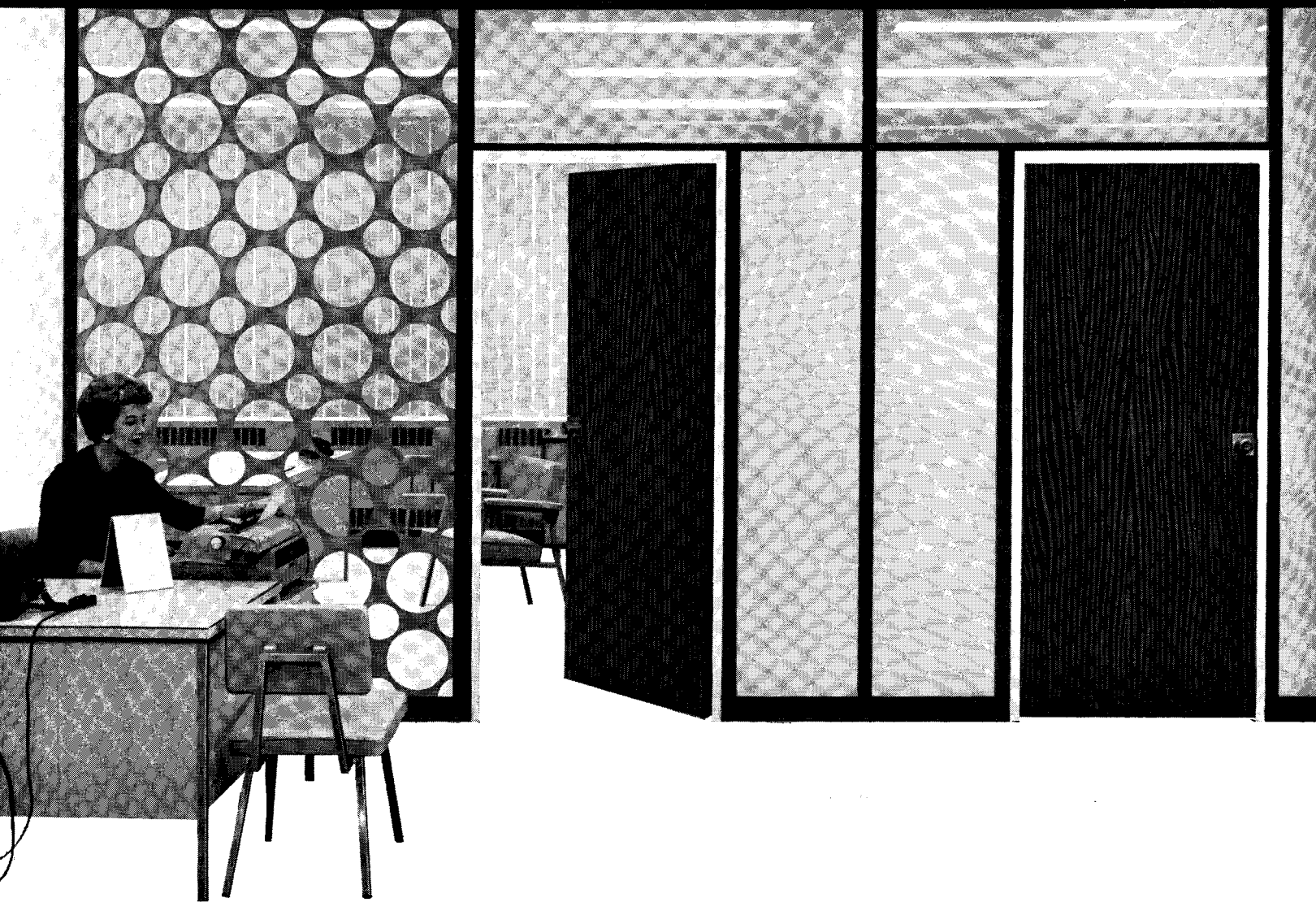
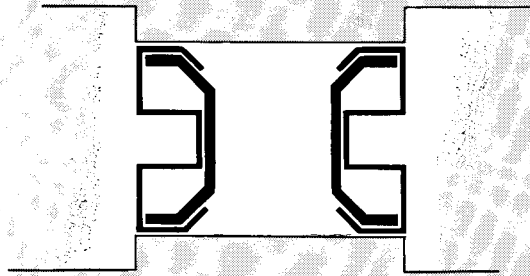
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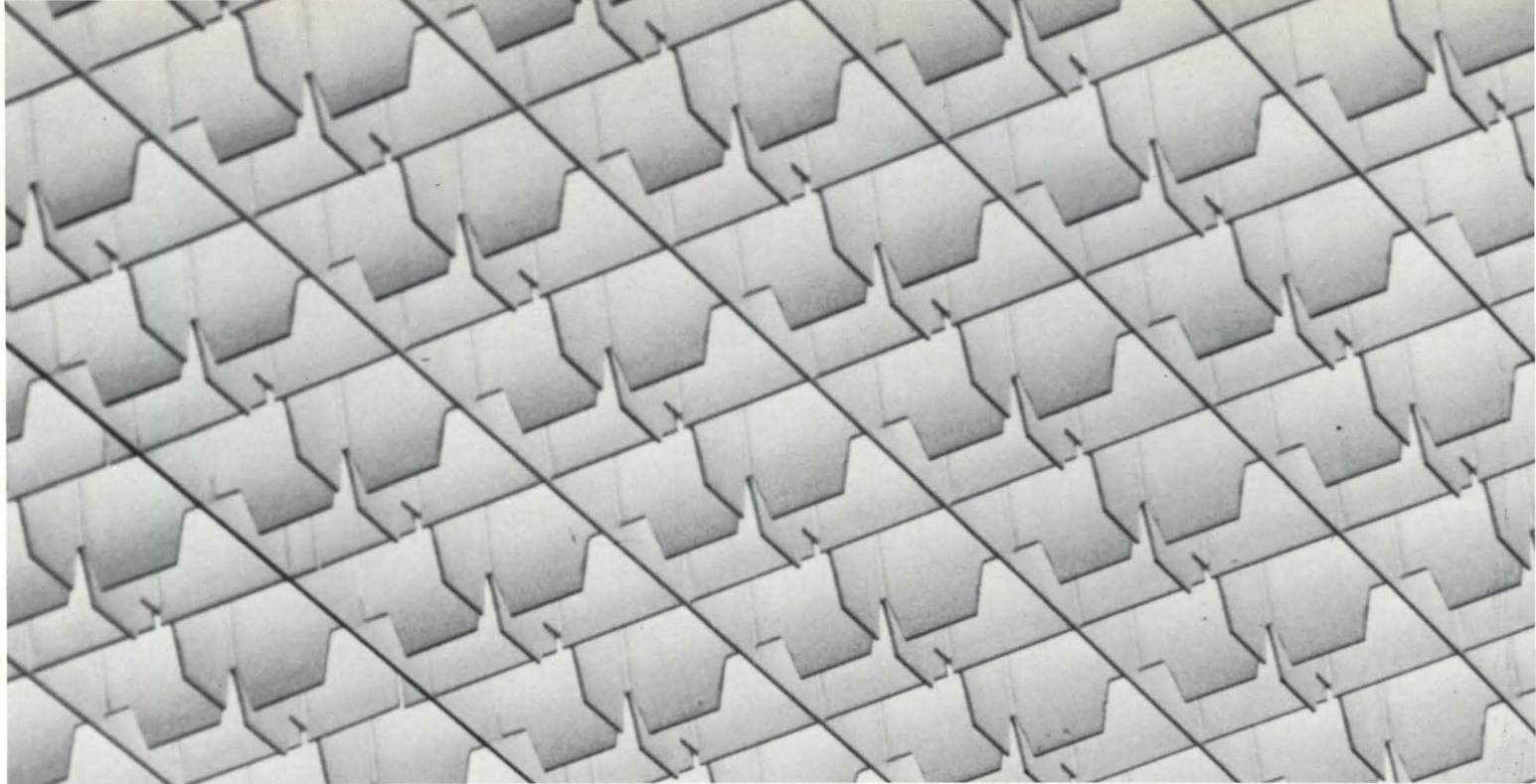
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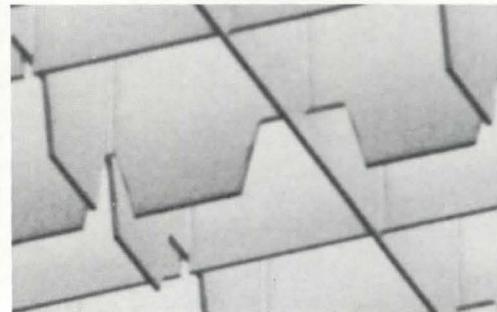
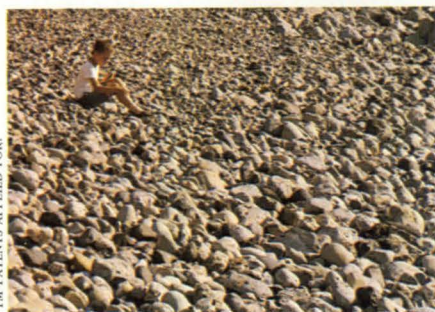
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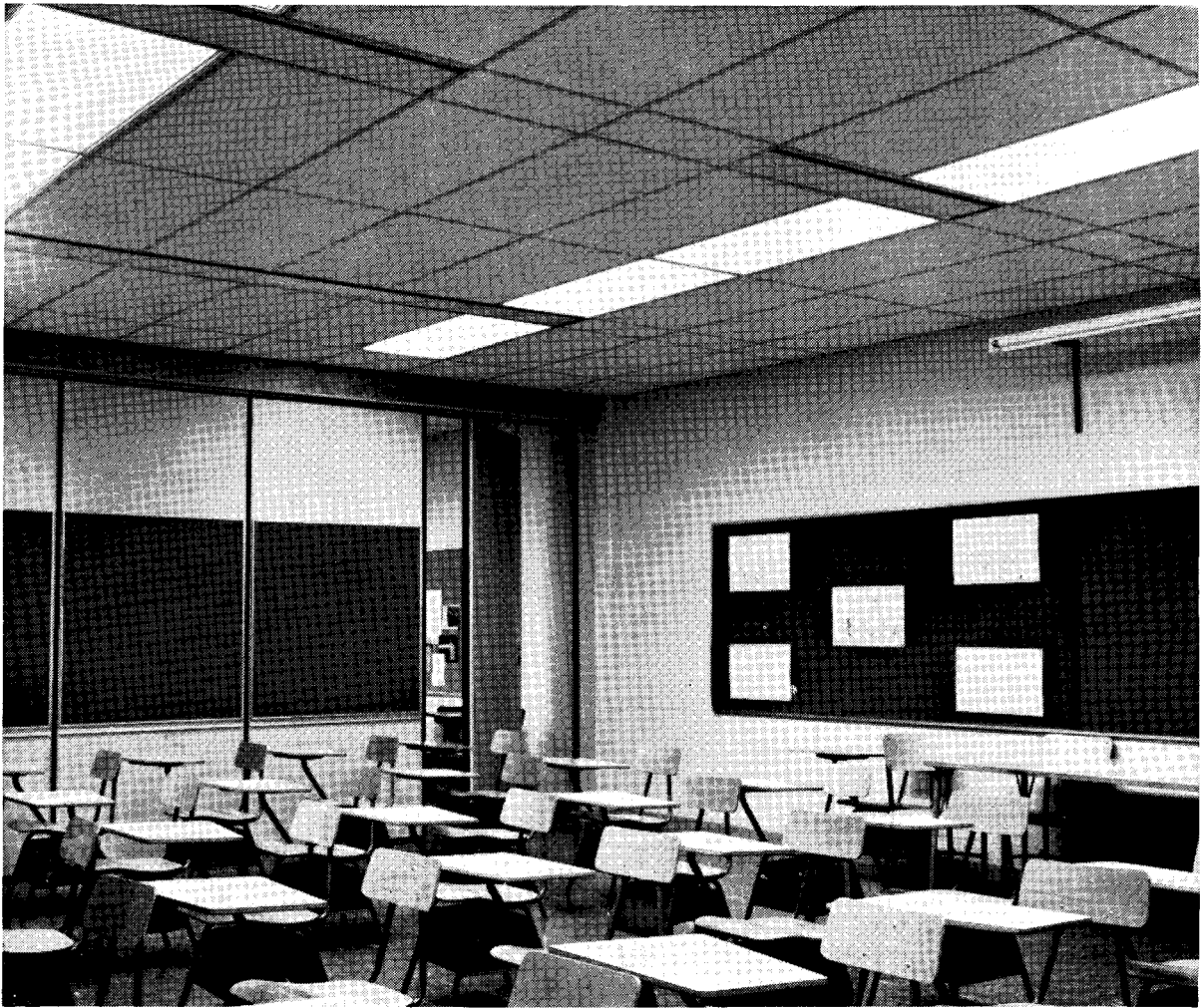
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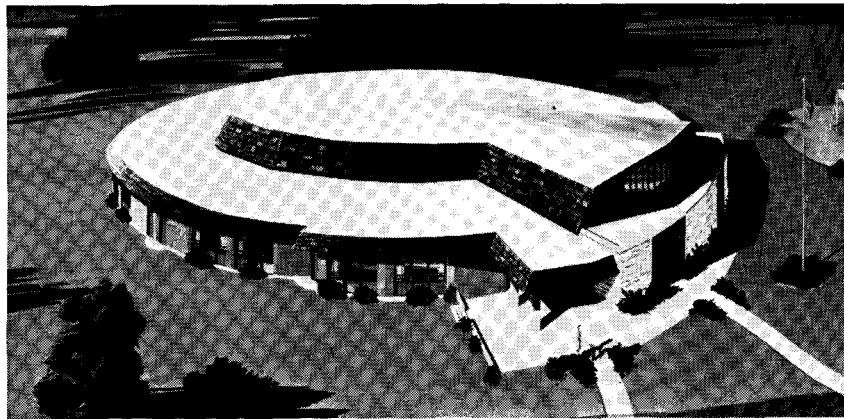
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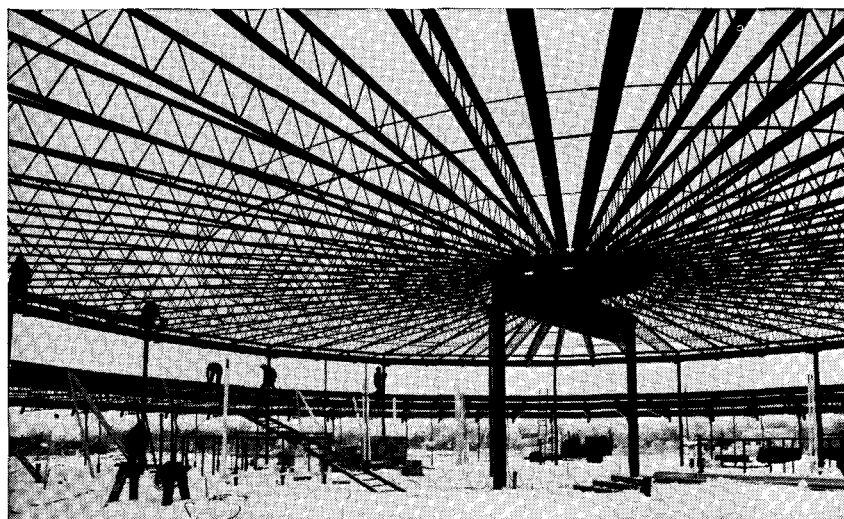


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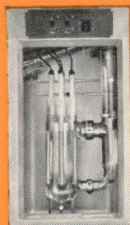
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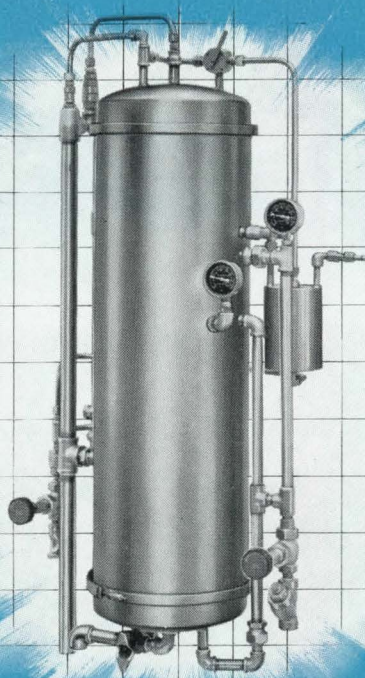
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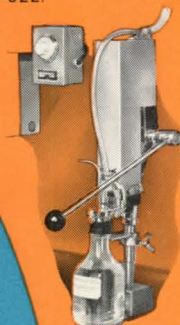
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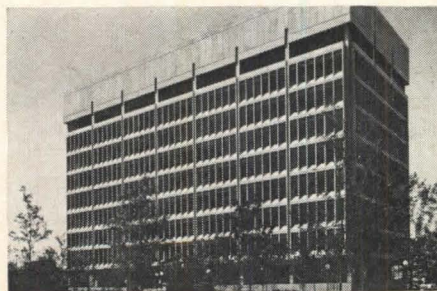
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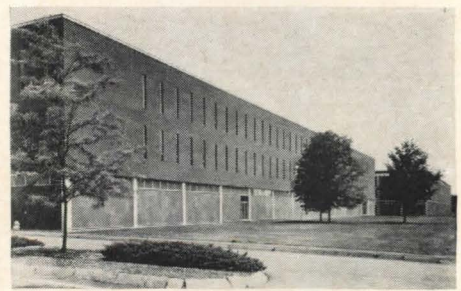
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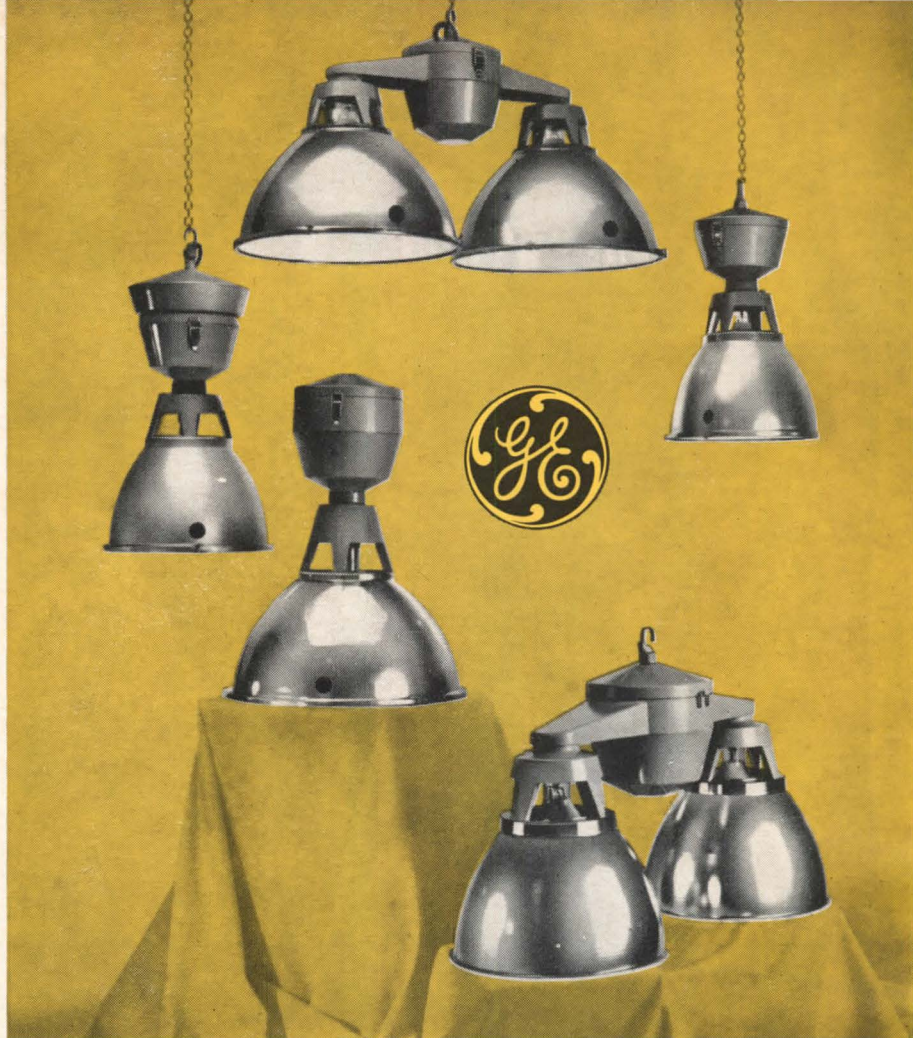


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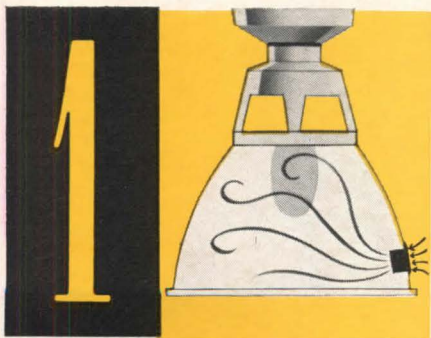


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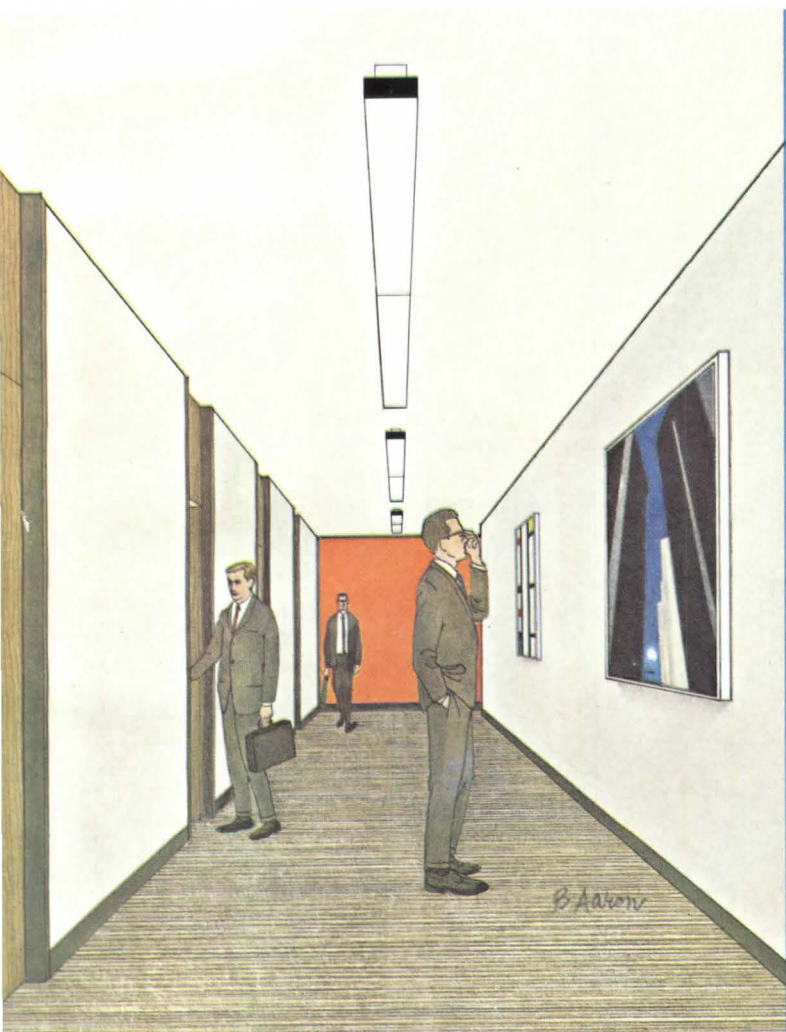
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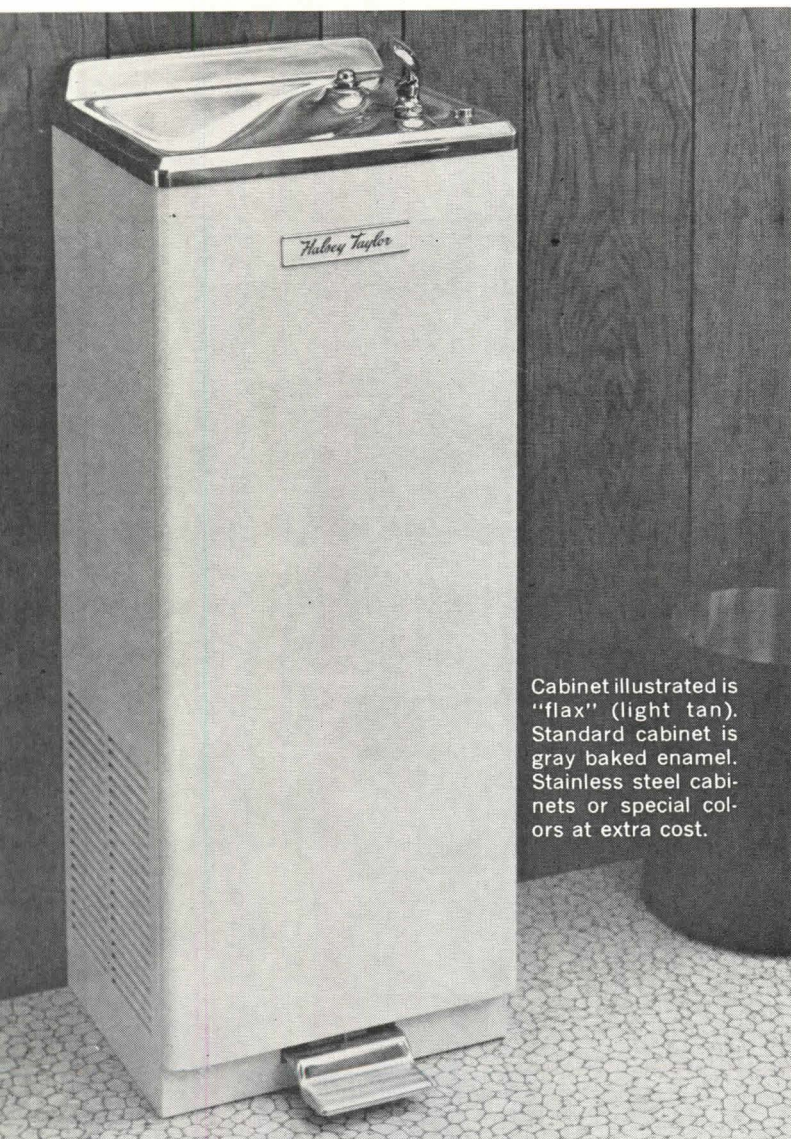
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LETTERS

CAPITOL CHANGES

Forum: I want to take you to task about the article on the Capitol in the July-August issue.

Alfred Poor and his partner Albert Swanke and my late partner Fred Hardison and I were employed in 1956 as architects for the entire Capitol project after considerable investigation on George Stewart's part. Mr. Poor and I are Fellows, in Design, of the American Institute of Architects and we received our training in Architecture in those "dear dead days" when classical architecture was taught—a good thing too, for before the East Front plans were finished we were teaching it ourselves, to draftsmen and sculptors alike.

Neither of us has ever worked "behind closed doors."

A couple of years ago the AIA called for the employment of an independent firm of engineers to examine the West Front and to report on its condition. This was done. . . .

An exhaustive study was made by the engineers and their report was submitted in the spring of 1965. A public hearing was advertised and held in the Capitol on June 24, 1965. The head of the firm of engineers was present and testified. In spite of the advance publicity given to the hearing and of the provisions made for seating the multitude of those in opposition, no one came except members of the commission, the engineers, members of the architect's staff and the writer. The AIA did not appear but subsequently reaffirmed its age old opposition. This opposition was restated in a resolution which was tabled by an overwhelming vote at the Denver convention. But, as your article stated, the "leaders decided . . . to act as though the tabling action never had occurred." So much for our democratic process!

After these words about the Capitol you went into the matter of the James Madison Building of the Library of Congress, stating that Mr. Stewart worked "in a similar aura of secrecy." To work in secrecy on Capitol Hill is something only the Joint Committee on Atomic Energy has succeeded in doing! All kinds of public hearings were held on the library projects, and in one of them a

committee member asked that the AIA be consulted on the *type* of building to be constructed. When the law was written it stated that the building should be designed after consultation with the AIA, and that is what Mr. Stewart is insisting that we do. . . .

Far from resenting the AIA participation, we are happy to have it and be saved, thereby, from the rather unwarranted amount of abuse which has been heaped on the Rayburn Building. . . .

Everybody seems to enjoy pot shooting at George Stewart. It is unfortunate that his title is Architect of the Capitol instead of Director of Congressional Buildings. As such he has done an excellent job. When he has needed an architect he has employed a Fellow of the AIA. When he has needed an engineer he has employed one of renown. He has endeavored, with some success, to surround the Federal buildings on Capitol Hill with a green belt to insulate them from commercial development. He has endeavored to keep the way clear for a magnificent development of East Capitol Street. All in all he has had vision in his planning, something no recent predecessor had. So far he has had no kind word.

Dallas

ROSCOE DeWITT
Architect

MONTREAL

Forum: I am writing to tell you how impressed I was with the tenor and the tempo of the story, "Downtown in 3-D" [October]. In such a surprisingly short time, you turned out a truly impressive job. I know it is not easy to condense into 19 pages ten years of intricate maneuvers by politicians, developers, and professionals. But you did it. I have been getting favorable comments from many quarters here. . . .

Montreal

VINCENT PONTE
Planner

OMISSION

Forum: Regarding the credit line on the Kreeger Residence in Washington [October]: It should read, Philip Johnson and Richard Foster, Architects.

New York

JOAN VELLA
Secretary to Mr. Foster

The Forum sincerely regrets the omission of proper credit to Mr. Foster.—ED.



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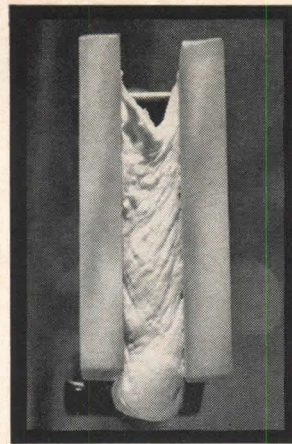
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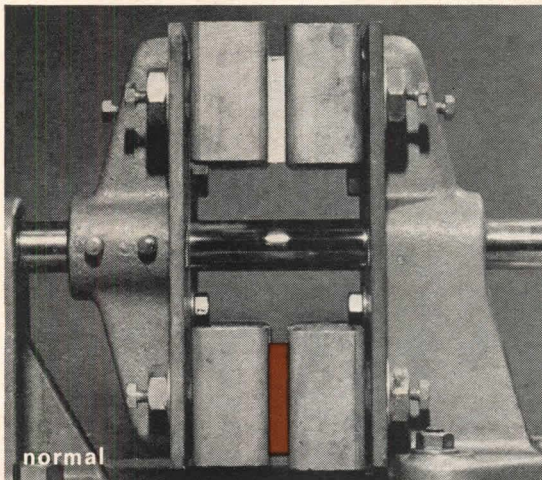
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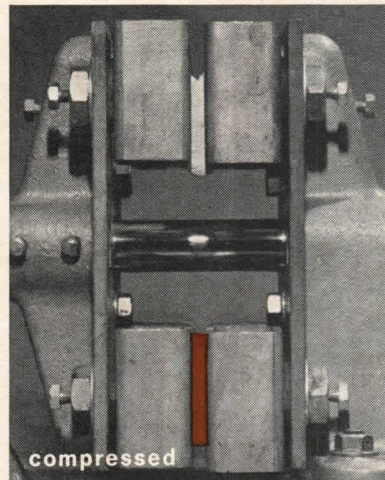
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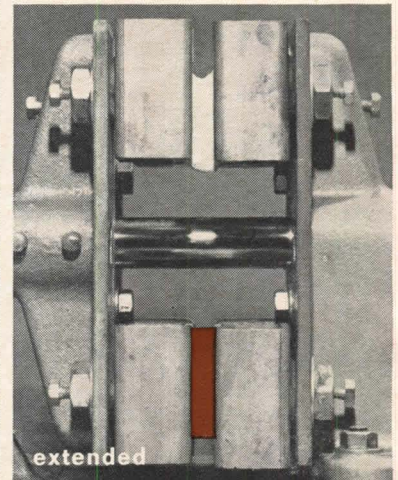
Acrylic sealant after 30 cycles in Joint Movement Simulator. Pumped out of place.



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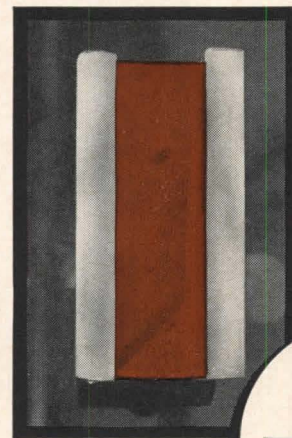
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FORUM

Several months ago, the delightfully astringent Astragal, anonymous columnist of *The Architects' Journal*, recounted a rumor that Lever House was about to become the world's youngest architectural monument to suffer intentional destruction. The story, as Astragal heard it, was that Lever Brothers needed more space in which to sell soap, and had decided to tear down the old (1952) and build anew.

At the time, the rumor was scrupulously checked by the FORUM



and stoutly denied by Lever. The architects of SOM-New York said that they had never heard a word about it.

Last month, the rumor came alive again. It was reliably reported that at least one New York architect had been approached to study the possibility of a new building on the site (he turned it down, not wanting the blood on his hands).

Could handsome Lever really turn out to be as impermanent as it first seemed to startled New Yorkers?

INFIGHTING

ARCHITECTS VS. PLANNERS

The New Jersey supreme court is expected to decide this month whether there is such a legal entity as a city planner as distinguished from, say, an architect or engineer.

At issue is the first state registration law for planners. At the time of the law's passage, the

AIP in New Jersey won support of the state AIA and engineering groups by agreeing that architects, engineers, and land surveyors would be automatically eligible for planners' licenses.

After the legislature had acted, the AIP took its own law to superior court to seek removal of this reciprocity, and restrict use of the title "planner" to those trained in planning. The city planning profession, the AIP argued, required knowledge of such matters as statistics, economic analysis, population forecasting, land use classification, and transportation, which were not part of the other disciplines' normal training.

Last spring, Judge Frank J. Kingfield ruled for AIP. Architects, engineers, and land surveyors could perform some "subsidiary" planning functions, he said, just so they did not call themselves planners, and were not "in responsible charge" of preparing comprehensive master plans.

The New Jersey AIA, which had never liked the law much in the first place, joined engineering groups in launching the supreme court appeal, with the financial backing of the Octagon. James Swackhamer, president of the state AIA, pointed out that under the Kingfield ruling, the only way architects could call themselves planners would be to go back to graduate school. The definition of planning in the law, he said, remains impossibly vague; the judge's attempt to tie it to preparation of master plans is mere opinion rather than binding precedent, since he was not asked to rule on this provision.

As passed, in fact, the law defined the planners' province to include "master plans, or parts thereof," which could be interpreted to include every last design drawing for every project covered by the plans. Such an interpretation, given the status of legal precedent, would go far toward excluding the architect from urban design.

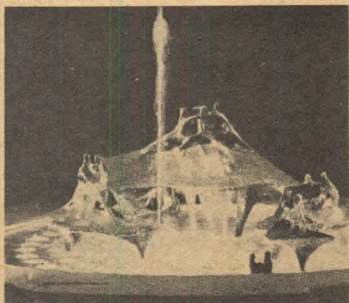
ARCHITECTS VS. CONTRACTORS

Organized architects and organized contractors have finally split over an issue that has been irritating both groups more and more in recent years. On Oct. 15 the AIA published its revised version of Document A201, "General Conditions of the Contract for Construction," without the endorsement of AGC (Associated General Contractors), which had concurred on previous editions.

the unkind words of Richard C. Bond, a member of the mayor's stadium advisory committee. Or perhaps Philadelphia simply prefers to put first things first: the Market East plan (page 34) would require about the same city investment as the stadium.

SOMETHING'S MISSING

Philadelphia's long-awaited plaza on the Benjamin Franklin Parkway is at last underway—but minus its key element, Stonorov & Haws's competition-winning sculptural fountain (below).



When asked why, the Fairmount Park Art Association, sponsor of the 1964 competition, said it just couldn't afford the estimated \$500,000 for the sculpture. Instead, it has retained Vincent Kling & Associates to work up a small sculptureless fountain to be hooked up to pipes already in place.

But it was reported that money was not the real problem: The Association just doesn't like the design and would rather see its \$12,500 prize money go down the drain than build it.

AUTOPIA

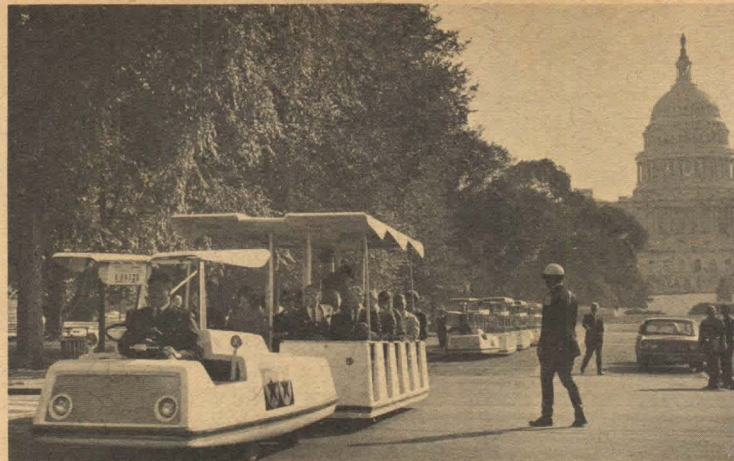
MODAL SPLIT

The following report is from the FORUM's London Correspondent, Benita Jones.

The contribution of U. S. speakers at the International Road Federation's fifth world meeting, which attracted 3,000 delegates to London in late September, was to emphasize that roads alone cannot do the urban transportation job, not even in this most motorized of countries.

The Federation's "Man of the Year" award went to U. S. Highway Administrator Rex Whitton, whose job is building roads, period.

The theme of modal integration was introduced by John Duba, commissioner of Chicago's department of development and planning. "As the struggle to undo the transportation tangle has progressed through the years, we have



concluded that major limited access highways are not the *open sesame* we once hoped," Duba said. "A workable system must be developed around a strong mass transit plan, a strong expressway plan, and a strong street plan."

Colin Buchanan, of all people, tended to disagree. Said he, the author of *Traffic in Towns* and professor of transport at London University, "It is very tempting to adopt as a basic course of action the notion that one should seek to devise the most efficient and economical system of movement possible, invoking all suitable methods of transport. I pursued this line of thought myself for some years; I eventually abandoned it."

The change of heart, he said, was caused by a realization that "there was bound to be a measure of irrationality about urban transport in any case . . . [arising] largely from the motor vehicle, whose sheer convenience prompts a measure of irrational use which a wealthy community both demands and is able to afford." Buchanan did advocate the use of other modes "for special purposes," and warned against overlooking "the anti-environmental effects of traffic."

The latter were dramatically warned against by British Minister of Transport Barbara Castle, who does not happen to drive a car. "Let there be no mistake," she said, "the motor vehicle can destroy good environment as effectively as it can benefit communications." A few weeks after the meeting, Mrs. Castle announced plans to charge use fees for cars entering congested parts of London.

HIGHWAYS AND HORSES

Efforts to keep Washington, D. C., moving broadened last month to cover nearly every available mode of transportation:

1. Freeways: Two of the citizen members of the National Capital

Planning Commission, Architect Paul Thiry and Walter Loucheim, reversed themselves and voted in favor of a major segment of the North Central Freeway. Their action broke the deadlock between NCPC commissioners representing the public and those representing public agencies: The former had been unanimously anti and the latter unanimously pro freeways.

2. Subways: The NCPC switch cleared the way for planning to proceed on Washington's rapid transit system, whose fate had been tied to freeway progress by Congress. In gratitude, Congress approved creation of the Washington Metropolitan Area Transit Commission to build the system, for which Harry Weese is architect.

3. Mini-trains: Seven of these were acquired from the New York World's Fair by the National Capital Park Service, which is giving them a six-week trial carrying tourists on a 10-cent, 6.5-mile shuttle of the sights around the Mall. If the trial goes well, as now seems certain, the mini-trains (above) will begin regular service next summer.

4. Horsecars (yes, Horsecars): A real estate agent named George Y. Worthington III formed a corporation to operate an 18-passenger horsedrawn bus like those of the 1890's in Georgetown, a precinct of the city in which the aroma of nostalgia is already suffocating.

TRANSIT

EMBATTLED BART

It was another bad month for the Bay Area Rapid Transit system. Following the resignation of BART's consulting architect and landscape architect (Oct. issue), the press and public officials heaped vitriol on it; the citizens of Berkeley voted to bury it; and San

Continued on page 79

Goldberg's variation on Chicago public housing



"I like to see a man proud of the place in which he lives. I like to see a man live so that the place be proud of him". These words hang framed in the lobby of the Chicago Housing Authority's headquarters, but most of CHA's projects to date have failed to stimulate the kind of pride that Lincoln had in mind.

This fall, however, several hundred families are moving into Raymond M. Hilliard Center, a new and different—very different—project about one mile south of Chicago's Loop (photo right). Hilliard's energetic young manager, C. L. Dupree, calls it "an honest attempt to give the tenants something to be proud of."

Whatever faults it may have in common with the vast bulk of Chicago's public housing, at least it is not dull. Bertrand Goldberg, whose Marina City towers are Chicago's symbolic link with the space age, has seen to that.

Unfortunately, Hilliard does share with other CHA projects most of the faults decried by civil rights and planning groups. It is large in scale, high in density, and it adds yet another link to a chain of projects extending four miles along South State Street and containing over 95 per cent of the city's 32,000 public housing units, almost all of them Negro-occupied.

CHA's choice of the Hilliard site, at the northern tip of this poverty row, brought protests from the Metropolitan Housing and Planning Council, the Urban League, and the NAACP. CHA responded that efforts to locate public housing outside ghettos were thwarted by land costs and neighborhood fears of "invasion". Besides, CHA pointed out, it had

the secondary mission of slum-clearance, and the Hilliard site (directly across Cermak Road from headquarters) was one of the city's worst concentrations of junkyards and shabby bars.

After losing the location fight, the protesters turned their attack to Goldberg's scheme for putting all of its family units in 22-story buildings (even though the Housing and Planning Council, for one, acknowledged the esthetic superiority of his design.)

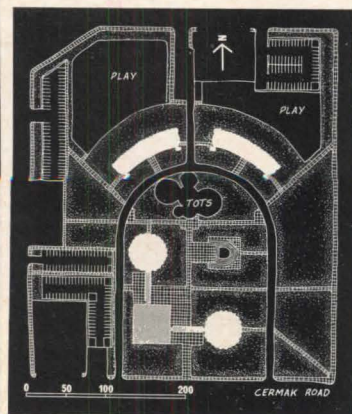
CHA contended that site and demolition costs made it impossible to build low buildings within Federal economic limitations. Goldberg even questioned the desirability of small-scaled buildings. He pointed out that low-rise buildings on this site would rule out planned recreation spaces, leaving barely room for required parking, and force some low units to abut the busy streets and railroad tracks.

After some wavering, when housing officials in Washington threw their weight on the side of a low-rise solution, CHA decided to stand behind Goldberg in an effort to show that a high-rise environment need not be a hostile one for the urban poor.

In the end, the one outstanding asset of high-rise housing, the open space it frees at ground level, was all but dissipated at Hilliard. There is a conventionally equipped tot-lot ("an anachronism," Goldberg calls it), easily watched by mothers from surrounding galleries; terraces with benches and trees for the elderly, and a pleasant little classical amphitheater. But most of the site is asphalted and fenced playground or just plain grass (much of it on space reserved for future parking).

The saving quality of the open space at Hilliard is the way it is defined by the four major buildings. Their placement (severely limited by underground utilities criss-crossing the site along former street lines) does not enclose the space conventionally, but stakes it out in a way that generates outward tension. The gaps in this enclosure may disappoint some architects, but give a welcome feeling of a spatial freedom to those who live there.

The curving forms show no scars of the clashes behind them



Bertrand Goldberg's buildings at Hilliard Center (foreground, right) show an unmistakable kinship to his twin Marina City towers (discernible at top of photo). Hilliard contains 364 units for the elderly in two cylindrical towers, 346 family units in the arc-shaped buildings behind them. A square one-story community building (a branch of the Hull House Association), linking the towers, also serves the elderly of nearby projects.





The division of living units at Hilliard into two distinct types is apparent at first sight (right). About half are one-bedroom units for the elderly that lent themselves to compact round towers similar in form to those at Marina City—the differences indicating the economic gulf between them.

The other half of the apartments at Hilliard are for families with children (almost nonexistent at Marina City). Their need for larger wedges of space, with proportionally more exterior exposure, produced the arc shape of the family buildings.

Goldberg is keenly concerned about the relationship between architectural spaces and structural forms—an attitude that dates back to his Bauhaus training under Mies, however far he may have departed from Miesian forms. He learned a lot about this relationship in the design of Marina City, where jarring discrepancies developed between the disciplined petal-form structural system and the living spaces it had to contain (Apr. '65 issue, page 73). In designing Hilliard, he started with the required spaces, plotting likely arrangements of conventional furniture, then literally wrapped the structure—a concrete bearing-wall system—around them.

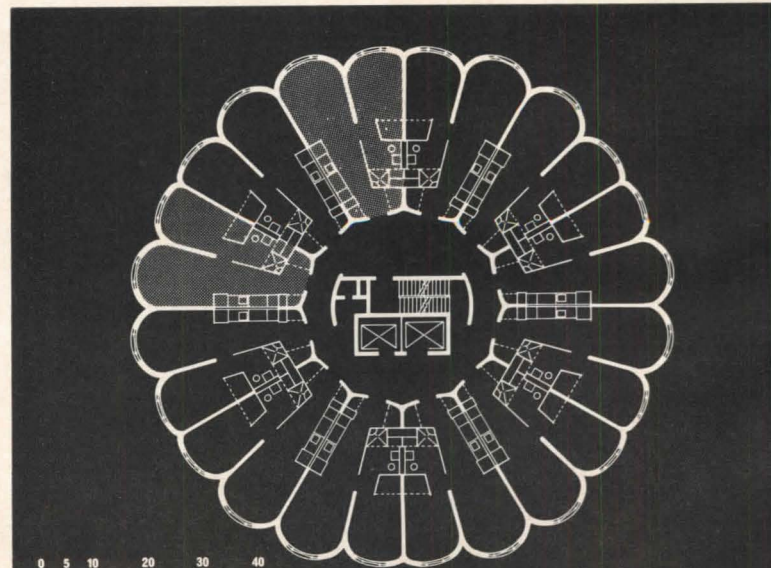
To take maximum advantage of relatively thin structural membranes that curl around these spaces, whose area was fixed by Federal regulations, Goldberg came up with the cornerless room as the basic unit of his floor plans. This shape not only lets the wall function economically as a structural tube, but yields greater overall dimensions (hence greater clearance for furniture) than rectangular rooms of equal area. His 121 sq. ft. bedroom, for instance, has an average width of 9 ft. and an over-all length of 15 ft. 8 in.

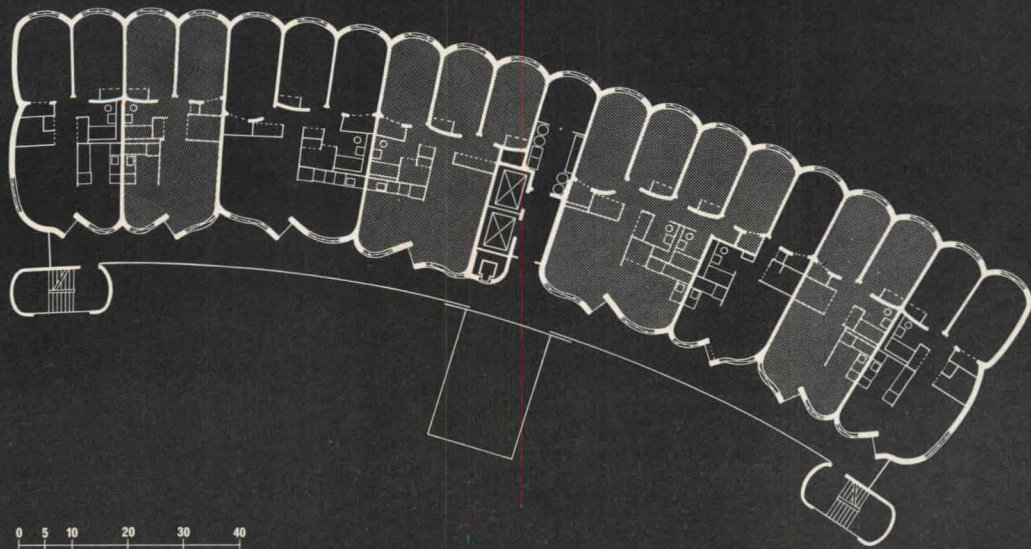
After enclosing the bedrooms of the family units within concrete walls, Goldberg divided up the living and service space with freer arrangements of straight nonbearing partitions. His layouts show the nonconformity possible within Federal standards, says Goldberg, "if you're not tied to a structural module."

Two sets of internal needs shaped the two pairs of buildings



The 16-story towers for the elderly (left in photo) have 12 units per floor, identical except for reflected plans, clustered around a central core with two elevators and a small lounge area. Special features for the elderly include waist-high ovens, wheel chair clearances, showers with seats and upper and lower nozzles. The 22-story family buildings (facing page) have only eight units per floor, no two quite alike. Among their unconventional features are their storage facilities: some bedrooms have wall-hung metal wardrobes; all shelving is of the coated-metal grille type; many of the required "store rooms" can double as sewing or study alcoves—or even as bars.





The family living units meet the open access galleries in a series of undulating wall segments that define areas of use on the interior and create doorway recesses and play alcoves along the gallery. The concrete walls themselves, throughout the project, have been *slip-formed*, with carefully fitted masonry panels on inside surfaces and vertical board forms on the outside.

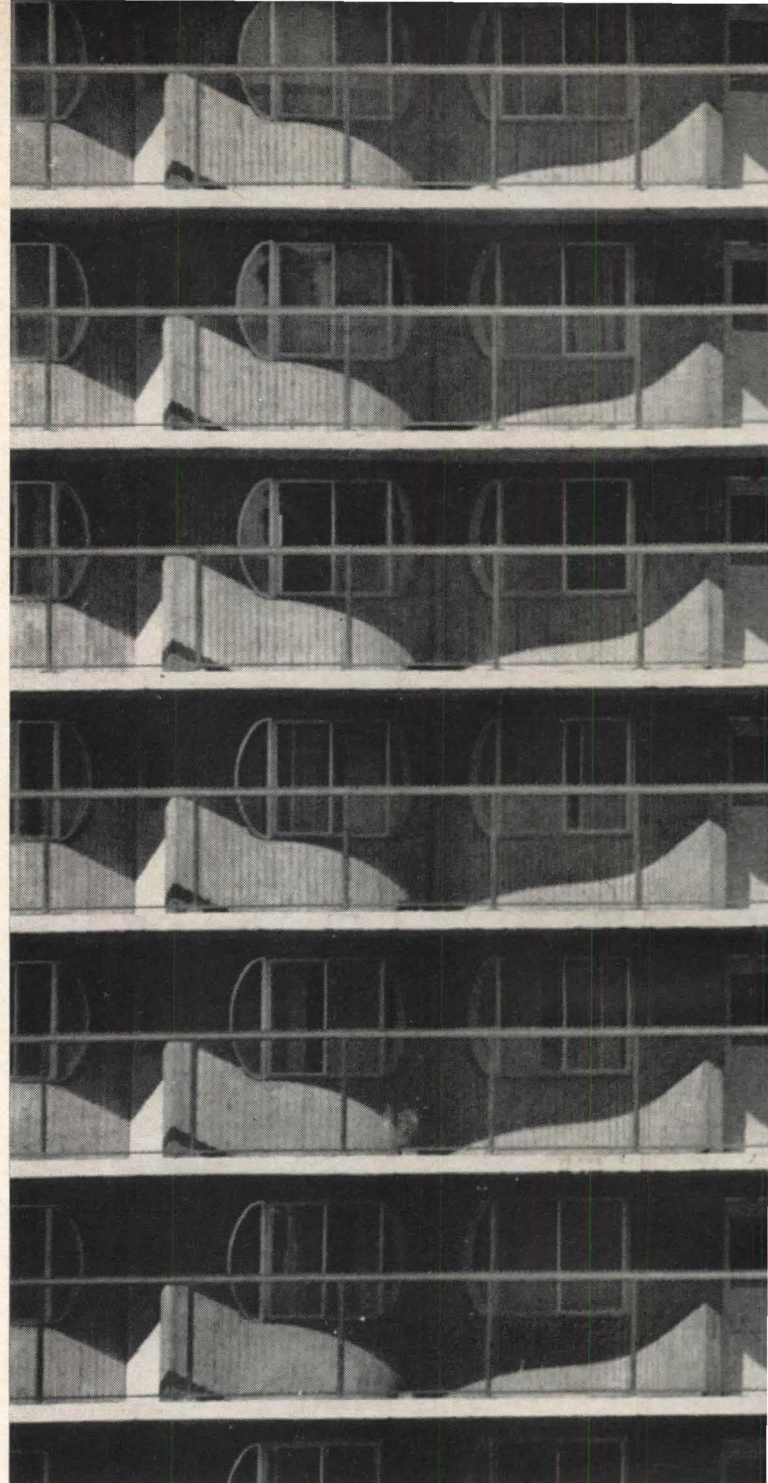
The windows piercing these concrete walls (all apartment windows in the project) have been curved to ease the flow of forces in the continuous structural membrane. As in the walls of planes or ships, the curvature is partly a technical advantage, partly symbolic; and, as in most planes or ships, it departs from the ideal ellipse or circle for practical reasons.

The inherent conflict between curved openings and necessarily inexpensive, operable metal windows has been resolved through a surprisingly deft compromise—especially considering that the windows must follow the convex, or even serpentine, lines of the walls. Conventional rectangular sliding sash is flanked in every case by fixed half-ovals angled this way or that to approximate the plan of the wall. (The resulting window even passes the most critical housekeeping test: it can be washed easily from inside.)

The detailing of interior walls and ceilings shows the same sure feeling for concrete structural technique as the board-formed exterior surfaces. The joint between the slip-formed walls and the floor slabs, a common source of flaws, was controlled by adding half of a rubber water-stop to the plywood floor form to assure a perfect fit.

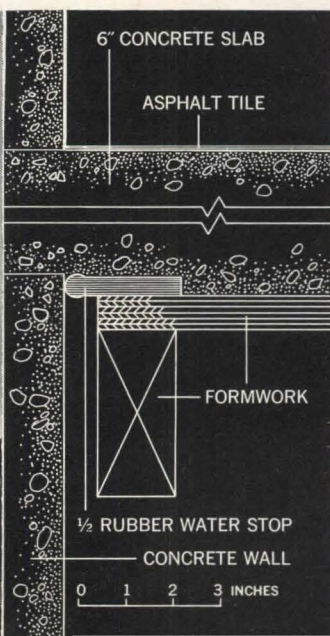
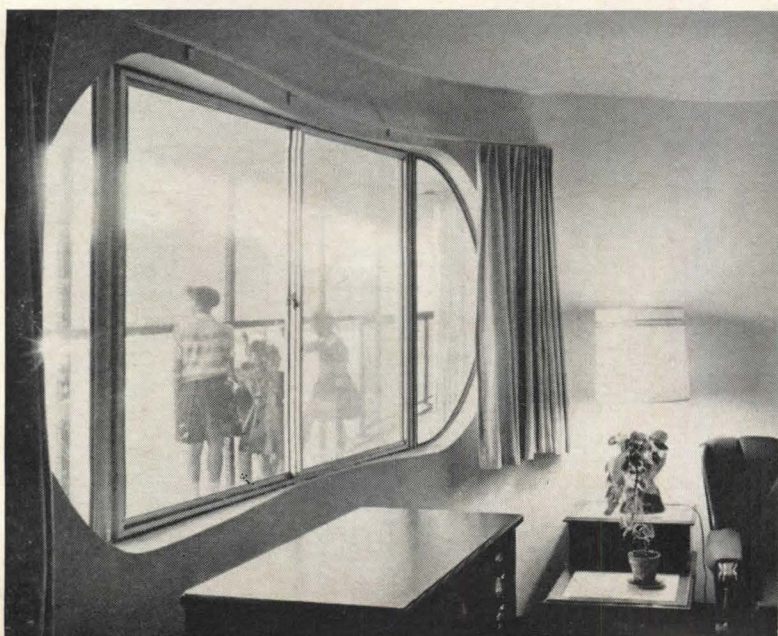
The visible result is a recess $2\frac{1}{2}$ inches wide and $\frac{1}{2}$ inch deep, a shadow line that accentuates the curves of the walls and neatly separates the two surfaces for painting purposes. The architects have taken advantage of this by painting all apartment ceilings cheerful but unobtrusive colors—muted gold, pale orange—that add visual interest without clashing with the tenants' furnishings, which are seen against uniformly off-white walls.

The undulating walls give a sense of motion even in their details



Living spaces of the family units look out on open access galleries whose 150-foot-long sweep is broken along the inner side by curving segments of concrete wall. (Epoxy coating on these walls makes them look darker than other concrete surfaces.) A four-foot-high screen at the gallery is raised to full height above entrance areas to protect them from falling objects. From the interior (middle right), windows look out across the gallery at various angles. Details of fitting aluminum window frames into curved openings could not be worked out as smoothly as the leak-proof forming detail between wall and exposed concrete ceiling (drawing and photo far right).





In an effort to make Hilliard a social as well as visual show-place, CHA has invited tenants from older projects—selected for their behavior, housekeeping, and community participation—to move there. So far, 140 of them have decided to make the move. Hilliard's newness and convenient transportation have surely influenced their choice, but nearly all of them have spoken enthusiastically of its design.

CHA has also tried to break the pattern of racial segregation. Eligible white families from all over Chicago have been asked to consider Hilliard. (Current CHA policy allows for their location preferences.) So far, none of them has taken an apartment; the reason most often mentioned was fear that their children would be part of a harassed minority. White elderly, not faced with that problem, have found Hilliard more attractive; of 145 elderly units leased by early October, 35 were white-occupied.

It is too early to tell how Hilliard will affect the lives of its residents, but successful or not it may be CHA's last high-rise family housing. Last summer, in response to demands of civil rights groups, CHA Chairman Charles Swibel agreed that new projects would be built outside existing concentrations and include no high-rise *family* units.

These agreements, of course, will further bind up a building problem strangled in government regulations, land economics, and political pressures. CHA officials say the new limitations will make it hard for them to build any family housing at all, unless some other restraints are relaxed.

Goldberg, for his part, feels that the height restrictions are unfortunate intrusions of social protest into architectural problems; that they strike at the *symptom* of building size, not the disease of environmental inadequacy. His Hilliard Center is an attempt to cure the disease, within all the limits on public housing. As such, it could be only a limited success, whatever its spatial qualities, in providing a proud environment for the urban poor. —JOHN MORRIS DIXON

Can architecture alone bring pride to public housing dwellers?

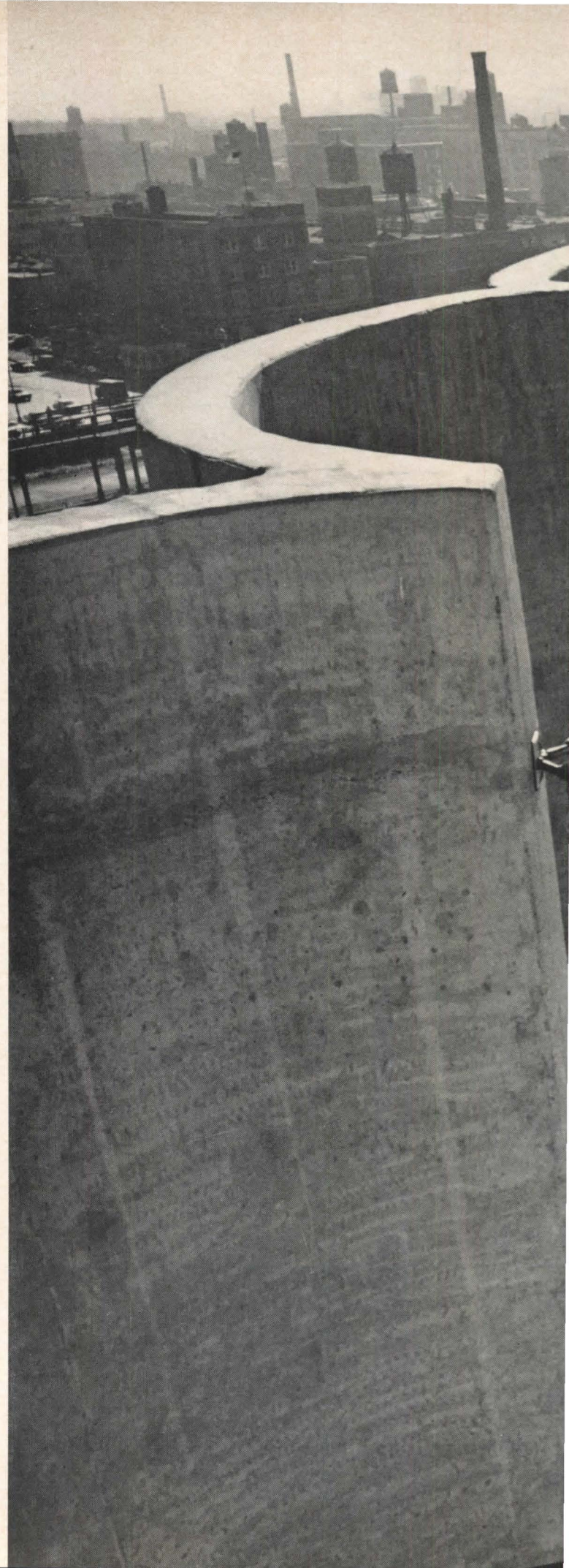
At the tops of the circular towers, secluded sun-decks for the elderly have been carved out behind the typical exterior walls. Sheltered from Chicago's notorious winds, the decks offer views through the familiar curved openings over miles of city and lake. Indoor recreation spaces on the same level are separated from the decks by glass walls (far right in photo).

FACTS AND FIGURES

Raymond Hilliard Center, Chicago, Ill. Owner: Chicago Housing Authority. Architects and Engineers: Bertrand Goldberg Associates. Consultant engineers: George Joerger & Associates (heating), Joseph P. Bazzoni Associates (boiler house). Landscape architect: Alfred Caldwell. General Contractor: Paschen Contractors Inc.

Apartment units: 346 (family), 364 (elderly). Site area: 12.5 acres. Units per acre: 56.8. Building area (including community building): 651,534 sq. ft. Building cost (excluding fees, financing, draperies, and appliances): \$7,926,134.

PHOTOGRAPHS: Orlando Cabanban, except page 26, Airpix.





PHILADELPHIA'S GIANT SHOPPING MACHINE

The section on the opposite page is only the beginning of what could be the world's most advanced single urban construction. Unfold it, and there is revealed a layered organism in which are combined most building uses of a downtown core, and virtually all known modes of ground transportation, notably including the human foot.

This is no student megastructure or futuristic archigram, but a hard-headed scheme for achieving certain specific goals in Philadelphia's main shopping district, studied and restudied by Edmund Bacon's experienced planning commission for more than a decade, then subjected to a year of intensive design by the San Francisco office of SOM. It is called Market Street East (the western portion of Market, on the other side of City Hall, being the boundary of Penn Center).

Stated simply, the goals which Market East is meant to serve are (1) to reverse the decline in downtown retail activities which Philadelphia has experienced in company with most other major cities; and (2) to tie together the ends of Philadelphia's transportation system, which begins regionally in fine radial fashion, but terminates with the strands scattered through the special precincts of the core.

The project area given SOM extended over 113 Philadelphia acres, from Arch Street north of Market to Walnut south; from City Hall to within a block of Independence Mall. But, for reasons subsequently explained, the major design effort centered immediately north of Market on

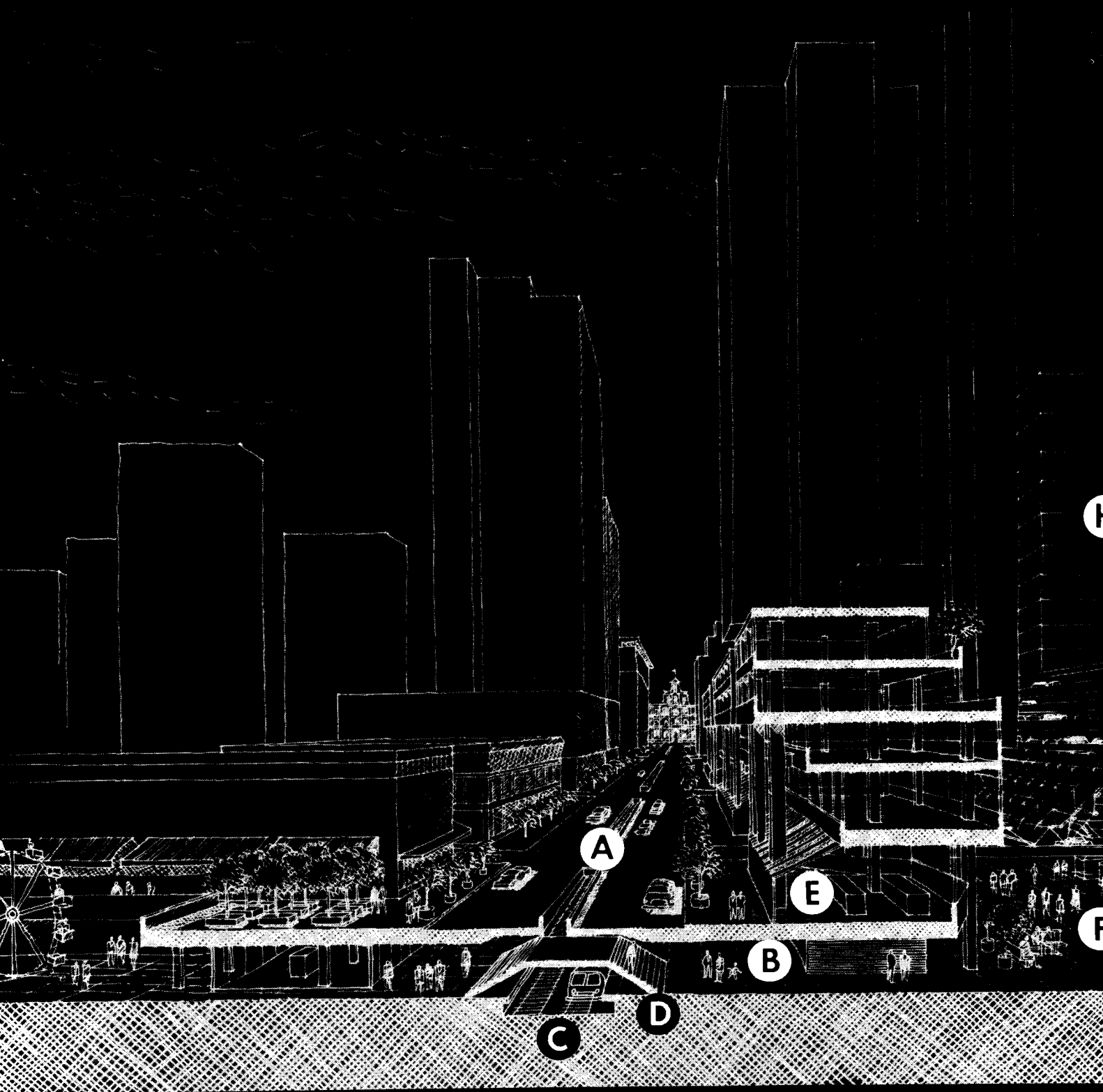
the 2,300-foot spine shown here in section, called the transportation-mall center. It is here that the subway, two commuter rail lines, and bus and auto traffic fed directly from a future expressway are brought together in the manner shown at left, then interwoven with each other and with pedestrian paths. It is here that Philadelphia intends to create a shopping core unequalled in strength and amenity by that of any other major city.

Market Street traditionally has been the place where Philadelphians went to shop. At one end was Wanamaker's, scarcely less a local institution than City Hall across the street; then Snellenburg's; then, at the east end near Independence Mall, Strawbridge & Clothier, Lit Brothers, and the great gray bulk of Gimbel's. Two years ago, Snellenburg's simply closed its doors. During their year of design, the SOM people watched its top floors being symbolically sliced off to make the building into a smaller retail and office center.

What the end of Snellenburg's symbolized, of course, was the changing shopping habits of metropolitan Philadelphia. More shoppers were going to places like King of Prussia, Plymouth Meeting, and Cherry Hill, and fewer to Market Street. From 1954 to 1963, center city's share of total retail sales in metropolitan Philadelphia declined from 38 per cent to 26 per cent, and total sales from \$466 million to \$419 million.

The basic objective of Market East is to bring suburban ease to downtown shopping, in the typical suburban pattern of a mall joining large department stores, and to relate it to other functions of the core. But the scale of the problem, and the character of the design solution, are both distinctly urban.

Left, Philadelphia roads (solid lines) and rails (dashes) feed into the Market East spine. Key to map: 1. Penn Center; 2. City Hall; 3. the spine; 4. the major department stores; 5. Independence Mall.

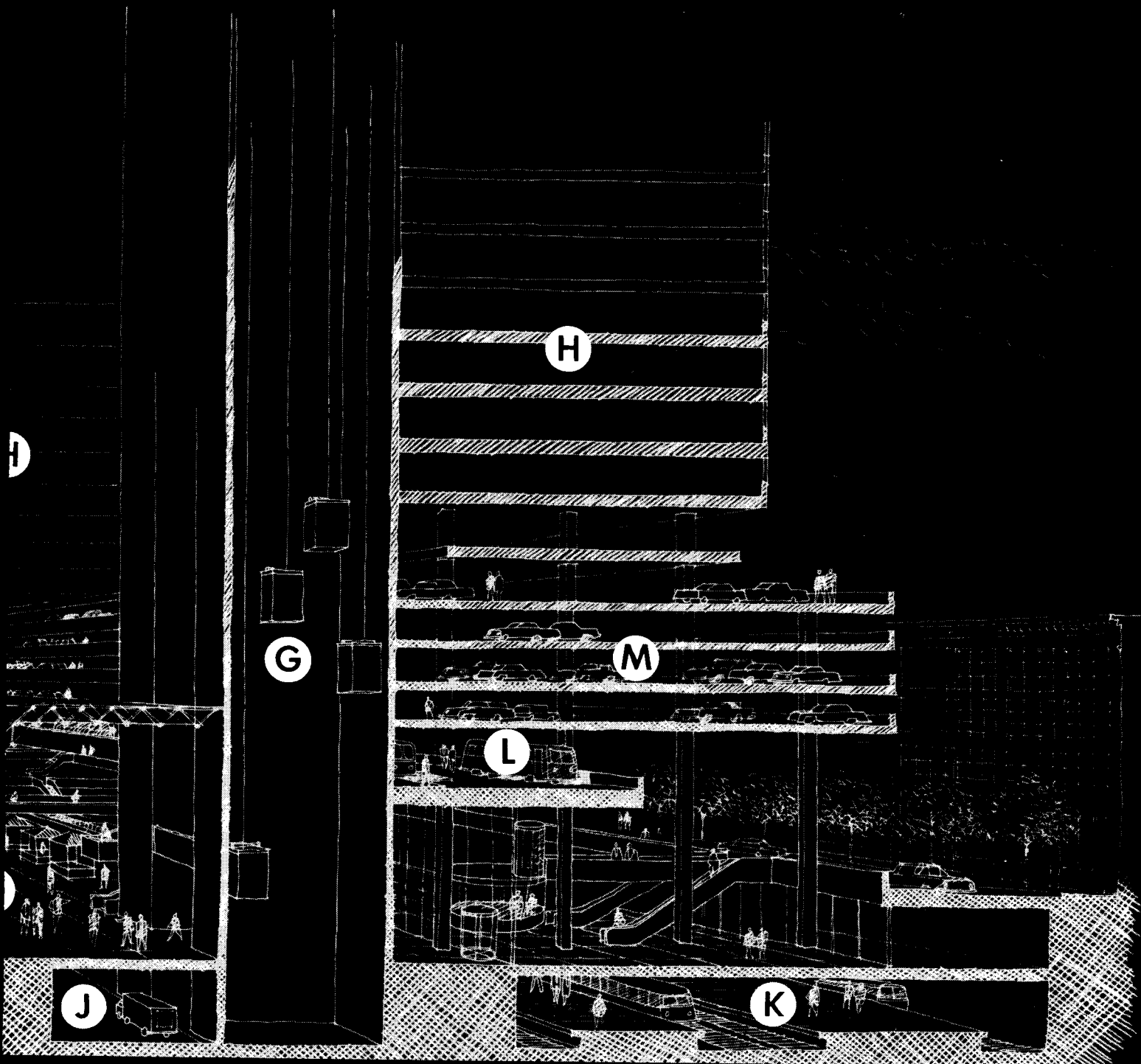


This is Market Street, 19XX,

a wide shopping artery relieved of the glut of buses, trucks, and curb-parked cars by the multipurpose, multilevel spine that parallels it to the north. The street has, in effect, become a vehicular platform (A) over the main level of

pedestrian activity (B) and the subway tracks (C). At this concourse level, mid-block bridges (D) lead to the refurbished shops and spaces on the south side of Market (left in section). The north is continuously walled by a new

building (E) containing shops and offices. Past this edge structure, the concourse widens into a lofty, glass-roofed pedestrian mall (F), running the spine's entire east-west length. The mall is widest at the mid-block subway plat-



forms, and here is penetrated by service shafts (G) leading to a procession of office towers (H) above the spine. One level below the mall are truck tunnels (J) terminating in docks located beside the shafts. North of the mall at

this point (which is approximately half-way along the spine's length) are the newly joined tracks of the Reading and Pennsylvania commuter railroad lines (K), their station feeding directly into the major pedestrian flow. One story

above the street, over the railroad station, is a linear commuter bus terminal (L) and above it, four levels of parking structure (M). Both the bus terminal and parking structure extend continuously along the spine for four full blocks.

**Each movement system
has its own level
feeding into the mall**

In plan, the spine of Market East becomes a giant mechanism for the sorting out of people and their modes of transport, an impression reinforced by the diagrammatic model which SOM has made of circulation flow. This is the pattern of movement at each major level:

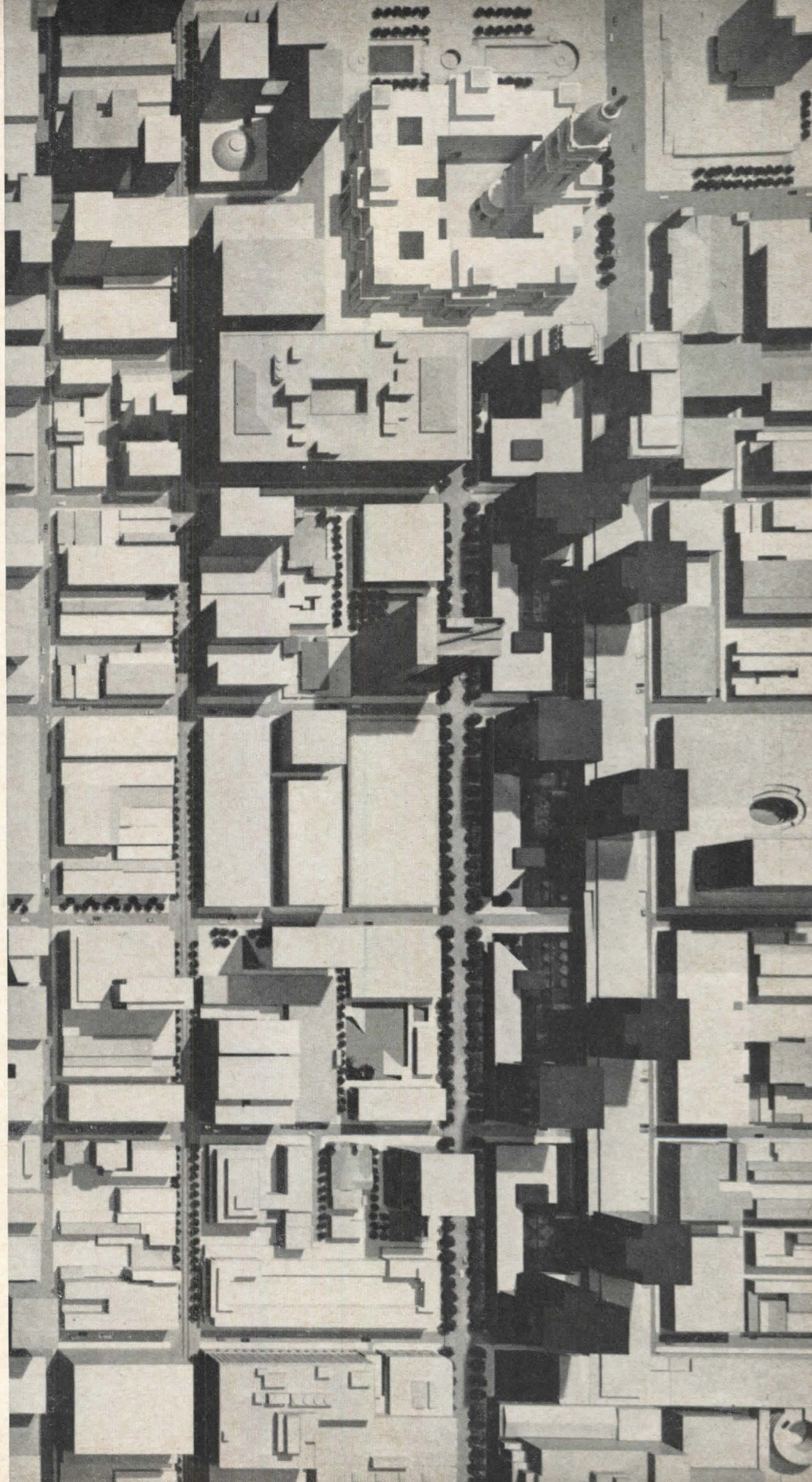
1. At the top of the plan, but two full stories below grade, the paired commuter rail lines swoop to their common terminal, bringing in 29,000 persons daily (1980 projection). Also at this lowest level, a ramp from 8th Street feeds docks at the mid-block service cores of the office towers.

2. The level immediately below grade belongs jointly to pedestrians and subway riders. The subway brings in another 60,000 passengers. Its platforms coincide with mid-block nodes that are the major gathering places in the continuous but changing pedestrian mall. The shop-lined mall opens to its widest point at the center, where the railroad commuters emerge. To the north, the mall is linked to the lower level of an intercity bus terminal, which is plugged into the spine between 11th and 12th Streets.

3. At street level, the shops along Market are set back near the corners, making the sidewalks wide arcades leading to the diagonal entrances of the two-story mall. From here, escalators slice downward into the center of each node.

4. One story above grade, ramps from the Vine Street Expressway lead intercity buses to their satellite terminal, and commuter buses to a linear terminal with stops along the spine's entire length. The buses bring another 17,000 persons to Market East each day.

5. The automobile enters the scene on the next level up, with parking over both bus terminals—four levels in all, with 4,000 spaces—for cars bringing in 17,000 more persons. The parking also is fed by direct ramps from the expressway. At this level is the glazed roof of the air-conditioned mall below. Since placement of the plug-in office towers is kept within a U-shaped envelope around the mid-block nodes (one possible pattern is shown at right), the mall is always assured its share of sunlight.



Market East evolved designer by designer over a decade's time

The multilevel spine of Market East was developed, but not originated, by SOM. It has been part of the project since its conception by the Philadelphia City Planning Commission in the mid-1950's, and has remained constant through a series of modifications by such designers as Wilhelm Von Moltke (now head of urban design instruction at Harvard), Morton Hoppenfeld (now chief planner for the new town of Columbia), Donald Jackson (now chief designer for the National Capital Planning Commission), Romaldo Giurgola (now chairman of architecture at Columbia University), and Damon Childs and John Gallery, still members of the commission's staff.

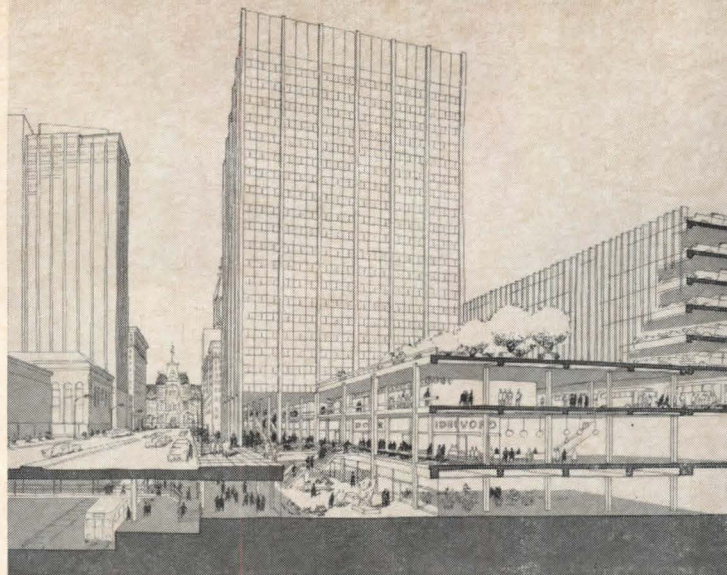
The lavishing of talent upon Market East is recorded in four commission booklets:

1. In May 1958, the project made its debut as Market East Plaza, designed by Von Moltke, Hoppenfeld, and Santo Lipari. Their scheme (section, top right) placed the bus-level-cum-parking to the north, and introduced three floors of pedestrian shopping, beginning with a subway concourse, below the office towers. The main mall was to be at the third of these floors, bridging the north-south streets on its way to City Hall.

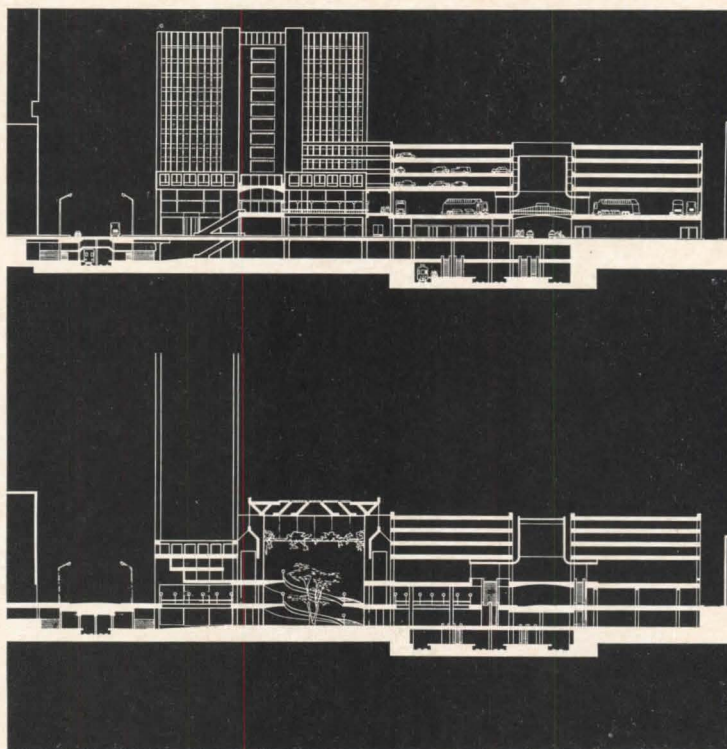
2. In its January 1963 center city plan, the same section appeared but with a significant addition: the Pennsylvania and Reading commuters lines were tied to each other and to Market East. The commuter link was put in the plan by Childs.

3. In February 1963, another Market East brochure was published by the commission, with Jackson as designer. In this one, the mall remained two stories above grade, tucked between paired blocks of shops (section, second from top)—but opened dramatically at the bus and rail stations into a great garlanded room called "Terminal Hall" (section, third from top).

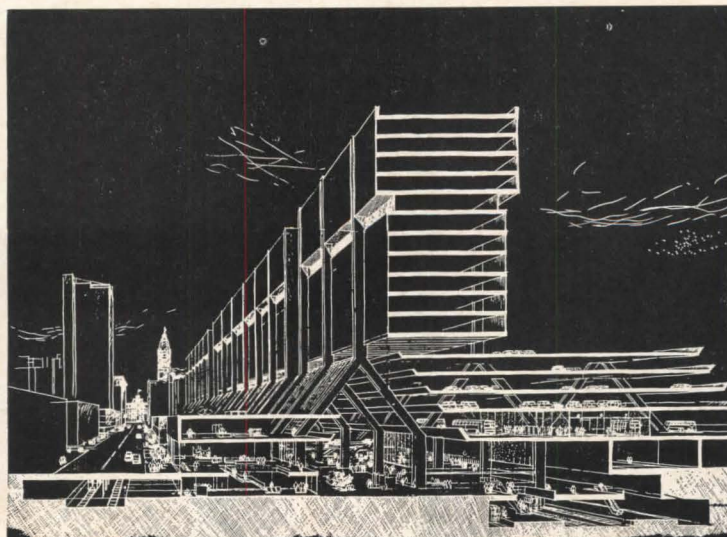
4. In 1964, Market East under-



1958: The first published version of Market East contained virtually all the basic elements of the final plan except for the railroad link.



1963: In this variation, the mall opened onto a great central room. 1964: The pre-SOM plan (below) put its dramatic mall at subway level.



went its most dramatic transformation. Gallery, fresh from Harvard, and Giurgola, brought in as design consultant, made the mall a continuous, convergent volume nearly 90 feet in height and width (bottom section), with its floor at subway level. The mall was rooted below grade for a convincing reason: more people would enter here, via rail and subway.

This was the state of things when SOM was brought in. Exactly why it was SOM-San Francisco is difficult to document. The Old Philadelphia Development Corp., which represents the department stores and other center city interests, had been the major force behind the hiring of an outside architectural consultant. OPDC wanted a big firm with commercial experience, which immediately brought SOM to mind. One authoritative version of the project's subsequent history has it that Edmund Bacon admired Nathaniel Owings, head of the San Francisco office, in which John Merrill Jr. is chief administrator and Edward C. Bassett chief designer; and that Bacon and his staff also had high regard for Walter Netsch of SOM-Chicago. In any event, the final credits list Merrill, Netsch, and Bassett as partners in charge, with Norman Klein (San Francisco) as project manager and senior planner.

Netsch's geometrical stamp

Netsch both entered and left the design process early on, but his stamp is on that element of the SOM end-product which perhaps distinguishes it most clearly from the commission's 1964 version of Market East. This element has nothing to do with the most apparent difference between the two, SOM's abandonment of the angular structural bents and continuous brace of towers which dominated Giurgola's 1964 drawings. The Giurgola towers were not necessarily to be continuous anyway, and the structural system had not been thoroughly resolved.

The crucial difference is in treatment of the mall. Netsch, SOM's acknowledged specialist

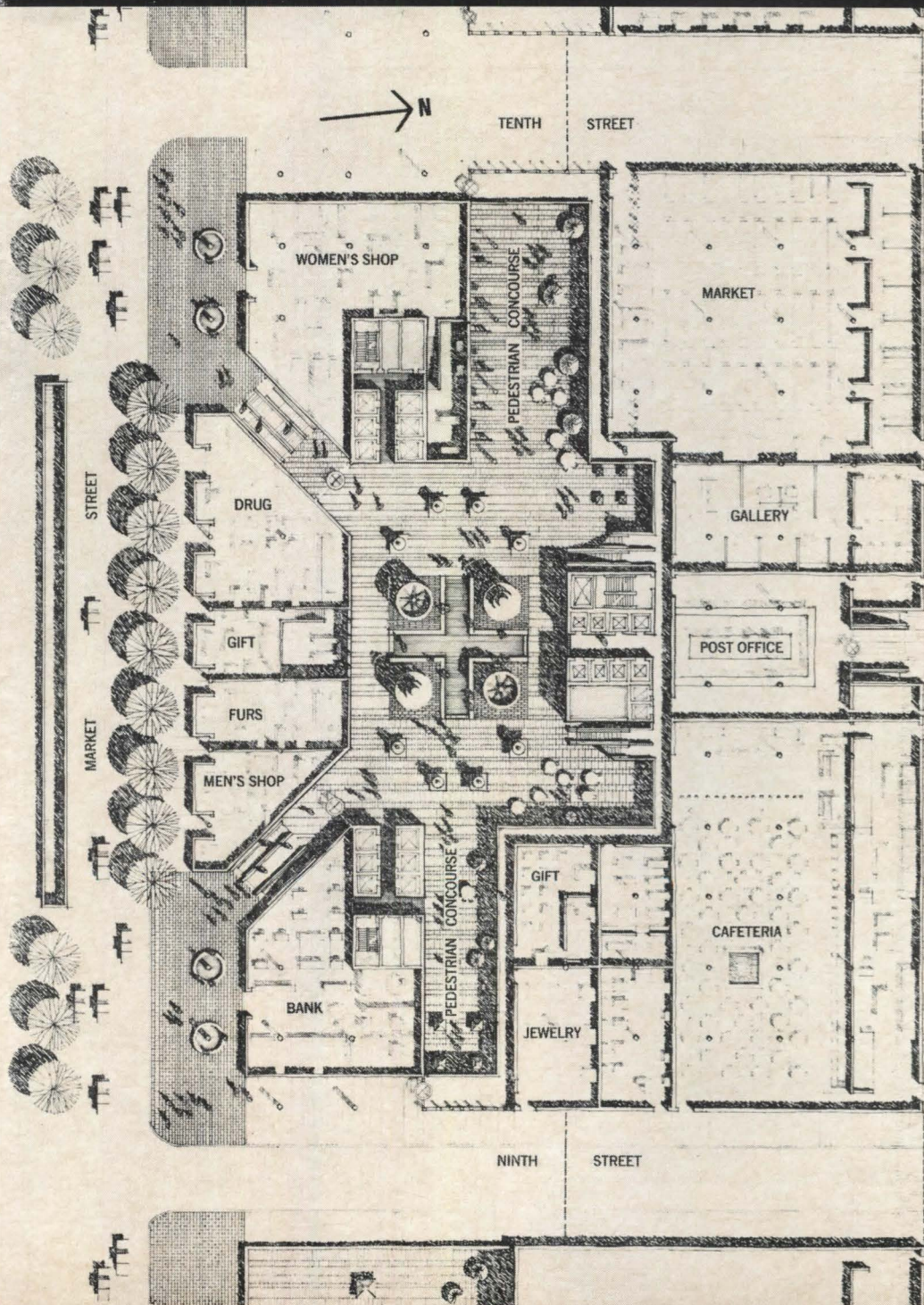
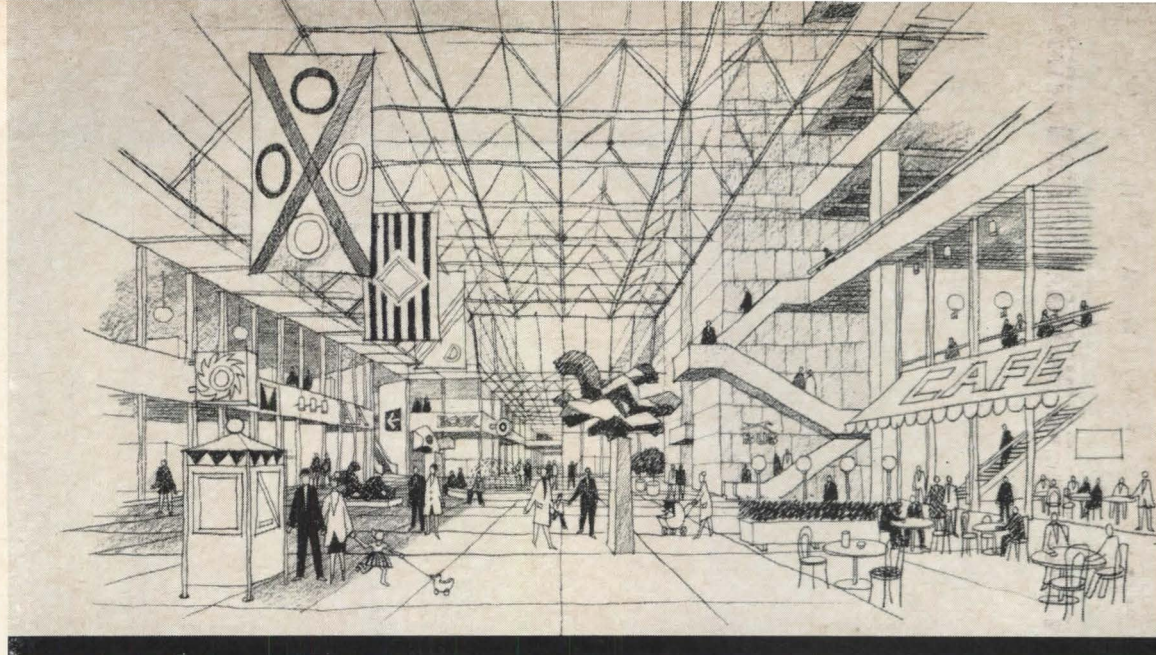
in geometry, had sketched in a system of diagonals over the entire project area, leading to mid-block nodes. The idea proved highly perishable in the grid-permeated atmosphere of Philadelphia, but it gave SOM's mall its basic organizing pattern.

In an early critique of the 1964 plan, SOM had discarded the idea of a continuous mall approximately 2,000 feet in length. Damon Childs, the commission's chief of renewal planning who has lived with Market East since joining the staff in 1957, defended—and still defends—the continuous mall on grounds that it expressed the scale of a city of well over 2 million, and gave the arriving public an immediate sense of orientation.

SOM was led away from the idea by misgivings of marketing consultants, who felt 2,000 feet to be far too long to stretch a shopping space without interruption, and by the conviction that "a change of pace can be a welcome thing," in the words of Norman Klein.

Klein and the others therefore set out in search of a changing system of interlocking spaces—and found it in Netsch's diagonally entered midblock nodes. The nodes, one of which is rendered at right, are located opposite the subway platforms and concourse level bridges leading south; and, at the point where the bus and subway stations feed in, two nodes are joined in a continuous plaza. At intermediate points, the mall is from 30 to 50 feet wide and 42 feet high; the nodes are approximately 120 by 150 feet, and 61 feet from concourse floor to glazed roof (sketch above right). In both plan and volume, the oscillating mall thus diagrams the predicted intensity of pedestrian concentration and movement.

The nodes also came in handy when SOM decided to recommend the building of Market East in seven stages. As each block of the spine is built, it will be a self-contained system including its own "urban living room," which is Norman Klein's characterization of the nodes. Klein has in mind that a lot of living should go on within them.

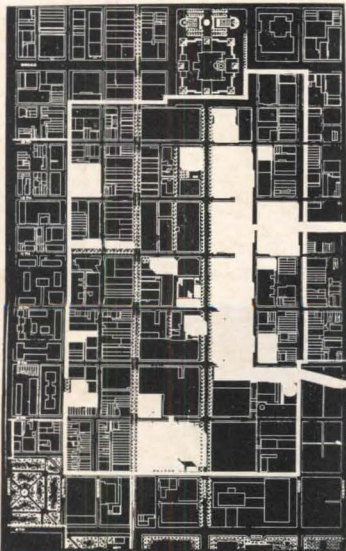


SOM set a carefully staged timetable, but HUD may alter it

The paradox of the Market East plan is that it is as pragmatic in strategy as it is bold in basic concept. Beyond the linear spine, SOM's advice to Philadelphia can be summarized in three words: proceed with caution.

The evolution of the plan shows a steady diminution in the treatment of the area south of Market Street, in the face of accumulating information about its condition. It is a varied and flavorful area of narrow, crowded streets and many old buildings, some of which are historic and others just decrepit. But SOM and its consultants (Larry Smith & Co. for economics, Walker & Murray Associates for relocation and rehabilitation) made a building-by-building survey, and found that few were blighted in the Federal definition of the term. Clearly it was best to leave well enough very nearly alone.

The plan is therefore content with declaring the entire area a conservation district, suggesting certain standards of signing and rehabilitation, opening of a few new open spaces, and spot redevelopment (white areas on diagram below). At one point, SOM considered an ambitious scheme for underground parking connected to another new freeway ramp, but it was abandoned for lack of money. The south-of-



Market area will keep its flavor, but it will also keep its traffic.

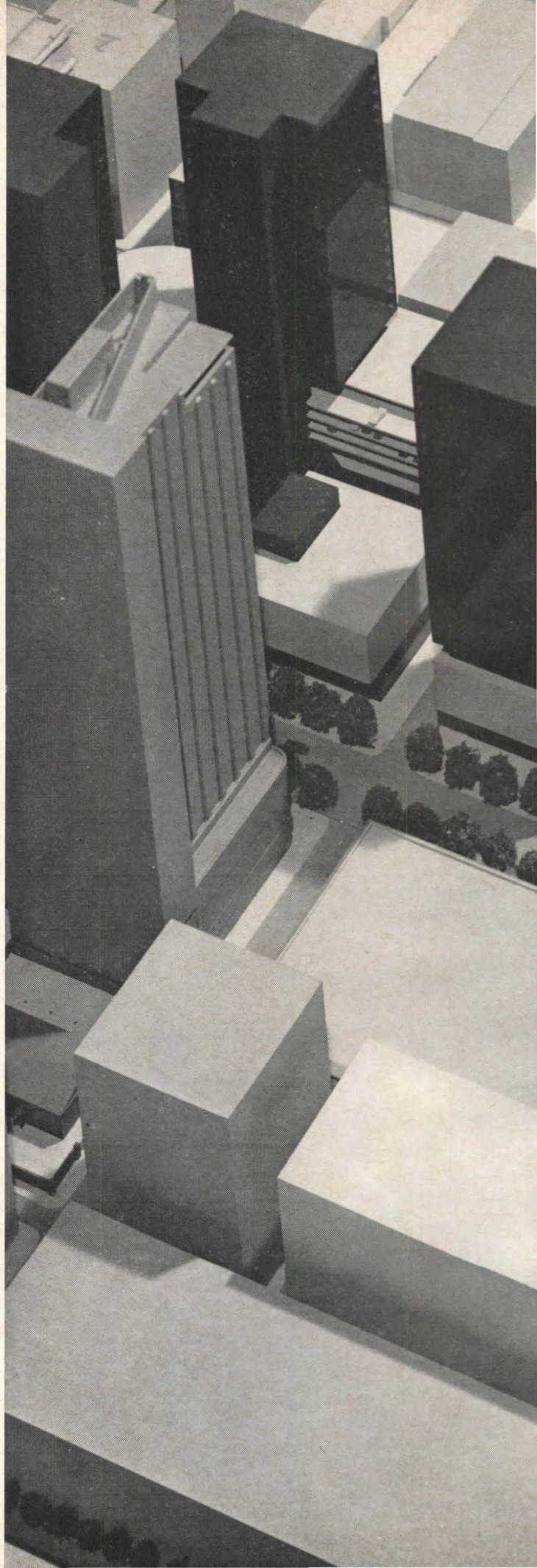
SOM suggests several approaches to execution of the transportation-mall center. One would be to follow the usual urban renewal practice and sell the site to a private development group, which would construct all of the spine except the publicly built rail and bus terminals and parking. Or such a group could act as "wholesaler" or "super developer," retailing parts of the project to individual builders. SOM is pessimistic about the willingness of a private combine to undertake this middleman's role, and suggests that a quasi-public agency or nonprofit private group might more logically be set up for the purpose.

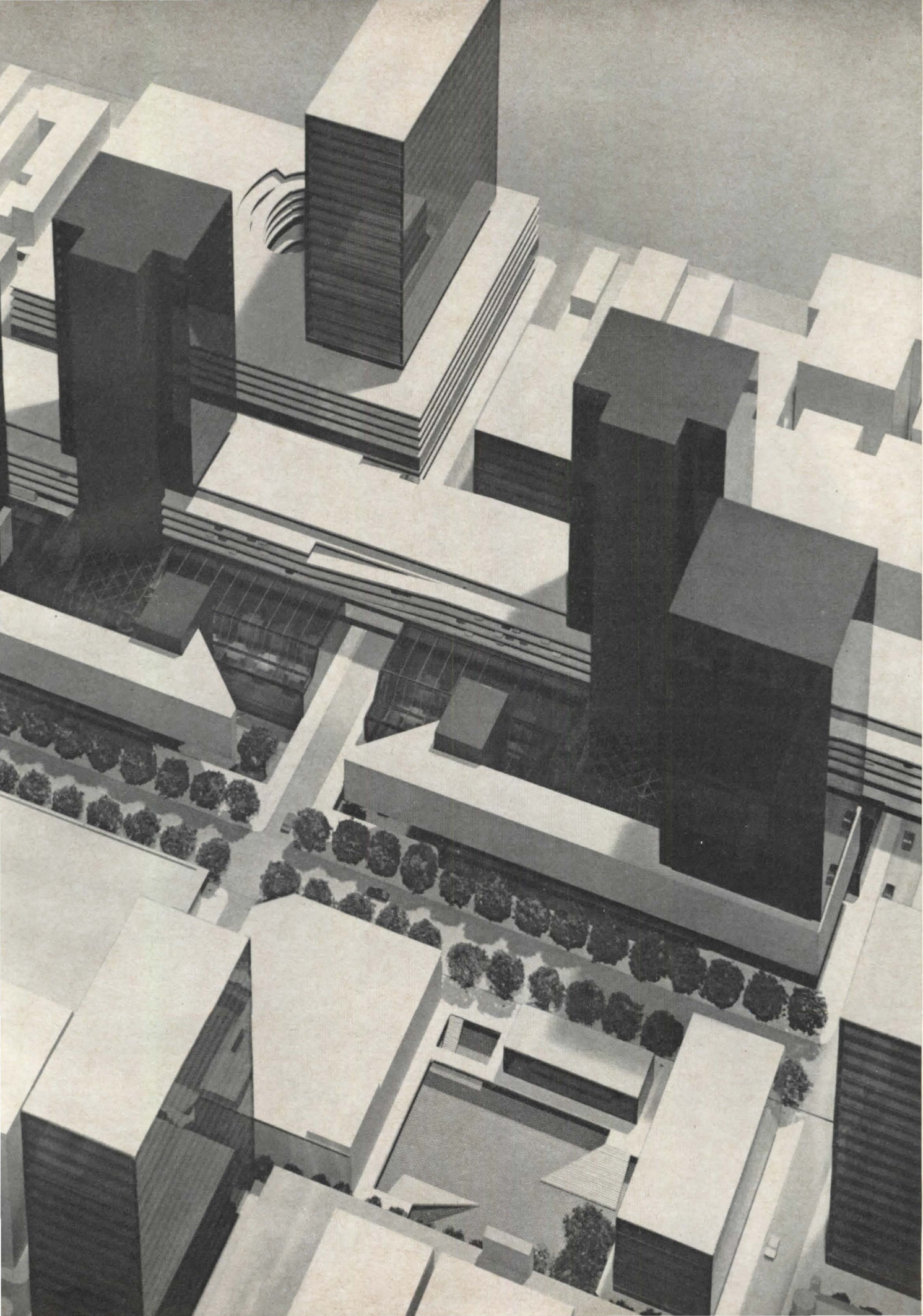
Whichever pattern is established, SOM is insistent that a coordinating architect be engaged to design the public parts of the spine and, with a review board, oversee the private contributions. At one point rigid controls over the entire construction were considered (including a "Lincoln Log" system of building parts out of which every element, towers and all, would have to be made). In the end, SOM decided on a more realistic and permissive system which, in terms of design, excludes only garishness, and in terms of tower location prescribes only the placement of service cores and protection of the sun's paths to the mall.

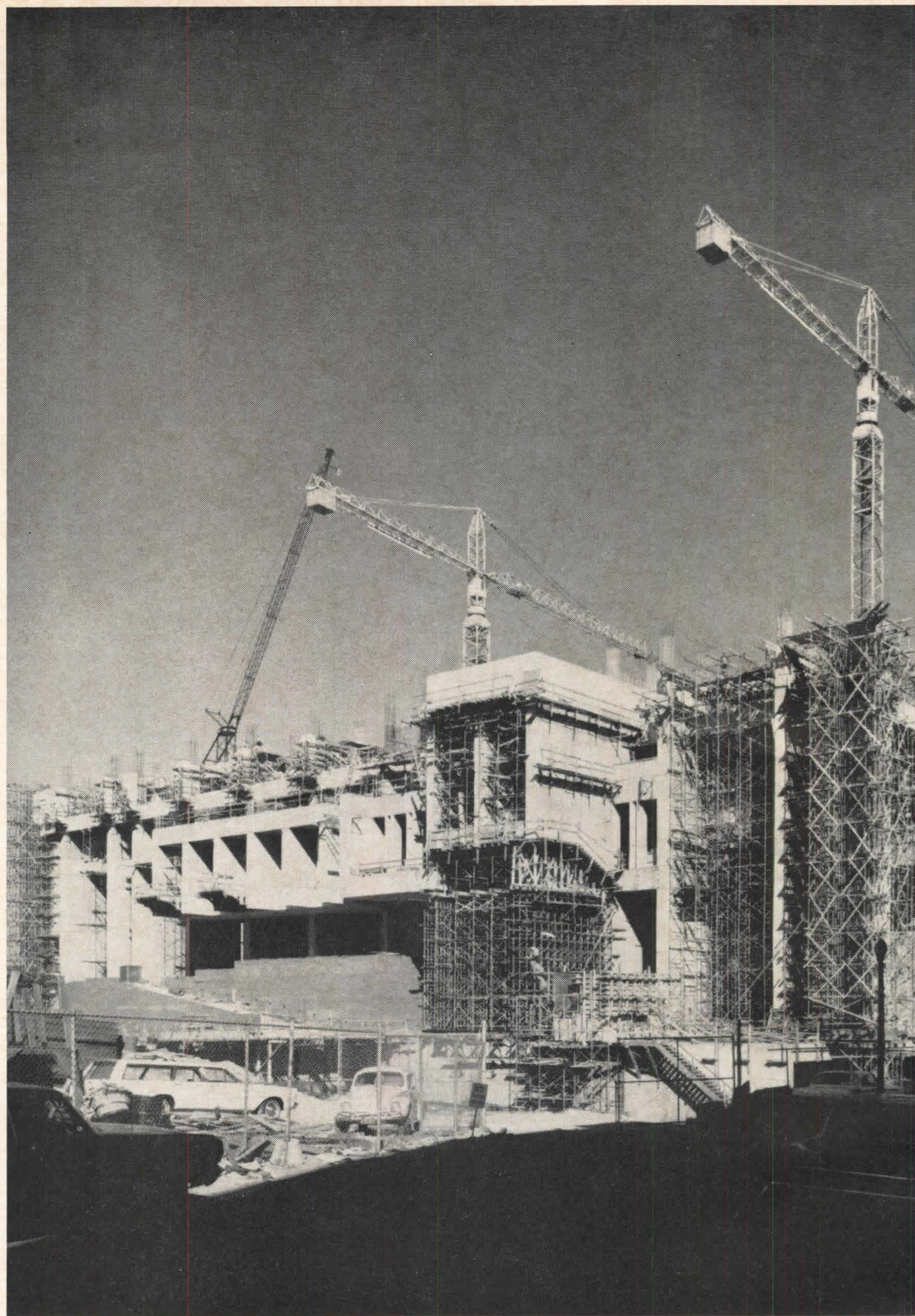
The seven stages of construction are packaged in seven separate Federally assisted urban renewal projects. In all, the Federal Government will be asked for \$125 million, and the city for \$63 million in cash and improvements. The timetable calls for completion of the first stage five years after Federal approval.

Those last three words hang over Market East like a sword. By a historical accident, the design of this long-planned project has come at a time when the Federal Government is more interested in slums than shopping districts. Unless another means of financing can be found, this sound and striking plan for Market East may remain indefinitely a vision of what our downtown cores should be.—DONALD CANTY.

MODEL PHOTOGRAPHS BY DWAIN FAUBION





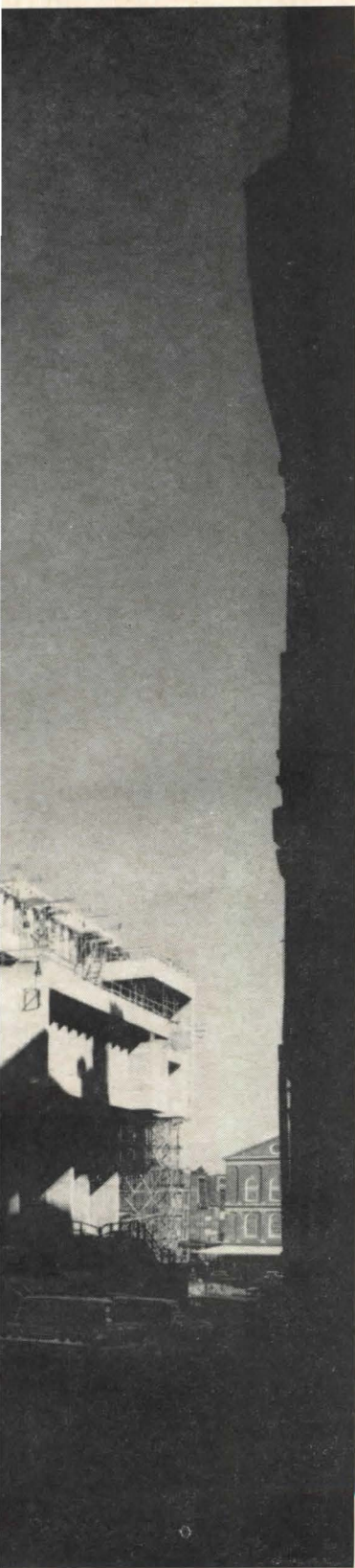


BOSTON'S EMERGING MONUMENT

The already familiar contours of Boston City Hall are beginning to emerge from its fligree corset of scaffolding and formwork. Cast concrete hoods for council chambers, the mayor's office, and library are now in place (photo

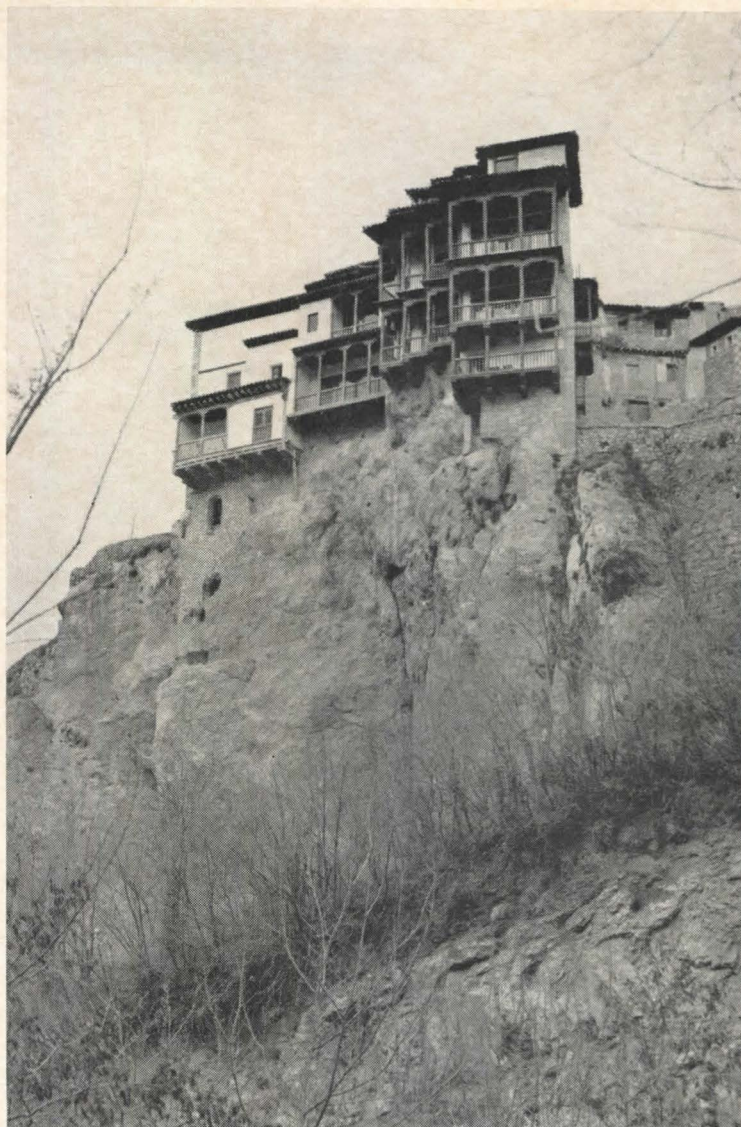
above) and soon will be topped by the serrated walls of city offices on upper floors (see rendering, right). The massive brick base, housing departments with heaviest public traffic, will extend outward to form a sloping, radial plaza. Scheduled for completion

in April, Kallman, McKinnell & Knowles's City Hall is the fourth major structure of Boston's Government Center, joining the State Office Building, the John F. Kennedy Federal Office Building and the first segment of the crescent One Center Plaza.

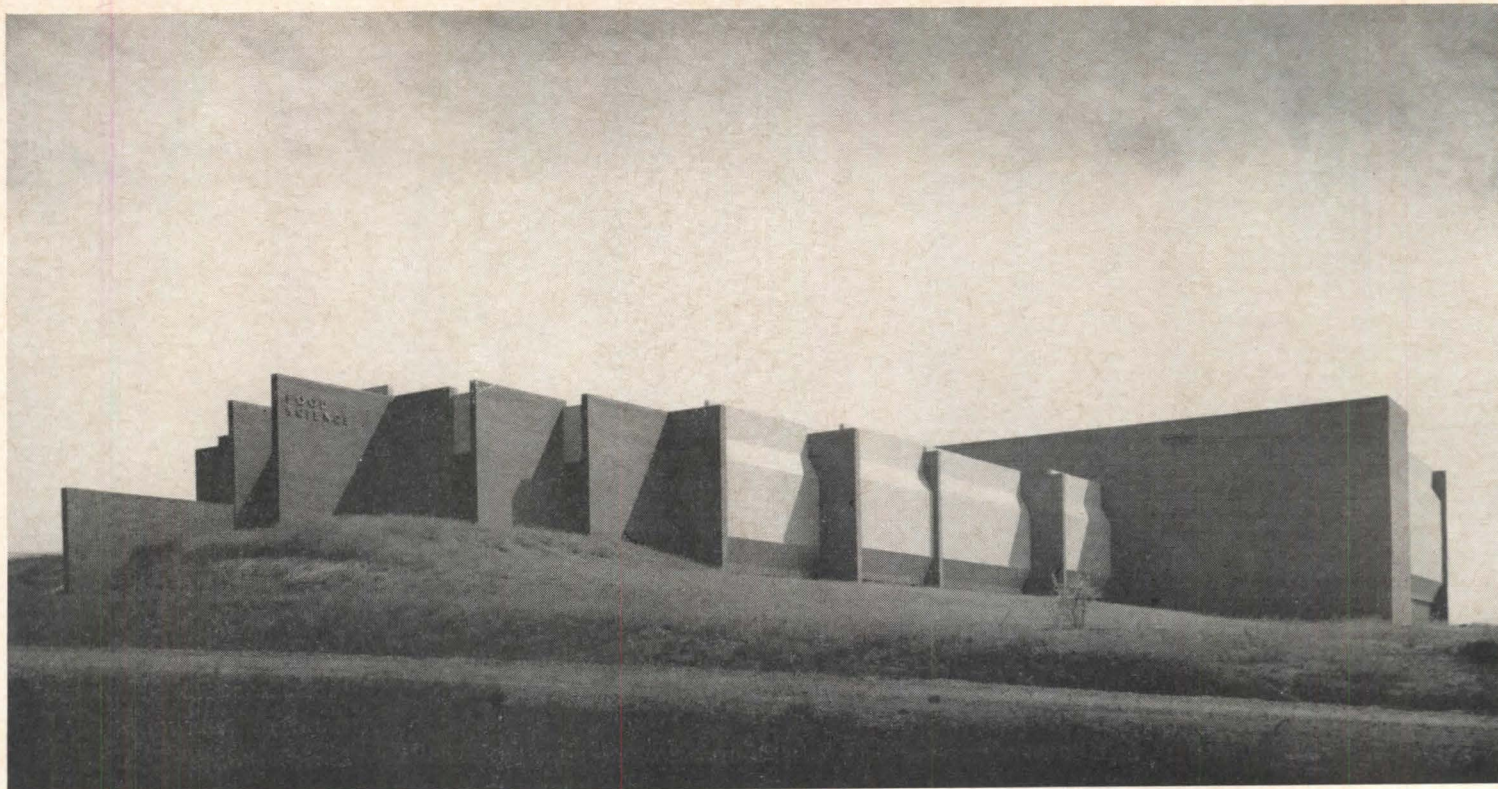


SPAIN'S HANGING MUSEUM

Cantilevered nonchalantly over the 600-foot-deep Huecar River gorge, the 15th-century Hanging Houses of Cuenca (right) provide a dramatic shell for the first Museum of Spanish Abstract Art. After three years of restoration by Architects Francisco Leo Meler and Fernando Barja, the wood and stone structures have been transformed into 20 galleries (example below) on at least ten levels—the old structure is so incredibly complex that the few people who have attempted to draw a section have given up in a mixture of admiration and disgust. A portion of founder and codirector Fernando Zobel's collection of Spanish abstract works is displayed, including 120 paintings by Goya, Velazquez, El Greco and post-Picasso Spanish artists, 200 prints and drawings, and 12 sculptures by Spanish moderns.

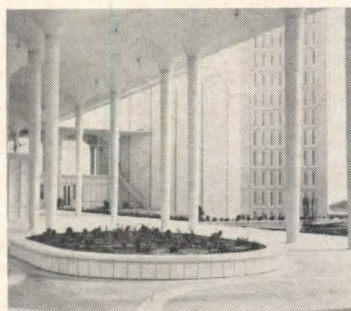


PHOTOGRAPHS: Page 44, Lois M. Bowen. Page 45, Henece, S.A.



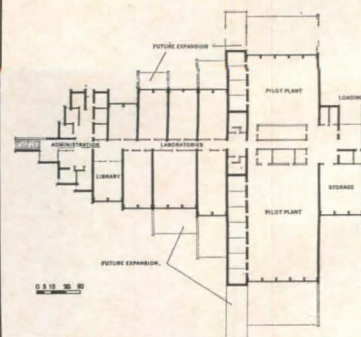
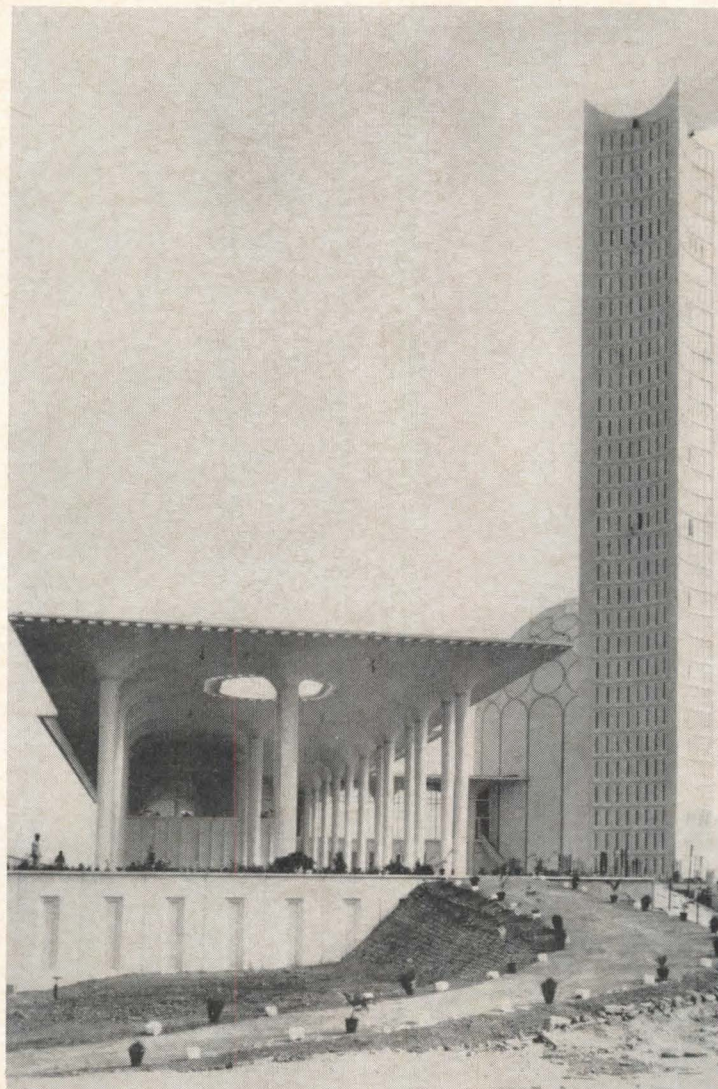
GEORGIA POPOUTS

Staggered walls of red-brown brick and exposed aggregate panels give a pleasing irregularity to the profile of the University of Georgia's Food Science Laboratory in Griffin (above). Heery & Heery planned the structure so that expansion would not destroy its asymmetrical design: individual laboratories can be extended outward at will (see plan), and their precast end wall panels popped out and reattached to the extensions. These panels bow outward to allow the windowless research areas to be completely wrapped in mechanical space. Two pilot processing labs are separated from research rooms by a hefty brick wall which houses environmental chambers, and offices are clustered around the entrance.



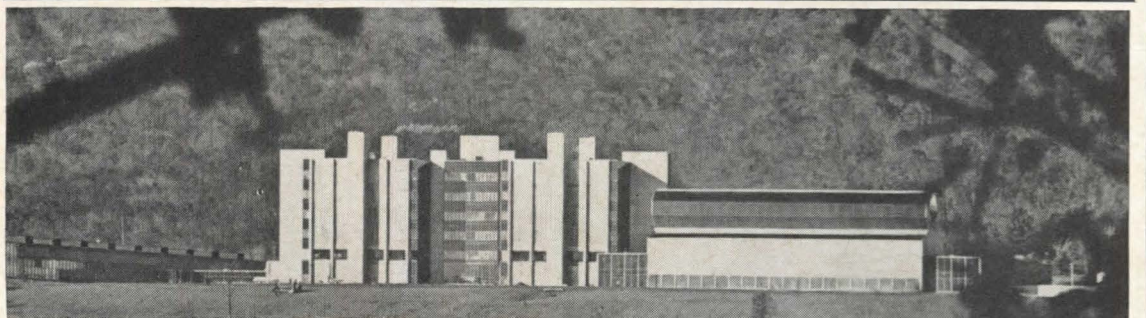
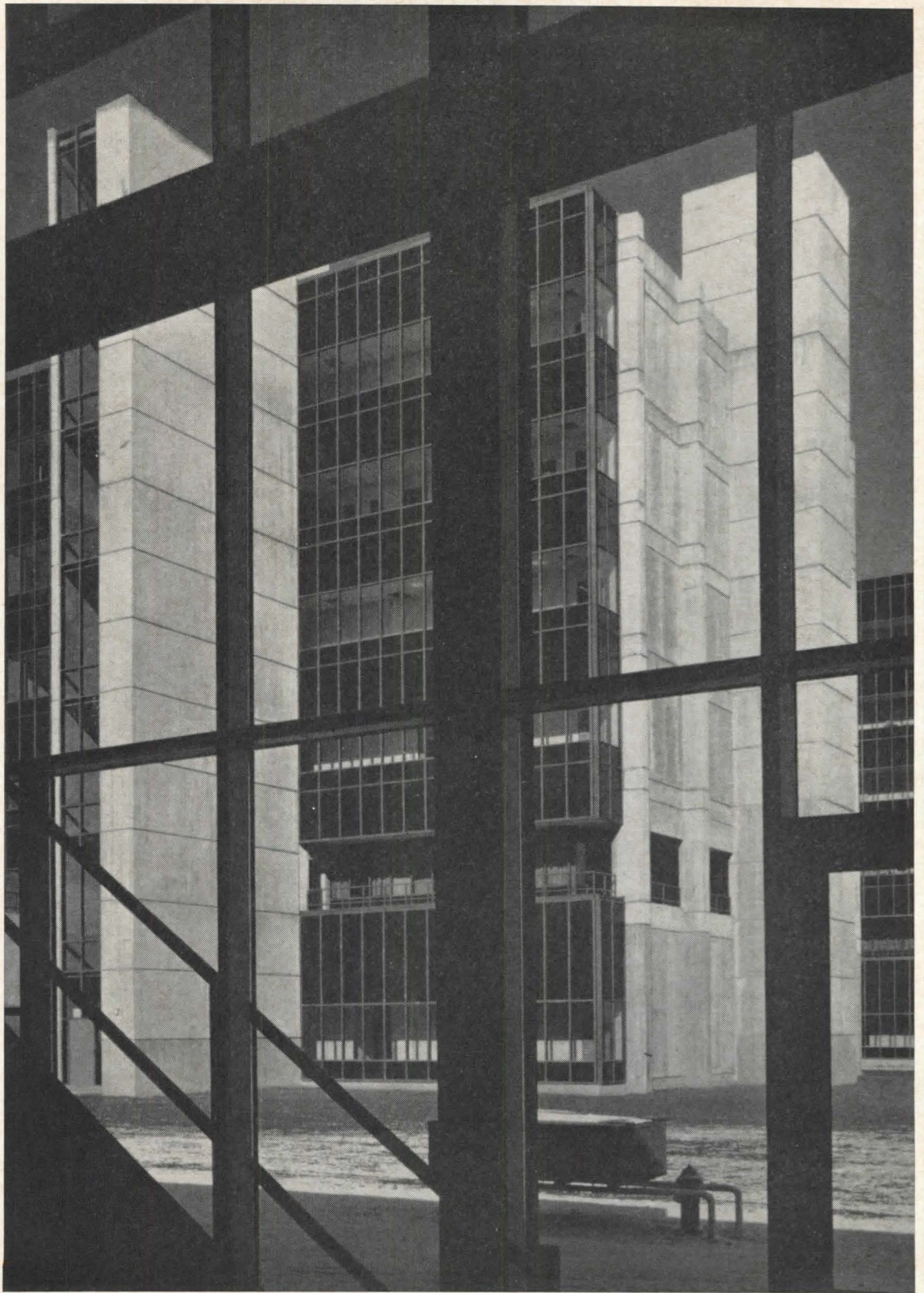
PAKISTAN REACTOR

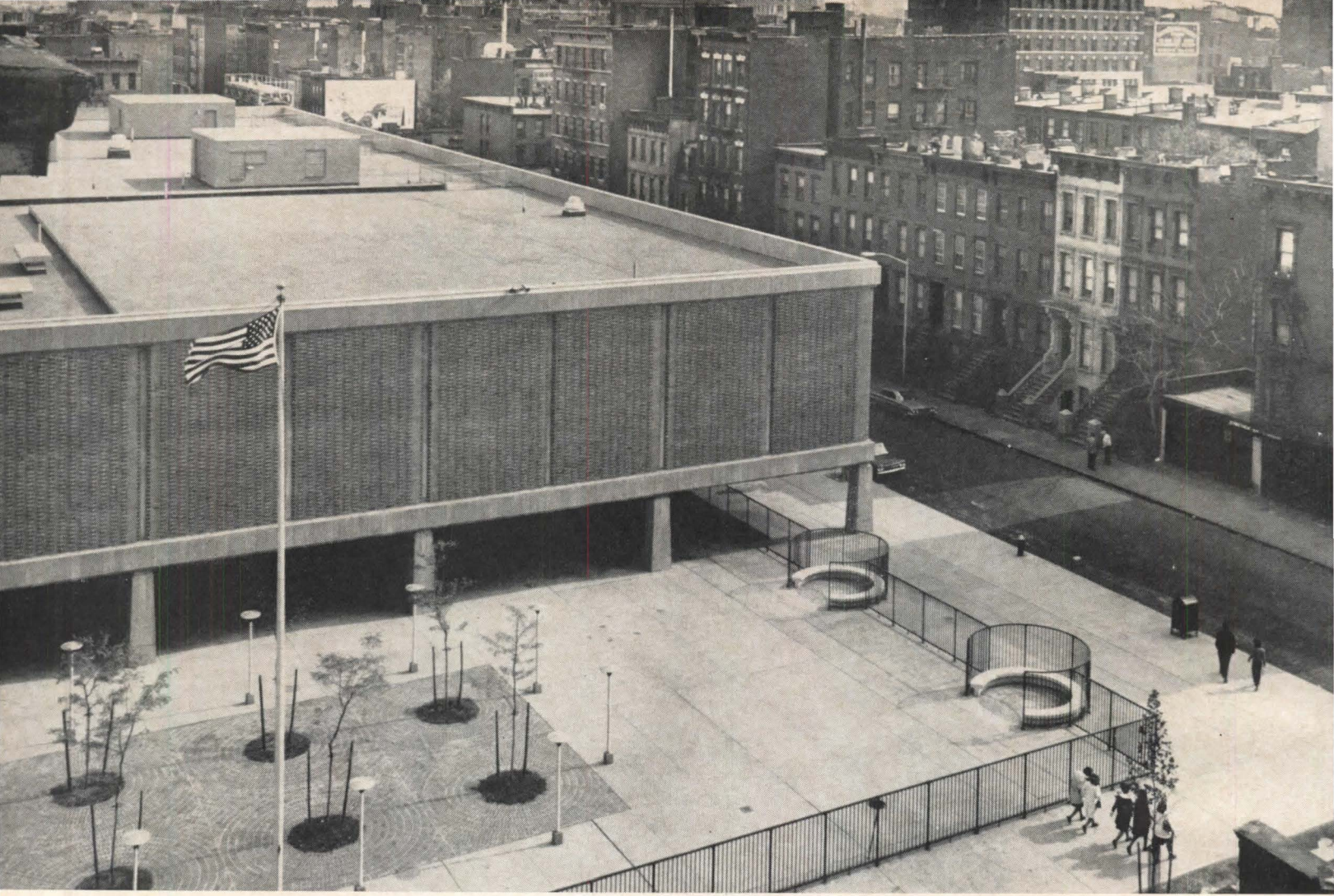
What appear to be a mosque and an attached minaret are actually a dome-covered atomic reactor and its exhaust system, centerpieces of Edward Durrell Stone's Pakistan Institute of Science and Technology. They will sit in a quadrangle of office, lab, auditorium, library and cafeteria areas, only one segment of which is completed (foreground of photo right). Colonnaded walks will connect the quadrangle units, and translucent domes in the roof will light courts between them. The reactor complex is located on a 240-acre site in the eastern sector of the new capital, Islamabad.



CORNING COMBINATION

Architects Harrison & Abramovitz & Abbe have added a strong dose of exposed concrete to the glass one might expect on the buildings of Corning Glass Works' Sullivan Park research and development center, in the foothills west of Corning, N. Y. The new, 143,000-square-foot fundamental research building joins Kahn-esque concrete shafts with curtain walls of aluminum and, alternately, polished plate and dark green reflecting glass. The six-story structure sits between the earlier process research center (right in photo below), with its hefty claw-like roof ventilators, and the single-story development building, walled entirely in the same glass panels used in its bristling new neighbor. Adjacent to this cluster is an auditorium-library-cafeteria building, not shown.





HARLEM'S BESIEGED SHOWPIECE

On September 12, opening day of school in New York City, architecture suddenly found itself in the center of social crisis. It happened in a seemingly unlikely place: at the brand new, \$5 million Intermediate School 201 in Harlem, which had been designed by a topflight architectural firm to be an "educational showcase."

Around the school's brick walls and slender metal fences, Negro parents and their supporters marched in picket lines (right), protesting the Board of Education's failure to integrate the school and to upgrade the quality of education in the city's ghettos. The parents were demanding full control over faculty and curriculum at I.S. 201.

Their resentment seemed directed at the board rather than the building, and throughout the controversy, New York's major newspapers referred to the school only in laudatory terms that contrasted its comforts with the controversy on the sidewalk. But conversations with the parents indicate that architecture here is more than an innocent bystander. The school, which happens to be windowless, is regarded as a symbol of the condition of their lives.

Perpetuating segregation

The seeds of the controversy were sown when the school's site, a city block deep within the East Harlem ghetto, was selected. The Negroes opposed the location because they feared it would make integration of the school almost impossible to achieve. They recommended that a site be found a few blocks farther south, within a "fringe area" that included whites as well as Negroes and Puerto Ricans (who are given a separate statistical category by the school board).

The decision to select the Harlem site was a rejection not only of the Negroes' arguments, but also of the recommendation of the school board's own Central Zoning Unit, which was set up in 1957 for the express purpose of locating new school sites that would permit racial balance.

The board, nevertheless, promised that I.S. 201 would be integrated. It proposed to achieve



this by inviting white parents in the borough of Queens to send their children to the new school. The board mailed out thousands of brochures extolling the benefits of attending I.S. 201, but not one response came back.

The problem of integration was further complicated a few months before I.S. 201 was scheduled to open, when parents in a Puerto Rican section within the zone objected to sending their children to the school, ostensibly because it was too far from their homes. The school board gave in, carved the Puerto Rican section out of the zone, and left I.S. 201 even more segregated than the Negroes had feared.

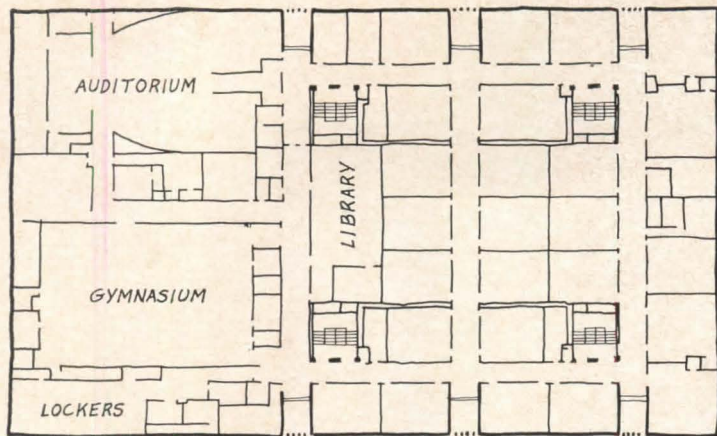
At the beginning of the fall term, 80 per cent of I.S. 201's students were Negro, 20 per cent were Puerto Rican, and none were classified as white. At less than 600, the enrollment was about two-thirds that anticipated before the zone was cut back.

The Negro community's attempts to exercise a voice in the school's design were also repulsed by school officials, according to Mrs. Alice Carnegie and David Spencer, cochairmen of the Parents' Negotiating Committee for I.S. 201. The community's first look at the design, they claimed, came when the parents attended a meeting called for another purpose, during which sketches and plans for the new school were unveiled.

What the parents saw was a substantially final scheme, on which the school board had focused a great deal of attention as part of a new program to upgrade the architectural quality of the city's schools. Curtis & Davis, the architects of I.S. 201, were among several prominent firms purposely picked by the board to bring fresh blood and new ideas into the system.

The new school, the parents were told, would be the finest in the city. Its windowless exterior, raised on 14-foot tapered piers to create a parklike play area at ground level, would house the city's first air-conditioned classrooms. Their children would learn in an atmosphere of controlled comfort, shielded by patterned brick walls from the sights and sounds (including an elevated railroad structure a few feet from the building) of the squalid slums outside. Classrooms would be spacious, bright, and evenly illuminated, and wide interior corridors would all end at glass-enclosed light wells, shielded from the street by perforated brick screens.

But the parents were not completely sold on the design. During the meeting, they expressed doubts about the appearance of the windowless exterior and the cramped playground space. They also asked for, and were promised, more information about the effects that air conditioning



might have. That meeting, Mrs. Carnegie and Spencer claim, was the first and last time the parents were "consulted"—or informed—about the design of I.S. 201.

Dr. Stanley Lisser, I.S. 201's principal, calls this complaint a "non sequitur," since there is virtually no neighborhood participation in school design anywhere in New York City. "I'm not saying it should be that way," he noted, "only that there is no difference in Harlem."

Eugene E. Hult, executive director of the board's office of school building, confirmed Lisser's point: "In a big system like this, where we build 30 or 40 schools a year, we just don't have time to consult the local people."

External applause

From outside of Harlem, and from the faculty of the school, I.S. 201 has been heaped with almost universal praise. News-

paper accounts of the dispute involving the school almost invariably refer to the building itself with adjectives like "handsome" and "striking." And acclamation from other quarters has been even more generous:

► The maintenance branch of the school system is delighted with the design because it eliminates a major source of expense: Broken windows cost some \$2 million a year to replace in the city's 840 schools.

► The faculty is pleased because the protected environment offers teachers a better chance to concentrate the children's attention on learning, free from outside distraction, and because the school's many modern educational tools, such as individual recording devices for teaching foreign languages, make it the best equipped school in New York City.

► The architectural profession,

through the New York Chapter, AIA, has given the building its stamp of approval by awarding it first prize in the 1966 New York City School Awards Program. One juror called it "a courageous solution of the difficult problems inherent in the school's neighborhood and its restricted site."

Within Harlem, in contrast, the building is looked upon with distaste and suspicion. It is most often referred to as "the prison," but other analogies, such as "the tomb on stilts," "the warehouse," "the fortress," and "Fort Necessity" are also used.

The *Amsterdam News*, a Harlem weekly, published a cartoon (below) that succinctly expressed the suspicions Harlem's citizens have regarding I.S. 201. A more explicit expression of the same viewpoint was put forth by Lawrence Neal, former art editor of *Liberator* magazine, now educational director of the Black Panther Party. "The whole life experience of the blacks is one of confinement in the ghetto," said Neal. "To them, their community is a prison, and this is fortified by the fact that society prevents them from moving out. This building confirms their feelings of imprisonment."

"The architect was probably a middle-class white with no knowledge of the psychological history of the black people, no knowledge of the building's relationships to their lives. He made no attempt to communicate with the people. He worked in a vacuum."

Would community participation have made any difference in the design of I.S. 201? "I don't think we would end up with something much different," answered Hult. "The design was a new concept which the pedagogical people wanted."

Dr. Simon S. Silverman, director of the board's Bureau of Child Guidance, also doubts that the community could have contributed much that might have been translated into design. "As a parent," he asked, "what would I know about architecture, site planning, and costs? All I could say was 'this looks pretty, this doesn't.'"

The real root of the dissatisfaction with the school, he said, is "a basic hostility felt in the community for a great many actual wrongs that have been committed against them. They would have picked on any school because a building lends itself to the kind of things that need to be said."

But Dr. Silverman has his "personal" doubts about the school's lack of windows. "This thing about shielding the kids from the outside world is a bit on the euphemistic side," he said. "It also raises the question of claustrophobia. I'm surprised none of the kids have acted up."

Translating feelings

In Neal's opinion, I.S. 201 would look quite different today if the feelings of the community had been known and taken into account. "Architecture is a very human art," he said, "but this building is a product of alienation. It might not have been if the architect had tried to probe the sensibilities of the black people. They can't discuss it in architectural terms, but they can discuss it in terms of their emotional needs."

The concept of isolating children from the surrounding slums, he feels, is a "superficial panacea" that only serves to foster an illusion: "Harlem is a ghetto. Are they trying to exclude that reality from them? The kids need to face it. They've still got to go outside."

I.S. 201's windowless facade is not, of course, an experiment being tested for the first time in Harlem, though many in the community think so. Several windowless schools have been built throughout the country, and there is a considerable body of research whose findings, though mixed, support the view that the absence of windows improves concentration.

There would be no reason to single out I.S. 201, in fact, if the controversy over integration and community control had not erupted. It is by no means exceptional for architects to serve the clients, rather than the users, of their buildings.

—JAMES BAILEY





PHOTOGRAPHS: George
Cserna, except page 49,
The New York Times.
CARTOON: Tapley/The
Amsterdam News.

CUMBERNAULD: NEW TOWN IN TENSION

BY JOHN DONAT

Ever since the project for Hook in Hampshire by the London County Council was abandoned, eager eyes have turned to Cumbernauld in Scotland hoping to see the first new town in Great Britain that would really be a town: a compact, urban, recognizable place.

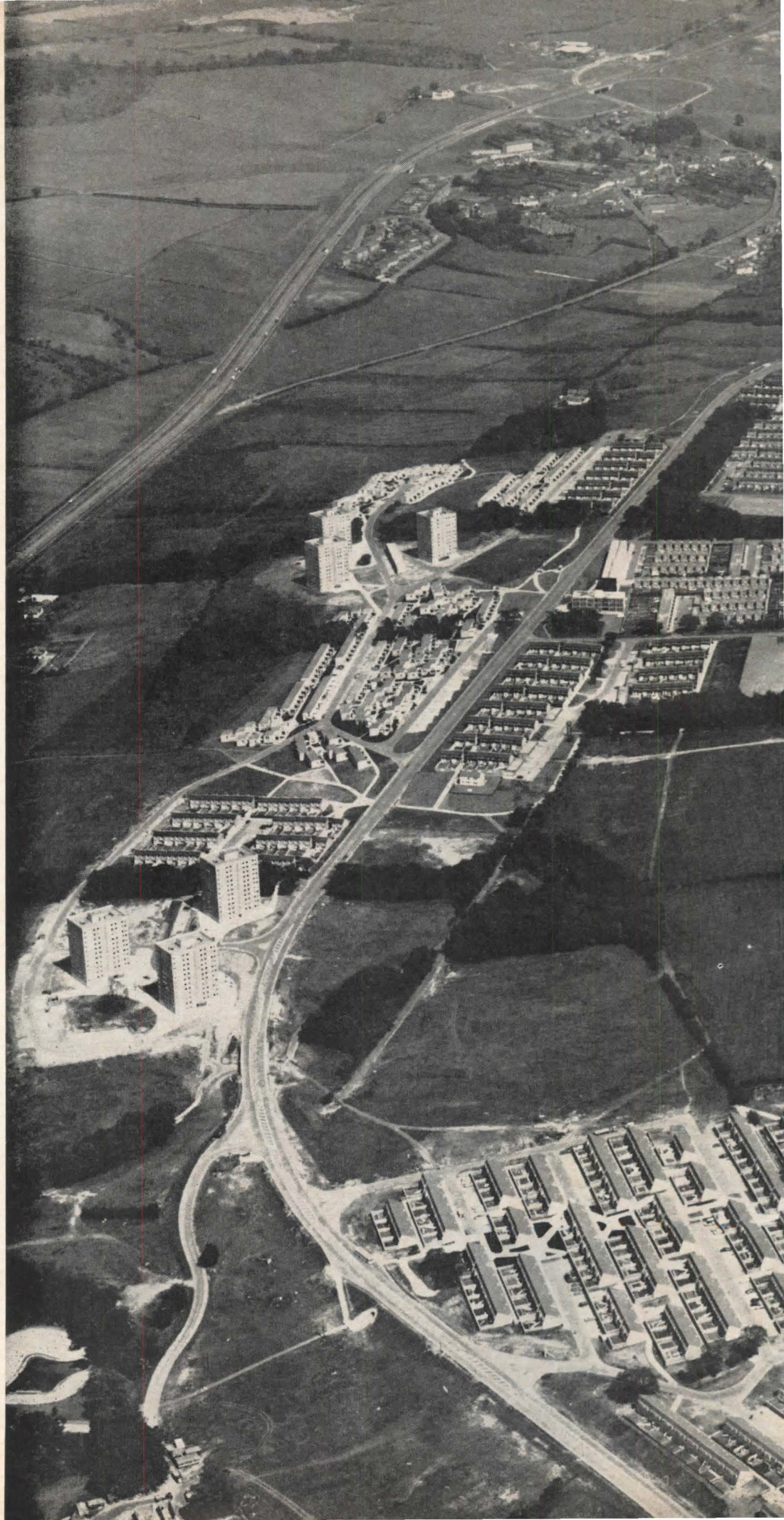
Cumbernauld is certainly more compact than its fellows. It is distinguished by a road system and center-in-embryo that are going to claim a lot of serious attention. But is it a town?

Cumbernauld is the first of our new towns to plan for total separation of cars and people. Its roads are designed for traffic capacities to the end of the century. There are no cross roads, no pedestrian crossings, no traffic lights, and—for the present—not much traffic either. A completely separate pedestrian network is superimposed on the road system: burrowed under it, flying over it, weaving its separate way between the houses to the center.

The car disperses: its advantage of door-to-door convenience is relatively independent of distance, but it needs space and lots of it. The pedestrian concentrates: he wants everything to be near at hand.

But what happens when you try to be all-pedestrian and all-motorized at the same time? In Cumbernauld, you are constantly aware of the tension between the forces of dispersal and the forces of concentration.

Mr. Donat is a British architectural photographer, writer, and occasional broadcaster. He is editor of the excellent *World Architecture* annual.





"The center is urban in intention, urban in scale, urban in feeling."

The center itself is a mammoth exercise in car-people separation built on the "town within a town" principle. All the center facilities are packed in under cover in a giant, labyrinthine, gritty concrete layer cake. Cars, trucks, buses underneath; people on top via ramps, escalators and lifts. There is a smattering of penthouses on the roof to bring "life" to the center.

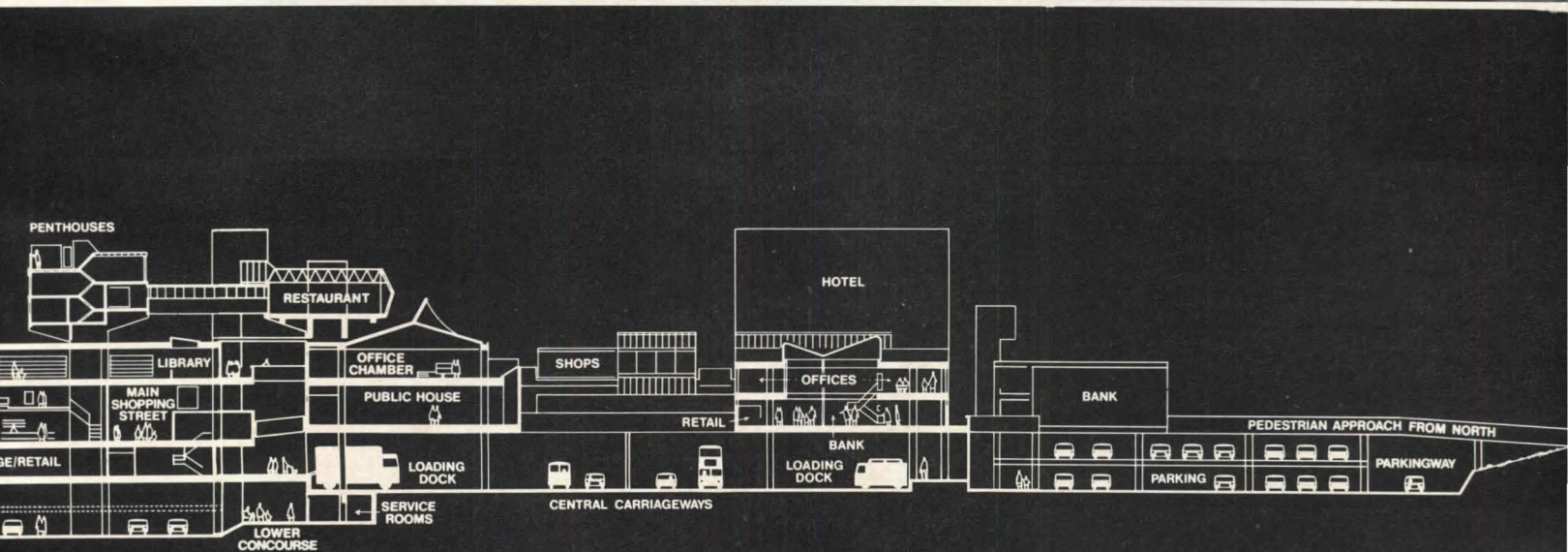
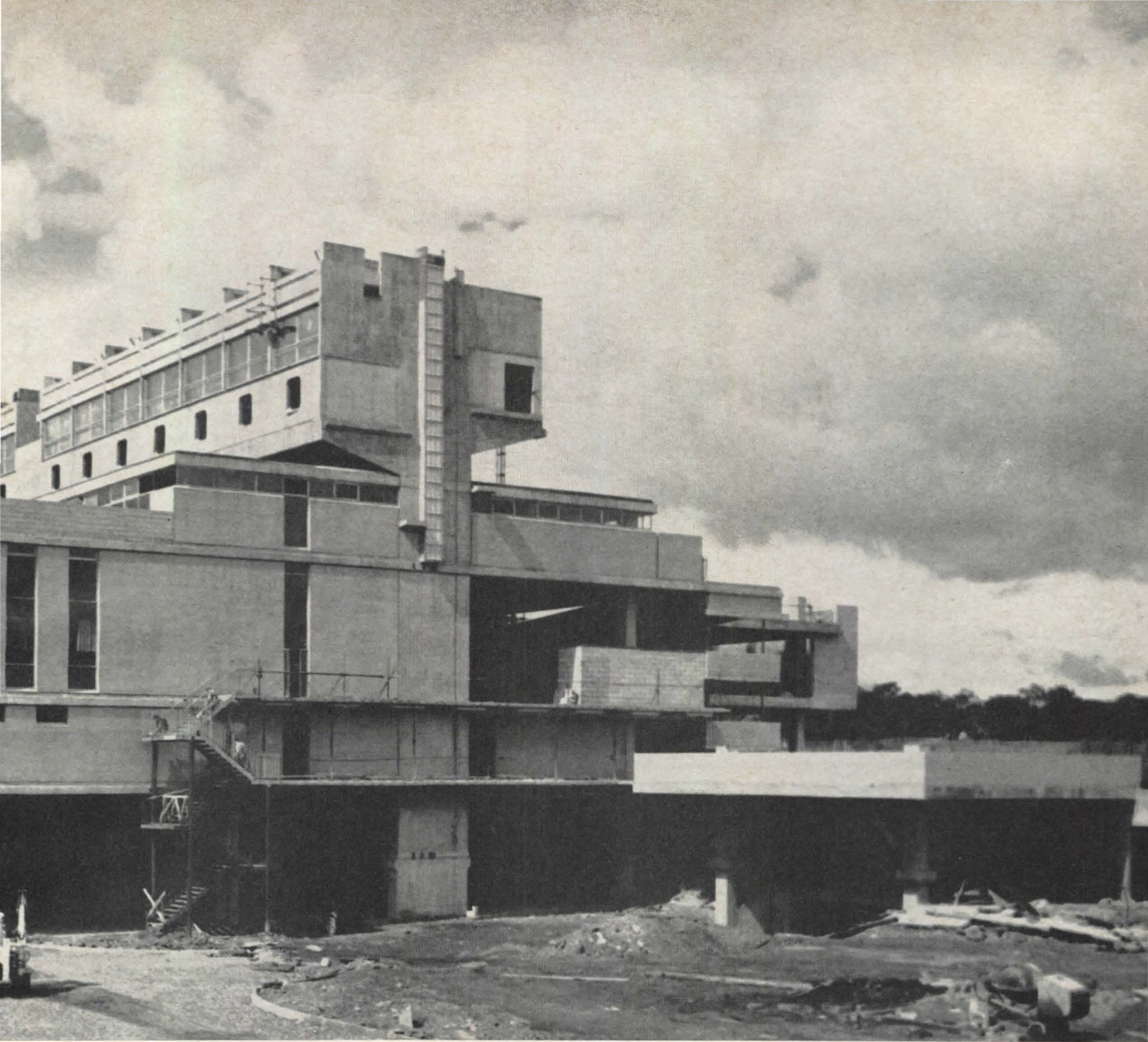
The plan is linear, with access routes for vehicles along its length underneath. Only one fifth is under construction: it will expand in stages from either end.

The center is urban in intention, urban in scale, urban in feeling—even in its rough unfinished state. As one of the most ambitious examples of a single structure multifunction place, it is assured of its complement of eager visitors from Tucson to Vladivostok.

But the complete "town" idea implicit in the center couldn't be further removed from the cozy, village atmosphere of its surrounding housing.

The center of Cumbernauld combines within its continuous structure virtually every public element of the town. It is rooted in parking, and through it runs the main road. The upper reaches are for pedestrians only; its "main street," cut through the core of the bristling concrete sculpture, is a pedestrian street.





"The housing is on the scale of a village, never on the scale of a town."

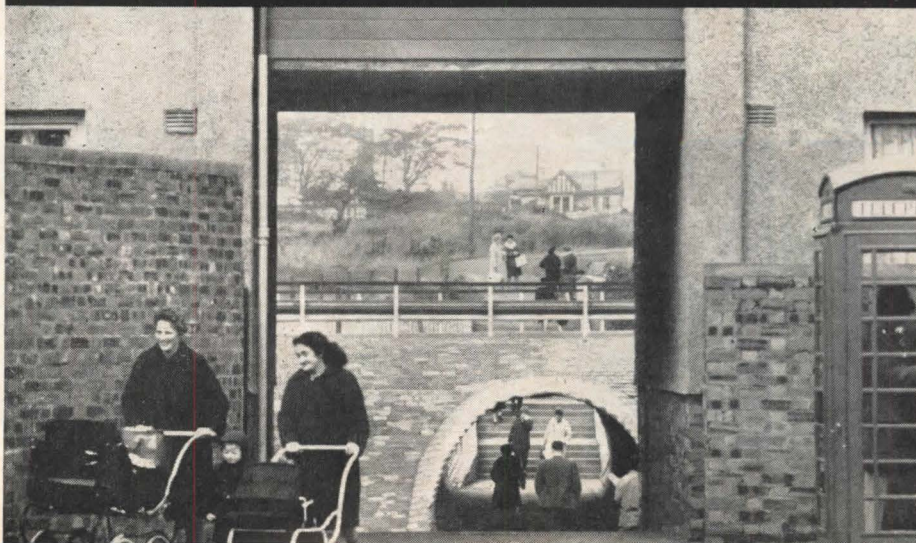
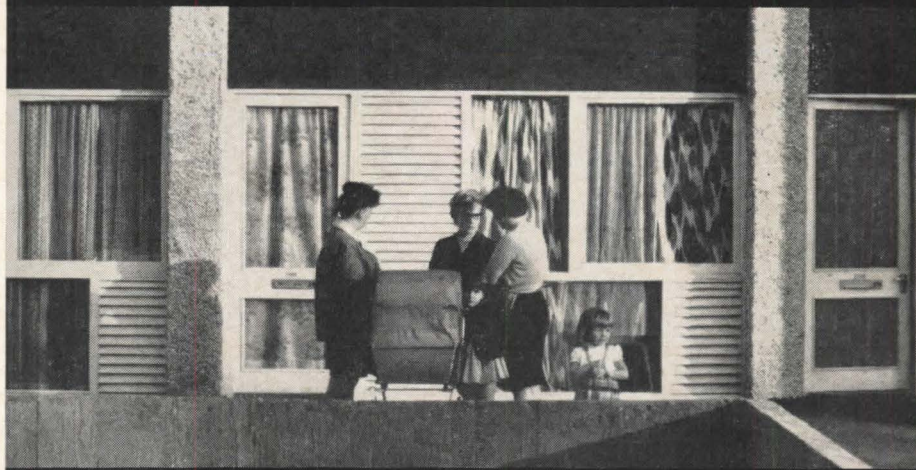
The town's first need was for quick, cheap housing, to relieve the sheer pressure of population on *Glasgow* (which is why *Cumbernauld* is there in the first place). The housing has to satisfy strict criteria: it must accommodate cars and people with alternative systems of access; it must provide most families with a handkerchief of private grass; it must satisfy a system of by-laws designed to perpetuate the inter-war housing estate that bears scant relevance to radical alternatives and in certain cases can't possibly be understood even by lawyers.

Finally, it must honor Scotland's tradition of low rent. This means building a three-bedroom house for around \$5,500 to rent for as little as \$200 a year. Within these limits, and thanks to unusually sensitive landscaping, the variety and quality of housing is no mean achievement.

But the housing might have been built in a different age. The scale of roads and center is urban. The scale of the housing is the scale of a village or a sequence of villages, never that of a town.

The charm of landscaped pedestrian routes, courts, and spaces must be set against the comparatively depressing areas of tarmac, cars, and garages — the price that must be paid by the environment to appease the tyrannical motorear.

The housing of *Cumbernauld* varies widely in architectural quality, from the very good to the very bland, but has two consistent characteristics: it is of suburban, rather than urban scale; and its pedestrian paths and spaces are interestingly and humanely handled. Note how the major paths penetrate the housing, as the major roads penetrate the center.





**"The roads and center
both have the ring of
the future about them"**

For the pedestrian, the actual physical distances may not be great, but the psychological distances certainly are. Cumbernauld is a hilltop town, so all walks to the center are uphill.

Most of the time you are unable to see your objective through the maze of generally two-story housing. When you do see it for the first time from the edge of the ring road, it appears to be farther away than it really is.

Like all the other new towns, Cumbernauld is planned on the basis of the antiquated zoning laws that separate the life of the town into convenient functional islands for "living," "shopping," "working." As environment, each island is discontinuous and exclusive—there is no overlap except for high-density apartments that will eventually be constructed as part of the center development.

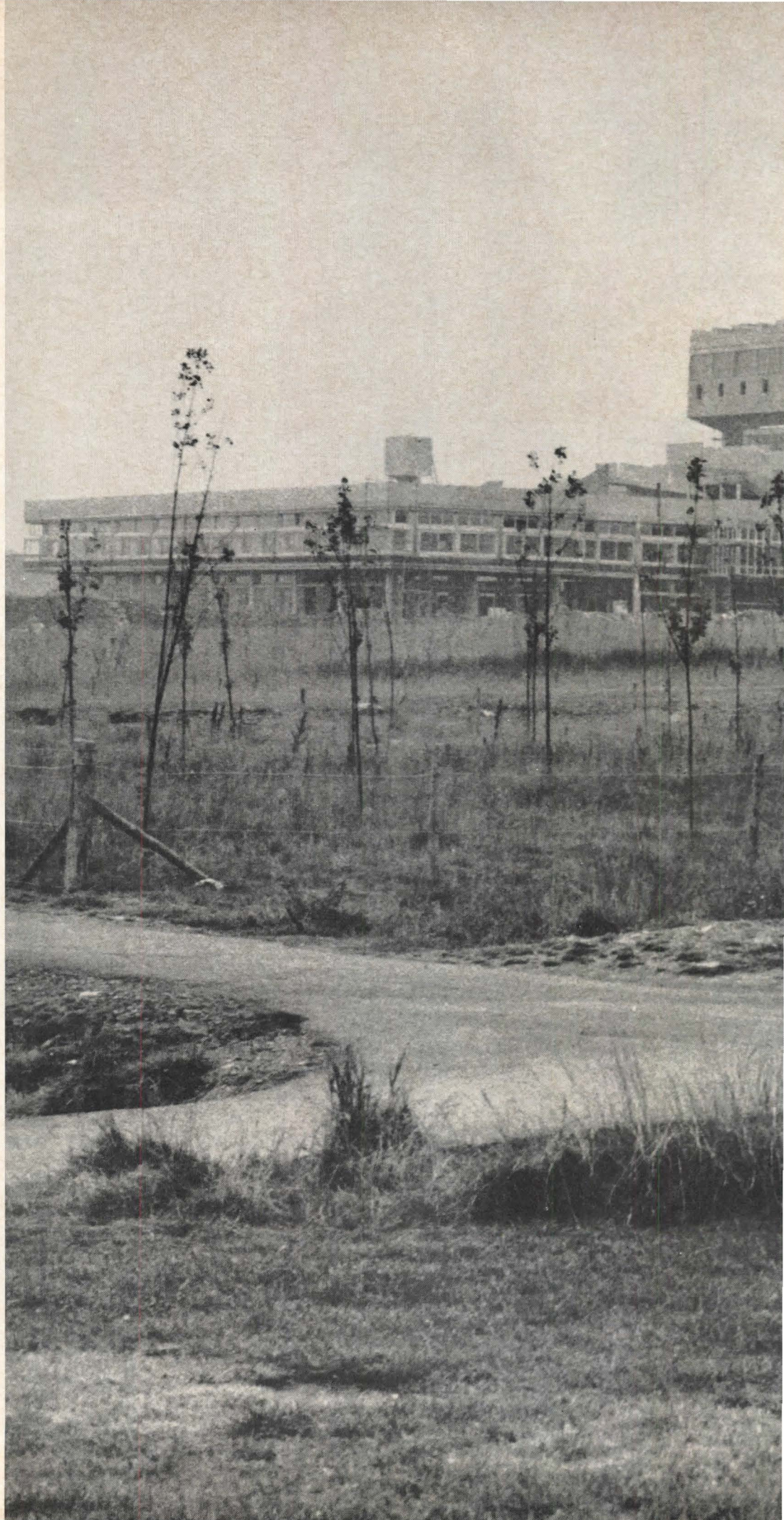
The roads of Cumbernauld will carry their load until we are all fitted with individual jet-packs. The center, too, has the ring of the future about it—both have been designed with tomorrow in mind.

Until it can be seen alive and kicking, in action, it's too early to comment on this single-minded gesture to bring the town indoors—and indoors is certainly the place to be for much of the time in Scotland. Cumbernauld's planners selected one of the most exposed sites in the region. The overwhelming impression, as you drive comfortably away on the mini-motorway, is of the center standing alone like a shipwreck in a sea of open space.

FACTS AND FIGURES

Cumbernauld New Town, Scotland. Owner: Cumbernauld Development Corporation; General Sir Gordon H. A. MacMillan, chairman; G. R. B. MacGill, general manager; D. R. Leaker, chief architect and planning officer. Group architect for central area: Philip Aitken.

PHOTOGRAPHS: John Donat, except pages 52-53 by Bryan & Shear; pages 54-55 by Douglas Scott.







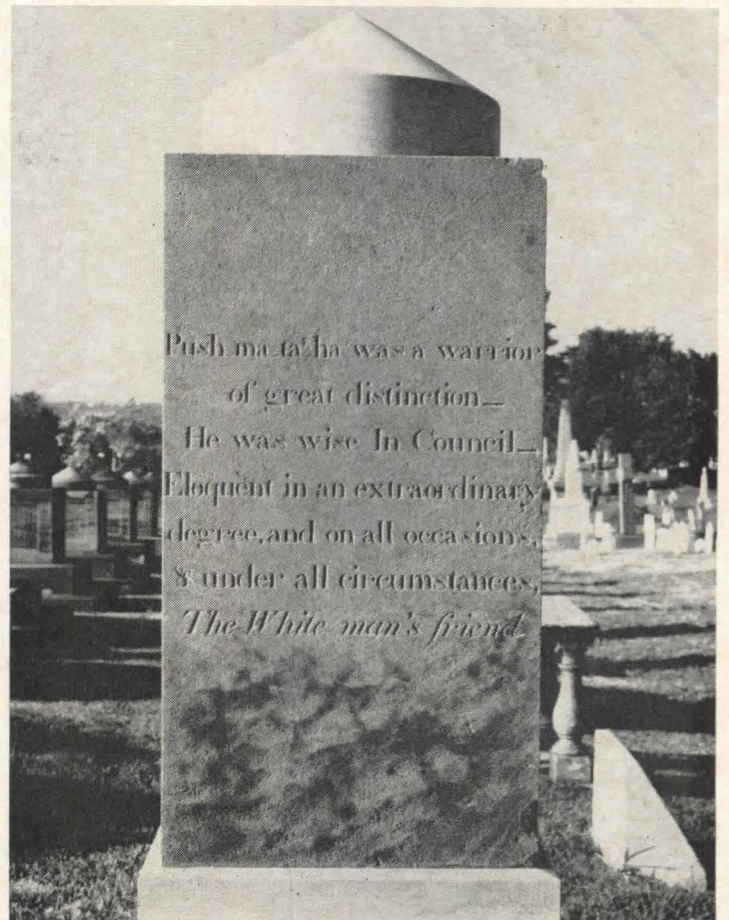
WASHINGTON'S UNKNOWN MEMORIALS

This month, the latest—and certainly the handsomest—portrait of the nation's capital will be published. The new book is entitled *The Evidence of Washington*; its author is William Walton, the abstract painter and one-time journalist whom President Kennedy appointed to the chairmanship of the capital's Commission of Fine Arts; and the

pictures for Mr. Walton's text were taken by Evelyn Hofer, the photographic genius who made Florence, London, New York (and places in between) famous. On these pages are reproduced some of Miss Hofer's photographs of Washington's lesser known memorials; the captions to the photographs are taken from Mr. Walton's text.

"Private Washington guards its inward existence with considerable jealousy. Walled gardens, houses that present noncommittal facades . . . these are evidences of the urge for privacy that continues alongside the acknowledged

duties of public life. Special delights are treasured . . . the eloquent sculpture by Saint-Gaudens (left) in memory of Mrs. Henry Adams, in Rock Creek Cemetery, the ancient and seldom-visited Congressional Cemetery (below). . . ."



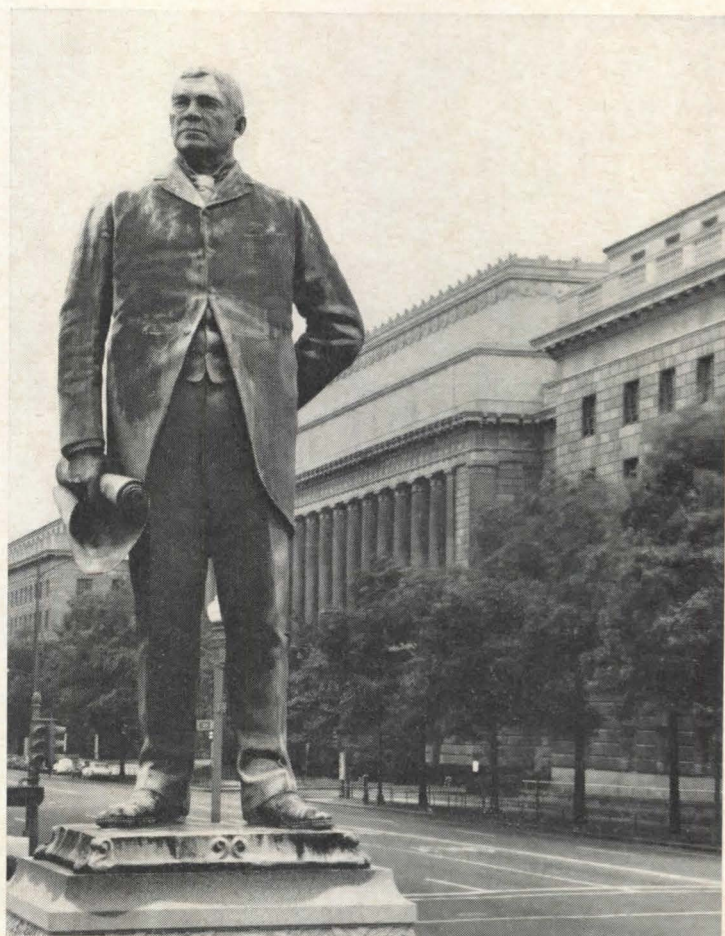
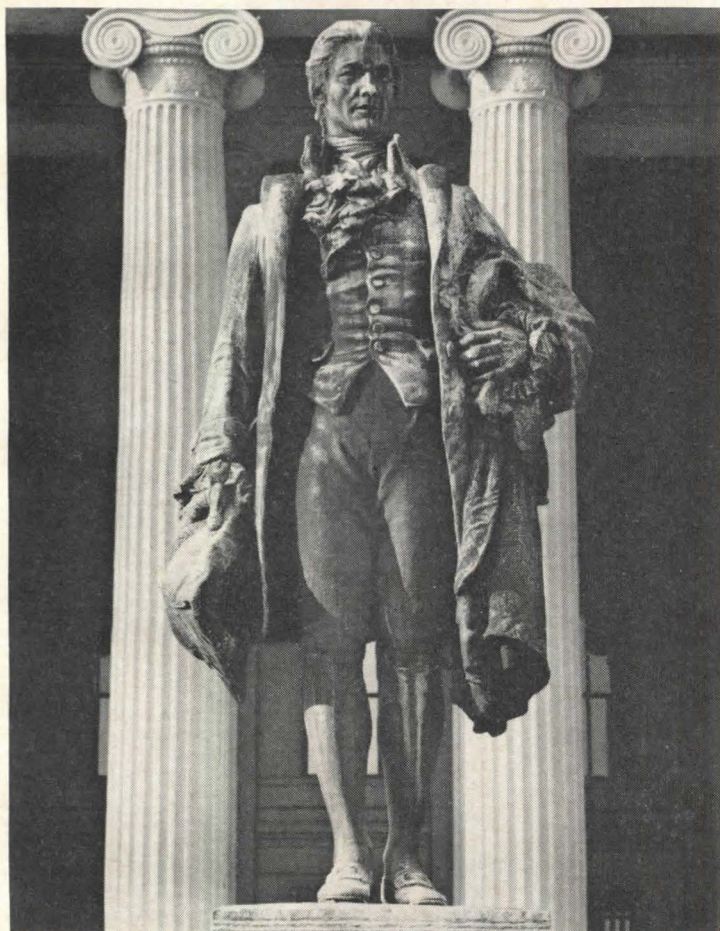


"The names of great leaders spring to mind from distant past as well as recent years. . . . Some are memorialized by sculptures, mostly bad, which line Statuary Hall, where every state is entitled to enshrine two of its heroes and a

hilarious hodgepodge of shapes, sizes and sculptural skills has resulted. Forgotten politicians stand on equal footing with peerless leaders, suffragettes (left), poets, priests and Indian chiefs. . . ."

Jefferson described how he had found Alexander Hamilton (below) pacing nervously one day outside President Washington's quarters. The new nation, Hamilton told him, was in crisis. Would the new federal government assume the debts run up by various colonies during the late Revolution? . . . The Southerners were holding out against Assumption. . . . [A] compromise was worked out—the Southerners would back Assumption in return for getting the capital where they wanted it, on the Potomac."

"Under [the] enthusiastic direction [of Alexander "Boss" Shepherd], miles of streets were paved, sidewalks built, 60,000 trees planted, an adequate sewer system created and reservoirs dug, all in a ruthless, high-handed manner worthy of Baron Haussmann at his best. . . . Boss Shepherd . . . was a figure typical of his time. . . . With poetic justice he ended his days developing Mexican gold mines that never quite paid off . . . he came home to unexpected honors (below) from a forgiving citizenry."

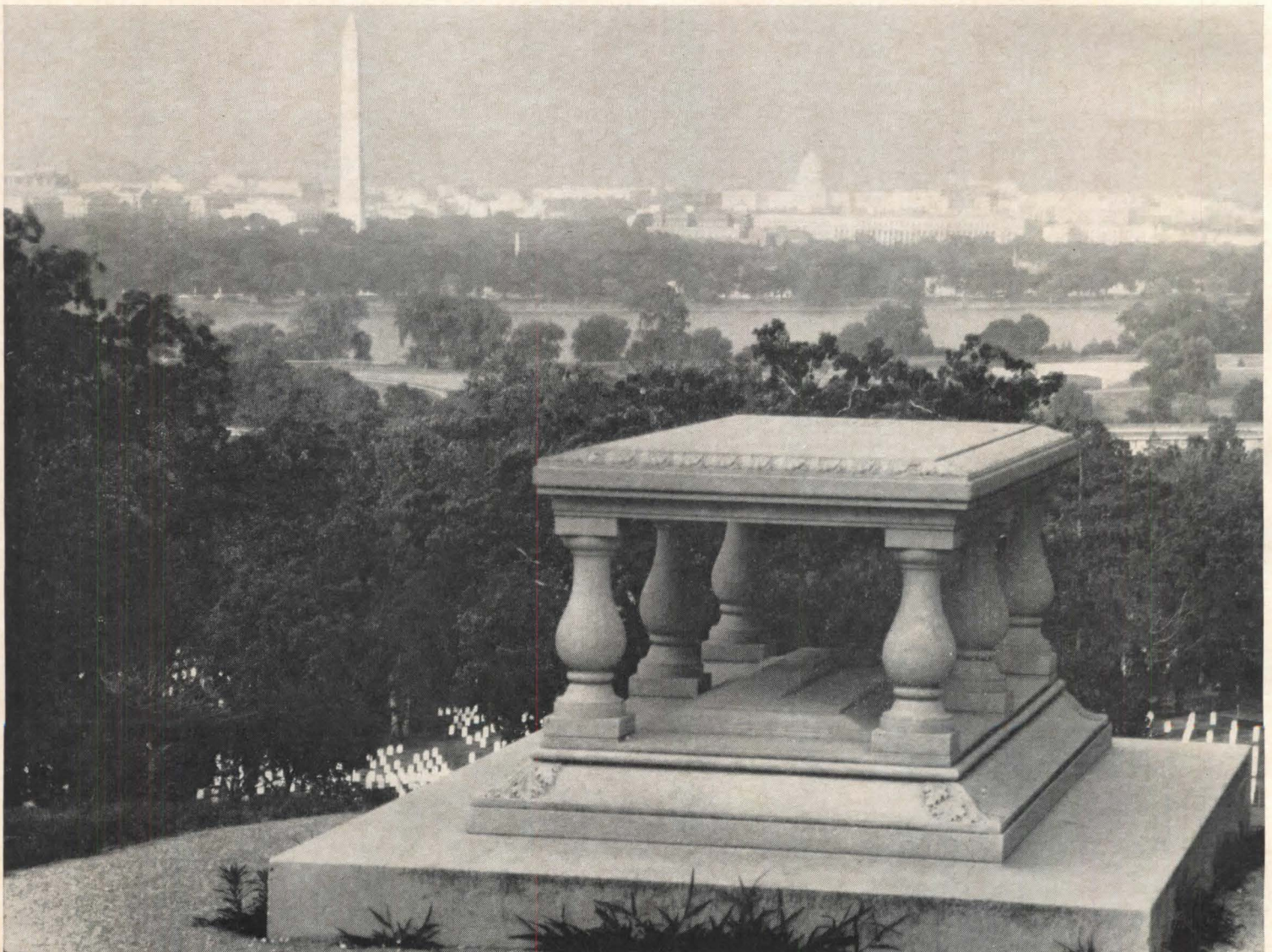


"President Kennedy's propensity for visiting his friends revived in Washington a feeling of presidential intimacy. Residents came to feel that if they kept their eyes peeled they might see him, not just on state occasions, but hopping from his car, swinging jauntily up the steps of a house just down the street. . . . John Kennedy's feeling for Washington

was probably deeper than that of any president since Jefferson. He had lived here most of his adult life. He knew the streets (right), the parks, the surrounding countryside. He treasured the city's beauties, deplored its ugly areas, and schemed, as president, to help make the capital a far more beautiful city than he had found it."

"In his own time he was neglected, a pauper on his deathbed. L'Enfant's fame, nonetheless, has long outlived that of most of his contemporaries. . . . L'Enfant was crotchety and vindictive. . . . Yet despite all negations, this strange, semi-educated man laid down a plan. . . . In 1909, the

bones of the almost forgotten French engineer were disinterred from the roots of a gnarled cedar in Maryland. . . . Then, with the highest officials of the land attending him, L'Enfant was buried in Arlington (below) on the lip of a hill overlooking the city he had designed."





In April of 1964, a young British expatriate architect set out, transistorized tape recorder in hand, to do something that someone should have done long ago. His self-set task was to record between the covers of a single volume the works and ideas of 40 leading American architects.

His name is Paul Heyer, and his book is being published this month under the title below (Walker & Co., New York, \$14.95 until Dec. 31 and \$17.50 thereafter). It is a handsomely illustrated book, but it is also an intriguing record of what currently occupies architects' minds. A sampling from the taped interviews follows.

Heyer began to work on the book without the usual props of foundation support or a publisher's commitment. He had taped an interview with Louis Kahn to take back to Britain on a return visit, and thought it would be interesting to see what others of or near Kahn's status had to say. "Before I knew it," he recalls, "I was writing a book."

Heyer was surprised at the accessibility of major American architects. "I suppose there were advantages to being a brash young man without creden-

Architects on Architecture

tials," he says. "They talked to me in a way they might not have talked to an established critic or historian."

He had some rather definite ideas of what the book should *not* be. "I didn't want to do one of those arch, once-over-lightly surveys that most visiting Englishmen do in America," he says. "I had been in practice here for five years [he worked for Stone and Stonorov, and now has his own office in New York], so I knew what some of the problems and limitations of the American situation were."

Heyer is quick to admit that his list of subject-architects is challengeable, but he feels that "at least 30" of the choices would have occurred to anyone in the field (in addition to those quoted below, they include Mies van der Rohe, who was not interviewed but whose work is shown; William W. Wurster; Ernest J. Kump; Edward A. Killingsworth; and collectively, SOM). Indeed, the one disquieting aspect of *Architects on Architecture* is its underscoring of American architecture's seeming need to make stars of individual architects. But that is a problem which Heyer did not create.

DEFINITION

RALPH RAPSON

"Architecture is both a fine art and highly precise social and physical science. It is the creative process of organizing and ordering total environment and relating it to man for his physical and spiritual use, comfort, and pleasure."

CHARLES WARREN CALLISTER

"Architecture is a social art, and self-expression is dependent upon communication with our fellow-man."

CRAIG ELLWOOD

"Great architecture is art, and the art in architecture is an immeasurable quality. But great architecture is primarily technique, and therefore a building must clearly reflect the order, the discipline, the measurable aspects of its being. Architecture must certainly be more than expression of an idea. And the real art in architecture is not arbitrary style or ethereal symbolism, but the extent to which a building can transcend the measurable to the immeasurable; the extent to which a building can evoke pleasure and profound emotion; the extent to which a building can spiritually uplift and inspire man while simultaneously reflecting the logic of the technique which alone can convey its validity to exist."

MINORU YAMASAKI

"An architecture to implement our way of life and reflect it must recognize those human characteristics we cherish most: love, gentility, joy, serenity, beauty and hope, and the dignity and individuality of man. . . . We must strive to enhance life through beauty and delight, and reflect the nobility to which man aspires. We must provide—through order—a background of serenity for today's feverish activity, and scale architecture to frame man happily in his environment."

HUGH STUBBINS

"I think of architecture not as individual buildings but as the whole fabric of our physical environment. Architecture is the man-made world in its totality.

It is everything we have built around us—our cities, our suburbs, our sidewalks, highways, buildings, parks, signs, street-lighting, right down to the houses we live in, and the chairs we sit in—all of our physical aids to living."

MARCEL BREUER

"There is the main concept, and there is the conception of details: between those two the design of a building just grows. Common sense, experience, taste, and work carry it to completion. But no common sense, experience, taste, or work is good enough without those first basic concepts."

PHILIP JOHNSON

"When you sit down to design a building you do not go through a rational process of building up a conception—it just sort of drifts into your mind and drifts out again."

JOHN M. JOHANSEN

"I find myself correcting people who say that my buildings are very sculptural, that I must have started from a formalist position and worked back, and made it fit functions. It is quite the opposite. . . . Architecture, to me, is a poetic statement of the structural and functional condition. This then distinguishes it from planning, regardless of scale."

R. BUCKMINSTER FULLER

"The profession of architecture, as practiced today, is a slave function, exercising good taste in purchasing and assembling industrially available components, a superficial veil to cover the steel or concrete frames which are completely conventionalized and organized by the engineers. This slave profession only goes to work when it is hired and told what to do. The client says, 'I am going to build a building on such a corner; this is its purpose; this is what it is to cost; this is what it should look like; this is what the building codes and labor unions tell you you are going to do; I want my relative's equipment used.' The architect plays his game with those dominoes. Under such conditions all you can do is arrange a few beautifully laid brick panels be-

tween the columns. That world of architecture is completely superficial and is going out. There are going to be individuals who do not assume a client knows what he wants or a society knows what it wants to do, but examine potential environmental

controls, human needs, world resources and industry's capabilities."

LOUIS KAHN

"I know architecture as a spirit rising out of the presence of architecture."

EDUCATION

JACQUES BROWNSON

"I remember, when I was still in grade school, becoming aware that if you built things a certain way they held together and if you did not follow certain principles they fell apart. At I.I.T. I came into contact with Mies and Hilberseimer; it was a question of how, through principles, buildings went together, and not trying to discover great building methods or some kind of self-expression."

WALTER GROPIUS

"In architectural education the teaching of a method of approach is more important than the teaching of skills. In an age of specialization, method is more important than information."

BENJAMIN THOMPSON

"I am . . . trying to find a method at Harvard where we can research, analyze, and synthesize. I feel that synthesis, so important to approach in architecture, may best be taught by both showing a certain structure of how to approach a problem, and then giving the student specific problems to apply this to. It is also necessary to get a cross-fertilization of different disciplines working together for generalized solutions. When presented with a too hypothetical design problem, students do not relate to their world today; then they go to the maga-

zines for research. We need to create a realistic approach that requires serious research at an advanced level. Then we must stimulate other disciplines to collaborate."

EDUARDO CATALANO

"As everybody knows, but nobody really takes advantage of it, schools of architecture have at their disposal large human and physical resources: libraries, laboratories, workshops, teachers and students, and continuous work for experimentation, cross-fertilization, and continuity in the development of ideas, and the accumulation of experience year by year. But in schools of architecture the potential resources are misused because, behind a screen of broadness and general education, the schools do not take a stand on the purposes of the studies."

"An expectant generation, unfortunately not rebellious, is not interested in attending sophisticated trade schools—as all the schools of architecture are—but wants instead to live in an atmosphere of experimental work, solidly supported by general, scientific and technological studies. They do not want to base their work on the temporary mannerisms that have dominated architecture and its teachers for a long period, but on permanent forces."

that one associates with historic monuments. A knowledge of great historical buildings enables the architect to remain in the main stream rather than be diverted by passing enthusiasms which can lead him to dead ends."

CATALANO

"I have always been very much attracted by the order, sense of continuity and structural qualities that pure geometry gives forms, especially those of the nonplanar family. These four-sided forms have excellent structural properties, while their geometry allows great simplicity in construction—two paramount needs in architecture."

JOHNSON

"The best thing a person could approach architecture with in the 1930's, in America, was a knowledge of Mies. One felt that one could grasp his direction, and he intends it that way. It is Mies's conviction that architecture is teachable, and that the essence of architecture is building; if you build cleanly, you will arrive at architecture by a sort of hierarchy of attempts—which is, of course, completely wrong. Mies, like most architects, is under the delusion that he does what he says—but it is very fortunate that he does not. He pays no more attention to structural clarity and functional judgments than any other architect. His approach is his passion for 'form,' which he would deny . . .

"The leadership has been Mies's. However, Le Corbusier's influence has been just as great because his form sense is so much richer, so much more changeable, and sculptural—although I hate the word. I am so Miesian that to me architecture is *bauen*, not plastic. It is made with sticks and stones and bricks and pieces of marble; it is built up. Le Corbusier's idea is a sculptural one: the Visual Arts Center is not *bauen*—Mies would not like that building. I love it but I have no intention of doing anything like it. To me it is death; architecture is a more serious business. I grant Le Corbusier his ability to do it, but that is not the way I see architecture."

JOHANSEN

"The creative architect should not read too much or be too aware of the work of others, but certainly he should be aware of his own derivations and sources. I am interested in the conditions and the environment of primitive forms of life, human and sub-human, and also in more primitive and prehistoric structures such as African, and early Greek. I am interested in the process by which the product evolved rather than the finally perfected form. I am more interested, for example, in the clumsy search at Paestum than the perfection of the Parthenon. It seems to me that when a building has been perfected, the architect has killed it. And I am more interested in life."

SELF-EXPRESSION

WEESE

"In this age of increasing organization, man is losing touch with nature. Virtuoso performances receive acclaim. If an architect produces a tour de force defying gravity, it is bound to attract attention. But unless the work becomes part of the stream of development, it is meaningless. Civilization finds its own forms as it develops. My concern, and most action springs from protest against chaos, is helping to bring order from this chaos—an architect can only do so much. . . . 'I would rather match a cornice line, or set one that could be matched, or establish a pattern that is good enough to be followed, than try to build yet an-

other spectacular building that stands by itself."

STONE

"Architecture is not millinery. Fashions pass by, buildings remain to become grim reminders of transient enthusiasms."

JOHN CARL WARNECKE

"The liberty for personal expression can almost destroy a total environment: the Yale campus is a good example. Washington is an environment that has been cared for by many people in which there is an inherent overall continuity and form. There must be a sensitivity to such an environment; an architect should not do just whatever he wants. Yet he can still display great di-

INSPIRATION

HARRY WEESE

"When I started in architecture I was very much influenced by the Scandinavians. One of my favorites was and still is Aalto; the other is Le Corbusier. I have a tremendous respect for Mies but no emotional affinity, except for his cold and beautiful logic. The impact of Wright washed over me in my environment; I took him for

granted and felt he took credit for the architecture of an entire era to which many others contributed."

EDWARD DURELL STONE

"I believe that the inspiration for a building should be in the accumulation of history. Although none of my buildings copy classical examples, they have a formality and, I hope, a dignity

versity and creativity in his work while respecting the environment in which he builds."

ELLWOOD

"Confusion would be an understatement for the current status of architecture. There exists chaotic and critical disorder, a jumbled, turbulent, irrational mess. Impatience is part of our problem, as too many of us are caught in the race to be first in creating a new architecture. There seems to exist among our leading architects a mass denial of continuity. Each new project is treated as a separate essay in abstract design, without any affiliation to what the past has taught us, without any real concern for the present, without any relationship to the work of other architects."

I. M. PEI

"The discipline of restraint is all the more important today when we are confronted with the

enormously difficult task of re-making our cities. As artist-architects the temptation is to give self-expression to every building we design. We tend to forget our greater responsibility to the whole—which is the street, the square, or the city itself."

JOSEPH ESHERICK

"One of the greater problems with modern painting is to know when a painting is finished, and with architecture, to know when a problem is solved. Often an architect does not know that because he does not know what the problem is. Aware that a problem exists, yet not knowing what it really is nor having any real method to approach it, architects are inclined to invent one. The Beaux Arts education invented problems, mostly esthetic ones, and also the rules for solving them. Esthetics is a man-made problem, whereby you can define rules just as in chess."

INNOVATION

BERTRAND GOLDBERG

"The three-dimensional mystery of spatial architecture is with us once again, and it has brought with it the exploration of method. Never in the past 500 years has there been so much invention in art and architecture. Never in the last 3,000 years has the post-and-beam been so limited in its ability to construct the spatial dreams of our architects. Our new architectural forms abandon the concept of system for system's sake and produce totality of building; a monolithic quality, a statement of design with a beginning and an end, which finds kinship with the 14th-century High Gothic Summa aiming at the totality of one perfect and final solution."

BRUCE GOFF

"Mies says that he has no use for an architect who thinks he has to invent a new style of architecture every Monday morning; I think you have to invent one for each building, whether it is Monday morning or not."

VERNON DE MARS

"I am grateful that at present some of our colleagues are exploring the very frontiers of esthetic expression in the new architecture, with a heavy em-

phasis on architecture as sculpture. But most architecture must be much more than sculpture. In a problem well solved, since the esthetics are by definition built in, there is ultimately a pleasure that is part sensual and part intellectual which comes from experiencing the rightness or appropriateness of a solution, rather than concise formal relationships. If this is true in single works of architecture, it is even more so in the collective architecture of the townscape."

GROPIUS

"As the evolution of form develops always in successive waves of reactions against preceding trends, it is only natural that these early testimonies to a newly found freedom in architectural design have been followed by a wealth of new conceptions and refinements in the field of space relations and in the use of new techniques. If one compares the typical architecture of the 1920's with that of today, the most significant development lies in the increasing accentuation of three-dimensional plasticity. Structural boniness, curved shells, recessed and protruding building parts offer a rich play of light and shadow absent from

the surfaces of the curtain wall, which for so long has become the one-sided trademark of modern architecture. Personal interpretations of these fresh experiences have enriched our vocabulary and pleased our audience, and the stage seems to be set for a major contribution to the evolving image of our time . . . if we could only keep from straying into a new eclecticism or from adopting a sort of super-functionalism that borders on mysticism."

PIETRO BELLUSCHI

"It is part of man's nature for survival to wish to understand his condition, to find the means to adjust to it, to find and believe in some kind of order. It is in this context that we must view the artist-innovator. We need him as a spearhead in the search for formal order, even when his forms are tentative or abstract. He teaches us to see; he seeks new meanings, new songs to fit the words—and if the words are inadequate, he seeks to invent new ones. Through him, we gain that larger understanding needed to match the new dimensions of human knowledge. It can be argued that the form-giver, while sometimes pointing the way toward what we should do, at other times may reveal to us exactly what we should not do, saving us from bad ideas with which we may have been toying. Forms as well as ideas become crystallized through age or usage, thereby losing their strength and ability to move us. We rely on the artist to make them free and eloquent again."

JOSE LUIS SERT

"I am not against the present divergence of approaches and ideas, because our challenge is not in building isolated buildings but whole cities and new communities—which allows for this variety. The ideas we all stood for in the C.I.A.M. years were sound in many ways, but it has perhaps been advantageous that the cities we conceived of then have not materialized. Although we might have achieved interesting experiments, they would have been rather dull. We were operating with a very limited vocabulary and rigid principles. The great advantage of the postwar years has been the development of a much more flexible vocabulary in architecture, and the awareness among many of the

younger generation that we are part of a larger plan, which hopefully will enable us to build more interesting and lively cities."

BREUER

"It should not worry us that on occasion the current scene seems chaotic in some quarters; architecture has its own, built-in correctives. Forty years ago, when I heard my first lecture on a not-yet-born modern architecture and an already-born modern art, I heard that word chaos, and I have heard it a hundred times since. I am sure that art critics of ancient Greece talked about chaos when their sculptors began to separate the arms of a figure from the torso. Nothing is easier to discover than chaos everywhere. . . .

"Architecture progresses by attacking on all fronts. I would like to see individual expression, whether the result of the analytical and functional approach or the result of imagination and rebellion, lead to more valid expressions of form and function in our architecture. To be valid, they will have to follow the main current of architecture. But I would welcome these individual adventures as laboratory experiments—visual, technical, or social ones—for a better architecture which moves forward."

JOHNSON

"In 1952, about the same time that my whole generation did, I became very restless. Pei and Saarinen were Miesian; Rudolph once told me that in his Florida work, he was a poor man's Mies. It was the only thing we could grasp—the only basis for architecture. In the last decade there has been such a violent switch that it is almost embarrassing. But it isn't a switch, so much as a centrifugal splintering of architecture, to a degree that I don't think has been seen in the past few hundred years. Perfectly responsible architects build, even in one year, buildings that you cannot believe are done by the same person. . . . History will somehow have to unravel it."

JOHANSEN

"Our architecture must be less rational, eloquent, complacent, finite, complete, and specific. Unlike a clean and perfect neoclassicism, we must design buildings that are improvisations, that allow for further growth and adjustment without destroying the idea."

URBANIZATION

GOLDBERG

"The increase of taxation will force new solutions to our planning problems. We cannot burden either business with buildings used only thirty-five hours a week, or apartment buildings used only at night and on weekends, with our total tax loads. We can no longer subsidize the kind of planning that enjoys only the single use of our expensive city utilities. In our 'cities within cities' we shall turn our streets up into the air, and stack the daytime and the nighttime use of our land. . . .

"For our future we should no longer build separate buildings in our center city. We should think rather of building environment, total environment for the total men our modern faith has just reclaimed. Our future environment could repeat for us a great humanistic renaissance and should give us the building of cities within cities for these men of faith."

RAPSON

"We have many buildings that compare with the best in history that are lost in some of the meanest and most shapeless cities known. If architecture is the true gauge of a culture, then this purposeless denial of human dignity is a devastating commentary on our world today."

DE MARS

"Few human activities take place without planning, and the planning of these areas must have been good—that is, right for the situation. Yet, most likely, the planning was actually a collection of little plans, each sensitively solving the little problems and coming up with a collective solution for the whole area. It is true that when you experience these solutions they form an entirely different kind of visual composition from the 'big design' of the architect and planner; the result is much closer to the way our sister arts, painting, music and literature, put things together today. Are there no lessons for us here?"

CALLISTER

"Changes are coming in everything as a result of the expanding population. I am anxious to start

the consideration of these things in the higher echelons of evaluation. Working on a proposal for a community of 250,000 people, I am aware of how ill-prepared we are as architects to know the real activity that should determine this design. It is not the buildings, or their shapes—these are superficial to the vitality and meaning of life. The environment will be created by creating these new activities."

RAPHAEL SORIANO

"Our society is large and complex today, and the type of cities we have to plan is not something you can arrive at with beautiful pictures that have nothing to do with the ultimate functions of the city. Pisa was a marvelously designed geometric fortress, but the society was small. An urban system now can be approached only by the most accurate analysis of tremendous amounts of information by precise instruments."

A. QUINCY JONES

"Many people criticize Los Angeles without understanding that it has evolved as a reaction to a need and as a reflection of a potential. It is not ugly because it is an automobile city, as many critics say, but because people have not realized how to use the automobile. The freeway is not always a curse esthetically and, in many instances, it is becoming an asset to the city. . . . The problem is that the freeway should be designed more intelligently in relation to the total city."

CATALANO

"We face a historic process that cannot be avoided. Cities are expanding beyond controllable sizes; government land control and financial assistance lead to the construction of large urban complexes, introducing new relationships that will, in a few decades, result in the vanishing of the isolated individual building, as it is conceived today, that satisfies individual needs and whims. . . .

"To cope with the vastness of the problem and simultaneously take advantage of it, architecture will have to move away from its cyclic curve and depend entirely

on rationalized designs and systematized construction based on truly industrialized processes. For there will be no hope of solving our increasing social and economic problems if we do not put architecture along the curve followed by science, technology and industrialization.

"I have not seen yet an urban nucleus able to grow topologically with consistency. The city of Washington represents the worst example of a preconceived geometric pattern, without the chance of expanding beyond a few terminal formal points."

SERT

"Today, no architect is really worth very much unless he is interested in the larger issues, and this great challenge. Unfortunately, we are not given the opportunity to do very much about it."

PAUL RUDOLPH

"The complexities of our time mean that buildings should not be thought of as complete within themselves—they should have an open end, and should change. However, we tend to build boxes and call them buildings. I am firmly convinced that you cannot put up boxes scaled merely by the owner's pocketbook, and call them a city. You must be able to join one building to another, to make transition from one scale to another, and to define the space in between in various ways and by various heights."

PEI

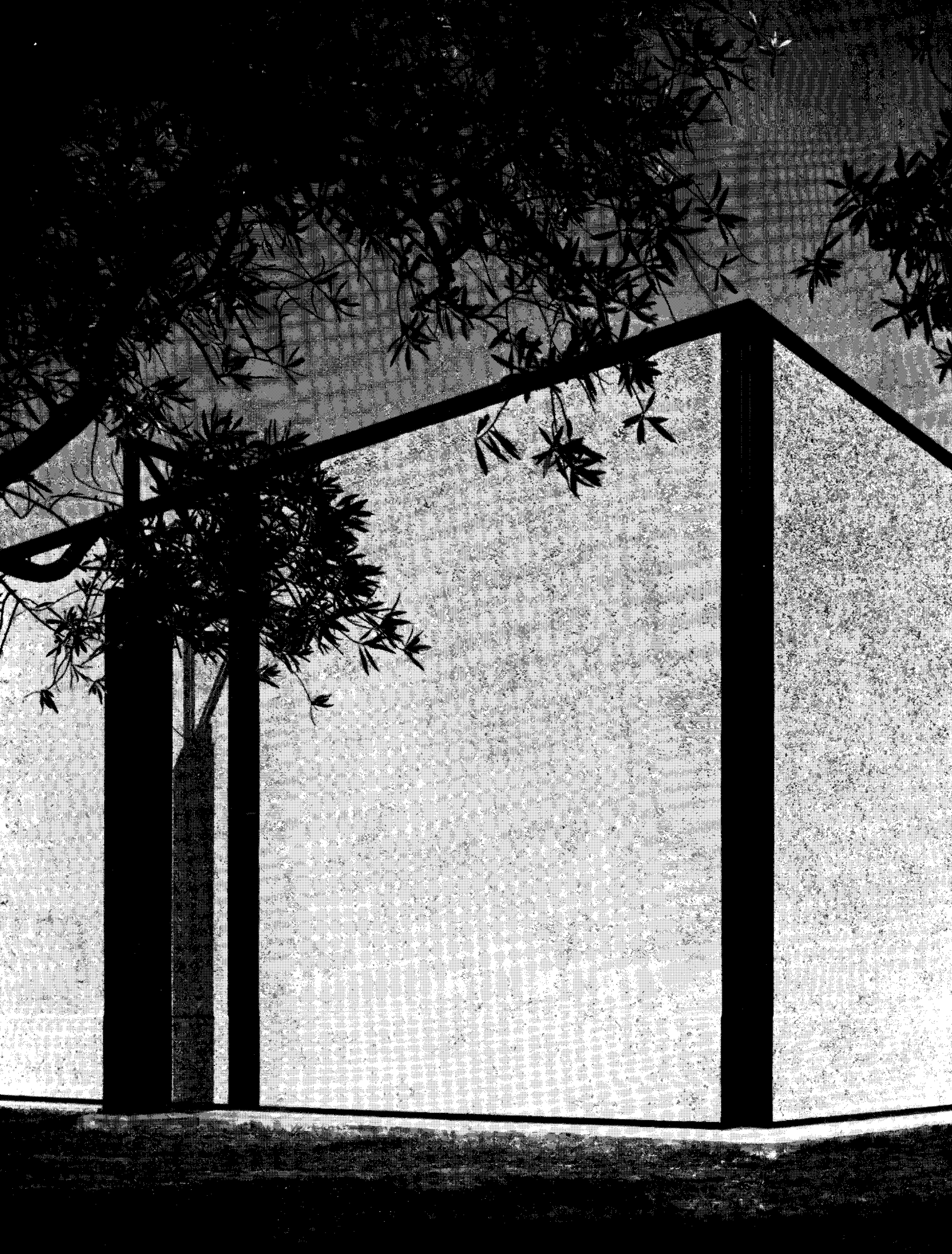
"In buildings designed for urban situations, generally I prefer a somewhat more unified building envelope expression. I see no need to express an arbitrary variety on the facade of an apartment house or an office building designed for a multiple and transient tenancy.


"The complexity of the requirements of urban life and need to accommodate change demand flexibility. The highly articulated design is an inflexible design, hence in my view inappropriate."

EDWARD L. BARNES

"Fly over our cities at night and you will see that the gridiron disappears and the meaningless 'city beautiful' vistas vanish. What is etched in light are the rivers and streams of major traffic, circling and defining quiet

(continued on page 96)





LEAVING THE COLUMNS OUTSIDE

In this 6-acre computer plant, Craig Ellwood has achieved a complete and highly successful disengagement between structure and enclosure

When Scientific Data Systems Inc. came to Craig Ellwood last fall, they asked him to meet three conditions in the design and building of their plant south of the Los Angeles airport: first, they wanted the plant in a hurry; second, they insisted on a per-square-foot cost of \$10 or less; and, third, they wanted the building to be handsome.

The SDS plant was opened on October 1, 1966; and when it was, Ellwood had met all three conditions: he had designed and completed the big facility six weeks ahead of schedule—less than a year after the building program had been presented to him in its final form; he had held the psf cost down to \$9.50 (including landscaping, office partitions and ceilings, air conditioning, etc.); and he had produced a distinguished piece of architecture for his clients.

None of this was done by some sleight of hand; it was done by a combination of cold logic, considerable experience, and talent. On these and the following pages are shown the ingredients that made the SDS plant successful, and the evidence of that success in the views of the building itself.

Steel trusses were stretched to their outer limits

The SDS plant was built so cheaply because its structure was forced to do much more than steel is normally expected to do.

The framing system devised by Ellwood and his engineers took advantage of the economies inherent in *continuous* spans: alternate trusses running north-south were made to cantilever an extra 8 feet at each end, beyond supporting columns (the structural bays are 48 feet square); so that these primary trusses in fact measure 64 feet—and 32-foot-long sections of steel truss were hung between the ends of the cantilevers to complete the primary structure. When roof loads were applied, the cantilevered ends of alternate trusses went to work reducing the bending moments at all center spans. In other words, the principle of *continuous* structures came into play. (See diagrams, right.)

As a result, the steel trusses at SDS could be pared down to a depth of 48 inches—which is the depth required, normally, by *simple* spans 32 feet long. The secondary trusses, running east-west and set 8 feet on centers, are only 24 inches deep.

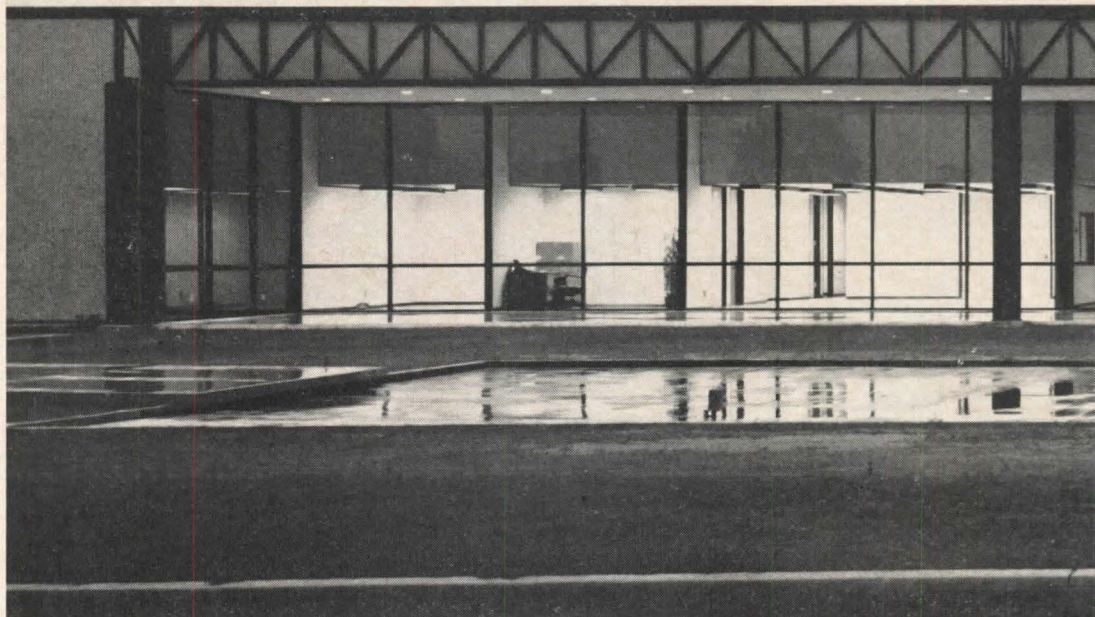
In buildings of this size the advantages of structural continuity are often forfeited because problems of expansion and contraction make it impossible to build fully continuous spans.

But by disengaging the framework from the walls that enclose the plant, it became possible to allow for enough movement in the disengaged frame to make it entirely continuous, despite its great dimensions (the plant measures 560 by 464 feet).

FACTS AND FIGURES

Scientific Data Systems, El Segundo, California. Owners: Clair L. Peck Jr. and Robert S. Norman. Architects: Craig Ellwood Associates. Landscape Architect: Warren Waltz. Engineers: Mackintosh and Mackintosh (structural); Stanley Feuer (mechanical); Sarvasy & Associates (electrical); James F. Nelson (plumbing). Acoustical consultants: Bolt, Beranek and Newman Inc. General Contractor: C. L. Peck. Building area: 260,000 sq. ft. (gross). Construction cost: \$2,470,000.

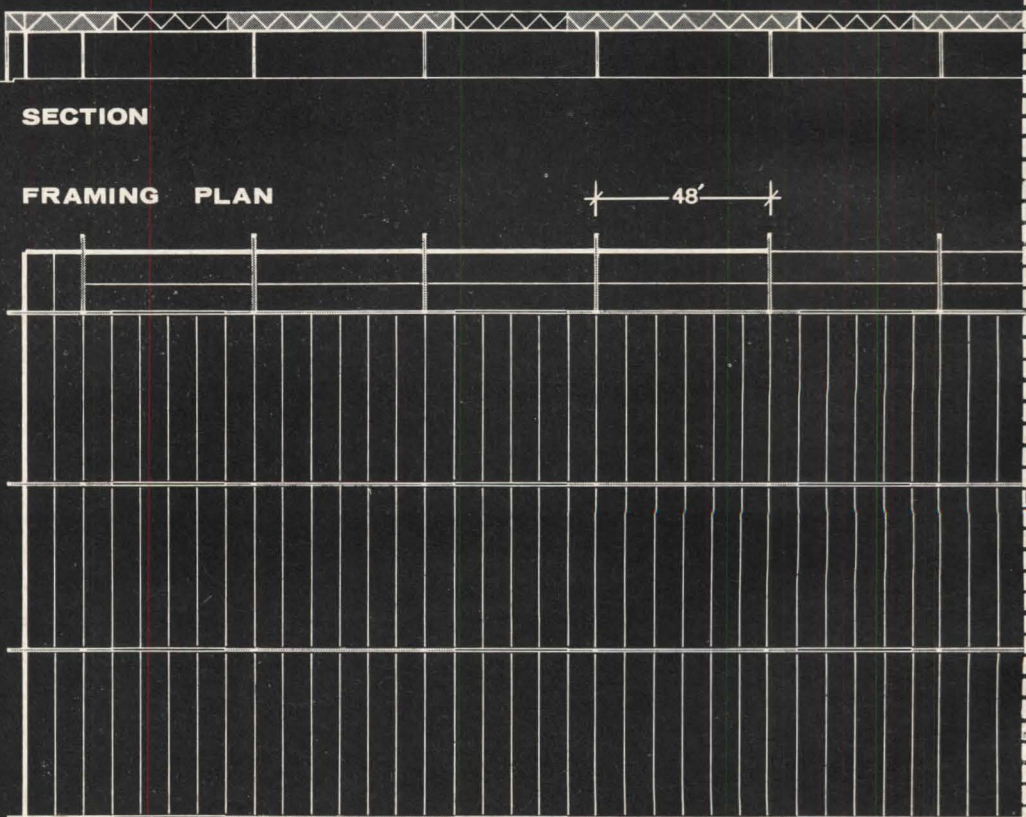
PHOTOGRAPHS: Marvin Rand.

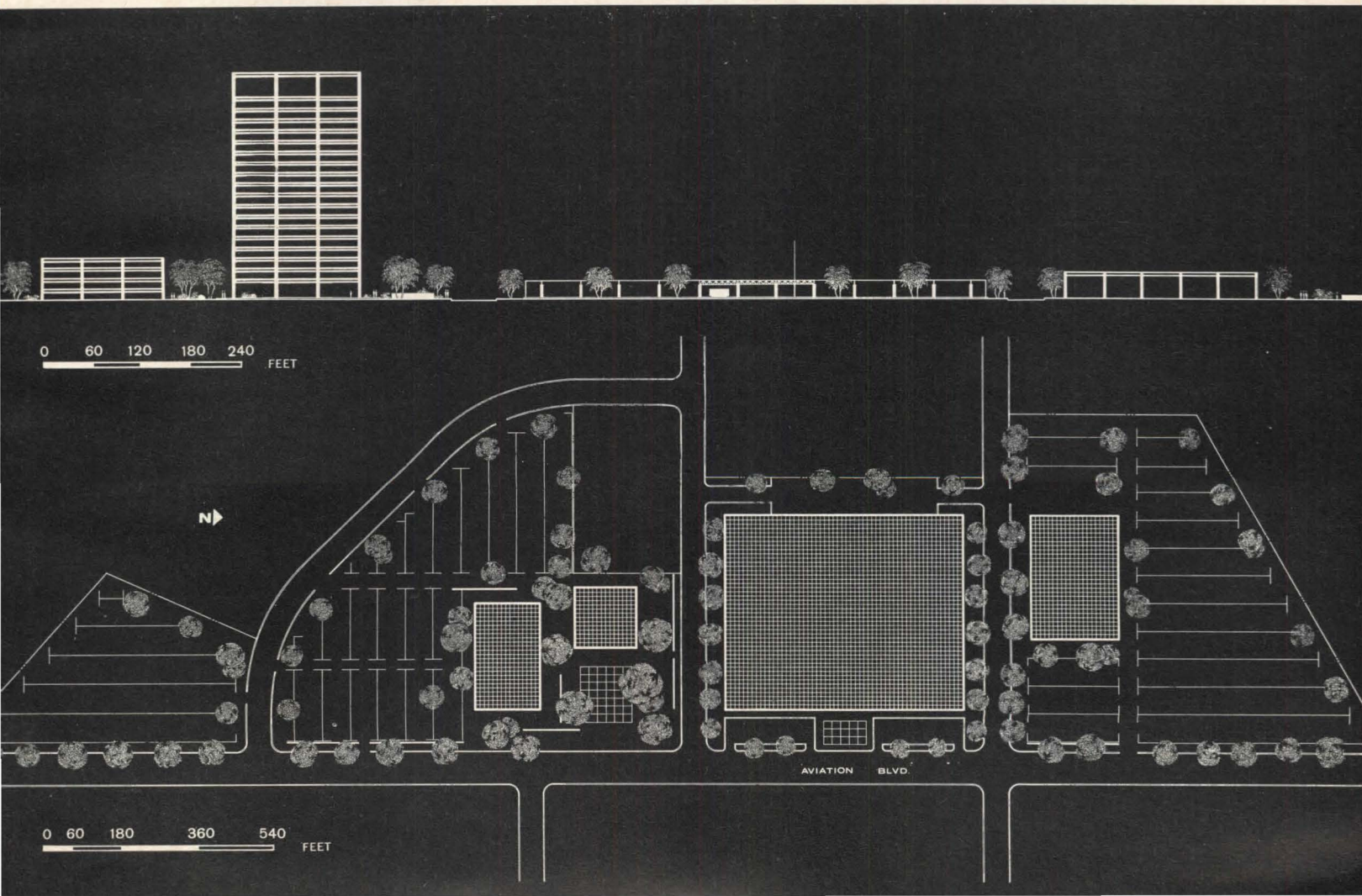
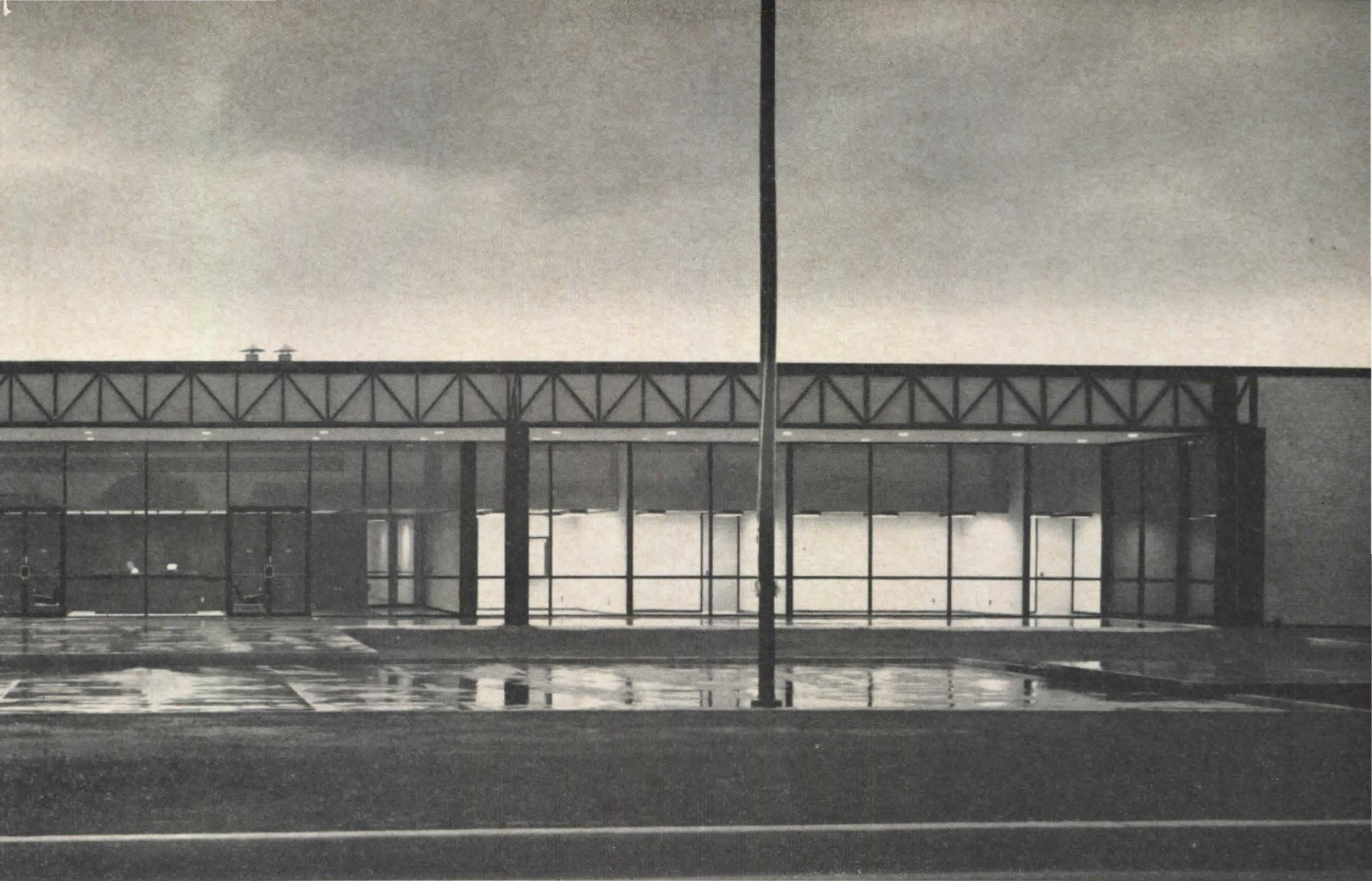


Top: Main entrance, three bays wide, faces Aviation Boulevard to the east. Below: Partial framing plan and section explaining structural system.

Right: Ellwood's proposal for larger SDS complex, now under immediate consideration. In addition to present plant (large rectangle), there

would be a 75,000 sq. ft. warehouse to the north, and an engineering lab and office tower (with a combined 300,000 sq. ft.) to the south.





Steel frame was disengaged from concrete walls

The details shown at right explain how and why the steel frame at SDS was separated from the concrete walls that enclose the 6-acre plant.

First, a description of *how* the steel frame was disengaged: The columns were made free-standing outside the perimeter of the building. Each column carries one of the 48-inch-deep steel trusses, and each truss continues right through the perimeter walls with only a flexible, waterproof silicone joint between structure and walls.

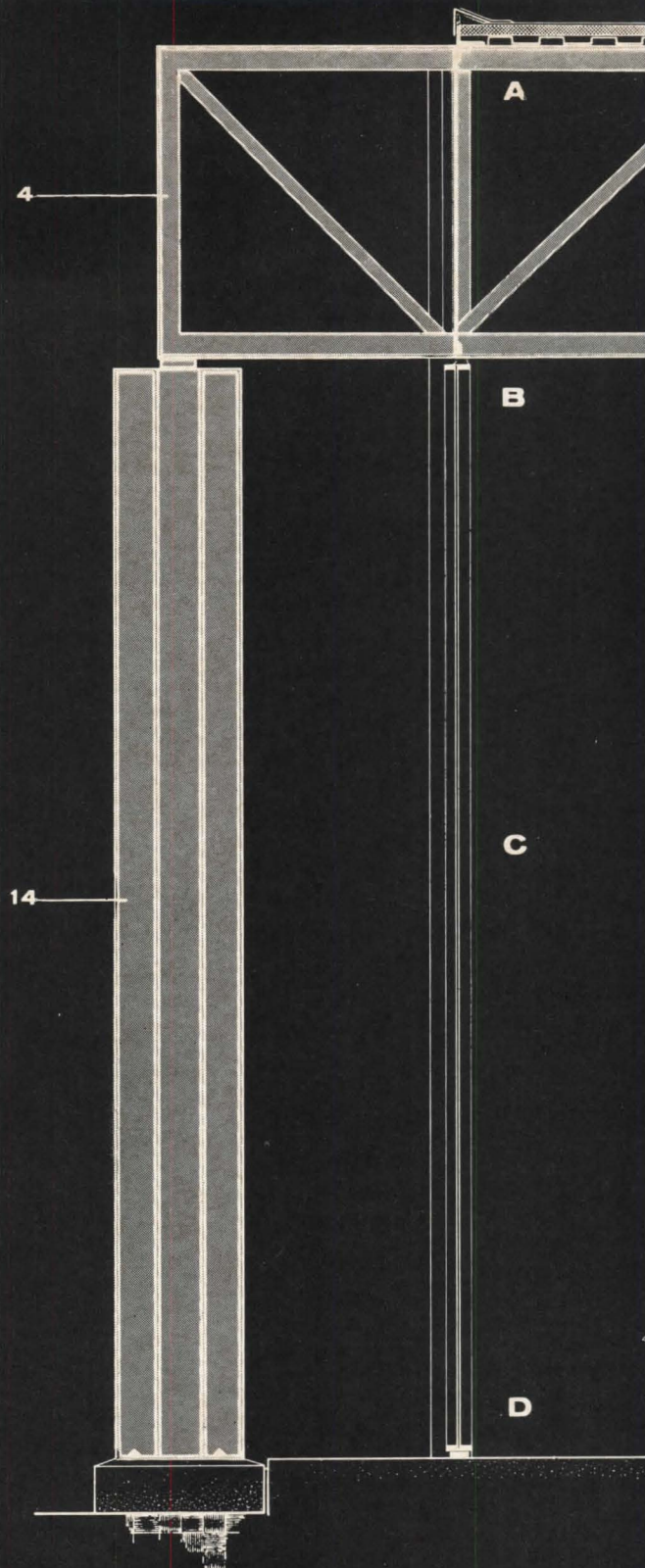
Those walls are of precast concrete panels, which measure 16 feet wide by 17 feet high, and were cast in 6-inch-wide steel channels. The channels were then left in place, forming a scuff-proof edge; and the panels were tilted up into place behind the freestanding columns.

Ellwood turned the vertical wall-joint behind each of the columns into a slot of glass that both accents the structural system and lets some natural light into the building.

And, second, *why* the steel frame was disengaged: In the course of an average day, this building may easily expand or contract by 1½ inches. If the structural frame had been rigidly joined to the perimeter walls, the former, or the latter, would probably have cracked in the course of such movement. As it is, the walls stay put and the steel frame moves at will.

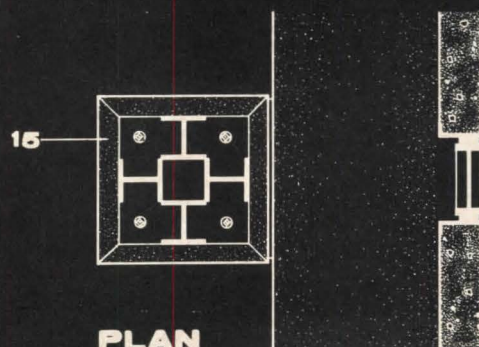
This disengagement of structure and enclosure enabled the contractor to erect both of them independently and simultaneously. And this, of course, accounts for the extraordinary speed of construction.

There has long been an assumption that good architecture is sure to cost more. When Ellwood was asked why SDS had commissioned him, he said that he didn't really know—but that he thought it was because "we were able to produce architecture within limited budgets." This may well be one of the great understatements of the year.

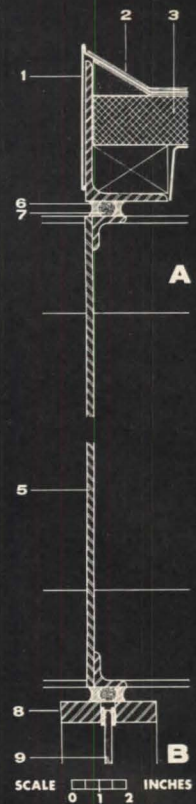


WALL SECTION

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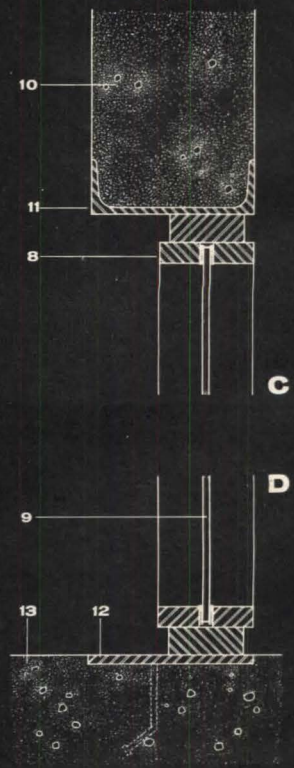


PLAN

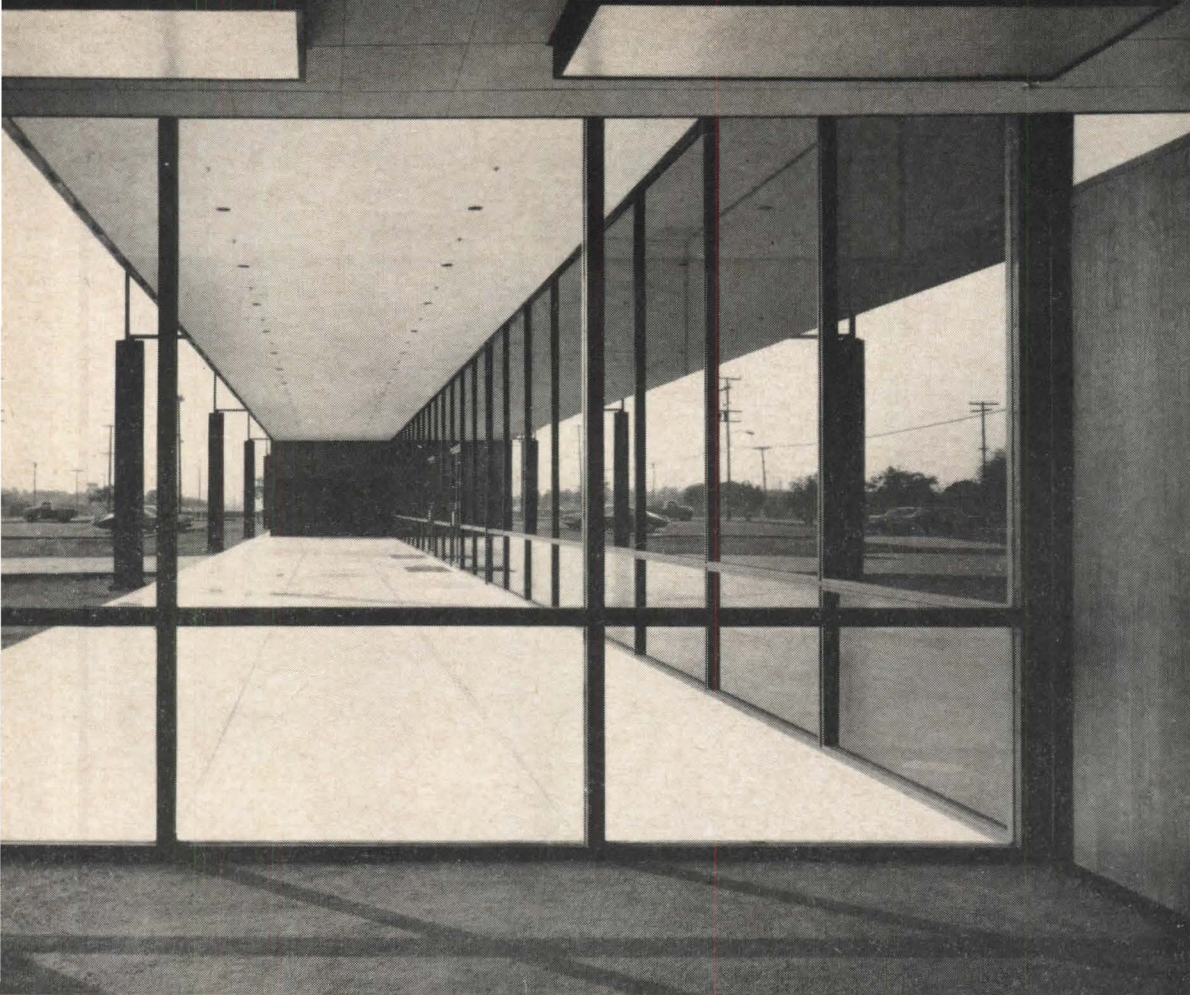


- 1 METAL FLASHING
- 2 ROOFING
- 3 INSULATION
- 4 STEEL TRUSS
- 5 STEEL FILLER PANEL
- 6 SILICONE SEALANT
- 7 ETHAFOAM ROD
- 8 GLAZING UNIT
- 9 WIRE PLATE GLASS
- 10 PRE-CAST CONCRETE TILT-UP PANEL
- 11 FORMING CHANNEL
- 12 SILL PLATE
- 13 REINFORCED CONCRETE SLAB
- 14 STEEL COLUMN
- 15 CONCRETE BASE

SCALE 0 1 2 INCHES



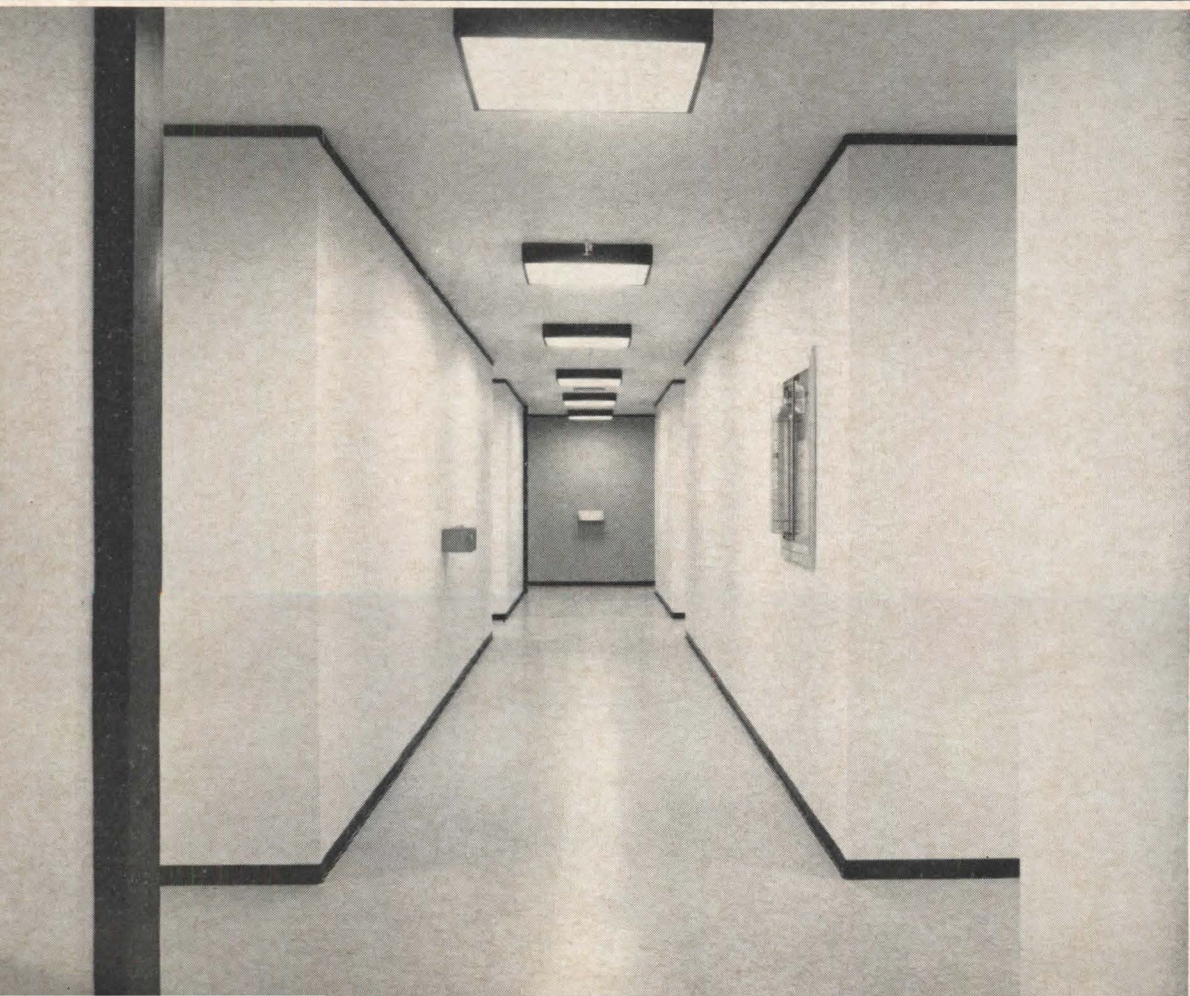




Above: Entrance porch, facing Aviation Boulevard. Below: Typical office corridor within the plant. Partitions and hung ceilings, as well as air condition-

ing and lighting, were covered by the \$9.50 psf unit cost. Right: Interior of plant, showing lacy steel truss framing, and the suspended lighting system. The

big trusses, despite their great length, were kept to a depth of 48 in. The secondary trusses, running east-west, are 8 ft. on centers and only 24 in. deep.







FORUM CONT'D

Francisco's Board of Supervisors threw out its designs for two subway stations under Market Street.

The major forum for anti-BART sentiment was *The San Francisco Chronicle*, which published reams of critical articles, including a four-part series by Allan Temko entitled "How to Clean Up the BART Mess." "Unless there is a new, healthy spirit at the highest level of BART," Temko concluded, "the billion-dollar system—already gravely jeopardized by blundering management and insensate engineering—is headed for total catastrophe. Put another way, this means that General Manager B. R. Stokes, a former public relations hymnist, and all he represents, must go."

There were no signs that BART's board was getting ready to fire Stokes, but it did accept Architect Donn Emmons' resignation. As for Landscape Architect Lawrence Halprin, the board still hoped to get him back, even though he had said he would not return without Emmons. Three directors, all members of the board's architectural review committee, said they favored naming an outstanding architect as consultant and making him responsible directly to the board—one of the goals Emmons and Halprin had demanded before they quit.

By an 80 per cent majority, Berkeley's voters agreed to take on as much as \$20.5 million in bond costs last month to put BART's "aerial" lines underground. BART's official position in the election was neutral, but it was clear that BART would rather not have tak-

en the time and trouble to please the citizens of Berkeley.

In San Francisco, SOM's designs for two identical subway stations under Market Street were declared "unacceptable" by the city. The reason was that the station mezzanines had 10-foot flat ceilings and double rows of columns, in contrast to an earlier SOM scheme calling for clear, open spans with a higher, vaulted ceiling (below).

Though it wasn't saying so, SOM (especially its chief of design in San Francisco, Edward C. Bassett) must have been delighted with the supervisors' rejection: The firm had carried on a running battle with BART for months in an attempt to save the columnless scheme, with no luck, until now.

FORESIGHT IN SEATTLE

Taking a lesson from BART's shortcomings, Seattle's Mayor J. D. Braman announced last month that architects and urban designers will be brought in on the ground floor in developing that city's proposed new transit system.

As urban design and architectural consultants for the \$111-million, 10-mile first phase of the system, Braman appointed the San Francisco firm of Okamoto/Liskamm, with Naramore, Bain, Brady & Johanson as local associates. The team will assist the city's engineering consultants, DeLeuw Cather & Co., who are reported to be "delighted" with the idea.

PEOPLE

THINK URBAN

President Johnson wishes more intellectuals would give some thought to cities.

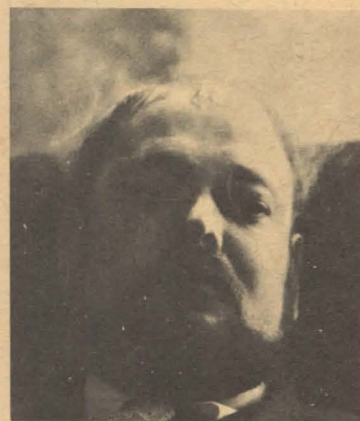
Their "precise, sharp and piercing" qualities, he said in an ad-

dress at the Brookings Institution, might contribute much toward solving the problem "that still eludes us—understanding the dynamics of urban life." He even proposed the first questions for thought: "What do we want our cities to be, and then how can we achieve what we want?"

MARQUIS OF THE MOVIES

The president of the Northern California Chapter of the American Institute of Architects may currently be seen as a featured player in a motion picture called "The Crazy Quilt," which one reviewer summarized as "the witty and warm story of Henry, a realist, and Lorabelle, a creature of illusionary loveliness."

Architect Robert Marquis of the San Francisco firm of Marquis & Stoller is cast as the bearded Dr.



Milton Tugwell (he is shown above, in character). Marquis describes the role, cryptically, as that of a "dancing psychiatrist."

CONSERVATION

INVASION OF A FIEFDOM

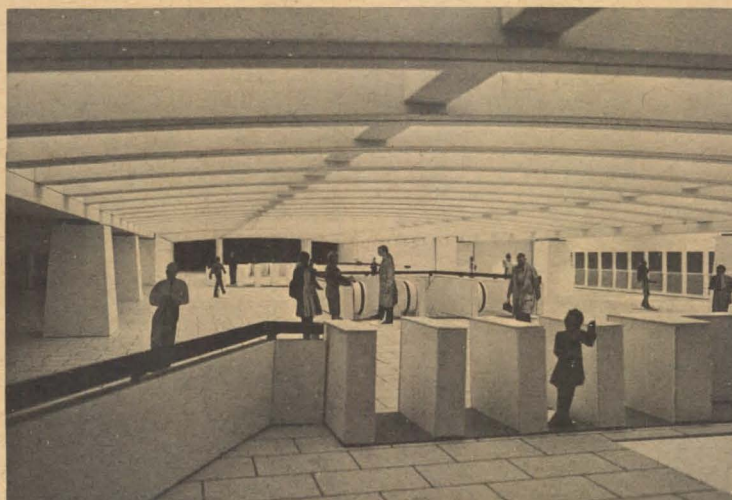
After toying with the idea for nearly a decade, Congress last month established the Indiana Dunes National Lakeshore. It was accomplished over the (legislatively) dead body of Representative Charles Halleck, in whose district the new 6,539-acre park lies.

"Some say you don't put parks in the districts of members who don't want them," Halleck had reminded his colleagues during debate on the bill. "Well, folks, I don't want this one. Most of it's underbrush. You wouldn't get caught dead on it." Most of Halleck's colleagues must like underbrush: The vote for the \$27.9-million park on the southern end of Lake Michigan was 204 to 141.

The House bill, later approved by the Senate, will preserve 10½

FOOTNOTE

Mysterious East—Mrs. Grady Clay and her husband, the Editor of *Landscape Architecture*, took a tax-deductible business trip to Yosemite National Park the other day, and she came upon the souvenir shown at left. It is an 8-inch salad plate, of course, and all we can say is that it is going to be quite an enigma to future archaeologists when they start digging us up, circa 2566. p. s.: When Mrs. Clay turned the thing over, she found an inscription that read "Made in Japan."





miles of ruggedly beautiful shoreline (sample above) on which the steel industry was planning to build a number of mills. It will serve over 10 million people who live within a hundred-mile radius that has an acute shortage of public recreational space.

After the House vote, one reporter asked Halleck how he felt about it. "For God's sake, not now," he sputtered. "Not after this." Senator Paul Douglas of Illinois, who had led the long legislative battle for the park, had a more coherent response. "Now the people can keep what God gave them," he said.

HOUSING

SWELLING THE RANKS

Vice President Hubert H. Humphrey moved to an in-town apartment last month. He was tired of the 45-minute commute from his home in suburban Chevy Chase to his office downtown.



The Humphreys chose a two-bedroom, eighth-floor apartment in Harbour Square (below left), a cooperative development designed by Architects Chloethiel Woodard Smith & Associates, in Washington's Southwest renewal area.

The move involved more than the Humphreys. Secret Service men who had been making do in the basement of the Chevy Chase house have also taken undisclosed quarters at Harbour Square.

SECOND ROUND

The Ford Foundation has given a second boost to a unique program for stimulating the construction of nonprofit housing.

Last month, the foundation approved a \$600,000 grant to supplement an initial grant of \$575,000 made two years ago to Urban America Inc., which operates the program. The money is used to promote the formation of local development funds and to provide professional assistance and other aids to nonprofit organizations in sponsoring housing developments for the elderly and for low- and middle-income families.

During the past two years, the program has helped 15 cities in efforts to create nonprofit revolving funds for housing projects. The new grant will continue the program for two years.

NEW TOWNS

... OR SUPER SUBURBS?

Will the new towns now given fresh Federal encouragement turn out to be merely single-class super-suburbs? Developers of three pri-

vately financed pioneering communities in the Washington, D. C., region are taking steps to see that theirs do not.

The tool they are turning to is the 221d3 program of below market interest rates for moderate income housing. Robert E. Simon of Reston, Va., hopes to use the program to build row houses that would sell as cooperatives in the \$15,000 to \$17,000 range. Reston's current lowest price is \$22,500 for a two-bedroom house, and others go much higher.

The Rouse Company is working with an interfaith church group from Baltimore which it hopes will provide seed money for a 200-unit d3 project in Columbia, its new town halfway between Baltimore and Washington. In Germantown, northwest of Washington, a group of the landowners have held preliminary talks about d3 sponsorship with the Council of Churches of Greater Washington.

SEQUELS

REPAIRED MACHINERY

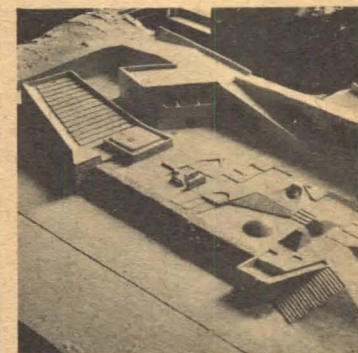
Architect John Carl Warnecke's design for the Georgetown University library appeared to be permanently lodged in Washington's ponderous planning machinery (see July/Aug. issue). But last month, the Fine Arts Commission reversed itself and approved the design (below, superimposed on the site), which it had twice turned down.

Major credit for the victory goes to the university itself, whose administration stood behind the design through months of resistance by Washington's myriad approval agencies. The Fine Arts

Commission, of which Warnecke is a member, was the last holdout. Construction is scheduled to begin sometime next summer.

REJECTION

Louis Kahn's and Isamu Noguchi's design for a playground on the upper slopes of New York City's Riverside Park will not be built. Last month, after five years of combating neighborhood opposition, legal obstacles, and passive resistance from the Lindsay administration (see June issue), the sponsors of the project decided to call it all off.



The playground (above) had been planned as a memorial to the late Adele R. Levy, a founder of the Citizens Committee for Children, whose family and friends had raised \$600,000 toward its estimated cost of \$1.1 million. The city was to pay the balance, under an agreement reached during the Wagner administration, but Lindsay and his parks commissioner, Thomas P. F. Hoving, made it clear that they had never thought much of the idea.

The final straw was a threatened court suit alleging improper use of park land. With that, the sponsors



threw in the towel and asked for their money back. Hoving, suggesting that the money could be used for a playground on another site, expressed the hope that they would not "just pick up their marbles and thus penalize the children of New York." But a spokesman for the sponsors replied that "the issue is closed."

CURBSIDE VICTORY

The Post Office Department, finding itself on the receiving end of mounting protest, last month rescinded its order requiring curbside mailboxes in all new subdivisions, rather than front door delivery (see June and Sept. issues).

The city of Pleasanton, Calif., had filed suit against the Post Office seeking the end of the ban, but that had nothing to do with the reversal, according to a spokesman for Postmaster General Lawrence F. O'Brien. The question "had been under study for a long time," he explained.

GIFTS

DENDUR DERBY

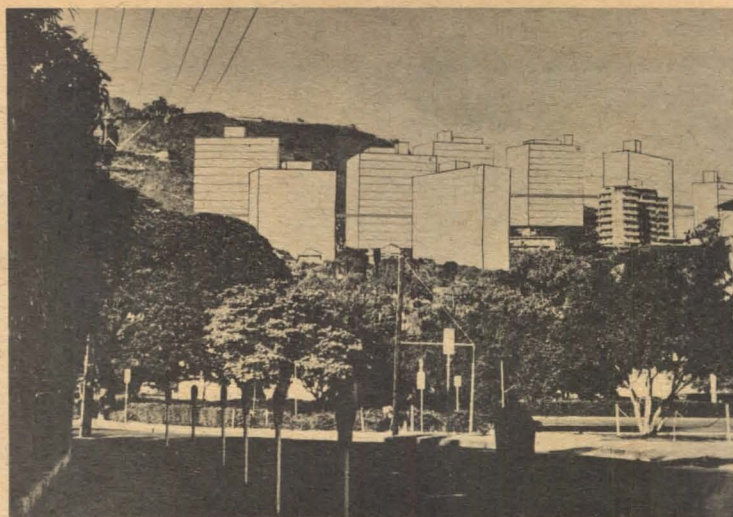
Who should get ownership of the 2,000-year-old Temple of Dendur? Among those vying for it are the Metropolitan Museum; the Smithsonian Institution; Cairo, Illinois; and Memphis, Tennessee.

While the issue is being resolved, the temple (below) lies in



crates on Elephantine Island in the Nile River, disassembled into 647 pieces of sandstone weighing 800 tons. It is a gift from the United Arab Republic in gratitude for the \$16 million that the United States contributed toward saving the Nubian Temples from the waters of Aswan High Dam.

The Metropolitan wants it so badly it has offered to house the



temple in a new wing, safe from the ravages of New York's polluted air. The Smithsonian wants it because it doesn't happen to have an Egyptian temple now. Cairo and Memphis want it for old time's sake.

The matter should be settled by "a thoroughly responsible and impartial committee," suggests *The Christian Science Monitor*. "The temple should be placed where the greatest number can view it, and where it will be best preserved."

PLANNING

PROTECTION OF PARADISE

The Honolulu City Council is considering proposals by the Oahu Development Conference "to preserve at least part of our two most important landmarks," in the words of the organization's executive vice president, Aaron Levine. The landmarks are the Diamond Head and Punchbowl craters, which give Honolulu its dramatically jagged backdrop and which, under present regulations, could be thoroughly obscured by the high-rise results of Hawaii's building boom.

For Diamond Head, the conference has proposed that much of the still-vacant land on its slopes be acquired for eventual park use, although the existing single family houses could be allowed to remain for "one or two decades."

For Punchbowl, the conference suggested immediate imposition of a 40-foot height limit on all construction on the slopes, and some reduction in the floor-lot area ratio, which is presently 200 per cent. To demonstrate that a reduction in the ratio alone would not be enough, the conference released the accompanying photos of Punchbowl from the governor's



residence at Washington Place: above, the view now; at top, view of what could be built at a 100 per cent ratio with no height limit.

PEOPLE: HOW FAR?

Citizen participation in the renewal of neighborhoods is a Good Thing, but how far should it go? Last month, in San Francisco, a citizens' group was demanding that if it weren't given absolute control of the proposed \$20-million Inner Mission redevelopment project, there should be no project at all.

The group, an amalgam of 57 church, social, neighborhood and political organizations affected by the 423-acre project, had been granted everything but veto power by the city's Redevelopment

Agency, but it was still not satisfied. "We've tried to talk to them of goals and cooperation, but they want control—a veto power at any stage of planning," said M. Justin Herman, the agency's director.

The dilemma hinges on the city's request for \$2.1 million in Federal planning funds for the project, which is being held up until the Board of Supervisors rules on the citizens' demands.

LEISURE

THE BEST OF BEDS

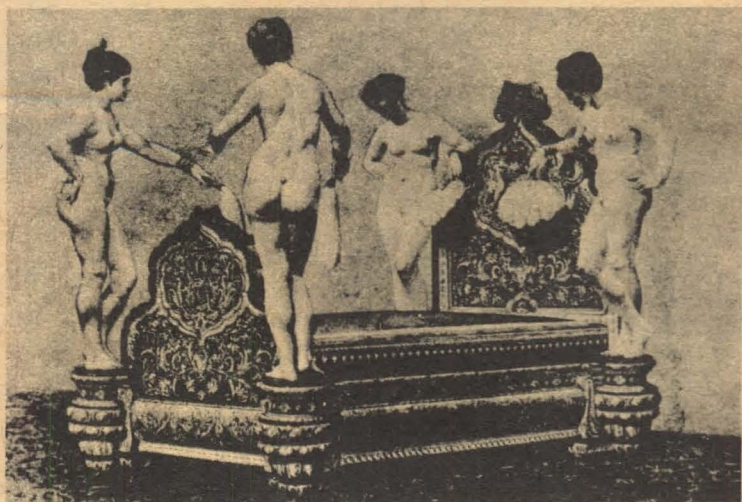
Moved by the conclusion that "sleeping is probably the least interesting aspect of beds," Paul J. Smith has made some 30 actual beds and cradles, plus dozens of old prints, into a far from dull exhibit at New York's Museum of Contemporary Crafts.

With man spending at least a third of his life in bed, necessity has produced some astonishing forms. Predating Castro mechanical couches considerably is Tutankhamen's wood bed which can still creak closed to a third of its size. An Indian prince's silver bed has motorized posts in the form of fan-waving statues to provide air conditioning (bottom).

Douglas Deeds's idea of relaxation is 673 beer cans (empty) welded into a four-layer mattress (below). The best of all possible



beds to a child is very probably William Accorsi's grand room-bed with a slide leading from the bunk to a playhouse underneath.



Is the old Met expendable?

Because of current efforts to save New York's old Metropolitan Opera House, the following opinion may be worth reprinting. It appeared, originally, in the Jan. 13, 1964, issue of The Nation.

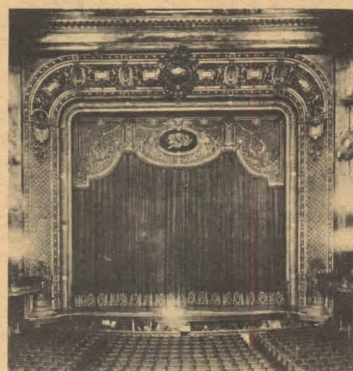
A ticket-holding friend whose wife was busy invited me to hear Verdi's "Don Carlos" at the old Metropolitan Opera House. It was of course marvelous. The sets were lofty and impressive; the acting was athletic; and Messrs. Hines, Tucker and Merrill, Miss Gorr and the others were playing their voices like the great instruments they are. At one point, the Grand Inquisitor of Spain under King Philip II burned 40 heretics just off stage, and in honor of the event much of Maestro Solti's brass section was up there on the platform in costume. At the end, after three and a half hours that never dragged, the ghost of King Charles V, Don Carlos' grandfather, stalked slowly out of his tomb with several other gray-shrouded, ghostly minions, to save Don Carlos from the soldiers of Philip, his father. It was no more than the libretto had predicted, but as the haggard figures from the tomb took Mr. Tucker into protective custody, I was shaken by fine theatrical chills.

The audience in that rich old building is, by design, a sea out front for the artists to sail their talents on. How bitterly a Broadway actor must envy the opera singers their fans—so knowing an audience, so keen, so appreciative, so eagerly attentive, so unlike the theater audiences of the West Forties, who seem to me usually to be incapacitated by ignorance, wariness and over-feeding. Opera-goers are like a good professional bleacher crowd at a ball game. Perhaps opera is even a little like baseball in the enthusiastic expertise it develops.

My host and I talked about this between acts of Don Carlos, walking around that old architectural feast of a building, looking

it over once more. There are a number of beastly things about it too. Many upstairs seats have badly obstructed views; you can see the whole stage from them only if you stand up. (Sometimes you are tempted to stand on the seat itself.) Backstage is also, by report, quite inadequate to the exuberant personalities who flourish there. Perhaps the most hideous feature of production at the Met is the fact that those immense stage sets have to be trucked through maddening (and very expensive) traffic for between-shows storage in the distant Bronx. In addition, there are numerous people who object to the blackened brick exterior of the old pile. And finally it must be admitted that it gets devilish hot indoors—and, of course, the higher up, the hotter.

Yet the Met remains, architecturally, to me among many, an endearing place, because it has a magnificence to match opera it-



self. It is a florid magnificence, rooted to the past, not the made-up magnificence of the tragic new Philharmonic Hall in Lincoln Center. Certainly the detailing and finishing of the old Met are meretricious to modern eyes, but so is Philharmonic Hall—and if we must be meretricious, historical fakery has its points.

One of these points is the fulsome, gloriously lighted ceiling—a real marvel, better than all of Loew's theaters federated into one. Another is the vast worn-velvet and chipped-plaster sumptuousness of the place, which over the years has become more pleasant than pretentious. And there are, of course, several serious things that are very right about the old Met. One is the acoustics. It is my experience that even if you have to stand on your seat to see, you can always hear, and hear well. Reverberation is killed almost completely by the intricate surfaces all over the hall.

Thus a voice comes to you, directly, pointedly, to *you*, and then perishes, with no overshadowing. This must have been the result of intelligent application of acoustical tradition, before acoustics became an exact science, if it has.

Another high achievement of the Met designers is the intimacy of the house. It seats 3,300 (and often stands another 300), yet it remains very personal. Compare the Met with, for example, the City Center. Although the City Center seats 300 fewer, it is a dreary barn of a place, where it is possible to buy a ticket, attend, and neither see nor hear adequately.

What I'm leading up to must be apparent by now. Let's tear down the City Center, and save the old Met—which, it appears at present, must be expected to perish when the new Met in Lincoln Center is completed in 1966. It is incredible to imagine such a successful space, of such a rare, difficult and costly sort, being towed out to sea as barge-loads of rubble, yet that apparently is what will happen. What other city would permit Penn Station to be ripped down! New York is the expendable town.

There is nothing wrong, of course, with building a new Met at Lincoln Center. No one should miss the chance to build a new full-scale opera house—an opportunity that probably will not be repeated this century in Manhattan. It is an occasion for rejoicing. Still, there are more than sentimental reasons for hoping the old Met may be spared. For some years, the New York public has been filling (if not exactly supporting) two opera houses, and Met tickets are notoriously among the scarcest in town. If one of the houses must go down, surely it should be the one that has incomparably the thinner tradition.

For, logic aside, there is a reality to sentiment as well. In New Haven, recently, the perceptive English historian, Nikolaus Pevsner, described the "great fascination in being in an old building, because—to quote the great master of fantastic architecture, Sir John Vanbrugh—"because old buildings move lively and pleasing Reflections on the Persons who have inhabited them, or the remarkable things which have been transacted in them, or the extraordinary Occasions of erecting them." This may be even truer of old opera houses than of most buildings.

PHOTOGRAPHS: Page 21, Ezra Stoller. Page 22 (top), Airpix. Page 23 (bottom left), George McCue. Page 79 (top), Dwain Faubion. Page 80 (bottom right), Louis Checkman. Page 81 (left), United Press International; (bottom right) Cooper Union Museum Library. Page 82, Brown Brothers.

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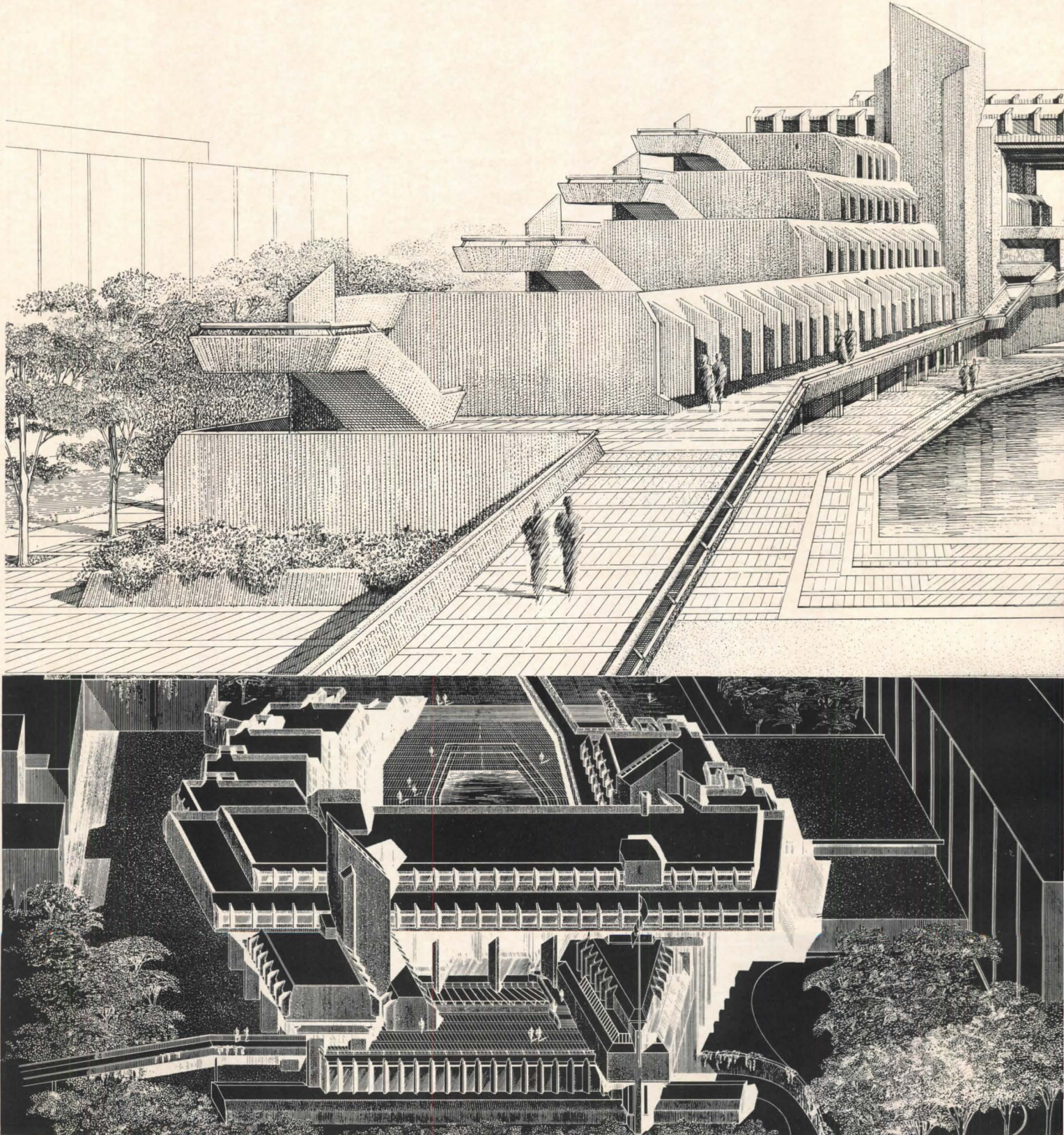
The Syracuse (N.Y.) City Hall, designed primarily by Paul Rudolph (who acted as consultant to Ketcham-Miller-Arnold, architects), will be a two-winged, terraced building, six stories high. A lozenge-shaped ceremonial plaza will be contained between the two wings. The site is near the town's administrative and business district, and some of the surrounding buildings are un-

distinguished and/or depressing. (They include the city jail and the city steam plant.) The unusual two-winged scheme for the new city hall, therefore, will serve to create a new urban environment within its own site, screened from the views of its rather unattractive surroundings.

Where the two wings join there will be a high porch that will serve

as a ceremonial focal point. Above it will be the offices of the mayor, and below it will be the major public entrances to the building. The porch will further serve to connect the civic plaza and the high-rise residential area being developed beyond it. To the east of the ceremonial porch, and raised on monumental supports, will be the Council Chamber (seen at

BOWL-SHAPED CIVIC PLAZA



right in bird's eye view, below).

In the design of the city hall, an attempt was made to relate the new structure to the old county courthouse (a fairly handsome, neoclassical building opposite the city hall, on the mall), and to the new art museum which has been designed by I. M. Pei, and is going up on the same block.

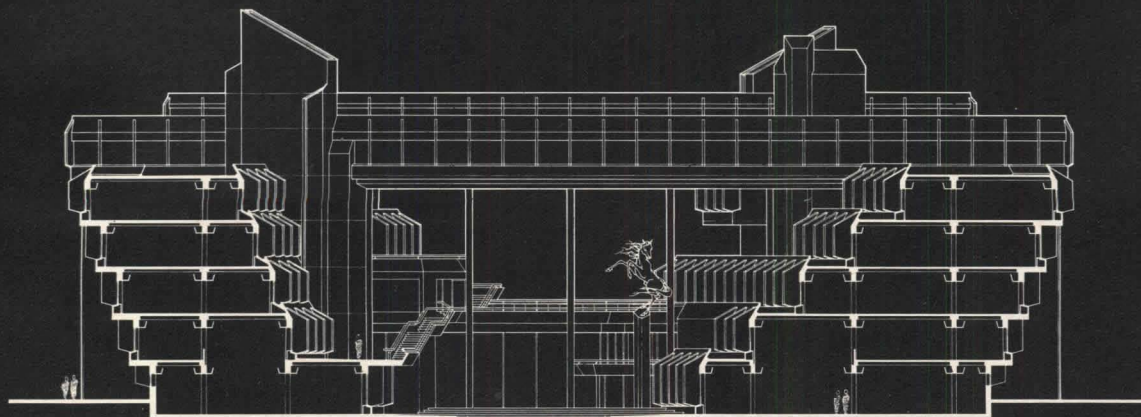
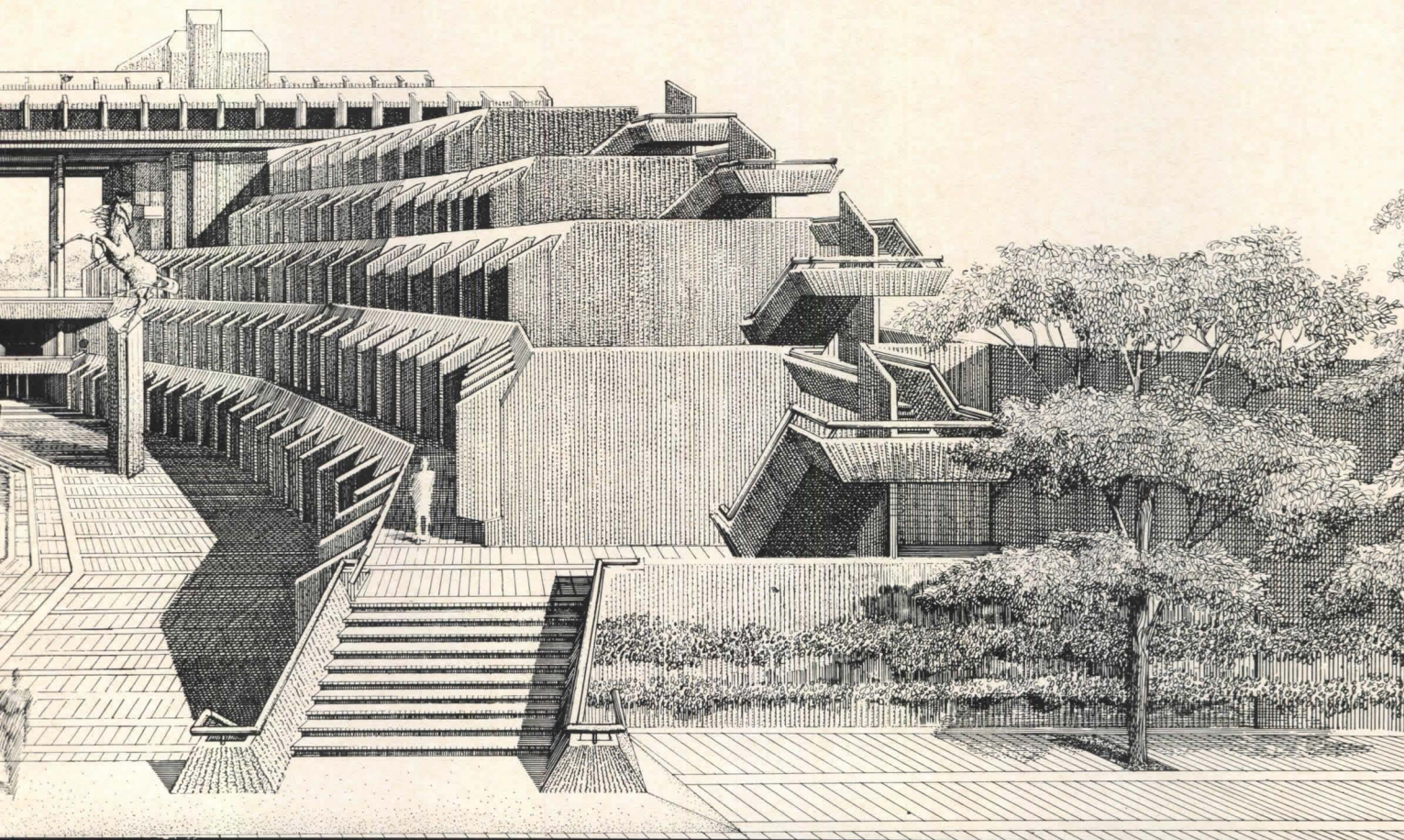
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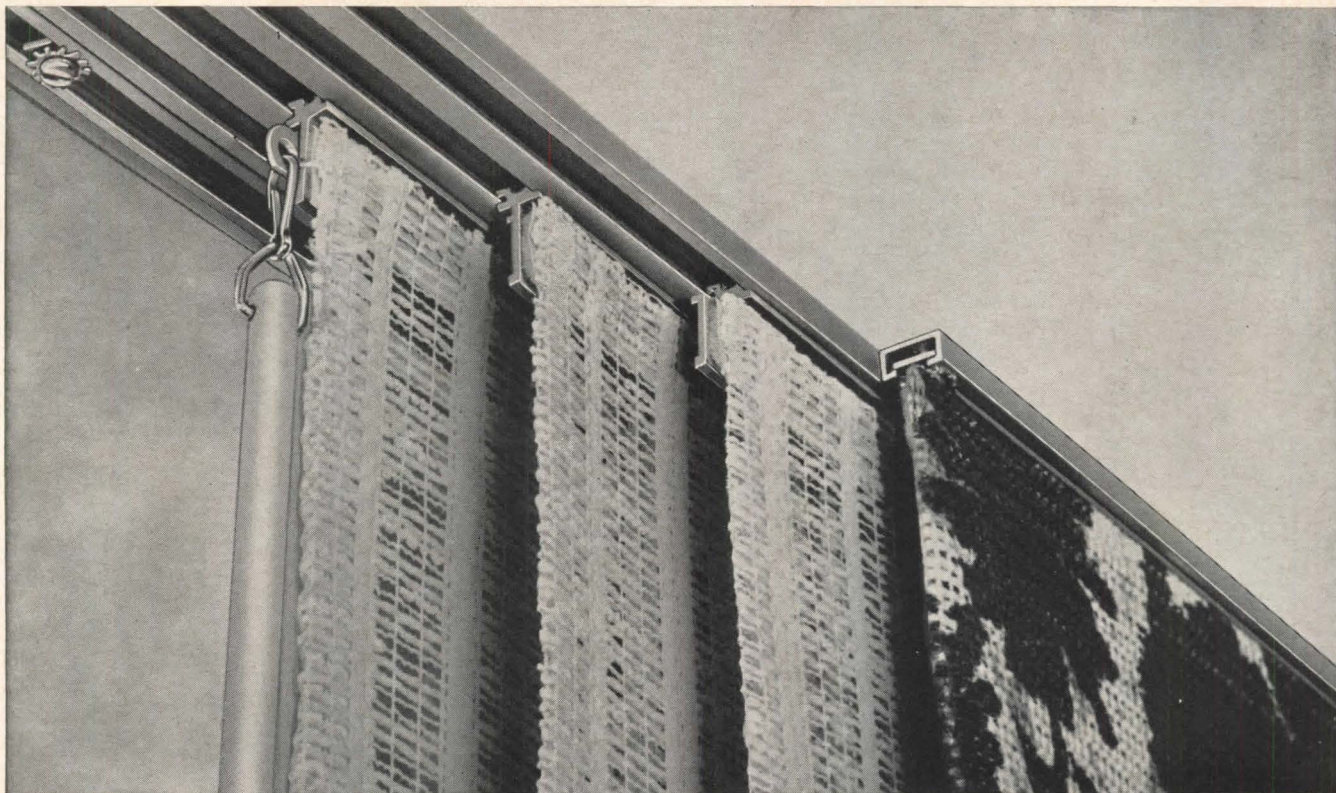
fluenced the design of the city hall include the great height of some nearby structures—both old and new: The stack of the city steam plant is 190 feet tall; and an apartment tower, 30 stories high, is going up on Presidential Square to the east. Since the city hall clearly could not compete with these towers in height, it will try to establish its own character by

contrast; hence the emphasis on horizontality.

The stepped-back profile of the terraced wings (see section, below) will do two things: it will open up the ceremonial plaza—which, in plan, is longer than it is wide; and it will permit light to penetrate deeply into the building. Precast concrete blinders between the windows will serve as sunshields.

Like most of Rudolph's recent work, the Syracuse City Hall will be of rough concrete (similar to that used in Yale's Arts & Architecture Building), plus precast concrete elements. The enclosed area of the building will be about 170,000 square feet. Galson & Galson are the mechanical engineers, and Eckerlin & Klepper are the structural engineers.





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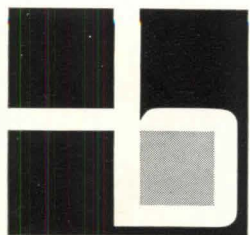
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