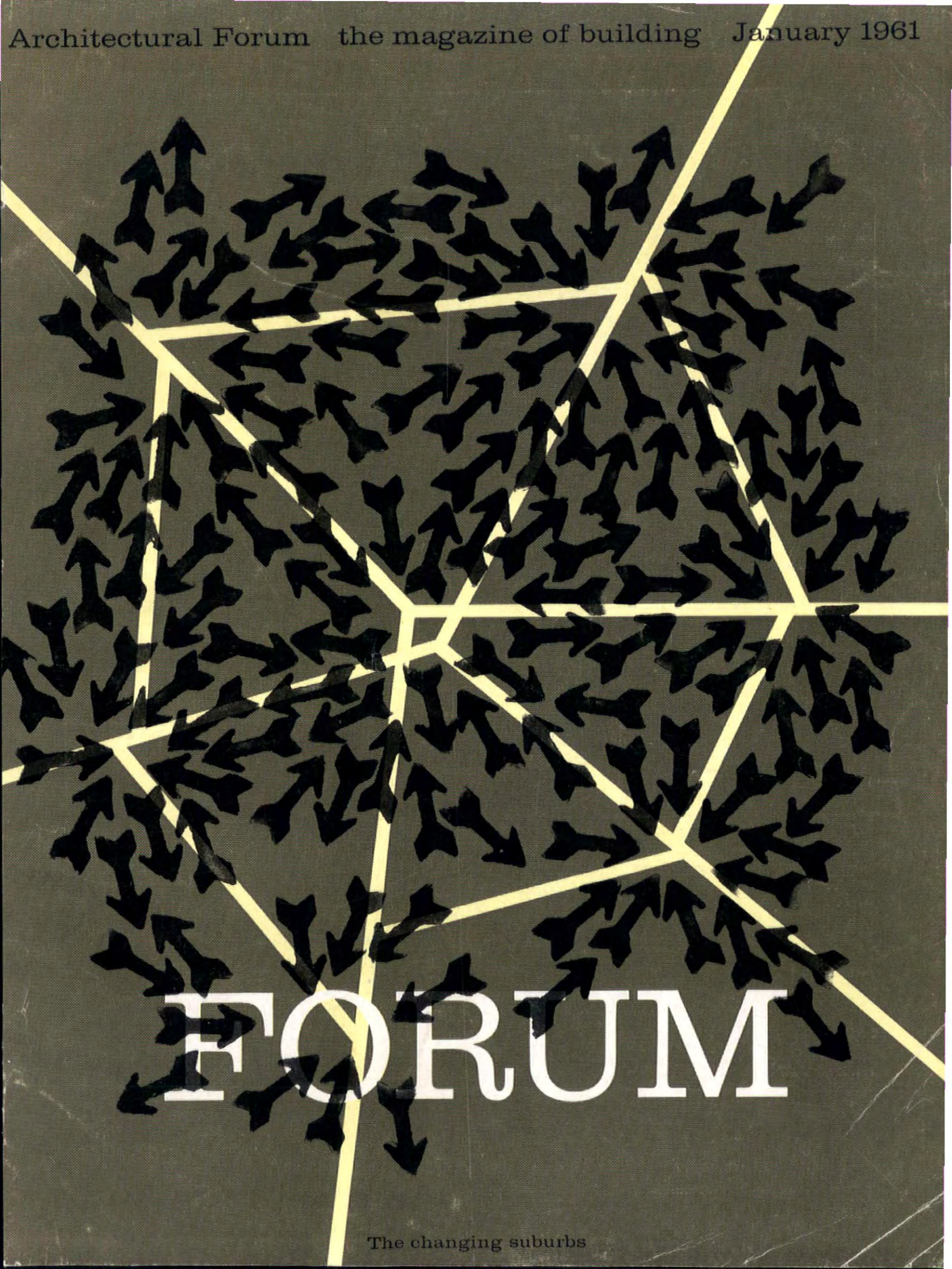
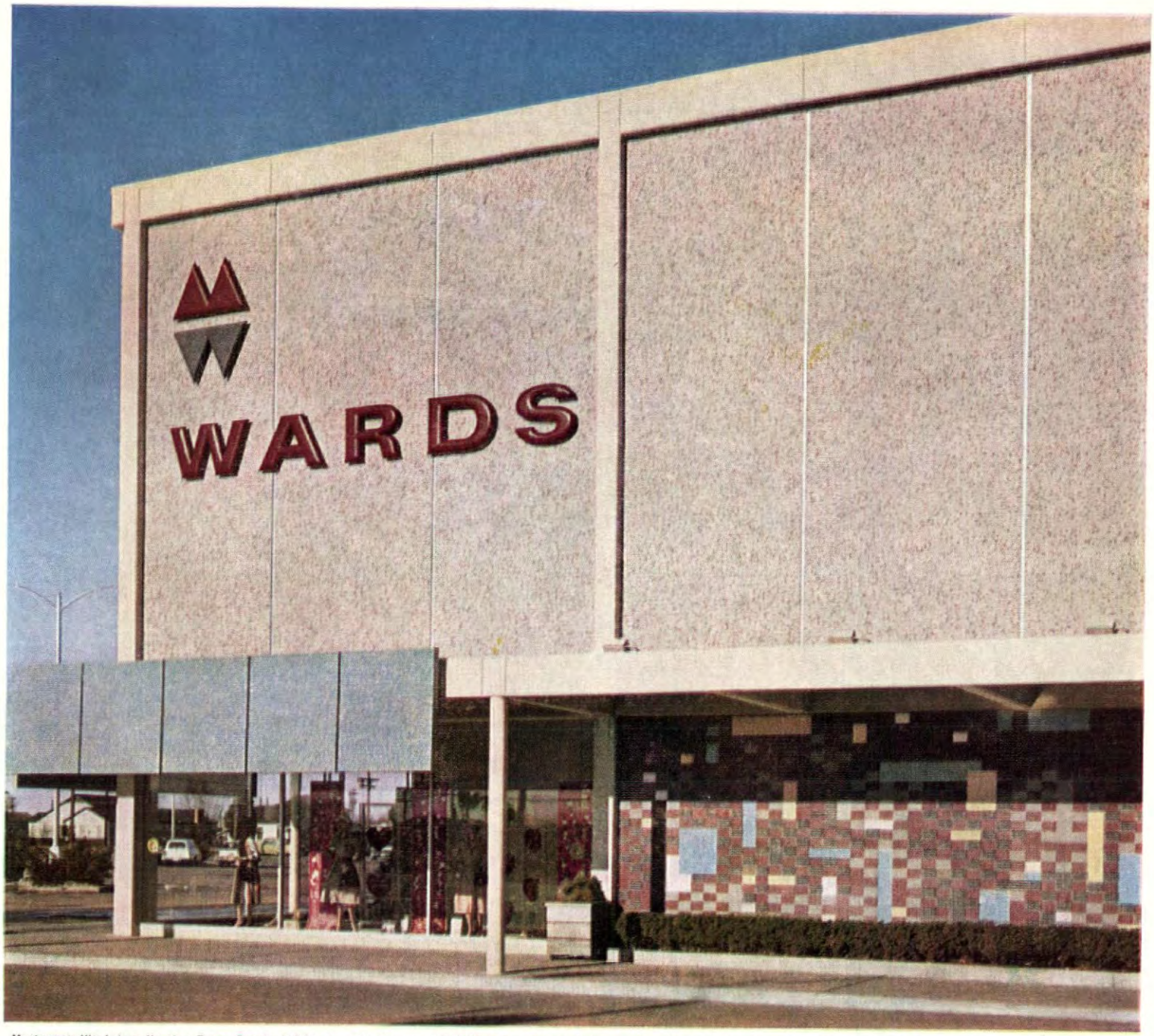
Architectural Forum the magazine of building January 1961



FORUM

The changing suburbs



Montgomery Ward store, Houston, Texas. Facade: ¾" Squares, Pan-O-ramics OS-15692-1; Gray Granite, Buff, Light Gray, Pink, Fawn Textone, Cream, Dusky Peach and Dark Gray. Ground-Level Mural: 1 1/16" Squares, s.e.; special design in Red, Black, Dark Gray, Cascade, Yellow and White. Sun Screens: 1 1/16" Squares, c.e., Pan-O-ramics OS-15692-3; Turquoise Shadowflash, Sage Shadowflash, Blue Granite and Deep Blue. Engineers & Builders: Austin Company. Tile Contractor: Martini Tile and Terrazzo Co. Color Plate 416.

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Architectural Forum January 1961

VOLUME 114 NUMBER 1

Published monthly by TIME, INC., Time and Life building, Rockefeller Center, New York 20, N. Y. Entered as second-class matter at New York, N. Y. and at additional mailing offices. Subscription price $6.50 a year.

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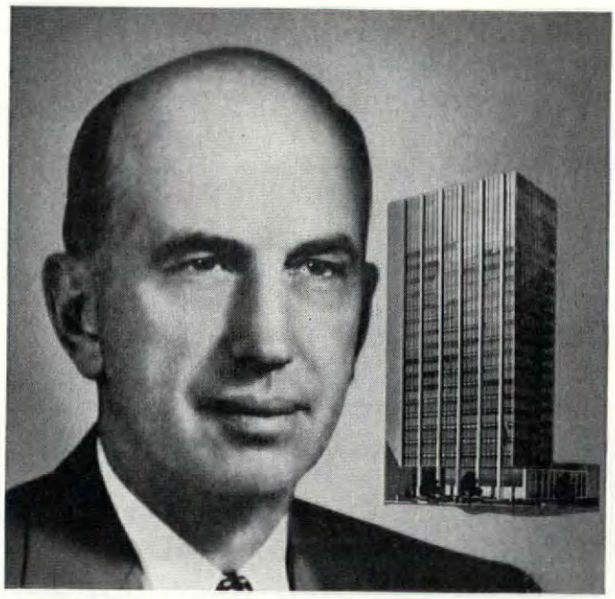

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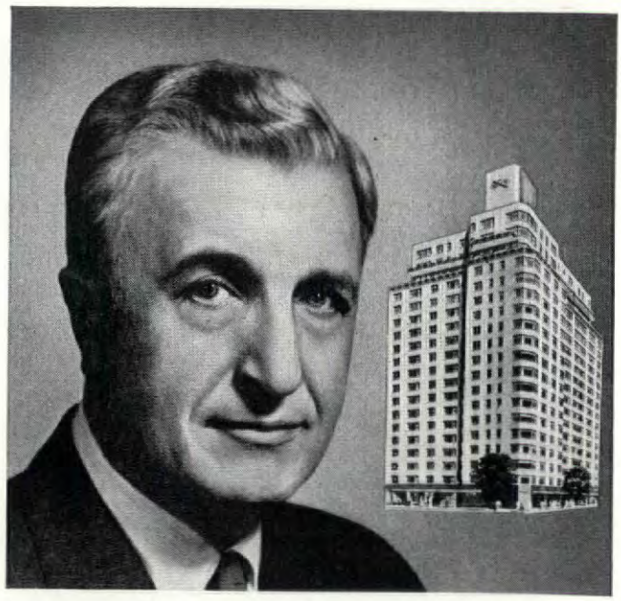

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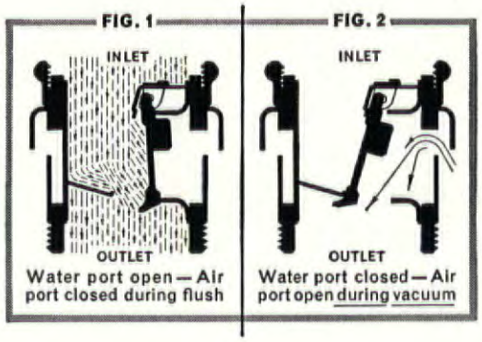

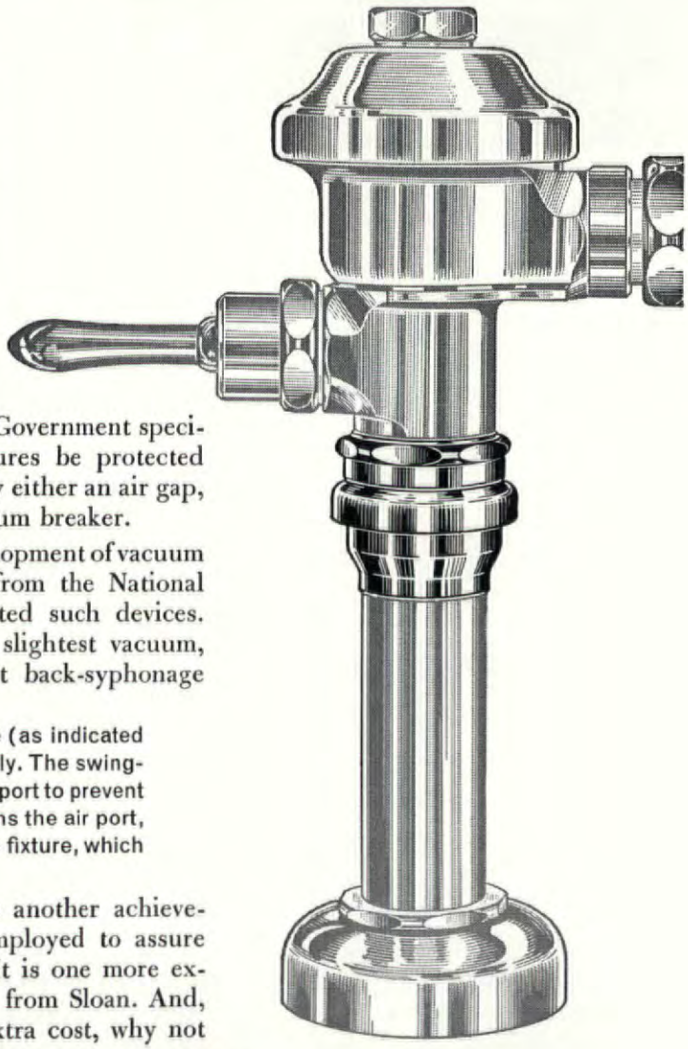

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Kennedy reiterates call for Urban Affairs Department, but expansion of city programs is long way off

Early last month President-Elect John F. Kennedy announced that his aides are already drafting legislation that he hopes to submit to Congress this winter to create a new Cabinet-rank Department of Urban Affairs to deal with all sorts of housing and metropolitan planning and development problems.

Translating this Kennedy objective into reality will probably take many months, however. In addition to opposition from Republicans and southern conservative Democrats in Congress who are against any extension of federal activity in these fields, opposition also can be anticipated from some industry groups that fear that a new order of things might upset the close relations they have established with existing agencies and their personnel over the years. At month's end, Washington observers were predicting that initial legislation offered by the Kennedy administration will only ask for authority to reorganize and regroup existing agencies into a new department, and for the present will refrain from seeking any new authority or powers for this department, such as federal participation in commuter transit or air or stream pollution control. Legislation for new or expanded programs of this nature is not likely to be pushed until much later, when the new administration is more certain of its strength.

To study long-range housing policies, the President-Elect appointed a five-man task force consisting of Joseph P. McMurray, former New York State Housing Commissioner, chairman; mortgage finance expert Harry Held, senior vice president of the Bowery Savings Bank, of New York; Associate Professor Robert C. Wood, of Massachusetts Institute of Technology, department of economics and social sciences; Charles Wellman, chairman of the legislative committee of the National Savings & Loan League, of Glendale, Calif.; and John Barriere, staff director of the subcommittee on housing of the House Banking and Currency Committee. He also named an economic policy task force headed by Paul Samuelson, who also teaches economics at M.I.T., with instructions to consider what emergency housing legislation might be advisable, as part of a broad program of legislation to give the lagging economy a new boost.

Meanwhile strong support for the creation of the proposed urban affairs department was voiced at the annual convention of the American Municipal Assn. in New York, which urged the President-Elect to convene a White House conference on urban affairs and to appoint a federal advisory committee of mayors and other representatives to "study and recommend a national workable program designed to eliminate slums and blight throughout America." Keynoting this convention, Governor David L. Lawrence of Pennsylvania, former Mayor of Pittsburgh, said the creation of a Department of Urban Affairs would demonstrate "that we have achieved national leadership which recognizes there is truly something wrong when we boast of private affluence and ignore public squalor."

The outgoing Eisenhower administration also was leaving behind it a cogent document that testified to the need for greatly expanded urban renewal programs and more orderly suburban and metropolitan growth—with government assistance of some unspecified degree. This document was the report of President Eisenhower's ten-member Commission on National Goals, a group of ten leaders in business, education, and labor chaired by Dr. Henry M. Wriston, president of the American Assembly, of Columbia University, and President Emeritus of Brown University. President Eisenhower had asked this commission to draft a broad outline of national objectives and programs for the next decade and longer. In discussing national goals for living conditions, this commission's report said:

"We must remedy slum conditions, reverse the process of decay in the larger cities, and relieve the necessity for low-income and minority groups to concentrate there.

"We should also seek solutions for haphazard suburban growth and provide an equitable sharing of the cost of public services between central cities and suburbs. In many parts of the country, the goal should be a regional pattern which provides for a number of urban centers, each with its own industries, its own educational, cultural, and recreational institutions, and a balanced population of various income levels and backgrounds. . . .

"Experience in the past decade has taught us some of the steps which must be taken. Further urban renewal programs, costing as much as $4 billion per year, are needed to purchase city land, clear it of dilapidated buildings, and make it available for residential and business use. Roads and rapid transit facilities should be planned and financed as a unit, and effective regional planning should deal with all transportation, industrial location, and government-assisted housing plans."

Agencies will spur joint highway-renewal plans

Federal highway and urban renewal officials have decided to work in closer harmony and have joined forces in an experimental program to stimulate comprehensive joint highway and urban renewal planning on a metropolitan-wide basis.

Under federal highway legislation the Bureau of Public Roads is allowed to spend up to 1.5 per cent of total highway appropriations for planning and research. Usually it has allocated these funds to state highway departments for planning purposes. At the same time the HHFA is allowed to make grants to state, metropolitan, or regional planning agencies for metropolitan area planning, and to individual communities for community-wide urban renewal planning.

Now these two federal agencies will allow the pooling of these funds to make matching grants to finance comprehensive coordinated highway and urban renewal planning programs. Projects for which grants are sought may be initiated by either state or local agencies, but will have to be sponsored jointly by a state highway department and either a state, metropolitan, or regional planning agency eligible for HHFA planning grants. Each project also will be required to cover planning for the entire urbanized metropolitan area and all relevant aspects of development and land use. It also must be conducted under policy guidance from a broadly representative coordinating committee, including officials of both local jurisdictions and any major state planning and development agencies, and in some phase must involve the planning or locating of a federal-aid highway project in the area.

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CALIFORNIA DIVISION OF HIGHWAYS

FREEWAY BOUNTY FOR SIGHT-SEERS
California State Highway officials have decided to give sight-seers and photographers an amenity bonus on a temporary dead-end portion of the San Francisco Embarcadero Freeway. Pending the selection of a route and the start of construction for the extension of the freeway to connect ultimately with the Golden Gate Bridge, which may be several years off, two lanes of the last half mile of the present elevated structure, adjoining the Broadway on-ramp, are being fenced off from traffic to provide about 60 parking spaces and protected strolling areas commanding a sweeping view of the city's water front, the Oakland and Golden Gate bridges, and San Francisco Bay. Contract cost: $28,000.

Renewal in New Rochelle links roads and rails

Westchester Plaza, a $27 million shopping, office, and transit center in New Rochelle, N.Y., designed by John Graham & Co., of New York, will be started as soon as site clearance is completed this spring (see photo). Incorporated in this urban renewal project, scheduled for completion in two years, will be new station facilities for the main line of the New Haven Railroad, local and long-distance bus terminals, and indoor parking for 4,300 autos. The New Rochelle Interchange will provide direct access to the New England Thruway (foreground in photo) and other adjacent main roads, and a truck ramp to the rooftop loading docks of the stores will keep these vehicles from interfering with regular auto traffic at the center.

The 18-acre site for this project consists of 12 acres of former freight yards acquired from the New Haven by the redevelopment group headed by Sidney Rolfe, of New York, and more than 6 acres purchased from the New Rochelle Urban Renewal Dept. for $2.80 per square foot. The project will include a two-story thin-shell concrete roof bowling alley (extreme left in photo), a 16-story office tower, a restaurant and civic auditorium, a 265,000-square-foot department store that can be expanded by 100,000 square feet, some 80 other retail establishments, and a second junior department store. When completed, the project will increase city real estate tax revenues approximately $400,000 a year.

Under a separate agreement with the city, the same redevelopment group has posted $100,000 in securities as a guarantee to bid at least $1.5 million for adjacent redevelopment sites to be improved with $40 million of new apartment buildings, a hotel, and cultural and recreational facilities (in right background in photo).

Ohio examiners revoke architect's license

For the first time in its 30-year history the Ohio Board of Examiners of Architects has ordered an architect's certificate to practice revoked, but the order has been suspended by a Common Pleas Court Judge pending a trial on the board's right to have taken such action in this case.

The architect is Charles Burchard, and the charge against him alleged that "by fraud and deceit" he had permitted an engineering corporation (A. M. Kinney, Inc., of Cincinnati) to practice architecture illegally under the guise of a "fictitious, nonexistent" complementary architectural partnership (A. M. Kinney Associates). After protracted hearings, the five-member Board of Examiners ruled on Nov. 29 that Burchard had committed such an offense. It found that when Burchard and A. M. Kinney Sr., an engineer, appeared before a state commission in June 1958 to outline the qualifications of A. M. Kinney Associates to serve as architects for a proposed $15 million state office building, Burchard "did fraudulently and/or deceitfully represent, and allowed and permitted representations by others to the effect that you were engaging in the practice of architecture as a partner in a fictitious nonexistent partnership known as 'A.M. Kinney Associates' knowing full well you were in fact an agent of, and performing such services as, an agent of A. M. Kinney, Inc." During the license revocation hearings last summer, however, one of the members of the State Office Building Architect Selection Commission appeared before the Board of Examiners of Architects to testify on behalf of Burchard.

According to A. M. Kinney Jr., a lawyer, the Kinney firms have had a running skirmish with the Board of Examiners, usually involving classified telephone directory listings which might imply that Kinney Sr. is an architect, which he is not, rather than an engineer, which he is. As for the allegedly fictitious architectural partnership, Kinney Jr. says his father established it in 1945 in association with Architect Max Boehm, now deceased. Burchard, who taught architecture at Harvard with Marcel Breuer from 1945 to 1953, joined the Kinneys in 1953, but was not able to obtain an architect's license in Ohio until 1955, after lengthy hearings. Kinney Associates now has eight partners, according to Kinney Jr., and in 1958 had seven. When the first hearing by the Board of Examiners was held last June, Kinney Sr. said: "This is essentially a conflict between the architectural and engineering professions in Ohio. This results from a serious ambiguity in the statutes governing the areas in which these sister professions may practice. It is deplorable that the architects have seen fit to endeavor to settle this conflict by a deliberate and

continued on page 9

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vicious attack upon a man of Charles Burchard's character and reputation."

Now that the Burchard case has moved from the Board of Examiners into the state's court system, it will be up to the latter to determine whether the Kinney architectural "partnership" is real or fictitious, and also to rule on another legal point raised in Burchard's appeal. This contends that Ohio law does not define architecture, and that the Board of Examiners' contention that a corporation cannot practice it has never been tested in court and is not valid.

New zoning for New York will control city's density

By unanimous action of the Board of Estimate, New York City obtained a comprehensive set of new zoning regulations last month that will go into effect after a one-year waiting period to allow for an orderly transition from the old to the new rules.

Four years in the drafting, the modernized regulations greatly reduce the ultimate density to which New York could be developed. Under the new zoning a total population of 12.3 million could be accommodated, it is estimated, compared with some 55 million under the old rules. By 1975, the city's population will total 8,340,000, the City Planning Commission estimates, compared with 7,782,000 in the 1960 census.

One of the main features of the new regulations will allow builders in the highest density areas a bonus in total floor area in relation to building plot if they provide plazas or arcades for their buildings. In another innovation for New York, the new code will make off-street parking facilities mandatory for all new factory and commercial buildings (as well as residential), except in certain of the most heavily developed areas, where it was considered impractical to enforce such a requirement.

One of the most controversial proposals that was considered but was dropped from the final regulations was a so-called amortization provision that would have required all nonconforming building uses, such as industrial plants in residential districts, to be terminated after a period of years. The new rules, however, do require gradual elimination of all nonconforming open-land uses, such as coal yards, auto wrecking lots, junk yards, and other uses that do not involve buildings.

Technically New York's new regulations are not a new law; officially they are merely a "comprehensive amendment" to its original zoning ordinance. In the form of a master set of amendments it was possible to obtain their enactment without all of the affirmative adoptions usually required for an entirely new law; after approval by the Planning Commission they also would have become effective automatically unless revised or actually vetoed by the Board of Estimate within 60 days.

The A.I.A. New York chapter urged adoption of the new code. In a letter to the Board of Estimate, chapter President Frederick J. Woodbridge called the final draft "realistic, workable and imaginative." On behalf of the chapter, representing 1,215 of the 1,700 registered architects in the city, Woodbridge wrote: "it will elevate the standards of building in the city and will, in fact, bring new economies to construction. It is our professional judgment that prompt adoption will bring credit to this city, its officials, and to the many citizens who have raised their voices in support of a planned, progressive approach to our city's future."

JOHN ALEXANDROWICZ: *Post-Gazette*

PITTSBURGH AUDITORIUM DOME SHIMMERS IN THE MOONLIGHT

Now that the stainless steel sheathing on its huge retractable circular roof has been completed, the new Pittsburgh Public Auditorium gleams in the moonlight as dramatically as in the sunshine. Slowed up last year as a result of the steel strike, and originally scheduled to be dedicated during Pittsburgh Progress Week, from June 4 to 7, the opening of this $20 million, 13,000-seat indoor or outdoor arena has now been set back until later this year because of another "temporary work cessation." Architects for this 413-foot diameter hemisphere, which can be air-conditioned when closed, are Mitchell & Ritchey of Pittsburgh.

Architects hit plans for Grand Central bowling

The bitterest bowling competition in New York this year will not be fought in the alleys, but over a proposal to install 44 keglers' lanes in the vaulted space above the waiting room in revered Grand Central Terminal.

Leading architects and urbanists were up in arms over the proposal last month. A special committee of the New York chapter of the A.I.A. was being organized to oppose the project. An editorial in the sometimes taste-setting *Times*, having noted that the recent 50th anniversary of Pennsylvania Station had been ignored, went on: "We can understand why. It must be because it is ashamed of what has happened the past few years inside that great structure, once considered among the classic buildings of America. If bowling alleys are put up in Grand Central, we are sure that its owners will soon feel the same way. Certainly the citizens of New York will."

And in the *Herald Tribune*, critic-at-large John Crosby, after calling attention to a hearing scheduled by the Board of Standards and Appeals to consider an application for a variance that will pave the way for the proposed bowlers' accommodations, went on: "I hope somebody will show up to protest this vandalism to our railroad station. . . . It should be pointed out that what is at issue here is not the main concourse where the information desk stands. It is the waiting room off the immense room. The principle remains. We don't need bowling alleys in Grand Central. Besides, once the waiting room ceiling was sacrificed to greed, the 25-foot ceiling of the main concourse [actually 120 feet—ED.] would be eyed greedily by some speculator, too. The whole thing ought to be stopped in its tracks."

Others joining the preservation cru-

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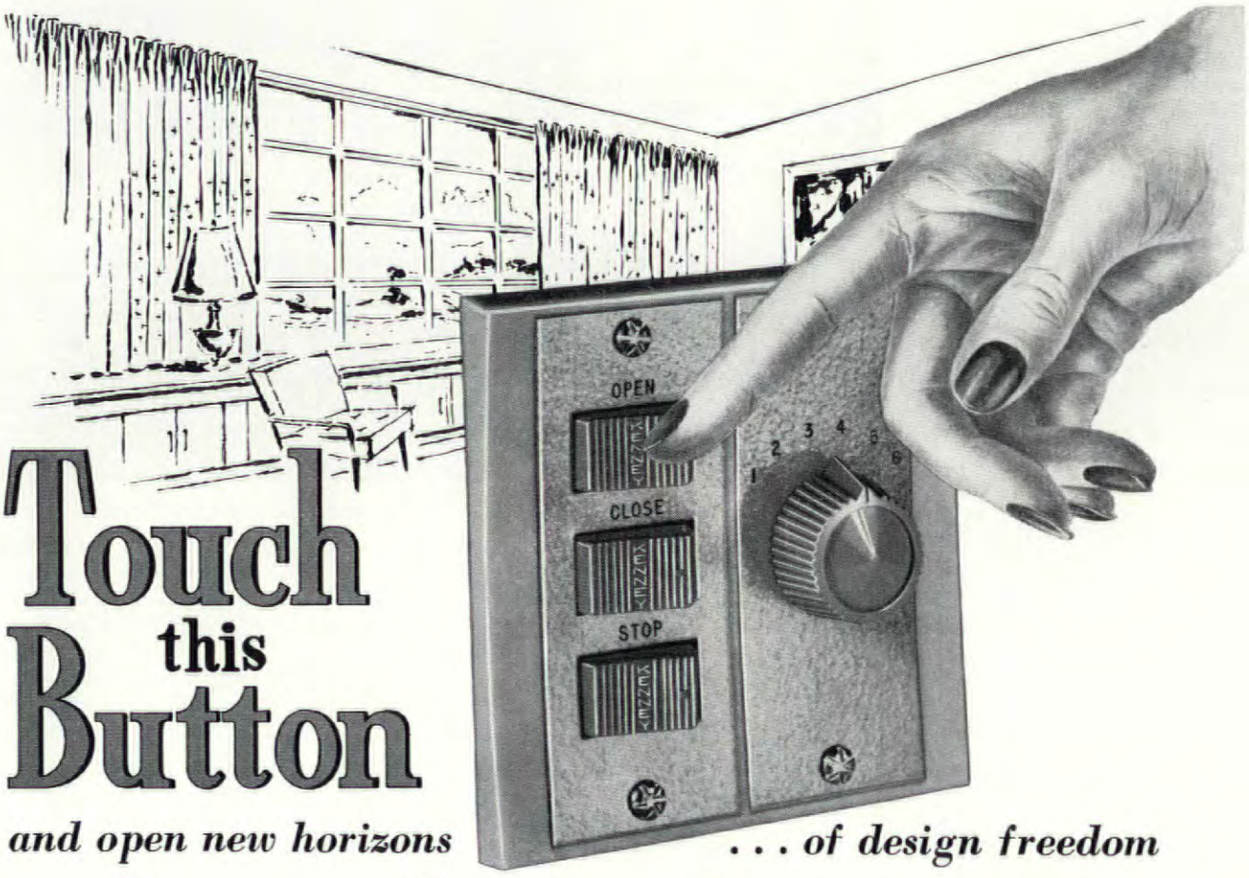

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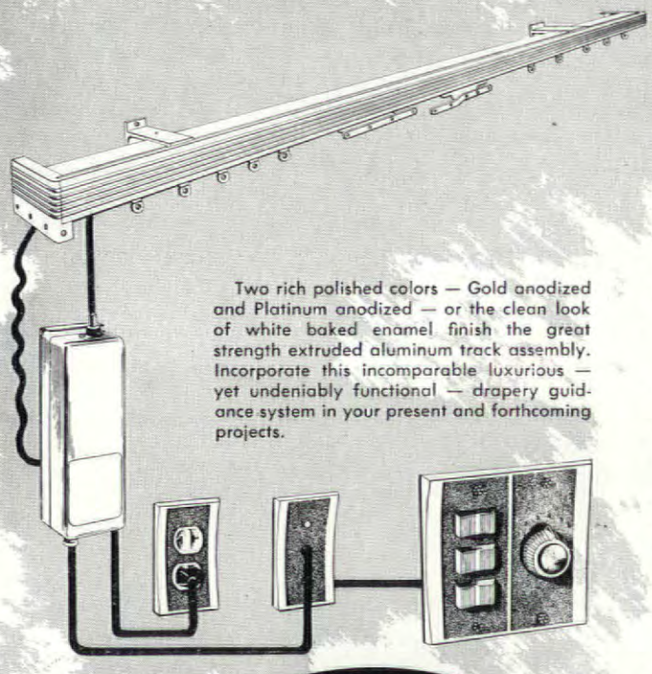

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See Us In Sweet's. Complete details on The Electric Traverse Rod may be found in the *1961* Sweet's Architectural File, Section 19f Ke . . . or write direct for your individual copy.

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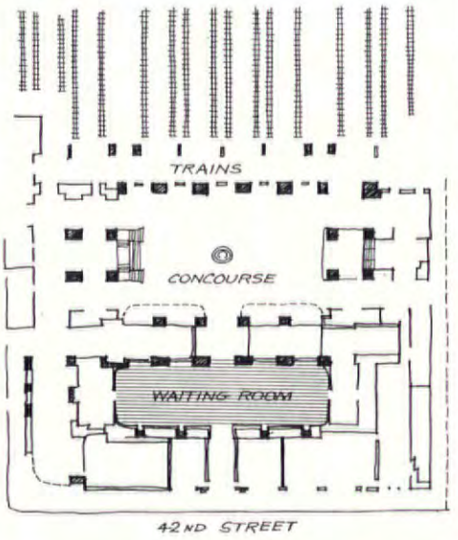
BOWLING ALLEYS proposed in Grand Central Terminal would be built inside present waiting room (shaded area in floor plan) parallel to majestic concourse area. Architect's sketch shows how insertion of three extra floors would lower the waiting room ceiling from 58 to only 15 feet.



sade with valiant letters or statements to the press included Architects Harmon H. Goldstone, president of the Municipal Art Society, Victor Gruen, and Robert C. Weinberg.

The 44 bowling lanes proposed for the terminal would be installed in three tiers and would lower the present waiting room ceiling from 58 to 15 feet (see sketch). The first level would house the headquarters and a 600-seat, four-lane tournament arena, with built-in telecasting equipment, for the Gothams, the New York team in a new professional National Bowling League. It also would contain a 200-seat restaurant. Upper tiers would have 20 lanes.

All three tiers would consist of concrete slabs floated on a steel structure spanning the 60-foot-wide waiting room, so interior spaces would be free of columns. Installation costs, including air-conditioning of the severely truncated waiting room below, are estimated at $3 million. The architect is Vito J. Tricarico associated with industrial designer Lino G. Ferrari, both of New York.

AIA starts detention home Honor Awards program

In a new program calculated to result in more desirable penal institution construction, the A.I.A. and the National Council on Crime and Delinquency are sponsoring two National Honor Awards for the best designed small detention home for children awaiting juvenile court disposition—one for a building to accommodate not more than 30 children, and one for a large home, holding more than 30. Buildings completed anywhere in the U.S. or abroad since Jan. 1, 1950 are eligible, and all entries must be received at A.I.A. Washington headquarters by January 31. Similar awards will be made in 1965, and every five years thereafter.

Briefs

Architectural consultants have been retained by Seattle to advise its City Engineer on the best methods "to combine beauty and pleasing appearance with utility and practicality," including landscaping, ground contouring, and other means for giving "a sense of continuity" on two of the city's major road programs. Lloyd Lovegren will advise on the features of a major interchange on the Seattle-Tacoma-Everett Freeway and a second Lake Washington bridge. Perry B. Johanson will advise on the Spokane Street Viaduct and Empire Way extension. The first project is now under construction. The second will be started this year.

Free lectures on architecture for the layman are now being promoted by the A.I.A. and the National Association of Home Builders in cities all across the nation. After a recent test series of three evening adult-education sessions for an "Architectural School for Home Buyers" in the National Housing Center, in Washington, D.C., NAHB headquarters distributed an outline for conducting similar courses to its 350 local home-builder associations. For the "pilot" school attended by 750 Washington area "student" home buyers, the faculty was composed of A.I.A. Members Grosvenor Chapman, Paul Goettelmann, and Francis D. Lethbridge.

People

In a Charter of El Paso signed recently in that Texas city by the A.I.A. and the Mexican Society of Architects, "the joint aims and aspirations of the architects of the two nations" are outlined and provision made for the creation of a joint Border Planning Commission to "study the problems and make long-range plans for the development of the border area." Coincident with the charter signing, the A.I.A. bestowed honorary fellowships on **Guillermo Rossell**, Under Secretary of the Ministerio Patrimonio, in charge of all Mexican federal properties, and **Ramon Corona Martin**, chairman of the MSA's international affairs committee.

Preparing for its Philadelphia convention in April, the A.I.A. announced that it will award Honorary Membership there to six nonarchitects who have "rendered distinguished service to the profession or to allied arts and sciences": **Helen Duprey Bullock**, historian of the National Trust for Historic Preservation; **Douglas Whitlock**, chairman of the board and general counsel, Structural Clay Products Institute; **Walter D. Cocking**, educational consultant and editorial consultant for *Overview;* Attorney **John T. Carr Lowe**, legal consultant for the A.I.A., retired; **Dr. George Bishop Tatum**, associate professor of the history of art, School of Fine Arts, University of Pennsylvania; and **Grady Clay**, executive editor of *Landscape Architecture* and real estate and building editor of the *Louisville Courier-Journal.*

Winners in the color print section of the A.I.A.'s Fourth Annual Exhibition of Architectural Photography were **Julius Shulman**, of Los Angeles, first; **Baltazar Korab**, of Birmingham, Mich., second, and **Lawrence S. Williams**, of Upper Darby, Penn., third. Black and white section winners were **Joseph W. Molitor**, Ossining, N.Y., first; **George Knight**, of San Francisco, second, and **David Hirsch**, of New York City, third.

Winners of the Second Annual Award of Honor given by the A.I.A. and the National Association of Home Builders to encourage architect-builder collaboration promoting constant improvement in the design and construction of homes and communities are Builder **Edmund J. Bennett**, and Architects Keyes, Lethbridge & Condon, both of Washington.

MULTILINGUAL THEATER DESIGN EXPERTS

Fluent German flowed from the mouth of New York Architect **Philip C. Johnson** when he discussed principal directions in current theater design last month as a U.S. delegate to the UNESCO-sponsored international "Colloquy on Theater Archi-

continued on page 16

G. R. BAILEY, Chairman, Building Planning Service of the National Association of Building Owners & Managers, and President of G. R. Bailey & Company, Chicago.

LOTS OF GLASS! "The very maximum of properly dimensioned windows counts for more in the renting of office space than any other item of efficient design"

. . . is the position of prominent building management executive

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"We know that tenants like windows. Punched windows lack the sales appeal of continuous glass. Windows of continuous horizontal expanse – the kind that stretch from column to column and wall to wall – count for even more today in renting office space, despite the advantages of fine lighting and air conditioning. And the higher rental obtainable more than offsets an increase in cost of air conditioning.

"We approve of glass for spandrels between windows, too – the 'new' appearance of new buildings can be maintained almost indefinitely because glass spandrels, when washed, are as clean and bright as at the time of installation.

"Buildings today are put up to last much longer than their predecessors, so the physical components must be better. Glass is one of the finest and most practical of modern materials.

"I personally like glass corridor doors. They lend an appearance of activity, a sense of being occupied. They give 'life' to long corridors which could otherwise be dull and depressing. And it is far easier and less expensive to handle tenants' lettering when it's on glass panels."

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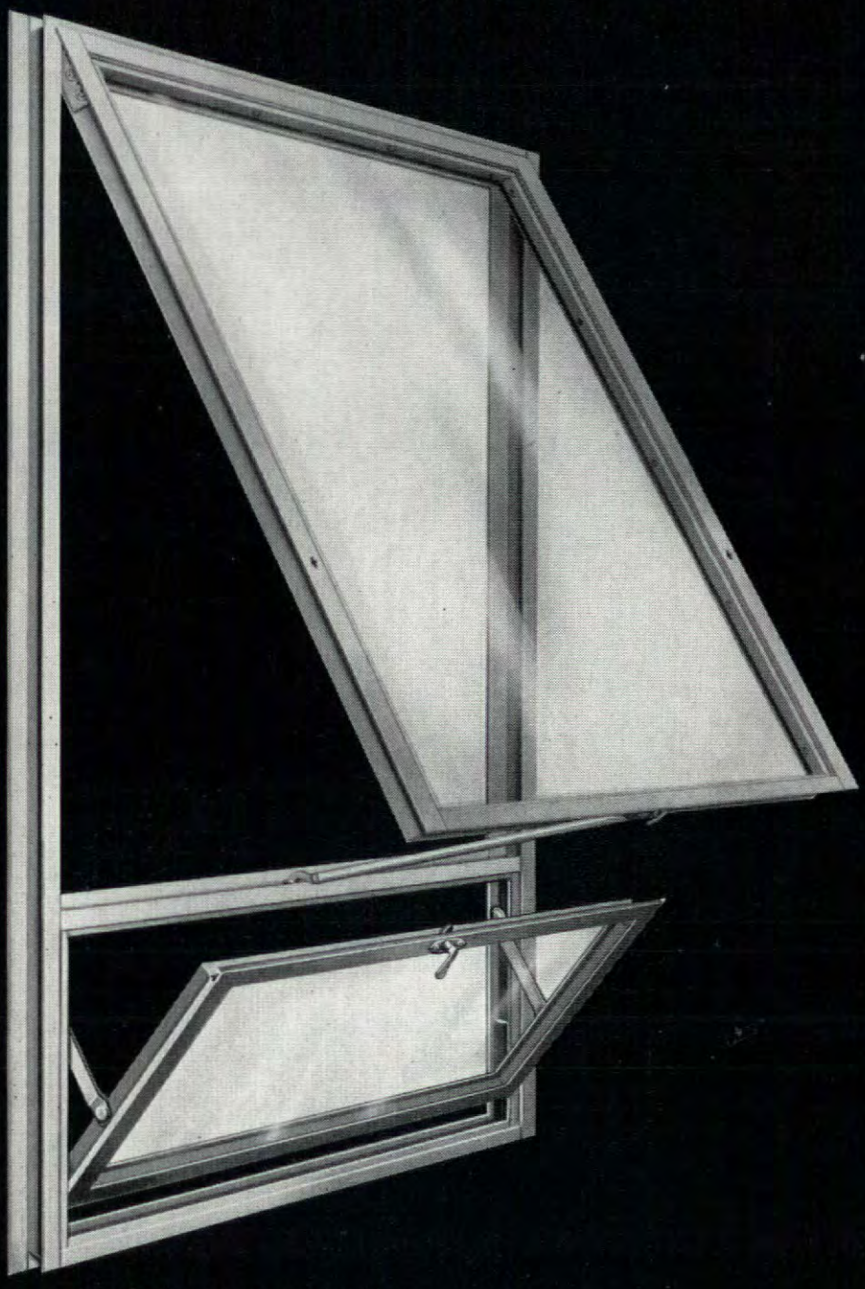
NORTON BUILDING, Seattle, Wash. *Parallel-O-Grey* and *Vitrolux*. Architects: Bindon & Wright, Seattle and Skidmore, Owings & Merrill.



New Product

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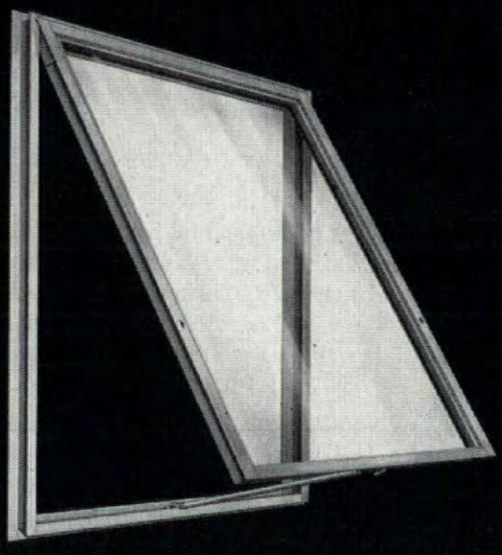

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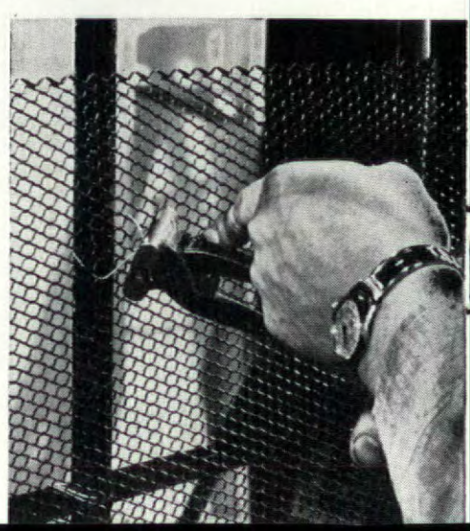

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Another big advantage of this window is that both sides of the glass may be washed from the inside without interfering with blinds, drapes, or curtains. Window swings in from concealed hinges at the top. Removable stay bar provides safe, positive lock in a 40° open position. Special locking key restricts operation to authorized personnel only.

Highest quality construction features throughout. Etched and lacquered finish provides a clean, smooth appearance, lasting beauty. Available in wide range of sizes and fixed side light designs. Economically priced.

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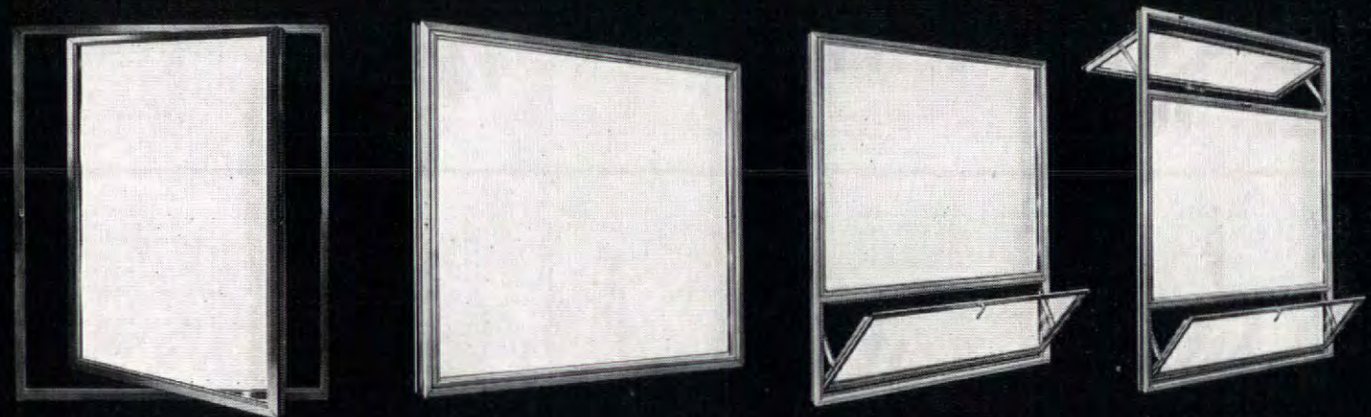

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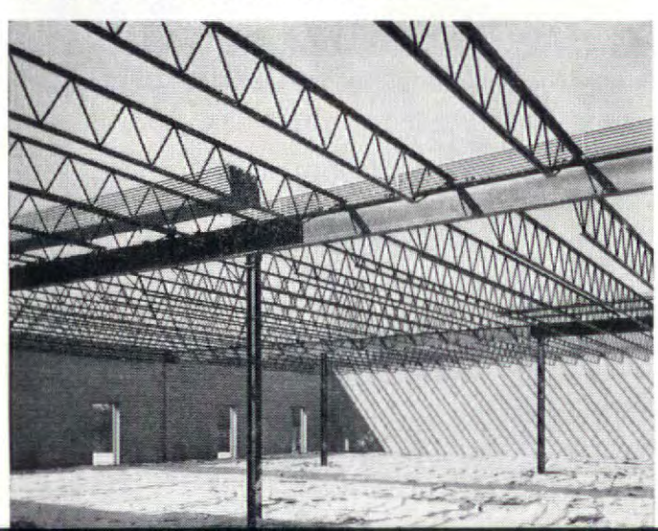

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tecture" in West Berlin's Congress Hall. Other U.S. delegates and their linguistic performances included New York Architects **Helge Westermann** (fluent Danish), **Arthur Benline** and **Ben Schlanger** (fractured German) and FORUM Associate Editor **Peter Blake** (fluent German); **Dr. Carolyn Lockwood**, of the Hunter College Opera Workshop (fluent German); **Thomas DeGaetani**, of the Juilliard School of Music (enthusiastic German and French), and Lighting Consultant **Joel Rubin** (fluent English). An unexpected unofficial member of the audience was Los Angeles Architect **Richard Neutra** (flawless Viennese). Several of the U.S. delegates attended the colloquy under grants from the Graham Foundation for Advanced Studies in the Fine Arts.

TALIESIN ADVISORY SERVICE

For an unusual, if not a unique design project—to study and recommend standards and projects "to make the community a more attractive area in which to live, work, and conduct business"—Lafayette, Calif., has retained Taliesin Associated Architects, of the Frank Lloyd Wright Foundation. **William Wesley Peters**, Wright's son-in-law and chief architect for TAA, and **Aaron G. Green**, associated architect, of San Francisco, will direct the project, which will start with the landscaping of traffic islands in the business section of this Contra Costa County town of about 20,000 population some 30 miles east of San Francisco. Other phases of the project will include "ascertaining the style of architecture most practical and pleasing to give commercial areas continuity and beauty, continuing vigilance on all new construction and remodeling in the business area, esthetic landscaping throughout the community." The Taliesin services were retained, with the approval of county officials, through the Lafayette Design Project, composed of representatives of the Chamber of Commerce and more than 36 improvement organizations and service and garden clubs.

HONORS AND AWARDS

A native of France and a Knight of the French Legion of Honor since 1951, Professor of Architecture **Jean Labatut**, of Princeton University, has been promoted to the rank of Officer of the Legion of Honor.

In New York last month **Percy Uris**, chairman of the Uris Building Corp., was elected as a trustee of Columbia University, of which he is an alumnus and at which he has served as executive assistant to the president for new construction since 1957. Last June, Percy and his brother **Harold Uris** donated $1 million to Columbia toward the construction of a new building for its Graduate School of Business.

ARCHITECTURAL FORUM is published monthly by TIME INC., Time & Life Building, Rockefeller Center, New York 20, N. Y.

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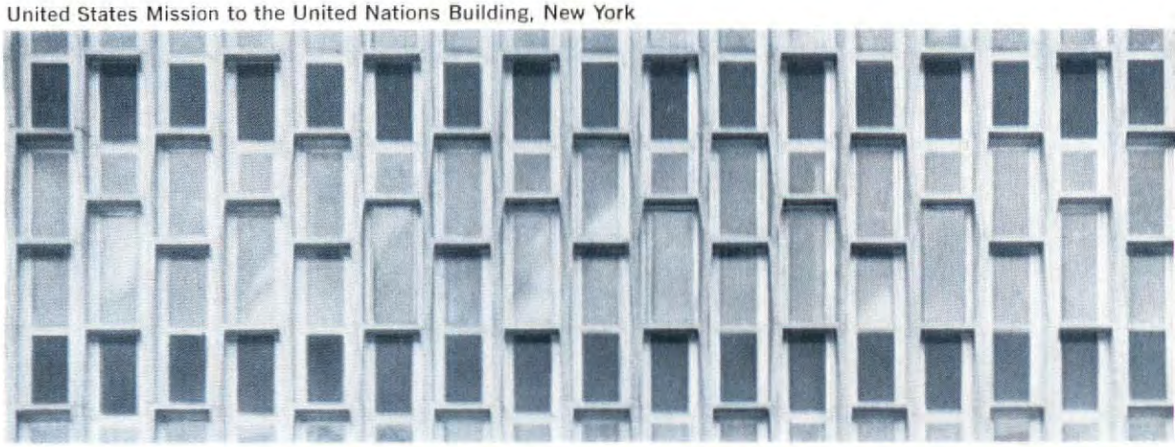

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Transpan patterns, transmissions and colors are available in any combination. This selection of opacity, translucency, and transparency, sparkling surface, and added depth is unique. It offers new possibilities in the design and engineering of luminous space, in the modulation of light, and the control of solar radiation. Transpan provides new experiences of changing visibility and permits privacy control by varying incident lighting. Images seen through Transpan obscure as one approaches; clarify as one recedes. Transpan in dark colors transmits less solar heat than normal grey glasses of equal visible transmission. In white it has even higher heat rejections because of the greater efficiency of direct reflection.

Transpan is available in all of the 22 Standard Tempar-Glas° Spandrel colors, plus matte black. Each of the patterns shown here may be specified in a graded series of six light transmissions. Standard Transpan is available in ¼″ thickness and in generous architectural sizes. It can be supplied in colored plate glass and in other thicknesses on special order. Transpan transmits absolutely neutral light at all percentages: 10%, 20%, 40%, 60%, 80%, 90%. Yet it adds a softly diffuse color brilliance of its own. Its remarkable strength is such that, even in the largest sizes, it can span the long dimension, without frame, and under severe impact loads.

This versatile new design medium is an exclusive development by Virginia Glass Products Corporation. It is produced under rigorous controls, by a special process, to yield a product of exceptional durability and precision. This is Transpan, another challenging example of Tempar-Glas° leadership. It is now in production. Literature is available.

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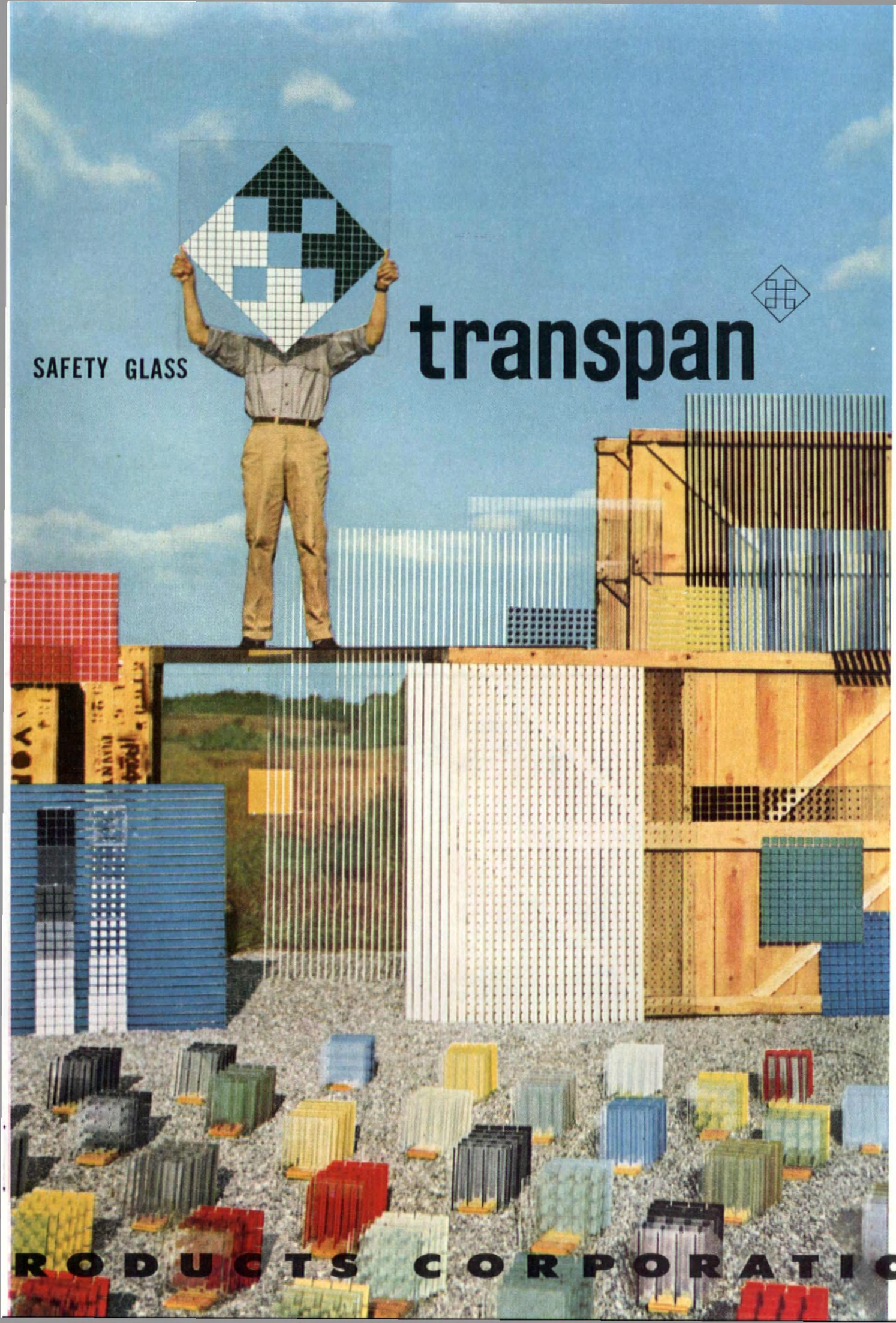
TEMPAR-GLAS

VIRGINIA GLASS P

MARTINSVILLE, VIRGINIA



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A selected few:

Transpan in white for high-bay lighting and solar control in gymnasiums, schools, terminals, industrial shops.

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Transpan in colors for office doors, entrances, stairways, unframed solar shades, balcony panels, wind screens, enclosures, stair guards.

Transpan for three-dimensional spandrels.

Transpan in full or partial application on any standard Tempar-Glas* product: Tempar-Glas* entrance doors, Tempar-Glas* sliding doors.

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Shatterproof Alsynite lends light and beauty to the Mountlake Terrace School in Seattle, Washington.

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From Armstrong: a giant step in fire-retardant ceilings

Now, in office buildings, choose from two types of fire-retardant Acoustical Fire Guard —exclusive new lay-in units or 12″ x 12″ tiles

The second floor of the office building on the left has the new Armstrong Acoustical Fire Guard lay-in ceiling. Below, on the first floor, you see a ceiling of Acoustical Fire Guard *tile*.

This tile was the first time-design-rated acoustical tile. The new lay-in system is another significant development in fire-retardant ceilings. Here is why:

Exposed grid system

The Armstrong lay-in ceiling combines the advantages of the exposed grid suspension system—economy and fast installation – with those of a time-design-rated acoustical ceiling.

Like the widely accepted Acoustical Fire Guard tile, the new system protects the structural components of a building by resisting the dangerous transmission of heat from one area to another. This lay-in unit – because of its composition – can withstand exposure to flames and 2,000 degree heat. Ordinary ceiling boards would disintegrate.

Time-design-rated

Underwriters' Laboratories, Inc., has given the new system a beam protection rating of three hours. Assemblies using bar joist and slab, as well as beam and steel floor construction, earned two-hour time-design ratings. In areas which require more protection, Acoustical Fire Guard *tile* can be used. It has U.L. ratings of up to *four* hours.

Saves time and money

The new lay-in ceiling is more economical than other finished ceilings that will provide two- and three-hour protection for structural steel. In most cases, it will cost even less than ordinary plaster ceilings on metal lath.

Armstrong Acoustical Fire Guard tile, in the Classic design, was specified for the new Kiplinger Letters Building in Prince Georges County, Maryland. Architects were Chatelain, Gauger and Nolan, Washington. The acoustical contractor was A & P Contractors, Inc., of Kensington.

And like the tile, it can save builders up to *two months*' construction time. There is no waiting for wet work to dry. This makes it ideal for remodeling jobs. Installation can be done during or after office hours.

The Acoustical Fire Guard lay-in ceiling is now available in the popular Classic design. A Fissured pattern will soon be on the market. There are two nominal sizes: 24″ x 24″ x 5/8″ and 24″ x 48″ x 5/8″.

For more information about either Acoustical Fire Guard tile or lay-in units, call your Armstrong Acoustical Contractor (he's in the Yellow Pages under "Acoustical Ceilings") or your nearest Armstrong District Office. Or write to Armstrong Cork Company, 4201 Rooney Street, Lancaster, Pennsylvania.

Armstrong ACOUSTICAL CEILINGS

First in fire-retardant acoustical ceilings

Architectural design and
rendering by Helmut Jacoby

Steel construction saves time and

Only 18 working days required to "set" the steel frame shown here

By constructing this 700-car parking facility of steel, Washington University, St. Louis, was able to add a floor after the first three floors were completed. Also, the steel framing will allow the structure to be converted to other uses if such need should develop.

Another big advantage of steel construction was an increase in usable space of 2% to 3% totaling approximately 7,500 square feet in the four floors and basement.

Steel for the new parking facility was fabricated by Stupp Brothers Bridge & Iron Company, St. Louis, Missouri. Specifications called for the use of 975 tons of USS Structural Steel in wide-flange beams for framing and column members. The floor construction is 24-gage permanent galvanized steel decking form-welded directly to steel floor joists supporting the reinforced concrete floor.

Mr. Elmer L. Deicke, Vice President of Stupp Brothers, says, "We have been using United States Steel products for years, and have always been impressed with their rapid and dependable delivery, a crucial factor in the construction industry. Their excellent service, combined with their attention to even the smallest problems, has established them as an important source of supply for us. The wide range of products available in wide-flange beams is another reason for our turning to United States

$910,000 four-story parking facility constructed with 975 tons of USS Structural Steel for Washington University Medical Center, St. Louis, Missouri. Architects: Schwarz and Von Hoefen. Contractor: Alport Construction Company. Steel Fabricator: Stupp Brothers Bridge & Iron Co.

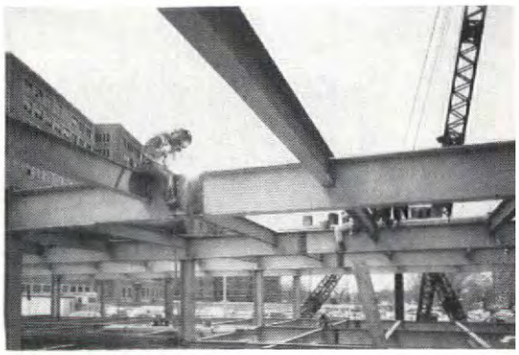
money... adds 7,500 sq. ft. of space

Steel for solutions to our problems."

Low construction costs. Mr. Arthur F. Schwarz, Senior Partner of Schwarz and Von Hoefen Architects, says, "Construction costs are running very low for this project. Our original figure for three floors of parking space plus basement came to $3.48 per square foot for an all-steel structure. With the later addition of one floor, this figure became $3.67 per square foot, which is still substantially below the normal $4.00-plus per square foot that we estimate for this type of structure."

United States Steel offers quick deliveries, a wide variety of products, and always top quality. For further information, write United States Steel, 525 William Penn Place, Pittsburgh 30, Pennsylvania. Ask for our catalog, "USS Steel Shapes and Plates." *USS is a registered trademark*

Mr. Morgan I. Doyne, the Erection Engineer (left), discusses erection problems with Mr. Roy Simpson, the Steel Construction Superintendent.



24-inch main carrying members being welded with 100% full penetration butt weld.

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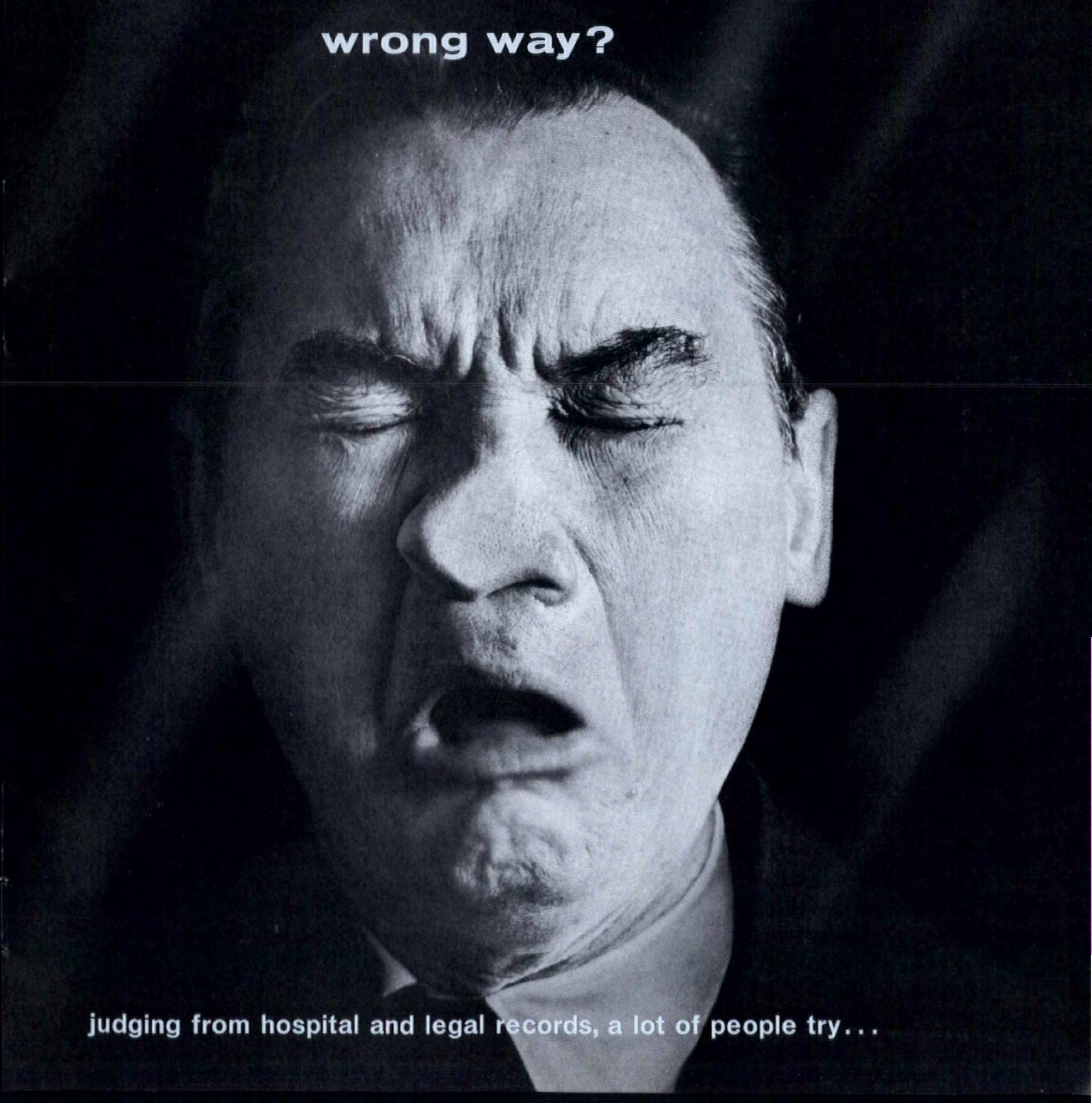

wrong way?
judging from hospital and legal records, a lot of people try...

you can go through a Kawneer Automatic Entrance the wrong

listed Kawneer Automatic is safe

The Kawneer Automatic is the only complete automatic entrance which is listed under the re-examination service of Underwriter's Laboratories, Inc. . . . door, frame, power unit and mat. You can be sure that every part of the Kawneer Automatic is reliable, durable and safe. Another excellent safety feature . . . if you go through the wrong way, the power goes off and doesn't come back on until both mats are cleared. Then the door resumes normal operation. You can even stick your fingers in a closing Kawneer Automatic . . . they won't be bruised.

These safety features are all *built into* the Kawneer Automatic . . . not added on at extra cost. You don't have to remember to specify them.

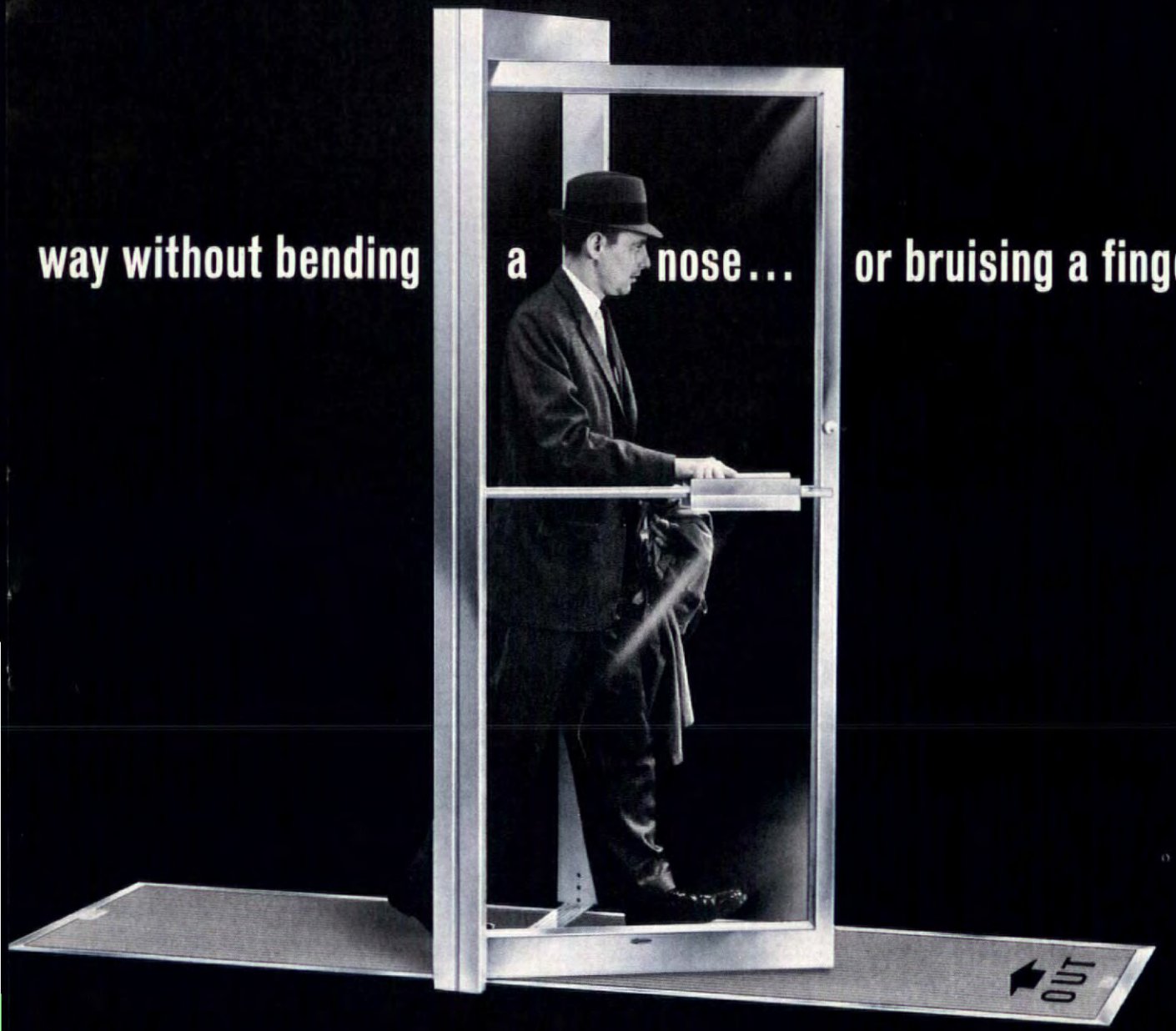
Now, this doesn't mean that the Kawneer Automatic costs more to begin with. On the contrary, it's lower than most.

That's because it's built on a new principle. The Kawneer Automatic is *all*-electric. No expensive compressors. No pipes or lines. The power unit is contained in the transom bar and connects to the actuating mat through the door frame.

Because everything is in the frame, the Kawneer Automatic costs considerably less to install. No holes to dig. No pipes or lines to lay. No special wiring needed. Just put it up as you would an ordinary entrance. Then tie into power conduit.

Service is no problem, for two reasons.

way without bending a nose... or bruising a finger



...physically and economically!

First, the entrance has been field-proven for three years—the need for service is minimized. Second, if you should need service, it's nearby and available quickly. The dealer who sells usually is the dealer who services.

After the serviceman arrives, the entrance is back in operation within just a few minutes. If it can't be repaired on the spot, a replacement power unit is slipped into the transom bar while the original unit is being serviced.

A word about availability. Door, frame, mats and power units are in stock, delivered in one package, so that work can be kept on schedule.

For these reasons . . . safety, low first cost, low installation cost, great reliability and excellent service—we believe you would do well to consider the Kawneer Automatic Entrance. For complete information, write us at 1105 Front Street, Niles, Michigan, or contact your local Kawneer Representative.

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Kawneer's is concealed in the transom bar

The virtues of concealing a closer in the transom bar are considerable for all concerned.

The architect gets a clean looking entrance—the same as with a floor closer—but doesn't have to allow for holes being dug in the floor, breaking up the reinforcement or rupturing the waterproofing.

And because the contractor doesn't have to worry about the location of a cement case for a floor closer, his floor pouring goes faster. Contractors have estimated that this alone saves them $50 to $75 a door.

The sub-contractor saves, too, because his installation costs are much lower than with floor closers. Also, since each concealed overhead is adjustable to be single or double acting, right or left handed, the dealer's inventory investment is much lower.

The owner doesn't have to worry about his closer getting gummed up from dirt and water seeping in. Happily, a concealed overhead costs the same or less than a floor closer.

The smart way to buy a concealed is the way Kawneer sells them. Complete with door and frame. This way you know that the power of the closer is geared exactly to the weight of the door. And this way you know that all the materials you need—door, frame and closer—are going to arrive at the same time, so work can proceed on schedule.

The Kawneer Concealed Overhead Closer has been proven and constantly improved for three years. It is the *only* concealed closer that has been time-proven and work-proven for years in all parts of the country, under all weather conditions. For complete information, write us at 1105 Front St., Niles, Mich., or contact your Kawneer Representative.

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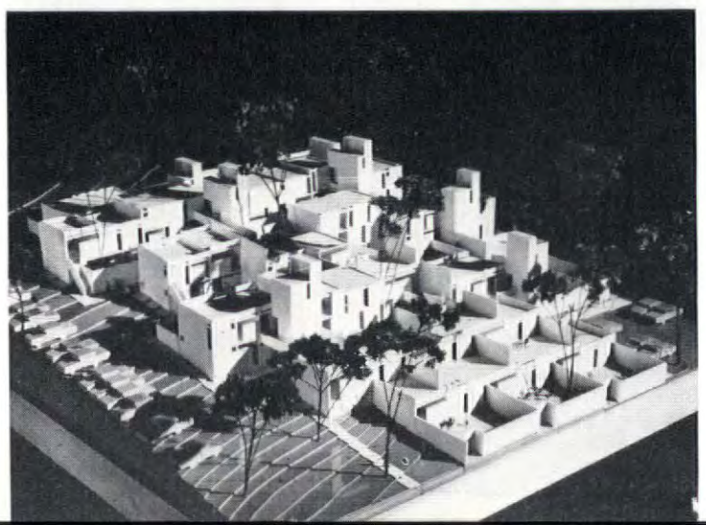
A roundup of recent and significant proposals

HOUSTON POST OFFICE

By Christmas 1962, the new U.S. Post Office in Houston (left) should be processing the season's mail through a battery of high-speed machines which will make it the most modern post office in the country. All mail will be handled in the two-story brick building spread out behind the marble, precast concrete, and glass administration center in the foreground. Architects: Wilson, Morris, Crain & Anderson of Houston.

NEW JERSEY APARTMENTS

Close to the George Washington Bridge spanning the Hudson River, seven apartment buildings will string along the Fort Lee, N. J. cliffs. Two of these Horizon Houses, one shown at left, will be started early this year. Kelly & Gruzen's plan for the Tishman Realty & Construction Co., Inc. splits most apartments into two levels (the bedrooms are a half-story up or down from the living and dining rooms) and omits half the public corridors ordinarily needed in high-rise structures. Of the 180 apartments in each building, 140 will be "split" in plan, and the remaining 40, "flats," tucked at intervals between the others. In any case, each apartment, whether split or flat, will have a separate 24-foot terrace overlooking the Manhattan shore or the Orange Mountains to the rear. Most apartments will be two-bedroom, two-bath units.



HOUSING AT YALE

Paul Rudolph's New Haven apartments, planned for 52 Yale students and their wives, look far more like a Mediterranean village than an apartment house, mainly because he has organized the hilly site to give every couple a courtyard, or at least a roof terrace. To be built of concrete block, exposed inside and out, the units will be one, two, and three stories high.

continued on page 35

GUTH GATEWAY

A winning combination of rugged strength, beauty and efficiency in a concave plastic fixture! The Gateway introduces a new concept of design and construction. Plastic is basic . . . but no wrap-a-round. Concave bottoms hinge separately . . . choose GrateLite Louver Diffuser* or Prismoid GrateLite Louver-Lens**.

100 FC AT 4 WATTS PER SQUARE FOOT!

the most efficient, most rugged, concave-plastic drop luminaire available

Examples — Estimated Ft. Candles — 80/50/30 R. F. — 9′0″ to 9′6″ Mtg. Ht. — 10′6″ to 11′ Ceil. — Row Mtgs.

with Concave PRISMOID					with Concave GRATELITES				
Rows of lamps	Room Index				Rows of lamps	Room Index			
	D	C	B	A		D	C	B	A
2-lite	52 FC	59 FC	67 FC	71 FC	2-lite	48 FC	54 FC	62 FC	66 FC
3-lite	78 FC	89 FC	101 FC	107 FC	3-lite	72 FC	81 FC	95 FC	99 FC
4-lite	99 FC	113 FC	129 FC	136 FC	4-lite	91 FC	105 FC	118 FC	125 FC

Notes: Room index D is for 30′ x 36′ room using 3-28′ rows
Room index C is for 40′ x 48′ room using 4-40′ rows
Room index B is for 50′ x 56′ room using 5-48′ rows
Room index A is for 60′ x 60′ room using 6-52′ rows

Guth LIGHTING since 1902

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HEXAGONS ON THE PRAIRIE: WYOMING JUNIOR HIGH SCHOOL

West Junior High School in Casper, Wyo. will perch on the rim of a bowl dug out of the prairie, a courtyard filled with trees and grass in contrast to the sagebrush outside. In the classroom hexagons, each headquarters for 200 children, a central work space replaces corridors for the four classrooms and one science room wrapped around the center. The common room may be used to display work done in the classrooms, to present visual-aid programs, or to divide into carrels for individual study. This school for 1,000 children was designed by the Architectural Guild of Casper and Perkins & Will of Chicago and will probably cost $1.4 million.

LOS ANGELES CLINIC

The huge rectangular building at left will be an outpatient clinic tied in with the Los Angeles General Hospital. In this clinic 3,000 patients a day will be cared for by a professional staff of 1,000 assigned to 15 basic and 65 specialty clinics. The four-story reinforced concrete structure will be windowless to reduce air-conditioning loads. Architects: Arthur Froehlich, Douglas Honnold, and John Rex of Los Angeles. Cost: $5.8 million.

MISSOURI BANK ADDITION

Early this year Kansas City's largest bank, the Commerce Trust Co., will start construction of a 30-story addition to its present building. The new tower stands in front of the old building in the rendering above. Combined with the existing building's floor space, the addition will make this the biggest (though not the tallest) office building in the city, 850,000 square feet of office and parking space. Architects: Keene & Simpson & Murphy.

SCIENCE CENTER AT BROWN

Brown University's new Physical Sciences–Engineering Center in Providence, R. I. will be an open quadrangle formed by five buildings grouped around a landscaped mall. The three shown at left, all by Sherwood, Mills & Smith, are the heavy engineering laboratory, a two-story, windowless structure with a folded roof of reinforced concrete; an engineering and physics building of seven stories, the tallest in the center; and a scalloped lecture hall.

CHURCH HOME IN CALIFORNIA

Congregational Homes, a nonprofit corporation sponsored by the Congregational Church, is building a $4 million retirement village in Pomona, Calif. (right), designed by Kenneth Lind Associates. In three round apartment buildings, ten cottages, and scattered one-story rectangular apartments, Mt. San Antonio Gardens will eventually have apartments for 276 residents, besides providing dining, social, medical, and recreational space.

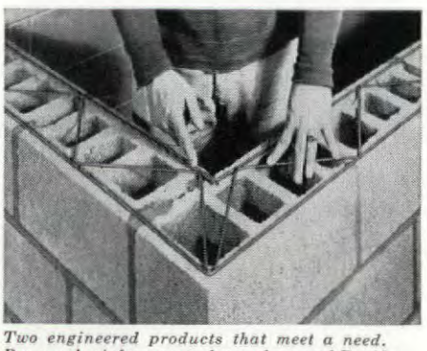
continued on page 37

it takes Dur-o-wal to keep them alike!

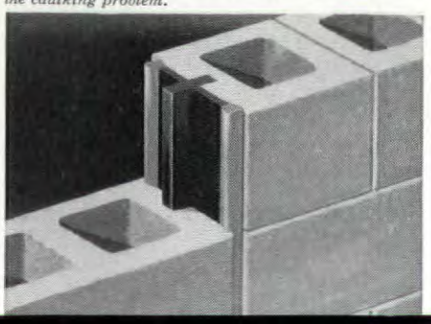
Two masonry walls: They can be twins in surface charm and solidity. Yet, one can be the better building investment—free of maintenance problems for important extra years. That's the one built with Dur-o-wal, the original steel masonry wall reinforcement.

A wall reinforced every second course with Standard Weight Dur-o-wal has 71 per cent greater flexural strength than its unreinforced counterpart.

With its trussed design, butt-welded construction, scientifically deformed rods, Dur-o-wal is considered the most practical thing of its kind by builders everywhere. Nationally wanted, Dur-o-wal is nationally distributed. Wherever you build a masonry wall, you can get Dur-o-wal.



Two engineered products that meet a need. Dur-o-wal reinforcement, shown above, and Rapid Control Joint, below. Weatherproof neoprene flanges on the latter flex with the joint, simplify the caulking problem.



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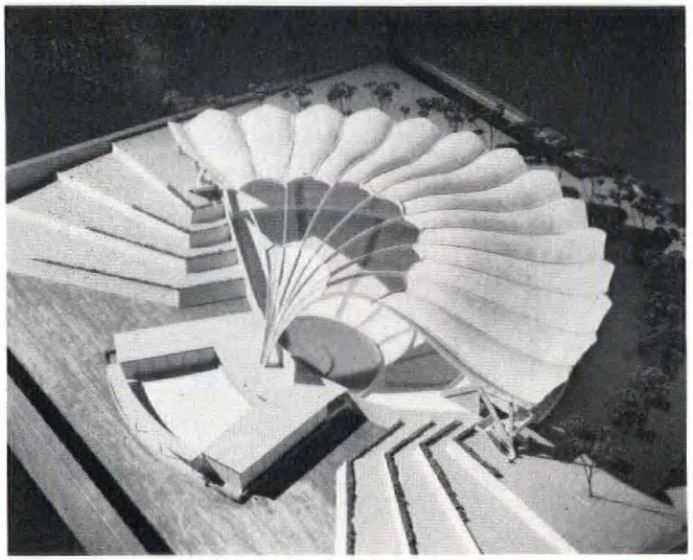
- Dur-O-wal of Ill., 260 S. Highland Ave., **AURORA, ILL.**
- Dur-O-wal Prod. of Ala., Inc., Box 5446, **BIRMINGHAM, ALA.**
- Dur-O-wal of Colorado, 29th and Court St., **PUEBLO, COLO.**
- Dur-O-wal Inc., 1678 Norwood Ave., **TOLEDO, OHIO**
- Dur-O-wal Ltd., 352 Mac Nab St. North, Postal Station B, **HAMILTON, ONTARIO, CANADA**

CIVIC AMPHITHEATER FOR MINNEAPOLIS

A long-range plan to give Minneapolis a civic amphitheater has been worked out by Architects Cavin & Page, a Minneapolis firm, who hope that it can be built during 1962-63. Their design, of reinforced concrete and masonry, will shelter 80 per cent of the seats and part of the stage under a giant shell and will provide a temporary roof to cover the rest if a deluge threatens a performance. The maximum number of seats will be 7,500, easily converted to a smaller number by using only the permanent seats, all within 150 feet of center stage. The estimated total cost is $1.6 million.



CIRCULAR PLAN FOR SPECIAL SCHOOL IN CALIFORNIA

This school for physically handicapped children, the West Valley School in the Los Angeles School District, is intended to do two things: provide a normal education for each child and, for those who need it, physical and occupational therapy. In Architect Sidney Eisenshtat's plan, generous corridors ring the classrooms, and wide doorways from the classrooms face patios sheltered by deep overhangs. Inside the classroom ring there will be four open patios, a large one for outdoor assemblies which is separated from the indoor auditorium by a stage serving both areas.

CALIFORNIA HOSPITAL

Dominated by a barrel-vaulted nursing wing, the Canoga Park Hospital, to be the largest in the West San Fernando Valley part of California, will disperse its ancillary services in several ground-hugging structures, the main entrance marked by a cantilevered canopy. Construction will start this month on the first 72-bed unit, to be expanded later to a capacity of 250 beds. Large patios and gardens, to make the hospital surroundings cheerful, are an important part of Rochlin & Baran's design.

SUBURBAN NEW YORK SCHOOL

This $7.5 million high school in Mount Vernon, N. Y. will straddle a parkway. Unless the Cross County Parkway connection, behind the school in the rendering, is rebuilt, a footbridge will be essential to connect the school buildings and the athletic fields on the other side. One- and two-story classrooms will enclose a courtyard cut in two by the library. Architects: Sherwood, Mills & Smith.

END

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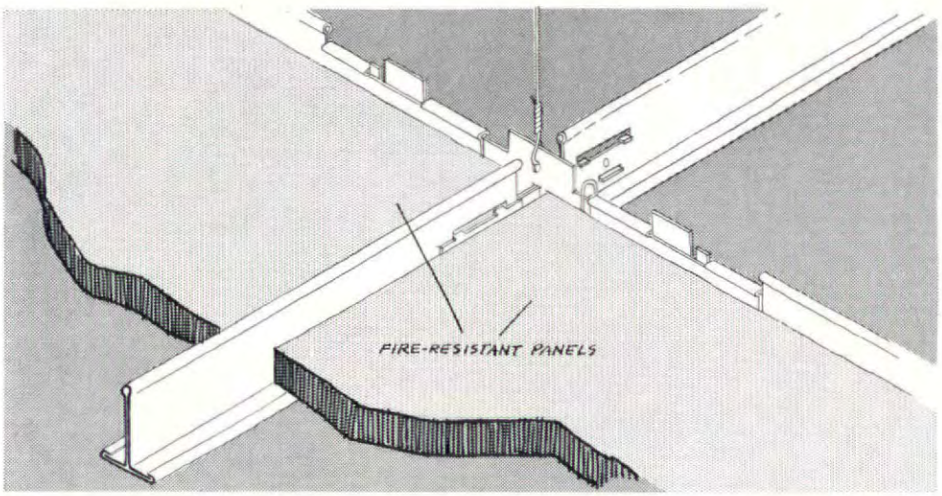
Fireproof and louvered ceilings . . . rubber roof . . . metal and plastic panels



FIRE-SAFE CEILING

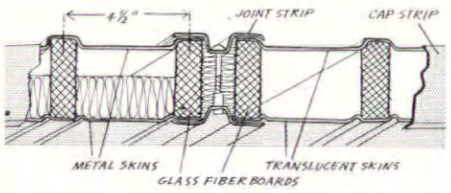
Two years ago Armstrong Cork introduced for use in suspended ceilings a 12-inch acoustical tile which offered rated fire protection (FORUM, Apr. '59). Now Armstrong offers larger panels of the same dense, fibrous material and a low-cost, easy-to-install suspension system providing rated fire protection for structural steel. Armstrong goes so far as to call its *Acoustical Fire Guard Lay-in System* "the fastest means of installing fire protection and a finished ceiling ever put on the market," and claims that its cost in most cases is below that of plain plaster and metal lath ceilings without acoustical treatment.

The new system uses 2 by 2 or 2 by 4 foot fire-resistant panels of densely packed mineral fiber in an exposed steel grid. Not only does this ceiling protect the structural components from collapse during fire, but it also combines with the floor structure above to resist heat transmission to upper floors. By themselves, the ceiling panels withstand exposure to direct flame and 2000° heat; in addition, the suspension design prevents buckling or twisting of the metal grids. When exposed to intense heat, fusible metal joints melt and let the steel expand so that the grid holds the panels rigid, maintaining the fire barrier. There is no need for a fire stop above the ceiling. Underwriters' Laboratories, Inc. gives the system a three-hour beam-protection rating.

As an acoustical material, the Fire Guard ceiling panel has a noise-reduction coefficient of 0.75. It is now available only in the classic perforated pattern, but fissured panels will be added early this year.

Armstrong estimates the system's installed cost to be 50 to 65 cents per square foot, about 20 per cent less than the earlier Fire Guard tile. Lay-in installation pares costs in new construction because the acoustical contractor can install Fire-Guard at the same time other trades are laying floors or painting. In rebuilding projects, the ceiling may be installed overnight or even during working hours. Once in place, ceiling panels lift out easily for access to air-conditioning ducts, wiring, and plumbing lines.

Manufacturer: Armstrong Cork Co., Lancaster, Pa.



TWIN PANELS

These two mix-or-match insulated wall panels—one of metal, the other of plastic—go together to form low-cost, lightweight curtain walls for buildings of three stories or less. Metal *Condo-wall*, a stressed-skin panel, may be finished in light gauge aluminum or galvanized steel with a baked-on enamel finish. The plastic *Condo-lux* panel, on the other hand, has outer skins of reinforced glass fiber. Ribbed on 4½-inch centers, the skins of both panels are bonded to high density glass-fiber boards which act as both insulation and structure. As shown in the section above, cap strips clamp top and bottom edges together; joint strips hold vertical edges. Because they have the same profiles, the metal and translucent panels may be used interchangeably. The plastic panel is shatterproof and transmits from 48 to 64 per cent of the light striking the area (75 per cent) between the ribs. In

continued on page 41

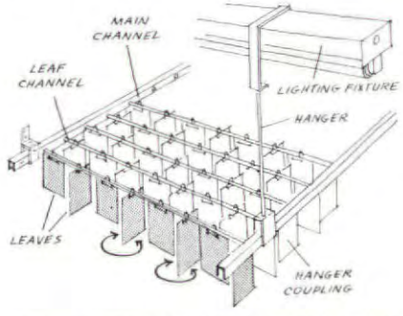
some buildings this light-transmission property will enable Condo-lux to substitute for glass, effecting substantial savings in heating and cooling costs.

Both panels are prefabricated in a standard 32-inch width and in thicknesses of 2, 3, and 4 inches. Lengths range from 3 to 12 feet for Condo-lux and 4 to 20 feet for Condo-wall. Because of their stressed-skin construction, both panels have a high ratio of strength to weight. For example, an aluminum-faced panel 3 inches thick weighs only 1.8 pounds per square foot. For safety, recommended spans of both panels are based on the minimum shear strength of the glass-fiber boards. The in-place cost of the least expensive metal panel is about $1.45 per square foot; the plastic panel costs about $2.75 per square foot in place.

Manufacturer: Dresser-Ideco Co., Div. of Dresser Industries, Inc., 875 Michigan Ave., Columbus 15, Ohio.

LEAFY CEILING

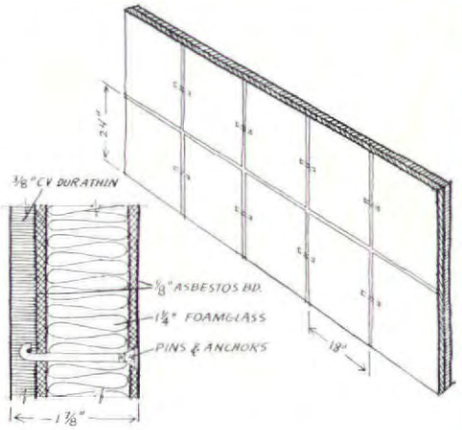
Called *Leaf-Lite*, the metal ceiling shown below is a deep wall-to-wall louver of thin metal leaves. Though the pattern appears to be immensely complicated, the manufacturer says that it installs easily, for there are only three components: a channel to which the leaves are clipped, a main channel, and a hanger-coupler. The leaf channel is shipped with the leaves aligned; the leaves are twisted and locked at right angles to each other as the channels are hung. They do not move or rattle once they are installed, but can be twisted to align with the channel again for cleaning. Leaf-bearing channels hang in rows fastened to main channels which, in turn, snap into hanger-couplings (see drawing).



Leaves of a single color create a texture in sharp relief, while leaves of two colors create a markedly tweedy effect. Baked enamel on steel and anodized aluminum are the two finishes offered, both of them matte.

Leaf dimensions are 3 by 6 inches, and the ceiling weight is 3½ pounds per square foot in aluminum, a pound heavier in steel. The installed cost for the package, including lighting fixtures above the louver, is about $4 per square foot.

Manufacturer: Luminous Ceilings Inc., 3701 N. Ravenswood Ave., Chicago 13.



THIN CERAMICS

CV Durathin is an economical ceramic veneer available in facing units for application to a variety of backing materials, and in large prefabricated sandwich panels. This veneer is ⅜ inch thick, durable, lightweight, and available in a wide range of colors and textures.

The largest unit size is 18 by 24 inches, but the sandwich panels, faced with several ceramic units pinned together, run much larger, up to 4 by 8 feet. The sandwich's center is 1¼-inch Foamglas insulation bonded between ⅛-inch cement-asbestos boards, and it is finished with the ceramic units on one or both faces. The resultant panel is 1⅞ or 2¼ inches thick. The facing material alone costs $1.65 per square foot F.O.B. Perth Amboy, N. J.; the sandwich panel, with one ceramic face, costs $3.50 per square foot.

Manufacturer: Federal Seaboard Terra Cotta Corp., 10 E. 40th St., New York 16.

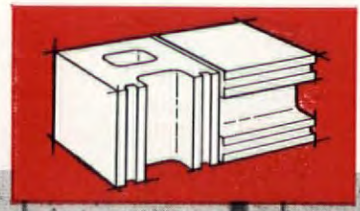
RUBBER ROOF

Liquid butyl rubber and glass cloth may now be used to weatherproof almost any roof surface, no matter how complex its contours. Over roofs of thin-shell concrete, this rubber skin clings tightly, yet it is flexible enough to bridge surface cracks. Decks of other materials, such as plywood, Tectum, Insulrock, and wood, take the same coating, but it is applied by a somewhat different method.

Application to thin-shell concrete starts with a butyl rubber adhesive and a layer of woven glass cloth to smooth the surface cracks and give the next coat, butyl rub-

continued on page 43

Great new things are shaping up in concrete block



Wall designed by Architect Alfred B. Parker, Miami. Photo courtesy of National Concrete Masonry Association.

Atlas Masonry Cement provides the right mortar

A notable thing about the new look in concrete masonry is what is being done with standard block. Here, for instance, a closed-lattice effect is achieved by laying up "stretcher" type concrete block, so that the ends are exposed. This basket-weave pattern creates an interesting exposed masonry wall resembling hand-hewn stone. For laying up this block, or any concrete masonry unit, ATLAS MASONRY CEMENT continues to be the preferred cementing material in mortar. It produces a smooth, workable mix, provides a strong bond, gives weathertight joints that are uniform in color. And ATLAS MASONRY CEMENT complies fully with ASTM and Federal Specifications. For information on masonry cement write: Universal Atlas, Dept. M, 100 Park Avenue, New York 17, N. Y.

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ber latex, a nonskid surface for better adhesion. The top coat is a butyl rubber sealer. This three-step coating dries to a smooth, glossy surface, but sand or marble chips may be added if a rougher texture is desired. Surfaces other than monolithic decks require a base coat of asbestos felt, followed by the steps above. Green, red, yellow, gray, blue, brown, and white are the butyl colors available.

Any of these applications costs from 35 cents to $1 per square foot, depending on the job's complexity. If the coatings are applied by approved applicators, the manufacturer offers a five-year guarantee, extended five years each time the surface is recoated (at the owner's expense) with butyl rubber adhesive.

Manufacturer: Twinsburg-Miller Corp., P.O. Box 207, Twinsburg, Ohio.

$2 VINYL

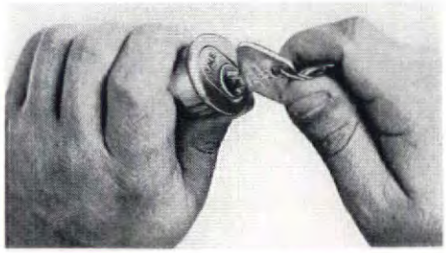
Congoleum-Nairn has entered the vinyl wall-covering market with *Wall-Ever vinyl,* manufactured by a new process that drops the price as much as 50 per cent below other quality vinyl wall coverings, the company says. The material is 100 per cent heavy-duty vinyl backed with a vinyl felting which eliminates design distortion.

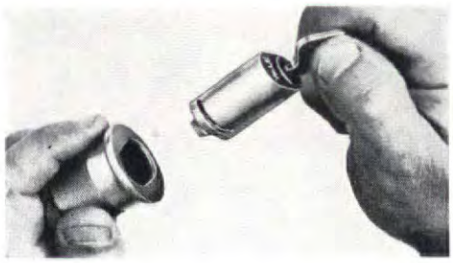
Five patterns of various colors are in the introductory line: grass weave, suede, tapestry, mica, and wood grain. The material is 54 inches wide and retails for about $2 per square yard.

Manufacturer: Congoleum-Nairn, 195 Belgrove Dr., Kearny, N.J.

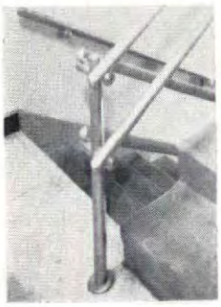
INTERCHANGEABLE LOCKS

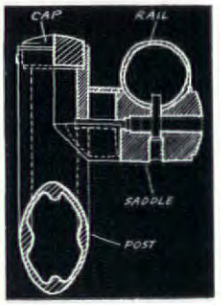
Yale & Towne has put on the market a special lock cylinder which is easily removed for rekeying or replacement. It fits existing mortise locks, rim locks, and panic exit devices. New locks equipped with the removable cylinder cost about $7 more than the list price for a lock alone. For buildings whose former occupants might keep keys to their rooms, such as hotels, offices, motels, apartments, or college dormitories, the new Yale cylinders simplify lock changing. To remove the lock, all that is necessary, once the complete cylinder has been threaded in (upper photo), is to insert a control key and pull out the pin-tumbler mechanism (lower photo) for rekeying or another lock. Key changes are virtually unlimited, and cylinders may be adapted for master key or grand master key systems.





Manufacturer: Yale & Towne Manufacturing Co., Chrysler Building, New York 17.





PREFAB RAIL

This well-tailored aluminum handrail, *Alurail,* promises competition for ordinary welded iron pipe railing on interior stairs. The main element of the system is standard 1½-inch aluminum pipe. The prefabricated parts, including a choice of three posts, fasten mechanically without welding or threading, requiring only a hacksaw, a drill, and an Allen wrench for field assembly. Savings from prefabrication enable the manufacturer to offer a two-rail system, which fits any stair angle, for about $3.50 a foot for runs of 5,000 feet or more. In addition to a natural aluminum finish, Alumilite colors may be specified for all components.

Manufacturer: Aluminum Railing Corp., P. O. Box 4365 Annex, 1127 Western Ave., Las Vegas, Nev.

BRIEFS

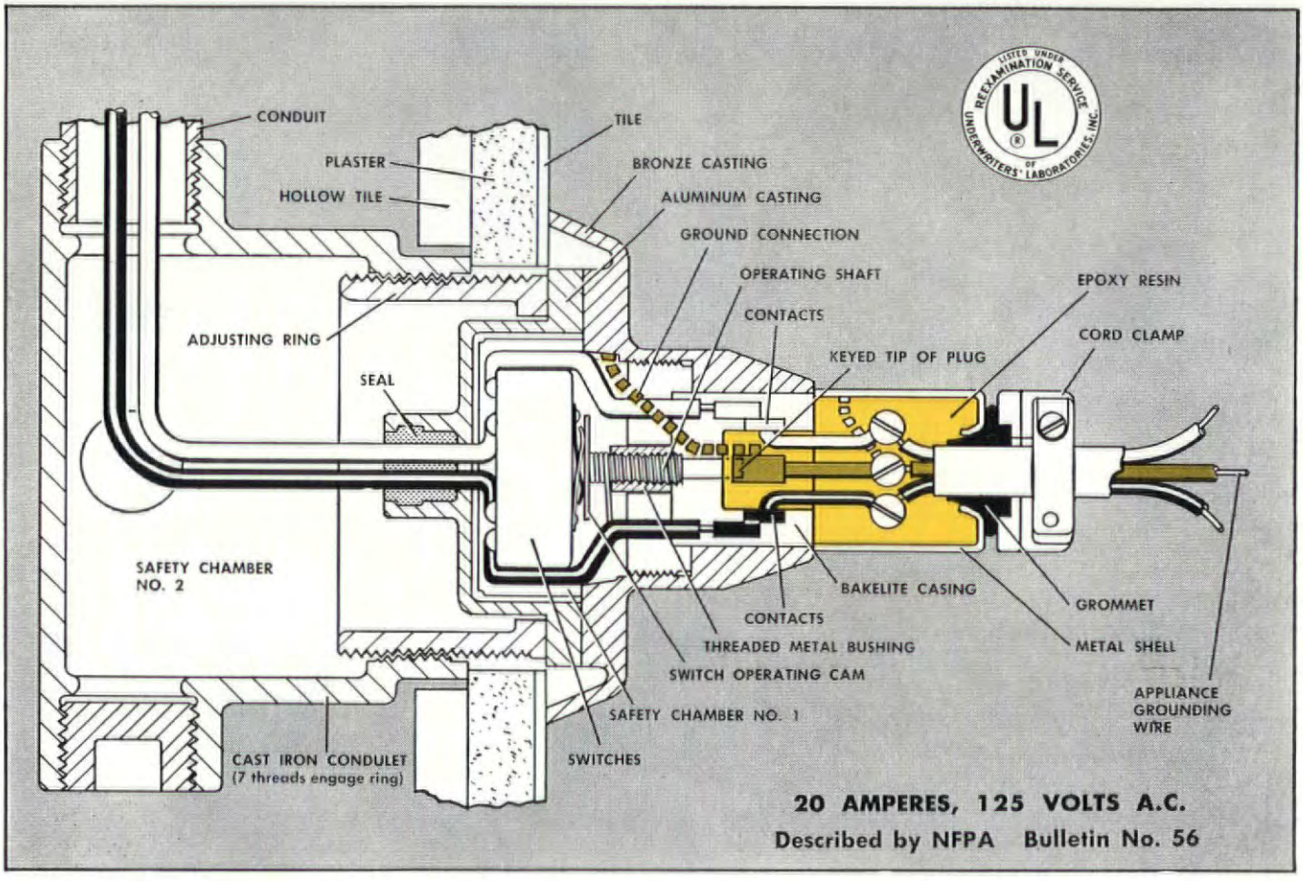
▸ A new mortar developed by the Structural Clay Products Research Foundation and the Dow Chemical Co. could halve the current thickness of clay masonry walls. This mortar's bond strength is more than five times that of standard mortar, which means that 4-inch clay masonry curtain walls could be used in multistory buildings without structural backups and 4-inch interior partitions would more than equal the structural strength of 8-inch partitions.

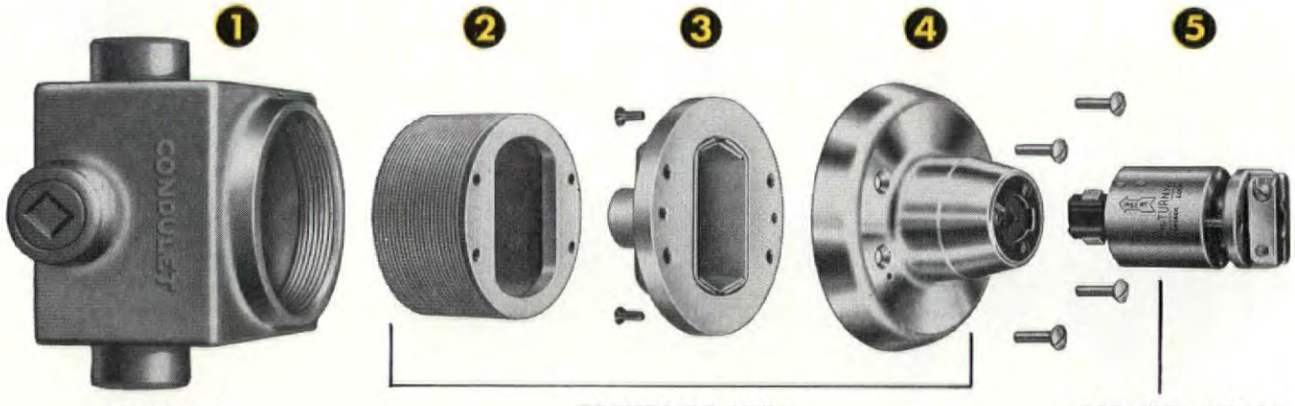
▸ Alcoa is splicing foil ultrasonically, a time-saver which may lower foil insulation prices. Vibrating at 50,000 cycles per second, a welding tip fractures the oxide film on the foil surface, forming a true metallurgical bond.

▸ *Videne,* a plastic film laminated to wood, makes it resistant to chipping and abrasion and impervious to common staining agents. The Goodyear Tire & Rubber Co., which spent ten years developing Videne, claims this surface doubles the life of wood paneling, doors, siding, and furniture. END

EXPLOSION

OUTLET AND PLUG PREVENT ARCING





Write for complete information.

Complete explosion-proof unit consists of: (1) No. 24305 shallow or No. 24306 deep cast iron Condulet box. (2) Threaded cast iron adjusting ring for 0" to 5/8" or for 0" to 1¼" adjustment. (3) Cast aluminum safety chamber. (4) Polished chrome-finish bronze casting containing specially keyed "Hubbellock" Explosion-Proof Receptacle. (5) Specially keyed "Hubbellock" Explosion-Proof Cap No. 24312, which is washable, vapor-proof, and waterproof.

- PROOF

IN HAZARDOUS ATMOSPHERES

New Safety for Hospital Operating Rooms and Class I, Group C or D, Industrial Atmospheres

Designed to meet the safety specifications of a leading New England hospital, the new "Hubbellock" Explosion-proof Receptacle and Plug cannot arc when circuits are closed or opened.
These devices establish a new standard of electrical safety in hospital operating rooms and in industrial areas where Class I, Group C or D, atmospheres disqualify conventional wiring devices.

DUAL SAFETY CHAMBER

Current will not flow until a specially keyed "Hubbellock" plug (No. 24312) is firmly seated and locked by rotating it clockwise. This action causes a cam to operate paired microswitches in a casting-enclosed safety chamber.
This chamber connects with a Crouse-Hinds Type CPS Condulet, which forms a second safety chamber to prevent escape of flame into the operating room if gas should ignite in the switching chamber.

VAPOR-PROOF PLUG

Further protection is provided because all air spaces where gases might collect within the plug are filled with a self-hardening epoxy resin, poured in at the time the three-wire cord is fastened to the terminals.
As a result, this vapor-proof plug is also absolutely waterproof. It can be washed without disconnecting it from the cord, so that operating room soilage may be removed without delay.
Strain on the terminals is relieved by rugged cord clamps. A pressure-expanded grommet provides additional sealing.

EXTRA SAFETY FEATURE

Because the receptacle is keyed to accept only this special explosion-proof "Hubbellock" plug (No. 24312), accidental insertion of standard "Hubbellock" plugs is prevented.
However, the explosion-proof plug *will* operate in standard "Hubbellock" receptacles, so that explosion-proof surgical or electrical appliances equipped with the explosion-proof plug may be used in non-hazardous locations if necessary.

ONE-HAND OPERATION

The receptacle is the dead-front type with a spring-loaded shutter. No covers or other mechanical closures are necessary. This permits one-hand connection or disconnection of appliances, which is a great convenience in operating rooms or other hazardous locations.
The receptacle and plug are UL listed for new installations with the Crouse-Hinds Condulet. For modernizing existing wiring, a special mat is provided, and the installation is subject to approval by local inspectors.
Receptacle and plug are described for use in any Class 1, Group C or D, atmosphere by the National Fire Protection Association.

EXPLOSION-PROOF

Hubbellock®

WIRING DEVICES

IT PAYS TO HAVE GOOD CONNECTIONS — HUBBELL

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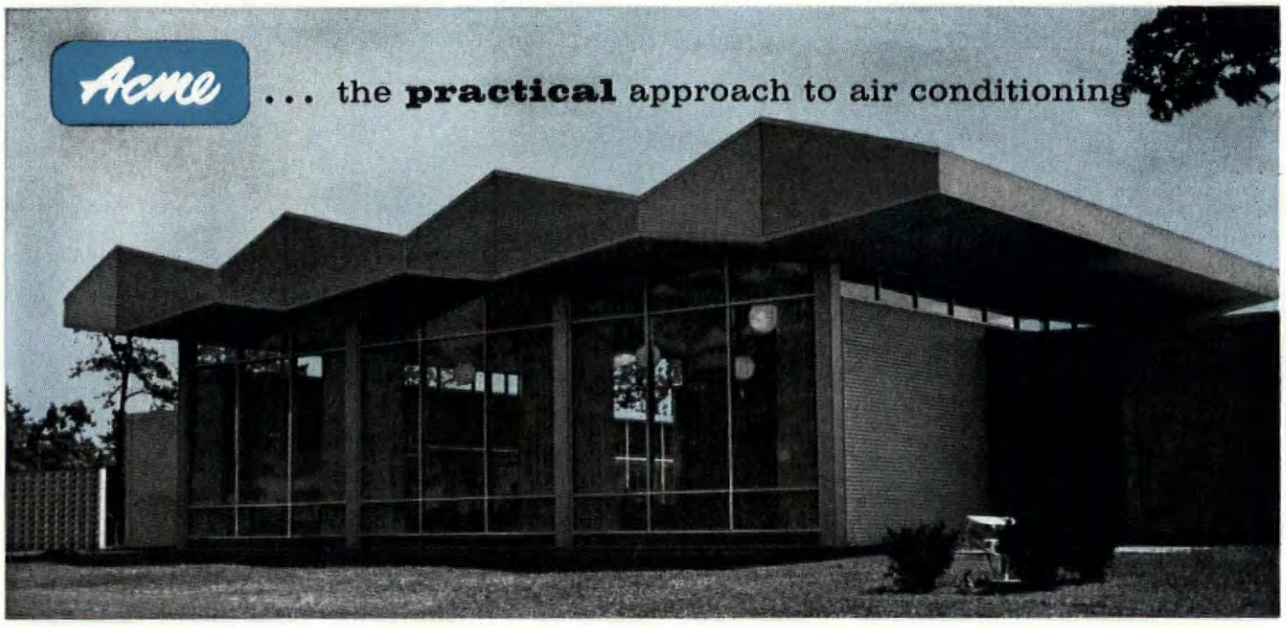
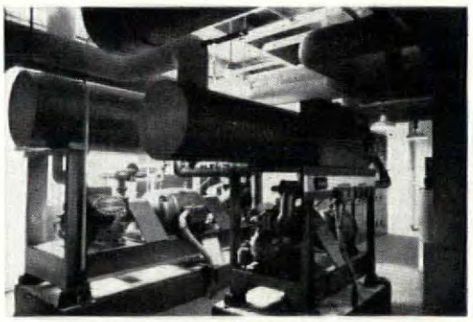


Acme selected . . . results excellent

Architecturally, a "gem" . . . throughout, a model of modern office efficiency, beauty and comfort. That's the word on the new Atlantic City Electric Co. Accounting and Data Processing Center, Pleasantville, N. J. On the air conditioning system, the word is Acme, and according to H. C. Moore, Jr., of John H. Moore & Son, Mechanical Contractors, it's a very good word indeed. "The owners wanted a system, at a budget price, that would function quietly, efficiently, dependably . . . one that would be easy and economical to operate and maintain. Acme was selected and . . . thanks to the high quality and unsurpassed performance of Acme equipment . . . results have been excellent, the owners are completely satisfied."

Owners, architects, engineers and contractors, in growing numbers everywhere, are reporting complete satisfaction with Acme. May we number you among them?



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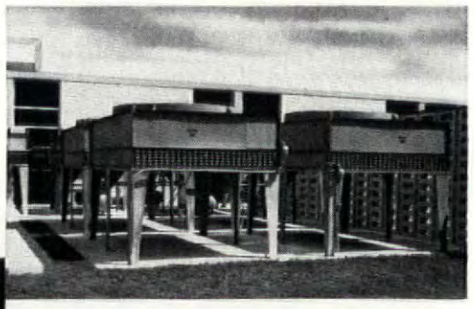

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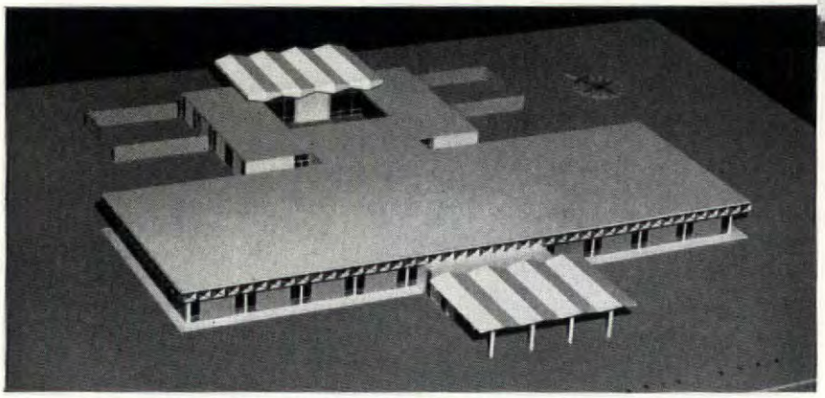

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The changing suburbs

Within the next 20 years what will happen to American suburbs?

Suburban leaders are uneasy over this question, for, if there is anything that capable Americans like better than living in suburbs, it is running them. "Above all," some declare, "we don't want our town to become a little city." In this view, the suburb is where those who run big cities go nights to be at home amongst one another. This idea goes back at least 100 years to the time when railroads were opening up the rural districts to what a prophet of the time called "refinement and culture" and also "effective social reform"; less sanguine characters were content to stress escape "from the murky and unhealthful haunts" of the cities—then already! But regardless of all such wishes and attitudes, the suburbs are changing rapidly, and some indeed are becoming little cities.

The transformation in the suburbs derives from their new role as an integral part of metropolis. The old city-suburb reciprocal relationship is breaking up. For quite a while it has been degenerating into a battle. During the past ten years the air has resounded with complaints about the decline of central cities and their urgent need for reconstruction and renewal. But what was killing them? The unanimous answer is, the competition of the suburbs. And how could this happen if the suburbs were merely genteel dormitories for well-heeled families?

Obviously the nice old pattern is disappearing and yielding to a new one. In place of the big-city workshop ringed with tidy suburban dwelling towns, there now appears the all-embracing metropolitan complex. And just as the sun, according to the latest science, has an atmosphere so vast that the earth too is surrounded by it, so metropolis now extends out so far that the suburbs are not separate but constituent.

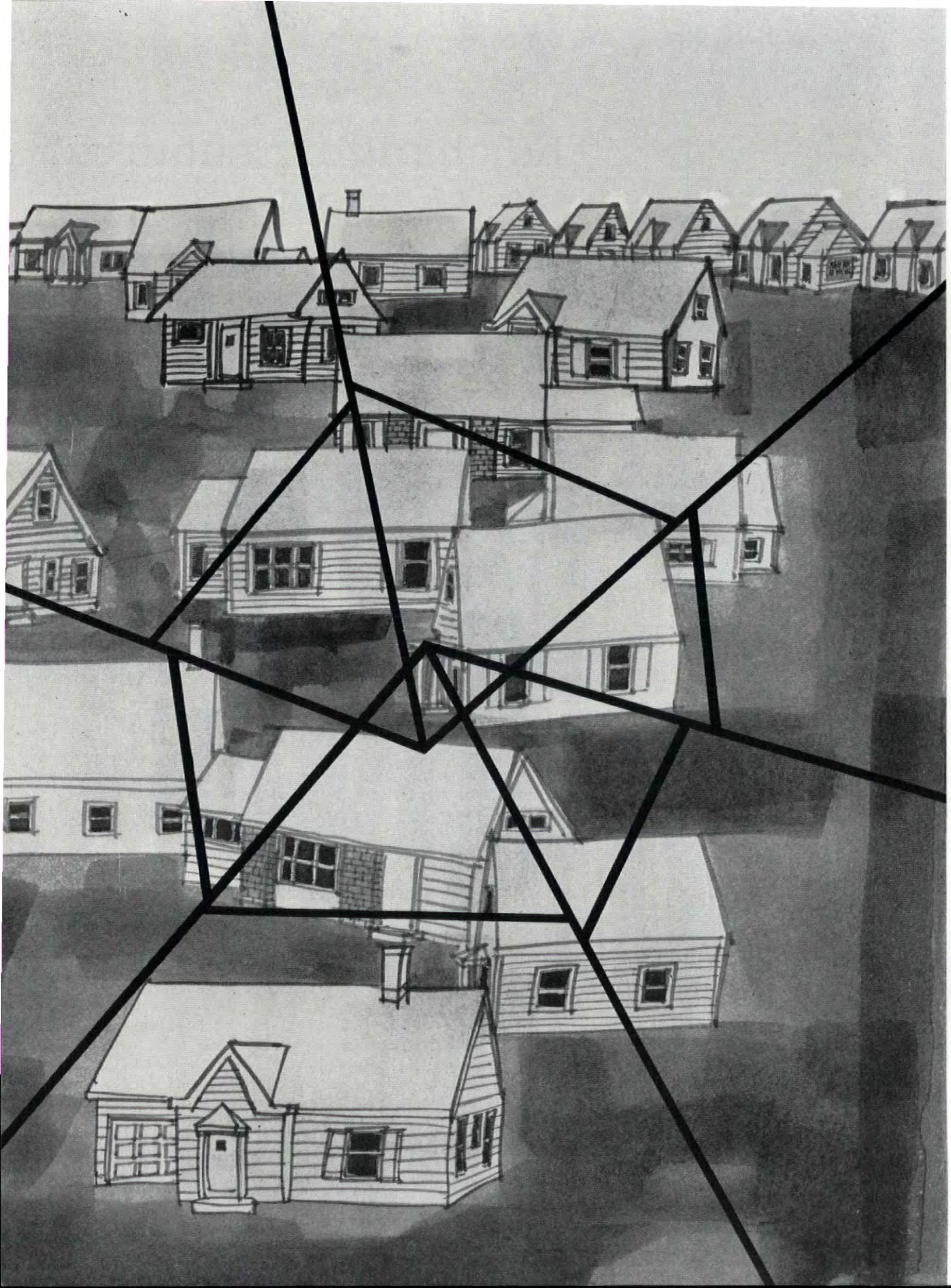
Within the metropolitan complex, the suburbs are the most active part. During the past decade, as every student of population knows by heart, 90 per cent of all U.S. population growth in metropolitan areas has occurred in the suburban fringes. Within 20 years some 50 million more people are expected to live there. Such growth was and is bound to be turbulent, with bursts in it that are quite amazing.

For example, who outside of Texas ever heard of a town called Irving? Ten years ago it was a hamlet between Dallas and Fort Worth, population: 2,600. Since then Irving has grown 17 times to 45,000; foresees half a million; has started annexing 114 square miles; more than big Dallas.

And Irving is only one among numerous little suburbs that are becoming big cities before America even knows about them. It is only one among many suburban varieties being cast up by the new metropolitan forces. These forces still leave intact within the system some fine old elm-shaded —or live-oak shaded—suburbs, usually on rolling ground, and with a beauty in their better sections that could make one's heart ache; but "blue-collar" tract suburbs are thrown up too, like Irving, as new as yesterday, started by home builders, prevailingly flat as to ground, roofs, and impact. Smashed suburbs turn up too, destroyed by inruptions of new thruways or new outlying shopping centers; so do 300-mile road slums caused by road engineers in deserting some fine 20-year-old highway; so do bright Shangri-La's for the research elite of science.

In view of such diversity the editors of this, the first issue of FORUM

continued on page 49



devoted to the suburbs, are obliged to confine themselves to a few key problems and selected cases, suggesting rather than covering the full richness of the subject.

Transportation change is the first factor differentiating form and function in the suburbs of metropolis (page 50).

The initial two or three phases are already past, when transportation began by pulling out of central cities their leading citizens, then pulled out big chunks of economic activity, taking into the country the biggest industrial plants, then branches of big stores, then farm-sized shopping centers (a single development outside Philadelphia covers more ground than the whole central business district), and finally all sorts of research campuses and administrative units. The big new departure today, far more important than noisy battles between advocates of mass transit and of the private automobile, relates to the grand pattern: the fact that the big radials leading out of cities are being cross-connected, usually by big ring roads. These simultaneously attest and abet the growth of many suburbs into semi-independent economic subcenters.

Work, in short, has made its way out into the suburbs, and is forcing them to make new choices (page 56).

"Shall we attract some industrial plants to help ease school taxes?"

That is the question faced by virtually all suburban community leaders. The answers are found to be unexpectedly complicated, and highly various. The town of Palo Alto, for example, started as an independent little university city, became a suburb through shortened time-distances, and has lately developed industry of special kinds with interesting consequences. It contrasts with Don Mills, a close-in new development at Toronto, Canada, which sought to ease taxes and greatly diminish commutation by "building industry in" at the very beginning; this worked out as a success—but not at all as anticipated.

Living in suburbs ever changes (page 70).

The tendency of the first-comers, the people of "refinement and culture" and of "effective social reform," is to resist this. Some of America's prime show places have developed adequate weapons of self-defense, keeping their character substantially intact, as for example, Houston's subdivision of River Oaks; while other towns, farther distant from the central city but drawn by ever growing transport into the metropolitan orbit, have full-sized battles on their hands, as for example, Westport, Conn. The tract suburbs, such as Irving, already mentioned, are in a way more homogeneous, but not even in these has a smug American democracy fully solved the problem of the underdog, economically or racially, pressing outward in his turn from city slums, seeking his day in the sun. If America lives up to her past, his day will come.

Shopping in the suburbs is changing rapidly, too (page 84).

The same outlying shopping centers that have raised such hob with central cities' downtowns have likewise upset many a neighboring suburban Main Street. Suburbs like lordly Evanston, north of Chicago, have to plan major overhaul to meet the threat of a potent "Old Orchard" shopping center at nearby Skokie. Curiously enough Garden City, out on Long Island, is able to prove that the east can match the west in suburban downtown parking.

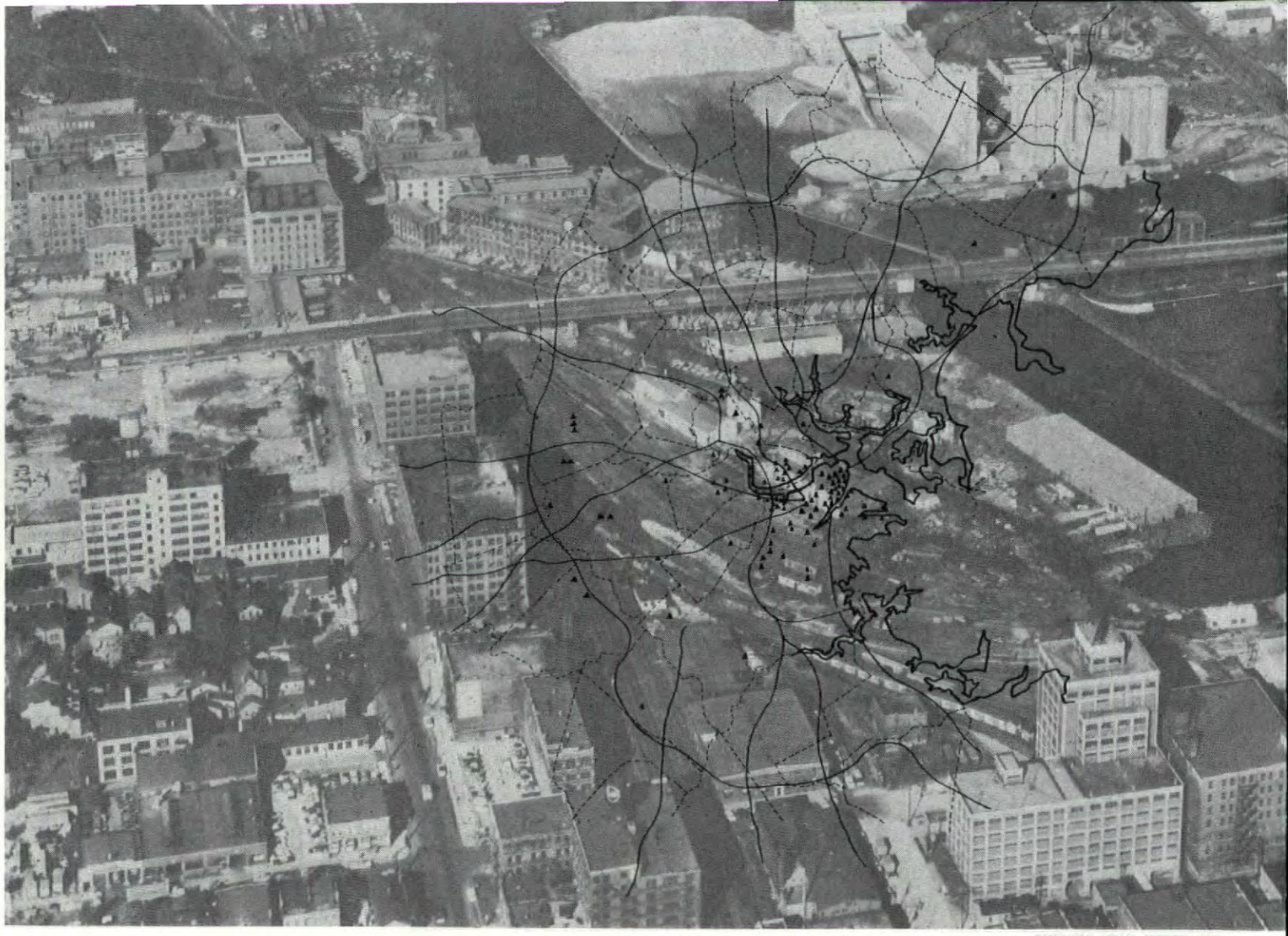
Individual buildings are another way of tracing the subtle rapid differences creeping into the suburbs (page 90).

More businesslike than the earlier tweedy architectural styles deemed suitable to the more gentlemanly environment, the new buildings include significant new types, such as elevator apartments leaping outward from the city into the suburbs, and industrial, research, or office complexes. Store remodelings still abound, but chain-store standardization woefully gains while large-scale shopping-district rehabilitation is ever more needed.

And so the suburbs develop, still at the apex of the American effort to live spaciously and work in superior surroundings. But they cannot go it alone. Irretrievably the suburbs have become an integral part of something even bigger than their own idea—they are part of the metropolitan urban-suburban complex.

From here on out every suburb must sharply define its role not only in relation to the central city, but in relation to its neighbors and to the total metropolitan area. In the cruel days of international competition that lie ahead, the wonderful freedom of choice and action that American suburbs have uniquely enjoyed must make room for real efficiency in accommodating an industrialization that ever spreads.

DRAWING BY JOHN SUZUKI



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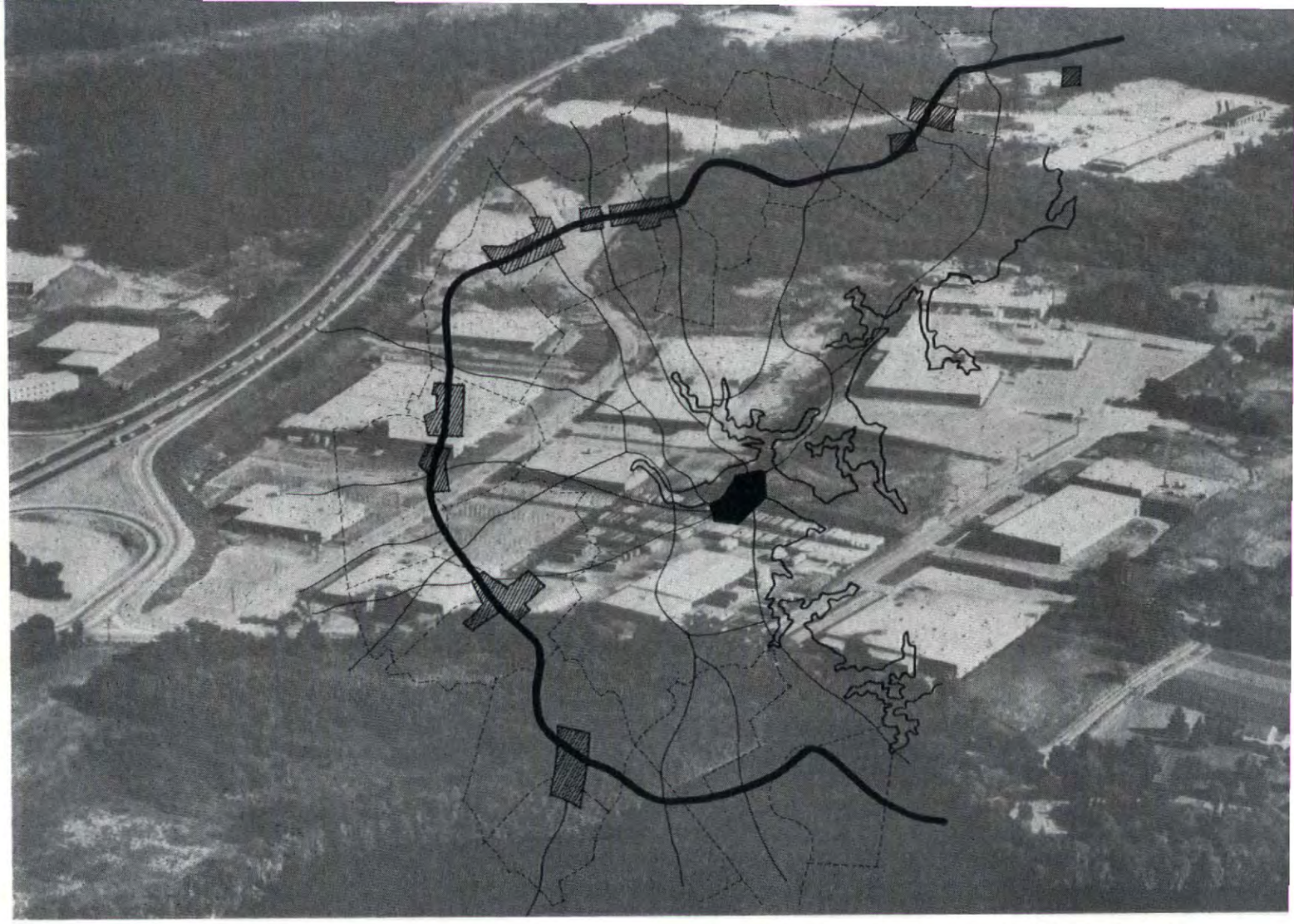
Transportation

It is rapidly changing the uses and the character of the suburbs, and the suburbs, in turn, are radically changing the needs in transportation.

It is a truism that transportation has made the suburbs, and that now the suburbs are making transportation. But few indeed are those who realize the extent of the recent transformation. The spread of both the suburbs and traffic is out of control.

During the next 15 years, as things are going, the people of the U. S. will spend $1 *trillion* for transportation. The total national expenditure is already roughly $100 billion a year, or 20 per cent of gross national product. We spend almost as much to transport ourselves from home and back again as we do on housing itself, says Catherine Bauer Wurster, in her report for the President's Commission on National Goals.

If, during the next 15 years, metropolitan population rises to more than 170 million people, mostly in suburban regions, then a continuation of today's wasteful highway patterns may put such a pre-emptive claim upon the total resources of the economy that very little will be available for housing, and millions of people



The pulling power *of a circumferential highway: Route 128 is changing the face of the Boston region, drawing industry from the central city out to the highway. Dots on the map (opposite page) represent industrial firms in the central city which have since moved to new industrial parks along Route 128 (see above).*

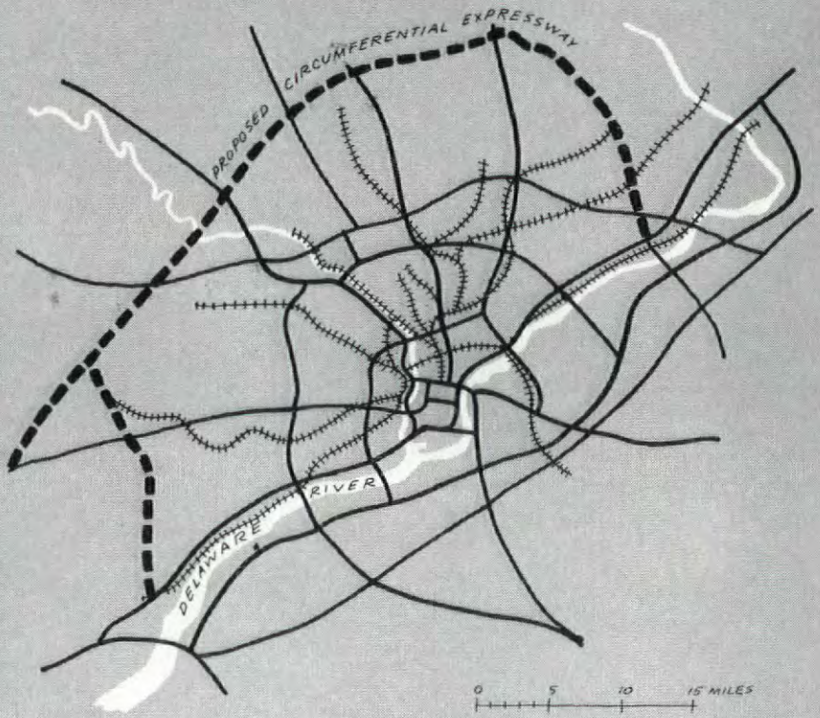
will live in the slums of city and suburb.

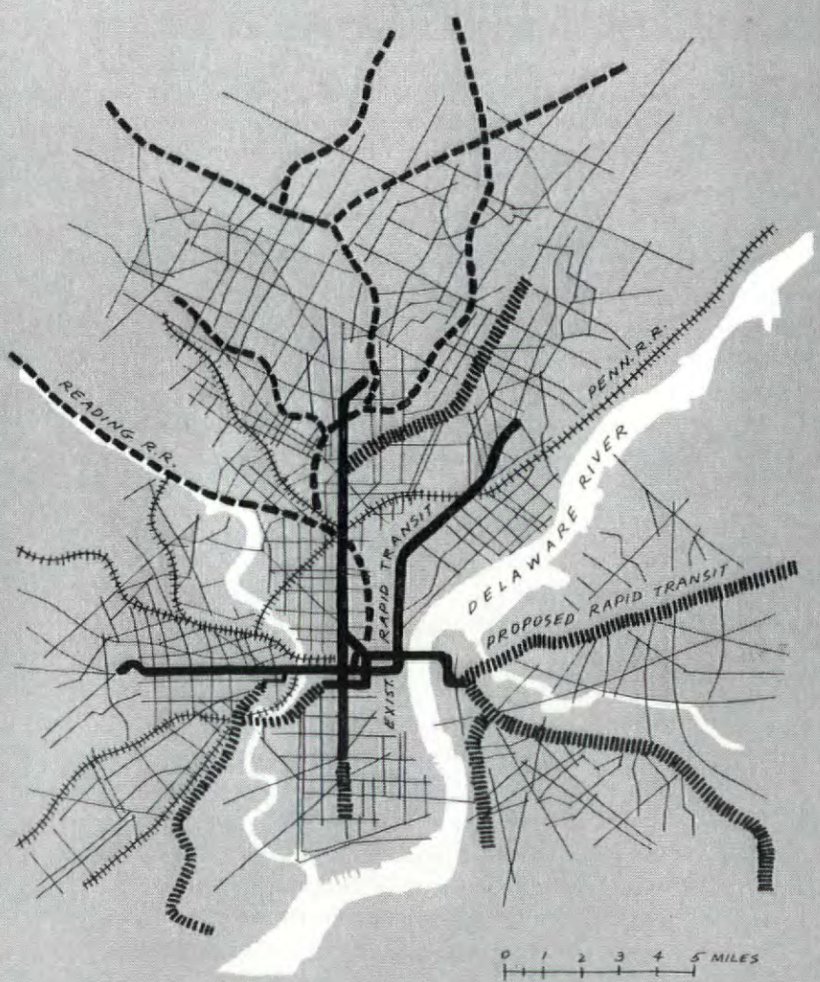
By 1975 America's automobile population will have soared from today's 58 million vehicles to 88 million, and today's 10,000 miles of freeway will increase to 50,000 miles. On top of that, local roads will have to be expanded by hundreds of thousands of miles to accommodate wasteful suburban traffic. The upshot of all this may be not convenience, but madness.

The suburban traffic pattern breaks down into three major parts: the connections between suburbs and central city; the connections between one suburb and another; and the vast increase in local traffic within suburbs, where everything is done by car.

The connections between suburbs and central city, the most expensive freeway construction of all, are helping to build the new suburbs, but such radial connections are doing little to diminish the traffic problem. The significant novelties in the emerging pattern are the big circumferential freeways, which do not link suburbs directly to the central city but link suburb to suburb. It can be looked at this way: in the twenties, the most noticed highway achievement was the Lincoln Highway, which was transcontinental. In the thirties and forties, the big push was in intercity highways and state thruways. But during the fifties, one of the most famous expressways was Boston's Route 128, circling the city. And if one looks at other metropolitan areas, such as Philadelphia, Detroit, Chicago, and San Francisco's Bay Area, one finds such circumferential connections emerging.

Thus, just as the railroads pulled the prime citizens out into the suburbs 100 years ago, today's circumferential highways are helping to pull industry out of the cities and into the suburban regions, as seen in the maps (above) of Route 128 and the Boston region. By pulling industry from the center of the city, this highway has pulled automobile traffic from Boston's congested streets. But such circumferential





highways have other effects on the development pattern of a region: 1) They accelerate the development of some suburbs as productive economic subcenters, growing around industrial parks, shopping centers, medical centers, etc. 2) They take pressure off the central business district of the city, because considerable traffic which once went through the heart of the city now can go around the circumference. 3) They cause suburbs to become increasingly differentiated. Those at the intersections of circumferential and radial highways grow into new economic subcenters. Others battle to preserve their identities as pleasant residential suburbs.

In general, the new spiderwebs of transportation reinforce the human desire to move from the central city. This increases the problems of traffic planning and demands that it be done on a regional basis, embracing the entire metropolitan area. Says Walter Douglas, of Parsons, Brinckerhoff, Quade & Douglas, the consultants who developed the proposed transportation plan for San Francisco and its adjacent Bay: "One should recognize at the outset that transportation is undoubtedly the most significant single influence on the shape of a metropolitan region."

How can good transportation be provided for the sprawling metropolitan regions? The old planning techniques, such as counting cars on the road and projecting future needs from such counts, are now obviously out of date and useless, and must be discarded. Transportation improvements cannot be made in such relative isolation. A sound system of transportation must be closely related to a region's economic, social, and cultural activities.

Is transportation a science?

Transportation's main trouble in the past has been its lack of scientific principles on which future demand could be projected. Although the suburban sprawl began to intensify the problem immediately after World War II, it was not until the mid-fifties that traffic engineers began to take a "network" approach to the problem of determining future traffic volume. And it was later still when they were able to simulate, by means of mathematical computation, the future flow of traffic over yet-unbuilt networks. J.

Balanced transportation for Philadelphia region: *top sketch is a schematic of the region's expressway and rail network, as projected for 1980. Future rail network (left) includes an extended rapid-transit system and new suburban rail lines.*

Douglas Carroll Jr., a city planner and social scientist, is credited with major advances in this area, with his development of a system for determining traffic desire lines 10 and 20 years in the future. He is applying his ideas in regional plans for the Detroit and Chicago areas.

To be sure, the application of scientific principles to transportation problems is still uncommon: most studies are made on a small scale, seldom in terms of the over-all problem of mobility; some forecasts fail to note that changed physical patterns in the region will of themselves alter future traffic desire lines, a fact which sometimes is more difficult for business forecasters to realize than for planners.

But the tools of science are rapidly becoming available and, thus, the next step is to use the tools and "to raise the setting of metropolitan transportation from the province of the technician to the realm of high metropolitan politics." This is the opinion of Henry Fagin, executive director of Philadelphia's Penn-Jersey Transportation Study. Says Fagin: "We have been living through a period of rapid growth in which metropolitan structure has been the unanticipated outcome of myriads of badly related or unrelated actions. A great host of private developers, autonomous authorities, and separate units and levels of government have been working away, each with little knowledge of what the others were about to do. We have seen the utterly essential efforts of the one thwarted by the constructive efforts of the next. We have seen things happen that nobody wanted."

The challenge of transportation

If these unrelated actions can be coordinated, thus raising transportation policy to the realm of high metropolitan politics, Fagin foresees a bright future for metropolitan transportation. Says he:

- Metropolitan transportation will be recognized as a problem in systems design, with several modes of transport being used in combination—rail *and* rubber, mass transport *and* individual transport.
- Fast-moving vehicles and pedestrians will be thoroughly isolated from one another.
- Automation, which has eliminated human error in the control of vertical elevators, will take over horizontally moving vehicles.
- Technology will produce vehicles capable of circulating around areas of low density to pick up or leave passengers; on arterial routes, these will become remote-controlled vehicles, capable of safe, efficient movement at high speeds.
- Needed rights of way for future roads will be acquired in unbuilt areas *before* the buildings are built.
- The public will demand discrimination in the use of highways: the 50-passenger bus will have priority over the auto carrying one passenger. At times of heavy traffic, when there is a threat to the free flow of mass transportation, private cars will be kept out of bus lanes.

The transportation problem is probably as complex, in its way, as any of the technical problems with which our scientists are coping. And, indeed, it ranks in importance with the deadliest diseases: if present trends continue, at least a million people will be killed on our roads and streets during the next 20 years.

Thus, it is fitting that the scientific community is turning its attention to the problem, through the National Academy of Sciences. The N. A. S. invited people from several fields recently to participate in a study conference "to review the nature and ramifications of transportation activities in the U. S., and to prepare suggestions for improving national capabilities, through research, for dealing with transport problems." It was recognized from the start that an adequate appraisal of the problem would require the insights not only of the physical scientists and engineers, but also social scientists, economists, urban planners, lawyers, and others intimately familiar with the practical aspects of providing transport facilities and operating the services.

As a result of the conference, the N. A. S. is urging that improvements be made in understanding how the system works, and why changes in some of the variables produce certain consequences: "If we are to make a constructive start toward resolving present difficulties and securing advantage of the opportunities ahead, it would appear that a number of fresh approaches are required." Among its recommendations are these:

- Government policy needs to be aimed at providing an environment that can nurture a healthy, dynamic system, responsive to changing conditions and emerging technology.
- The transport industries need to be in a position to take advantage of scientific discovery and new methods, and to be apprized of the effects of new conditions that directly or indirectly affect them.
- Problems of urban mobility need to be viewed in relation to community planning and

development, rather than in isolation.

- The chasm between the transport operators and the agencies for research and education need to be bridged.
- A research program which can add to understanding and lead to the improvement of the composite transport function needs to be conceived, organized, programmed, and financially supported.

The research hope

Three types of research are essential to the understanding of the transportation problem. One would involve the development of a picture of the future metropolis: what are the trends and forces at work which are shaping the regions of tomorrow? To develop this picture, the transport scientists recommend "the metropolitan growth model" as a study tool. The model would be a composite of many elements affecting growth, including the cause-and-effect relationships of transport and land development, the possibilities for integrating the best features of present and prospective transport modes into a unified system.

To date, only a beginning has been made in this phase of transport research: Philadelphia is using some of the elements of the growth model in its transport planning; in the Penn-Jersey study, for example, the planners are analyzing alternative regional patterns as well as alternative transportation proposals. Similarly, in Washington's study, the planners have projected alternative travel patterns for three different transportation designs in order to weigh the relative advantages of different modes of transport.

The second type of needed research relates to the national scene: how will national developments affect the character and rate of local change? No local study can embrace the national scene in an adequate way; thus, a number of metropolitan study groups are pooling resources to make regional growth projections.

The third research area should deal with ways to relate research findings with policy decisions, both in transportation and urban development. Says the National Academy of Sciences: "There is a clear need for mechanisms to achieve a better correspondence of public and private programs in major development fields, including not only transportation, but such fields as housing and urban renewal. . . . Virtually every current large-scale metropolitan transportation study has as one of its stated end products the formation of a permanent regional agency to provide for intergovernment and interagency cooperation on a continuing basis. The question of what kind of regional agency and its proper scope and function is certainly one of the most significant questions concerning the future of urban transportation."

There is a long time lag between today, when the problems of metropolitan transportation are being analyzed, and tomorrow, when the hoped-for solutions will come. What does the metropolis do in the meantime to prevent further disintegration of its transport network?

Philadelphia's action is perhaps the most encouraging example, for it illustrates what a region can do in the midst of a transport crisis. The "Philadelphia Plan" took effect in 1955, when a group of community leaders — comprising the Urban Traffic and Transportation Board—recommended action to integrate the area's entire transport system.

The city went to work soon thereafter, under Mayor Richardson Dilworth, to prohibit the Pennsylvania Railroad from eliminating certain commuter trains. It took a year and a half of courtroom maneuvering by City Solicitor David Berger, and at times it appeared that the city would lose out to the wishes of the railroad and that service would be abandoned: By 1958, it had an injunction that would stick, but almost simultaneously the railroads were happily observing the enactment of the Transportation Act of 1958, which enables any railroad to abandon trains at any time. Thus, Philadelphia had won in the courts but lost in the Congress. Says Berger: "I advised the mayor that unilateral action, whether by the city, state, or county, or at any other governmental level, would not solve this problem."

Berger recommended—and this is the genesis of the Philadelphia Plan — that city officials meet with railroad representatives and attempt to negotiate a series of agreements. At that time, the commuter lines were showing a constant decline in passengers, at an annual rate of 6 per cent, and railroad costs were still rising.

Berger's group began to experiment, aided by an appropriation of $160,000 from the city council: they issued schedules to the railroads, indicating which trains to run and what fares to charge. The fares were about 45 per cent below the scale then prevailing. Feeder buses were run through suburban areas, terminating at suburban train stations: for 50 cents, a suburban commuter could catch a bus near his

home, ride to the station, and then into town by train, where another bus would take him to his office. The 50-cent fare covered all three rides. Ridership has risen steadily, now is 30 per cent above pre-operation volume.

Philadelphia has since formed a nonprofit corporation to handle the problem on a permanent basis. This is the Passenger Service Improvement Corp., which has taken over all planning functions of the Urban and Transportation Board: it will coordinate the entire traffic and transport program.

Thus, Philadelphia's important transport arteries are still open. In the years ahead, when the regional Penn-Jersey plan comes to life, its mass-transport network will be a thriving element in the total scheme.

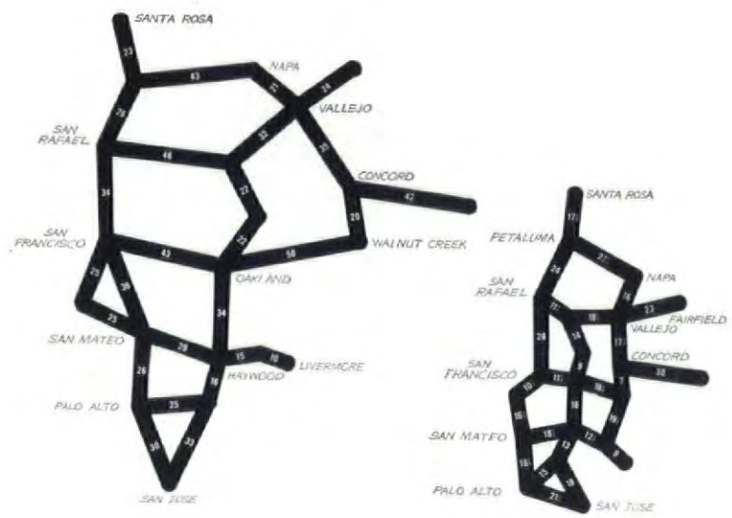
The efficiency of mass transit

Philadelphia is not proving that mass transit can be a paying proposition. Those days are over. Nor is it proving that mass transit is *the* solution, even with its extraordinary efficiency: 40,000 people per hour per transit lane, versus 2,000 via auto and 3,000 via bus, and the transit lane requires 1/15th as much land as a standard automotive freeway.

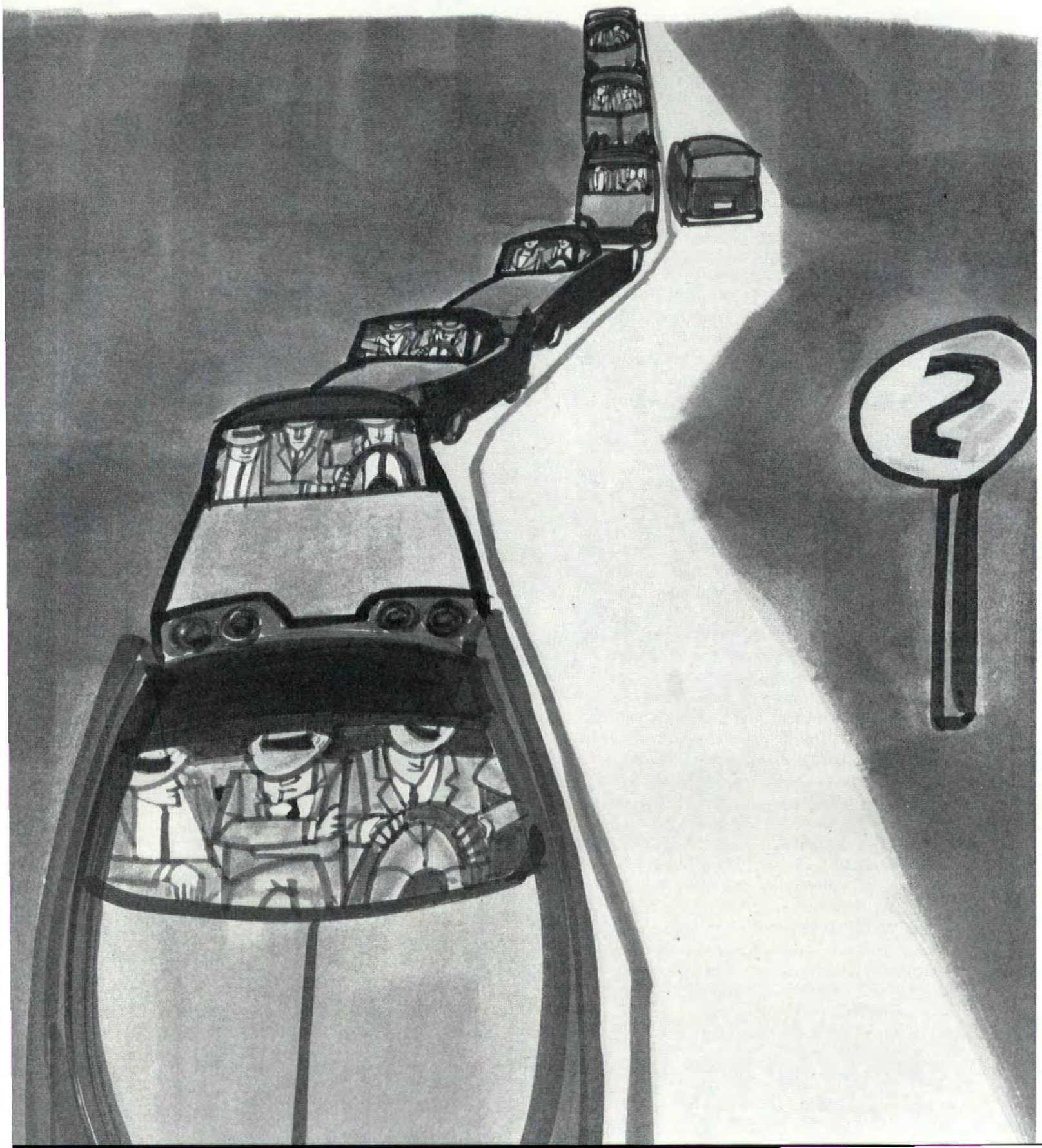
But Philadelphia and other cities, such as San Francisco, are recognizing that mass transit is an efficient piece of a region's transport network, even though it will require subsidization. In the case of San Francisco's proposed $750 million system, it is estimated that debt service not met out of revenues will amount to about $30 million per year, or $6 to $7.50 per capita. But a system of highways would cost considerably more. And in time, it would suffer the congestion of every highway system that tries to exist without efficient mass transport.

Along with mass transit and highways, both of which must emerge in the metropolitan regions of the future, a third element must be added before any semblance of efficiency and the good life will be apparent. Some may call this third element "science" and others may call it "planning" or "common sense." Whatever its name, it is a critical need in 1961 and will be a dire need in five more years. As Brookings Institution's Wilfred Owen says, after years of analysis of the mounting crisis: "Neither automobile, subway, nor railroad can provide ideal transportation as long as we insist upon going to the same place at the same time." Thus, the transport problem will grow unless we learn to rearrange our cities and habits of work.

Bay Area 1990: *regional study by Parsons, Brinckerhoff, Quade & Douglas predicts 7 million population by 1990. Map (above) shows 1990 orbits of centers and subcenters. Says report by PBQ&D: "A unified system of freeways and rapid-transit lines is essential to this urban organization." Maps below show effects on travel time: larger map represents shortest peak-period travel time (in minutes) achievable today from one center to any other; smaller map represents travel time achievable with proposed rapid-transit system.*



Working in the suburbs



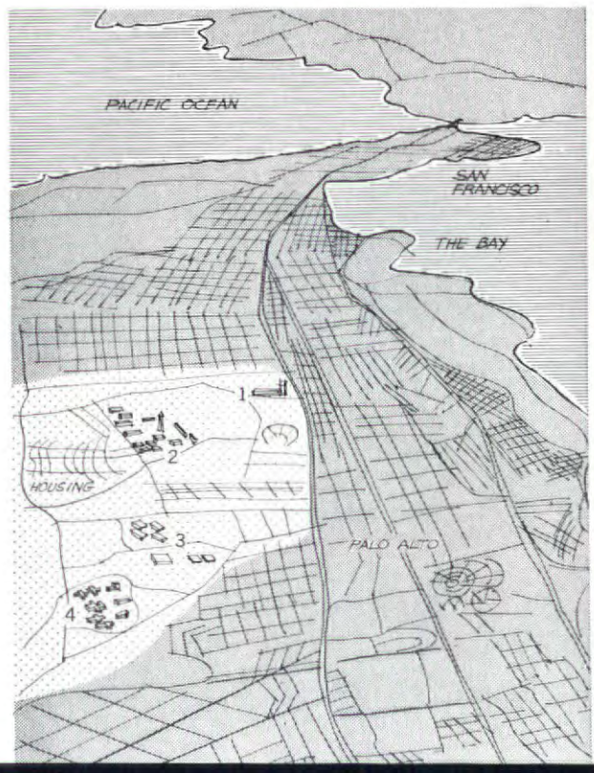
Industry on the Stanford campus is converting Palo Alto from suburb to satellite—without jeopardizing its opportunity to be a garden city.

In the halcyon days before World War II, when the population explosion had scarcely begun in the Bay Region, and the peninsula below San Francisco was dotted with towns and villages which were still separated by farms, orchards, and great estates, there were few places where suburban life could be seen to finer advantage than in the unhurried university town of Palo Alto, just 30 miles south of the metropolis. Founded in the eighties as a tiny faculty village for the university that Senator and Mrs. Stanford established in memory of a beloved only son, Palo Alto had developed into a classic, well-to-do suburb of homes, schools, churches, parks, and tree-lined streets. Each morning the Southern Pacific took executives and professional men to the city. Except for the shops on University Avenue, and the restaurants on El Camino Real (which still served adequately as a north-and-south highway), there was little business activity, and no manufacturing whatever. Considerable acreage remained under cultivation. The marshy Bay front, which the far-sighted municipal government acquired cheaply and early, was populated mainly by birds. And extending westward—as the key to Palo Alto's future—was the incomparable 8,800-acre Stanford campus, affectionately known as "The Farm," lifting from the agricultural plain in oak-studded hills.

Today, although the town appears in many respects unchanged, and even improved, the old, tranquil suburban pattern has been transformed irrevocably. The suburb has become a city, a subcenter of the vast regional metropolis which now rings the Bay; and things will never be the same down on the farm, which has quite suddenly become one of the foremost centers of scientific research in the world.

The census best reveals the magnitude of the change. Where fewer than 17,000 people lived in 1940, and only 25,000 ten years later, there are nearly 55,000, and population continues to climb. More people now enter Palo Alto to work and shop each day than commute to San Francisco or to the sprawling new, submetropolis of San Jose at the south end of the bay. Each day some 70,000 cars enter and leave Palo Alto, and 50,000 others merely pass through on four heavily traveled north-and-south arteries, in-

Stanford's campus in Palo Alto, 30 miles south of San Francisco, today makes room for a shopping center (1), the university (2), an industrial park (3), and a veterans' hospital (4), and still enjoys the luxury of open space.



DRAWING BY JOHN SUZUKI

H. L. COPELAND

A row of Eichler's 2,000 mass-produced modern homes.

cluding the tremendous freeway which runs beside the Bay.

What had been open fields even three and four years ago are now subdivisions, whole square miles of them, including the celebrated developments of Joseph Eichler, who soon after the war saw a young market in California for contemporary design, and has erected some 2,000 mass-produced modern houses (by Anshen & Allen and Jones & Emmons) in Palo Alto alone. There are hundreds of duplex units, and the first high-rise apartments have commenced to change the profile of the town. The business community, too, has undergone a profound change. University Avenue, the old commercial street, is rapidly becoming a professional and financial center (16 brokerage houses are in operation where there were only four in 1955) ; and the leading local merchants, together with the branches of San Francisco stores such as I. Magnin, have shifted to a huge shopping center—largest on the peninsula—which, although this would have seemed incredible a decade ago, is located on the Stanford campus, and attracts customers from a score of neighboring communities.

A change in profile: first high apartment.

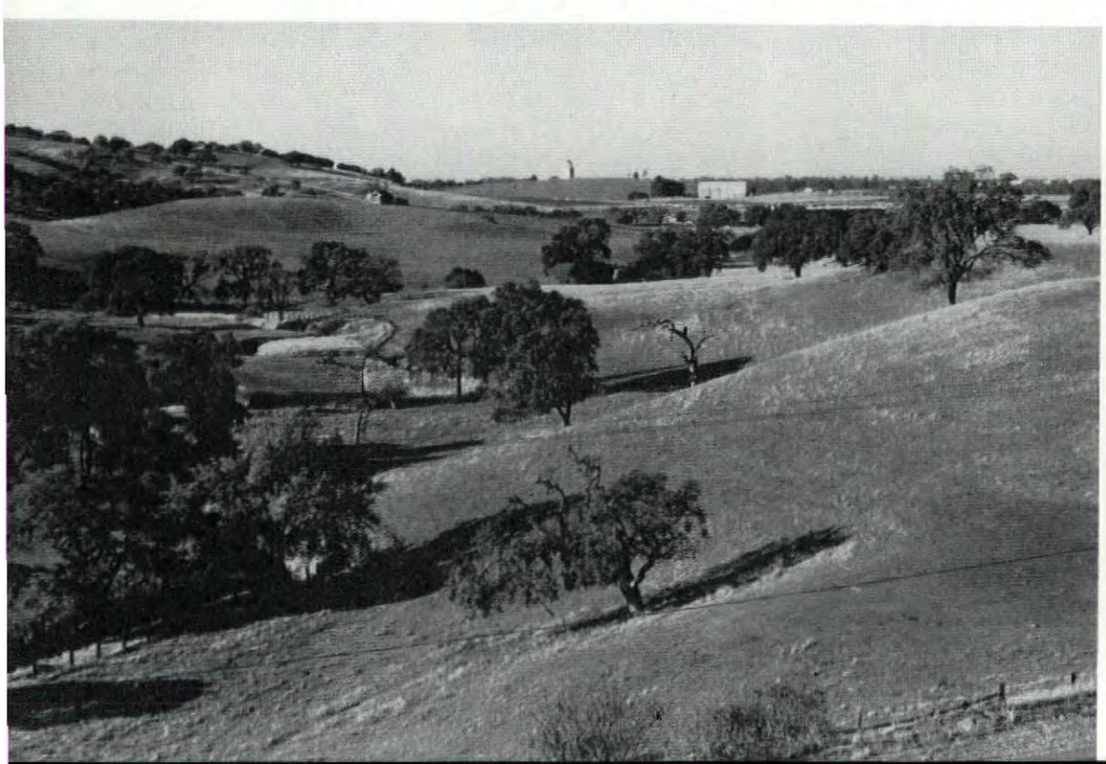
In the most significant development of all, the smokeless electronics plants of the space age—Varian Associates, Hewlett-Packard, Lockheed, General Electric—have also been welcomed on the campus, close to the university's laboratories where many of their products have been perfected; and last November, after the most bitter election campaign in the city's history, a narrow majority voted to allow Ampex Corp. to build a 350,000-square-foot, 4,000-employee factory in the hills.

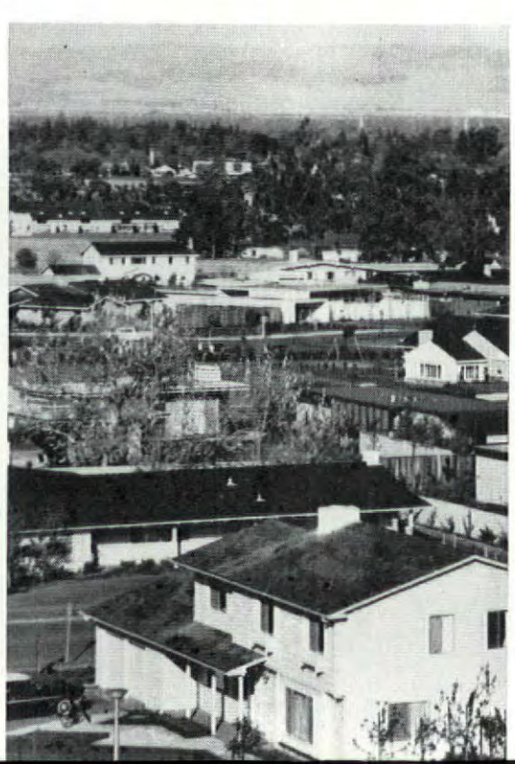
For Palo Alto there can be no turning back (although some past and present errors of judgment may be rectified). Together the city and the university, not invariably in full harmony with each other, are moving toward a new kind of environment. In their efforts to achieve a "balanced," largely self-sustaining community—efforts which are being duplicated less dramatically in other strong American suburbs such as Pasadena and Princeton—can be seen one of the most crucial struggles of the present urban revolution.

Toward a garden city

Indeed, if Palo Alto successfully integrates industry and commerce with its exemplary residential and cultural resources, and at the same time controls the automobile and wisely conserves its remaining open land, then the city in another generation—when population should reach 100,000—may well bear a healthy resemblance to the visionary Garden City conceived by Ebenezer Howard at the close of the last century. Unlike most communities which have tried to be "garden cities," Palo Alto is

Once affectionately known as "The Farm," Stanford's rolling, oak-studded campus . . .





large enough, and fundamentally strong enough, to make the concept succeed.

A series of impressive recent civic accomplishments have given unmistakable evidence of that strength. First of all, in 1950, when the old village system of government obviously could not meet the city's needs, the administration was reorganized on a managerial basis. In Jerome Keithley, a young, hard-driving administrator who refused what might have been a bigger job as manager of San Diego in order to remain in Palo Alto, the city has found one of the finest public servants in the state. Keithley and his team of youthful assistants, including Planner Louis Fourcroy, are staunchly backed by a city council which, as might be expected in Palo Alto, is especially distinguished by its cultivation, intelligence, and concern for the public interest. Quite simply, the council—which is conservative in national outlook but likely to be extremely liberal on the local scene—wants nothing but the best for the community.

During the fifties, it got something close to its wish. In 1953 a new city hall, designed by Palo Alto Architect Leslie Nichols, was opened in a spacious parklike civic center. The informal building of redwood and brick, quite residential in character, was joined a few years later by a handsome public library by Edward D. Stone, who at the time had gone to Palo Alto to design Stanford's rather grandiose medical center (FORUM, Dec. '59) which, whatever its architectural shortcomings, has provided the university with a magnificent research and teaching establishment, and the town with a community hospital of the first national rank. Stone also designed a smaller branch library for the city, at the same time that Landscape Architects Royston, Hanamoto & Mayes were creating in 18-acre Mitchell Park a most delightful recreational area.

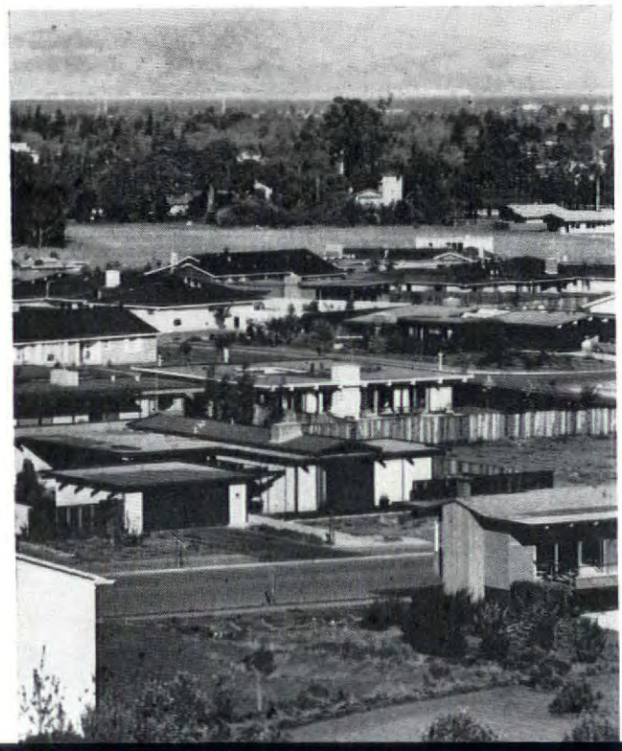
These improvements, as well as the municipal golf course, small-plane airport, and yacht harbor which were created beside the Bay, plus a group of architecturally undistinguished but solidly constructed new schools (most of them accompanied by adjoining parks), and an extensive road improvement and street-tree planting program, all cost a great deal of money. Yet, during this same period the tax rate, which in 1950 had risen to an all-time high of $1.29 per $100 of assessment, dropped spectacularly to only 80 cents.

Delightful recreation in Mitchell Park.

Financial magic

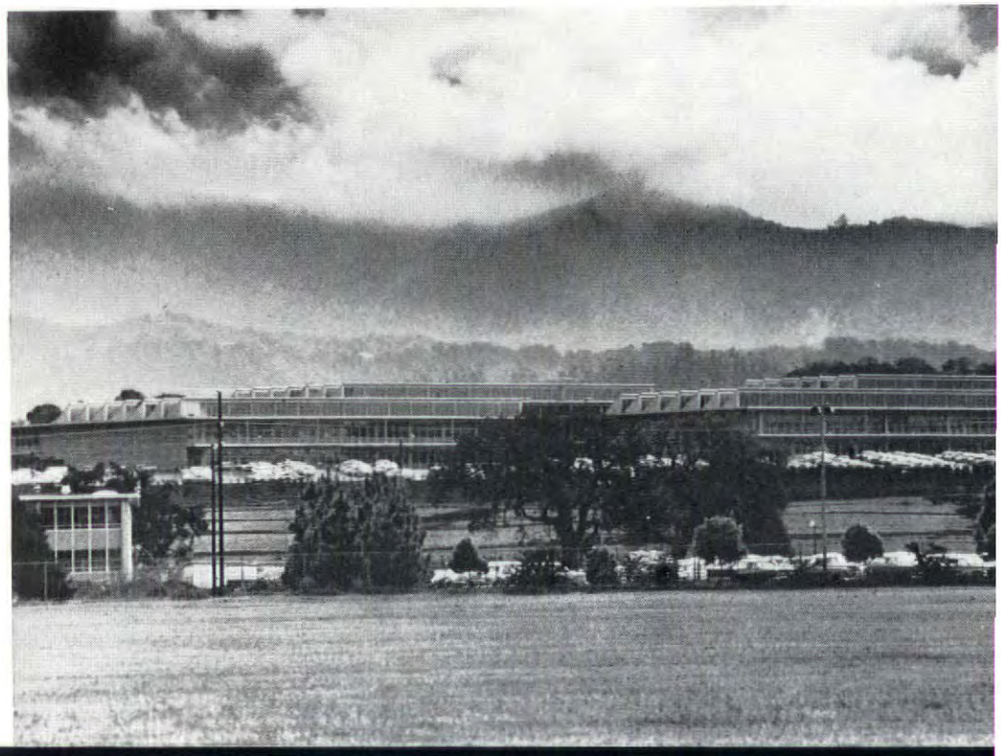
How did the city perform this Indian rope trick of finance? Good management is one answer, and private construction, of course, also provided additional tax revenue. But the main explanation is somewhat more complex. As the city felt its urban power growing, it became aware that its stores—especially those in the big Stanford shopping center and in the charming tree-shaded town and country center on El Camino Real—served not only Palo Altans but a quarter of a million people from surrounding communities, a figure which should

. . . now grows faculty housing by the acre . . .



. . . and fields of smokeless electronics plants.

PHOTOS: RONDAL PARTRIDGE



A splendid complex of neo-Romanesque buildings.

The shadowy arcade of a Stanford original.

double in the next 20 years. In 1957 a local sales tax was imposed, which last year yielded Palo Alto $1.2 million.

Even more income poured in from a source which may be surprising: the city's booming utility business. Long ago Palo Alto (which for this reason has been called the "world's most conservative socialistic community") decided that it could retail gas, electricity, and water, together with sewage disposal and garbage collection, much more efficiently than could private utility companies. Even though it charges approximately the same rates as private utilities elsewhere in California, Palto Alto's profit on this operation runs close to 25 per cent. Last year revenues totaled $3 million. The chief power lines, of course, run straight to the Stanford campus and its landscaped industrial park, because the electronics plants—Lockheed, for instance, where the Polaris missile was developed—consume tremendous energy.

Land at work

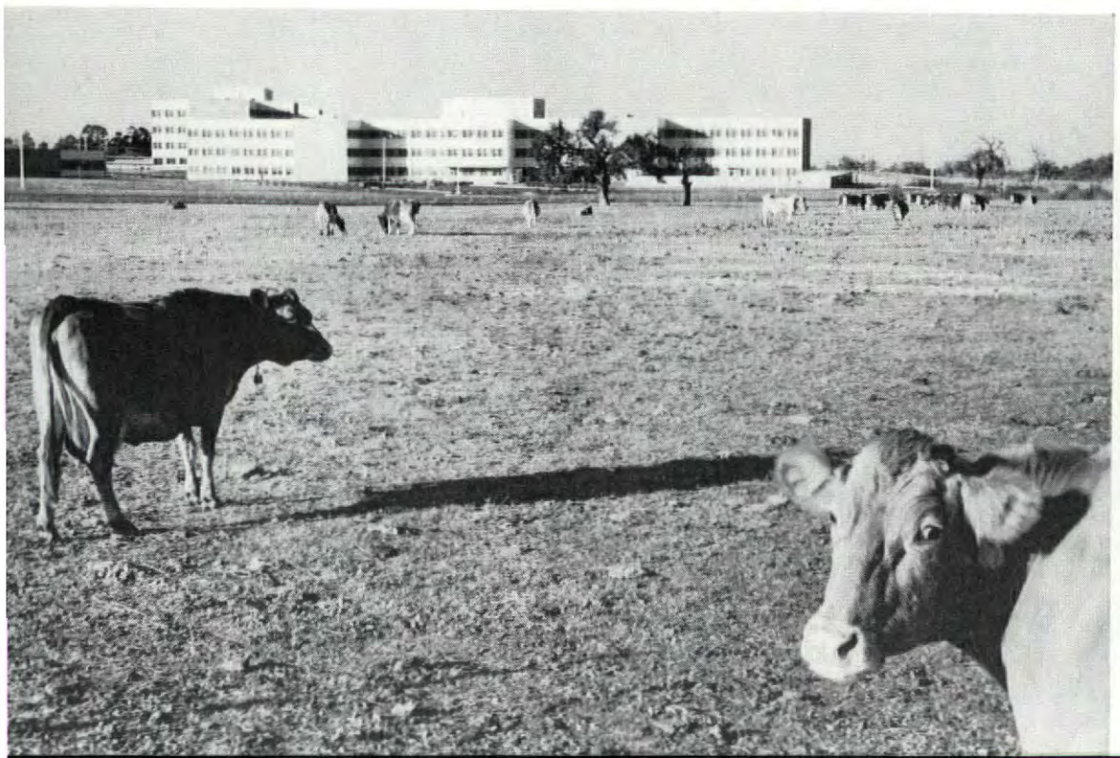
How the great campus, which surely is one of the finest tracts of open space remaining within a densely populated metropolitan region, came to be made available for industrial and commercial development is one of the fascinating land-use stories of modern time.

Although Senator Stanford in 1885 endowed the university with what then was the enormous sum of $21 million, which at the time was more than the combined endowments of Harvard, Yale, and Columbia, the shrewd old railroad magnate saw that the institution's real wealth was its land, and he specified that the 8,800 acres might be leased, but never sold. There was something more than acumen in this limitation of the founding deed. The senator was deeply devoted to his Peninsula estate, with its ancient oaks and redwoods, its wheat fields, its stables and corrals, and the wooded uplands where cattle grazed.

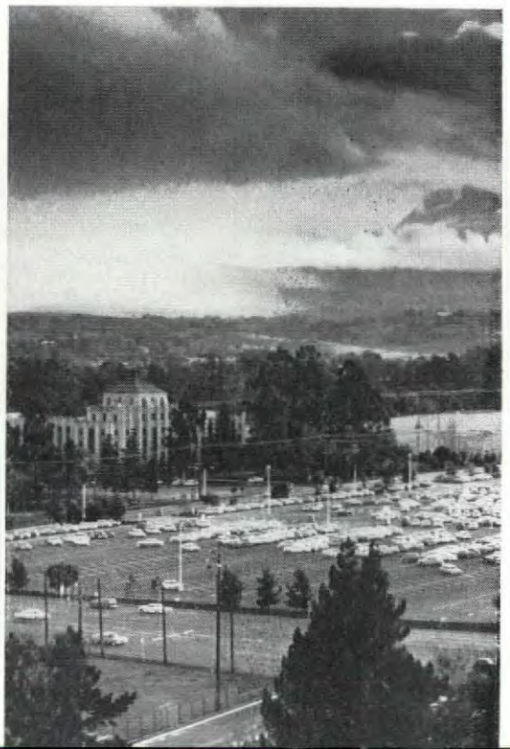
The university's earliest buildings carefully respected the mood of the terrain. The faculty lived in redwood bungalows, and the monumental academic structures of buff-colored stone—a splendid complex of neo-Romanesque buildings by Richardson's successors Shepley, Rutan & Coolidge—were linked together around the spacious quadrangle by deep, shadowy arcades. None of the later buildings has approached their robust generosity of form, or their refinement of detail; but in spite of the over-all mediocrity of the more modern standard buildings, the campus remained a remarkably pleasant place.

Yet, by 1946 the university's endowment had risen only to $32 million and had been far surpassed by the leading eastern schools. Stanford

Eighty-seven of the Stanford farm's 8,800 acres are occupied by the new veteran's hospital . . .



. . . and even more,



suddenly found itself land-poor in an inflationary economy. Income from farm leases dwindled below outgo for taxes (only the educational plant is tax-exempt). Moreover, as land grew scarce on the peninsula, the Stanford properties were eyed for public use. Palo Alto took 51 acres for a high school. The Veterans' Administration condemmed 87 more for a psychiatric hospital.

The university, seriously in need of funds, turned to hard-headed alumnus Alf Brandin, a former football star and insurance executive, who became Stanford's business manager. Guided by a plan prepared by Skidmore, Owings & Merrill in 1953, Brandin launched the land-development program. On the northern flank of the campus, acreage was assigned to the shopping center, just off El Camino Real, and farther back, a group of medical and professional buildings near Stone's new medical center, and a luxury residential district, where thus far only some very showy garden apartments by John Carl Warnecke & Associates have been built. Indeed, except for two crisply elegant, but extremely modest, office buildings by Knorr-Elliott (pages 92 and 93), this entire area must be considered an architectural disappointment.

On the other side of the academic complex, 450 acres were assigned to industry, with leases —as in the commercial development—to run for 99 years. Much has been made by Brandin and other university officials concerning the esthetic quality of these smokeless plants. Yet, although it is true that the 40 per cent ground coverage and mandatory landscaping represent higher standards than in conventional developments, very few of the structures can be described as handsome; some are extremely coarse. Furthermore, even 40 per cent ground coverage—a figure which may have seemed satisfactory on paper—proved to be too generous a concession on the part of the university. The sites are much too crowded.

Gradually, at the close of the fifties, the factories inched up the slopes toward the hills. Then, last year, Stanford and the Ampex Corp. caused a furor when Brandin announced the university's intention to open 250 more acres for manufacturing, of which Ampex—as a starter—would take 80. What disturbed the citizens such as Palo Alto Architect Morgan Stedman, who led the fight against the proposal, was that Stanford seemed bent on exploiting its lands according to the available market. Neither the university nor Palo Alto (which annexes the Stanford properties as they are developed for nonacademic use), charged Stedman, had an up-to-date plan which dealt comprehensively with the future of the city.

The charge was true. Palo Alto's only plan was an interim report prepared by Harold Wise & Associates in 1955, and never formally adopted by the city council. Skidmore, Owings & Merrill's university master plan of 1953 was also badly dated; and, in fact, Stanford had not consulted S.O.M. on planning matters since 1956. The university, furthermore, had no

by the sprawling shopping center, the largest on the San Francisco peninsula.

PHOTOS: RONDAL PARTRIDGE

The tawdriness of El Camino Real.

supervising architect. Virtually the only supervision to be exercised over Ampex was by Brandin and Stanford's Staff Planner Harry Sanders. Enough indignation was stirred up to force a referendum, and both sides carried the issue to the voters, who decided (four to three) to allow the university to open a new 250-acre industrial tract.

End of a binge

If the vote was a defeat for advocates of planning, they nevertheless gained certain points. The Ampex plant will cover only 20 per cent rather than 40 per cent of its rolling site; there will be a minimum of grading although the terrain undoubtedly will be badly scarred. More important, there seems to be little chance that Stanford will be allowed to invade the hills farther until Palo Alto itself has a master plan, which will be drawn up as soon as possible by one of three nationally known firms which are being considered for the job.

Far on the other side of the city, the municipally owned tidal flats, another victory has been scored for a planned environment. Here, with the support of City Manager Keithley, the Utah Construction and Mining Corp. proposed a $36 million partnership with the city in order to reclaim 600 acres along the Bay for industrial building sites, as well as for a golf course, a series of landlocked lagoons, and a commercial-professional area. The offer was tempting and before the Ampex controversy grew intense, it seemed likely to be accepted by the city council. On November 14, however, just after the election, the council decided to kill the project, and went on record against all large undertakings until Palo Alto had the benefit of the best professional planning counsel.

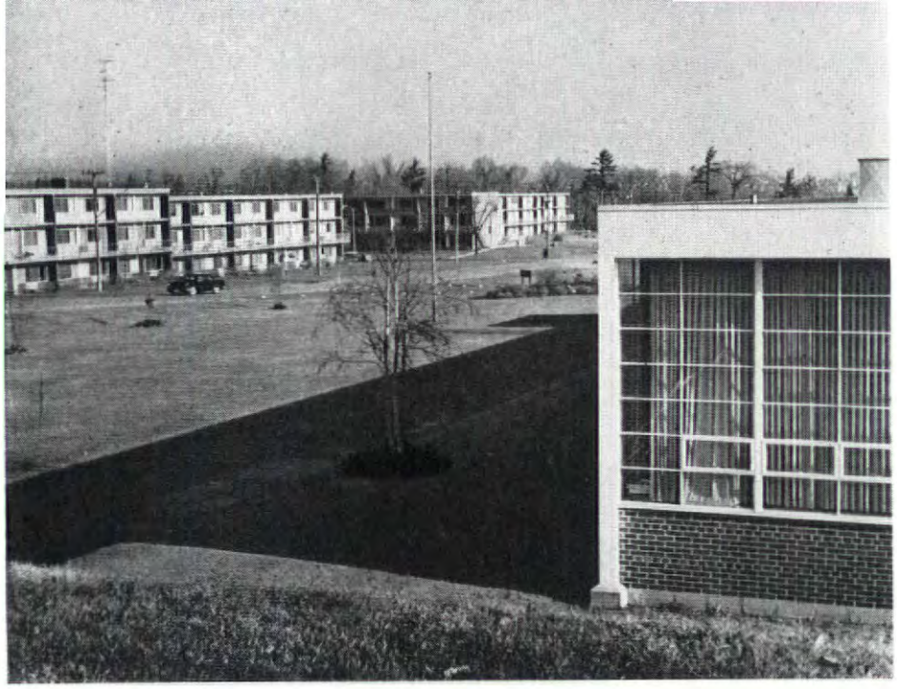
"We've been on a development binge," ruefully remarked Councilman Carl Stephens. "It's time to sober up a bit."

The city seems ready to take the advice. Palo Alto's momentum has been so swift, and its ambition so strong, that this would appear to be an appropriate moment to pause, so that the magnitude of the task ahead can be measured. By a wonderful stroke of luck, thanks largely to Dr. Russel V. Lee (chief of the famous Palo Alto clinic) who owned an immense tract of land in the hills to the south, the city has acquired a superb, 1,200-acre upland park, and beside it has annexed no less than 11 additional square miles of hill territory. This virgin land is roughly equal to the present area of Palo Alto, so that the city has now become a double city, linked by a long annexation corridor that snakes through intervening communities. Years, perhaps decades, may pass before the hills are fully developed—indeed, if they are ever developed entirely. Possibly it will occur to the city and the university that the hills, so precious now, will be incalculably more precious in another half century, that they constitute not only a regional, but in a strict sense a national, treasure. And, if the people of Palo Alto and Stanford are not able to save them, perhaps the governments of California and the U.S. can.

In the meantime, lesser chores await the planners. A new freeway, running through the hills, is planned by the state division of highways and exceptional care must be taken that the route does not cut savagely across country. El Camino Real, presently bordered for block after block by tawdry drive-ins, gas stations, motels, and cheap shops which make it resemble a Los Angeles strip, must be cleansed and landscaped. University Avenue should be closed to traffic, and turned into a pedestrian mall. More towers must go up—not only apartments, but office buildings—so that, from their terraced roofs, the view to the east may be toward a continuously green shore of the bay; and to the west, where the hills roll upward in green folds above forested canyons, there will be the bright sight of the Pacific beyond the crests.

PHOTOS: RONDAL PARTRIDGE

One way: more towers with a view.



Don Mills apartments and industry are separated by landscaped setbacks . . .

. . . and a two-minute walk. Below: detached houses visible beyond laboratory.

PHOTOS: PANDA PHOTOGRAPHY

Don Mills, the planned industrial community near Toronto, is a good place to work and live, but its workers don't live there.

Don Mills, a new community of 23,000 people located 7½ miles to the northeast of downtown Toronto, tests two questions of vital concern to anyone involved in the problem of suburbs: 1) Can a planned suburb with industry "built in" significantly reduce the tax load on its residents? 2) Can such a suburb save its residents the enormous wastes of commuting by simplifying the working-living relationship?

Don Mills was planned so that the answer to both questions could have been yes. To supply a sound economic base, the developers provided that industry, occupying 17 per cent of the land, would pay 40 per cent of the taxes, leaving the average resident with a low annual property tax of $200.

The physical planning, borrowing from Ebenezer Howard's Garden City plan of 1898, was calculated to lessen the commuting problem. From 2,056 acres of open farmland, Don Mills Developments Ltd. planned their suburb to include:

- A broadly diversified industrial base, providing both economic stability and a local labor market.
- A wide variety of housing, ranging from single-family units to six-story apartment buildings, meeting different individual needs.
- A large, centrally located shopping center, supplying a comprehensive selection of consumer goods.
- A surrounding greenbelt, acting as a buffer zone to preserve the town's integrity.

Thus, it would be possible for a man, working and living in Don Mills, to walk to his job in 15 minutes, come home for lunch, and save himself both the time and money which commuting demands.

But, although Don Mills was planned so that the answer to both questions could have been yes, in fact both answers are no. An ironic quirk deprives Don Mills of its anticipated tax benefit. The new suburb's participation in the one fully organized metropolitan area on the North American continent has dulled the effect of its favorable assessment ratio. Don Mills owes all its revenue to North York Township,

of which it is part. And, although industry pays 40 per cent of the taxes in Don Mills, it pays only 26 per cent for North York as a whole. North York, one of 13 municipalities forming Metropolitan Toronto, in turn contributes 42 per cent of its take to Metro under an equalization program. This is repaid to the Metro communities—but on the basis of their various needs. As a separate political entity, Don Mills would have reaped the full tax benefit which its involvement in Metropolitan Toronto presently denies it.

Similarly, the planned working-living benefits have been denied, but in this case by the vagaries of the real estate market. For a variety of reasons the average plant worker cannot afford to live in Don Mills:

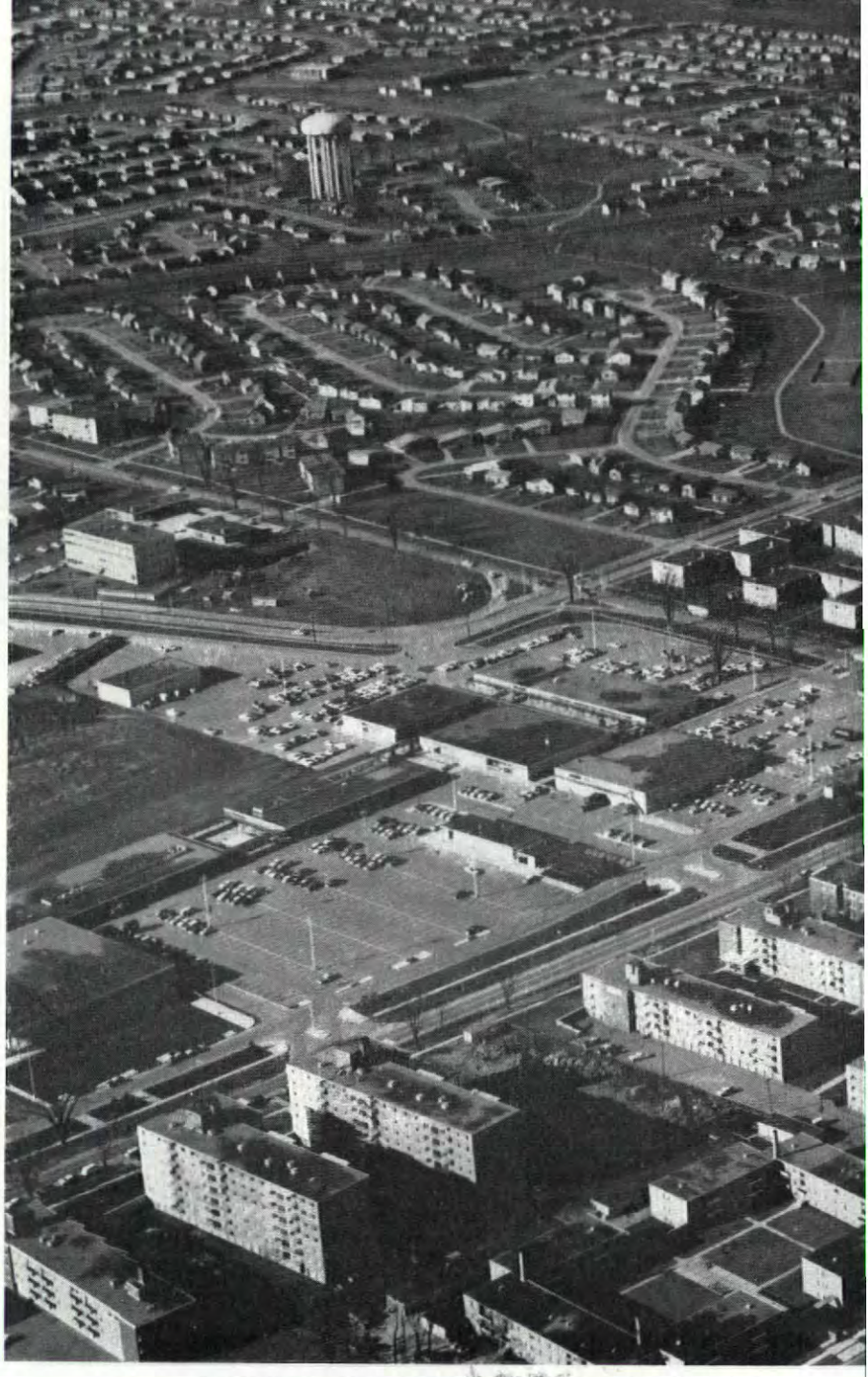
▸ Land values rose, anticipating the attractiveness of the well-planned community. This, in turn, prompted a substantial upgrading of service standards as the project progressed. In the original northwest quadrant requirements were for 18-foot paved roads, 3-foot gravel shoulders, open ditches, no storm sewers. Subsequent development called for "Cadillac facilities": 28-foot paved roads with curbs and storm sewers.

▸ The floor area for the maximum builder's loan was pushed up from 1,000 square feet to 1,200 square feet, encouraging the production of larger, more expensive homes.

▸ Builders were given comparatively free rein to develop costly houses on land originally intended for low-cost housing. The cheapest semi-detached house in Don Mills costs $16,000, and the average detached house sells for $24,000. Since the maximum home-owner loan available is $12,800, the ordinary worker faces a prohibitively high owner's equity.

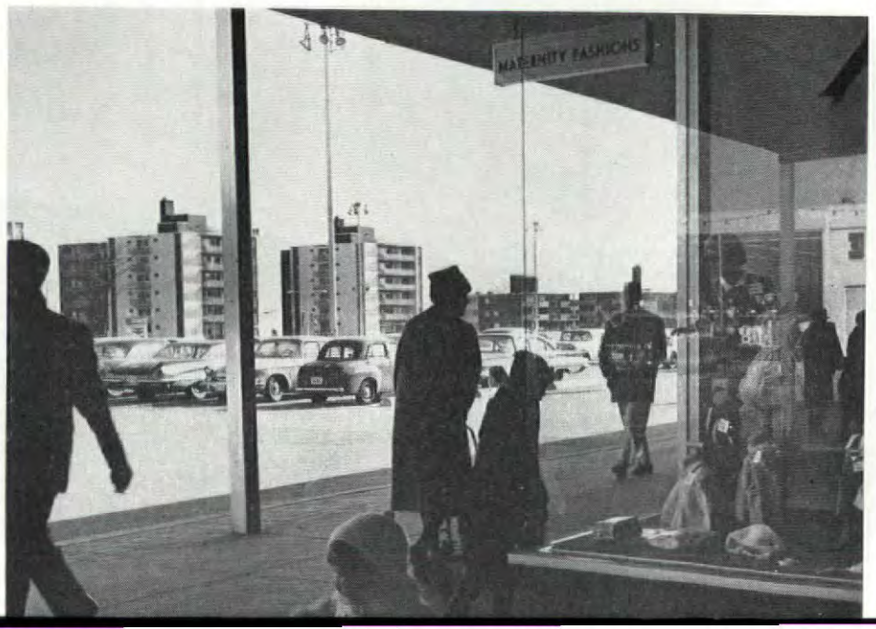
▸ Financing of multiple-family units on Canada's limited-divided arrangement was denied by The Central Mortgage and Housing Corp. because projected rents were $72 per dwelling unit rather than $69, the maximum allowable. The necessity of using more expensive money forced the rents up to $117—over 60 per cent higher than the rent which limited-dividend financing would have permitted.

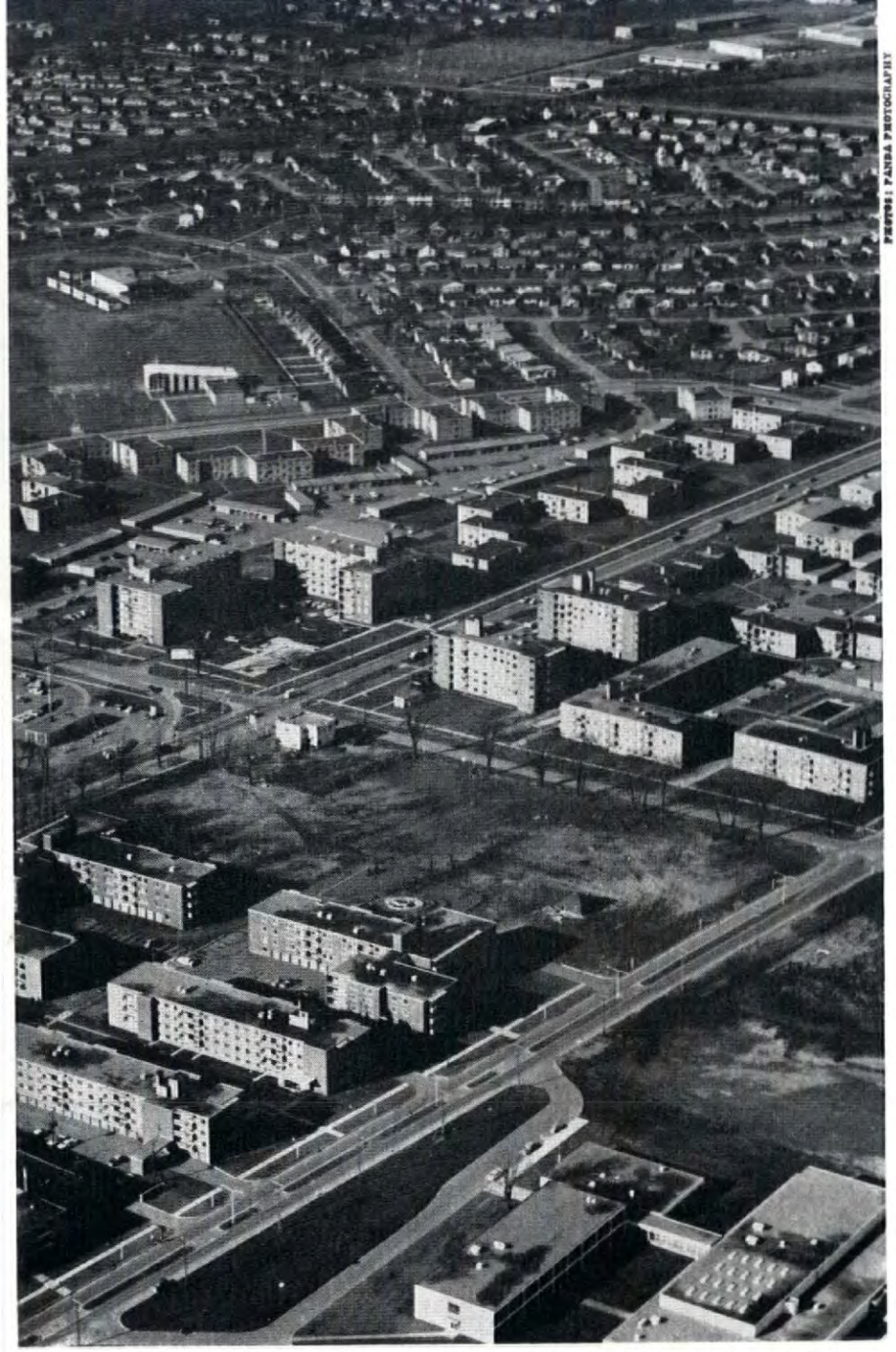
As a result of these factors only 10 per cent of the residents work in Don Mills (filling 15 per cent of the available jobs); the comparable average in the other communities comprising the metropolitan area is 15 per cent. This percentage for Don Mills has doubled in the last two years and the future may bring a further



Don Mills central district with shopping area (left center),

Six-story apartment houses are a short walk from the shopping center

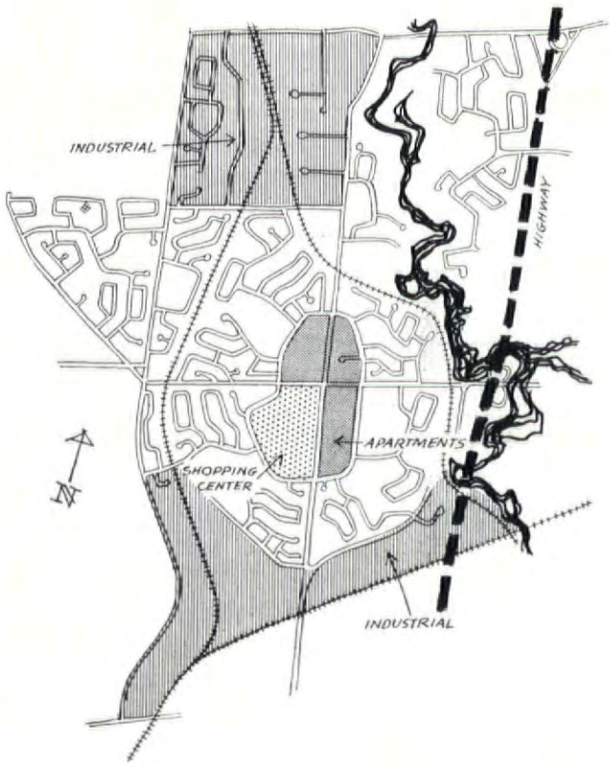




PHOTOS: PANDA PHOTOGRAPHY

high school (bottom right), and industry (upper right) located on rail line.

Focal point for recreation is the curling rink at southern edge of shopping center (not shown in aerial).



where low, tightly grouped stores create well-scaled pedestrian spaces.

Three-story apartments border on industry to the south.

increase. Nevertheless, the basic character of the town is already firmly established.

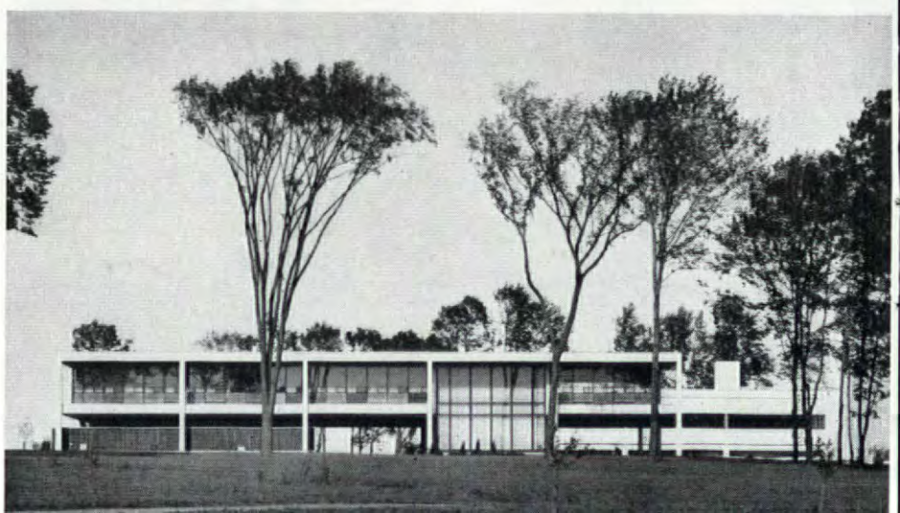
Don Mills is a success—but in a way which had not been anticipated. It is a first-rate "dormitory suburb."

The town's careful planning has contributed many amenities. Industrial plants, grouped at the periphery of the town along the rail lines, are all architect-designed (a requirement of the developer) and signs, which cannot be erected without written approval, have been policed strictly and effectively (photos, right). Employee parking in front of the building line is banned and, where plants border on principal roads, a minimum setback of 150 feet is required. In short, the presence of industry has been turned into a distinct visual asset, contributing to the desirability of Don Mills as a place to live and, unfortunately, to its high cost of living. (The people who can afford Don Mills, of course, are the young, middle-income professional executives who work, for the most part, in downtown Toronto—the average head-of-household income in Don Mills is close to $7,000, contrasted with $4,600 for the metropolitan area as a whole.)

The proximity of Don Mills to the downtown center—only 7½ miles separates them—has also encouraged its development as a dormitory suburb. To many, this seems a small price to pay for a community with such a distinct sense of "place" (it is Don Mills, Ontario rather than Toronto 11).

A huge Don Valley Parkway is now being constructed for $30 million by Metropolitan Toronto, connecting the downtown center with the suburb that was intended to cut down commuting. In so far as it serves commuters, this parkway is at once the symbol of Don Mills's failure as a satellite and its success as a suburb.

PHOTOS: (RIGHT) NEIL NEWTON; (OTHERS) PANDA



Don Mills industry, *handsomely designed and landscaped, makes a fine neighbor. Here, four typical examples (top to bottom): Grand & Toy Furniture Co. designed by John B. Parkin Associates; Parker Pen Co. Ltd. by Mendelow & Keywan; Columbia Records of Canada Ltd. by Crang & Boake; Ortho Pharmaceutical Ltd. by John B. Parkin Assoc.*

Is industry important to the suburbs? Sometimes, it can make up tax deficits from other land uses and provide badly needed tax flexibility.

At the eastern edge of the great Middle Western prairie, beneath the recurrent howl of jet engines from Chicago's O'Hare Field, industrial plants can be seen in many stages of development. Some are stark skeletons, heavy-boned reminders of the stripped wickiups of the Plains Indians that once hunted these vast reaches. Others, fleshed out with brick, metal, and glass, operate in solitary isolation, looking as though they might have been plucked right out of the teeming industrial complexes of the city and dropped in virgin prairie soil.

Industry's movement into the prairies west of Chicago is just one of many similar dispersions of the nation's industrial might into suburban and even rural areas. The suburbs and the city are competing for new industry, and frequently the competition extends to outright raiding of older urban industry. The advantages of moving away from the congested urban centers that have traditionally been the strongholds of commerce and industry have been enunciated many times—cheap and plentiful land, a more stable labor supply, better integration with markets that are also dispersing, and lower costs of operations. The trend has recently been accelerated by the multibillion-dollar federal highway program, which is creating new industrial-residential suburbs along its rights of way. More often, however, industry finds its haven in some well-established, viable suburb. Here it can get more of the same benefits it might gain if it developed raw land farther from the city, plus a contiguity with the urban center and its main lines of supply, the railroads and highways.

Expanding the tax base

Given these and other advantages for industry to move to the suburbs, what is there in it for the suburb itself? The most frequently heard answer: expansion of the tax base.

Local government has traditionally paid for its services via the property tax, which falls almost entirely upon residences. But history, most of it recent, has demonstrated that there are real limits to how much home owners will tax themselves. It has also shown that residences usually do not pay enough in taxes to make up what they cost in local services. The way out of this fiscal dilemma has been to get more in taxes from commerce and industry than they cost the community for services, thereby making up the deficit arising from residences. This is generally what is meant by economic flexibility—having a range of tax sources so that the community is not overly dependent on any single one.

This flexibility is particularly vital in today's suburb, for its greatest problem has been growth and how to pay for it. The sheer magnitude of the growth is frightening. In Chicago, for instance, nearly 55 per cent of the whole metropolitan area's 9 million persons will be living in the suburbs by 1975, compared with about 40 per cent today. The impact of so many new residences will be felt particularly in economic terms, because of the fact that housing seldom pays for itself. Arlington County, Virginia residences, for instance, pay only 82 per cent of the total tax bill, while consuming 93 per cent of local services. In Evanston, Ill., residences show a 13 per cent tax deficit and in New Rochelle, N.Y., it is 8 per cent.

But industry can sometimes help to make up these tax deficits. In Arlington County industry pays 4.9 per cent of all taxes, while demanding only 1.4 per cent of all local expenditures. In New Rochelle, a Westchester County suburb of New York City, industry pays 4.1 per cent of all taxes, while consuming 3 per cent of city costs. Most of the deficit in residential land use in New Rochelle results from two-family and multifamily structures. As an upshot of the New Rochelle study, it was recommended by Claude Petersen, city planning board technician, that "the tax base should be increased by some new commercial and light manufacturing use of property. . . . This could obviate the need for an increase in the tax rate."

In the Chicago suburb of Evanston, the spread between what industry pays and what it costs is smaller than in some other suburbs, because there is relatively little industry there. Industry provides only 2.7 per cent of all tax income, while requiring slightly less than 1 per cent of all services.

The Evanston example is sometimes cited to

show that industry makes less difference to high-income communities with high-value residential properties. However, this is not always the case. In Greenwich, Conn., one of the highest-income suburbs in the nation, industry pays over three times in taxable income what it demands from the town. A survey of Greenwich's economic base shows that industry pays 7.7 per cent of total taxes, but receives only 2.1 per cent of total services.

Greenwich taxes only real property and personal property, as do many suburbs, and gets 70 per cent of its tax take from industry via the personal property tax, mostly equipment and inventories. Although it seems that industry is definitely a money maker even for wealthy Greenwich, the town is not looking for more industry, and in fact recently refused to change its zoning to allow a light manufacturing plant to locate there. Like many wealthy suburbs, Greenwich can afford to be a little choosy because of its high residential valuations. Greenwich gets 67 per cent of its tax income from single-family residences, which consume only 56 per cent of town services, and this surplus is largely due to taxes on homes valued at over $30,000 (55 per cent of the surplus is accounted for by homes valued at over $50,000). There are not many suburbs with this caliber of residential valuation base for local taxation.

The price of growth

Even with the aid of industry, many newer, lower-income suburbs operate at a deficit, for it is not an ironclad fact that industry will always pay more than its way, or indeed even pay enough to cancel out its costs. Aside from direct costs, such as streets, sewers (frequently heavy-duty facilities for industrial waste), and police and fire protection, industry's presence means other less-obvious costs as well. Industrial workers want to live near their place of work, and they need low-cost housing. Frequently this means apartments, and they usually are a drain on municipal resources. This is borne out in a study of taxes and industry by Walter Isard and Robert Coughlin. While they note that the additional municipal revenues generated by new industry are frequently considerably greater than the additional costs and that, other things being equal, the larger the industrial development, the greater the decrease in community taxes, they also warn that . . . "when industrial development is accompanied by residential development, tax rates may rise or fall depending upon the number of new residents and their incomes, the magnitude of the new industrial and commercial valuations, the levels of municipal services provided, the amount of unused capacity in the existing municipal structure and other factors."

Backing up its major conclusion that industry can pay more than its way, however, the study provides a carefully constructed analysis of a theoretical community in which real property is assessed at about 50 per cent of its market value and in which 65 per cent of its income is derived from property taxes. Without industry, such a community, assuming a relatively high income level and a proportionately high level of municipal services, would require a tax rate of 56 mills, or $56 per $1,000 of assessed valuation. But a small industrial district, assessed at 70 per cent of market value, could result in lowering the rate to $53 per $1,000 of assessed valuation for residential taxpayers. A larger district, of 400 workers, could reduce the over-all tax rate to as low as $47.

The new suburbs

Even in the newer suburbs, where postwar growth has been most pronounced, industry has proved a vital source of badly needed revenues. In Nassau County, Long Island, certainly one of the fastest-growing suburban areas in the nation, industry has been a bulwark which has ameliorated the financial impact of the vast low- and medium-cost housing developments that choke the county. Nassau's deficit in the residential sector is wider than that for older suburbs such as Evanston or New Rochelle. Residences consume 93 per cent of the total budget of Nassau County, but account for only 77 per cent of the tax income. This wide deficit is made up by commercial uses, which cost only 3 per cent of the total budget and represents 9.5 per cent of the income, and industrial plants, which require 3.5 per cent of all costs, but contribute 9.7 per cent of taxes. In the allocation of costs, Nassau assigns none of its school costs to commerce or industry, as Greenwich does, but even if Nassau allocated 1.4 per cent of school costs to industry it would still have a tidy gain in tax income from industry.

An equally convincing case for industry is found in West Hartford, Conn., a suburb of that state's capitol which has less industry than Nassau County but a higher-income level. The spread in its deficit from residential costs vs. municipal services is less than that of Nassau's

(11 per cent) and its smaller-scale industry indicates that even in small suburbs which are almost entirely residential, a small amount of industry can be an important adjunct. West Hartford gets 9 per cent of its total revenues from industry, while allocating only 3 per cent of its services to it.

Two Chicago suburbs

The cases cited above are widely separated and each is affected by peculiar geographical circumstances. But comparison of two neighboring communities, and their attitudes toward industry, usually leads to the same conclusions. Take Des Plaines and Park Ridge, Ill., for example. These two Chicago suburbs are both squarely in the path of the area's burgeoning industrial growth to the west and northwest of the city. Both are about the same size (Des Plaines 34,800; Park Ridge, 33,000) and both straddle the narrow, meandering Des Plaines River. However, until recently both had strikingly different attitudes toward industry.

Des Plaines has grown astride a junction of three railroads and has always had some industry. In the postwar years, Des Plains has attracted considerable new light industry, including research laboratories.

Park Ridge, on the other hand, was strictly a bedroom suburb until a few years ago, when it lowered its zoning bars to allow several corporate regional headquarters buildings to be built. Recently, a small "headquarters park" called "Executive Plaza" has been developed with eight plots for small office buildings. It is so new that Park Ridge municipal officials do not even know what tax revenues they can get from such development. However, it is significant that Park Ridge's attitude toward industry eased enough recently to allow Executive Plaza. One big reason for this change is undoubtedly the fact that Park Ridge already has a high tax rate (a total of $63 per $1,000 of assessed valuation) and a high debt level ($255 per capita). Park Ridge taxes are higher than those in some of the plush north shore suburbs.

One of the most important reasons for Park Ridge's fiscal trouble has been its desire to build and maintain a first-rate school program. It has built eight new elementary schools and added to three others (increasing classroom capacity four times) and spends about $492 per pupil annually. As a result, Park Ridge has nearly $6 million in school bonds outstanding, and pays $459,000 in annual debt charges.

Des Plaines, with a school population only slightly smaller, has proceeded with a more modest school program. It spends only $446 per pupil annually, and its outstanding school bonds total only $4.5 million, on which it pays $295,000 each year. Des Plaines has a school tax rate 20 per cent lower than Park Ridge's. Although its school plant and program are not generally considered as good as that of Park Ridge, Des Plaines has provided adequate facilities at lower rates. And Des Plaines' per capita debt is only $173.

Questions of quality of services aside, it appears that Park Ridge now faces problems which it seems unwilling to meet financially. It needs to spend more for street improvements, water supply, and storm sewers, but taxpayers who will pull out all the stops for schools seem less willing to back these programs. Its retail district is losing strength, relative to those around it (including Des Plaines') and one reason is lack of municipal parking. Off the record, Park Ridge officials say that some more industry of the Executive Plaza type would provide the income needed for some of these improvements.

Park Ridge is typical of many suburbs that are waking up to the advantages of industry, though in many cases they are waking up too late and taking too little action. Certainly economic considerations alone should not determine the character of a community, but neither should social considerations, nor notions of what comprises a prestige community, be the sole determinant. Industry today has generally shown a happily responsible attitude toward the community in which it operates (see page 90), and, as the pace of competition to attract it increases, those suburbs that fail to realize this, and continue to harbor fears of becoming a nineteenth-century factory town, may have missed an opportunity. The costs of future suburban growth will hardly permit bedroom communities to snub industry entirely, and the rich variety of industrial possibilities will give them broad enough choice to maintain control over their own destinies. The answer to the question of physical as well as fiscal balance may lie in some combination of the attitudes of Park Ridge and Des Plaines: enough acceptable industry to build a tax base flexible enough to meet the stresses of growth and to catch up with current deficiencies, blended with civic determination to see that the highest quality of services is provided within the willingness of the community to pay.

Living in the suburbs

Just off the center of chaotic Houston, River Oaks is a serene suburb that survived the city.

Those who fly into Houston, Tex. can sometimes sniff the rich industrial aura of oil hanging over the city; but if, after deplaning, they will drive to the River Oaks section, they find themselves surrounded in season by the scent of jasmine and roses, honeysuckle, and, some say, money—and it is a long season. Houston, commercial prodigy of the southwest, is the only city over 100,000 in population in the U. S. with a total absence of zoning regulation, a chaotic place, the despair of planners and the delight of ruthless land speculators. But the 1,300 acres of River Oaks, staked out in 1923 by Mike and Will Hogg, two sons of a former Texas governor, and Hugh Potter, then a young Houston attorney, today remain a lush sanctuary of upper-bracket homes.

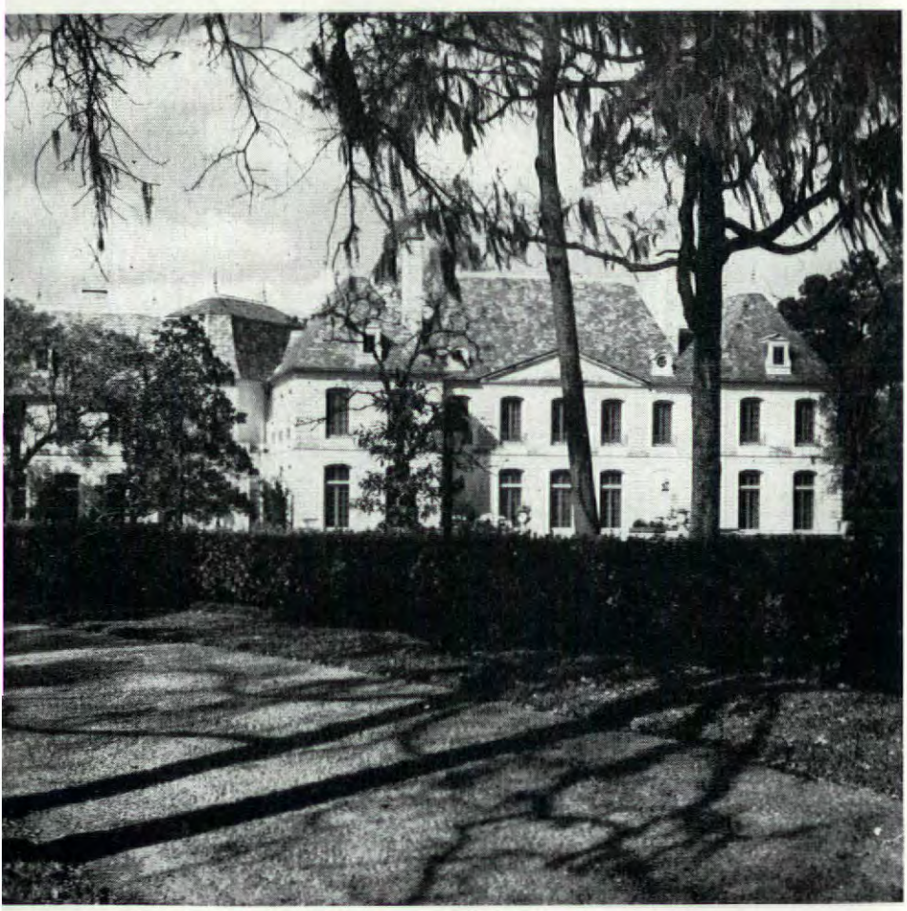
The houses which have been built over the 27 years of River Oaks' existence have ranged in cost from about $8,000 to hundreds of thousands, the plots from 70 by 130 feet to 14½ acres. Today the demand is high for sites, while the market supply is almost nonexistent. For today River Oaks is not merely close to Houston; it is really inside the city—a ten minutes' drive, or less, to the offices of the central business district. This was not so when the suburb was started, but in three decades the city's business and business district have virtually erupted, and a destructive lava of mixed, unrestricted commercial building has flowed out and around the Oaks section to make a mockery of most Houston residential sections, even some which started with as many deed restrictions as River Oaks.

Why have not most other Houston subdivisions, besides River Oaks, succeeded in enforcing their deed restrictions? The answer lies in lack of organization and money to engage lawyers. So say thoughtful students of the situation in Houston such as James Carl Dunaway, professor of planning at Rice Institute and president of the Neighborhood Improvement Council. When invaded, most neighborhoods did not defend themselves until too late, and then their action was too feeble. They also permitted many deed restrictions to run out.

Meanwhile, however, through the years, River Oaks was steered scrupulously by Lawyer

PHOTOS: N. BLEECKER GREEN

DRAWING BY JOHN SUZUKI



Potter. Purchasers had to agree to pay a private tax on their properties to a maintenance fund*, and a full-time staff took care of the legal details. Although he remains president of the River Oaks Corp., Potter's surveillance of the maintenance fund ended officially, in 1955, when most of the deed restrictions ran out. But he advised property owners (he is one, himself) immediately to form their own protective association to perform the policing and renew the restrictions, and, even more essential, to continue the vigilant staff.

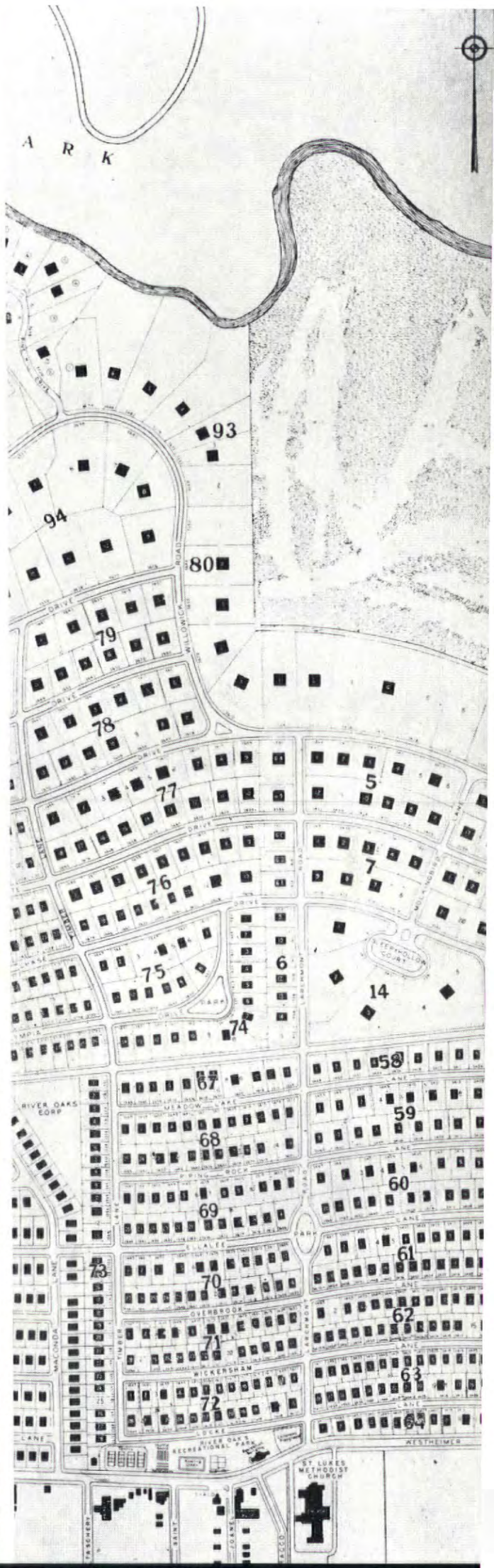
The result has been to preserve a genuine suburb inside the city. Nothing can be built in River Oaks but houses, not even schools, and the houses themselves are subject to architectural approval, although their size and splendor is frequently overestimated by outsiders.

River Oaks has its estates, such as the 14½-acre Ima Hogg place flanking River Oaks Country Club, but most of it is in typically suburban plots. The 1,300 acres contain between 1,500 and 1,600 sites, in addition to comfortable roads. Even as far back as the early thirties some houses have cost up to $250,000 to construct; the Hugh Roy Cullen mansion, which cost that much and occupies a 6-acre plot, will soon be on the market for a price guessed somewhere between $750,000 and a million, and another of the older places, the Harmon Whittington house, sold recently for $600,000. But some houses have cost a lot less to build (the 1941 average was about $20,000) and it is in the smaller raw plots that the appreciation has been most staggering. According to Joseph C. Vlasek, manager of the Property Owners' Assn., lots priced at $1,200 when first developed sold during World War II for $25,000, and after the war for $45,000.

Vacant land existing in River Oaks now is mostly being held by residents for their children; but some of the older houses, originally built on two plots, combined, are being eyed speculatively. Last year Builders Tynes Sparks and Walter E. Babel Jr. bought the old Duncan home which spanned the center of two lots, each 125 by 180 feet, tore it down, and are now building a colonial house and an "English ranch" house for sale. Each will be priced at about $160,000, and Sparks does not anticipate any difficulty in disposing of them—"they're in River Oaks."

Physically River Oaks lives well up to its

*The assessment, billed in advance each year, at present is four mills per square foot of land for the first 33,000 square feet and 1½ mills for each square foot over that, up to a maximum charge of $400 per year. The minimum set charge is $60.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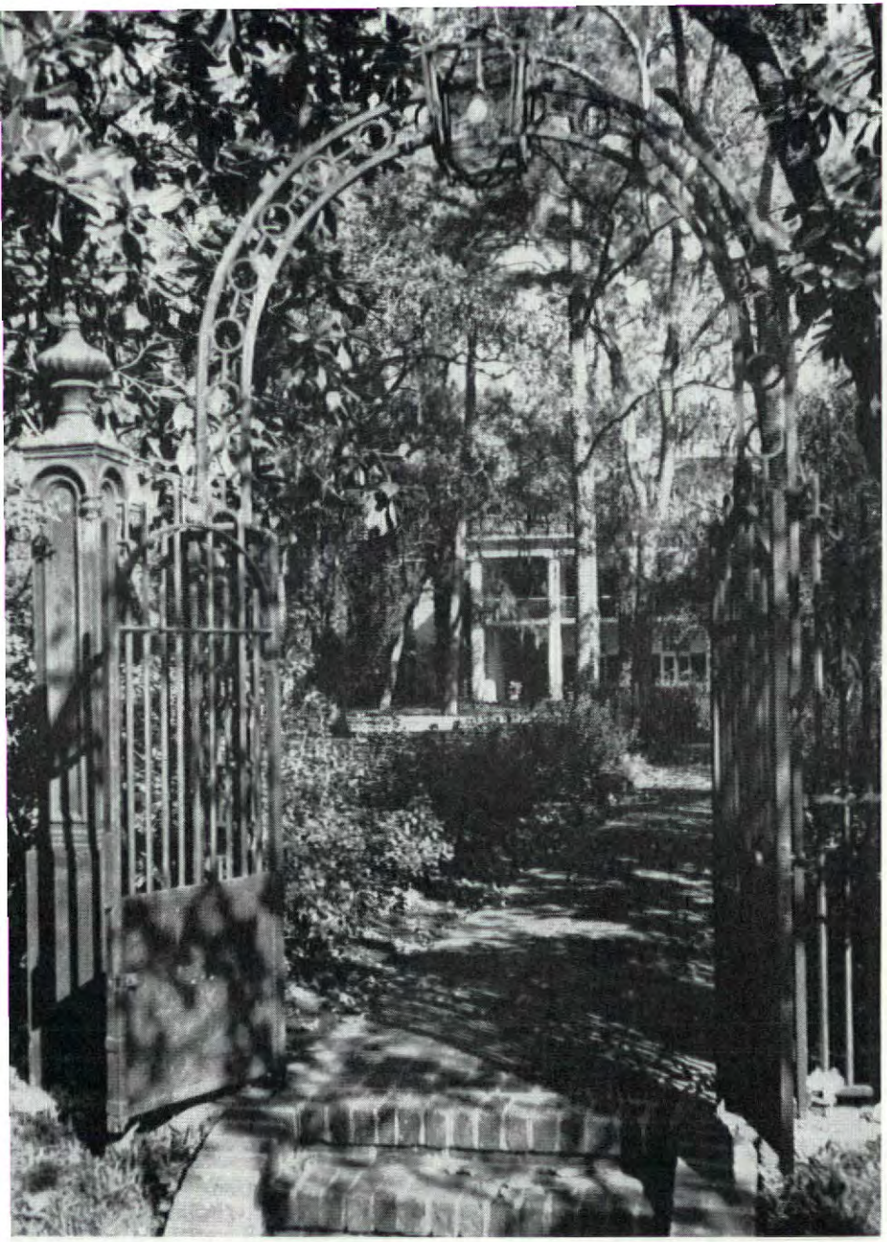
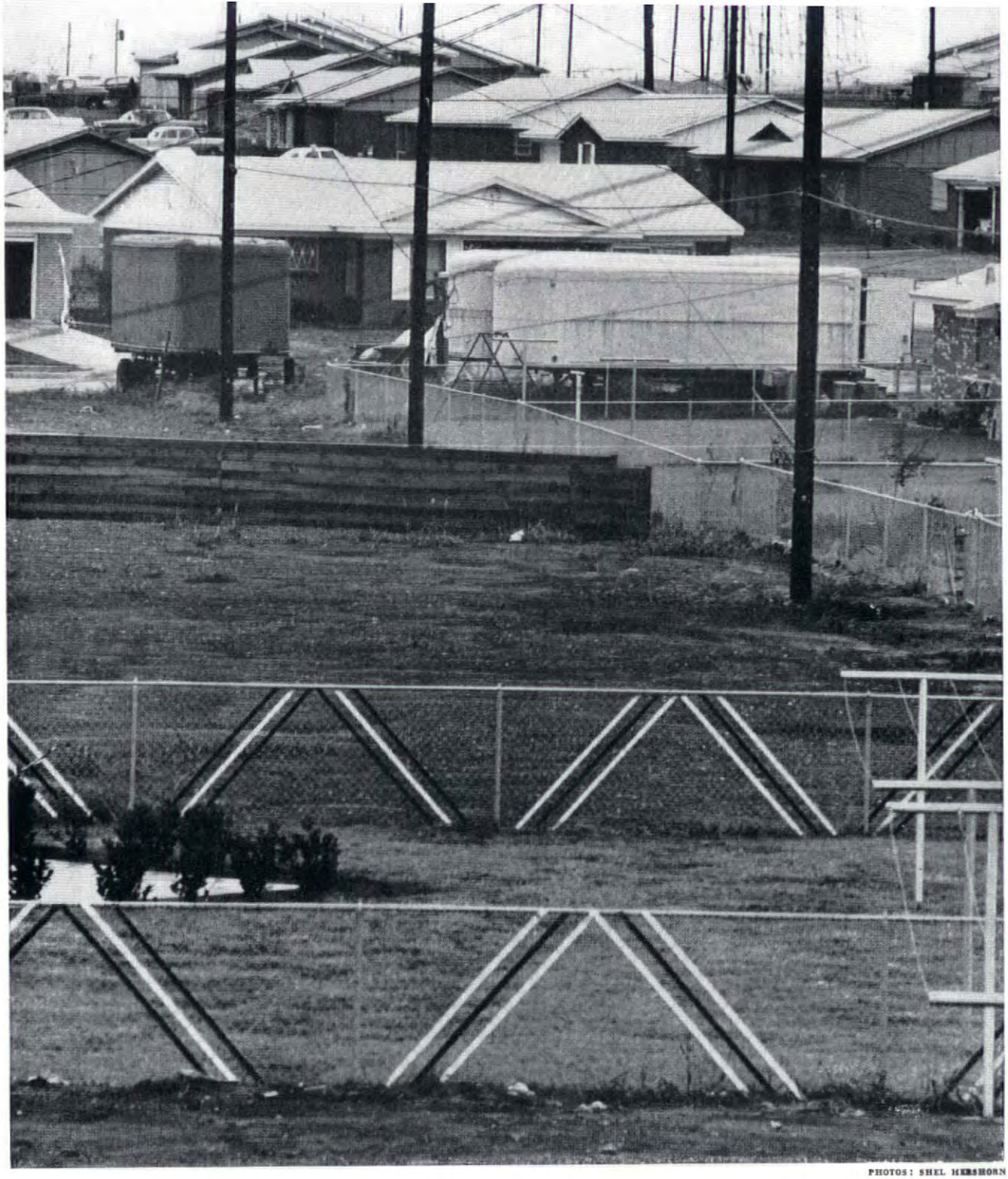


financial rating. The land is nicely shaped, and curved roads compliment it. Spanish moss hangs from the great old trees like coupons from stock certificates, and lawns are green velvet. If an owner does not keep his grounds in shape, the Owners' Assn. does, and bills him for it. Private police patrols augment the careful attention of the Houston police force here, and there is private garbage disposal as well.

The density of plantation-style homes on these acres seems immense, but typically Tudor suburban and Spanish suburban houses also live together in international peace and harmony (but not interracial harmony—only "white or Caucasian races" may own, lease, or occupy, excepting servants). Modern houses have joined the conventional River Oaks ranks too, and, although a number of these are very undistinguished ranch houses, Architects MacKie & Kamrath have worked well in the Frank Lloyd Wright humanistic style for clients, and Bolton & Barnstone have built several elegant houses in the Mies van der Rohe tradition.

Included among the 20 general restrictions to the properties are prohibitions of duplexes, apartment houses, hospitals, cattle, hogs, rabbits, poultry, and residential outbuildings. No hedge or fence over 4 feet high is permitted without written consent of the association. There are teeth for easy enforcement in all the general clauses, and some of the land has other specifically toothsome stipulations, i.e.: "No house or residence of other than colonial or English architectural design shall be erected on lots 1, 2, 18, to 23 inclusive except with written permission. . . ."

It is entirely possible that eventually this succulent stretch of woodsy land called River Oaks will be ringed by skyscrapers filled with envious office workers enjoying the view, becoming a kind of private Central Park for Houston. As things are going now, Houston will be very lucky to have it; in protecting their private preserve so zealously, the thanes of River Oaks may have done the whole city a visual favor. And it all began the day in 1923 when Will Hogg returned from a vacation in Europe and was invited into the land promotion by his Brother Mike and by Hugh Potter—who had gone boldly so far as optioning the first 200 acres of what was to become River Oaks. Will said: "If we're going to do this, let's do it right. Let's make it something for all of Texas to be proud of." Mike and Hugh heard him, clearly.



PHOTOS: SHEL HERSHORN

The brand-new ugliness of Irving, Tex. is a danger sign to other suburbs growing up along the highways throughout the nation.

Although feelings run high between Dallas and Fort Worth, the land is fairly flat. Most of it is cleared, with but a sprinkling of trees; there is also a river. Two large airfields — one for Dallas, the other, naturally, for Fort Worth— have unrolled their long runways hospitably for the roaring airliners. A wide new road cleaves the brush, a superhighway. In 1950 there was a mild little town on this landscape called Irving, population 2,621.

Today the booming suburb of Irving, population suddenly 45,489, the fastest-growing municipality in Texas, sprawls senselessly over 20 square miles where cows were lonely two decades ago. Even then the grazing was sparse;

it took 7 acres to support one of those cows. Now, however, it takes only a plot 60 by 120 feet to site a contemporary ranch house, and it takes only $375 down to buy one (no cash at all for veterans) with subsequent monthly payments cheaper than rent for a cramped apartment in Dallas or Fort Worth.

So into the arbitrarily curved roads of the contemporary subdividers have sped the home-hungry hordes, mostly from Dallas, creating an instantaneous suburb. There is very little industry (less than 600 jobs at last count) and not even much retail trade—Irving's residents dispense 70 per cent of their purchasing power elsewhere. There are just houses, roads, cars, children, and signboards promising more houses. In its pattern of scatteration and, probably, in its built-in decay, Irving tragically represents too many other galloping suburbs across the U.S., suburbs which have inflated the worst possibilities of their native landscapes.

It is not the brand-new ugliness of an endless development tract like Irving that is most appalling, or its homogenized, tasteless architecture. For, given time and zealous householders planting plenty of trees, almost any development can be domesticated, digested, tilled into the landscape. The truly tragic thing about the Irvings of America is more technical: the lack of forethought which today is evident in an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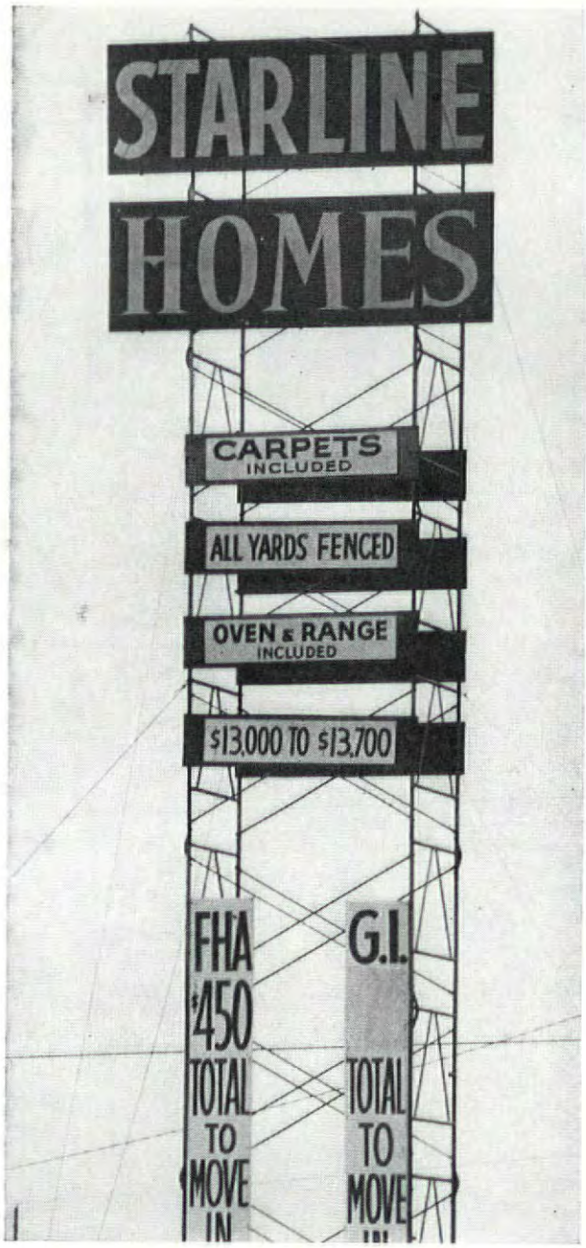

absence of public transit, in a developing squeeze on public park and playground space (although half the building lots in Irving still are empty), in inconvenient ribbon-shopping facilities with little thought for parking, in a pressed school situation, immense peak-hour traffic congestion, lagging capital improvements, and—most deadly of all—an increasingly narrow tax base which could spell disaster for such an economically vulnerable community bought on credit.

The people of Irving realize their danger. They have engaged Planners Hugo Leipziger-Pearce & Associates of Austin to formulate a coherent scheme for orderly physical and economic development. If the Freeway to Dallas created Irving, Leipziger cheerfully sees economic salvation in the Trinity River development scheme which will bring ocean-going freight up from the Gulf of Mexico, spawning small industries. But Irving has not yet done much about his sound planning proposals, and meanwhile is continuing to grow compulsively at a cancerous rate. Last year the city made moves to annex an additional 44 square miles of territory—this although the example is clear in the history of American real estate that a boom town which does not pause to catch up with itself is likely to become a doomed town for pleasant living.


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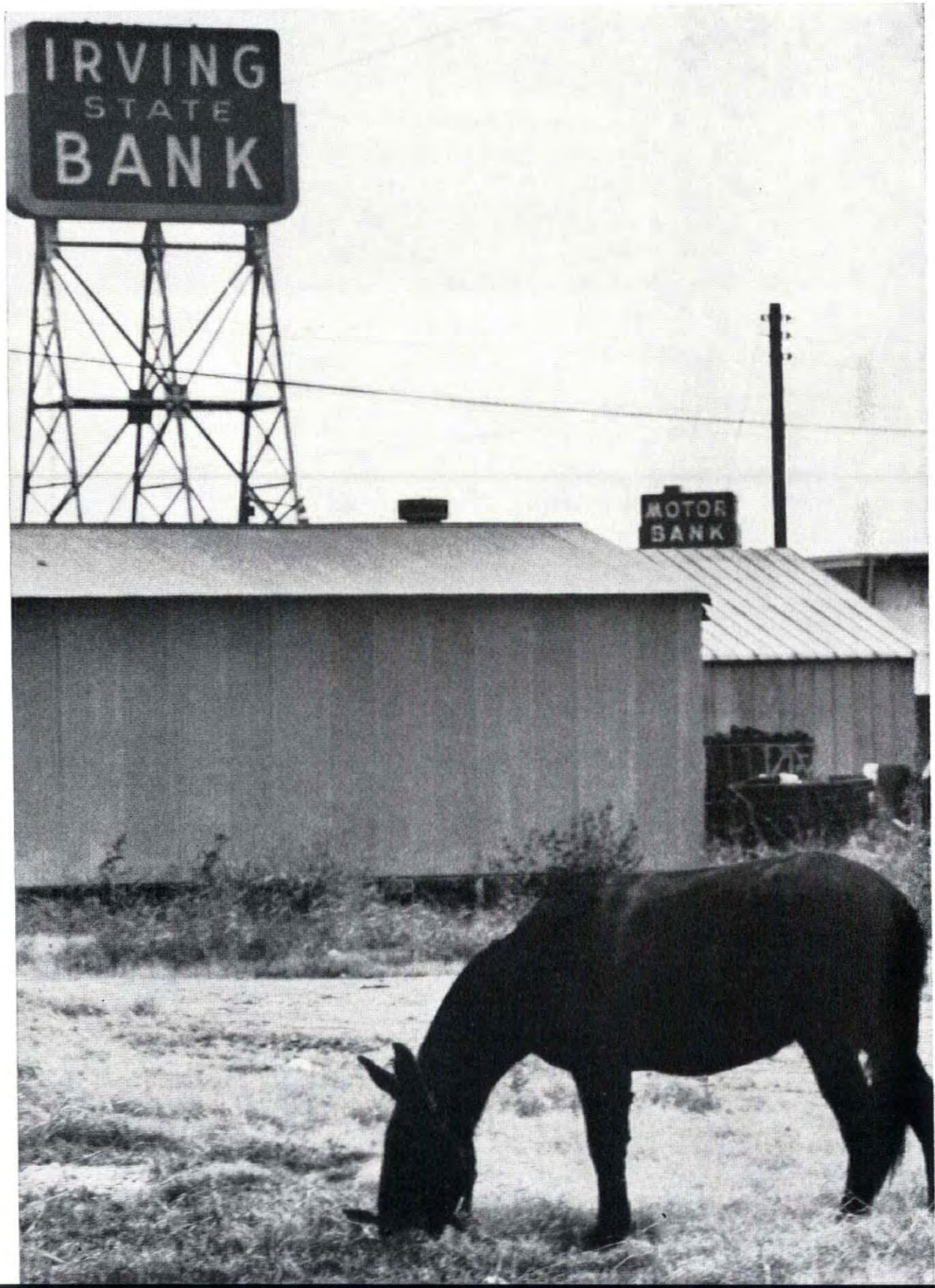
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The dream: *people moved to Westport for a farmhouse on a hill, for open fields that, sadly, became less open as more moved in. Their routes from the city were the long, hard threads of the railroad and the newer turnpike leaping the river at Saugatuck (below), where station, services, industry, and homes now have city problems, too.*

PHOTO (BELOW): THIBAULT-RITTER; (OTHERS) OGDEN TANNER

Defending the dream: Westport, Conn. fights for its vanishing "character" with new weapons, including town-owned land.

Forty-five miles from Manhattan, at the edge of commuter endurance on the New Haven railroad, an ex-onion-growing hamlet flies its civic flags with pardonable pride. Beneath its much-satirized surface of cocktail parties and town meetings, the "exurb" of Westport, Conn. (population 21,000) has been vigorously attacking typical problems of suburban growth, and faces the future better prepared than most.

Until recently, Westport had not attempted much in the civic line. True, its minutemen did take a few shots at the British in 1777, and there was considerable hubbub in the 1840's when the railroad threatened at the door. But the real trouble started when New Yorkers began to discover Westport's rock-rimmed fields and woodlands, and the boating on the Sound.

While population continued to mount, and the newcomers clung to their white-clapboard dreams, an old-time Yankee government kept the tax rate down, let community obligations quietly build up. Also building up, however, were the tempers of some of the city folk, who had once come from pretty nice small towns themselves and were damned if they were going to spend three hours a day commuting to and from a slum.

And so, with the "commuters" often storming the ramparts on one side and the "clam-diggers" dug in on the other, the battle of Westport began. In 1955 a Planning and Zoning Commission infiltrated by relative newcomers outlawed a batch of ancient subdivision maps which allowed broad speculation on as small as 25-foot lots. The top zoning of 1 acre was raised to 2, ½-acre areas to 1. Developers promptly sued, but the move stood up in court; the drop in ranch-house production could be felt. In 1957 Westport's Citizens Planning Assn., led by an energetic New York surgeon named Guy Robbins, mailed to every family a professional planning survey which projected the shocking costs of uncontrolled growth. A long and bitter fight brought a new town charter modernizing the administrative structure, and setting up a professional controller and new departments of health, recreation, and public works. Backed now by 1,000 dues-paying members, the CPA and other groups got a

The invasion *added strange realities to the dream. Downtown, an unartistic factory houses the prosperous Famous Artists School (top). On the Post Road, a new hostelry boasts a Connecticut cupola, New Orleans grillwork, and a Florida swimming pool in back. Other newcomers sleep in Split-Level Glen, or rent a Post Road parking space (below).*

general property revaluation that put taxes on a sounder and more equitable basis than before.

The impetus for improvement was not entirely home-grown. In 1955 the state handed the town a final order to stop pouring raw sewage in the Saugatuck River; Westport has since swallowed its rural pride and built a $1.5 million, city-style sewage plant. It is now disposing of its garbage also on a better plan: after a first few bumbling attempts at sanitary land fill on the swampy river's edge it now has a Little League ball park on top of laminations of garbage and gravel, and plans to extend this all the way to an eventual civic center as a river-front "Esplanade Park."

Perhaps the most significant of Westport's community actions, however, is its mounting acquisition of solid, existing land. Wrapped in the rural dream, not every townsman has yet realized the urgency of setting aside open space while it is still there. But some have. School sites have been acquired well in advance and large enough to accommodate other schools. Separate playfields are earmarked for sections away from schools, and a major woodland park is hoped for in the north. The YMCA has its own camp on the river, and the Mid-Fairfield Youth Museum recently acquired 50 acres as a preserve where children will be able to see and study some of the suburbs' disappearing wildlife.

A good portion of Westport's treasured shore line is now in public hands. The state set the tone with its big Sherwood Island Park; nearby, the town has long enjoyed its own yacht harbor and bathhouses at Compo Beach. But the big move came last spring with the town's outright purchase of a full-scale private country club.

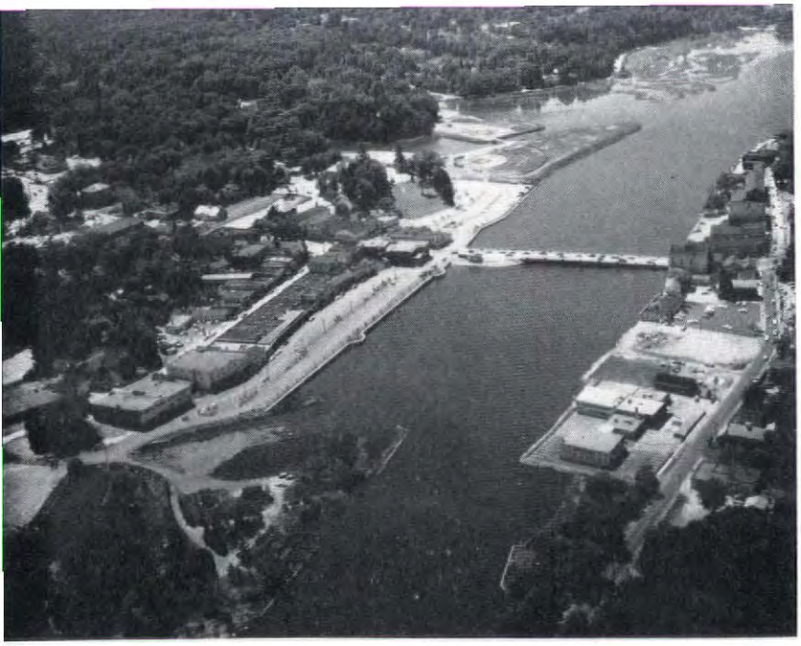
Following rumors, Westport's lively *Town Crier* editorialized that the ailing, 191-acre Longshore Club might make a nice buy for the town. The club's owners asked $2.5 million, finally gave a committee a slim, 17-day option at $1,925,000. With virtually the whole town behind them, the Board of Finance approved the purchase and hurried it on to the Representative Town Meeting, which passed it on the 16th day. Last summer Longshore played host to 2,600 new member-families, nearly half the residents of Westport. What had cost close to $500 a year townsmen enjoyed for a $10 windshield sticker: beach, pool, clubhouse, restaurants, picnic grounds, and, for slight extra fees, tennis, boat moorings, and golf. The town, which runs the club with a staff of 60, hopes to break even on a budget of some $200,000 a year. But even if the stickers were raised to $25 or more, it would still be one of the biggest bargains in public recreation yet.

Despite the glow of Longshore, Westport's troubles are not over. Its five-year push has raised the bonded debt to $10 million plus—$472 per capita, just about the highest in the state. In an effort to hang onto their AA rating, some citizens are working to finance the next project, a $960,000 school, on a three-year, pay-as-you go plan by upping the tax rate from 36 to 37.75 mills (and saving $329,000 in interest charges over the life of a 20-year bond). Other Westporters, inclined to transience and living on the cuff, would rather let the future pay.

There will be other things to think about. Committees are already urging the town to option an offshore island for recreational use. Someday the community may have to choose what it wants to have happen to two venerable sanitariums which own large choice tracts near the center of town. It will certainly have to face the uncountrified realities of urban renewal in the declining area around the railroad station, and control of chaotic strip development along the Post Road.

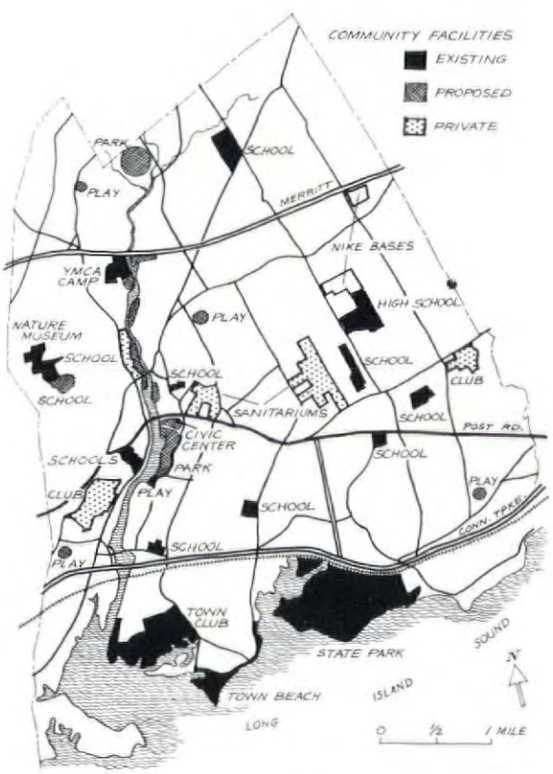
To guide it in its many decisions, Westport has wisely got a master plan, prepared by Consultants Goodkind & O'Dea, and is advertising for a resident planner. The plan consolidates many efforts on paper, maps a population ceiling of 32,500 under zoning, and a 17-year, $21 million capital-improvements program. It has been endorsed by the planning commission, and by a CPA task force of 40 citizens who made some pointed recommendations of their own, including stronger building inspection procedures, a traffic authority to handle mounting parking problems, and—defending the dream again—the elimination of proposed apartment zoning, overambitious industrial acreage, and new routes for bridges and roads.

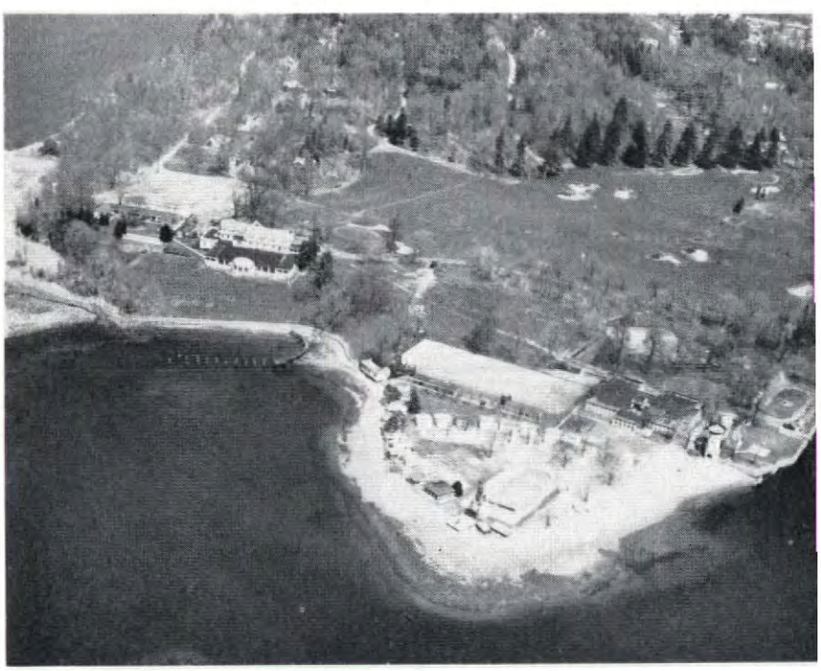
And so the committework goes on, to the suburban background music of hi-fi, rattling ice, and occasional taxpayers' howls. Like many towns, Westport is trying to strike its balance, to build ambitiously without going broke, and yet to conserve a nostalgic "character" that persists in changing every day. The once-rural hideaway is now a city, but it could be a worthy one if the committees keep it up.



Counterattack: *new river-front parking bolsters downtown business while garbage fill fabricates a civic park.*

Schools *like gleaming Staples High are first in the hearts, taxes, and bonded debt of Westporters new and old.*





The town club, *a newly acquired paradise on the Sound. Below, the boat basin and bathhouses of Compo Beach.*

Community lands *(above) are Westport's framework for the future. Below, an older group of school fields by the river.*

AIRVIEWS BY THIBAULT-RITTER

Shopping in the suburbs

Fountain Square fights back: downtown Evanston, Ill. launches a plan to recapture trade from newer shopping centers on the fringe.

For years dignified old Evanston, Ill. reigned as the undisputed cultural—and commercial—queen of Chicago's North Shore. Founded as the home of Northwestern University, it grew during the booming twenties into one of the city's earliest and wealthiest suburbs just 14 miles north of the Loop, leveling off in recent years to a comfortable and generally conservative 80,000 souls. But one cold winter day four years ago neighboring Skokie, a raw and bustling upstart in Chicago's newest boom, handed proper Evanstonians a Christmas present few of them will forget.

The present was Old Orchard, a large, glamorous, $30 million shopping center put together by Developer Philip Klutznick and giant Marshall Field & Co., swathed in acres of free parking and brightly wrapped in landscaped malls and smartly modern stores. As happens to most shopping districts when a builder throws up a group of stores nearby, customers from Evanston and its orbit began to flock to the Orchard, and to still newer roadside centers blossoming to the west and north. By 1957 Evanston's total retail sales had slipped from $129 million to $117 million, and this in a widely rising market; general merchandise dropped almost 30 per cent. (Old Orchard, meanwhile, was moving up toward $90 million by itself.) Like their counterparts elsewhere, the merchants of Evanston took on a new and worried look: what they had once done gleefully to Chicago's State Street was being done now to them.

Evanston's first response, when the situation finally sank in, was to raise the advertising and promotion budget of its chamber of commerce from $10,000 to $100,000 a year. Letters from Mayor John Kimbark's office began to remind citizens that shopping Evanston first would keep down their own taxes by bolstering the take from the city's taxpaying retail core. City Manager Bert Johnson stepped up a going program of municipal parking, replacing meters in three major lots with a free parking system validated and paid for by the stores. Evanston's militant Garden Council started telling merchants what it did and didn't like about their window signs and billboards with notable effect, handing out "beautification certificates" to those who painted up or added awnings or put plants

Evanston's shopping district, *built largely in the twenties, includes Marshall Field & Co.'s first suburban store (background), as well as newer specialty shops. Below, the 1960 competition: Skokie's Old Orchard Shopping Center, complete with ample free parking, landscaped malls, a sizable office building, and one of Field's newest stores (at left).*

PHOTOS: OGDEN TANNER

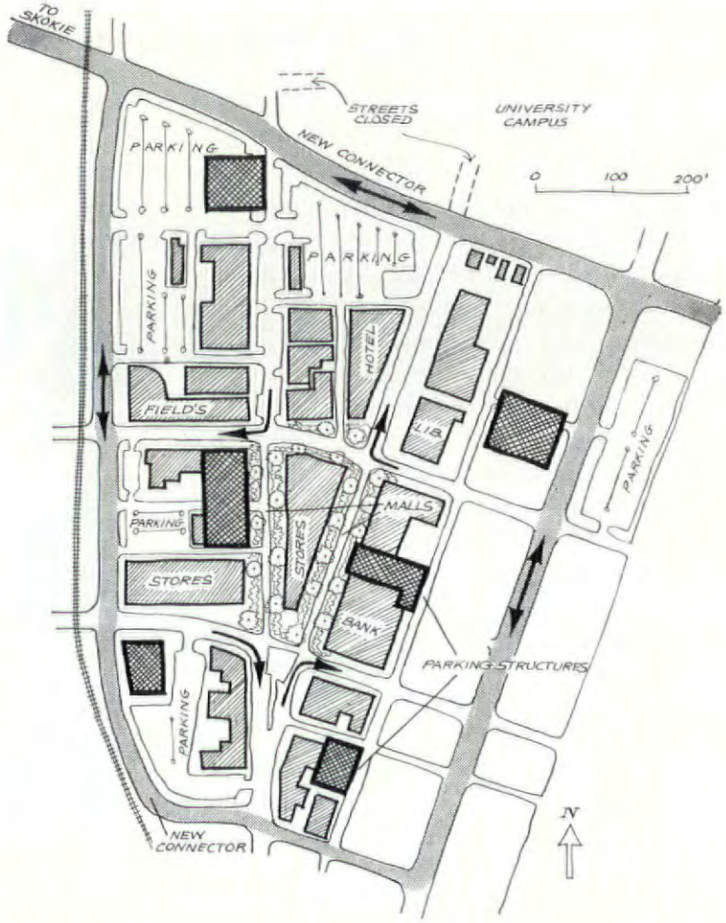
DRAWING BY JOHN SUZUKI

and flower boxes on the street. The merchants themselves, through the chamber, added $15,000 to the city's $5,000 to plant sizable young trees on downtown sidewalks.

It soon became apparent, however, that skin treatments would not solve Evanston's problems alone. With the encouragement of Architect Lawrence Perkins, chairman of Evanston's Planning Commission and partner in Chicago's Perkins & Will, a six-month study was launched under Planning Director David Johnston and Consultant Robert Stuart. One survey showed that 47 per cent of traffic passing through the city's central Fountain Square was doing just that, and nothing more. The city's total of 4,000 on- and off-street parking spaces were, by modern shopping-center standards, less than half what they should be for Evanston's 1.5 million square feet of downtown retail space. As in other cities, this underscored the need not only for more parking and better turnover, but for vigorous city support of existing bus and rail systems as well.

The result of Evanston's study is a two-phase, ten-year program aimed at making downtown progressively more accessible, less congested, more attractive—and more like modern shopping centers in its plan. In the first phase (see map) the city and its university will swap land so one gains a traffic-free campus, the other new parking and a four-lane street realignment pointing out toward Skokie, new expressways, and customers on the west. When the road is finished two years hence, the two major shopping streets below it will be converted into "parking lots" themselves. Curbs at each corner will be extended into the broad streets (100 feet between building fronts, 70 feet of roadway) and landscaped as pedestrian crosswalks and partial barriers to traffic. Between the corner curbs, cars will be parked at right angles to the sidewalk, increasing capacity 50 per cent and still leaving a 36-foot aisle for parking traffic. Signs will route through-traffic around the district on improved streets and limit interior traffic to 15 miles per hour. Within each block, three or four additional crosswalks will be indicated by planting, pavement markings, and "Yield to Pedestrians" signs.

In the second phase, the town's peripheral parking lots will be filled out and supplemented with multidecked parking garages, some located on air rights over low buildings. Two-way streets forming a loop around the district will be completed. Then, with cars completely removed from the center, the planners hope to turn the main streets into full-scale pedestrian malls.



Right now, however, merchants and officials view such ultimate developments with skepticism. The chamber of commerce recently junketed to the celebrated mall at Kalamazoo, Mich., liked it, but said they "couldn't see it for Evanston as yet." Meanwhile, elements of such a scheme continue to appear: a landscaped sitting area at a bus stop, a sidewalk café, block closings for art and garden shows, boating exhibits, Boy Scout events (photos, right).

Like other older suburban downtowns, Evanston has had a scare. But like other sound business districts, it has neither the blight that invites sweeping redevelopment schemes nor the inclination to accept them. Yet, if its merchants continue to fix up their buildings with taste, and if street and parking programs move steadily ahead, Fountain Square may still be around when some of its flashier competitors are gone.

OGDEN TANNER

Striped awnings *and a cleaned-up front make Chandler's bookstore an example for other building owners downtown.*

OGDEN TANNER

Full-grown trees *in Fountain Square are among downtown Evanston's greatest assets, and cared for accordingly.*

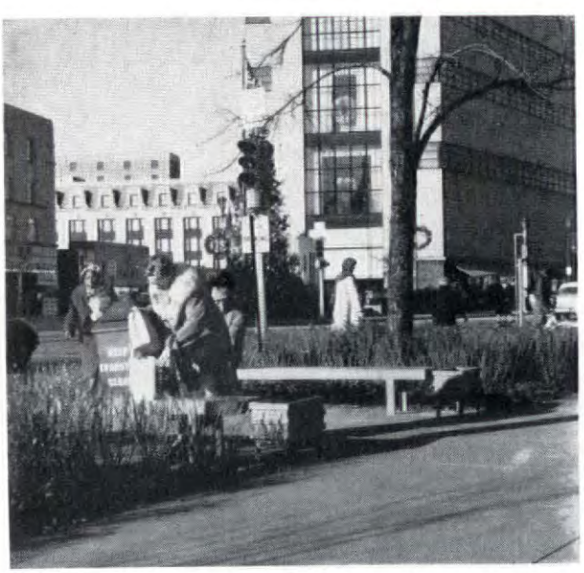
BRANDT & ASSOCS.

EVANSTON PHOTOGRAPHIC SERVICE

Free city parking *lots attract customers back downtown. Shoppers have their tickets stamped by the stores.*

STUART-RODGERS STUDIO

Sidewalk cafe, *opened by the staid Orrington Hotel, has proved a delightful (and business-getting) success.*

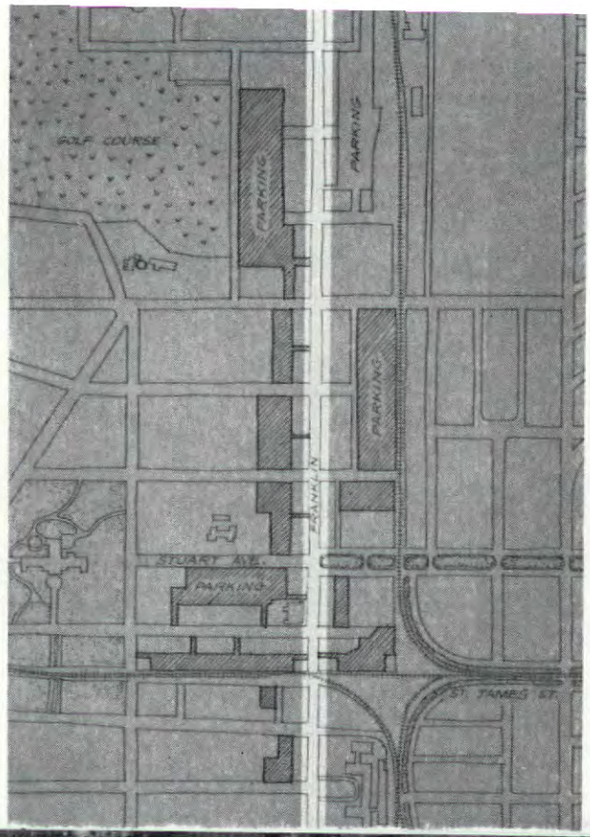


OGDEN TANNER

Benches and landscaping *provided by Evanston's Garden Council make the Fountain Square bus stop a pleasant wait.*

Annual art show, *one of several events held on blocked-off Davis St., heralds the possibilities of a shopping mall.*

Automobiles and parking fields, the plague of most suburbs, are converted by Garden City, N.Y. into an attraction and "stock in trade."



Air view *shows part of Franklin Street, Garden City's chief shopping street, flanked both sides by stores with direct rear parking fields, which are built and operated by the Village. Street parking is allowed too, but was almost unused on the busy pre-Christmas shopping day when this picture was taken. The fine houses at left are well screened off from the fields. At top center is seen the foundation hole for yet another "New York store" settling in this fine municipally run shopping center.*

Garden City, Long Island, is one of those magical places where smart actions look easy. Garden City was a suburb of 2,000 people when incorporated in 1919; 14,500 in 1950; it has 24,000 now and is still proliferating. It has 4,688 free municipal parking places today—off-street—which is plenty for now; but 500 more are being worked on for the near future.

Not one parking meter is found in this whole thriving village. Nobody pays, except commuters who buy annual $3 stickers that give residents sole access to the 500 or more places at railroad stations. For the rest, parking is regarded as a municipal service.

Garden City thrives on it, and of course at the expense of its slower-witted neighbors. Long before the term "regional shopping center" became an old-line merchant's nightmare, the whole of Garden City became such a center, starting in 1930, and drawing trade from at least 15 miles, owing to its ease of parking.

By now its roster of "New York stores" reads like Fifth Avenue; Garden City knows the game probably better than most new competing promoters might; and has proved also that a street may be even better than a pedestrian mall as the central feature.

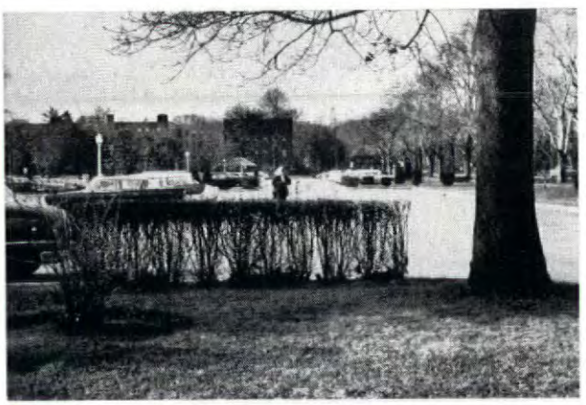
Garden City's governing Board of Trustees requires stores, offices, and apartments in the central business district to have what the Village deems adequate parking areas directly behind them; those who do not donate such land are assessed for it. The Village at its own cost builds and operates the fields to high standards. (Construction cost per space is reported as $325, but maintenance figures have not been isolated.)

Skilled layout makes self-parking easy, eliminates parking attendants; landscaping, including trees, keeps huge fields from looking drab and interminable; median island walks protect fenders and tempers against unskilled parkers; generous hedges and high cedar fences buffer off the high-class close-by residences. Stores have learned to make their "rear" fronts attractive. Private owners creating fields on private land under permit, for convenience of patrons and employees, are held to the same high standards; there are no commercial fields.

In the January 1959 issue of *Traffic Quarterly*, Allen H. Rogers, the engineer who spent 24 years, up to 1958, on the Garden City concept, makes some observations. "Most persons are beginning to realize," says he, "that the automobile and adequate parking are one of our greatest stocks in trade."

Rear fronts *of stores, facing parking field, are neatly designed and landscaped. Three-hour limit (see sign, opposite page) keeps day-long parkers from hogging the best spaces. Delivery areas are provided.*

Ample planting *and fencing all but hides houses at top right in this picture. Alternations in width of fields cuts down monotony. Stone steps in the foreground lead to the "rear entrance" of a department store.*

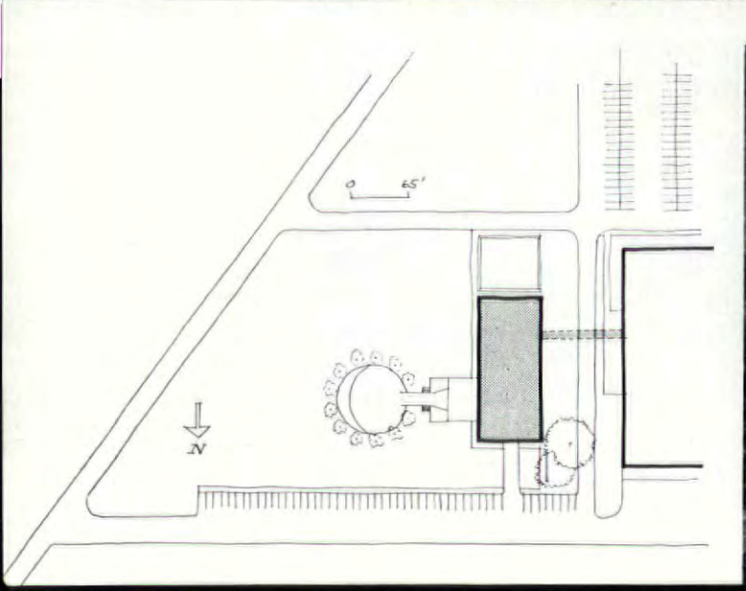


Above: *hedges, shrubbery, and special curbing are artfully deployed to break up the view of oceans of automobiles.*

Below: *paved "median walks" in most fields keep fenders safely separated, make a base for trees and lighting posts.*

THOMAS AIRVIEWS

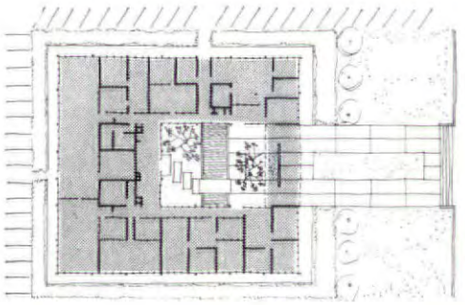
Buildings for the suburbs

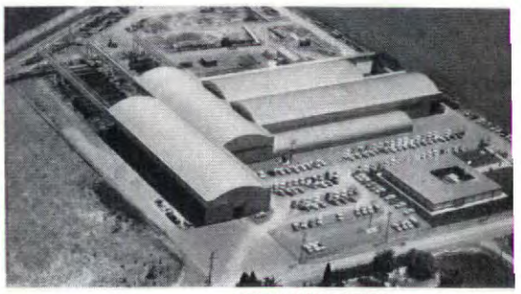


Many kinds of buildings are being made neighborly by suave architecture and spacious siting.

DANDELET

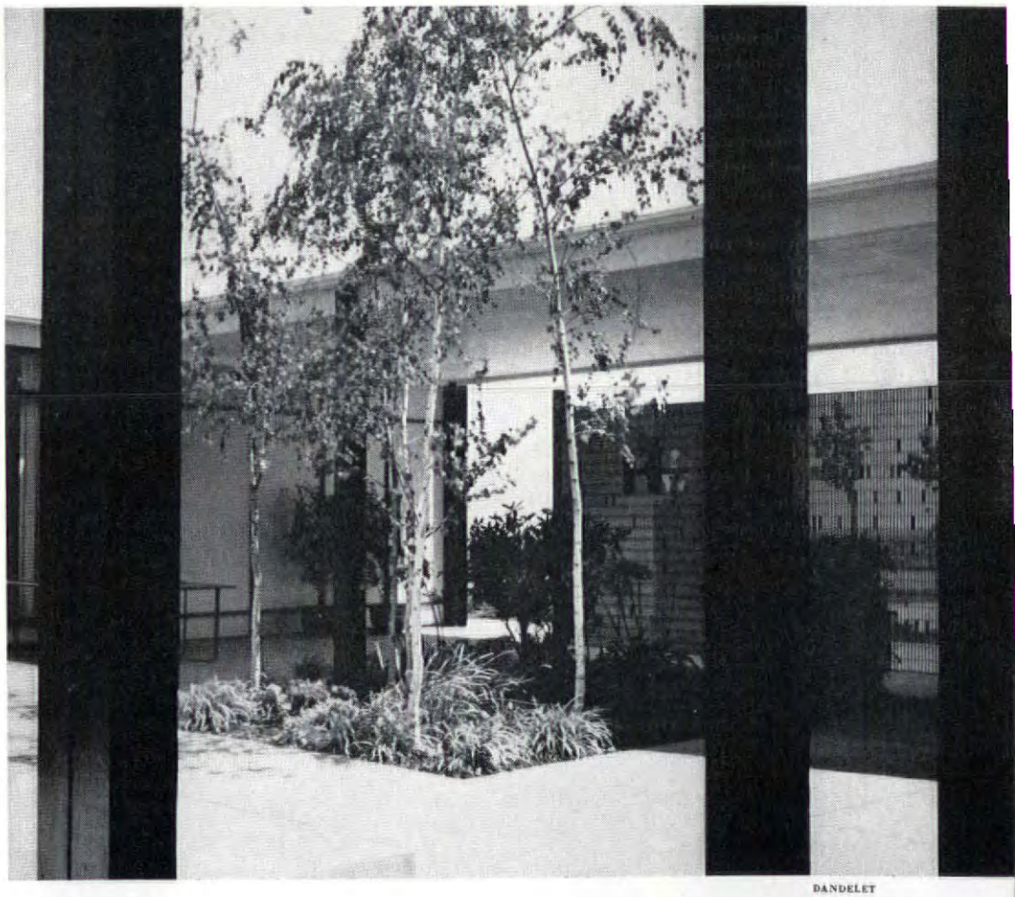
Research and development center for the Container Corp. is a new, 44,000-square-foot structure built next to the corporation's Valley Forge, Pa. plant, and linked to it by a glass and concrete bridge (bottom picture). The center is constructed of precast, prestressed concrete posts and girders, and of concrete channels side by side that form floors and ceilings. The channels are carried out beyond a curtain wall of blue glazed brick and gray-tinted glass so as to create continuous sunshades around the building. The handsome, 170-foot-long structure is so placed on the site that it screens the old plant and presents an elegant façade to the suburban street. In addition, the new center is set back from the street by an average of 300 feet, and the intervening area is carefully landscaped with a sculptured, circular garden set into a spacious lawn. New parking facilities were so designed as not to block the view of the building from the street, and the height of the building (three stories) was kept in proper scale with its suburban environment. Architects and engineers: Herbert Bayer and Pace Associates. General contractor: Wininger construction Corp.





UNITED AERIAL SURVEY

Suburban office building for the Herrick Iron Works of Hayward, Calif. presented a special problem, for *no* ironworks can be a really good neighbor to a residential area. Herrick first moved to Hayward to be out in the country, where around-the-clock noise and heavy truck traffic would not disturb anyone. But, residential developments soon began to creep outward toward the plant, were stopped only just in time when the city of Hayward clamped down a zoning restriction forbidding the building of residences closer than 1,200 feet from Herrick's land. Meanwhile, the company needed new offices, decided that the new building should be blank on the outside and open (to a landscaped court) inside. At the same time, as a public relations gesture toward its residential neighbors, the entrance to the building was made gracious and inviting (top picture). To display the owner's product to advantage, the architects used exposed steel and iron in many details. Unit cost of the building was only $11 per square foot. Architects: John Carl Warnecke (Lun Chan, senior designer; Robert Hart, project manager). Landscape architect: Lawrence Halprin. Structural engineer: Doane Naillon. Mechanical and electrical engineers: Bayha, Weir & Finato. Soil engineers: Sales Testing Lab. General contractor: Marvin E. Collins.

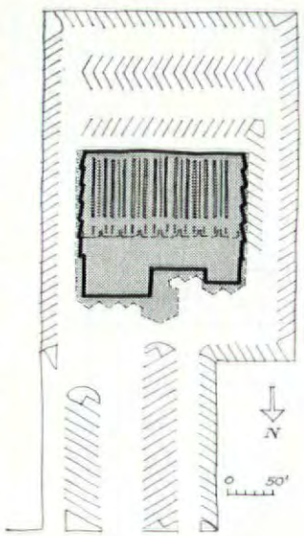


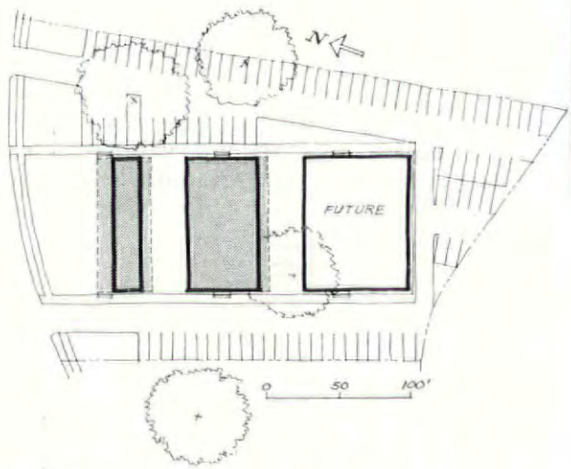
DANDELET

DANDELET

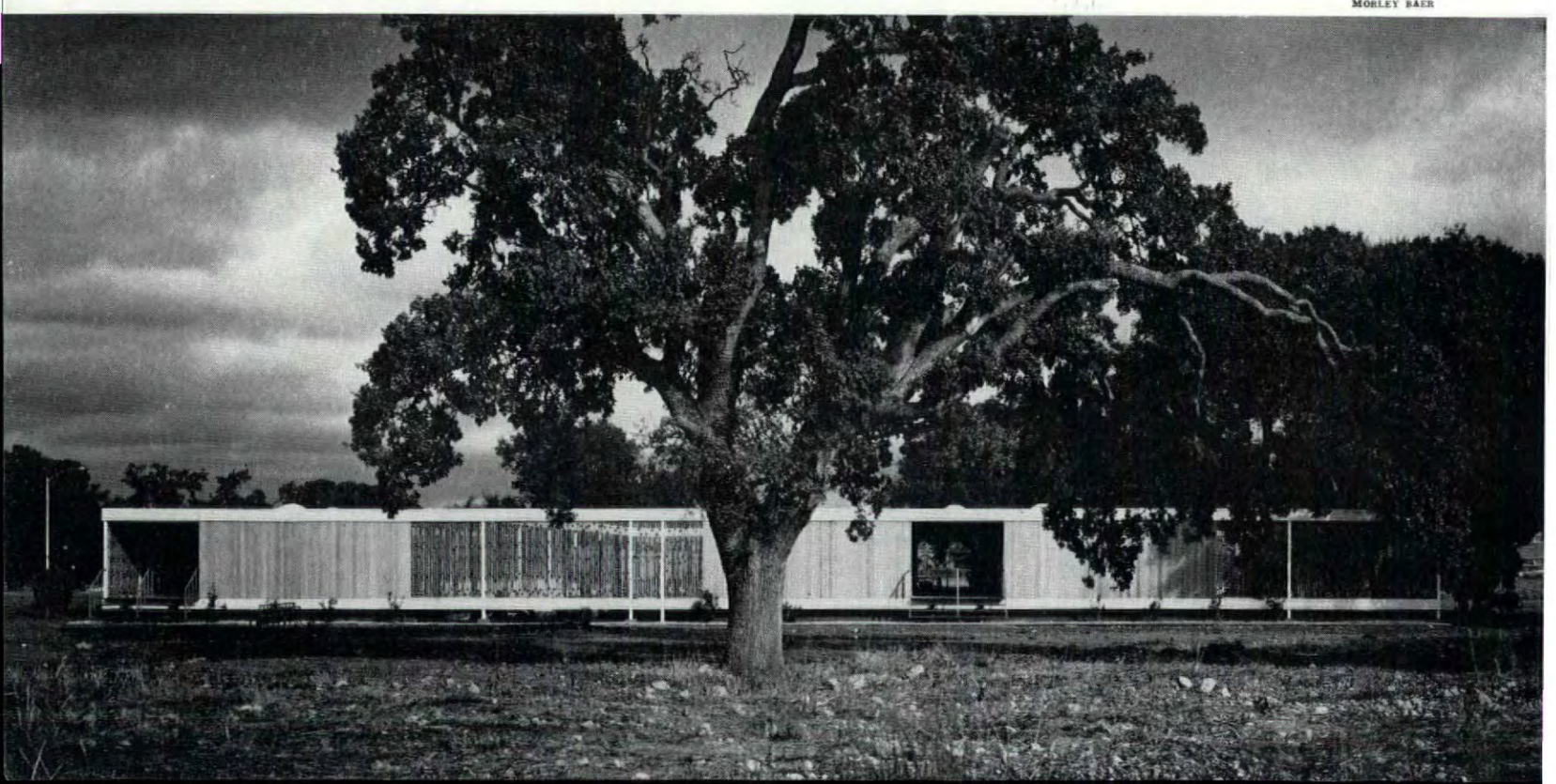
ART HUPY

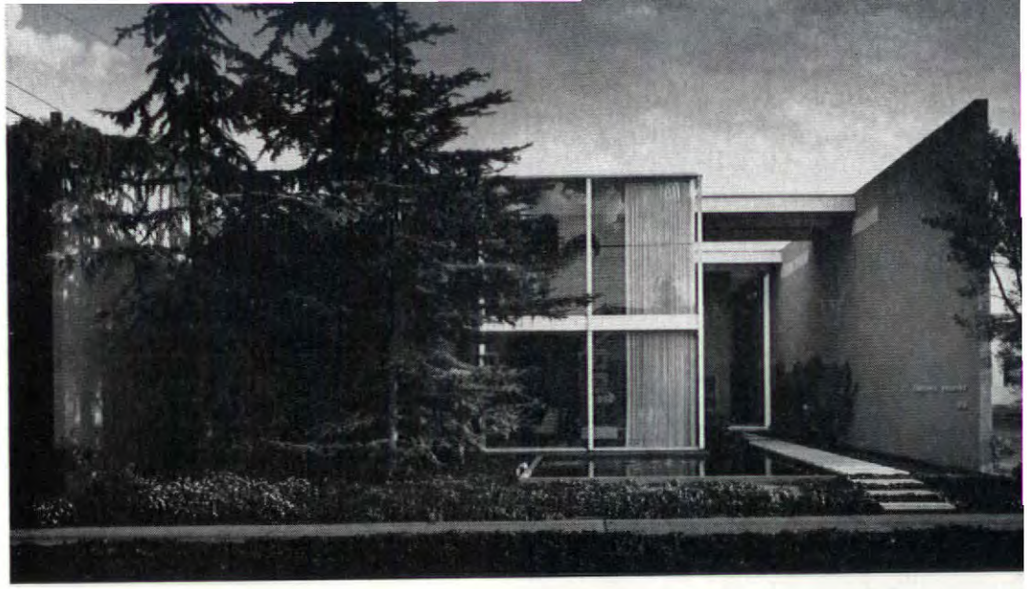
Bowling alley in a suburb of Tacoma, Wash. is a handsome entry in a field not heretofore renowned for good architecture. Although the pleated roof was first chosen because the owners wanted a bowling alley that would not look like one, the accordion shape turned out to be a very efficient solution as well: it is a kind of space-frame that can span the 120 feet required in this type of building; and the pleated ceiling, finished with acoustic tile, is such a good sound absorber that, even with all 32 lanes in operation, one can carry on ordinary conversations. The building cost only $9.30 per square foot, fully equipped. Parking for an initial 220 cars (mostly out of sight from the street) was provided on the property. Architect: Marshall W. Perrow. Structural engineer: Harry Powell & Assoc. Mechanical engineer: Hugh C. Miller. General contractor: John Purvis.



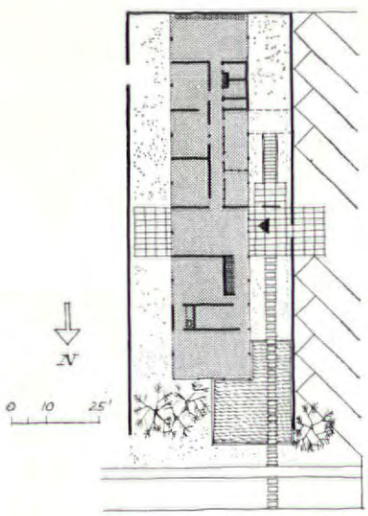


MORLEY BAER





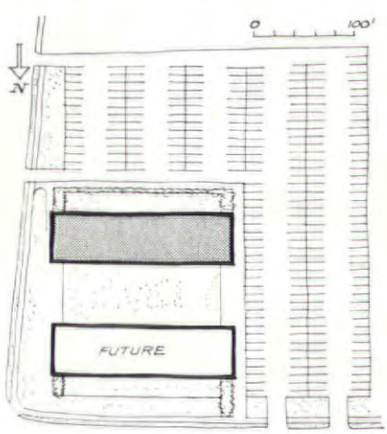
Patio office in suburban Long Beach, Calif. is a 21-foot-wide, 17-foot-high, and 106-foot-long glass box, set into the middle of a walled and shaded garden. This walled garden is a typical narrow and deep building lot; here, however, the lot was turned into a charming and cool patio reminiscent of the best in traditional Latin architecture: the lot is surrounded by 17-foot-high stucco walls on three sides, so that the glass box has privacy, shade, quiet, and a handsome (if narrow) garden to look out upon. Cambridge Investments, Inc. (a young firm of investment developers for whom this structure was built) also owns the neighboring corner lot—a gas station—and was able to arrange for off-street parking on that adjoining property. Most of the building is occupied by the owners (some of their offices have dramatic, two-story-high rooms); but some of the upstairs space to the rear was designed for tenants. The building has some 3,500 square feet of enclosed, usable space, and was put up for $70,000. **Architects:** Killingsworth Brady Smith & Associates. **Interior designer:** John Nicholson. **General contractor:** John Halas.



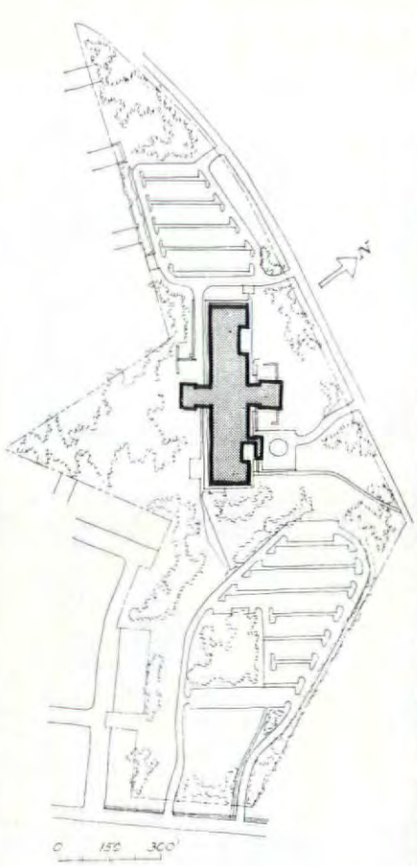
PHOTOS: (ABOVE) MARVIN RAND; (BELOW) MORLEY BAER

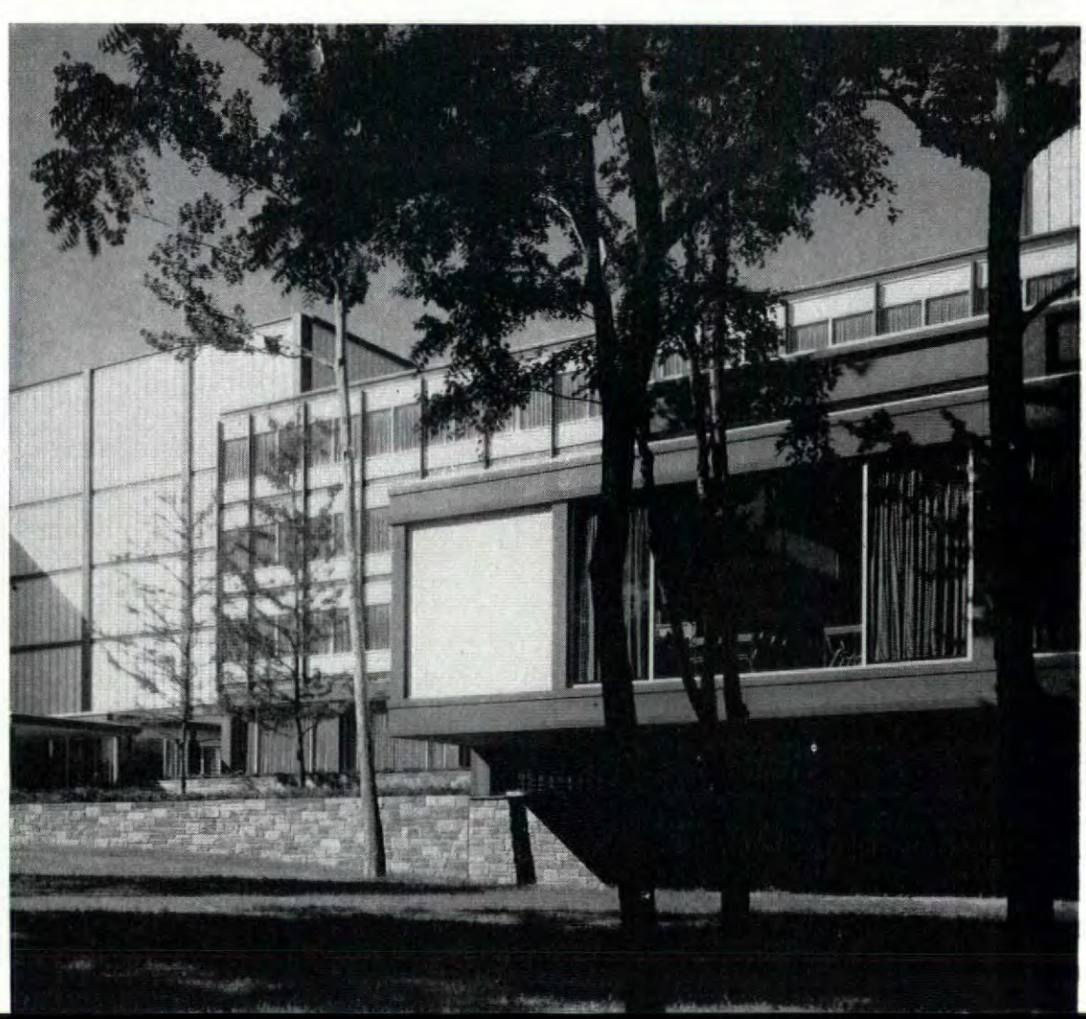
Professional buildings on the Stanford University campus in Palo Alto, Calif. are simple, modular, rectangular structures designed for greatest flexibility in office layout. The building at right is the first of two, three-story-high units framed in exposed steel. (The ground floor is a half level below grade to satisfy a code requirement.) The bays are 12 feet wide; each building is 15 bays, or 180 feet long; and each has 24,000 square feet of office space. Because small, suburban offices tend to have extensive parking requirements, about two-thirds of the site was devoted to parking for almost 250 cars. The 60-foot-wide garden beween the two units is depressed so as to give the lowest floors in each building direct access to the outdoors. The

professional building shown at left was designed for 14 dentists and is cooperatively owned. This building is also located at Stanford, about 250 yards from the first site. The structure is one story high and wood-framed; but in its general site plan it resembles the steel-framed buildings at right. Here, as in the other units, the architects created open courts between modular, rectangular structures. And as in the other buildings, there is provision for extensive off-street parking (76 cars). In both projects, the parking areas have been kept largely out of sight. Architects: Knorr & Elliot (Starks, Jozens & Nacht, associate architects for buildings at right). Structural engineers: John Brown (right), Stefan J. Medwadowski (left). Mechanical and electrical engineer: Alex Boome (left only). General contractor: Whelan Construction Co. (for both).



PHOTOS: DAVIS STUDIO

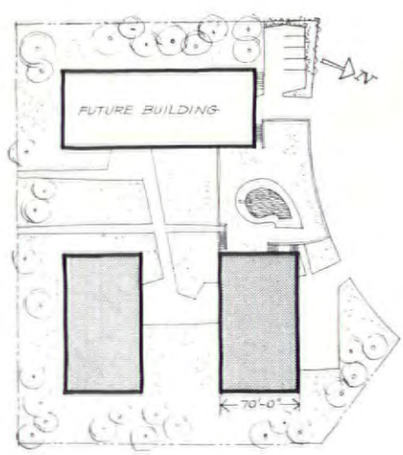




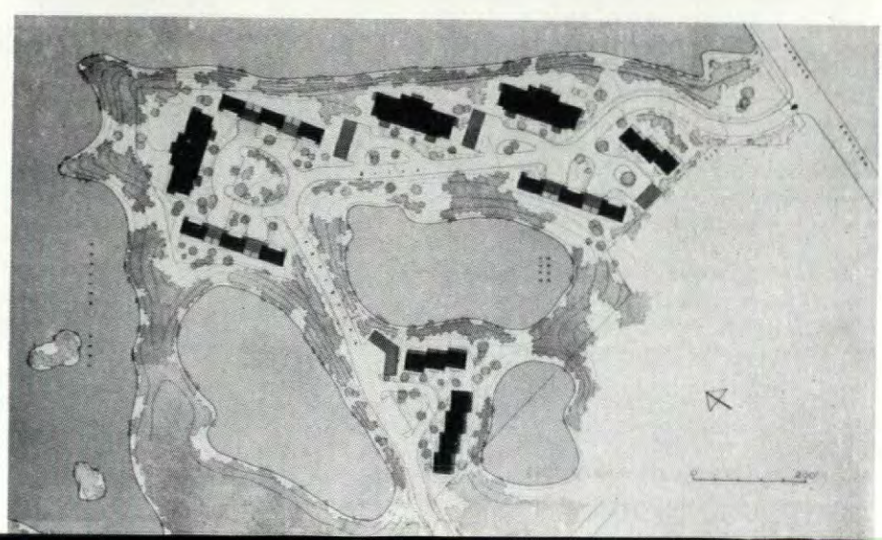
Suburban headquarters building for the Government Employees Insurance Co. (GEICO) is a 275,000-square-foot structure on 28 parklike acres in Chevy Chase, Md., just outside Washington. The 540-foot-long building houses GEICO's operational facilities and accommodates a staff of about 1,100. (There are parking facilities on the site for more than 650 cars.) In conceiving of this project, GEICO felt that the building should, above all, be "a congenial neighbor to nearby residential areas . . . equally pleasing to both occupants and passers-by." So successful were the architects in carrying out this part of the program that GEICO was given a special award by the local chamber of commerce for making a "permanent, tangible improvement of benefit to the community." Photos (opposite) show three service and circulation cores that divide the building into four distinct sections; in front of the building is a cantilevered, steel-and-glass dining hall for employees. The site plan reveals special planting to screen the necessarily large parking areas. The smaller parking area in front of the building is for visitors. Total cost of the project was close to $8 million, not including landscaping and furniture. Architect: Vincent G. Kling. Structural engineer: McCormick, Taylor, Associates. Mechanical and electrical engineer: A. E. D'Ambly. General contractor: Turner Construction Co.

PHOTOS: ARBER-FRENCH & CO.

High-rise suburban apartments in Brookline, Mass. reflect a growing trend toward more suburban concentration, less scatteration. One reason for this trend is that apartment projects can offer more attractive (and costly) communal facilities than single-house projects can; this one, when completed, will have underground parking garages, laundry facilities, a swimming pool, and other amenities. The first two buildings constructed on the site have 70 apartments ranging from luxury penthouses (at $650.00 per month) to one-bedroom suites (at $240.00). All rentals include garage space for one car, valued at about $30 per month in this area. An interesting feature of the apartment plans is that all have cross-ventilation: corner apartments by means of two orientations, and center apartments by means of through-floor plans. Moreover, each unit is carefully planned to contain all the facilities of a well-appointed, suburban house: large closets (including walk-in storage), foyers, balconies, and, of course, some well-landscaped grounds. The first two buildings were put up at a cost of $13.10 per square foot; construction on the third building will begin shortly. Architect: Samuel Glaser Associates. Structural engineers: Goldberg LeMessurier Assoc. Owner and general contractor: Park Terrace Trust.



PHOTOS: © ROBERT STANMAN



Row houses and apartments near New Haven, Conn. demonstrate a pattern for suburban living far different from that found in most speculative developments: in place of scattering individual, dinky little houses on dinky little lots, the architects of this project concentrated all dwelling units in rows, and freed the rest of the site for a private park. (The site was part of some beautiful woods belonging to the local water company, and has views of several ponds and reservoirs.) By concentrating the 74 dwelling units in this development, the architects managed to keep 92 per cent of the site entirely open. Moreover, by creating long and unified building complexes, they succeeded in forming interesting and significant outdoor spaces—courts, cul-de-sacs, etc. In most detached-house developments, of course, no such unified spaces can be expected. The entire project cost $1.4 million, or about $20,000 per dwelling unit, including land and carports for 80 per cent of all units. Tenants can choose from five different unit plans. Architects: Pedersen & Tilney. Landscape architect: Carl Stelling. Builder: Veggo Larsen Co.

A land-saving substitute for the typical suburban subdivision: clustered "town houses" surrounded by open space.

If, as seems likely, most of the 17 million new households to be settled in America by 1975 must be in the suburbs, the suburbs must find a new kind of housing or run out of open space. Today's tract houses on ¼- to 2-acre lots are not the answer; they eat up too much land. Nor are high-rise apartments jam-packed together; they destroy suburban openness in a different way.

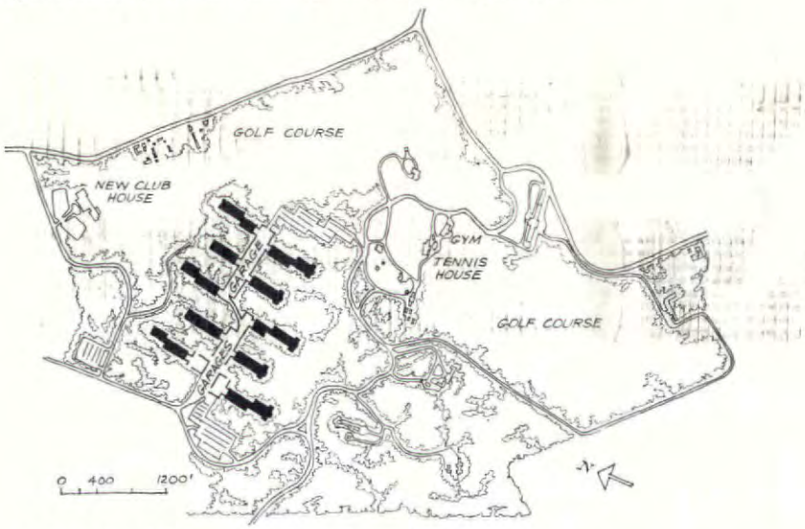
Perhaps the answer lies in some such scheme as that detailed on these pages; a cluster of 247 "town houses" occupying only 6 per cent of their tract, allowing the remainder to be devoted to golf courses, woodlands, and recreational space of other kinds. This is no pie-in-the-sky scheme. It is a hardheaded proposal for the development of the famous 516-acre Whitney estate in Old Westbury, Long Island.

The promoter of this idea is Norman Blankman, a real estate investor who, after purchase of the Whitney estate for $2 million, was inspired by William H. Whyte's persuasive writings in LIFE and FORTUNE about America's urgent need for preserving open space. Having decided to carry the Whyte torch into the staid community of Old Westbury, Blankman selected an architect who also had fresh ideas about residential development: Victor Gruen.

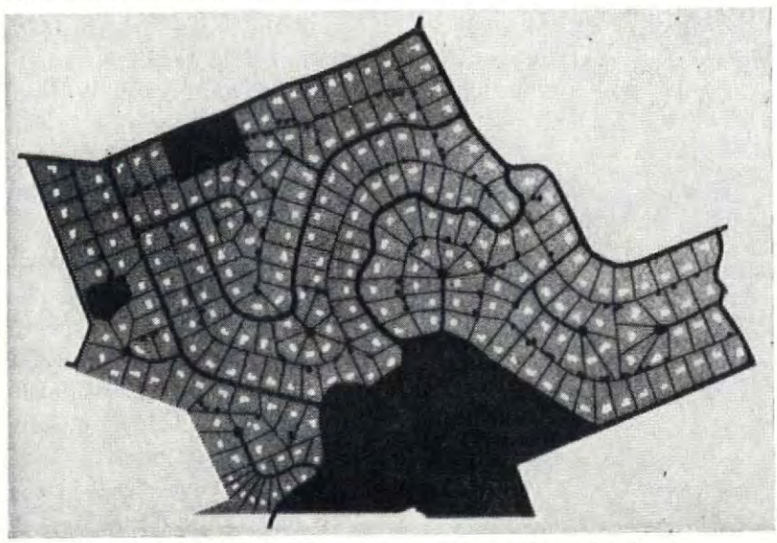
Instead of following the local zoning ordinance and dividing the tract in the usual manner into a maximum number (236) of 2-acre lots served by a network of streets, it was proposed that 247 attached town houses be grouped in ten wings projecting out from both sides of a spinelike 500-car garage. The garage would be subdivided into ten individual areas, each serving one wing, and would be roofed over with pleasantly landscaped communal facilities. Between the garage and each housing wing would be a residence lobby, similar to those in luxury apartment buildings, and a service lobby. From each of these lobbies would extend a corridor wide enough to permit attendant-driven electric vehicles (called "horizontilators") to carry passengers and freight to and from the houses (sketches, page 98).

The two- and three-story houses would range in size from seven to ten rooms (3,400 to 4,900 square feet), and would sell on a cooperative

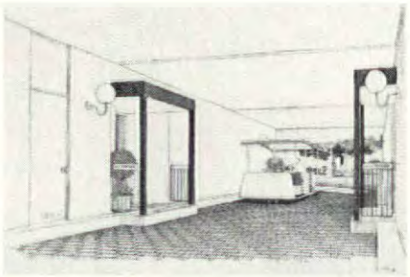
Spaciousness of 516-acre Whitney estate would be preserved . . .



by clustering 247 town houses at the center of the site . . .



but conventional subdivision into 236 2-acre lots would smother it.



basis for cash down payments averaging $50,000 plus monthly maintenance charges and carrying costs on the $50,000 mortgages. Ultimately the developer would turn over control and management of the entire property to a cooperative set up by the house owners.

Equally lush would be the outlying property: 150 acres would be preserved in their natural woodland state, 205 acres would be made into two golf courses, and 138 would be used for other recreational purposes. In other words, each of the families in this project would have at its disposal not the usual suburban acre of lawn and garden, but all the greenery and recreational facilities of a nature preserver and country club combined.

For the developer, the plan has the advantage of reducing site improvement costs (see table, page 99) and building costs. There would be also important advantages to the town: 1) There would be no public streets to maintain—they would be maintained by the cooperative. 2) There would be no public utilities to provide and maintain—they also would be provided by the developer and would be subject to taxation. 3) There would be few public-school children residing in a development at this economic level. 4) As a result of these factors, the net taxable value of each town house would be about twice that for comparable dwellings in an ordinary subdivision.

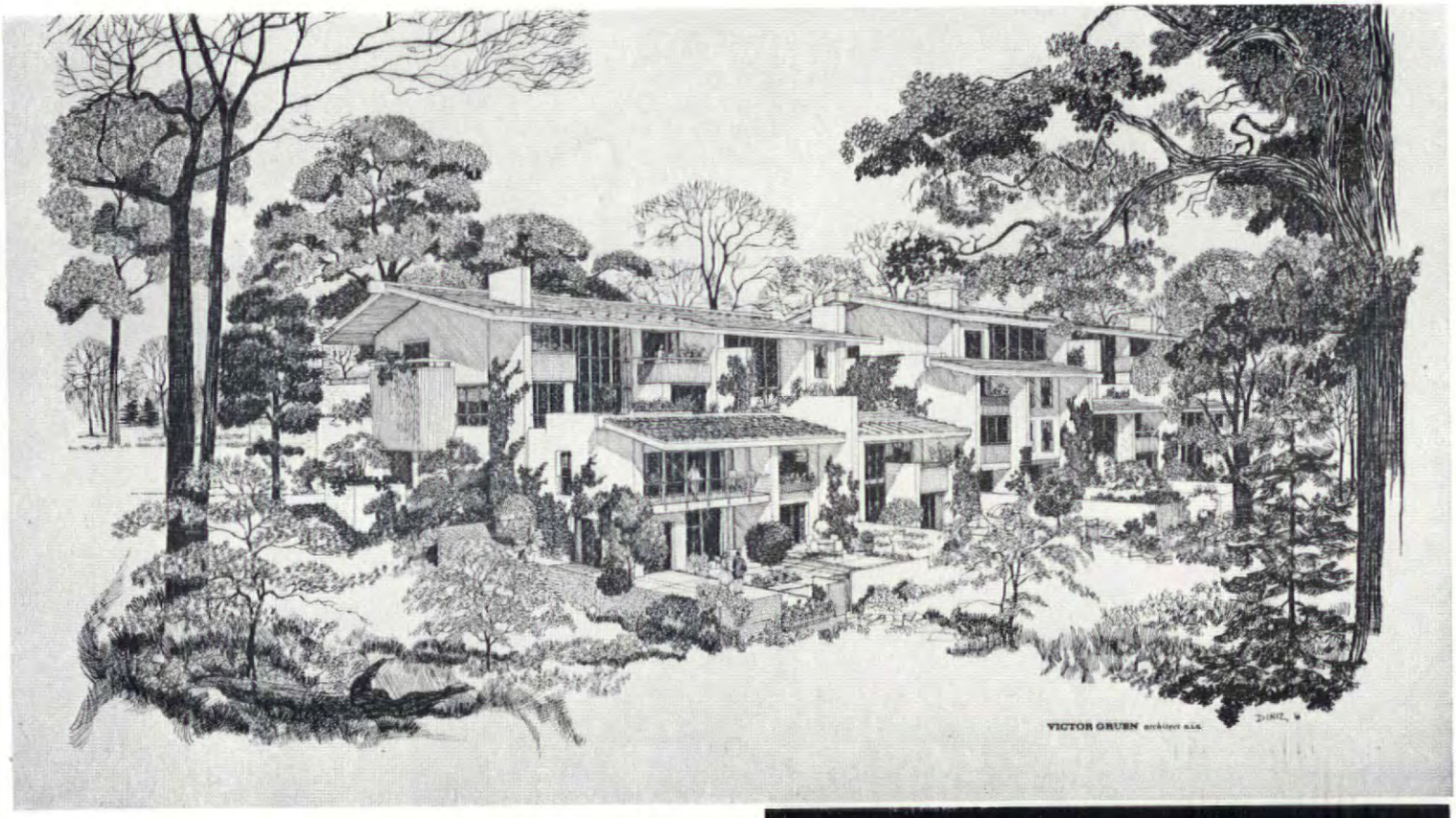
On the other hand two dangers have been pointed out in the plan: 1) the possibility that the open spaces in the project might not be kept open—that the cooperative corporation at some future date might sell off some of its land for conventional house development; and 2) the possibility that the pioneering project might fail, leaving a partially completed development on the land and providing the basis for the promoter to request relaxation of development standards. The first contingency could be guarded against by deed restrictions and covenants or by granting an easement in the open spaces to the village, and Blankman agreed to do so. The second contingency is not quite so easy to insure against, but Blankman agreed not to start construction until he had made 100 firm sales and then to dedicate at least 200 acres of the site to this initial cluster development. He further agreed that successive stages would not be built until sold, or would be developed as 2-acre housing.

These two liabilities of the plan were not considered critical by the planners who have studied the project—Hugh Pomeroy, planning director of New York's Westchester County, and Stanley B. Tankel, former planning director of New York's Regional Plan Assn. (Said Tankel: "If anything resembling the present character of the estates of the North Shore of Long Island is to be retained . . . the principle of clustering will be one sound basis for it.")

Despite these endorsements and the approval of adjacent property owners, a good part of Old Westbury did not take kindly to the project. Some members of the local civic association (which represents about half the village's families—mostly newer residents and smaller property owners) resented being told that the proposed use of the property was better than their own 2-acre subdivisions. Others were concerned about the street traffic the golf clubs would generate and about the urban implications of the term "town houses." Out of 115 replies to a survey of the association's 215 members, 66 did not favor the proposals. The others were for it or on the fence.

This survey was merely a sampling of public opinion; the real decision was up to the village's mayor and four trustees. They voted against the extraordinary project. The opponents were not prepared to revise the 2-acre zoning ordinance without complete assurance that the pioneering project would be a success and this, of course, was impossible to guarantee. Although they recognized the project's numerous advantages, they questioned whether there was a solid market in Old Westbury (22 miles from Manhattan) for this quantity of a new kind of superluxury attached housing.

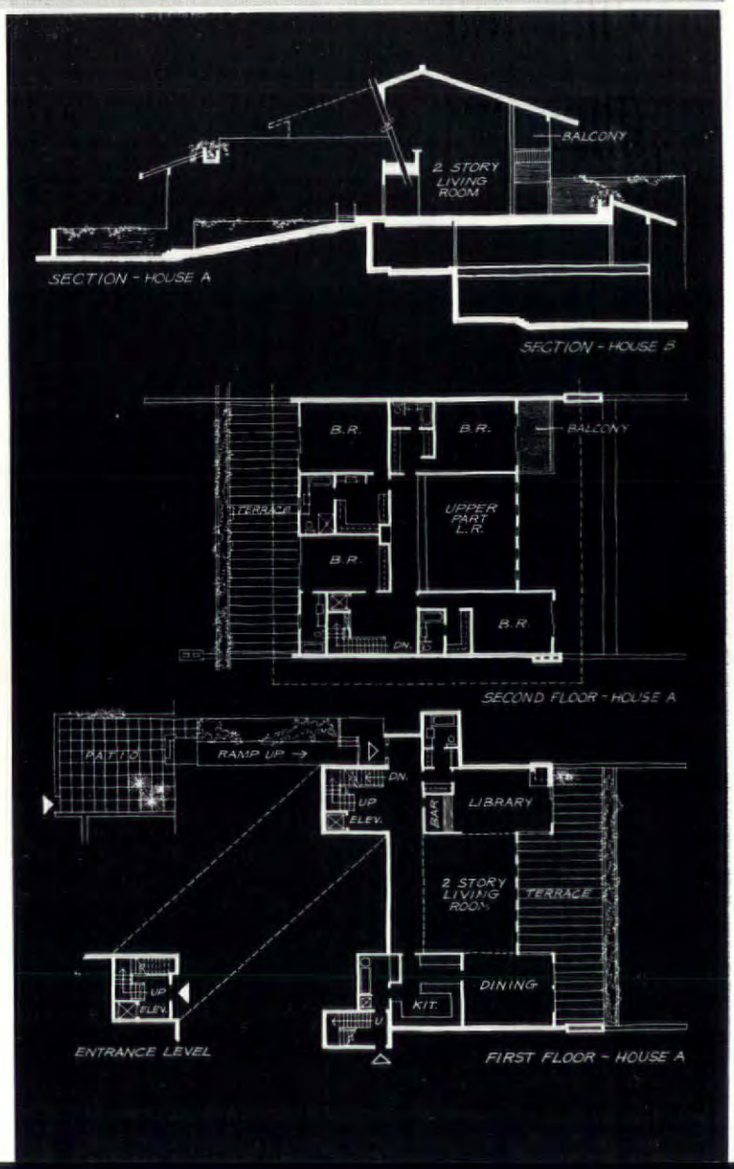
Blankman, however, is not easily discouraged by his reverses. He is now planning precisely the same kind of cluster development in another Long Island town like Old Westbury. Says he: "We are utilizing to the fullest the lessons we learned in Old Westbury and are hopeful of success on our second try. Certainly, we are convinced that it is important to the future of the American countryside that this pioneering idea be given its chance."

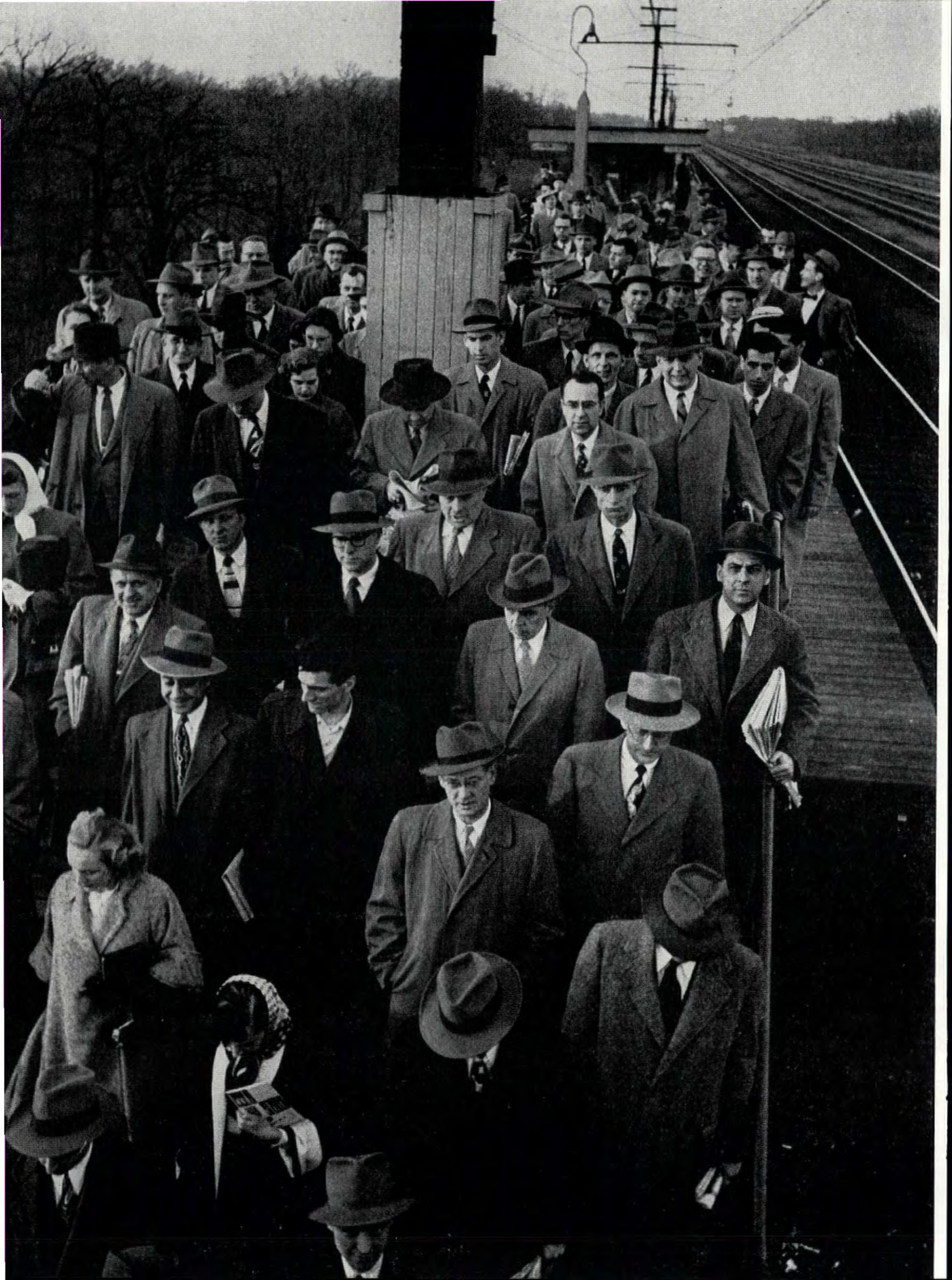


Typical residential wing *designed by Victor Gruen uses terrace walls and landscaping to give indoor and outdoor privacy to town-house owners. Right: plans for the largest town house which would sell for about $133,000, including $50,000 mortgage.*

Land development costs

	STANDARD PLAN	GRUEN PLAN
Earthwork	$318,830	$ 64,400
Paving	585,460	144,000
Storm drains	459,630	109,000
Sewage disposal	486,000	293,000
Water supply	295,400	119,000
Electric distribution	345,140	253,000
Landscaping	190,000	30,000
Irrigation	10,000	13,000
Management building	45,000	45,000
Outdoor lighting	—	19,000
Shade structures, benches, etc.	—	80,000
TOTAL	$2,735,460	$1,169,400



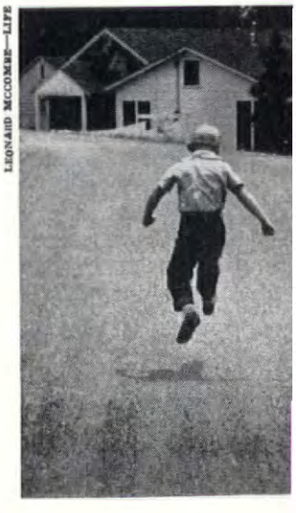


RONDAL PARTRIDGE

Why? Parents must pay, usually, for the wonderful freedom of the little girl above to run loose, out of city traffic, safe in a suburban neighborhood she really owns, or for the boy below to kick up his heels, jubilantly at liberty. In compensation there is little kicking up of heels on the suburban train platform in evening. And in early morning there is many a breakfast blur in commuters' doorways like the one below. (Five minutes later, a plaintive five-year-old voice fades down from upstairs: "I want to kiss Daddy good-by.")

It is, of course, a price millions of parents have elected to pay, and their reason almost invariably is: "The city is no place to bring up kids." Some child psychologists, if only rather argumentative

NINA LEEN—LIFE



LEONARD MCCOMBE—LIFE

DAN WEINER—BRACKMAN ASSOC.

GILL HAY—LIFE

JOE BRENNEIS—LIFE

RONDAL PARTRIDGE

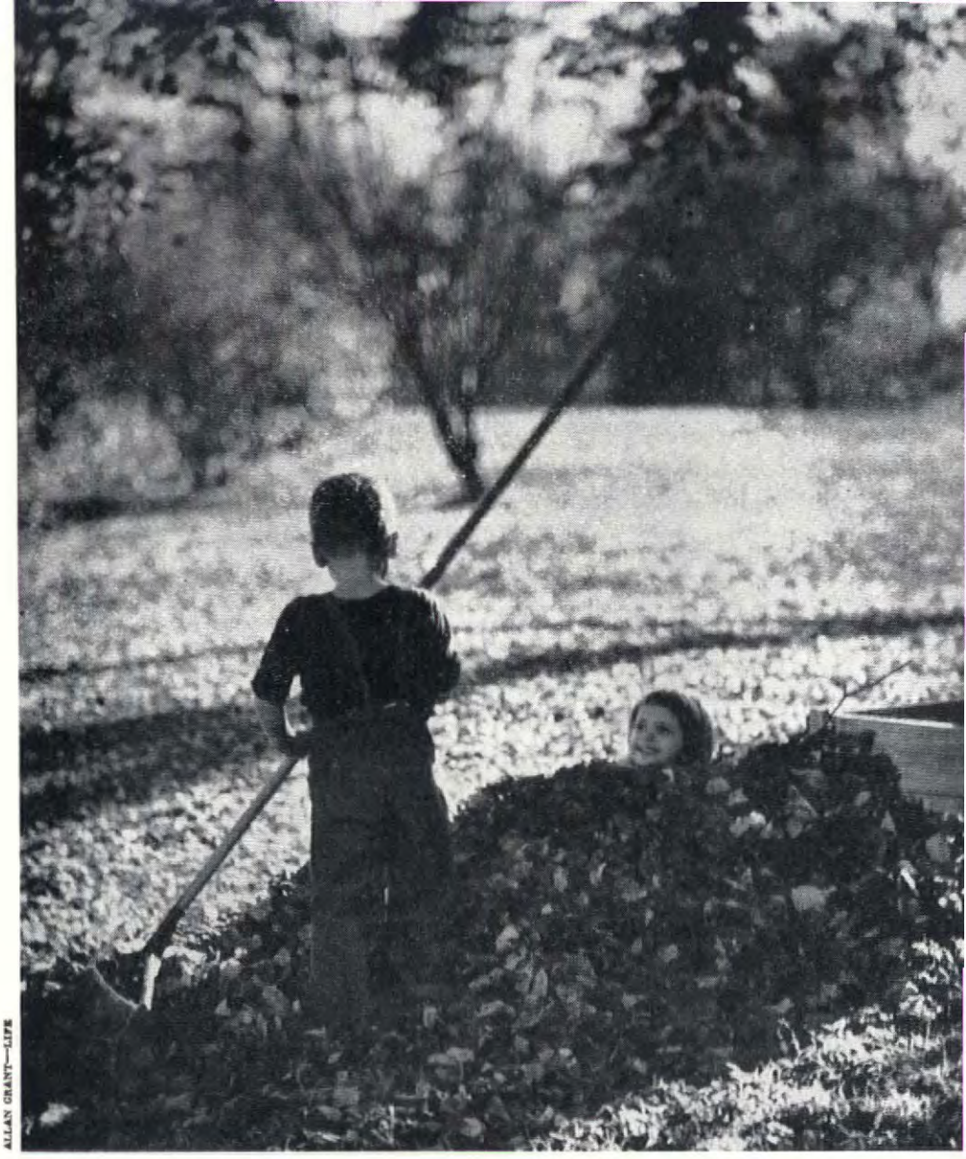
ones, will dispute this, pointing out that it is the family, not the landscape, that counts for everything in child-rearing. Undeniably it is true that the suburbs, once reached, come a lot closer than cities to the idyllic open country which, a half century and more after the Western frontier disappeared, still haunts Americans as the desired land for pure living. But it is also true that the way from central city to suburb—the line that the commuter railroad follows—usually runs through the lowest squalor of all, and some of the previous pages should stand as a warning that the sins of the cities are also moving outward, like the commuters themselves, into the suburbs, wantonly erasing nature.

FRANCIS MILLER—LIFE

MARK KAUFFMAN—LIFE

FRANK SCHERSCHEL—LIFE

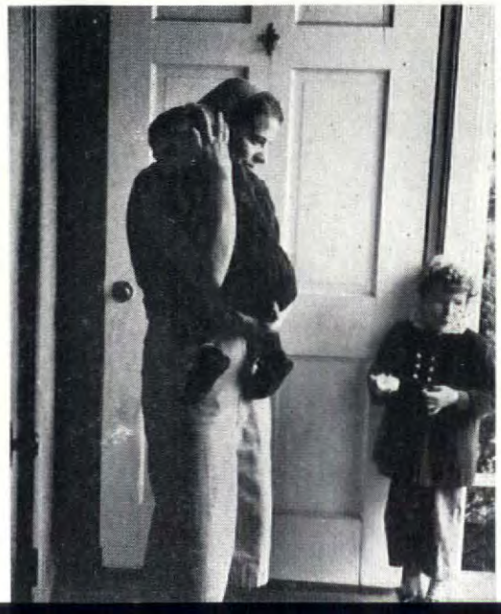
RONDAL PARTRIDGE



ALLAN GRANT—LIFE

Americans' eagerness to absorb the punishment of the daily trip from suburb to central city may mean that they, as frequently accused, really are more sentimental than most people, that when children arrive in the family, parents assign their hopes and cherish their ambitions in the young, and are passively willing to cramp their own lives accordingly, to exhaust themselves in transit to and from their jobs, or to serve as chauffeurs and den mothers from dawn to dinner —and then go to PTA meeting after dinner.

Is it worth it? Does it work? There are many people who say the suburbs are a delusion, and most of these people, not surprisingly, live in the cities. (Some of them lived in the suburbs once.)



MARK KAUFFMAN—LIFE

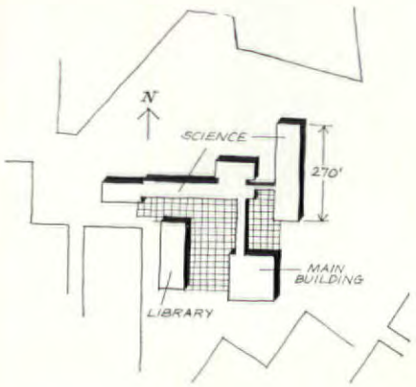
CARL PURCELL—PIX

Suburbanites themselves say proudly that it is the best life in the world, the American dream in its flowering, especially for kids, and no one can argue with them. In their minds are the images of their young, free and happy, as recalled by some of the photographs on these pages. The only trouble with sentimentality, of course, is that it must have an end, and the end is usually tear-smudged. This can, and has, been true in numerous suburbs whose suburbanites were too happy to be wise, who neglected to defend their hearths from the spreading sickness which has overtaken most of the big cities. To put it in sentimental terms, the suburbs may be worth saving because there will be grandchildren, too.

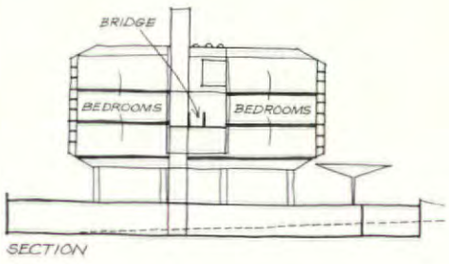
PHOTOS: JOE SCHERSCHEL—LIFE

PHOTOS: COURTESY "ARKKITEHTI ARKITEKTEN"

HUMANE IN FINLAND



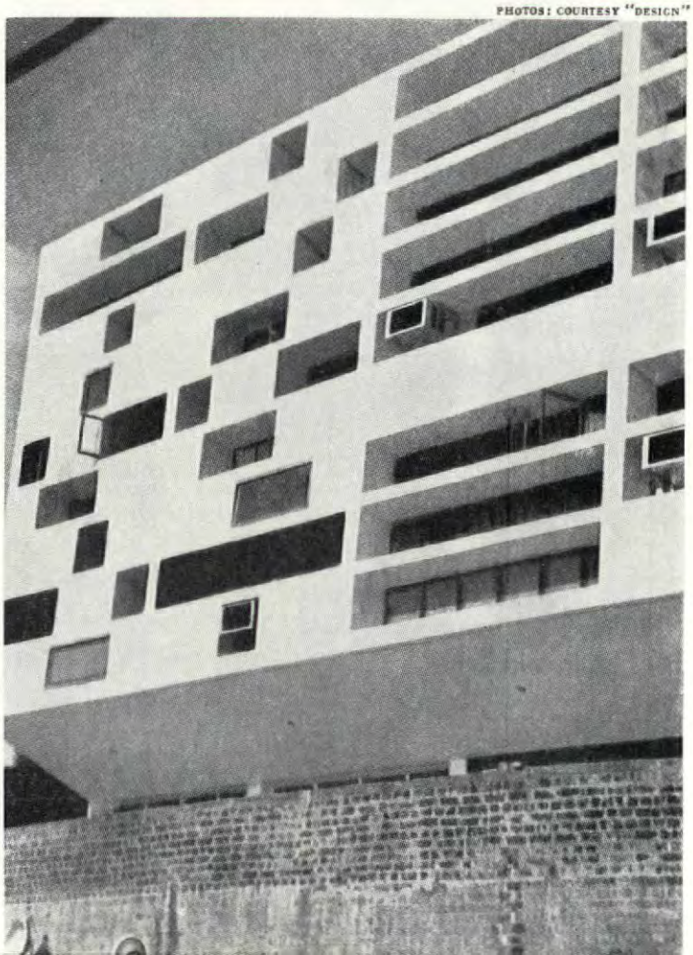
Turku University, in Southwestern Finland, is the country's newest, most M.I.T.-like institution. Yet its campus, designed by Architect Aarne Ervi, keeps one side of a generous quadrangle open to the old cultural center of the town (plan, left) and takes sensitive advantage of the site's many changes of level (photo, right). It is also significant that the university's main building doubles as a humanities center. Behind its saw-toothed, glass-and-masonry south façade (photo, above) are seminar offices, conference rooms, and an interior assembly hall.

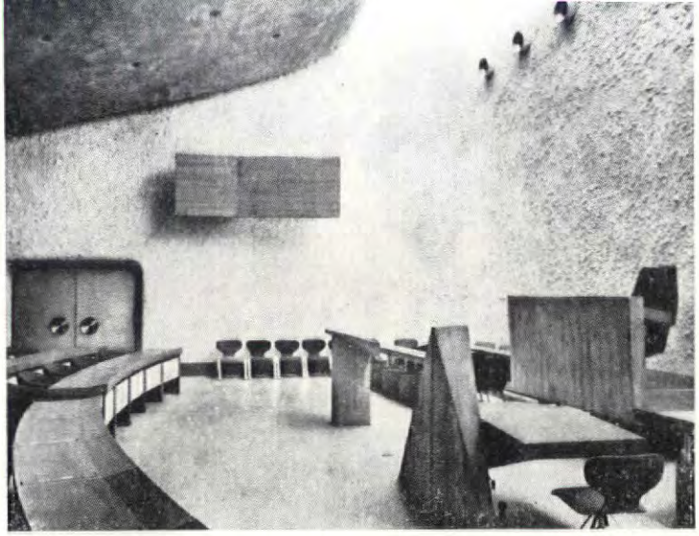


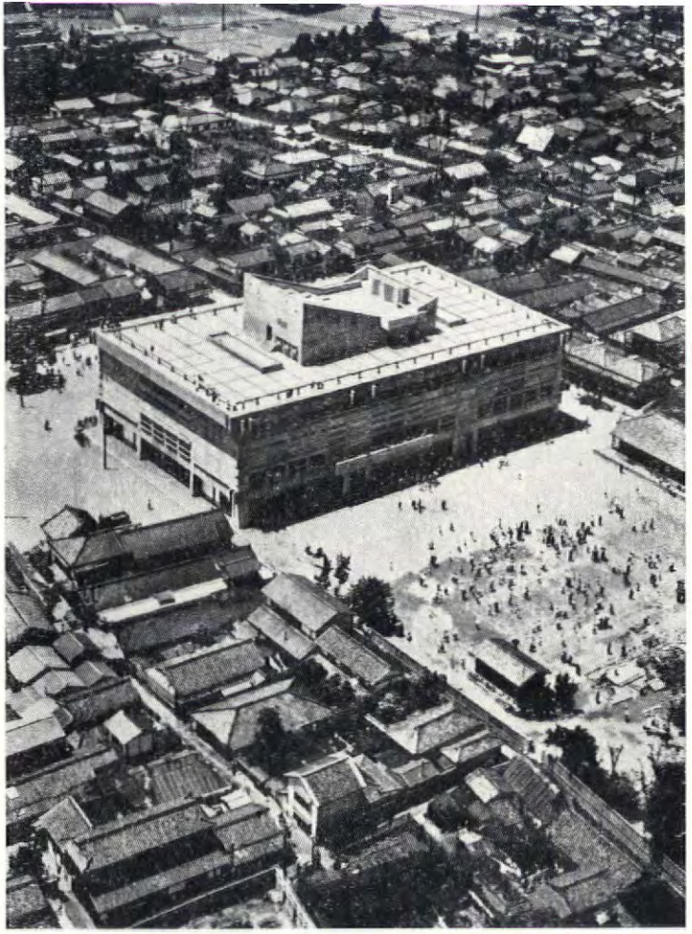
ILLUSION IN INDIA

Each of the three bedroom floors of the Cama Hotel in Ahmedabad, India is divided horizontally into three bands of windows, giving the illusion of a nine-story hotel (photo, right). However impressive that may be, the device has the functional purpose of breaking up the sunlight on the main east and west façades. Architect C. M. Correa has given the passer-by a chance to get a more accurate impression of the hotel's size and function by providing a hole at either end of the building (photo, below) through which he may observe that the general plan consists of two bedroom wings joined by a circulation "bridge." The holes also bring ventilating air into interior service spaces.

PHOTOS: COURTESY "DESIGN"



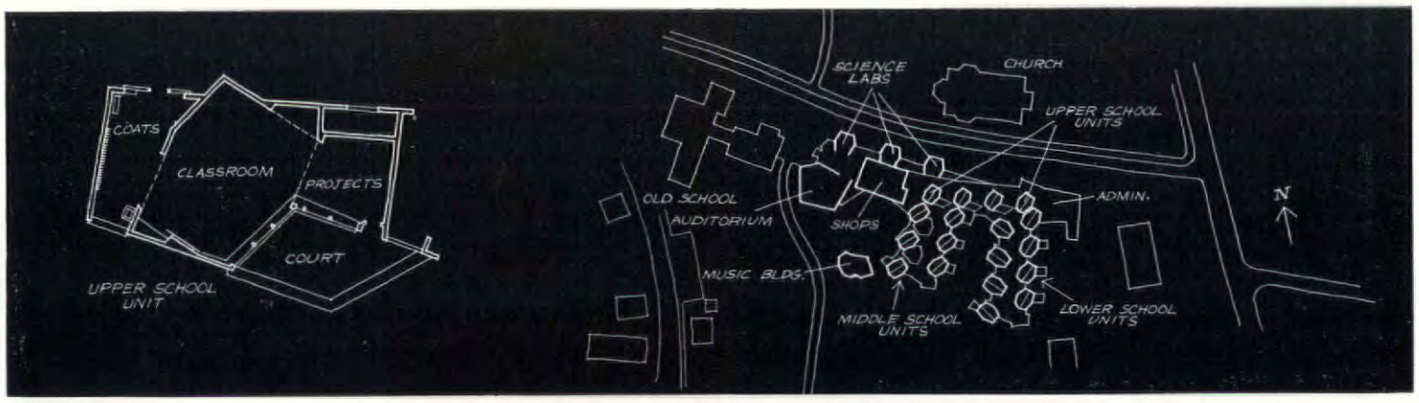




PHOTOS: COURTESY "THE JAPAN ARCHITECT"

BLOCKHOUSE IN JAPAN

Architect Kenzo Tange's latest public building is a city hall for Kurashiki (near Kobe), which looks something like a frontier blockhouse. Construction of the city hall did, indeed, involve the clearing of a wildly overgrown section of the seaside city and the establishment of a superblock pattern for the renewal area. The building's walls are of precast concrete blocks set within an unfinished, post-and-beam frame. Atop the four floors of offices and public rooms is an assembly hall (photo, above) that takes its decorative cue not from the rigorous demands of the new, urban frontier but from the romance of Corbusier's Ronchamp Chapel. Like Ronchamp, it combines rough concrete walls and bizarre furnishings with subtle and effective lighting patterns.

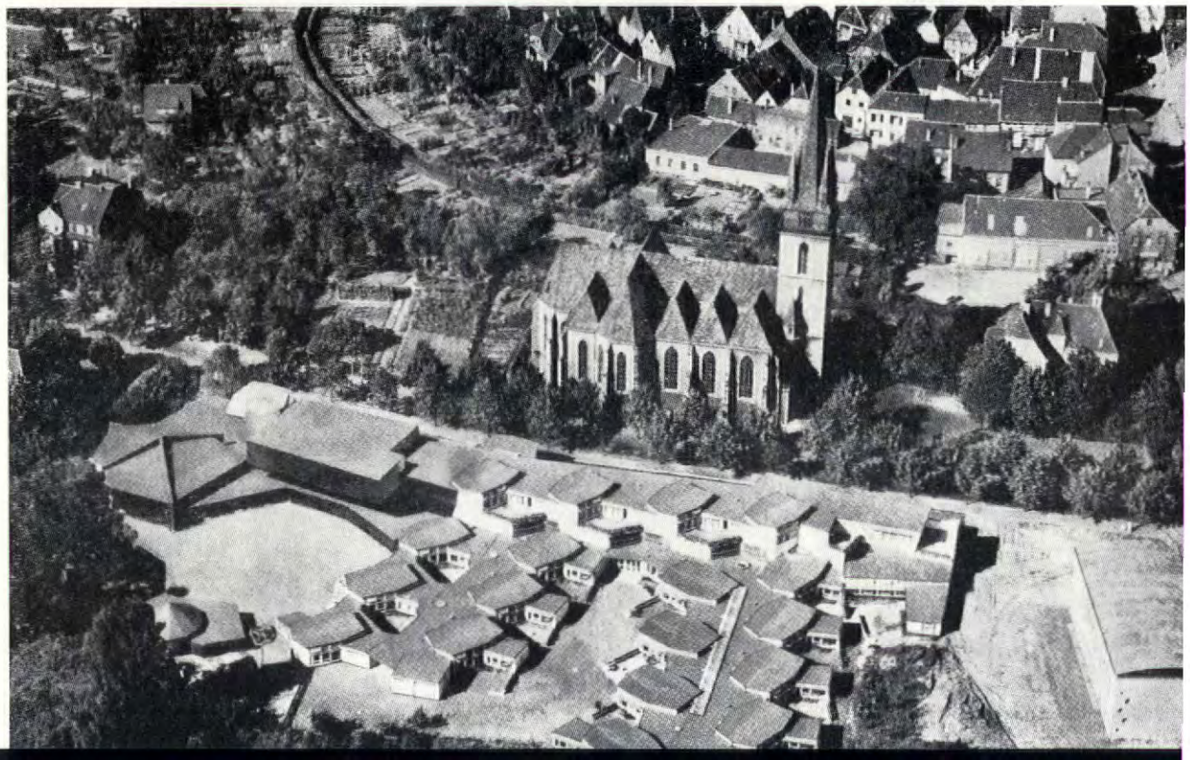


COURTESY "BAUWELT"

BIASED IN GERMANY

Germany's most talked-about new school is this collection of classroom clusters designed by Architect Hans Scharoun for a girls' parochial school in Luenen. The clusters cling to two finger halls (one for lower school, the other for middle school) that branch out from an administration section. Above the administration offices are four upper-school classrooms (plan, above). Scharoun, known for his disinclination to follow the right-angle strictures of modern architecture, tipped the axis of each of the separate classroom units to get maximum sunlight into the courtyards. Strangely, the general effect of this biased arrangement is close harmony with the neighboring cathedral.

END



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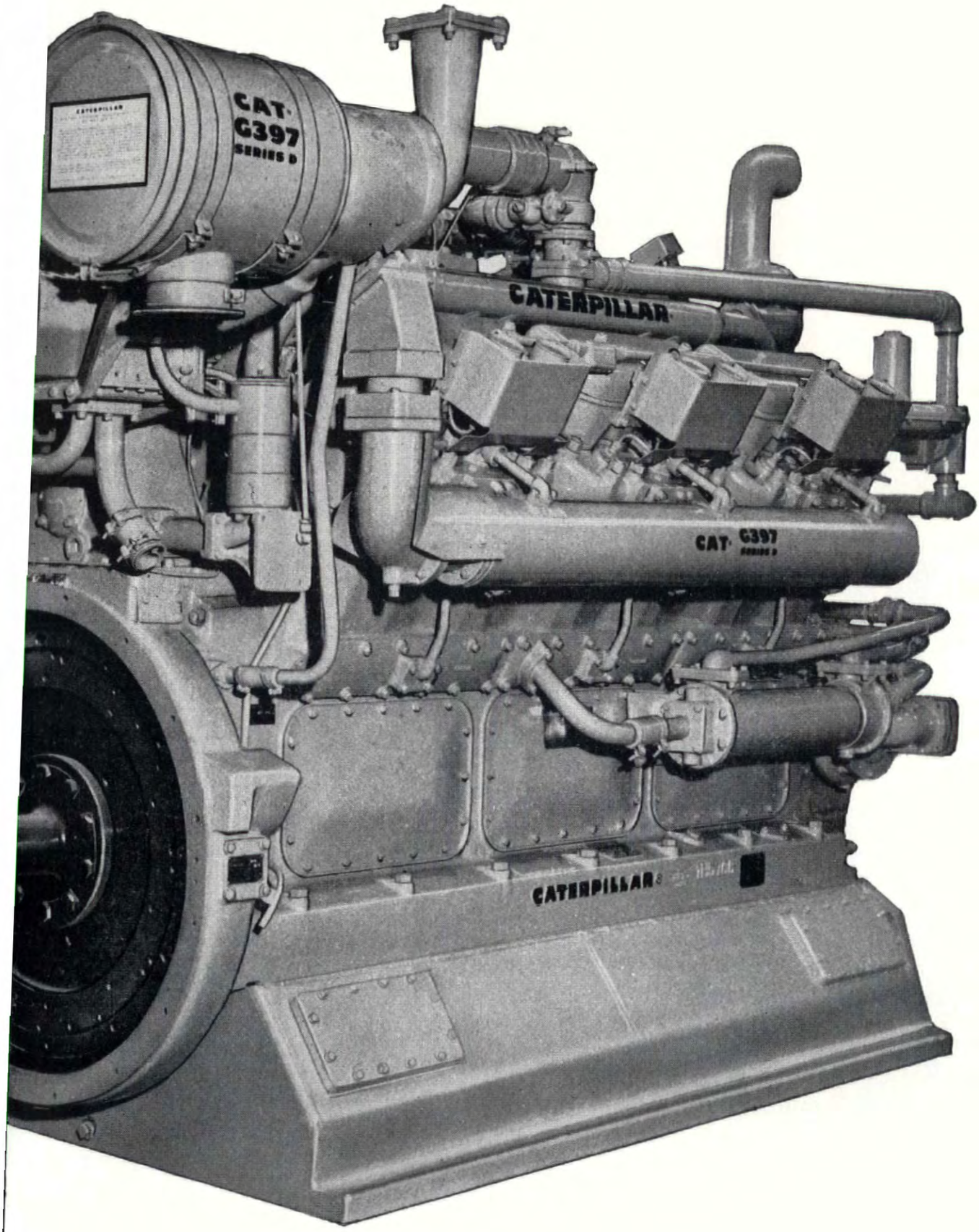
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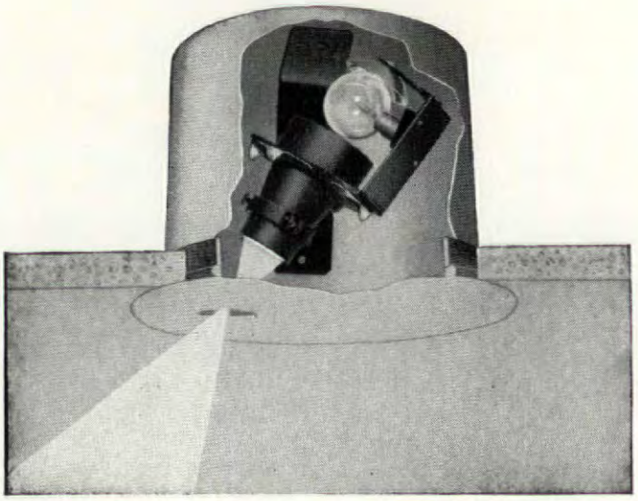

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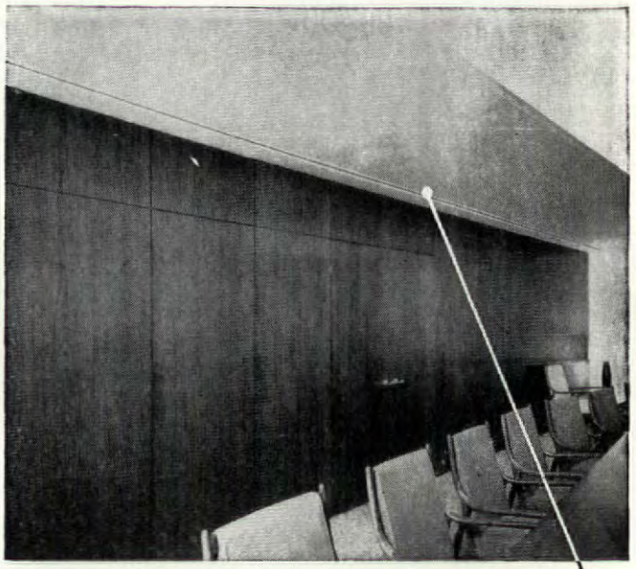

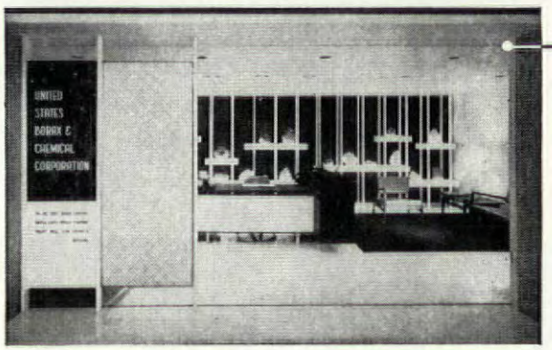

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CERAMIC TILE

PRODUCT DATA

CONSTRUCTION. Made of Romany•Spartan unglazed 1″ x 1″ ceramic tiles which are securely bonded in a flexible rubber grid.

DIMENSIONS. Ceramaflex flooring units are 9″ x 9″ squares...and 7/32″ thick. Each Ceramaflex floor unit is composed of 64 ceramic mosaic tiles approximately 1″ x 1″.

FINISH. The surface of Ceramaflex is sealed at the plant with a protective coating to prevent wearing-in of dirt and grime.

COLORS. Random medley patterns in twelve handsome color combinations.

MEMBER

UNITED STATES CERAMIC TILE COMPANY

Architects find "quality of manufacture" is real key to lowest maintenance

Most people agree that aluminum is the ideal material for windows — it cannot rust, will not warp, swell or stick, and never needs costly painting. Experience, however, shows if lowest maintenance costs are to be realized, the design of the window itself and the care exercised in its manufacture are equally important.

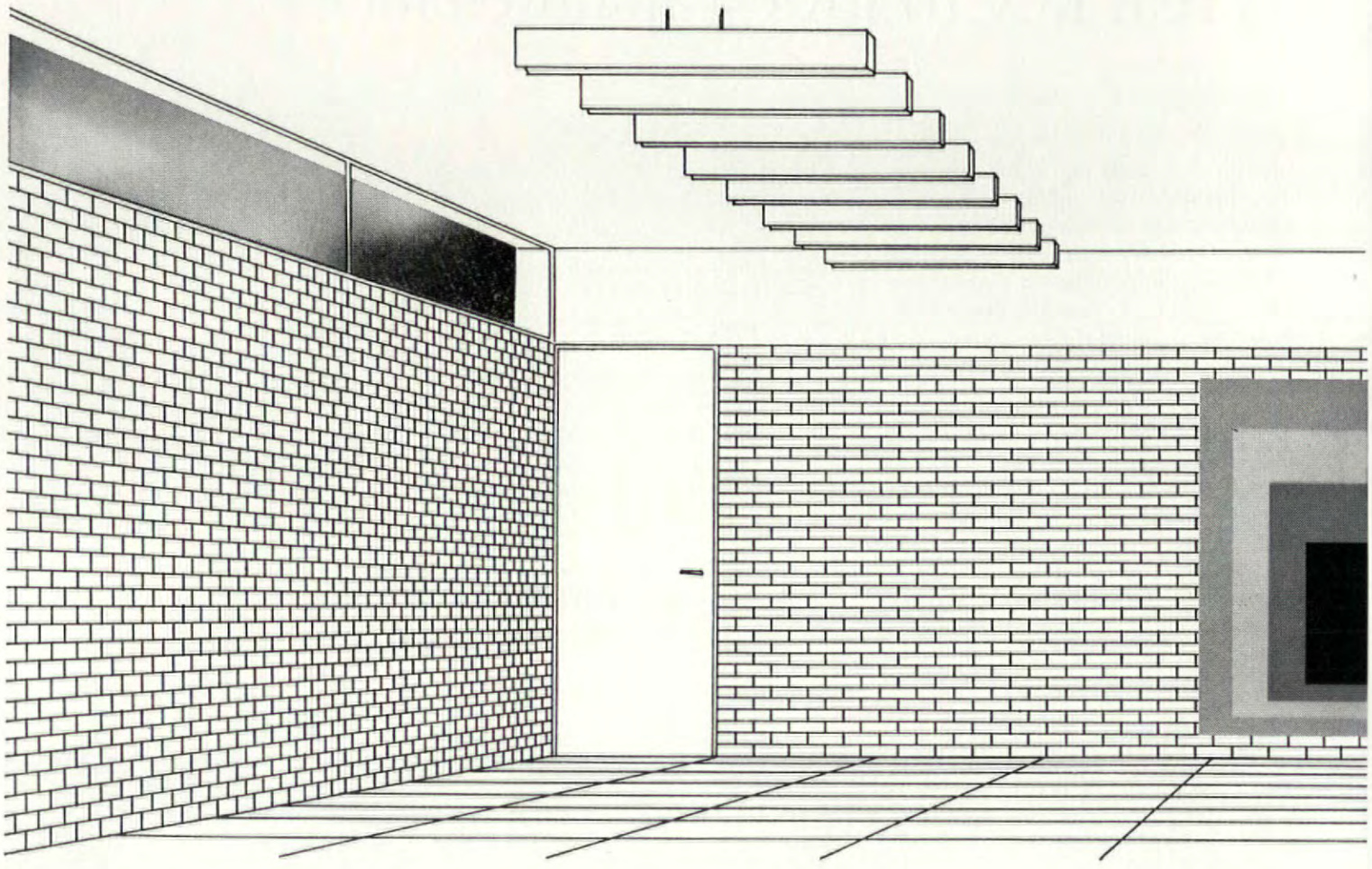
To protect architects, contractors and building owners against unsatisfactory windows, the Aluminum Window Manufacturers Assn. has established quality specifications that carefully spell out the requirements for good quality windows in terms of the metal alloy used, wall thicknesses, strength of sections, size limitations, hardware, protective coatings, as well as performance tests for air infiltration, deflection and other physical load tests.

These standards are the result of many years of hard and diligent work. They reflect the thinking of thousands of architects and contractors, as well as quality-concerned manufacturers. They are not theoretical, maximum standards, but practical and workable minimum standards.

If you want to make sure your clients enjoy all the benefits that good quality aluminum windows have to offer, specify windows that carry the AWMA Quality-Approved seal. It's positive proof of full compliance with these quality standards. For a copy of latest AWMA window specifications, together with the names of AWMA manufacturers and the types of windows they produce, write to Dept. F-611, Aluminum Window Manufacturers Association, 630 Third Avenue, New York 17, N. Y.

Jack Yates Senior High School, Houston, Texas • Architects: Herbert Voelcker & Associates

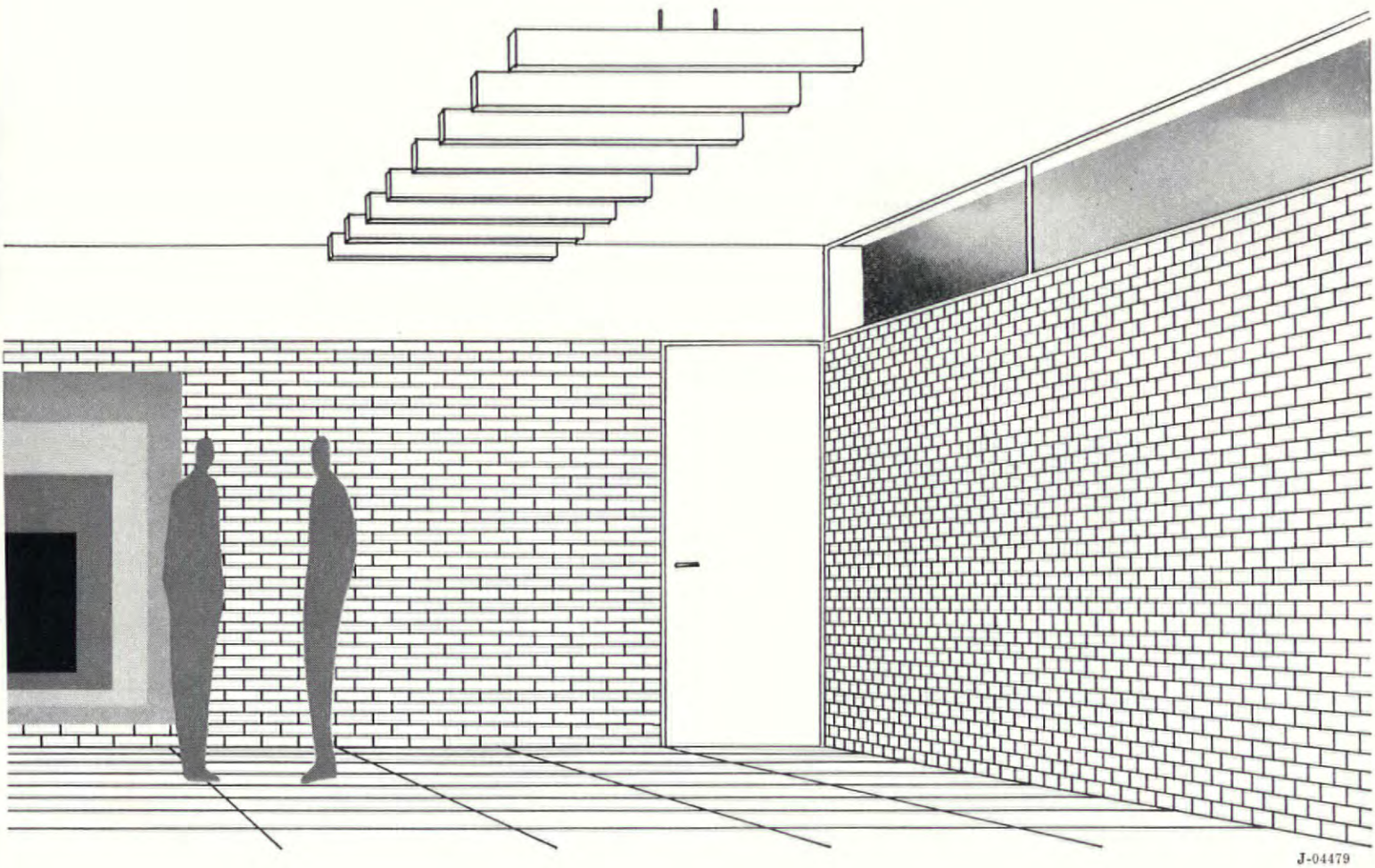
MEMBERS: Adams Engineering Co., Inc., Ojus, Fla.; Albritton Engineering Corp., Bryan, Texas; American Duralite Corp., Loudon, Tenn.; American Metal Window Co., Shreveport, La.; Arnold Altex Aluminum Co., Miami, Fla.; The William Bayley Co., Springfield, Ohio; Capitol Products Corp., Mechanicsburg, Pa.; Ceco Steel Products Corp., Chicago, Ill.; Crossly Window Corp., Miami, Fla.; Fenestra Inc., Detroit, Mich.; Michael Flynn Mfg. Co., Philadelphia, Pa.; Kesko Products, Bristol, Ind.; Mayfair Industries, Inc., Lafayette, La.; Miami Window Corp., Miami, Fla.; Porterfield Industries, Inc., Miami, Fla.; Reynolds Metals Co., Richmond, Va.; Rogers Industries Inc., Detroit, Mich.; The F. C. Russell Co., Columbiana, Ohio; Stanley Building Specialties, North Miami, Fla.; Truscon Div., Republic Steel Corp., Youngstown, Ohio; Valley Metal Products Co., Plainwell, Mich.; Windalume Corp., Kenvil, N. J.; Wisco Inc., Detroit, Mich.



The room: a circulation area. The fixture: new Westinghouse Corvaire.

Planes define a space and the space becomes a room. The room comes to life with light. Westinghouse fixtures

For more information on the Corvaire fixture write for AIA file No. 31-F-23-W1, Westinghouse Electric Corporation,



are the source of that light. They're part of the space, the room, the comfortable feeling of good design.

Lighting Division, Edgewater Park, Cleveland, Ohio.

Westinghouse

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"On Your Staff, Not Your Payroll"

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Write for Free Hillyard A.I.A. Numbered Files
Practical treatment guides with specifications, product information, detailed step-by-step treating instructions.

This service is one more reason why, in specifying treatments for

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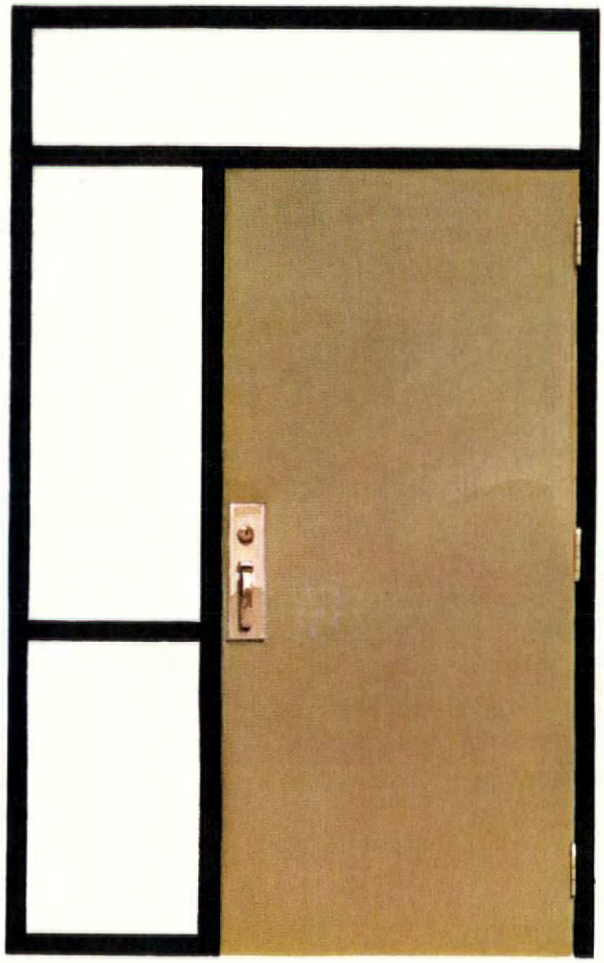
Brand-new colored metal, two-tone and high-fashion hardware. Custom look!



Tremendous variety of borrowed light, transom and sidelight arrangements—all standard!

Doors swing from rugged steel grid core—not face. Heavier gauge steel.

Pre-primed at the factory—ready to paint any color you choose.

IDEAL FOR SCHOOLS, HOSPITALS, DORMITORIES, OFFICES, FACTORIES, APARTMENTS, CHURCHES!

Complete line of Underwriters-labeled doors, frames and hardware!

Compare Fenestra's *new* line of hollow metal doors with any other wood or metal door on any basis of styling, design flexibility or cost

COMPARE THEM WITH WOOD DOORS

Styling. New 1⅜-inch doors match 1¾-inch doors exactly. Seamless, flush appearance. New glass light variations, including Slim Light. And now, the widest range of standard hardware ever offered in metal doors—colored metal, two-tone, and high-fashion hardware that matches in beauty anything available on custom doors.

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Cost. Fenestra doors are offered in a complete package: door, frame and hardware for *one* package price. Pre-primed, they save sizing and priming . . . can be painted any color. Fenestra doors cost less installed than comparable wood doors!

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Styling. Only Fenestra offers Twin-Door full flush styling—such a wide variety of glass-light stylings—so many choices in beautiful hardware. And only Fenestra offers the new 7′ 2″ modular height door as a standard product for cement-block buildings!

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MAKE A COMPLETE COMPARISON

See Sweets File 16b/Fe; call your Fenestra man (he's in the Yellow Pages); or write Fenestra Incorporated, Dept. AF-11, 2296 East Grand Blvd., Detroit 11, Michigan.

New, compact rectangular closer projects only 1⅝″ from face.

NEW! Neater looking 7′ 2″ modular door for cement block buildings—matches courses—reduces labor costs.

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Steel and aluminum curtain-wall systems

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Engineered windows for industrial, institutional and monumental buildings

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Light gauge steel structural systems for floors, roofs, walls, and electrified floors

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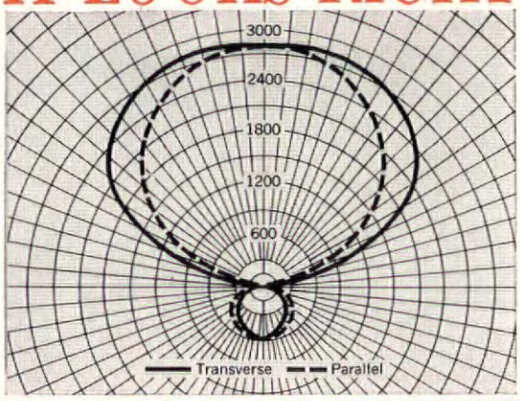
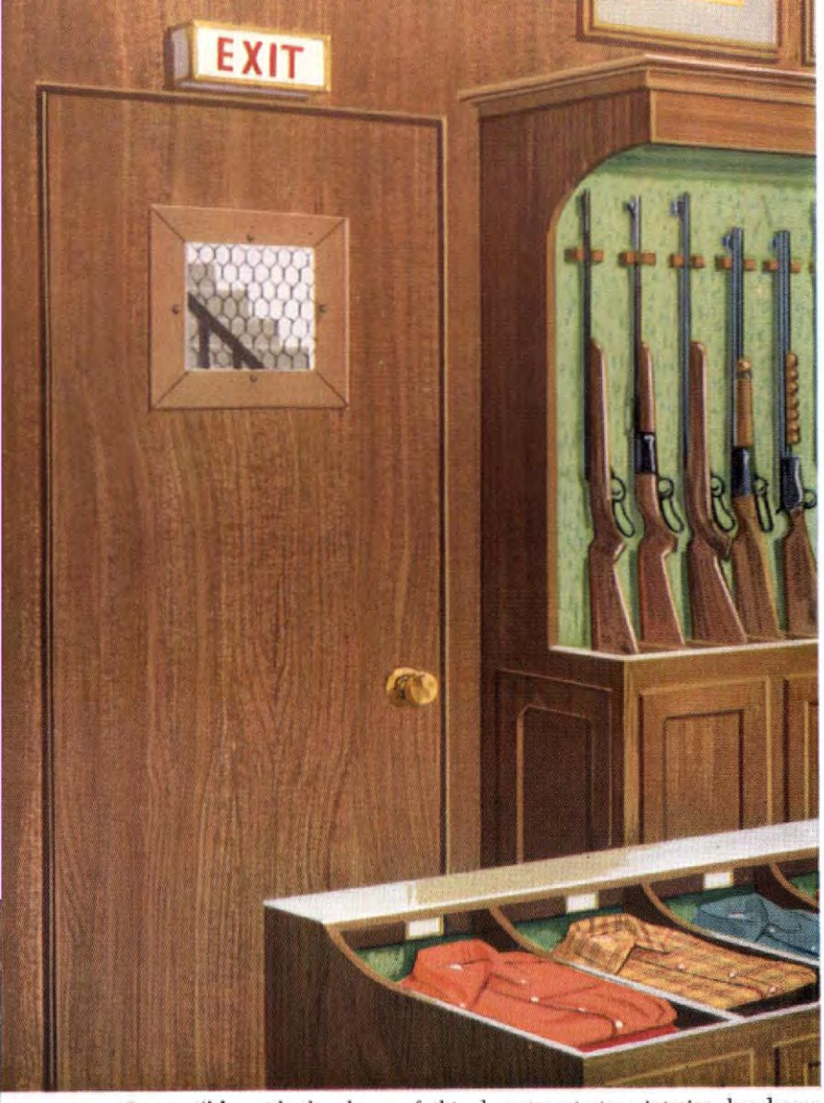


IT LIGHTS RIGHT

IT'S MADE RIGHT WITH EVENGLO®

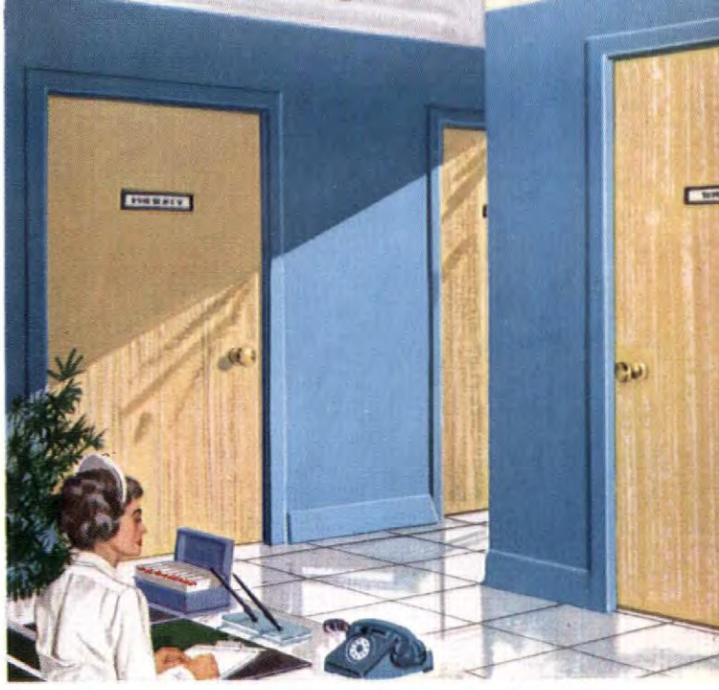
Smoot-Holman's Perfect Vision lighting fixture offers a unique departure in contemporary illumination design. Light controlling panels, made from light-stabilized EVENGLO polystyrene, shield the lamps from view while transmitting an appreciable component of soft, agreeable illumination directly to the working plane. This slender luminaire, with its open construction, offers no obstruction to returning light . . . **It looks right.** The Perfect Vision luminaire is designed for your office, school room, or showroom. Its soft, sight-saving light eliminates the principal causes of glare and eyestrain . . . **It lights right.** The snap-in light controlling panels illustrated are made from light-stabilized EVENGLO polystyrene, a Koppers plastic that's economical, lightweight, and can be extruded or molded in a variety of shapes and colors . . . **It's made right.** Quality lighting fixture manufacturers, like Smoot-Holman, realize that EVENGLO provides them the best material for components. For more information on EVENGLO polystyrene and for a list of manufacturers using EVENGLO in fluorescent fixtures, write to Koppers Company, Inc., Plastics Division, Dept. AF-1100, Pittsburgh 19, Penna. Offices in Principal Cities. In Canada: Dominion Anilines and Chemicals Ltd., Toronto, Ontario.

KOPPERS PLASTICS KOPPERS



Compatible with the decor of this department store interior, handsome wood-faced doors are equally effective in creating an inviting atmosphere for any commercial interior—traditional or contemporary. This walnut-faced door with 10" x 10" light is rated for Class "B" (vertical shaft) openings.

Colorful, durable, maintenance-free Weldwood Custom Royal Fire Doors with Micarta® faces are made for heavy-duty areas. Available for both Class "B" and Class "C" openings, Custom Royal Fire Doors with inert Weldrok® cores assure life-of-the-building protection against warping.



Contrast wood-faced Weldwood® Fire Doors with walls of different materials. These Class "C" (room and corridor) doors are available in new sizes for four-foot-wide, ceiling-high openings, and can be installed with approved pivot-type hinges.

These Weldwood doors close out fire, open new design opportunities to you

Weldwood Fire Doors free you from the rigid design limitations imposed by conventional fire doors. Now you can specify beautiful hardwood or Micarta-faced doors with non-combustible Weldrok cores. Weldwood Fire Doors are supplied with standard or custom finishes and machined to your specifications. Available for all Class "B" and Class "C" openings, Weldwood Fire Doors are a sound investment in low-maintenance beauty, guaranteed* performance, and certified fire protection. They have been tested and rated for fire resistance, heat transmission and structural integrity by Underwriters' Laboratories, Inc., and labeled for all Class "B" and Class "C" openings. Underwriters' labels on these doors assure you of maximum protection from heat transmission, an essential safety factor in fire protection.

***THE WELDWOOD FIRE DOOR GUARANTEE**

United States Plywood unconditionally guarantees the Weldwood Fire Door against warping, twisting, or manufacturing defects for the life of the installation (faces of Custom Royal Doors are guaranteed for two years) when accorded treatment which is considered good practice as far as storage, installation, and maintenance are concerned. If any Weldwood Fire Door fails to meet these standards, United States Plywood will replace it without charge, including all labor costs of hanging and refinishing involved.

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☐ "Weldwood Architectural Doors"—#2127. New 16-page booklet gives specifications, detailed drawings on the full line of Weldwood doors.

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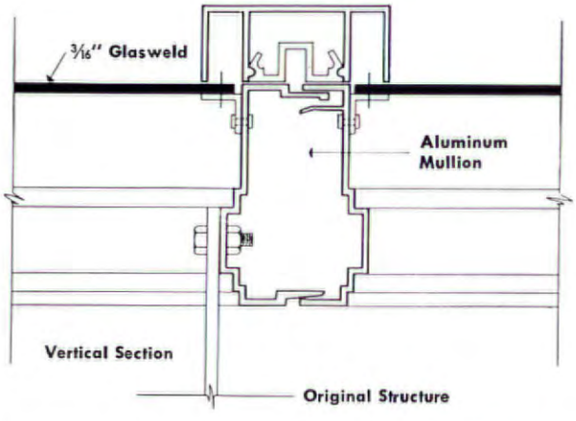
Before Glasweld, Stewart Title Guaranty Company Building, Houston, Texas, was typical of structures built at the turn of the century.

This building hid its age behind curtain walls of colorful Glasweld

Inert, all-mineral building panel lends itself to simple, inexpensive installation methods. Guaranteed color-fast.

Floating curtain wall facade of the remodeled Stewart Title Guaranty Company Building is composed of three 4' x 10' cream Glasweld panels in each channel. Renovation was designed and installed by Architectural Metal Erectors and Brosofske Engineering and Manufacturing Corporation. Consulting Architect: John Freeman, Jr.



Large Weldwood® Glasweld® panels (4' x 10' x 3/16") were mechanically fastened at the edges to aluminum mullions. Glasweld can be cut and machined on the building site with ordinary power tools.

Glasweld by Weldwood proved to be an ideal remodeling material when the Stewart Title Building underwent its recent face-lifting. Stable and strong enough to be installed without reinforcing (see diagram), Glasweld panels do not "oil can" or distort; they help maintain the clean, trim lines called for in the remodeling design.

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You can specify from a wide range of Glasweld panel sizes and thicknesses for both exterior and interior applications. Special colors are also available. Learn Glasweld's full potential for your residential, institutional, and commercial building designs. See our catalog in Sweets, or mail the coupon on the other side of this page.

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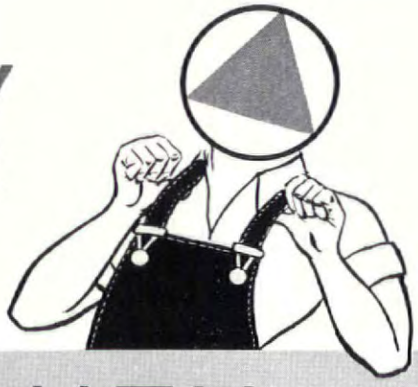
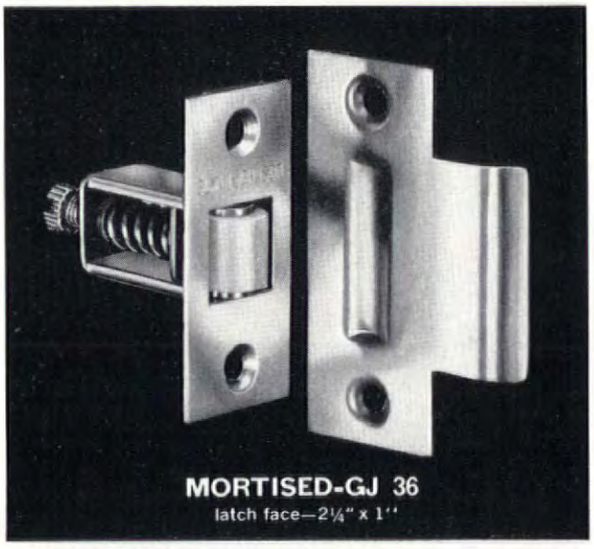
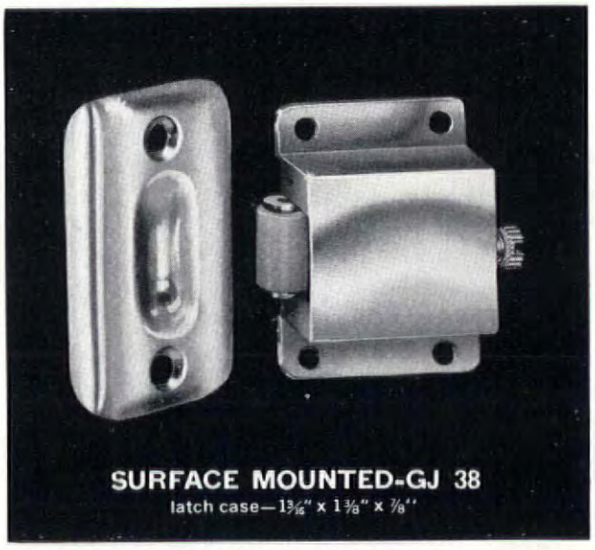
IMPORTANT *NEW* *ARRIVALS* IN THE **GJ** FAMILY...!



LIGHT DUTY
ROLLER LATCHES



MORTISED-GJ 36
latch face—2¼" x 1"



SURFACE MOUNTED-GJ 38
latch case—1⅜" x 1⅜" x ⅞"

FEATURES: economical • small powerful unit • easy-to-adjust latch pressure
stainless steel parts • nylon roller • combination wood and metal screws
quiet latching • no door rattle • available all finishes

FOR HOLDING ANY INTERIOR DOOR CLOSED in LIGHT COMMERCIAL, INSTITUTIONAL and HOME APPLICATIONS

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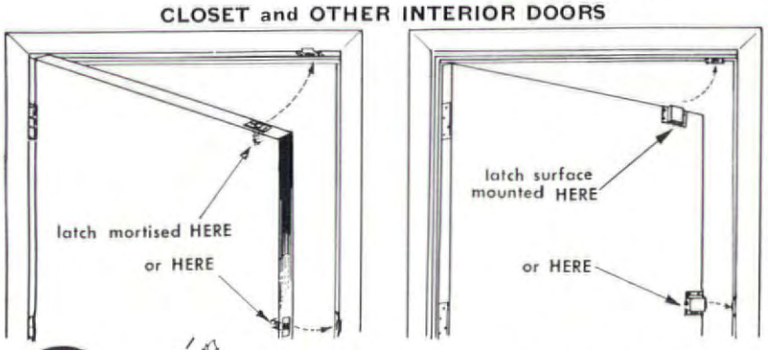
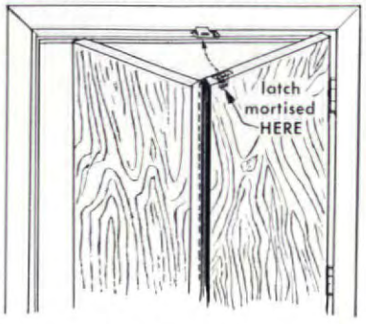


FOLDING DOORS (mortised only)



see functional display at Booth 52 • NBHA convention

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JOHNSON PNEUMATIC CONTROL

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For the modernization program:
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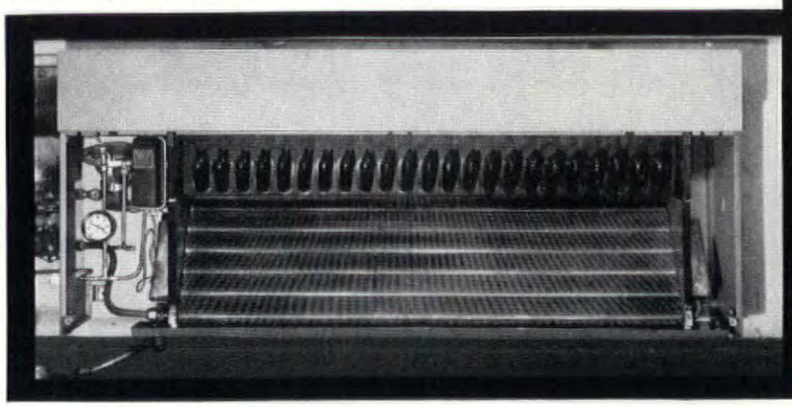
Over 2,000 Johnson thermostats maintain an ideal climate for business. Individual office controls eliminate a major cause of complaints, contribute to tenant satisfaction.

Johnson thermostats and water valves control over 3,100 induction units. These popular valves have an unmatched record of trouble-free service in such installations. The air gauge simplifies thermostat calibration, allows thermostat and valve operation to be checked at a glance.



Johnson 3-way mixing valves and by-pass valves can be serviced without removal, an exclusive Johnson feature that cuts service time over 50%. They also permit simple straightaway piping hookups for faster installation.

...assures ideal comfort, lowest lifetime costs

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As one of Chicago's top-rated buildings, the Kemper Insurance Building (formerly the Civic Opera Building) demanded air conditioning controls that would meet the very highest comfort standards. For economy, thrifty planners wisely also insisted on reliable, trouble-free controls.

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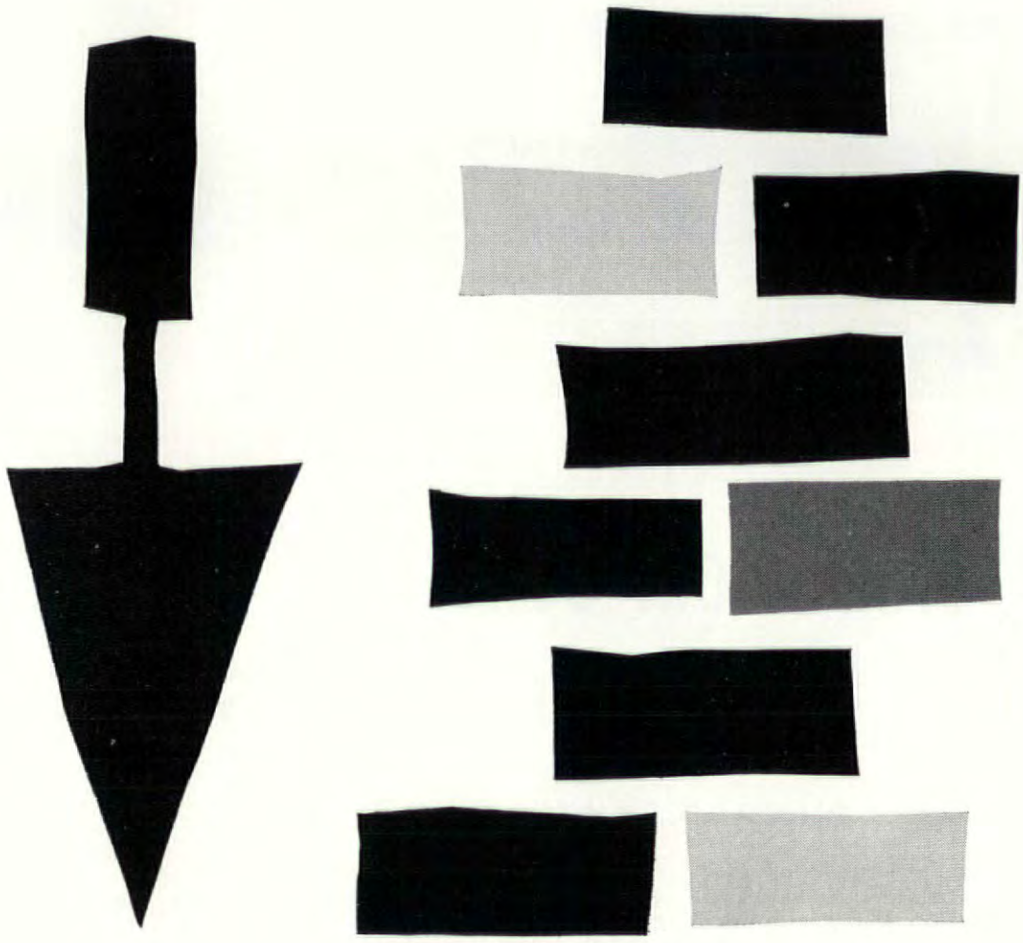
PNEUMATIC SYSTEMS

DESIGN • MANUFACTURE • INSTALLATION • SINCE 1885



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Prefabricated in modular units . . .

installed quickly and easily

Light and bright inside, yet no glare . . . thanks to Thinli

Only Thinlite curtain wall gives design freedom plus daylight control . . . with weather-tight permanence

THINLITE OFFERS the architect an almost infinite variety of design possibilities for any building being planned. In modular units, Thinlite panels are readily available in solid colors or with individual color tiles positioned in each panel according to your specifications.

In addition to the design freedom which Thinlite offers, you are assured of maximum daylight control, for "solar-selecting" Thinlite tiles cut glare and radiant heat, while directing diffused daylight to interior areas.

And, important in curtain wall construction, Thinlite is weather-tight due to its Neoprene gasketing system. Thinlite requires little maintenance, provides a permanent, beautiful exterior surface.

For your free brochure about Thinlite just write to Kimble Glass, subsidiary o Owens-Illinois, Toledo 1, Ohio.

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Men who know their hardware choose NORTON
and the new Series 1500 Trimline closer

"because the Trimline offers complete design harmony and flexibility"

says

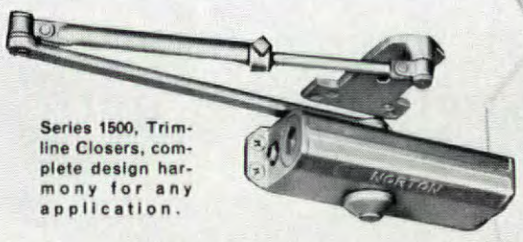
ALDEN C. DUDLEY, A. H. C.

DUDLEY HARDWARE COMPANY

"For the nation's first automated post office I recommended Norton's new Trimline Closer because the Trimline offers complete design harmony and flexibility. On an outstanding building like this, the door closers had to be styled to compliment the building's decor and be flexible enough to be installed in all locations."

This first automated U.S. Post Office is housed in a building as progressive in its architecture as it is in purpose. Mr. Dudley specified the new Trimline from Norton's complete line of door closers. He chose an outstanding door closer for this outstanding project.

Your builder's hardware man is a good man to know. He makes important contributions to the building industry. This specialist will assure you that your hardware will be completely compatible with your building's design and function.



Series 1500, Trimline Closers, complete design harmony for any application.

U. S. Post Office, Providence, Rhode Island
Operated by: Intelex Systems, Inc.
Architect: Charles A. Maguire & Assoc., Providence, Rhode Island
Contractor: Gilbane Building Company, Providence, Rhode Island
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DOOR CLOSERS
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1017

2' x 2' control lenses of PLEXIGLAS *mounted in pairs, County of Sonoma office building, office of Superintendent of Schools, Santa Rosa, California • Architects: Steel & Van Dyke, Santa Rosa*

Plexiglas...for lighting that stands out and stands up

"Illumination of the highest quality." This is the phrase that describes installations of lighting equipment which includes control lenses molded of PLEXIGLAS® acrylic plastic.

Lenses of PLEXIGLAS provide freedom from glare at any normal viewing angle, because they are precisely designed optical elements that "bend" light rays. And the crystal clarity of PLEXIGLAS assures full utilization of light, with complete visual comfort.

In addition, PLEXIGLAS lenses remain free of discoloration even after years of exposure to fluorescent light. They are strong and rigid yet light in weight, resulting in safety overhead and ease of maintenance.

We will be pleased to send you the names of equipment manufacturers who use PLEXIGLAS lenses, and a copy of our bulletin "PLEXIGLAS for Lighting," which contains full details on the use of this quality lighting material.

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PLEXIGLAS

"CERAMIC TILE...A DURABLE MATERIAL ...A DECORATIVE EXTERIOR COVERING"

KAHN & JACOBS

P.G.B.

Design project: a commercial office building entrance. The designers: the New York architectural firm of Kahn & Jacobs. Here's another vivid reflection of architectural awareness of ceramic tile's growing role: for beautiful exterior walls, distinctive floors, colorful spandrels.

Ageless ceramic tile will enhance any commercial or institutional project you may have on the boards. And it will pay its way over the years for your clients with savings on maintenance.

THE MODERN STYLE IS . . .

The masters . . . the squeeze . . . the metro

THE MASTER BUILDERS: LE CORBUSIER, MIES VAN DER ROHE, FRANK LLOYD WRIGHT. By Peter Blake. Published by Alfred A. Knopf, 501 Madison Ave., New York, N.Y. 399 pp. 7″ x 10″. Illus. $6.50.

We have heard so often that the artist is the interpreter—when he is not the victim—of social and economic forces that it is refreshing to spend a few evenings with Peter Blake's *The Master Builders*, which describes three titans: Le Corbusier, Mies van der Rohe, and Frank Lloyd Wright, who did not merely reflect, but *created* what centuries forward will say was the spirit of our times.

Picture the surface of the world in 1900; contrast it to the sixties. Are the colossal differences in building merely imprints made by social, economic, and political events, or are they, in some measure, the images fashioned by poets, painters, sculptors, photographers, and architects?

It is Peter Blake's thesis that no cataclysm of social forces could have created Ronchamp, 860, or Falling Water. Their architects were artists, whose function is to declare the myths of our time. Manipulating space and mass and plane, guiding motion and light, they organized these elements so that inert stone or steel became invested with urgency, charged with a reality that commonplace events never achieve. Art hallows, dignifies, dramatizes, even sanctifies: so that a knoll in Wisconsin becomes unforgettable; so that a plain in India ennobles a political destiny; so that a Barcelona chair makes sitting more elegant; so that social justice for the martyred Karl Liebknecht and Rosa Luxembourg resounds from a massive brick wall that an artist, Mies, imagined.

Moreover, Peter Blake sketches his Olympian picture deftly. We see a derby-hatted Le Corbusier bicycling over Montparnasse; we are led to the decaying Villa Savoye, now a horse's stable; we watch Corbu gaining through his painting and sculpture a plastic sense of form; and we marvel as such forms emerge on the roof terrace at Poissy, then in the dramatic roof at Marseilles, then alight and stand alone on the earth at Ronchamp. We climb the steel and travertine staircase of the Chicago Arts Club at noon with Mies, follow his relentless quest for an elegance whose order is structural, remark—for the hundredth time!—how fresh and spirited is the Barcelona Pavilion, and gaze at the Seagram building, hearing Mies say (neither more nor less): "We should refine what is known." And Wright (who among us knew a world without him?) whittling his pencil sharp, to ensnare lunges and pirouettes of space that a streak of sunlight might play with. These are warm and sympathetic portraits, personal tributes to heroes.

Indeed, over all there stands the Carlylean idea that these heroes knew their destiny from their youth, drove toward it stubbornly and alone, resisting a society that neither heeded nor wanted them. For an age that needs to be reminded about heroic loneliness and defiance, this kick to mediocrity and conformity is strong. It does not diminish its force to be reminded that Wright, no less than Richardson, was greatly acclaimed in his own day, that Mies built more in the U.S. in 20 years than he did in Europe, that Le Corbusier long had champions—in the polemicist-historian, Giedion, in the educator-critic, Walter Gropius; and the contributions Amedée Ozenfant made early, and André Wogensky made recently, to Le Corbusier suggest that the heroes enjoyed a planetary surround of inspiration, if not collaboration. Still, only the stars shed light.

Then, too, Peter Blake marvelously assumes a stance which many readers may wish to shake, though none should resent: that great buildings have several lives—an early one where people care whether they perform mundane tasks; a second, where everyone has forgotten whether a building was economical or comfortable but measures it as a work of art; and a third, coming much later, when the building achieves the grace of antiquity and endears itself solely for that fact. It is Life Two that intrigues Peter Blake. His tributes to the three artists ignore the difficulties in using Miesian universal space, the procrustean confinements of Le Corbusier, the tyrannical formalisms of the later Wright. The measure is sculptural. Each master, a mature artist, is applauded because he made architecture become a play of masses, of spaces—or forms in light. The chapters (The Mastery of Form, The Mastery of Structure, The Mastery of Space) are biographies of plastic ideas.

The tribute closes with a plea: that we now have received a vocabulary for the architecture of our time; that the acceptance of the revolutionary images declares that the time for individually heroic buildings is over; that now and for the future an army of competent workers must win the new battle, for the city. It is a serious thesis, a prospect that concludes an engaging and inspiring tale of leadership—as vividly told in the text as it is made believable by the illustrations.

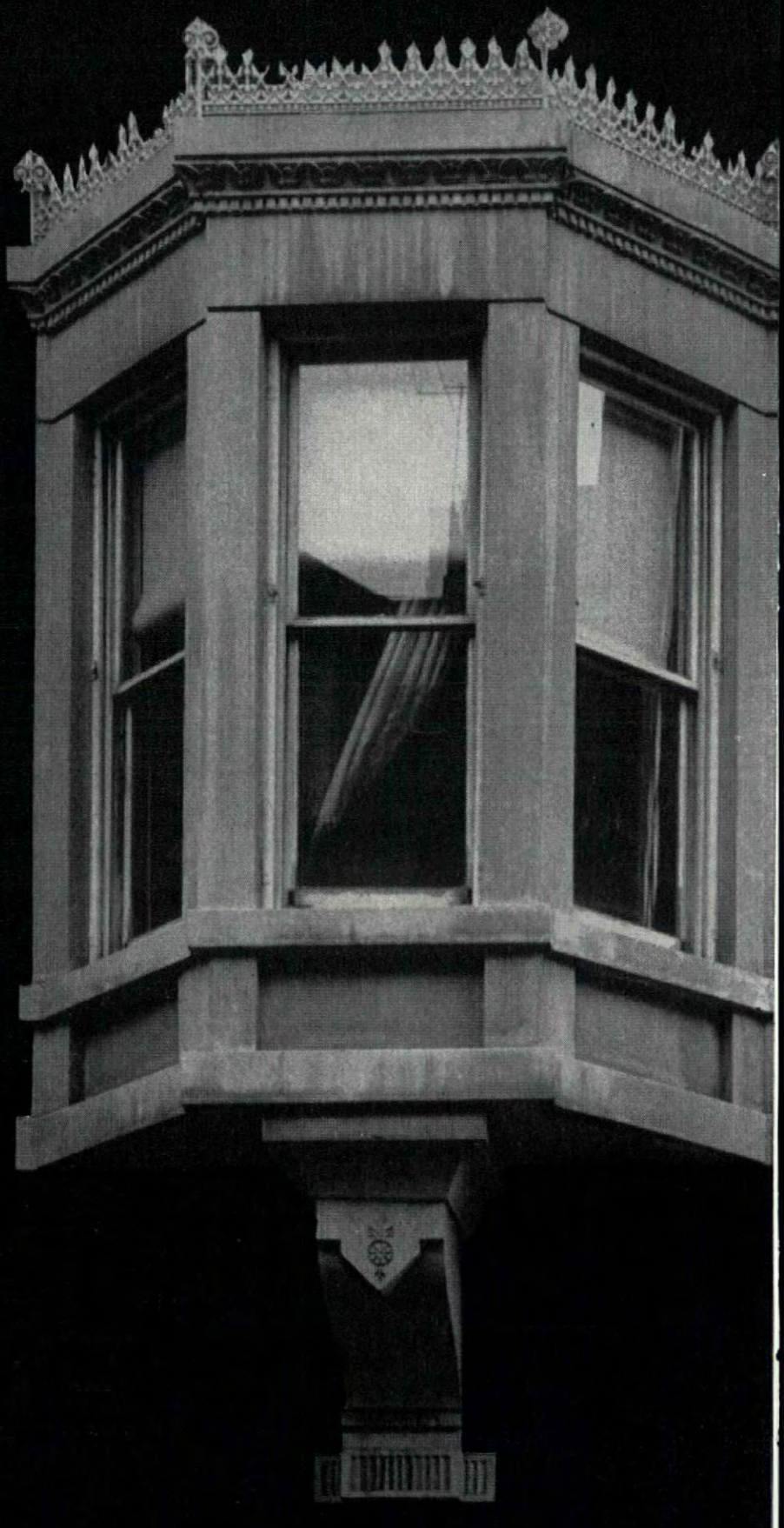
—Albert Bush-Brown

THE SQUEEZE. By Edward Higbee. Published by William Morrow & Co., 425 Park Ave. S., New York 16, N.Y. 348 pp. 8½″ x 6″. $5.95.

This is about the best New Year's present that could be given to a friend or

continued on page 136

WHY FORUM IS ADDING A SECTION



ON REBUILDING

10 years ago, when urban renewal was little more than a strange new phrase creeping into the vocabulary of a few far-sighted pioneers, FORUM began devoting editorial attention to that subject. Since 1954, city planning stories have been a regular editorial feature of this magazine.

As a result, FORUM readers have become the best informed audience on the now commonplace topic of urban renewal—and FORUM has become recognized as an authority in this important field of building construction.

In the past few years, FORUM's editors have been paying increasing attention to another vital new development on building's horizon: Rebuilding.

In addition to publishing occasional articles on modernization and renovation, FORUM has devoted several entire issues to the subject—most recently in January, 1960.

Now, beginning with the February, 1961 issue, FORUM's editors plan to create a regular monthly department devoted to Rebuilding.

There are several important reasons why they feel impelled to do this:

- Rebuilding is a big and growing part of total building construction. In fact, it's a multi-billion dollar industry in itself—and accounts for one out of every three building construction dollars.
- The reporting of Rebuilding has been largely neglected in the past, with FORUM virtually alone giving it important editorial treatment.
- The scope of Rebuilding will be especially great in cities, as FORUM's city studies have revealed. Big renewal projects on razed sites are proving too expensive to meet all the vast requirements of cities.
- The architecture of Rebuilding has become an art of itself, centered as it is around continuity of existing space.
- The business of Rebuilding is essentially different from that of new building. In it, the client is probably an even more important figure than he is in new construction.
- The technology of Rebuilding is, necessarily, quite different from that of new building.

It is FORUM's belief that this new monthly section will benefit *all* its readers by keeping this important phase of building construction in sharp, consistent focus.

Douglas Haskell
Editor

FORUM

Architectural Forum the magazine of building published by Time Inc.

neighbor who has finally become concerned for his environment. Written in popular, anecdotal style, *The Squeeze* surveys the entire nation-wide scene of communities bursting their natural bounds, and officials helpless to do anything about them.

Despite Author Higbee's qualifications as a geographer and agronomist, the book is quite "unprofessional." That is, it grinds no special axes. In fact, the reader will surely be left wondering after finishing the book Who can do What about the environmental collapse that is here so tellingly portrayed in terms of its urban, suburban, and rural consequences.

This lack is not because Author Higbee does not have opinions. Indeed, he comes out wittily and strongly against highways, do-gooders, Robert Moses, the FHA, General Motors, air pollution, and economic confusion. And he is firmly for railroads, Richard Dilworth, schools, trees, and metropolitan government. Perhaps the least generalized and most acute point that he makes for the possible salvation of the straitened environment is that capital gains accruing from the sale of property (particularly property that has increased in value because of community growth pressures) should go to the community and not to the federal government. With these funds, he argues, advanced land planning and purchasing could be financed.

Yes, but how is this to be politically managed? And precisely how is a civilization based on, among other things, privately held land values going to change so as to allow the kind of omnipotent metropolitan government that he has in mind?

These are vital questions that lie beyond the scope of Higbee's furious intent.

MIAMI METRO. The Road to Urban Unity. By Rehinhold P. Wolff. Published by the University of Miami Press, Coral Gables, Fla. 203 pp. 6" x 9". Hard cover $6; soft cover $4.50.

If the unique Dade County experiment in areawide government—popularly called Metro—is to be the pattern for the future, then the *Road to Urban Unity* which Dr. Wolff writes of may well lie just the other side of a dismal swamp of urban disunity. For Dade County's metropolitan government (including Miami), which was passed by the voters about 3½ years ago, came about largely because of the tremendous suburban and urban scatteration in a wide area, creating demands for governmental services which could be met only by some such centralizing agency as Metro. But, if this pattern sounds unlike urban growth in many of the great metropolitan areas of the U.S., there are still key analogies to be drawn. Dr. Wolff points out that "The significance of the Miami case for other cities appears to lie in the similarity of the fundamental political, social, and economic forces which affect them all and which drive them irresistibly toward municipal coordination, and possibly centralization."

Dr. Wolff's study is indispensable for a thorough understanding of the forces that are molding the modern city, and the forces that are trying to tear it apart. It is part of a larger study, financed in part by the Ford Foundation, of a special study committee of the University of Miami, and represents only the "economic and ecological phases" of the movement toward centralized areawide government.

LE CORBUSIER 1910-1960. Edited by Boesiger & Gisberger. Published by George Wittenborn, New York 3, N.Y. 334 pp. 9¼" x 11¼". Illus. $15.

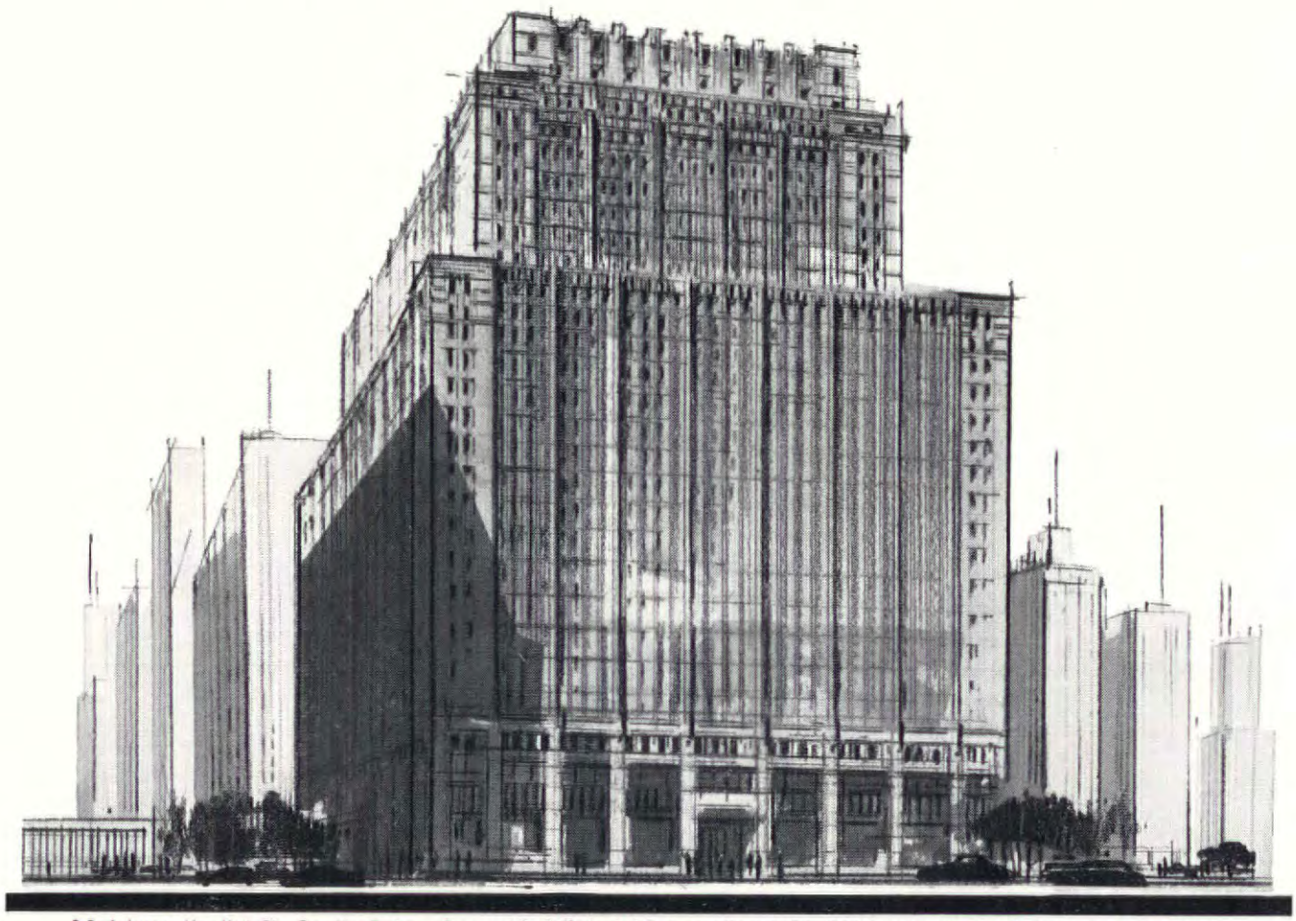
CREATION IS A PATIENT SEARCH. A Self-Portrait. By Le Corbusier. Published by Frederick A. Praeger, Inc., 64 University Place, New York 21, N.Y. 312 pp. 9" x 11¼". Illus. $15.

Two excellent books on the work of the man who is probably the greatest living architect—Le Corbusier—have appeared just in time to set the stage for this year's rumored award of the A.I.A. Gold Medal to him. The first of these books, a summary of his work between 1910 and 1960, is really a compendium of the six volumes faithfully produced by the Swiss architect, Willy Boesiger, over the years. Although this is a handier book than the six separate volumes, one misses some of the delightful, if less important, sketches and phrases produced by this prolific man.

The second book, a "self-portrait" consisting of his drawings, paintings, projects, and completed buildings, duplicates the first book in many ways. However, by treating Le Corbusier's work in terms of underlying themes and principles (rather than chronologically), this is a more interesting volume. Moreover, it contains some material not widely published before now—such as early sketches by Le Corbusier at the art school at La Chaux-de-Fonds, as well as a number of paintings (in excellent color), tapestries, and pieces of scultpure. The reason this sort of compilation is more valuable than a straight chronology is that the huge body of Le Corbusier's work has a strong consistency, a search for certain, important solutions, an emphasis on a few major themes. Almost everything produced by this man over the past 50 years bears a more or less direct relationship to the central problems of a mass civilization, and it is enormously impressive to see the almost religious single-mindedness of this great architect over a long period full of temporary distractions.

The controveries over Le Corbusier's work have largely subsided. The only question that remains is whether mankind will learn his lessons before the countryside is engulfed by suburban sprawl, and cities are strangled by the suburbs. Yet, even if the world's cities should decay and modern culture with them, it will be some consolation to know that Western civilization, in its last gasps, did produce at least one, great, universal man of art and of vision. END

Climate by Chrysler



2 Park Avenue, New York City. Consulting Engineers: Sears and Kopf; Mechanical Contractor: Kennedy-Scheidel-Young, Inc.; Electrical Contractor: Theodore Kaish, Inc.

Chrysler Air Conditioning tailored to tenant needs installed a floor at a time in 27-story building

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Ignorant architects . . . mass transit . . . tall towers

CROSBY TILTS AT ARCHITECTS

One-time TV Critic John Crosby, now pursuing culture at large, went off after architecture in a recent "New York Herald Tribune" column.

Architects are generally pleasant fellows, who know a lot about history, art, sociology, mathematics, engineering, and also the price of cement and pipe. The one thing they know little about is architecture and you must watch them closely when building is discussed because that isn't their dish of tea at all.

TRANSIT LOOKS FOR BACKERS

In a speech before the Southern Research Institute, the specific mass transportation needs of tomorrow's city were outlined by Mr. Walter Douglas, designer of San Francisco's rapid transit plan.

Because of inherent limitations in schedule reliability, passenger comfort, and terminal convenience of a regional bus system, it is quite likely that in most major metropolitan areas, a new kind of a rapid transit system will be required to restore and sustain free-flowing circulation. This is the only facility that can penetrate to the heart of a city without pre-empting a high proportion of the very area it would be designed to serve.

Such rapid transit will not, however, take the form of the traditional urban subway and elevated systems which are familiar to New York, Philadelphia, Boston, and Chicago. Its service will not be limited to a tightly packed city core, but will extend along the region's main transportation arteries to intercept at appropriate parking-lot stations the private motor vehicles which would otherwise continue into the zones of congestion. Within the major metropolitan complex, regional rapid transit will be designed to connect the dispersed residential areas with the centers of commerce and industry. It will be conceived of as one component of an over-all transportation system to function effectively with the major urban arterial highways, and specifically to intercept and serve the highly concentrated flow of commuters, who are the source of most of metropolitan traffic congestion.

In France, a consortium of major industries and banks has constructed, and is now testing, full-sized cars which are suspended from rubber-tired trucks which run within a split structural girder overhead. This is a serious proposal backed by substantial engineering skill and money.

However, the amount of money that has been expended up to this time for research on modern rapid transit is trivial, compared to that invested in research in other industries. Just the other day, for instance, I read that $50 million was spent last year by the aircraft industry for research on the single problem of suppression of noise of jet aircraft. I could not help wondering what advances might be made in rapid transit if research for its improvement were pushed as vigorously.

Be that as it may, simply in the light of today's technology, it is certain that superior equipment will be available which will be able to achieve safe speeds up to 70 miles per hour. Train controls will be available, at a cost comparable to that for conventional signal systems, which will provide fully automatic operation, with no attendants other than a single operator at the head of a train to override automatic controls in case of an emergency. Such automation will, of course, require a major electronic computer. This computer will be available for another job—automatic fare collection on a credit basis. Thus, the regular patron will be offered credit for rapid transit service, just as he is offered credit by all other public utilities. He may, if he elects, simply receive a bill at the end of each month.

There is every promise, then, of speed, comfort, convenience, and automation. I could only wish that prospects of successful financing were equally promising.

STREETS VS. ROADS

It is only by unscrambling these two antagonists, James Marston Fitch argues, that our cities can be made sane. Professor Fitch's thesis appeared in the Columbia University "Forum."

Part of the American mismanagement of the city is due to our persistent inability to see the difference between the street and the road. Our long exploitative experience with land as a commodity leads us to act as if every country lane were destined ultimately to become a profitable city street. Many have, of course; and this very process has served to conceal the essential difference between the two. For a road, properly speaking, is for moving people and goods from where they are to where they want to get to, while a street, properly speaking, is for people who are already where they want to be. Thus the road can be almost indefinitely widened or extended. Since transport is

continued on page 140

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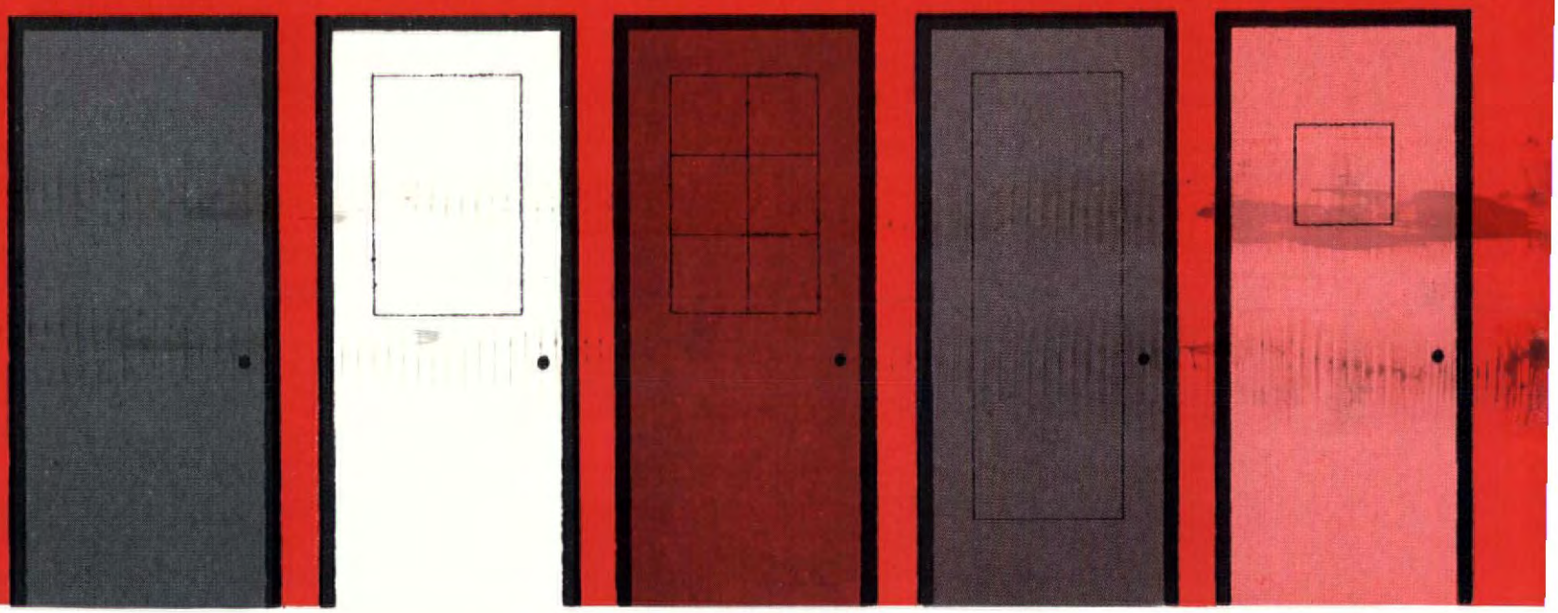

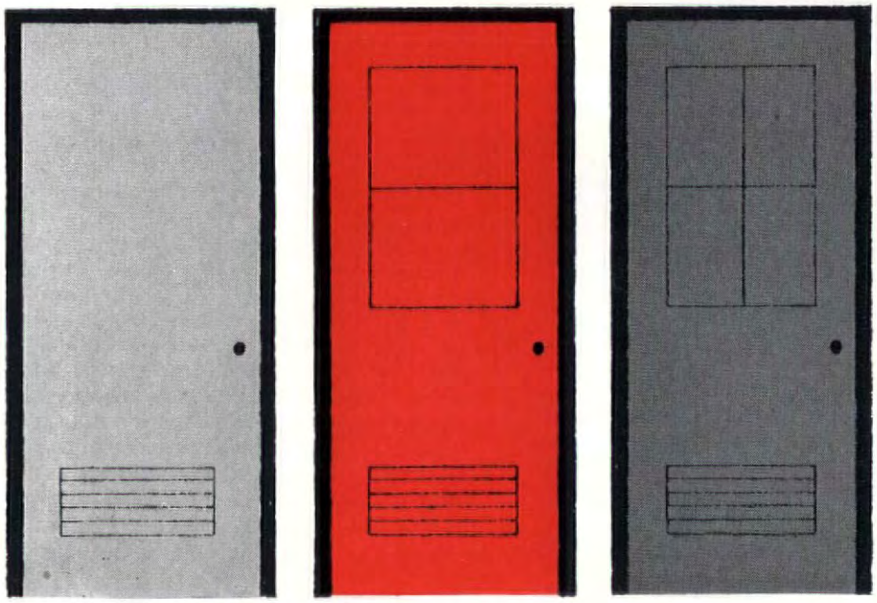

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its only function, it can be designed to accept any type of vehicle, in any quantity, moving at any rate of speed. But a city street, to be successful, must meet the incomparably more subtle assignment of facilitating commerce in ideas and goods. It is therefore primarily a pedestrian facility and must be designed to the walker's scale in time and space.

Of course, the foot has always had to share the street with the wheel, and competition between the two is not new. Already in Cicero's Rome, wheeled traffic was so heavy on the main thoroughfares that it was restricted by law to late night hours (much to the annoyance of the tenants of the apartment houses on either side). This conflict has steadily sharpened, especially since the Industrial Revolution. Only Venice, with her unique separation of water-borne transport from all pedestrian traffic, has escaped; and it is to Venice that one must go today to comprehend how wonderful a space is a street without any wheels.

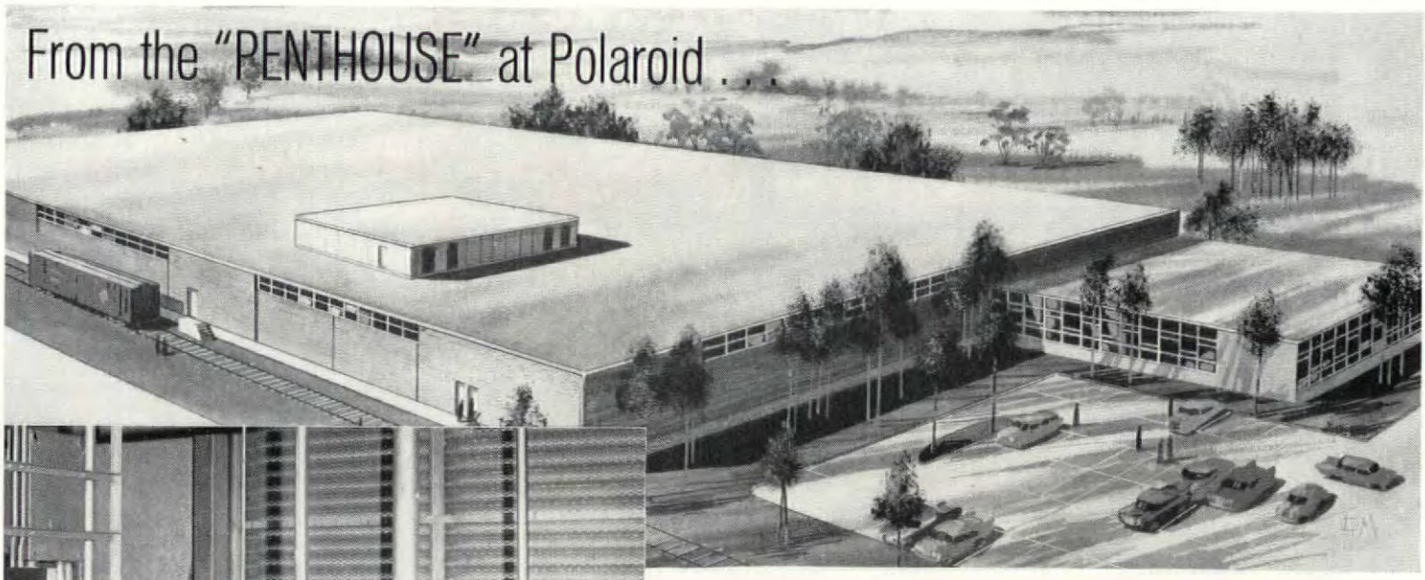
STRANGE SKYSCRAPERS

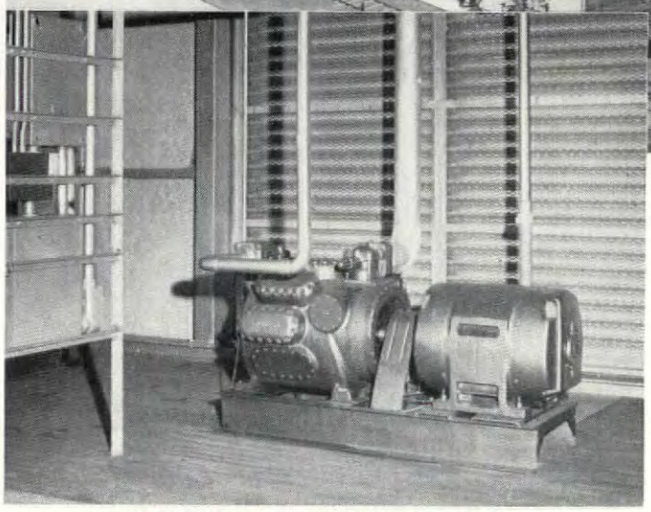
An explanation of the psychological blocks existing between European architects and tall buildings was offered by British Critic Reyner Banham, writing in "Horizon."

No European architect is free, in his own mind, to proceed as if history and civic traditions did not exist. He can consciously acquiesce, he can consciously modify, he can consciously defy them. Once it enters his mind that the building he is designing is in any way a skyscraper, he knows that he is introducing a foreign concept into his native scene; and he can never design it in the frame of mind in which he designs a house, a church, a bridge, or even a tall building of a different form, such as a television tower or a big slab of flats like Le Corbusier's Unité d'Habitation at Marseilles.

The European skyscraper is a stranger in the land, and it will still be a stranger even after it outnumbers other types of urban buildings, as it probably will in great commercial centers. Its acceptance depends, and will still depend long after the contrary has been proved in experience, on its symbolic power as a sign of a new and better order of life. Architects will, for a long time, approach the thing itself with enthusiasm, its consequences with suspicion. These opposing pulls may paralyze creative thinking, or they may stimulate it; and the evidence of Velasca, Eastbourne Terrace, Phoenix-Rheinrohr, and a half-dozen others, is that it may yet stimulate European architects to make a significant and original contribution to the architecture of tall buildings. They may also have a lesson to teach American architects, now that skyscrapers like the Flatiron building are attaining the Williamsburg status of monuments of national culture. END

From the "PENTHOUSE" at Polaroid . . .





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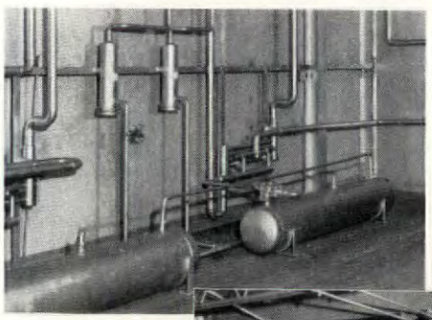

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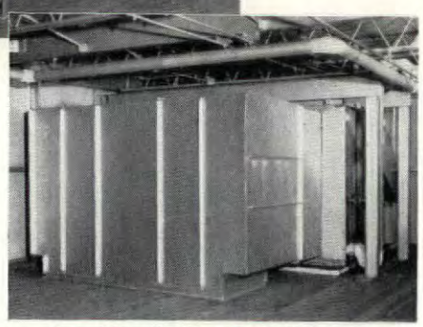

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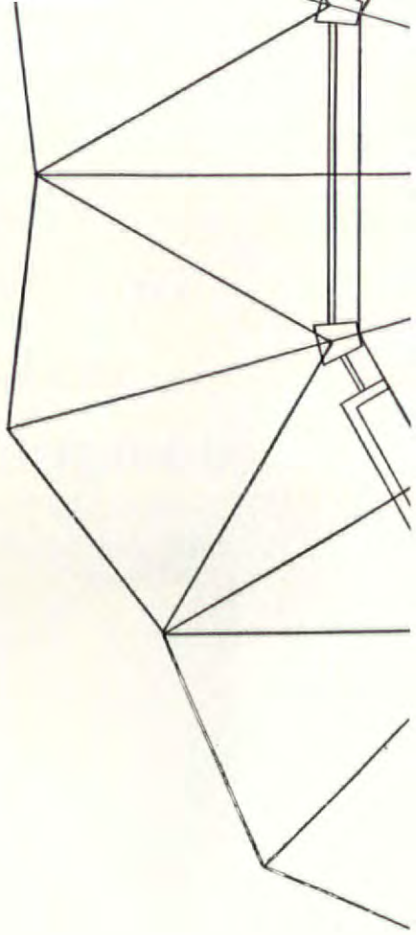

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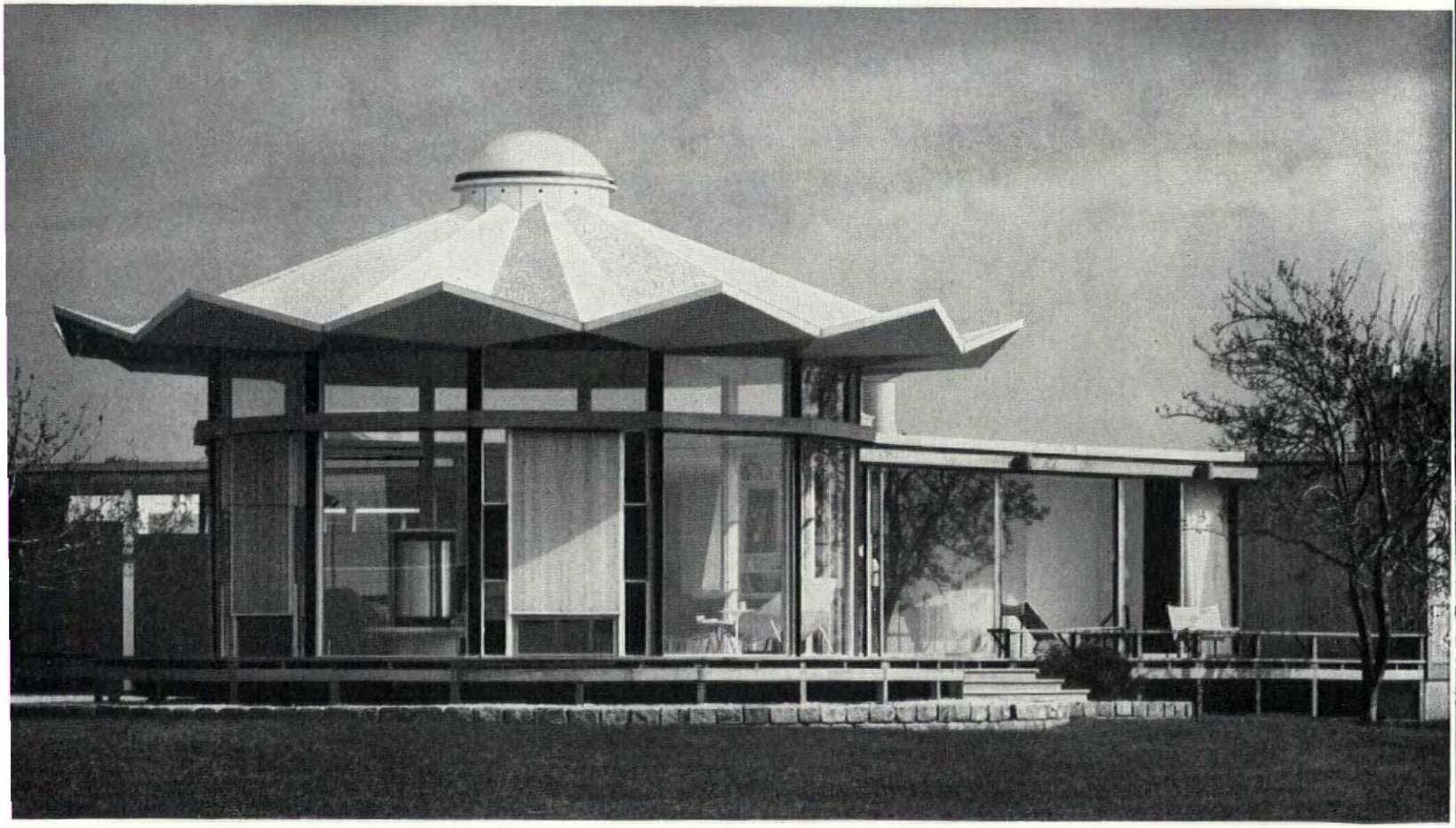

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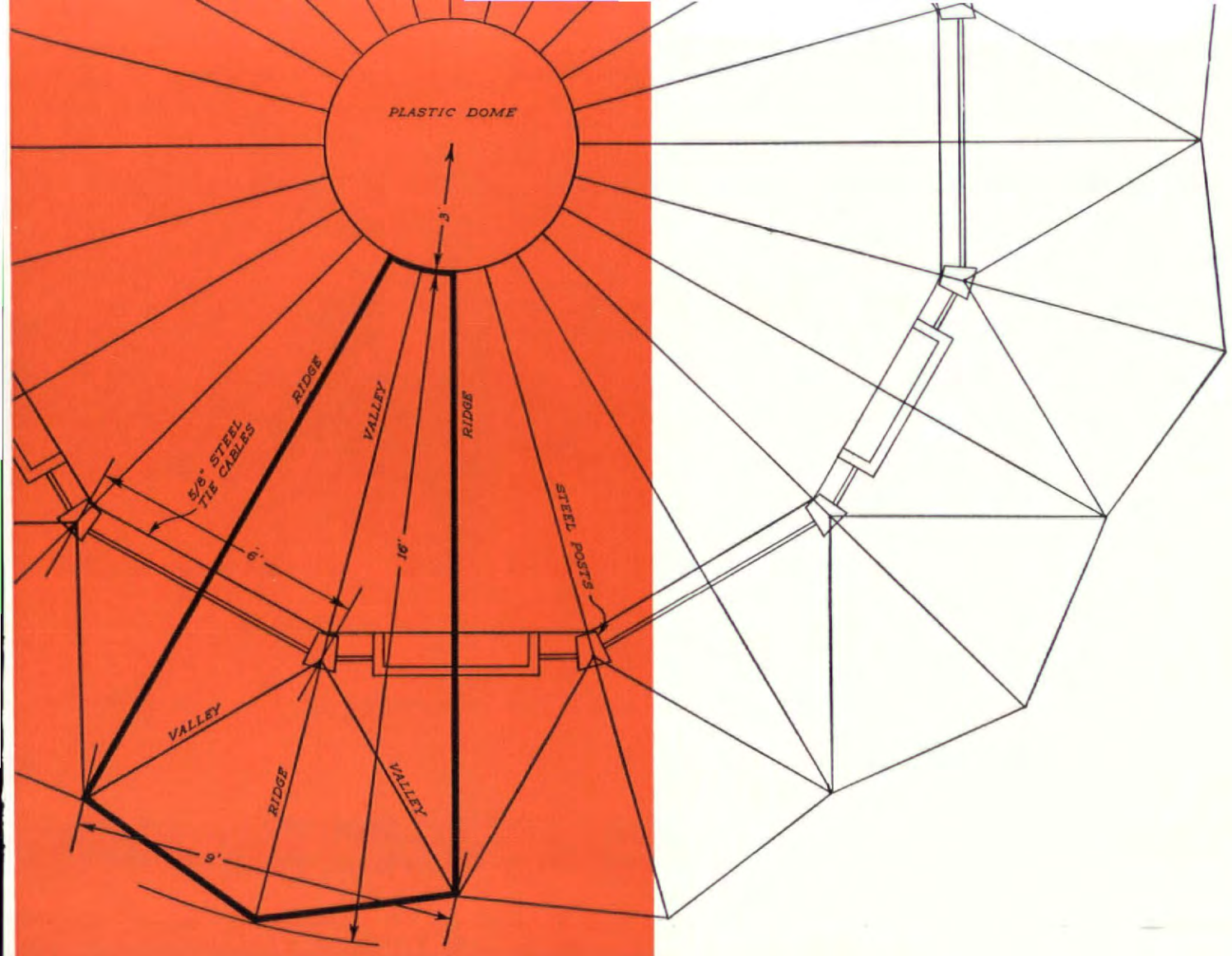

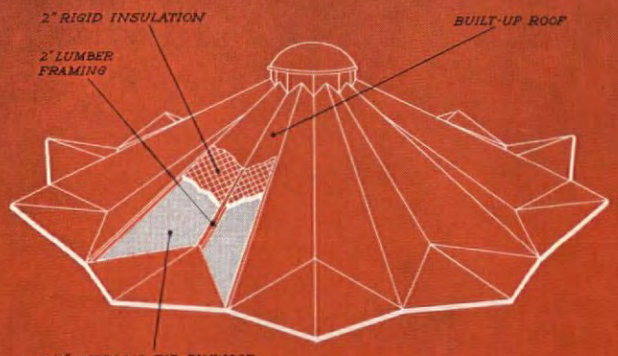

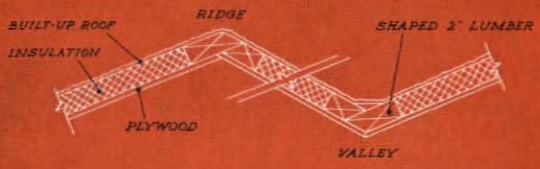

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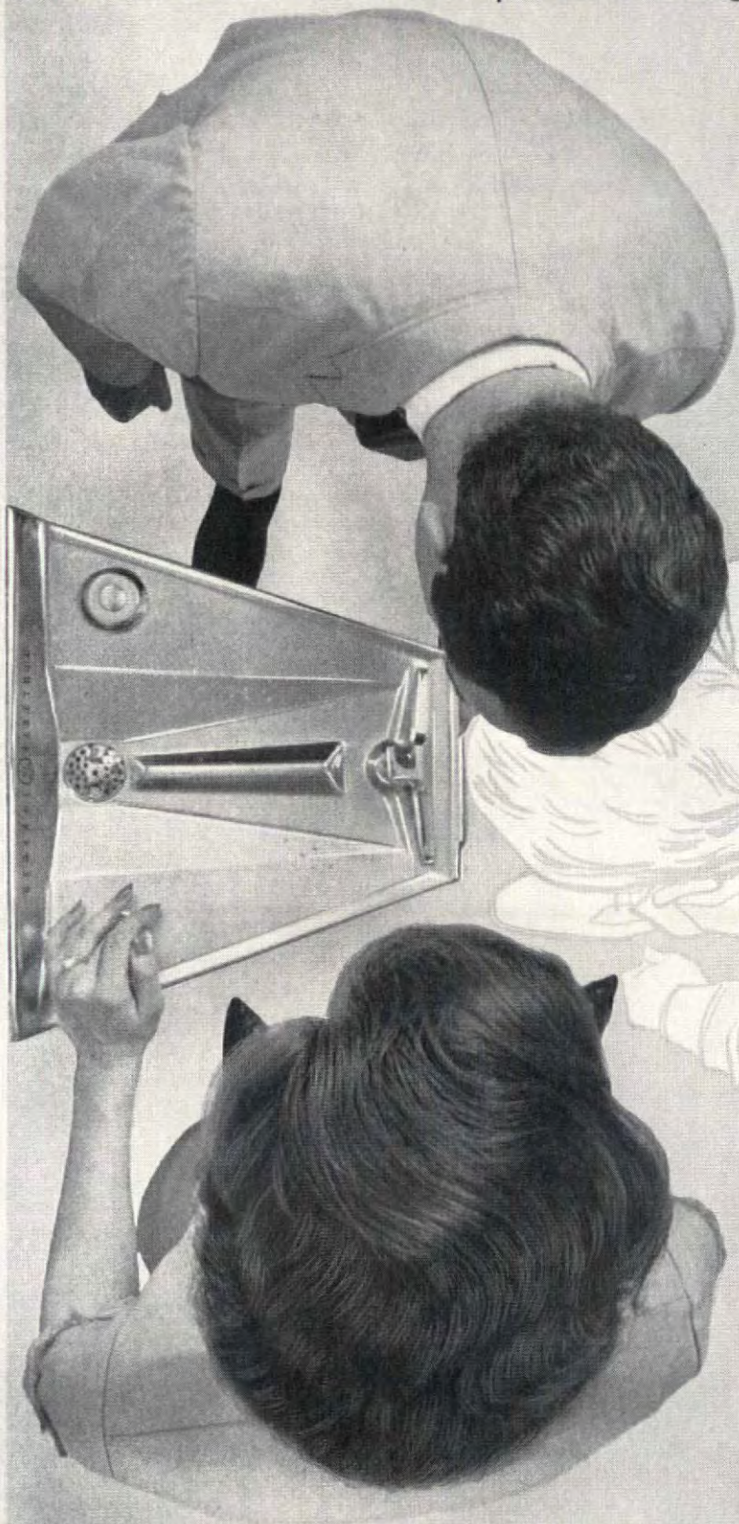

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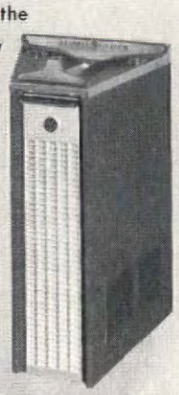

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Letters

BRAZILIANS' BRASÍLIA

Forum:

I was very pleased with your article on Brasília (FORUM, Nov. '60). It is not only interesting from a technical point of view (which I admit is not my forte), but captures a bit of the flavor of the enterprise, and what it means to Brazilians. The comparison of our new capital with that of India was a particularly happy one, at least for us.

D. A. de VASCONCELLOS
Consul General of Brazil
New York City

Forum:

Your article about Brasília (FORUM, Nov. '60) is the best one I have read in any American magazine.

I believe that nothing can be added to or taken out of the article. It reaches far into a view of the future which has been planned for Brazil in spite of her mistakes, or perhaps . . . for the sake of them!

LUIS SIFUENTES
Architect
San Juan, P.R.

THE FAIR

Forum:

As for your December World's Fair editorial: Beautiful!

ROLF MYLLER
Architect
New York City

ART IN UTICA

Forum:

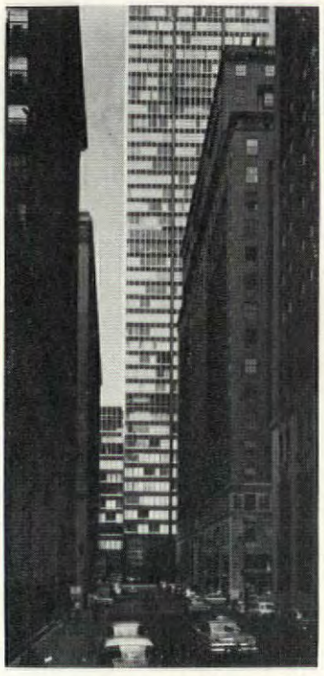
We are grateful for the generally splendid article in the December issue on our "perfect professional museum." There are, however, several points which should be clarified.

Our three-year building program cost less than $4.5 million —not $5 million.

The Munson-Williams-Proctor Institute, contrary to your impression, has consistently had a very lively school and community program. Moreover, we feel that Utica has been developing art interest for the many, not the few, for years.

Most cities are pretty grim and tough. But we believe our architectural heritage and habits favorably compare with almost any city in the U. S.

WILLIAM C. MURRAY
President
Munson-Williams-Proctor Institute
Utica, N.Y.



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CARBIDE CRITICIZED

Forum:

The article on the Union Carbide building (FORUM, Nov. '60) contains a rather surprising statement referring to the building's relationship—or rather, nonrelationship—to its site. In commenting on the failure of the building's designers to relate either the tower or the important pedestrian passage to the axis of Vanderbilt Avenue (photo, above) you rationalize that the conspicuously cockeyed placement is "subtle."

Perhaps the off-center position of the tower does have a wry charm for the reckless pedestrian jaywalking across Vanderbilt from the Yale Club to the Grand Central station. But certainly the misplaced arcade of Carbide can claim no such effect. Apparently, no one gave a conscious thought to either feature of the design.

ROBERT C. WEINBERG
Architect
New York City

Forum:

Nowhere in Union Carbide could I find relief from the man-made planes by a single living green leaf. In view of the building's generous setbacks, it was obviously not for lack of room.

EDWARD VAN EGRI
San Francisco

CODE UPHELD

Forum:

Your article "New hotel vs. old code" (FORUM, Nov. '60) is written as if it were a press release from either Architect Tabler's office or the Hilton chain.

You refer to "the rigid interpretations of single-minded building officials." This is a compliment to those building officials. Their duty is to enforce the ordinance as it is written. One of Tabler's arguments is that since the city code is less restrictive than the state's, the city's should prevail. This is ludicrous and should need no comment. The city cannot condone any violation of the state's regulations.

Like it or not, the practicing architect is completely controlled by the local building and zoning code and by the interpretations and rules of the local building official, be he architect or precinct captain. Requirements vary from one side of the street to the other. These rules may seem silly but there was a reason for each that was important enough for that particular item to become a law.

FLORIAN KAITIS
Architect
Joliet, Ill.

CODE CONDEMNED

Forum:

It is ironical indeed that your excellent story on Sacramento redevelopment (FORUM, Oct. '60) blames "thrift" for "the installation of such things as clumsy concrete-block fire walls, marring the original design."

The fire walls were actually imposed upon new housing in the redevelopment area alone by recent changes in Sacramento's building code, along with other requirements which added nothing to appearance or livability but raised construction costs beyond those of the competitive garden apartments in the burgeoning suburbs.

Certainly, economy compelled some modest cuts. But, first-rate architectural talent plus the stubbornness of the sponsor (and it takes time to be stubborn and win a point) produced alternatives that, although somewhat less expensive, are attractive and do not in any real sense "mar" the original design.

The main point: despite all the travail and road blocks produced by a hostile local building-code administrator, we are under construction with 206 garden units and we will be under construction with 200 more on the first tower building in the spring. In the entire Sacramento redevelopment area ours is the only privately financed construction actually under way. Indeed, it is the only Section 220 rental housing project under way anywhere in the U. S., west of Kansas City.

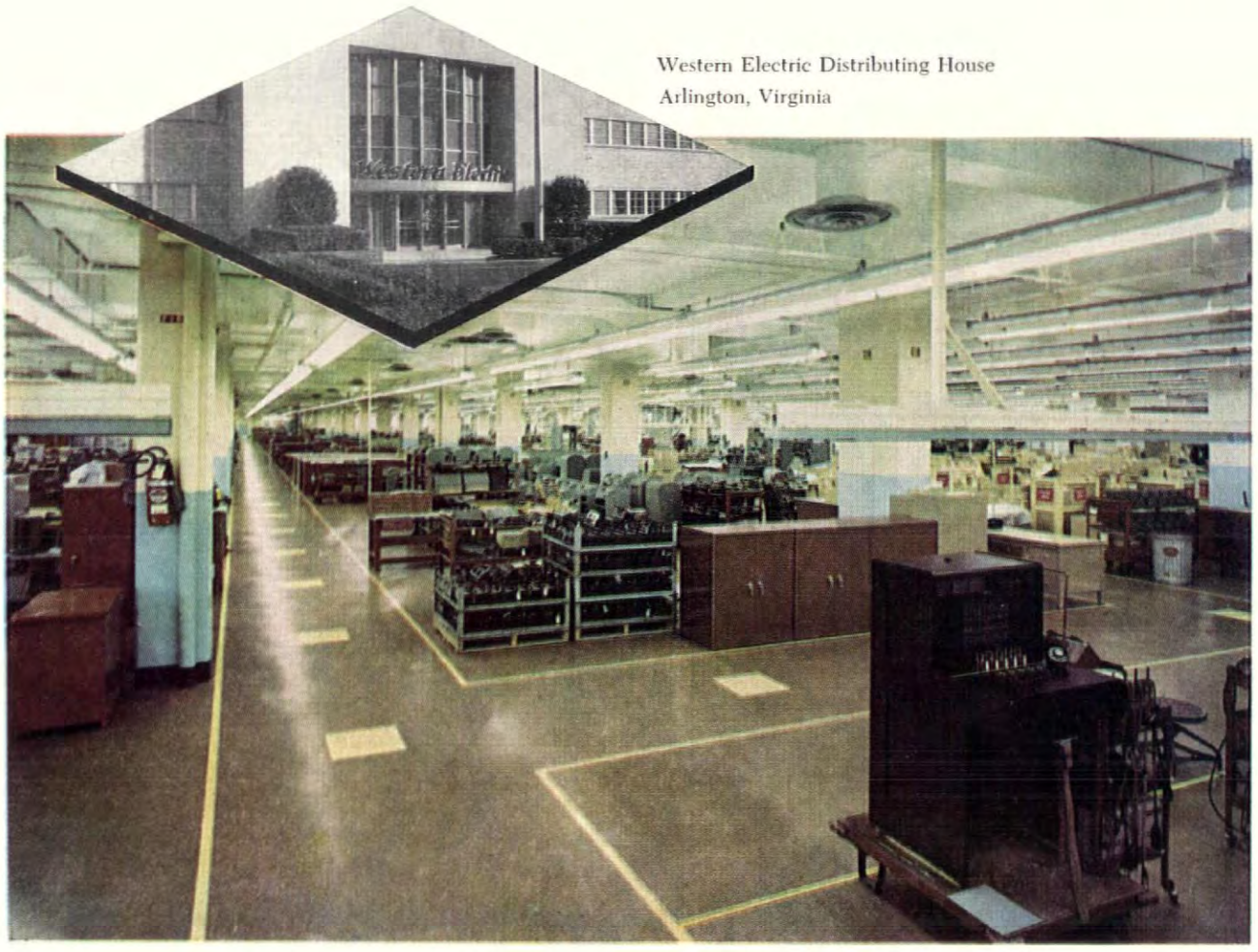
JAMES H. SCHEUER
President
Renewal & Development Corp.
New York City

WARNECKE'S DESIGNERS

Forum:

I am delighted with the favorable treatment given our office in your December issue, but I am afraid that you may have been too categorical in the ranking of our various designers. As in all offices, the contributions of the individual overlap and are shared by a number of people.

JOHN C. WARNECKE
John C. Warnecke & Assocs.
Architects
San Francisco



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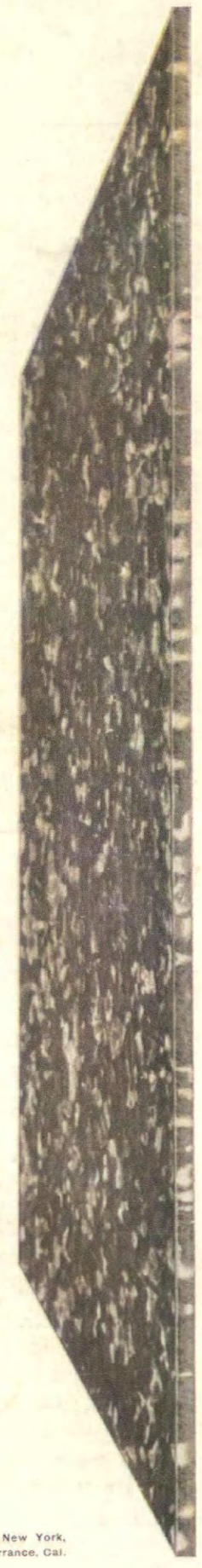

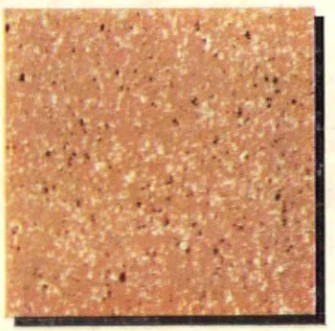

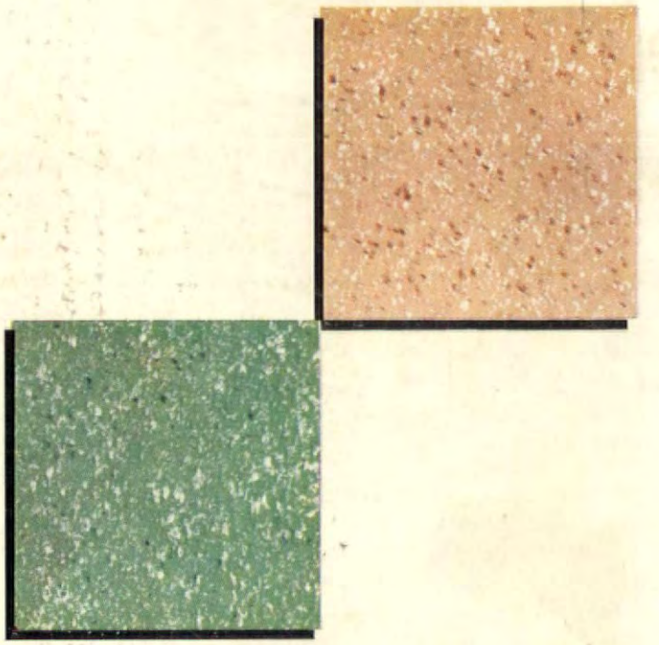

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