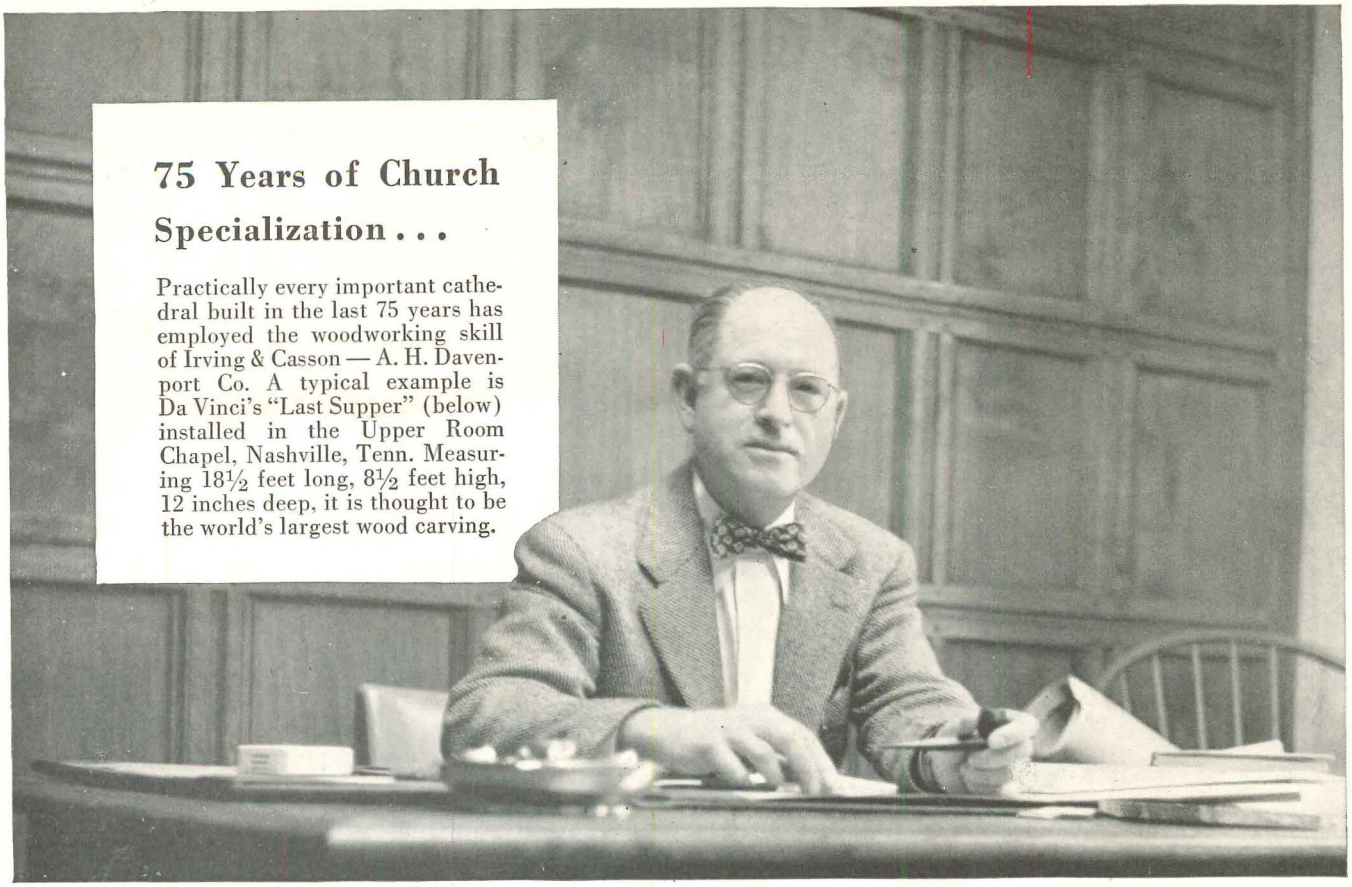
ARCHITECTURAL RECORD

BUILDING TYPES STUDY

SECONDARY SCHOOLS

227

OCTOBER 1955



75 Years of Church Specialization . . .

Practically every important cathedral built in the last 75 years has employed the woodworking skill of Irving & Casson — A. H. Davenport Co. A typical example is Da Vinci's "Last Supper" (below) installed in the Upper Room Chapel, Nashville, Tenn. Measuring 18½ feet long, 8½ feet high, 12 inches deep, it is thought to be the world's largest wood carving.

Nine carvers, working in the Cambridge plant, spent almost a year in the completion of this reproduction of Da Vinci's work.

UNITED NATIONS BUILDING—Delegates' desks and chairs in General Assembly room at the United Nations are further examples of the craftsmanship of this century-old woodworking firm.

"Without it our buildings would not be standing today"

"At our factories in Cambridge, Mass., a flash fire occurred last December in the paint department", relates Mr. C. A. Thurston, Treasurer, Irving & Casson — A. H. Davenport Co., furniture manufacturers and custom builders of woodworking specialties. "Had it not been for our Grinnell Sprinklers going into action immediately, I am honestly afraid to think of the consequences."

"Most of our buildings are well over 125 years old. To replace them would cost perhaps a million and a quarter dollars. That is why we installed Grinnell Sprinklers as far back as 1900.

"Over the years we have had our share of fires. But on every occasion, our Grinnell Sprinkler System has been on the job and damage has been held to a few dollars. I am sure that without it our buildings would not be standing today."

Grinnell Sprinklers stop fire at its source, wherever and whenever it strikes, night or day, with automatic certainty. 77 years experience proves this. Moreover, a Grinnell Sprinkler System will often pay for itself in a few years through reductions in fire insurance premiums. Grinnell Fire Protection is an investment that pays real dividends . . . any way you look at it. Grinnell Company, Inc., 269 West Exchange Street, Providence, Rhode Island.

GRINNELL

PROTECTION AGAINST EVERY FIRE HAZARD

Manufacturing, Engineering and Installation of Automatic Sprinklers since 1878

ARCHITECTURAL RECORD (Vol. 118, No. 4, October, 1955) is published monthly by F. W. Dodge Corporation, 10 Ferry Street, Concord, N. H., with editorial and executive offices at 119 W. 40th St., New York 18, N. Y. $5.50 per year; Foreign, $20.00.
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ARCHITECTURAL RECORD

October 1955 Vol. 118 No. 4

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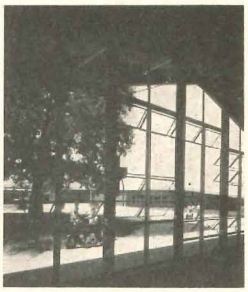

COVER: J. R. Moore Jr. High School, Tyler, Tex.; Caudill-Rowlett-Scott, Bruce & Russell, Architects: Ulric Meisel photo

Continued on next page

ARCHITECTURAL RECORD

Continued from page 5

Member of Audit Bureau of Circulations and Associated Business Publications. Architectural Record is indexed in Art Index, Industrial Arts Index and Engineering Index.

Every effort will be made to return material submitted for possible publication (if accompanied by stamped, addressed envelope), but the editors and the corporation will not be responsible for loss or damage.

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THE RECORD REPORTS

PERSPECTIVES

HAIL THE CHIEF: A.I.A. President George Bain Cummings was made a chief of the Blackfeet Indian Tribe in impressive ceremonies held during last month's A.I.A. Northwest Regional Conference in Glacier National Park. Mr. Cummings was presented with a beautiful war bonnet and an Indian name which (in its English version, at least) may give some of his fellow architects pause: to the Blackfeet, he's Chief Rising Pencil Pusher.

ARCHITECTS WILL BE INTERESTED in the November issue of *House Beautiful*, which is devoted entirely to Frank Lloyd Wright, "the man who liberated architecture" (in the words of the title of the lead article by executive editor Joseph A. Barry). "The next America will be the age of great architecture," *House Beautiful* promised in its well-remembered April 1953 issue attacking "the cult of austerity" ("the product of Mies van der Rohe's cold, barren design and Le Corbusier's International Style") and what *House Beautiful* described as "the bullying tactics of the self-chosen élite who would dictate not only taste but a whole way of life." Well, it would appear from Mr. Barry's article not only that "the threat to the next America" has evaporated but that, in fact, the next America and the age of great architecture are (so soon!) arrived. Thus Mr. Barry: "Architecture (we'll risk stating it bluntly) is the great art of America and it has the greatest and most tempting possibilities for its practice. As the life of our people is the primary concern of our democratic philosophy, so architecture for that life is now the primary expression of our democratic culture. Not since the building of the Gothic cathedrals has this been quite so true for so many. What we are seeing in America is a return to the great, integrated periods before the Renaissance, when architecture was the controlling, dominant art." And Mr. Barry, describing Mr. Wright's sixty years of practice and preaching, says "Mr. Wright has triumphed." Mr. Barry notes (recalling the 1908 issue of ARCHITECTURAL RECORD devoted entirely to Mr. Wright's work) that he has never lacked recognition; "but only today might one say that Frank Lloyd Wright has triumphed, in the sense that his architectural philosophy has become a major part of our living culture, a fundamental part of the equipment with which our architects and builders solve the important problem of architecture for ways of life new to the world."

ANYBODY CAN PLAY: The Detroit Bar Association held the first "speechless" annual meeting in its 119-year history this year, and it was reported that attendance was fine. A humorous playlet written by one of the members as a substitute for the usual lengthy speech by a "distinguished" outsider depicted a meeting of a state bar committee to discuss a proposal for a guaranteed annual income for lawyers and similar absorbing topics. Some of them might be taken over verbatim by an architects' meeting — as, "How maximum can a minimum fee schedule get?" But the architectural profession could provide topics of its own still very much in the spirit of the lawyers' debate — "Should newspapers be permitted to credit architects when publishing photographs of their buildings?" "Must an architect accept a proffered Fellowship in the A.I.A. against his will?" "Should an architect increase the budget if his client insists?" – –etc.

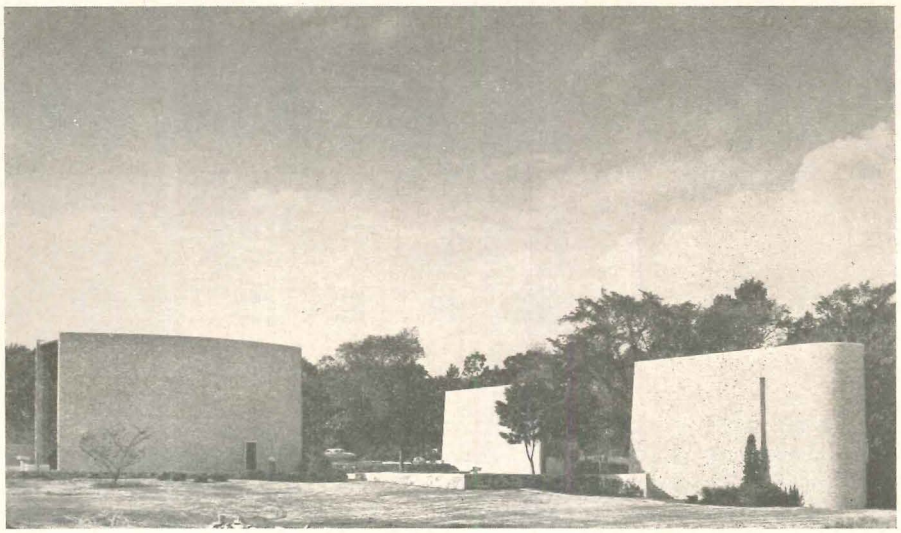
AND THE TALK OF SPACE SATELLITES, and the recent discovery of what is believed to be a sizeable area of living vegetation on Mars, begins to make phrases like "international style" and "organic architecture" sound a trifle archaic. Coming up, perhaps –– interstellar style and cosmic architecture?

OUR READERS WRITE: Architect Edgar I. Williams of New York, on Minoru Yamasaki's article "Toward an Architecture of Enjoyment" (August 1955, pages 142–149) — "His article is stirring because it is so unpretentious and honest. His four fallacies seem to me well put. An old fellow, one from the generation who passed on 'the morass of cluttered thinking,' might ask where have these young fellows been who now suddenly, almost naïvely, discover that joyousness is important in architecture. Charles McKim liked Renaissance architecture too. McKim showed his appreciation of the imponderable qualities of architecture as he fought so hard to revive the magnificence and spiritual qualities of Washington, D. C., which were being destroyed by another generation of 'practical' people. Of course, there can be no progress without invention, or to put it another way and quote Yamasaki, 'without it [originality] architecture . . . would die.' And further, unless a building reflects the ever changing life of today it contributes nothing to the forward march of architecture." . . . From Henry Hofmeister, on the fenestration study (April 1955, pages 198–216, and with special reference to pages 200–201) — "The concept of modular spacing was secondary at the time the original plans of RCA Building were first studied and laid out, with the spacing of proper sized elevator shafts, the elevator lobbies between, and allowance for structural columns and wind bracing; thus forming the core of the building. This established the 27 ft-6 in.-wide bays, and we also found this dimension worked out well, being practical in the versatility of subdividing the rental space for office occupancy. After the column spacing was determined, we then studied the fenestration and arrived at the three-window bay as being most suitable to a good solution."

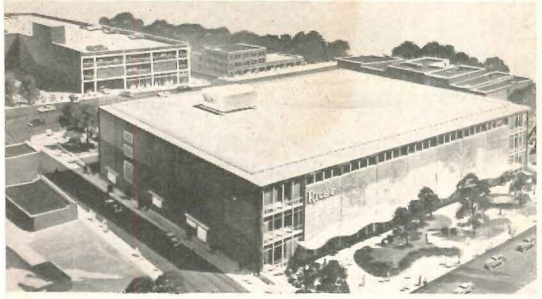
THE RECORD REPORTS

BUILDINGS IN THE NEWS

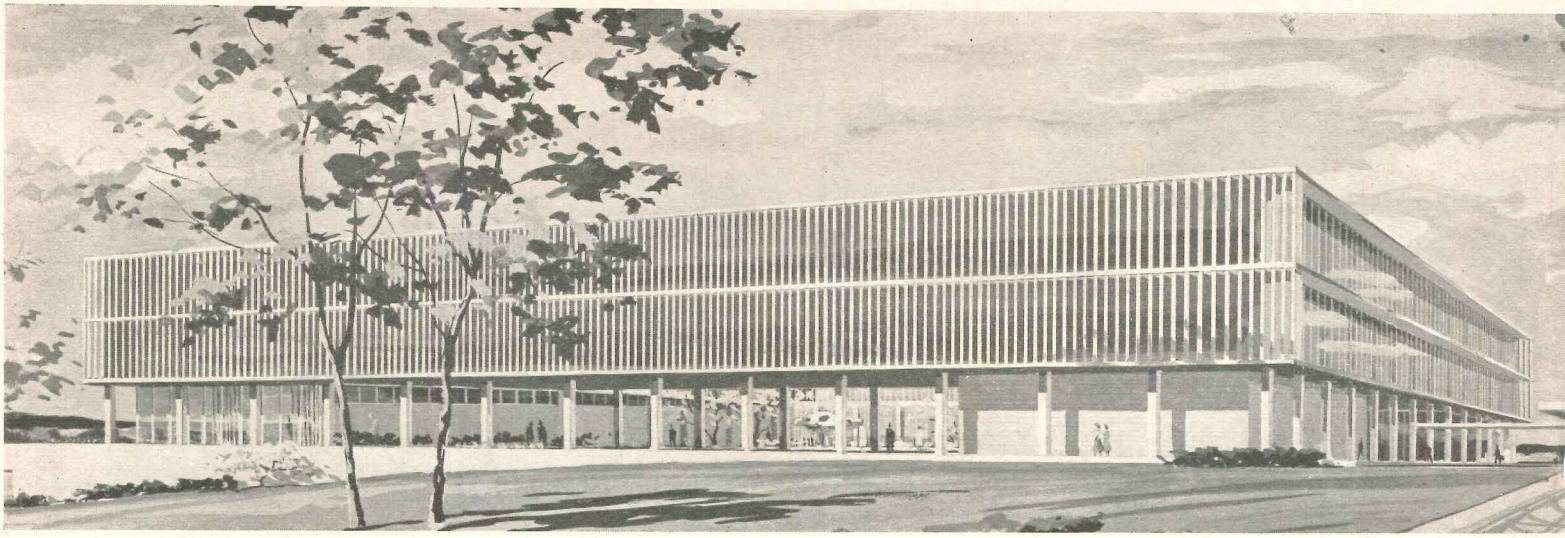
THREE CHAPELS, one for each of the three major religious faiths, comprise the unique interfaith center designed by architects Harrison and Abramovitz of New York for Brandeis University, Jewish-founded but nonsectarian institution at Waltham, Mass. The chapels, nearly completed when this photograph was taken, are of glazed brick, with glass at ends; they are built around a pool. Formal dedication will be held this month



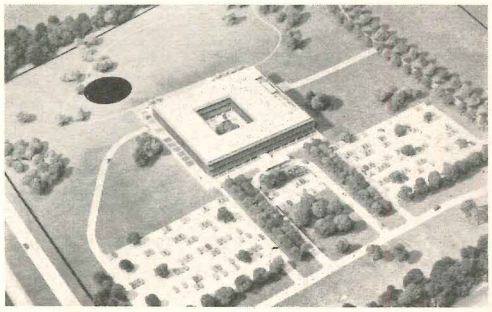
CONRAD HILTON'S 29TH HOTEL opened in California in August just a few weeks after his 28th (the Istanbul Hilton — AR, July 1955, page 330) opened in Turkey. Not unexpectedly, the $16 million 450-room Beverly Hilton, its eight-and-a-half acre site a very expensive piece of real estate at the intersection of Wilshire and Santa Monica Boulevards in Beverly Hills, is described by Welton Beckett's proud client as "the most luxurious of the world's hotels." The building — its eight stories tower over its predominantly two-story surroundings — is, in plan, an irregular Y shape; sliding glass walls open on private balconies. Lavish use of color and of contemporary art forms keynote sumptuously uninstitutional interiors

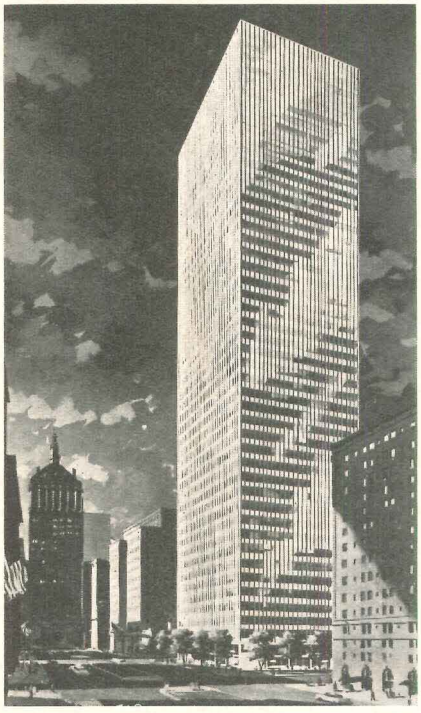


REGIONAL SHOPPING CENTER FOR CENTER CITY — Rich's Knoxville, the 89-year-old department store's first branch outside Atlanta, is designed to lure people of all income levels within a 41-county area in east Tennessee as well as to revitalize an area slightly west of what has been Knoxville's central shopping and business street. Architects Stevens & Wilkinson have made the two-block site an oasis of light, color and pleasant spaces, putting a four-story main building of glazed cherry-red brick, green tile and glass in a setting of parks and plazas; a warehouse and 450-car garage across the street are connected by tunnel to the store. Main facades are shown at right; rendering above shows relationship of two buildings

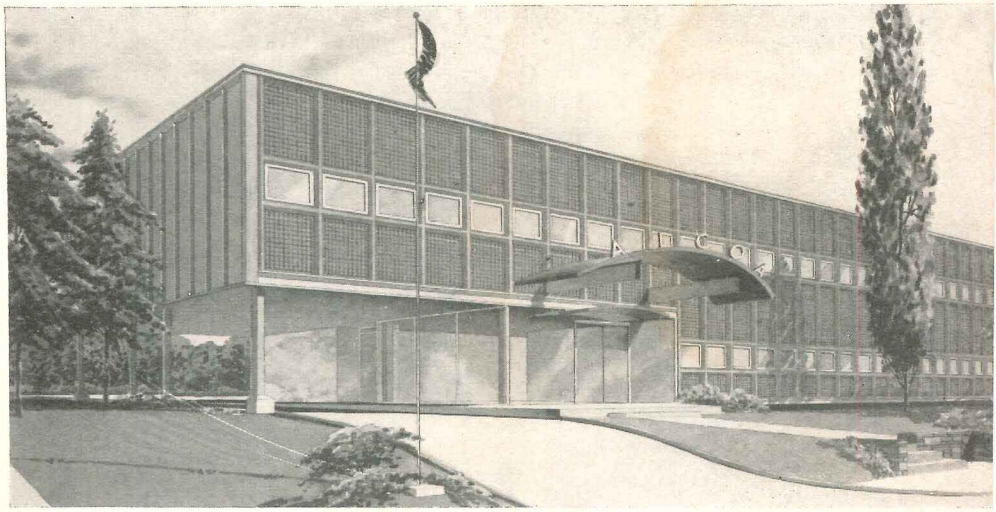


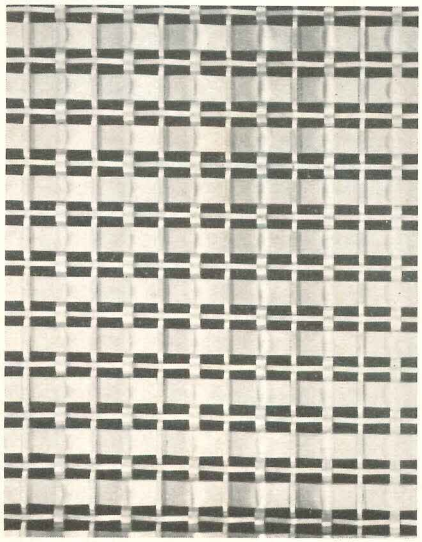
EXECUTIVE HEADQUARTERS OF REYNOLDS METALS is under way on a 40-acre site on the outskirts of Richmond. To accommodate approximately 1000 employes, with provision for future expansion of as much as 80 per cent, the building will cost an estimated $10 million and will, the company hopes, "demonstrate how aluminum can be used for economy, efficiency and beauty." East and west façades of the building will have varicolored aluminum louvres designed to open and shut automatically as the sun moves in its orbit; a six-ft aluminum sunshade will protect the windows at each floor level; walls will be gray tinted glass. Electric stairways will use aluminum for all exposed panels and deck covers. Architects: Skidmore, Owings & Merrill; general contractors, George A. Fuller





UNION CARBON AND CARBIDE'S executive headquarters will be built in the heart of Manhattan — 270 Park Avenue, site of the former Hotel Marguery — and not on the Westchester County land the corporation bought in 1952 tentatively for that purpose. Preliminary plans for a 41-story building to be occupied entirely — except for stores on the ground floor — by the corporation and its subsidiaries have been prepared by architects Skidmore, Owings & Merrill

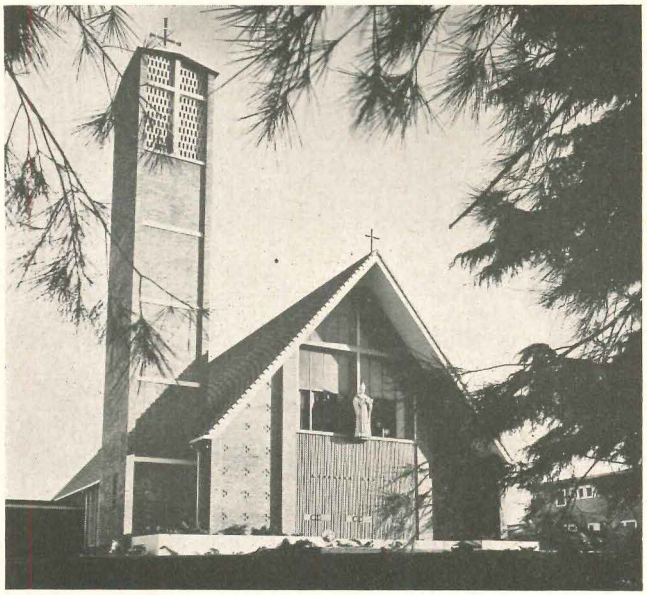




HEADQUARTERS FOR ALCOA's Atlanta sales organization will make extensive use of aluminum inside and outside the 102 by 61 ft two-story structure, but nowhere more strikingly than in an exterior application with a purely esthetic purpose — a gold aluminum mesh (close-up at left) woven of extruded aluminum bars and channels and composed of removable sections, suspended several inches from a curtain wall of electrochemically colored blue aluminum. This combination will make front and rear elevations; one end will be partially faced with Georgia marble, the other will be blue aluminum. Architects: Schell, Deeler & Stott of Pittsburgh; general contractors: George A. Fuller Co., associated with Van Winkle and Co.

(Continued from page 10)

HONORS FOR CATHOLIC INSTITUTIONAL DESIGN



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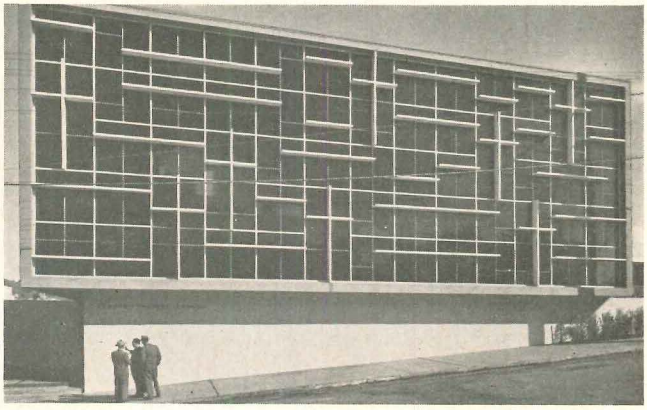

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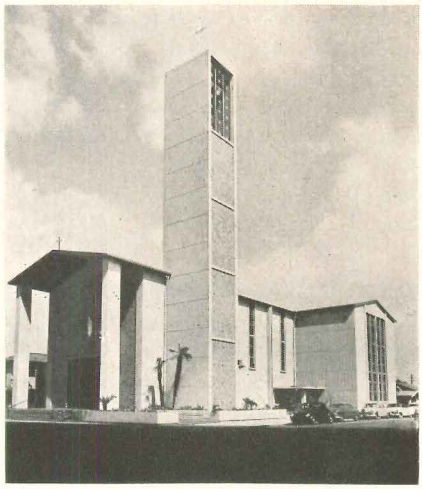
CHURCHES

having a capacity of 250 or more



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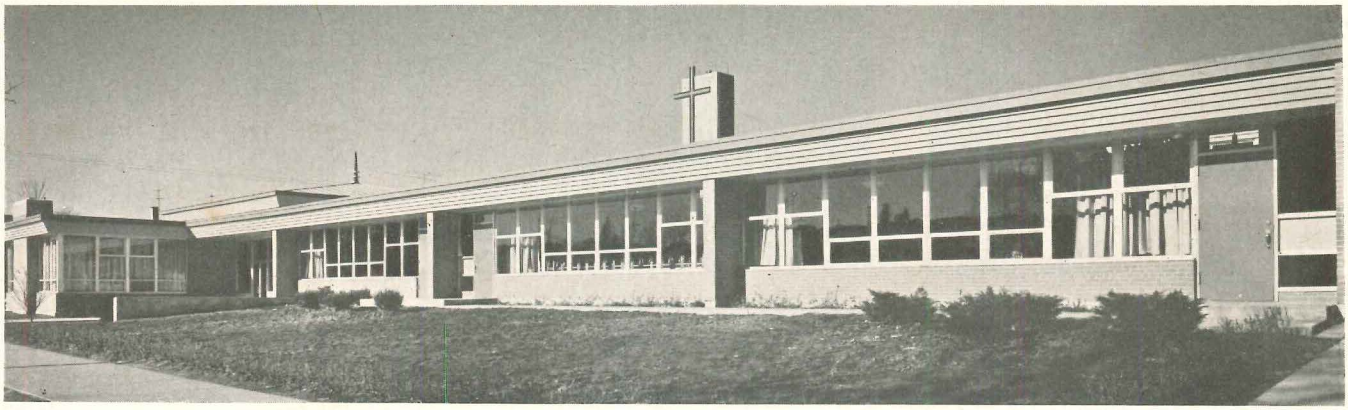
The first sponsored professional architectural competition "for better Catholic institutional design" was conducted this year by the magazine Church Property Administration *in cooperation with the National Catholic Education Association. Award winners are shown on this page. 1. FIRST AWARD — St. Albert the Great Church, Compton, Cal.; Chaix and Johnson, architects. DISTINCTIVE DESIGN AWARDS — 2. Corpus Christi Church, San Francisco, Mario J. Ciampi, architect; 3. St. Brigid's Church, Los Angeles, Chaix and Johnson, architects; and (not shown) Church of the Assumption, Edmonton, Alta., W. R. Ussner, architect. 4. FIRST AWARD — St. Adrian's School, Chicago; Perkins & Will, architects. DISTINCTIVE DESIGN AWARDS — 5. Our Lady Help of Christians School, Abington, Pa., Nolen & Swinburne, architects; 6. St. Joseph's School, Columbia, S. C., G. Thomas Harmon, architect; 7. St. Francis of Assisi School, Riviera Beach, Fla., Frederick G. Seelmann, architect*



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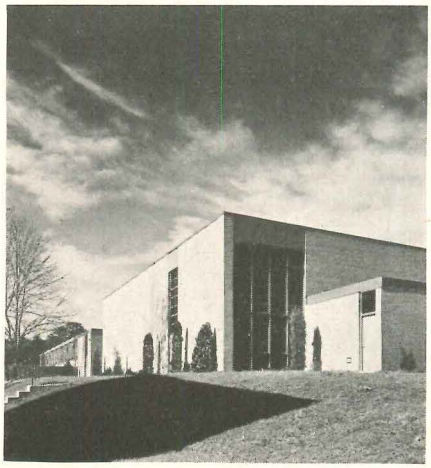
SCHOOLS

(elementary) having a capacity of not more than 400



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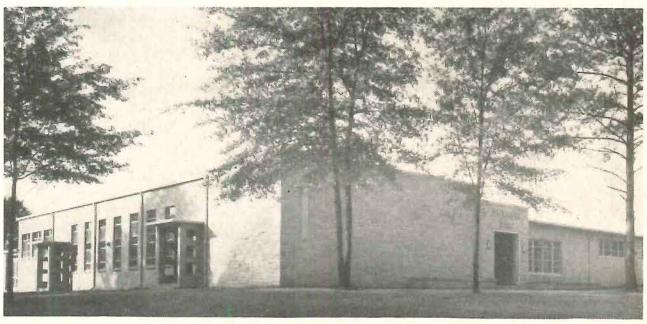

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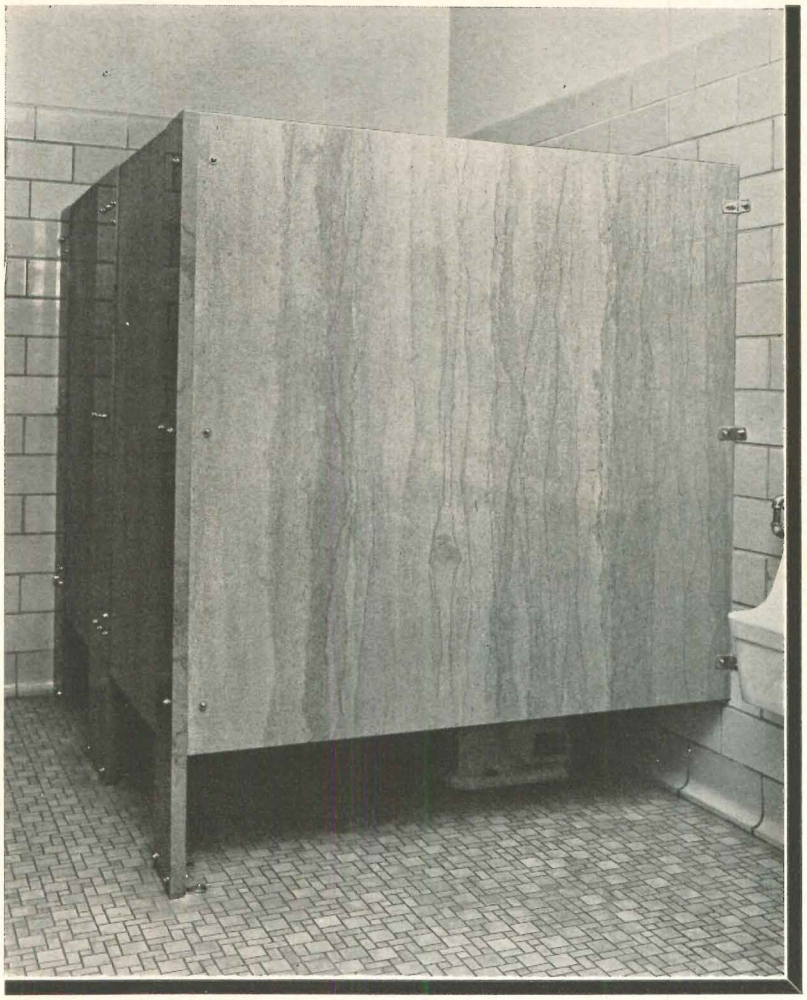
(More news on page 15)



A NEW CONCEPT OF MARBLE PRODUCTION

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THE RECORD REPORTS
NEWS FROM CANADA

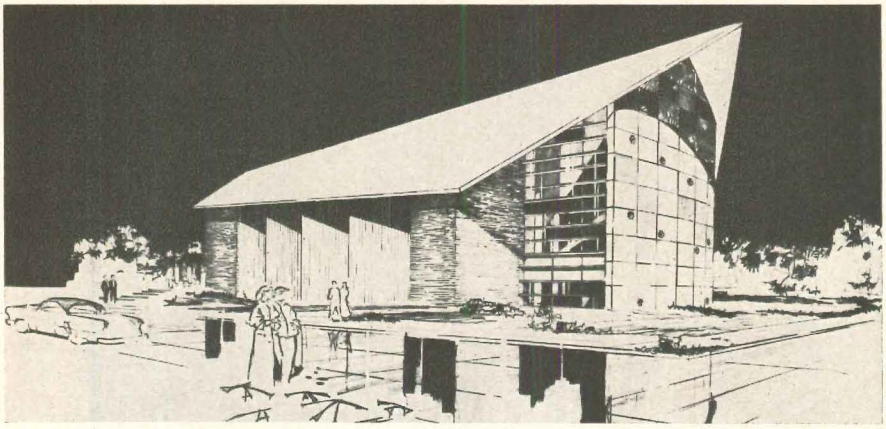
(*Continued from page 30*)

period. This is a 25 per cent increase over the 46,398 starts in the corresponding period in 1954. Completions reached 25,228, or 26 per cent of last year's first six-months total of 41,572.

Housing Loans Also Up

The volume of new home construction financed under the National Housing Act showed a 44.5 per cent increase during the first half of 1955 over the same period last year.

Central Mortgage & Housing Corporation reports that undertakings to insure were issued for 28,062 loans valued at $412,123,349 between January 1 and the end of June. This compared with 17,011 loans worth $196,857,228 last year. Financing in the first half of this year provided for construction of 32,498 housing units as against 22,479 in 1954.



Project for the Grace United Church, Peterborough, Ont., comes from the office of Blackwell, Craig & Zeidler, Architects

REPORT MANY ARCHITECTS TRAINED OUTSIDE SCHOOLS

A recent survey made by the Federal Department of Labor has shown that a high proportion of Canadian architects do not have university degrees. The report, based on responses from 1271 architects, showed that 21.1 per cent of them did not attend a university, and that another seven per cent attended but did not graduate. The 71.9 per cent for those earning degrees is smaller, says the report, than for any of the fields of science of engineering.

At the post-graduate level, the proportion of architects with a master's or doctor's degree is also lower than for any of the scientific or engineering professions in the departments' technical personnel register.

The survey also showed that nearly 60 per cent of the architects listed building design as their field of specializing; another 14.6 per cent considered planning their specialty, and 12.4 per cent listed organization and administration of building projects.

Designing and drafting occupy a little more than half of the architects registered. Work at the executive and managerial level is the main activity of

(*Continued on page 36*)

GENERAL BRONZE CORPORATION

adds 2nd National Bank, Houston, Texas, to its

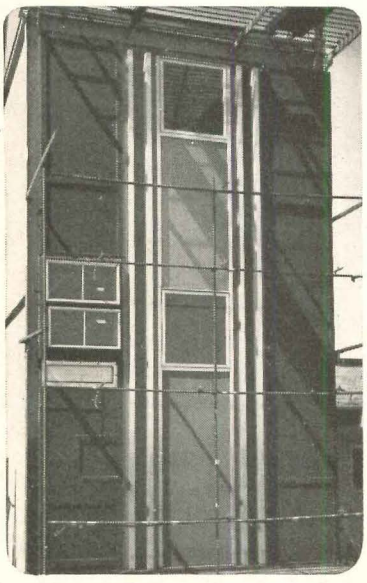
SKYLINE OF ALCOA ALUMINUM

2nd National Bank Building, Houston, Texas. *Architect:* Kenneth Franzheim, A.I.A., Houston, Texas; *Contractor:* W. S. Ballows Construction Co., Houston, Texas; *Aluminum:* General Bronze Corporation, New York, New York.

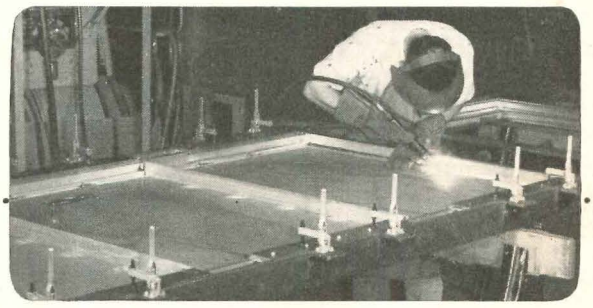
99 and 100 Park Avenue, 260 and 261 Madison Avenue, 60th and Madison Avenue, New York, New York; the Alcoa Building, Pittsburgh, Pennsylvania; Equitable Life Insurance Society Building, Milwaukee, Wisconsin. And now, the 2nd National Bank Building, Houston, Texas. These are a few of the many aluminum sheathed skyscrapers General Bronze Corporation has raised in five years. They form a sky line of which any city could be proud.

One of the oldest architectural metal fabricators in the country, General Bronze Corporation's services complement the architect's designs by performing the fabrication and installation. Working closely with Alcoa over many years, they have a fund of knowledge concerning aluminum sheathed buildings that makes these services invaluable to the architects and owners who employ them.

For full information on Alcoa® Aluminum clad buildings, their advantages and their fabricators, call your local Alcoa sales office. Or write ALUMINUM COMPANY OF AMERICA, 1888-K Alcoa Building, Pittsburgh 19, Pennsylvania.



General Bronze testing tower with panel from 2nd National Bank Building ready for air and watertightness test.



Welding curtain wall panel for 2nd National Bank Building at General Bronze Corporation's Garden City, Long Island, plant.

YOUR GUIDE TO ALUMINUM VALUE

ALCOA ALUMINUM

ALUMINUM COMPANY OF AMERICA

©ACOA

THE RECORD REPORTS

NEWS FROM CANADA

(*Continued from page 32*)

another 20 per cent, and more than two-thirds of the architects are chiefly engaged in consultive work.

With the exception of civil engineers, the percentage of architects in the 61–65 age group is considerably higher than for any of the other scientific and engineering professions. The survey found that on the whole architects are fairly evenly distributed among the various age groups.

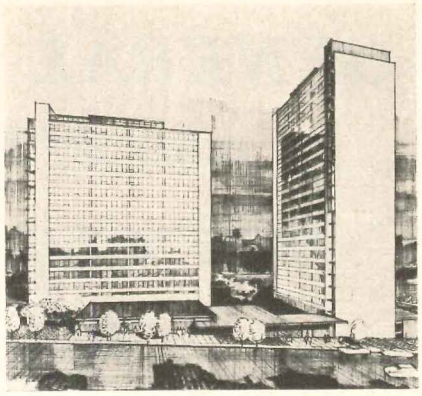
Geographically speaking, Ontario and Quebec combined account for approximately 72 per cent of the total group.

ARTS COUNCIL REQUESTS FEDERAL AID TO MEMBERS

John C. Parkin, Toronto architect and president of the Canadian Arts Council, has issued a new appeal for a national program to aid arts groups.

Each of the 16 societies holding active membership in the Canadian Arts Council, which represents some 10,000 architects, sculptors, musicians and other artists, must depend to some extent upon advice or financial help from corporations and executives. It is felt that the time and efforts of executives could be utilized to greater advantage if they were relieved of fund raising pressure.

"We're all ardent private enterprisers," Mr. Parkin said, "but we are sadly lacking in patrons and the Federal government is the only place for us to go. We represent an 'industry' of 10,000 creative people and we're asking no more than do the butter producers or the wheat growers."



Now abuilding in Vancouver, Marwell Apartments were designed by Sharp & Thompson, Berwick, Pratt, for single men and women and working couples

TORONTO STUDENT TAKES A.I.A. MEDAL AT HOWARD

Richard L. Lawrence, Toronto, who recently graduated first in his class at Howard University's School of Architecture, at Washington, D. C., received one of the American Institute of Architects' School Medals. He was also awarded the senior medal for excellence in design.

NEWS NOTES

The new 12-page **standard form for cost plus contracts,** jointly approved by the Royal Architectural Institute of Canada and the Canadian Construction Association, is now ready for use; three years were consumed in revising the document, first published 24 years ago. . . . Entries for the forthcoming **Massey Medals for Architecture** competition must be received by the R.A.I.C.: office, 88 Metcalfe St., Ottawa 4, Ont., on or before October 18; the opening of the exhibition and announcement of awards is scheduled for November 18

(*Continued on page 40*)

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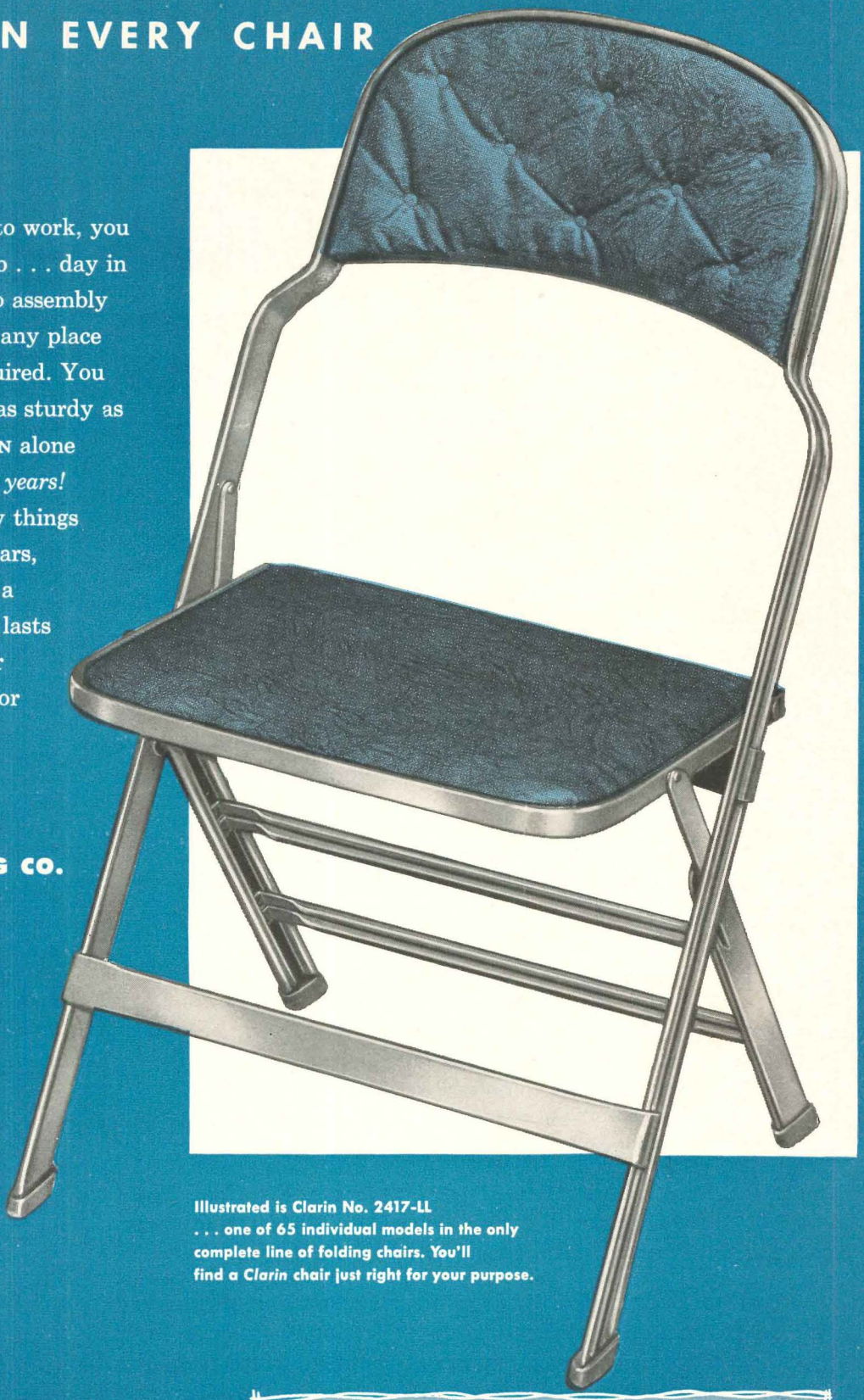

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THE RECORD REPORTS

NEWS FROM CANADA

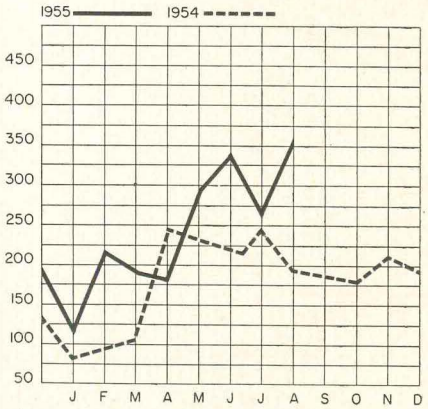
(*Continued from page 36*)

at the National Gallery of Canada. . . . The **49th annual assembly of the R.A.I.C.** will be held at Banff Springs Hotel, Banff, Alta., June 6–10, 1956. . . . Notice of **openings in Central Mortgage & Housing Corporation's** architectural department has been sent to all R.A.I.C. members; this department is part of CMHC's recently organized Development Division, which is also concerned with economic research, community planning, public housing, developmental work in housing design and construction, and the validation of building materials. . . . The **London Chapter of the Ontario Association of Architects** has elected to office for the coming year: J. D. McCullough, president; R. E. Murphy, vice president; R. P. Bruist, secretary; R. O. McTavish, treasurer; John G. Magee and R. E. Knowland, representatives on the London and Suburban Planning Board. . . . Applications to establish **two new chapters** have been sent to the O.A.A. Council — one from architects at "the head of the lakes," the other from northern Ontario. . . . An **employment register for draftsmen and architects' assistants** has been established by the Ontario association; the register will be kept at the Toronto headquarters building.

CORRECTION

Architects for the Peterborough Memorial Community Center (AR, July 1955, p. 32), incorrectly identified as Black, Craig & Zeidler, should have been given as Blackwell, Craig & Zeidler.

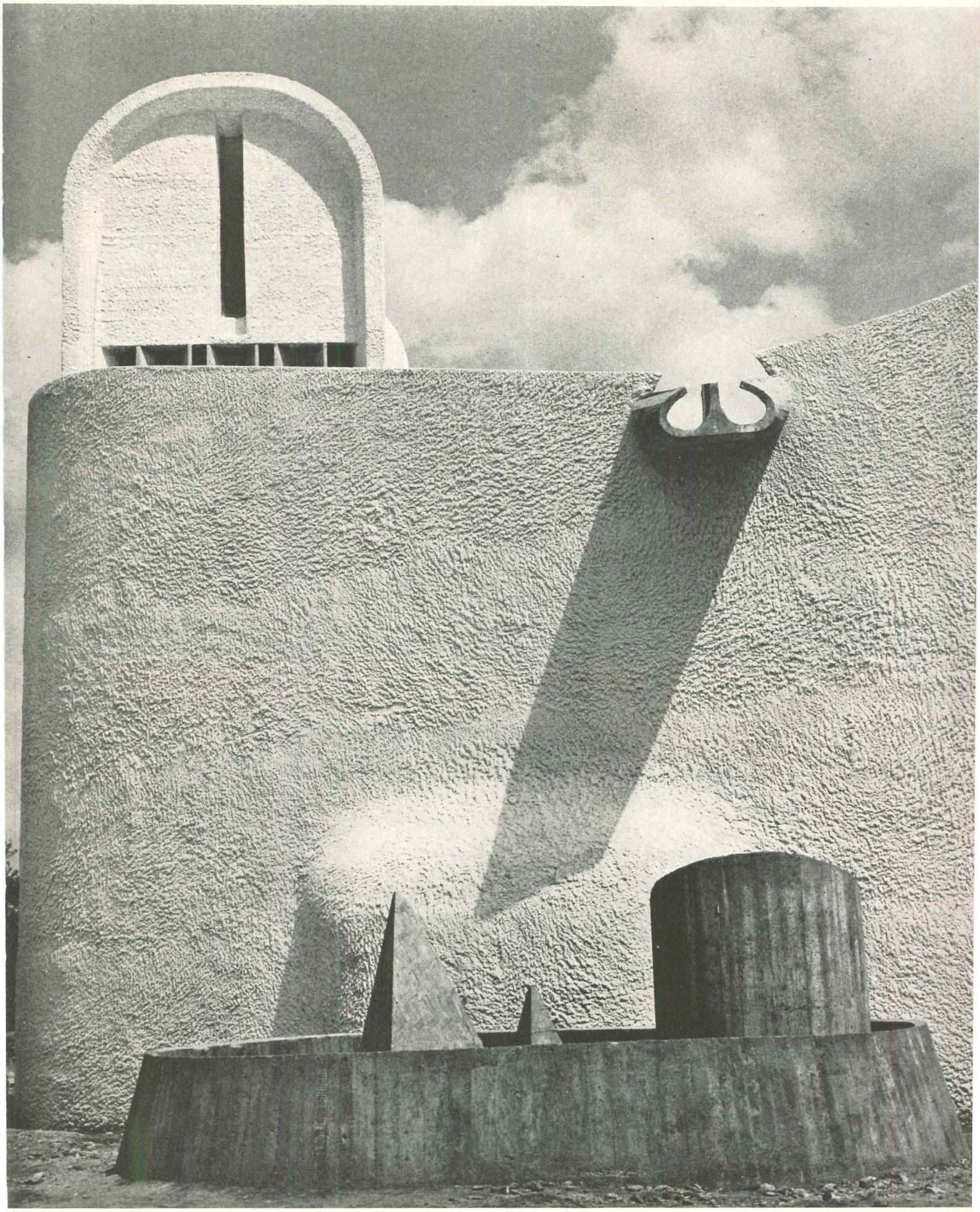
Contracts Awarded: Comparative Figures *
(in $ million)



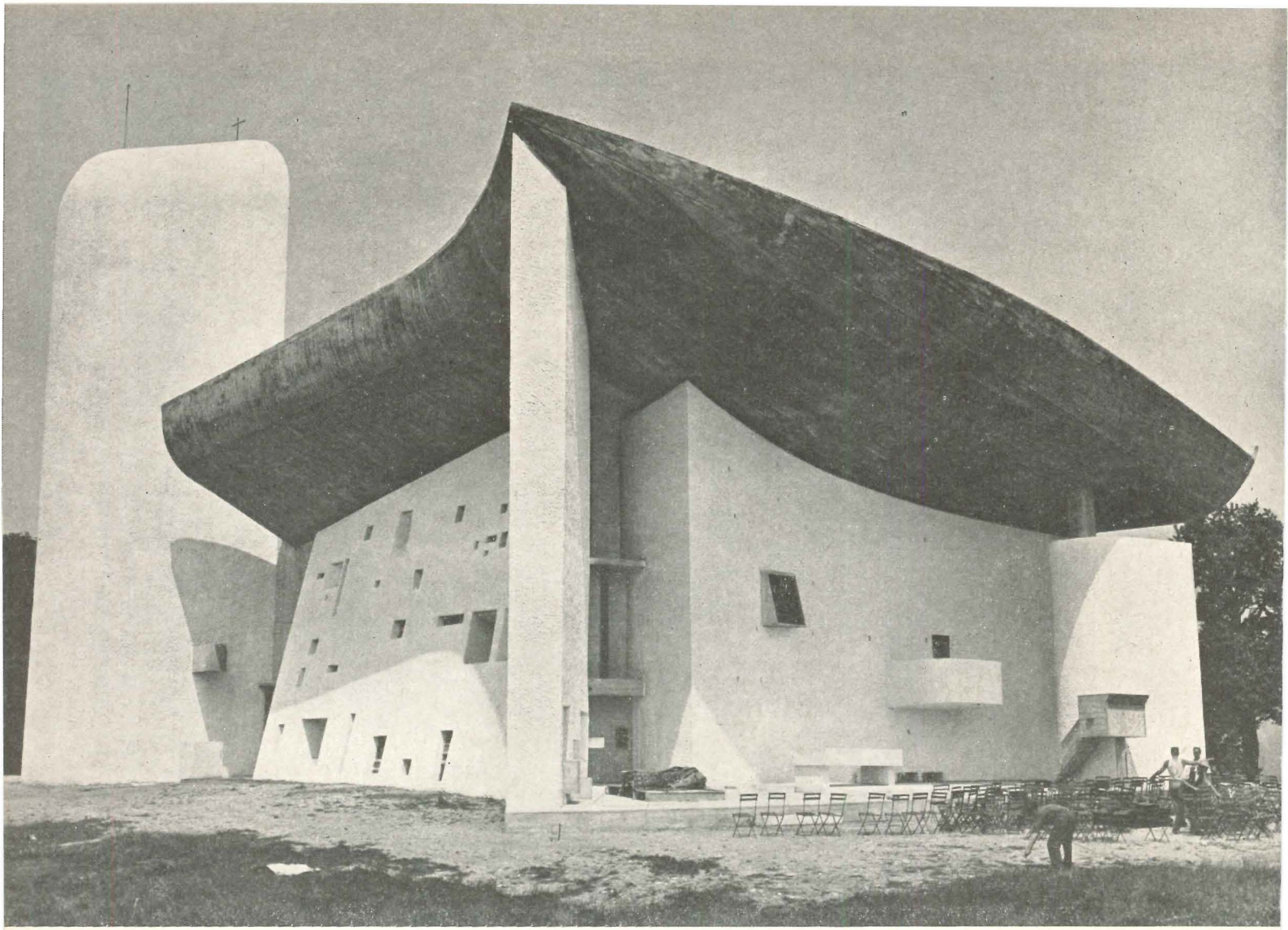
* Compiled by the editor and staff of *The Building Reporter*, from information collected by MacLean Building Reports

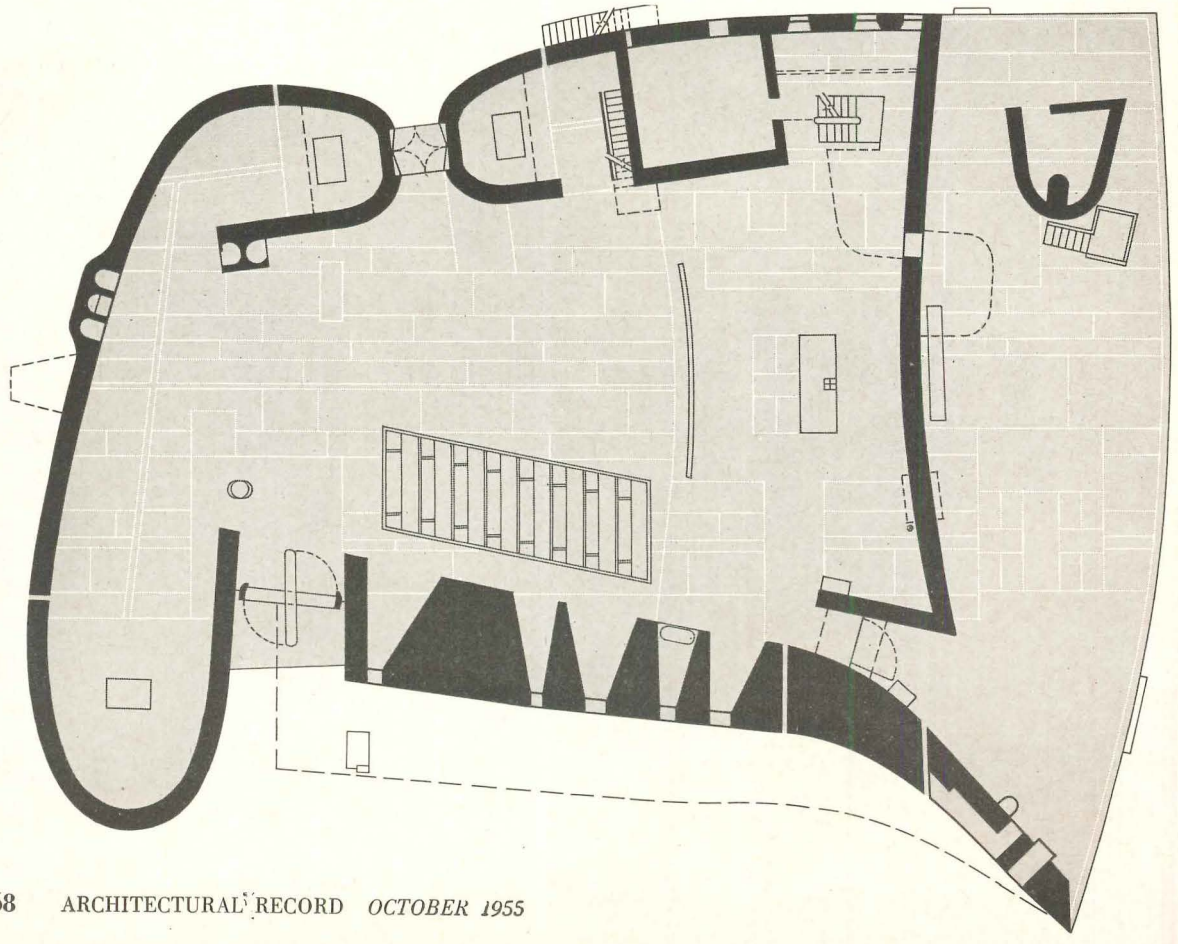
(*More news on page 44*)

Magnum Photos Inc.



LE CORBUSIER'S NOTRE DAME DU HAUT AT RONCHAMP





PARIS

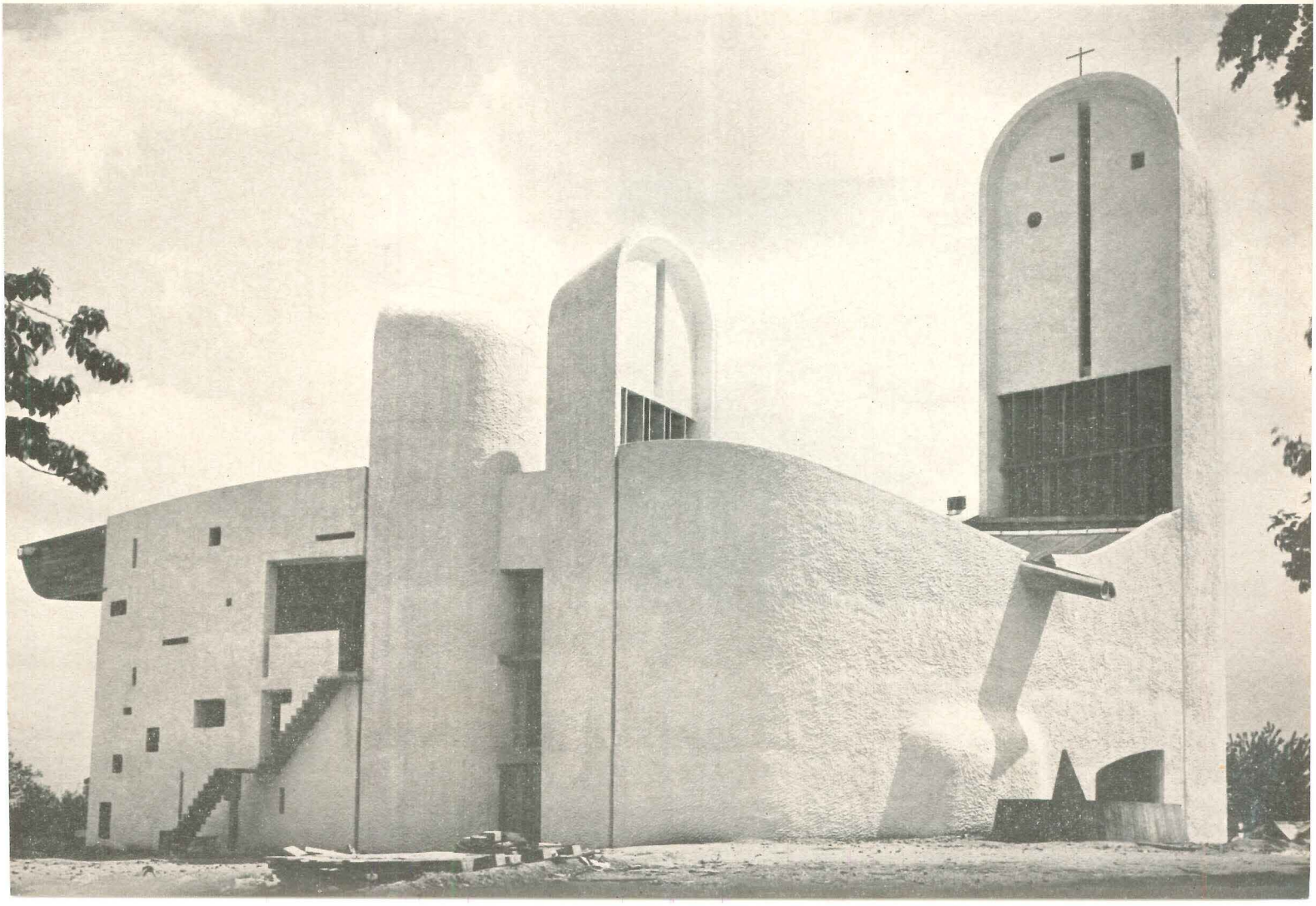
JOHN SHEAR

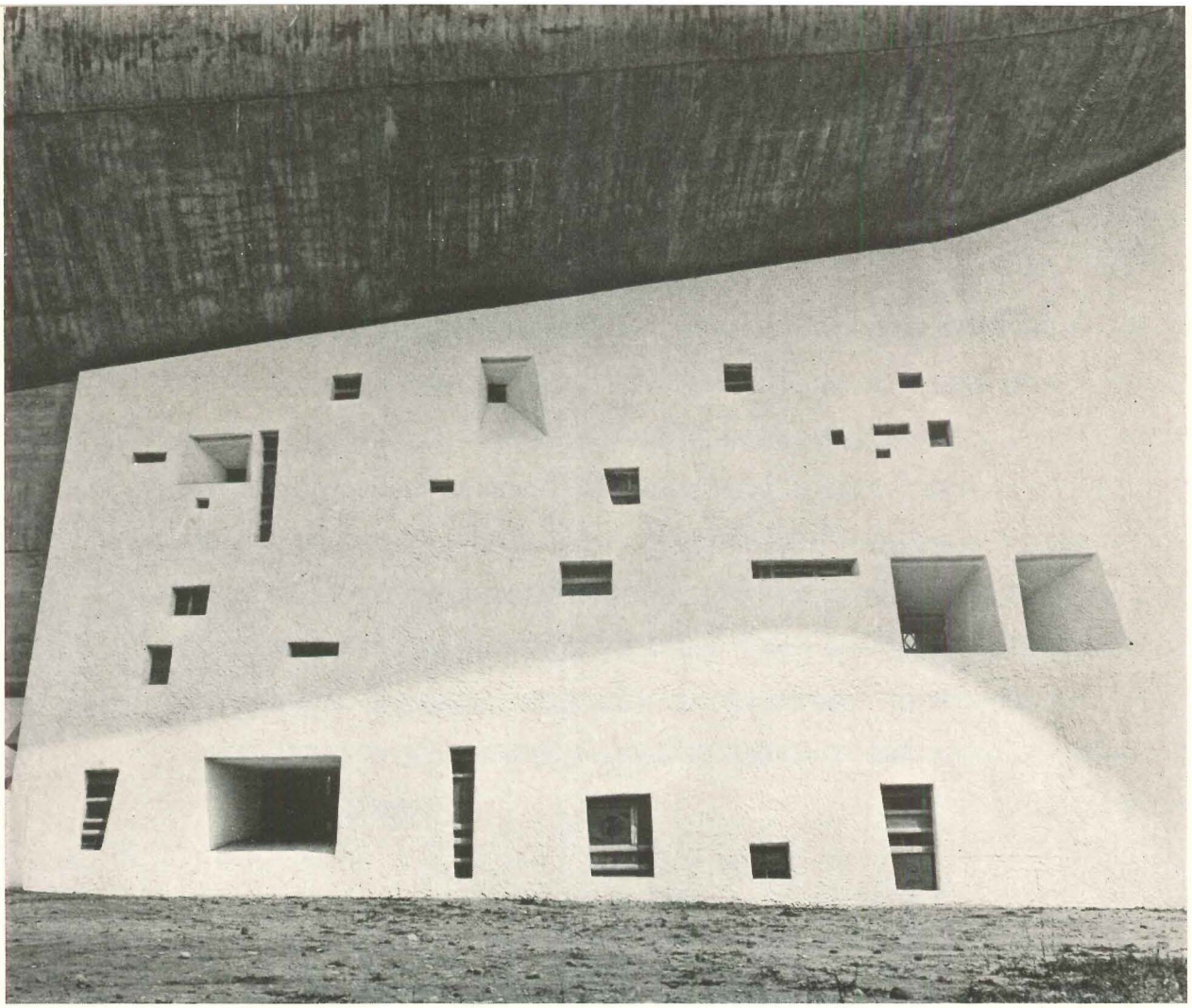
ARCHITECTURAL RECORD
NEW YORK

CORBU HAS MADE GREAT PROGRESS IN ARCHITECTURAL COMPOSITION. NOTRE DAME DU HAUT CHAPEL IS HIS BEST. DOUBTS CREATED BY ALL PUBLISHED PHOTOGRAPHS COMPLETELY ERASED BY ANALYSIS "A PIED D'OEUVRE." BERNINI'S AND BORROMINI'S TOOLS WERE USED BY CORBUSIER AS 13TH CENTURY ONES WERE USED BY PERRET AT NOTRE DAME DU RAINCY. GOOD ADAPTATION TO SITE AND LIFE WITH SAME BASIC TOOLS USED IN SANCTUARIES BY GREEKS, MAYANS, CHRISTIANS, ETC. EVERYTHING IS THERE INCLUDING CORBUSIER'S SIGNATURE BY FINGERPRINTS NEAR THE SYMBOL OF THE VIRGIN MARY. UNFORTUNATELY CROSS AND CHRIST WITHIN CROSS PERFECT EXAMPLE OF ARCHITECTURAL ANTI-CLIMAX YET ELEMENTS OF COMPOSITION ARE MAGNIFICENT EXAMPLE OF MONUMENTALITY WITHIN MINIMUM PHYSICAL SIZE. RONCHAMP EXPRESSES A LIBERATION OF CORBUSIER FROM CORBUSIER.

LABATUT

Prof. Jean Labatut, Director of Graduate Studies, School of Architecture, Princeton University, visited Ronchamp on behalf of ARCHITECTURAL RECORD. *Prof. Labatut's acquaintance with Corbusier and his work dates from 1920*





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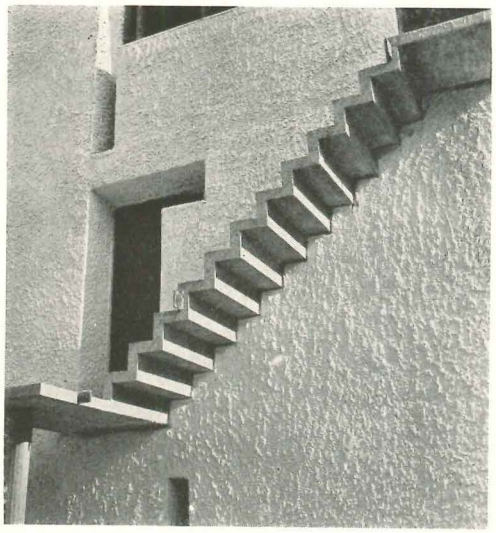

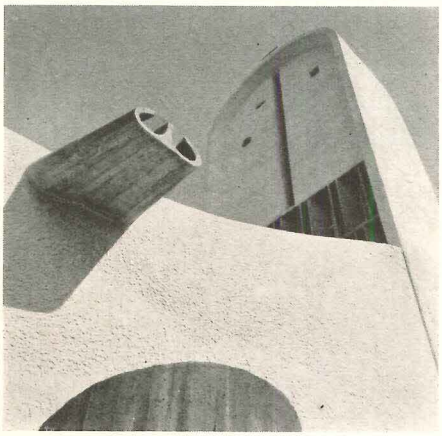

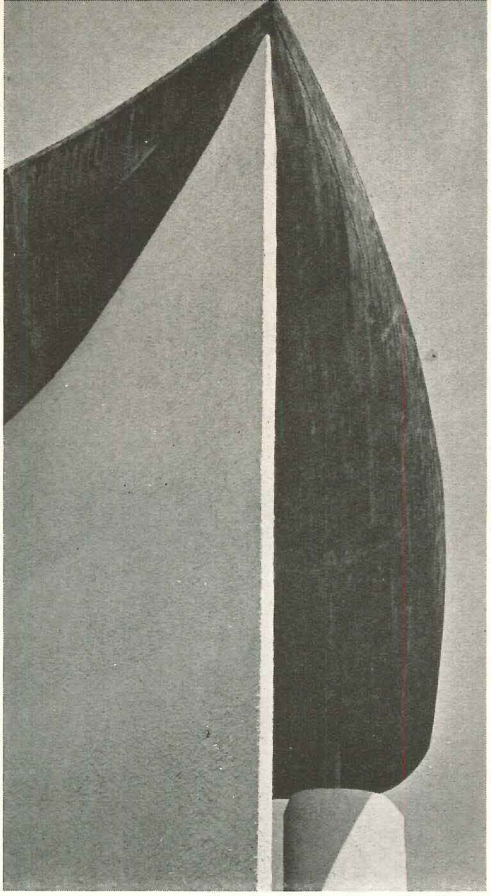

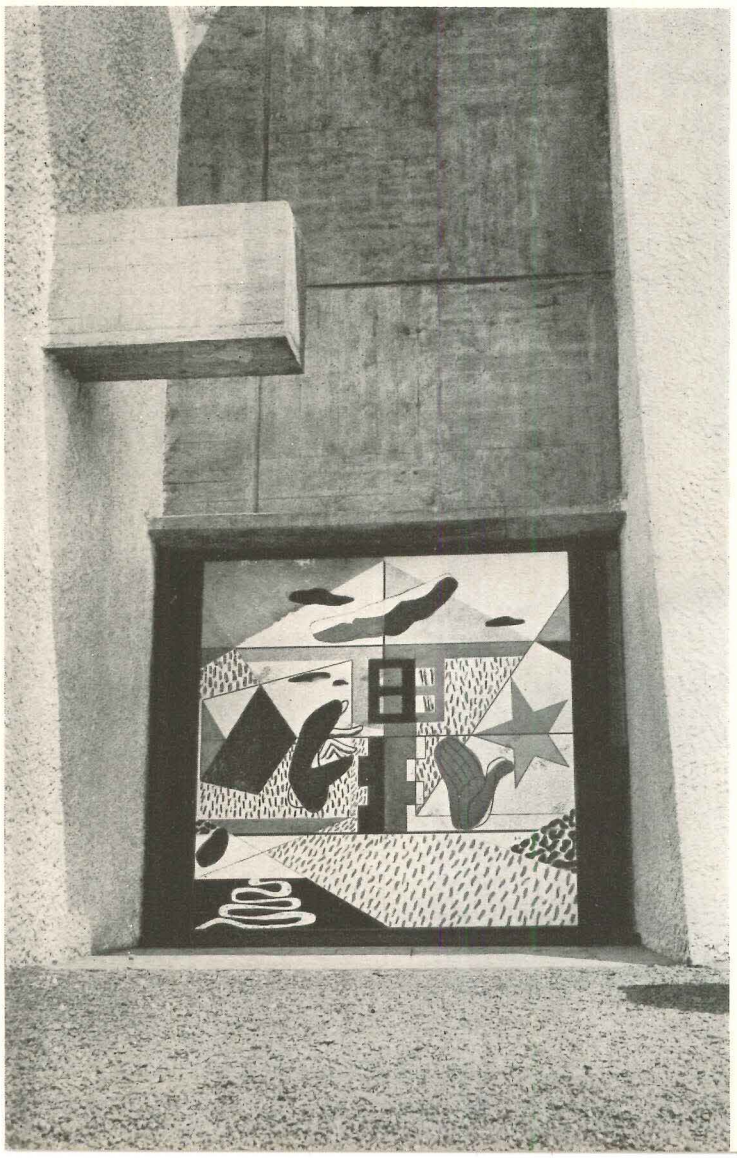

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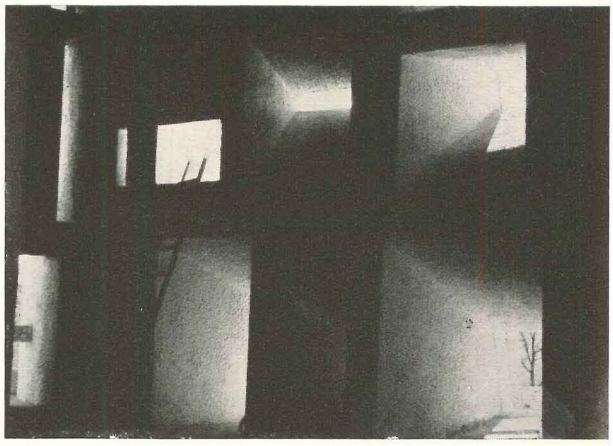

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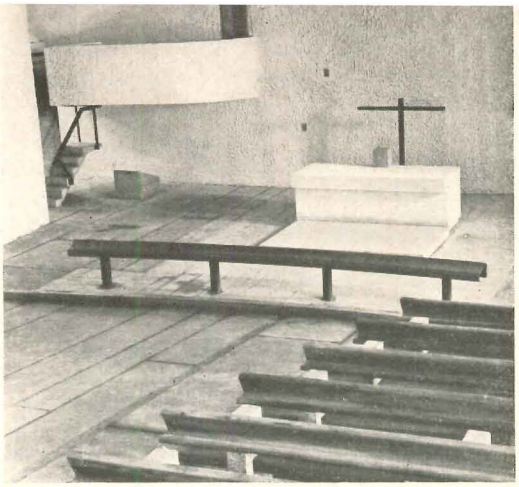

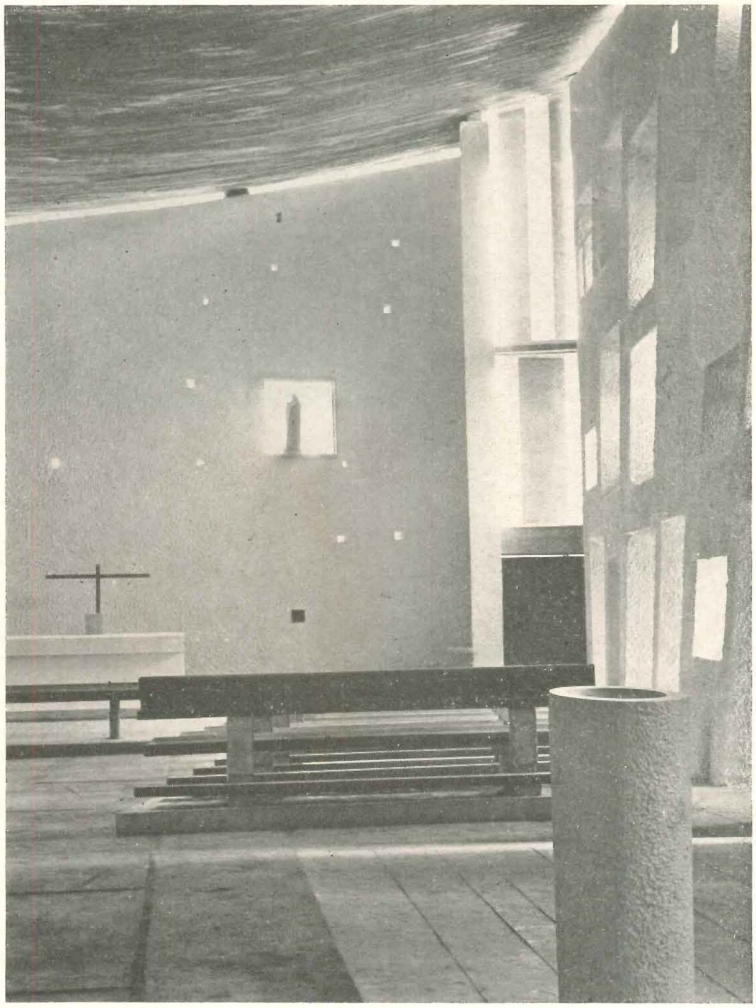

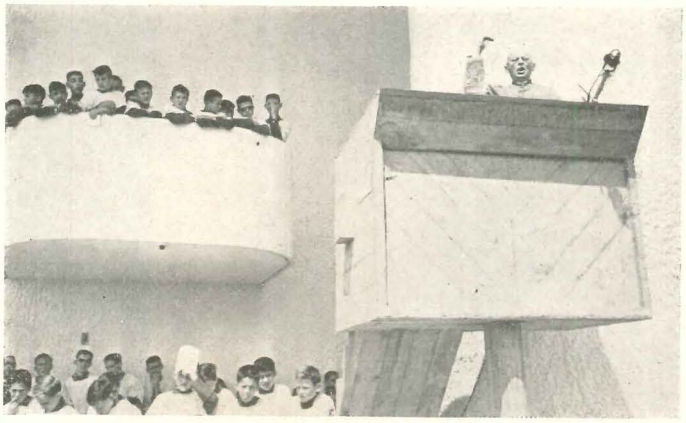

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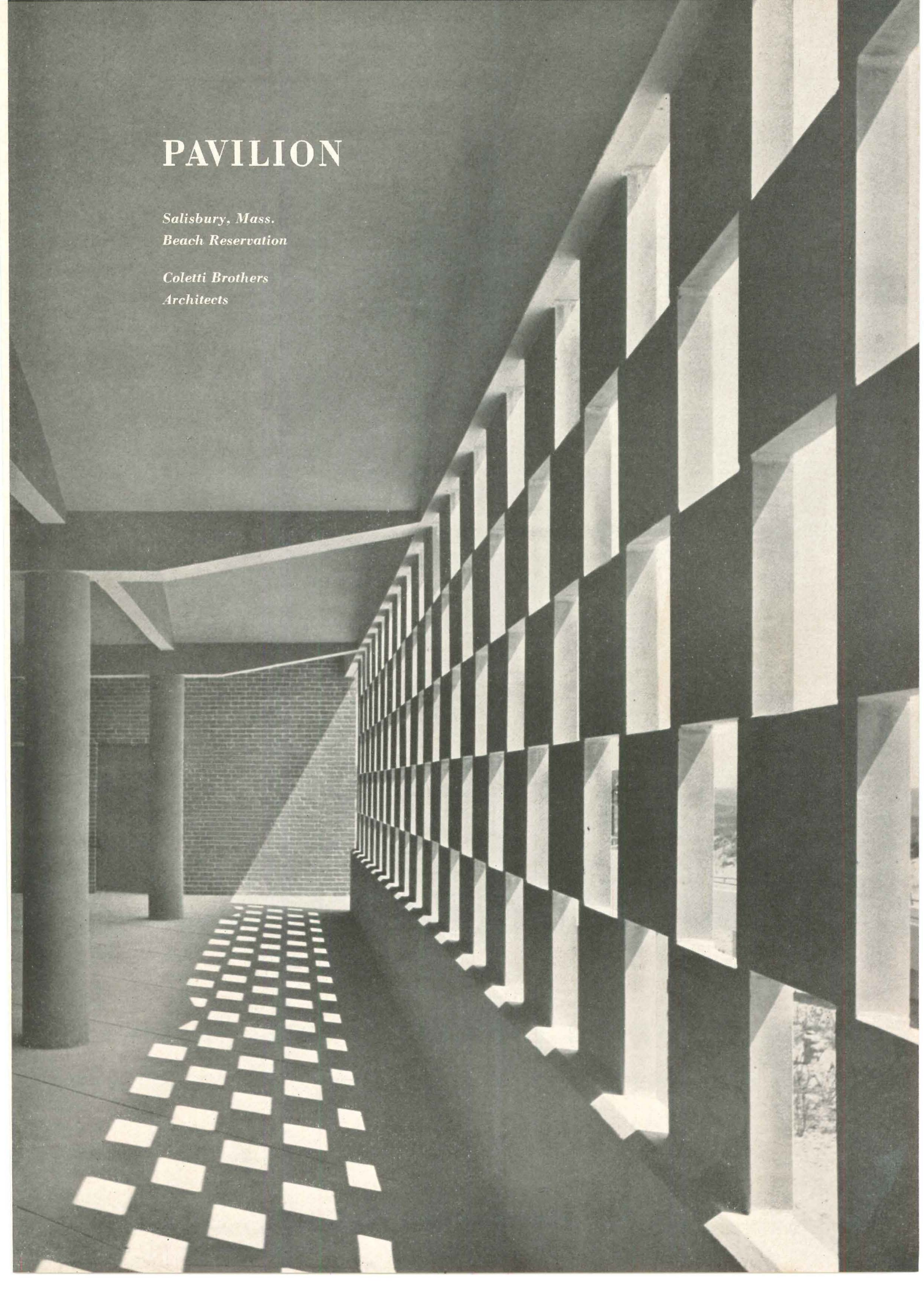


PAVILION

Salisbury, Mass.
Beach Reservation

Coletti Brothers
Architects

BATH HOUSE and PAVILION, SALISBURY, MASS.

Architects: Coletti Brothers. Engineers: E. N. Dube (Struct.), Sullivan & Wright (Mech.), C. W. Rickerd (Elec.)

Letter from the Architects:

SALISBURY BATH HOUSE was a job we enjoyed doing because we had carte blanche in the design and a sympathetic client in the persons of Governor Herter and Commissioner of Public Works John Volpe. The building is the first unit of a beach program conceived by the Governor. Six or seven others are contemplated at various beaches.

"We thought the pavilion should be gay and playful, of rugged materials that would not deteriorate in the salt air. We chose concrete for this reason and because it permitted us to make the design sculptural. We raised the building on stilts so there would be a clear view through it to the ocean, colorful boats, white sails, people, beach umbrellas and the usual beach scenery. The upper level is an observation platform for people who don't care to swim but do want the ocean view and sea breeze and yet would like protection from the hot sun.

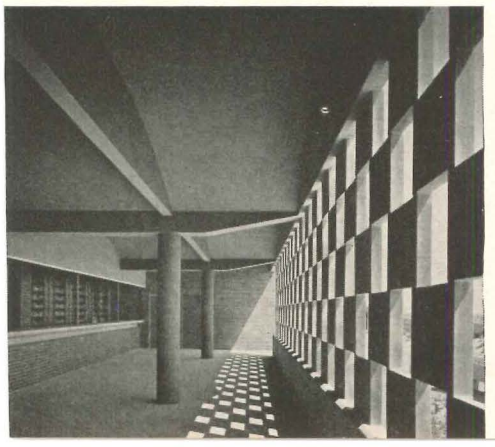
"The Governor asked whether it would be possible for some people to enjoy view, breeze *and* sun at the same time, whether it would be feasible and desirable to open a portion of the roof for this purpose. Hence the open lattice work over part of the roof (see following pages — Ed.) which will not have awnings.

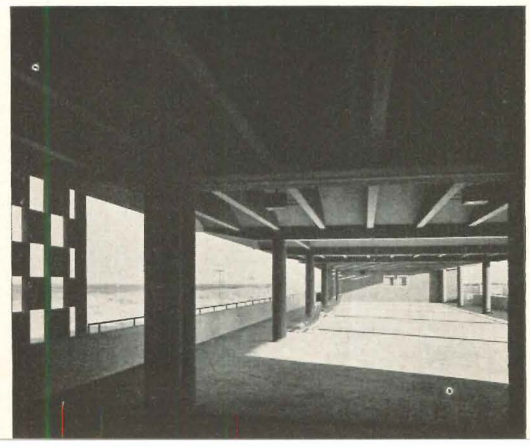
"There are parking areas and a toll house in connection with this whole program; I believe the total cost exceeds a million dollars. The contract price for the bath house proper was $287,000.00.

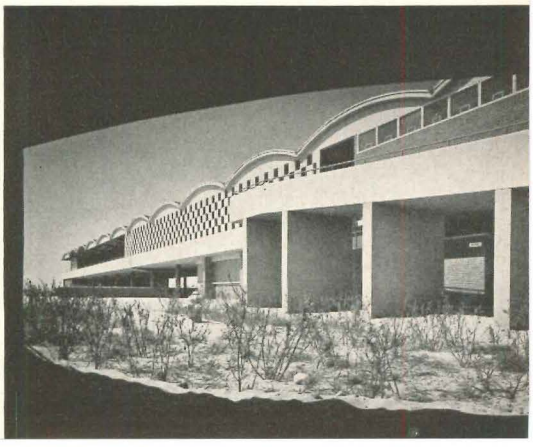
"Cordially yours,

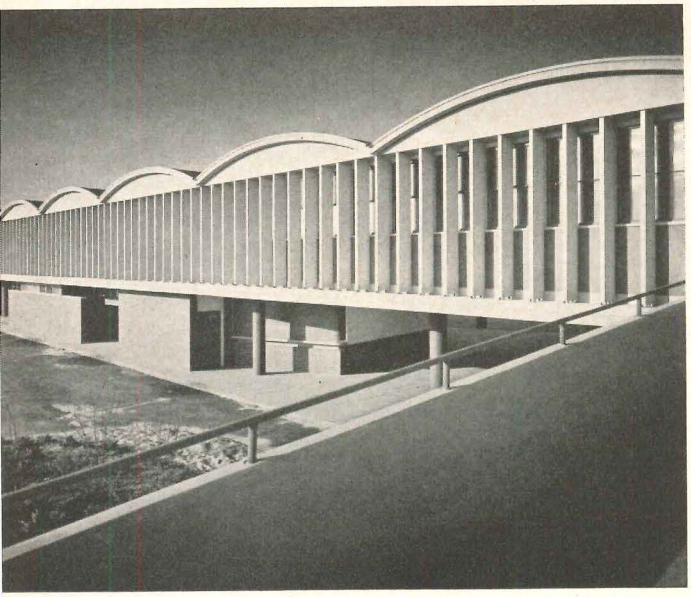
COLETTI BROTHERS

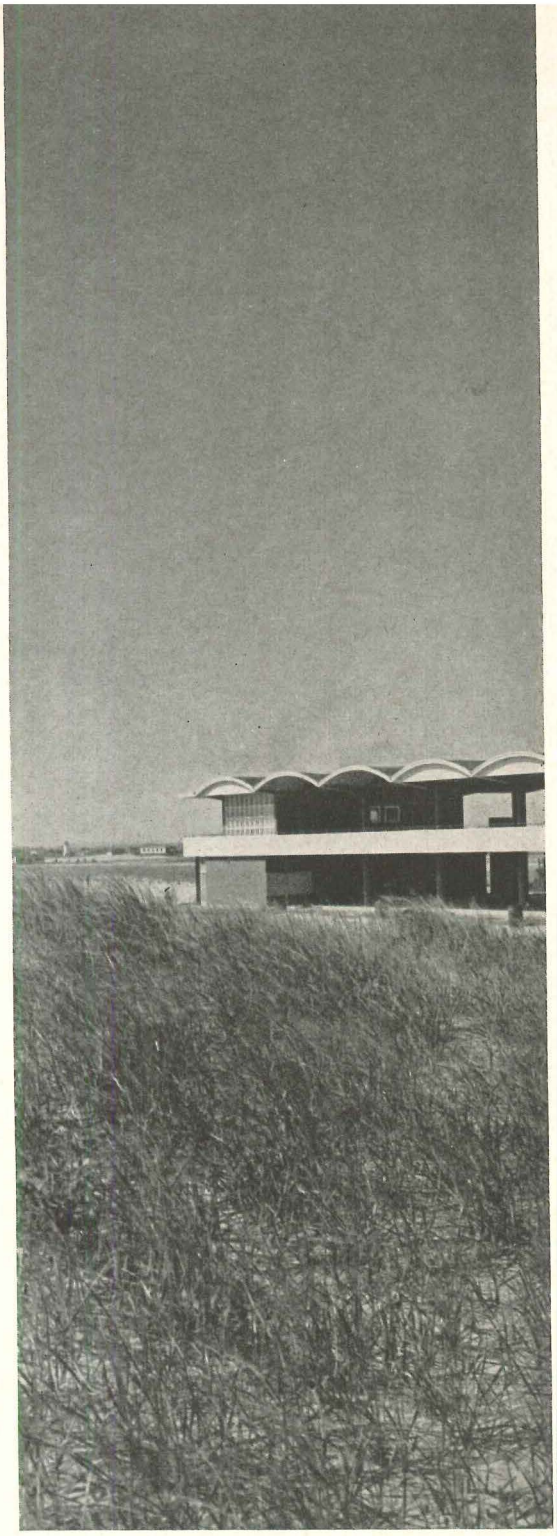
Carroll Coletti



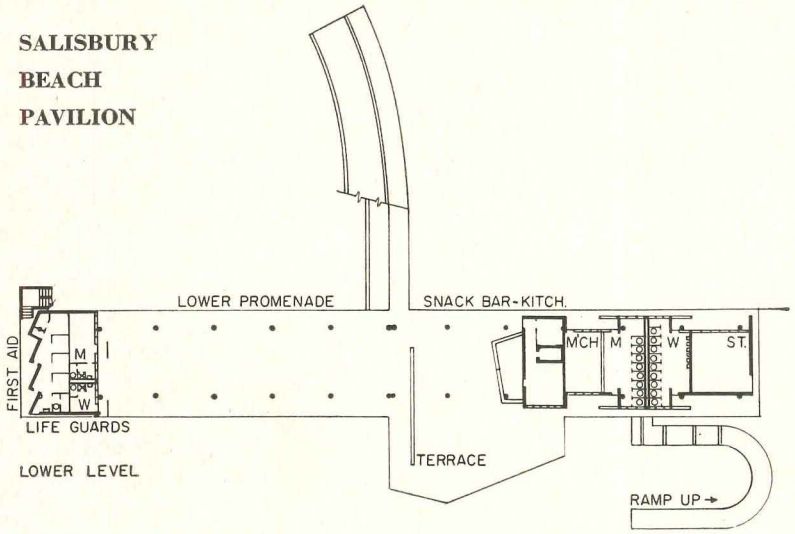


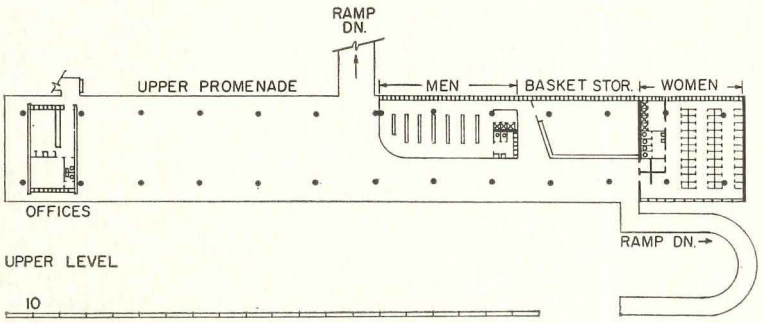


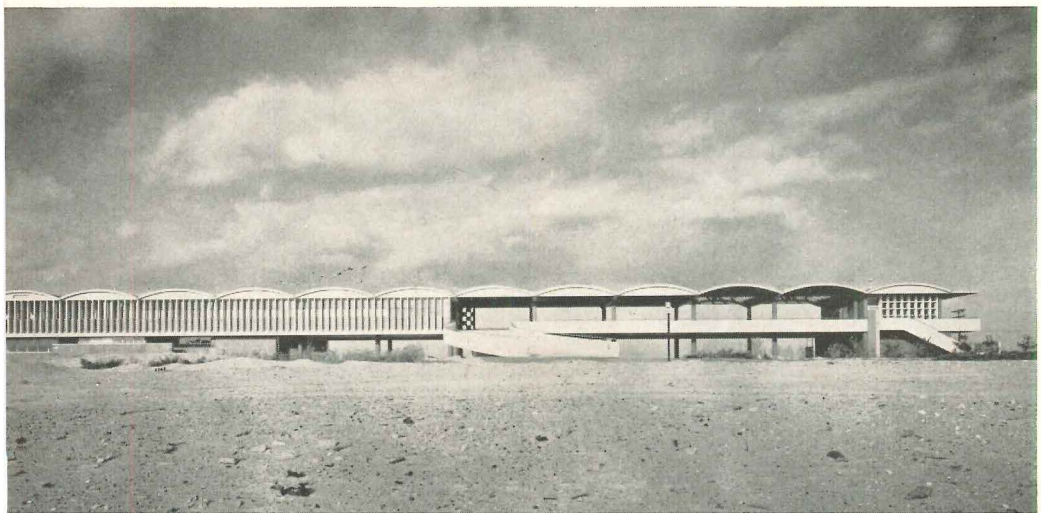




SALISBURY BEACH PAVILION

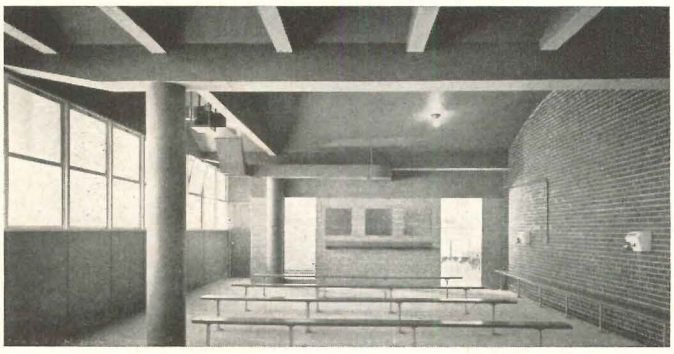


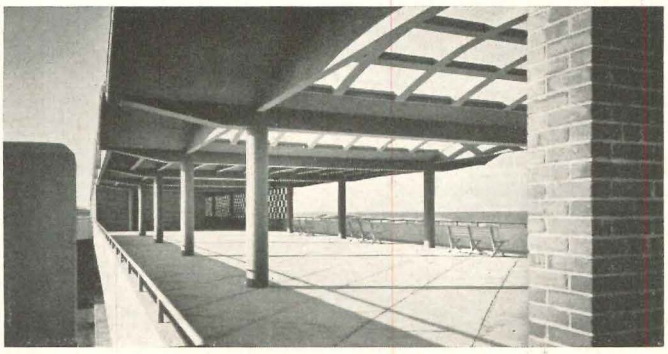


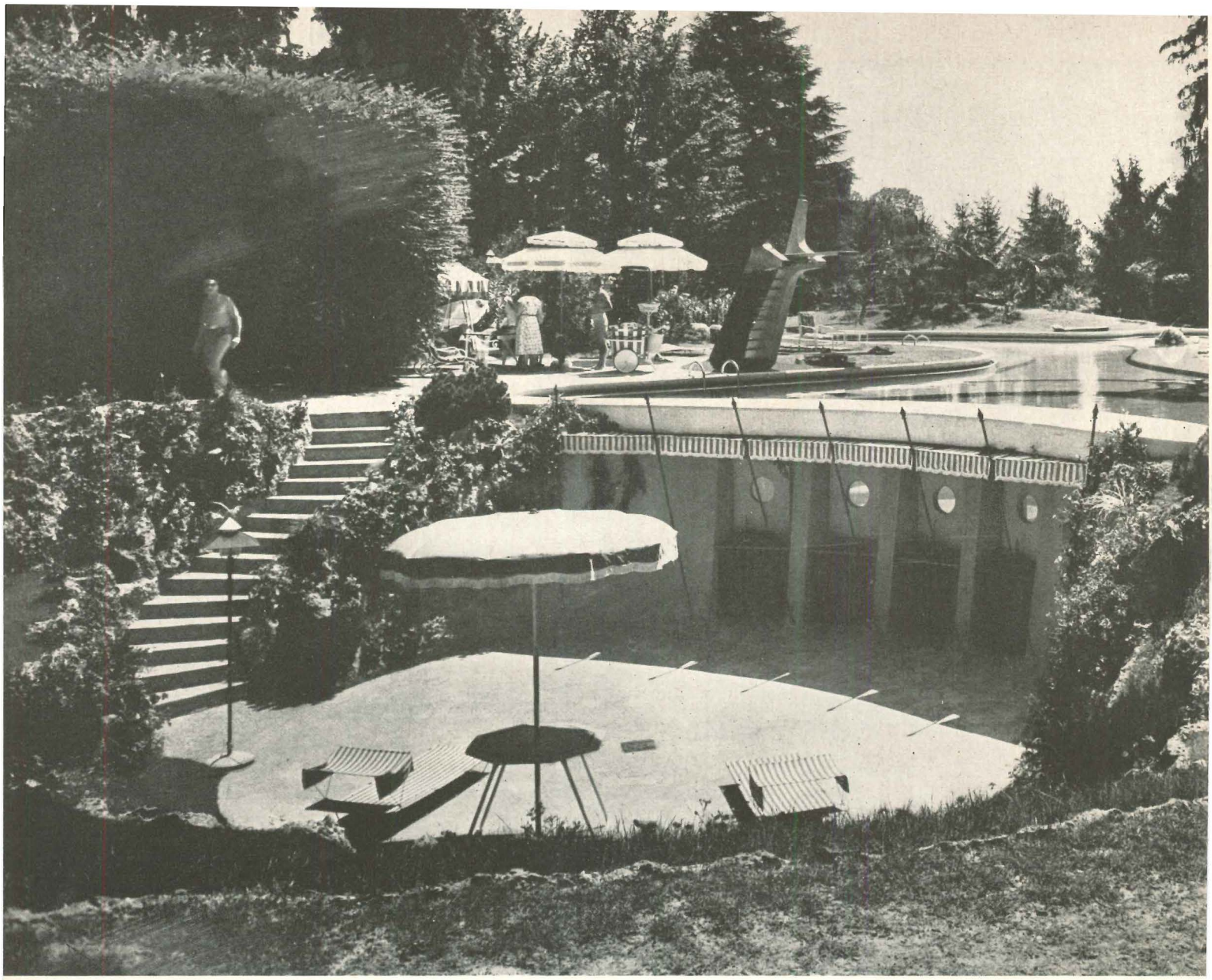


The administration suite is on the top floor to permit supervision of the entire length of the beach, with first aid facilities at beach level for immediate accessibility. One of the knottiest problems was roof drainage and surfacing. Considering climate and other factors, a built-up roof was selected; the promenade deck, of air-entrained concrete, was left exposed

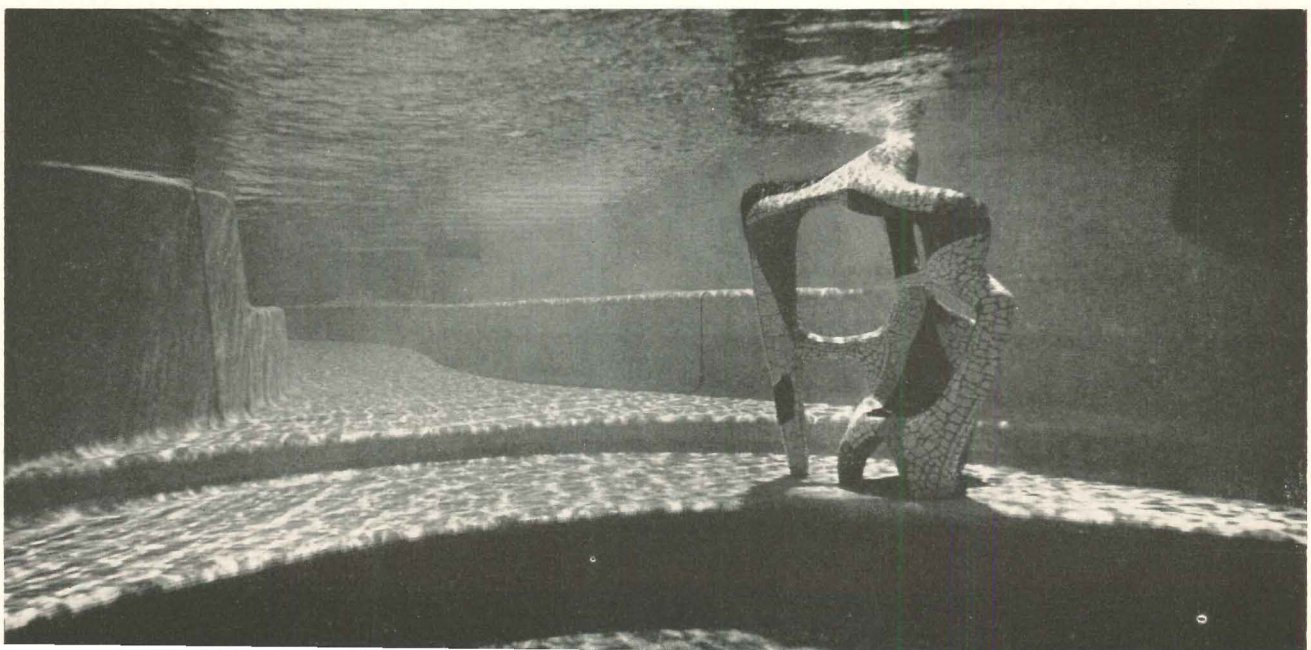
Above, lower level concession terrace interrupts the long facade. Below, dressing room and promenade, partly lattice-roofed







SHAPE AND SCULPTURE ADD GAIETY TO

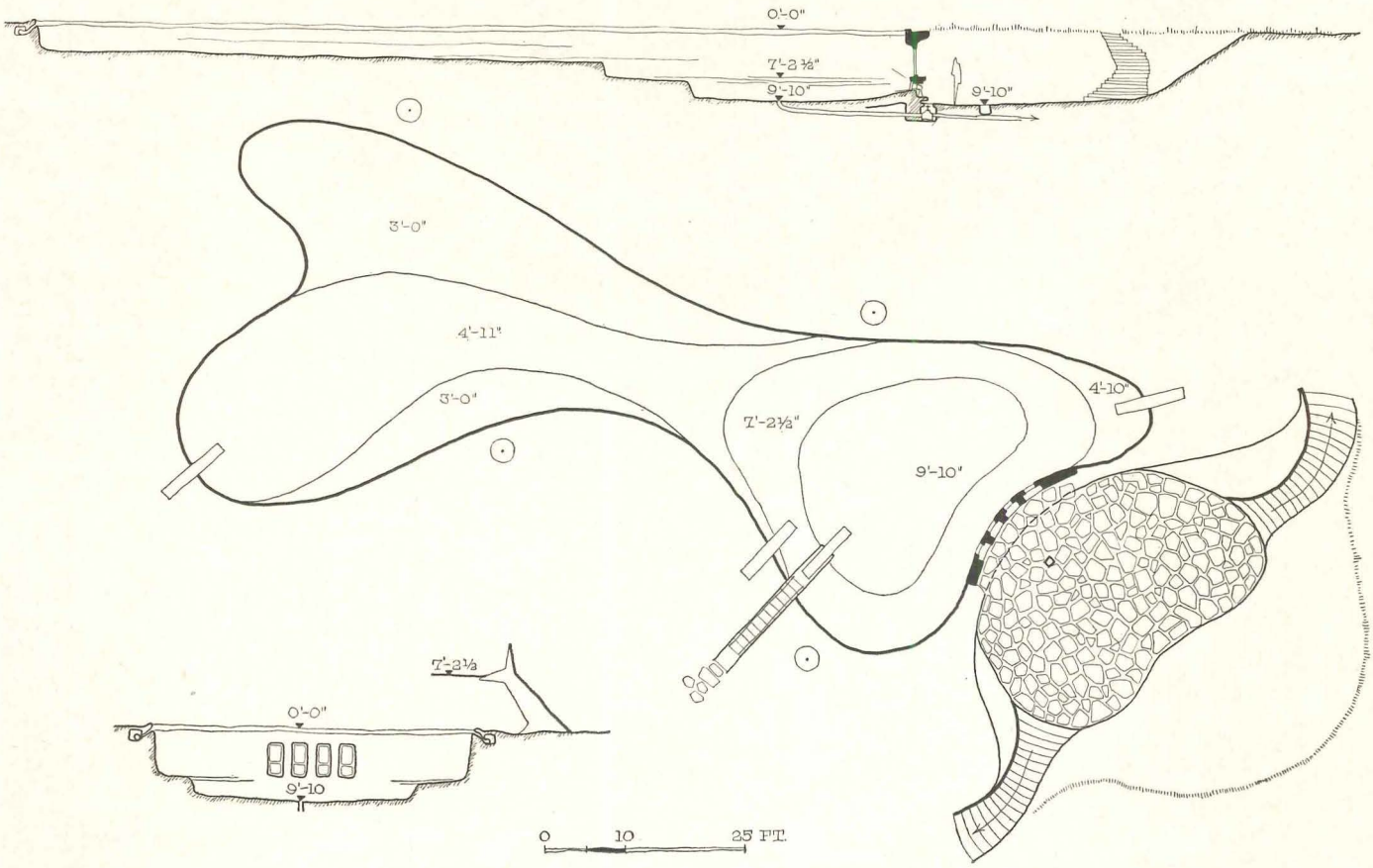


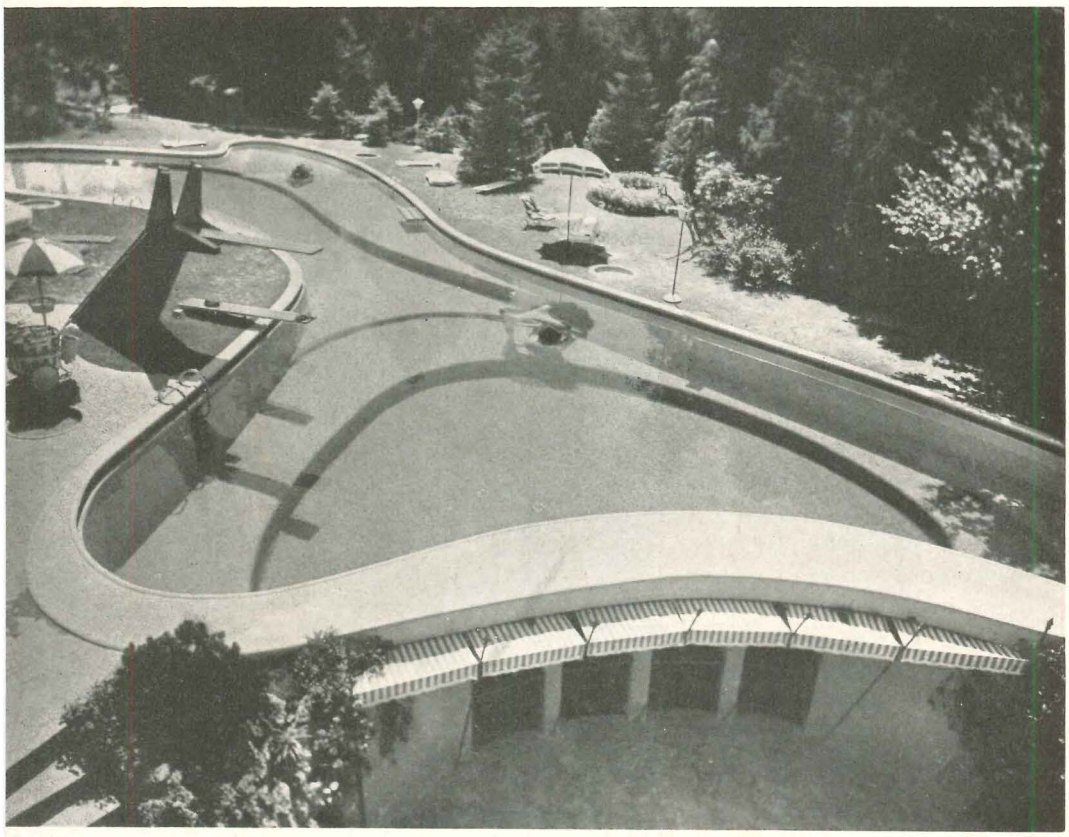
Giulo Minoletti
Architect

SWIMMING POOL IN ITALY

A FRANK SENSE OF FUN characterizes this swimming pool on a private estate near Milan. For the swimmers there are an underwater play sculpture and an exotic diving tower; for the spectators there is a sunken garden from which the underwater antics of the swimmers may be watched through eye-level windows.

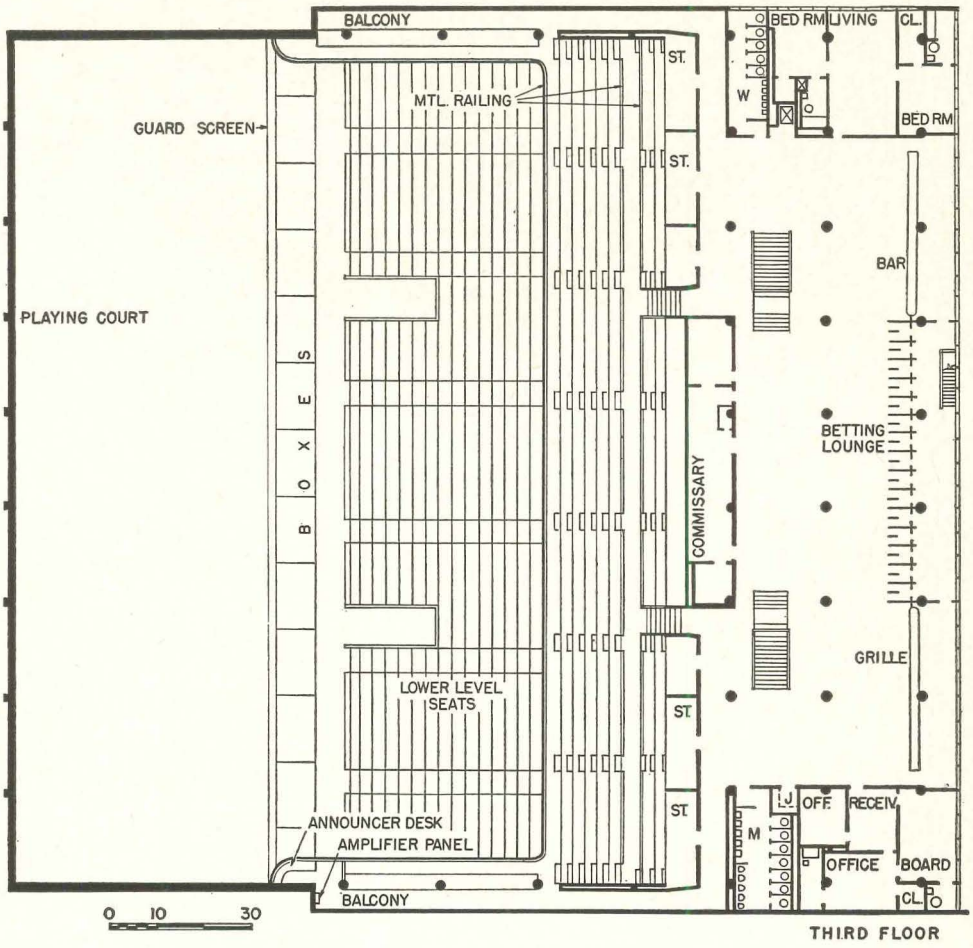
The pool itself is curvilinear in shape (see plan, next page), 131¼ ft long and ranging in depth from just over 2 ft to 9 ft 10 in. It is of reinforced concrete construction, with a blue glass mosaic lining which darkens with the depth of the pool. The underwater sculpture, by Antonia Tomasini, is sheathed in multicolor pottery; the diving tower, of reinforced concrete, is finished in a pottery mosaic, yellow on one side, black on the other. At the shallow end of the pool is a fountain by Lucio Fontana — a sculptured dolphin of enameled pottery, 11½ ft long.



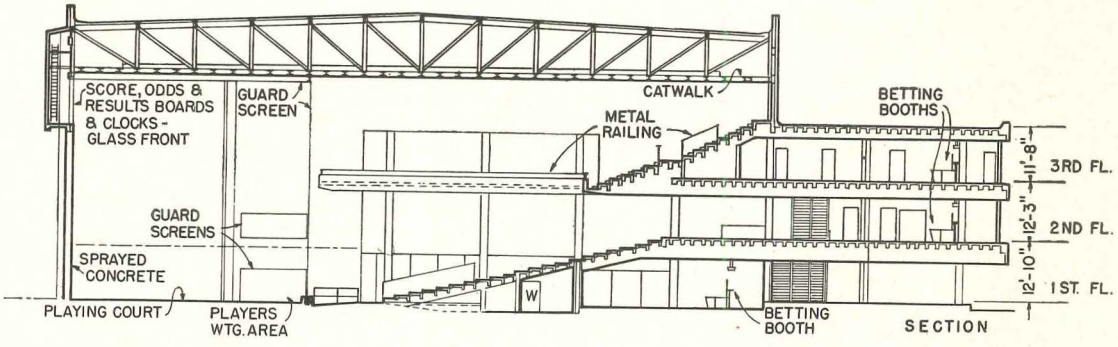


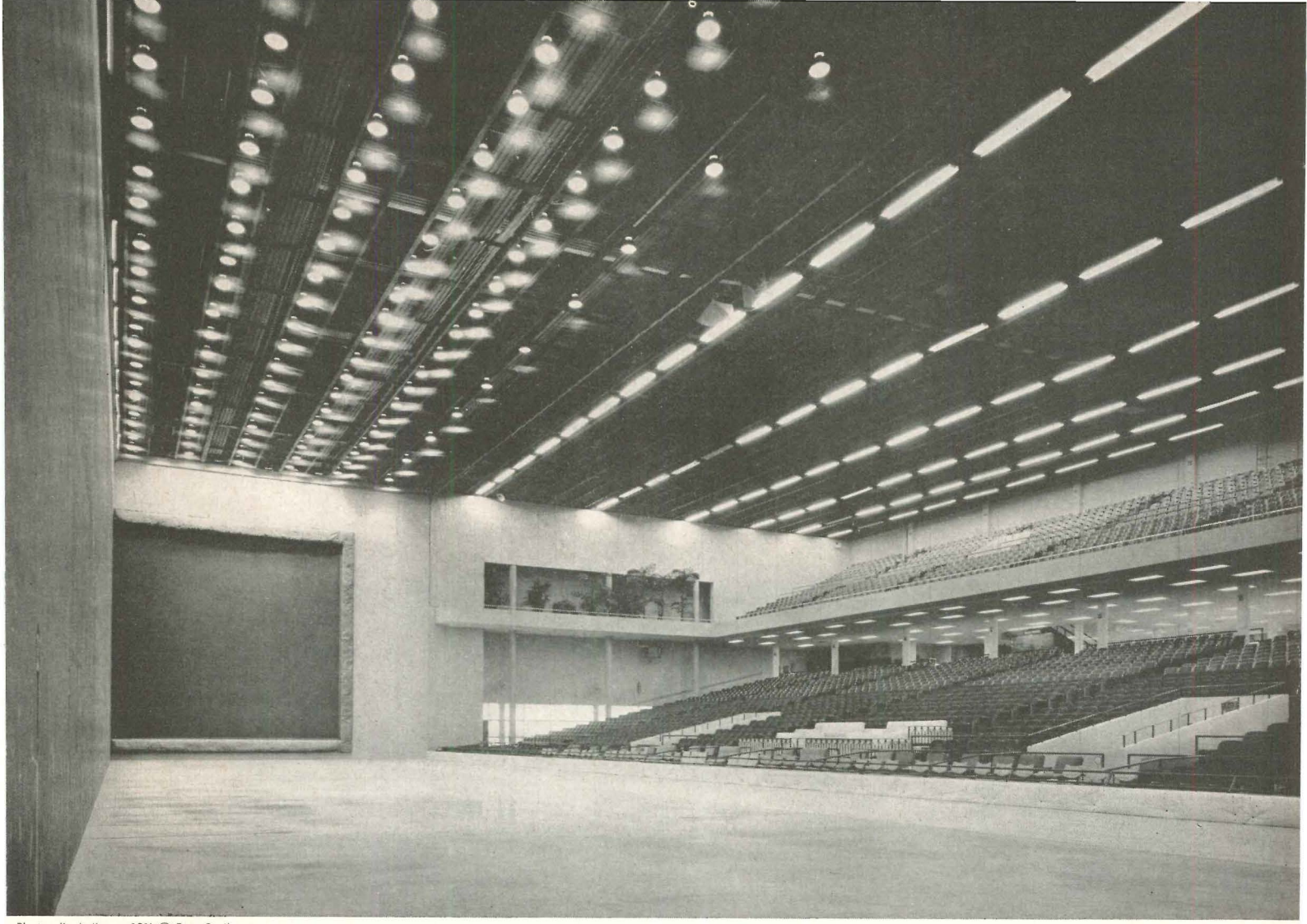
Farabola

FLORIDA JAI ALAI—*see next page*



UNIQUE STRUCTURE FOR JAI ALAI MATCHES ON





Photos (including p. 181) © Ezra Stoller

FLORIDA'S GOLD COAST

Jai Alai Fronton at Dania, Fla.

Weed Russell Johnson Associates, Architects

Norman J. Dignum & Associates, Structural Engineers

R. L. Duffer & Associates, Mechanical Engineers

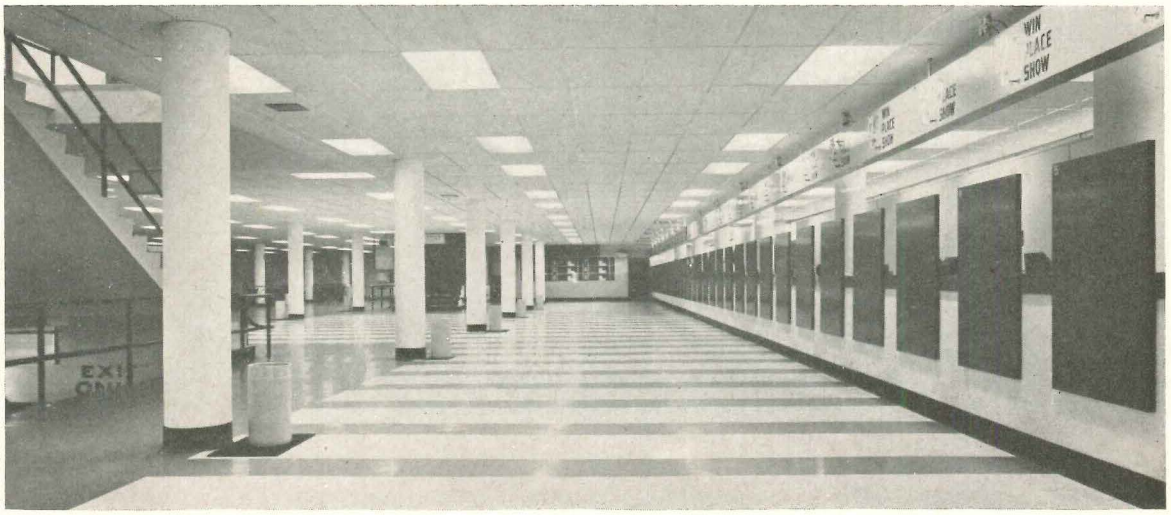
Joseph G. Morretti, Inc., General Contractor

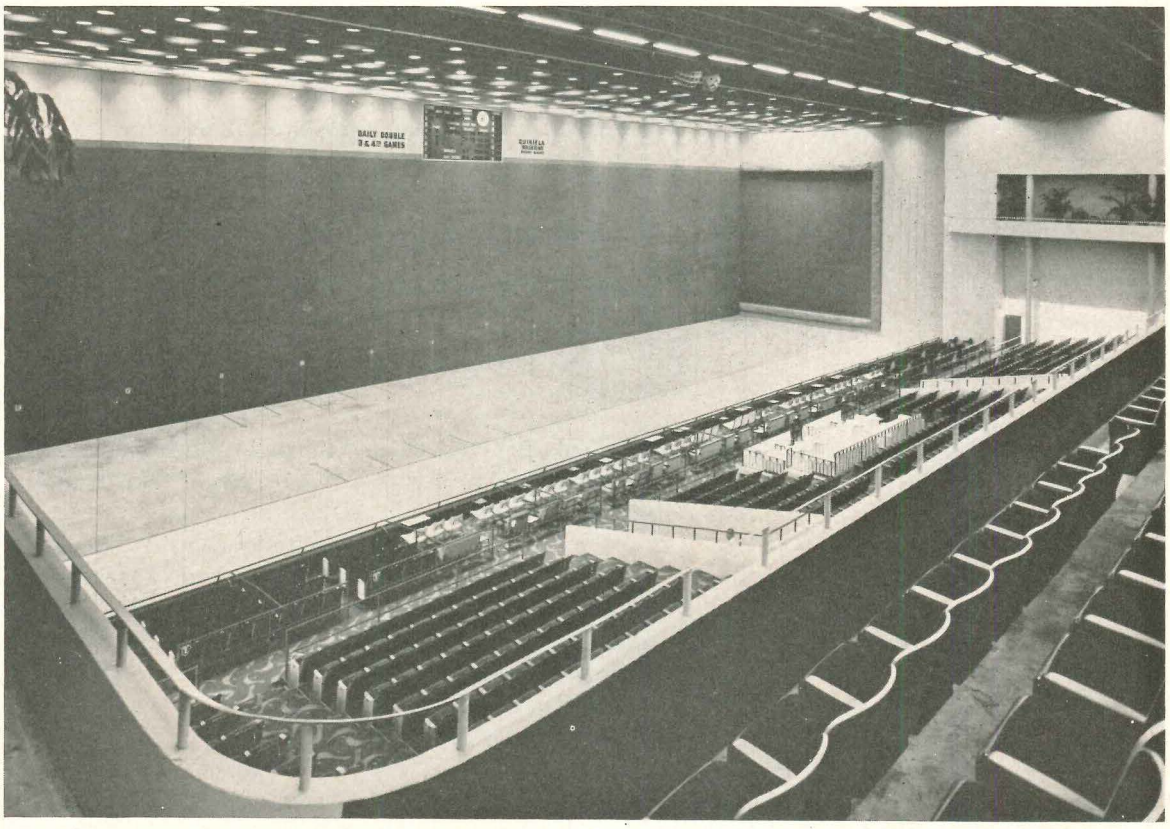
LOCATED between Miami and Fort Lauderdale, with parking for 1500 cars, this attractive building was designed to meet the unusual requirements of a fronton, or court for the Basque game of Jai Alai, popular in Spanish speaking countries. It contains over 3400 spectator seats, 70 windows for betting, a cocktail lounge and restaurant, also overnight accommodations for the athletes. No structure specifically for such a purpose had previously been built in the United States.

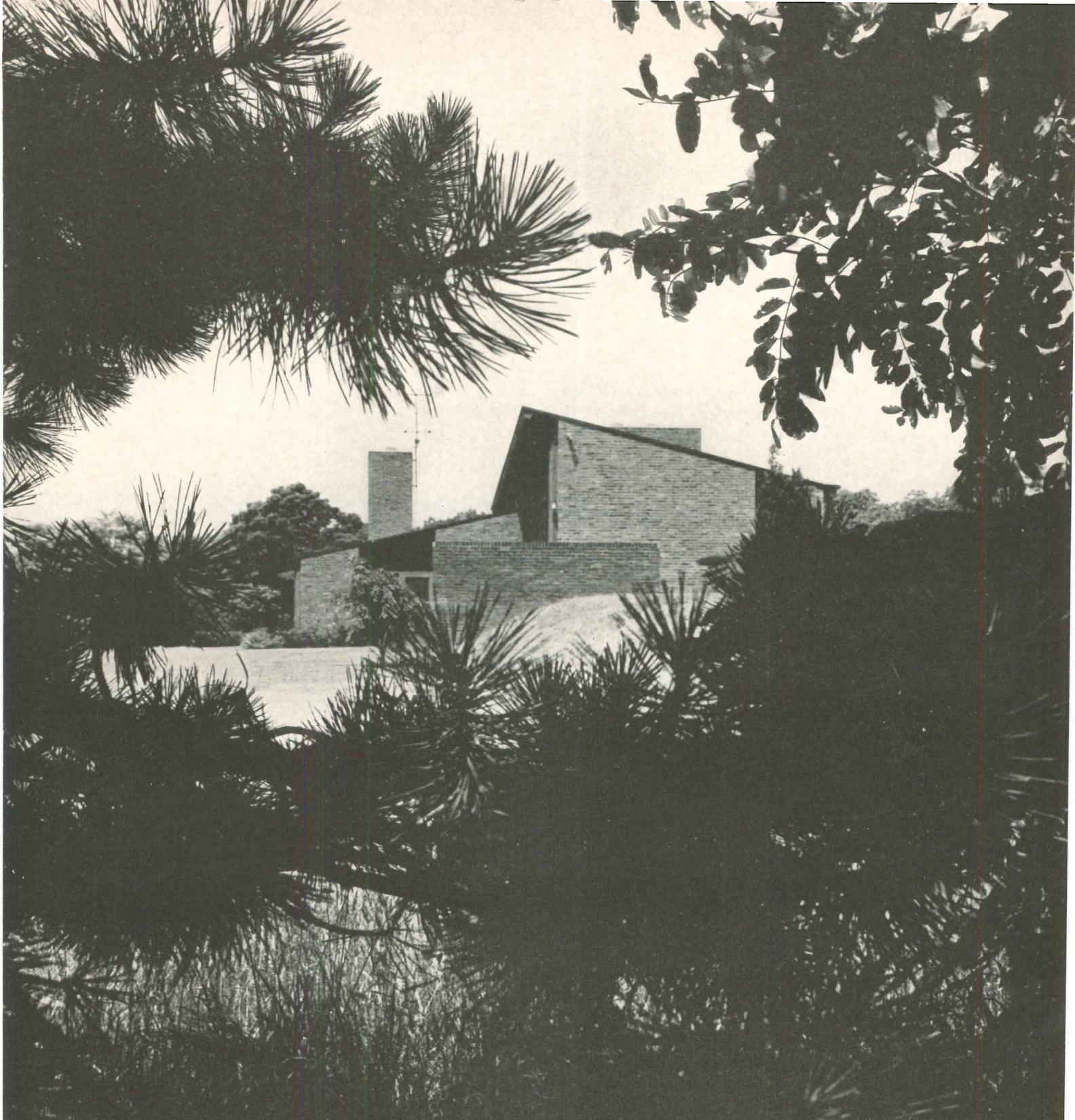
Jai Alai, or Pelota, is a fast, dangerous game — played by professionals — in which a small, hard ball is hurled and returned at high speed against the granite end wall of a court floored in edge-grained maple. Each player is equipped with a cesta made of tight basketry which is strapped to his right arm.

The Florida Racing Commission controls the games and the pari mutuel betting system; the latter an important element in the plan. The three betting lounges are designed for viewing the play, and seats are widely spaced so spectators can reach betting windows without disturbing others. The lower level is reserved for club members; has a separate entrance and private lounges; contains an area (at center) with white leather upholstered, low-slung couches and coffee tables.

The design is essentially two intersecting cubes — one white stucco, the other dark red brick. The clean interior space is roofed with steel trusses on concrete beams and columns; enclosed with concrete block either cement-plastered or painted. The 8-in. granite playing panel is framed by canvas covered kapok pads; the court's ceiling and spectator side are screened. This low cost structure was erected in record time — three months — due in large part to the use of U-shaped precast seating tiers and other details calculated to speed up the construction.







AN ARCHITECTURAL RESPONSE TO ENVIRONMENT

John Pekruhn, Architect

Joseph Spagnuolo, Structural Engineer

Charles Hawk, Mechanical Engineer

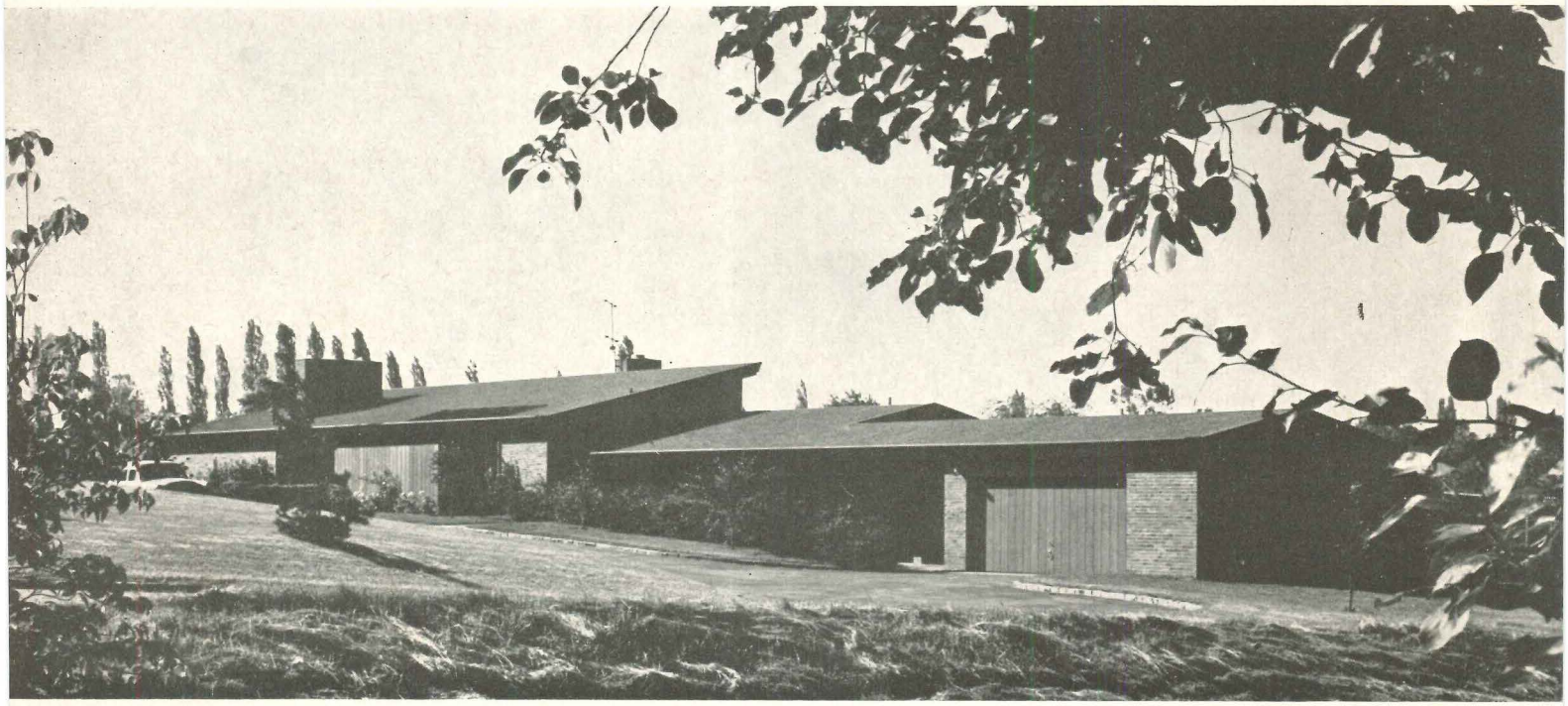
Simonds & Simonds, Landscape Architects

William Schaefer, General Contractor

THIS HOUSE is a remarkably clear expression of five basic environmental influences. The social environment of the community, the character of the neighboring houses, the topography, orientation, and a magnificent view of the Ohio River Valley have been allowed to direct the total form of this house in such a way that its organization achieves an admirable balance between particular influences and general building disciplines. This is not a derivative architecture except inasmuch as its sources can be identified in the conditions and character of the site, the community and its life.

The Neighborhood

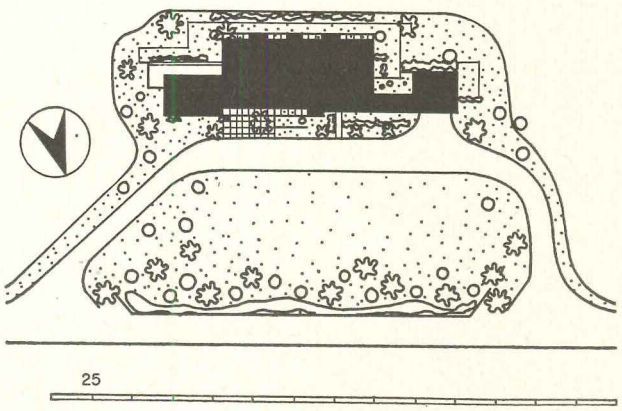
In Sewickley Heights, the life for years has been that of the very rich. From its last century summer-on-the-farm character, it has long since developed into a community of stonewalls and hedges running for great distances along winding roads with glimpses of well-tended lawns under large old trees.

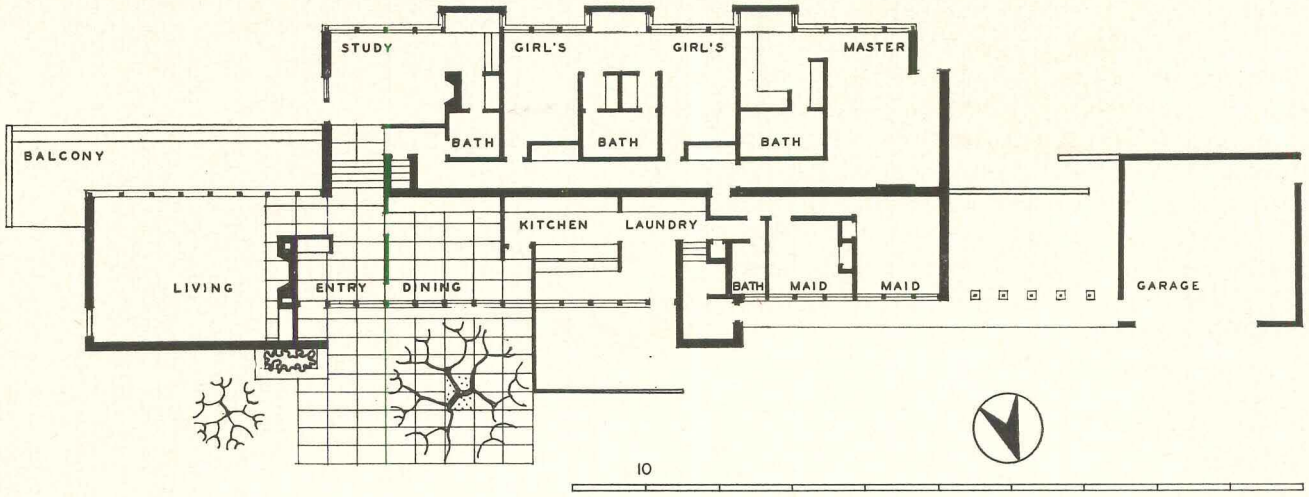


All photos by Massar and Hare

The Site

The character of the community has been protected by a 4½-acre minimum property size and a 100-ft minimum set-back for all property lines. The latter restriction posed a problem in the case of this house, for despite its 15 acres and 500-ft frontage, the site falls sharply away from the road after the first few feet, and it is only from the upper unwooded portion that the broad view of the Ohio River Valley to the south is possible. Hence the house was placed close to the road, kept narrow, and drawn out along the break of the slope.




STUDY
GIRL'S
GIRL'S
MASTER
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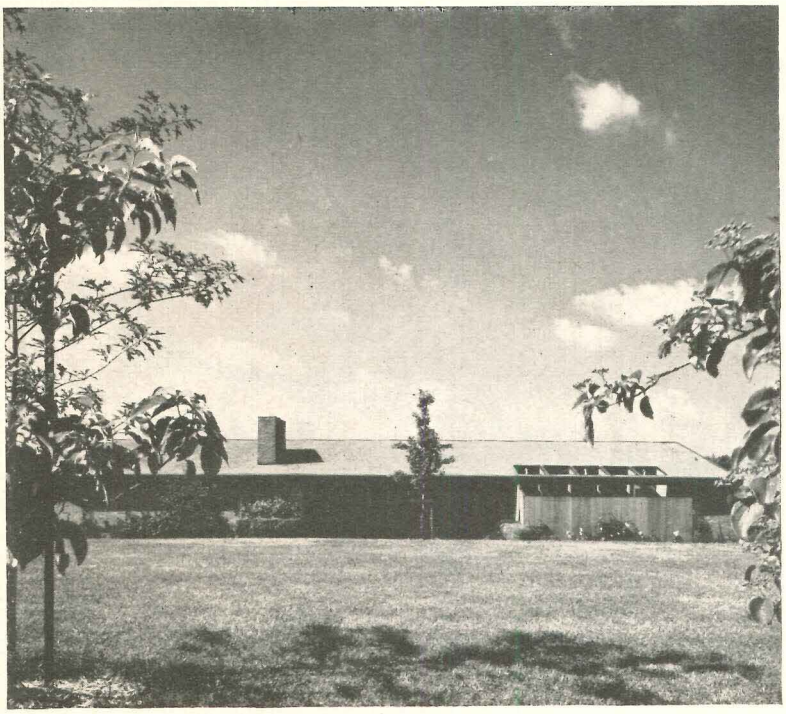
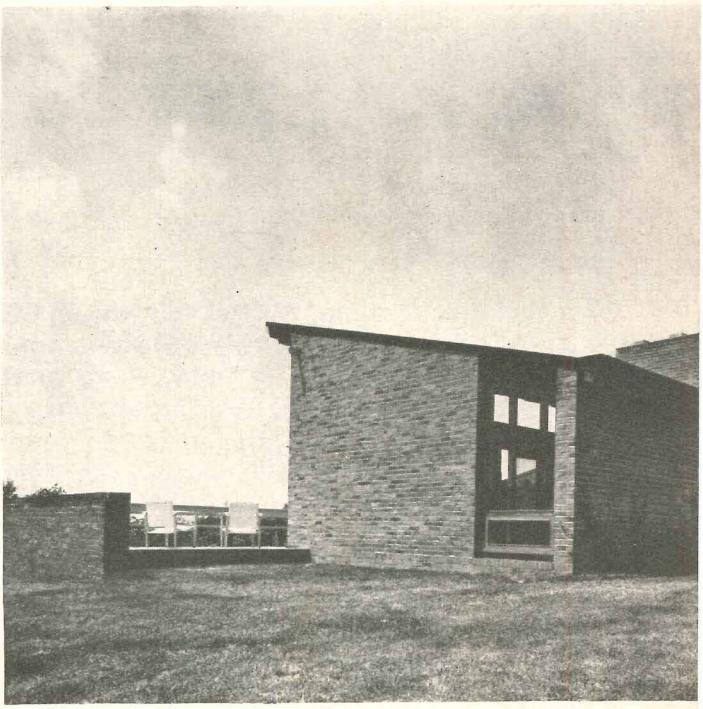
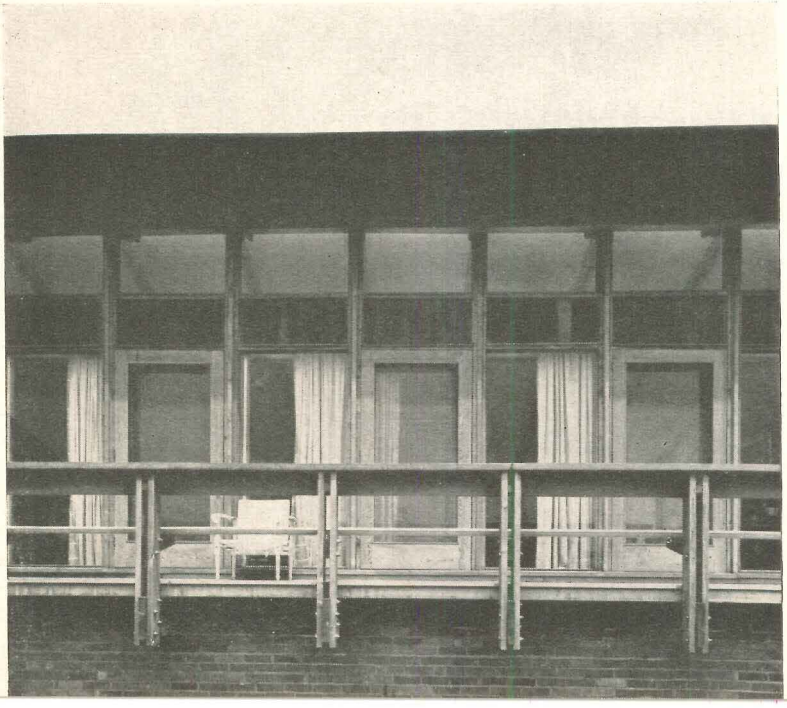
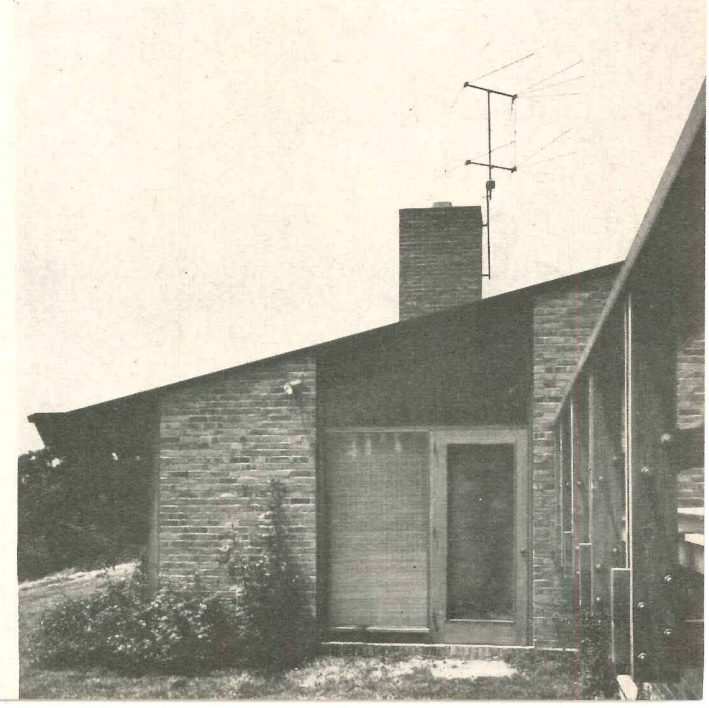
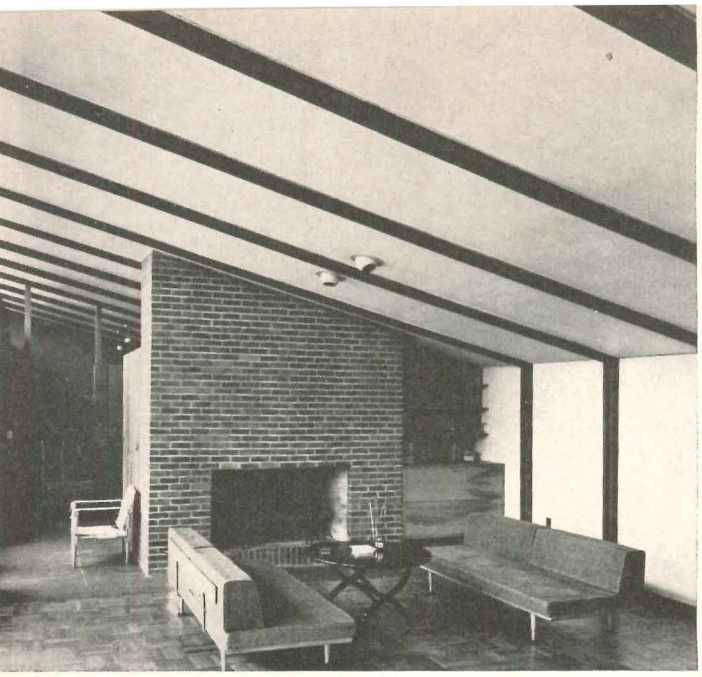
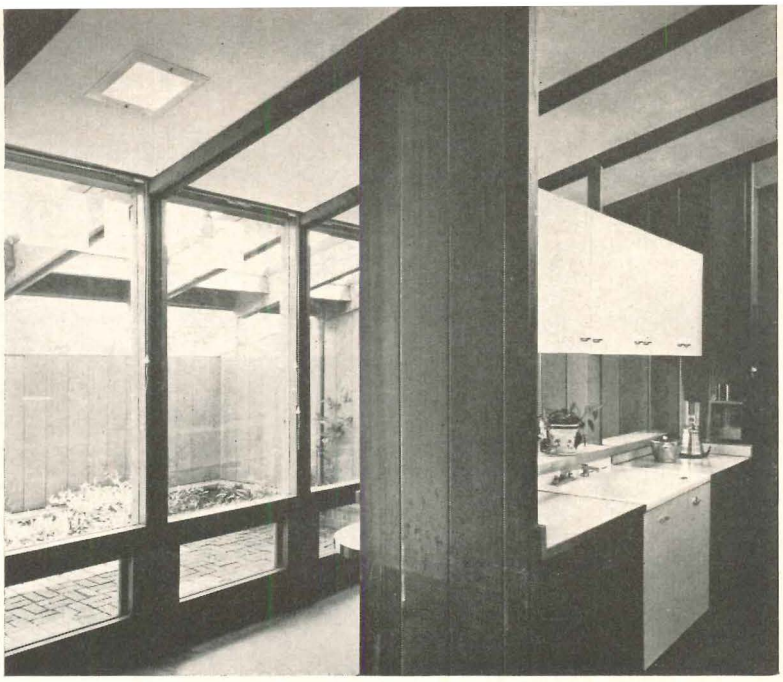












The Family

Two daughters, seven and nine, plus a son by a previous marriage who visits occasionally, constitute the F. J. Tytus family, whose active social life and scale of entertaining require the services of two maids or a couple who live in.

The House

The approach, guest parking and entrance to this house are generous and easy. Circulation from the entry to the major zones is direct, giving great privacy to each zone, notably the living room and the bedroom area.

Particularly noteworthy is the organization of the work area and maids' rooms which are in close relationship to the children's bedrooms; to the kitchen, which is arranged for the maids' sitting space; and to the maids' outdoor kitchen court.

Clerestory lighting endows these rooms with a spacious quality. Bedrooms are toplighted.

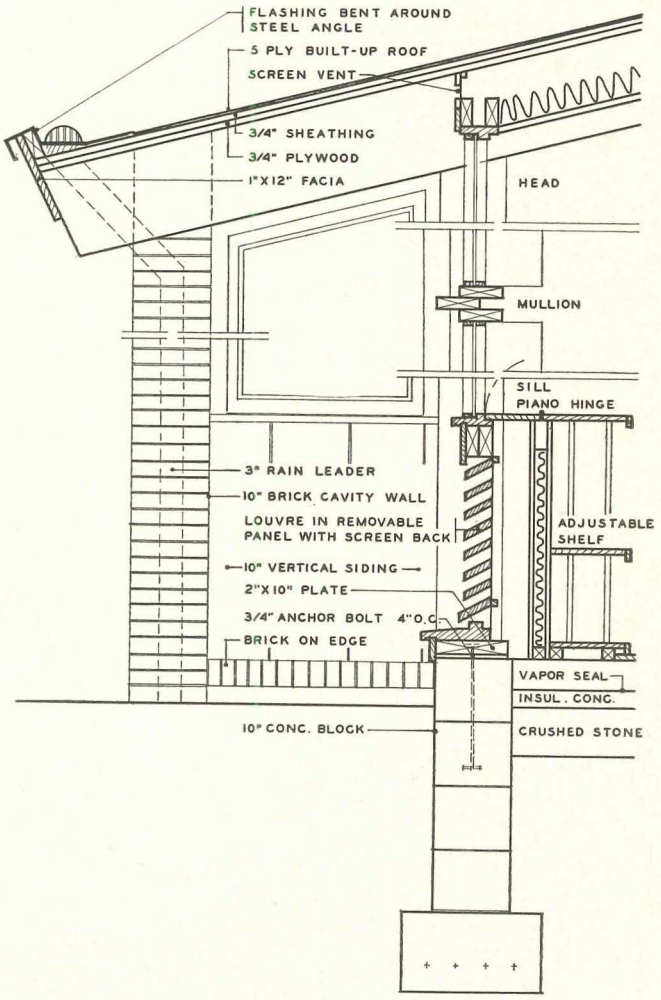
Exterior siding is 10-in. T & G redwood while other exterior woodwork is in fir.

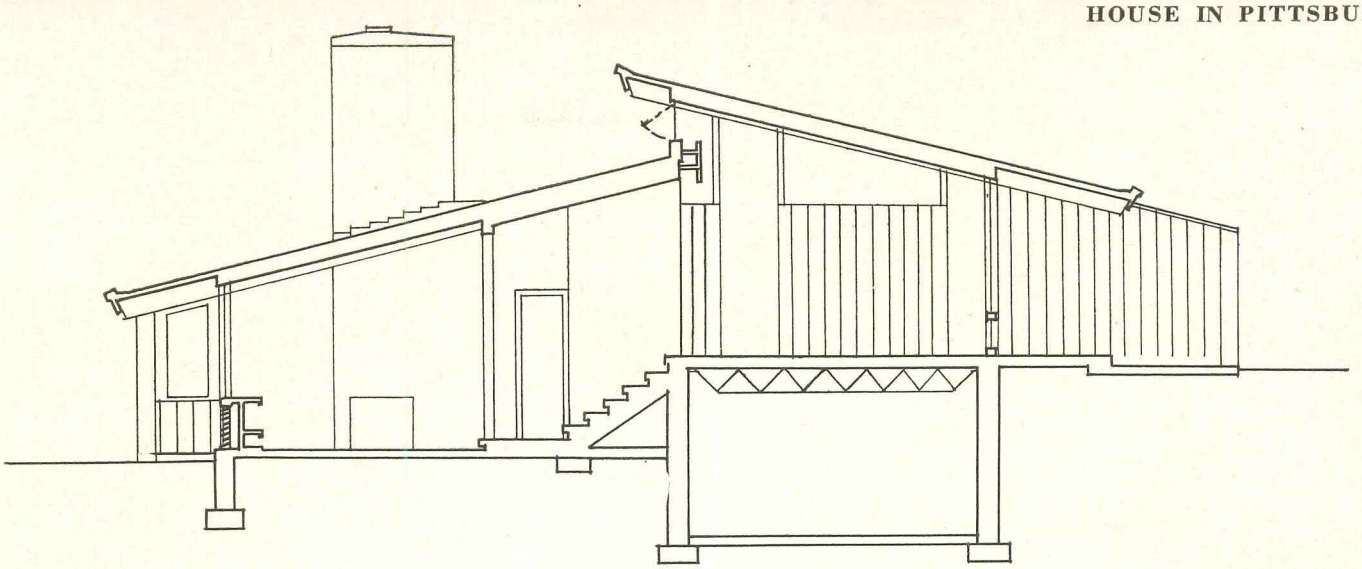
Floors are of brick in the gallery, entry and dining spaces; parquet squares in living and children's rooms; carpet in master bedroom; and plastic tile elsewhere.

Ceilings of all rooms on the upper level are plywood panels between exposed wood beams; plaster in the ceilings of the lower level.

The Architect:

"What I was striving for was a house that had basically the feeling of some of Sewickley Heights' earlier period 'great houses' — the big house feel plus the casualness that goes with an abundance of dogs and sporting gear around; all this combined in a place where a big party, a small dance, a formal dinner, a big buffet, could be held with equal ease and adequacy, yet at the same time a family could live a pleasant small-group existence."





SECTION—WEST

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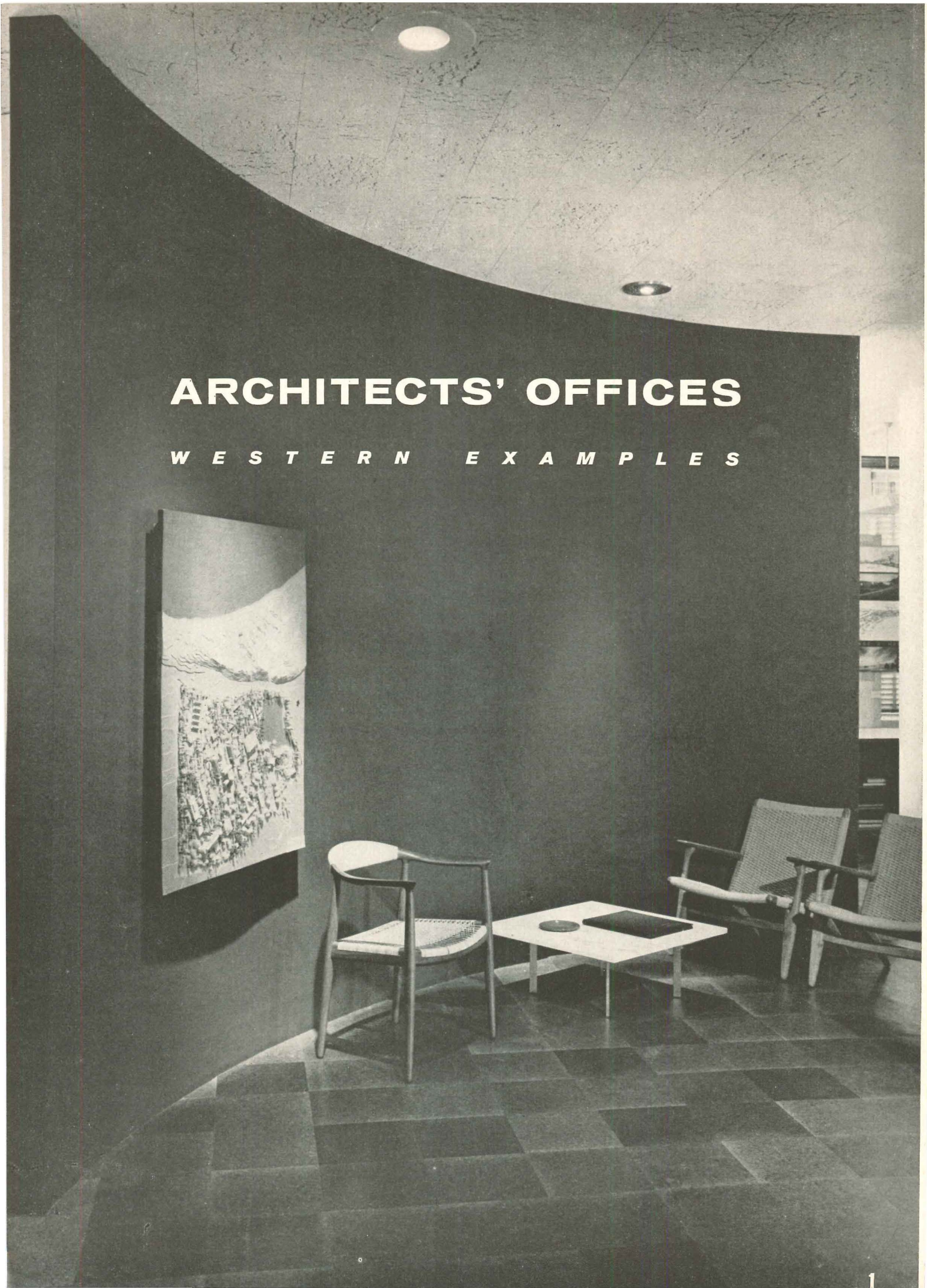
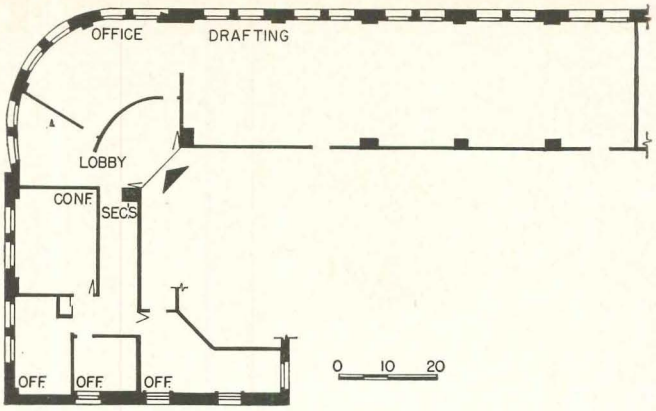
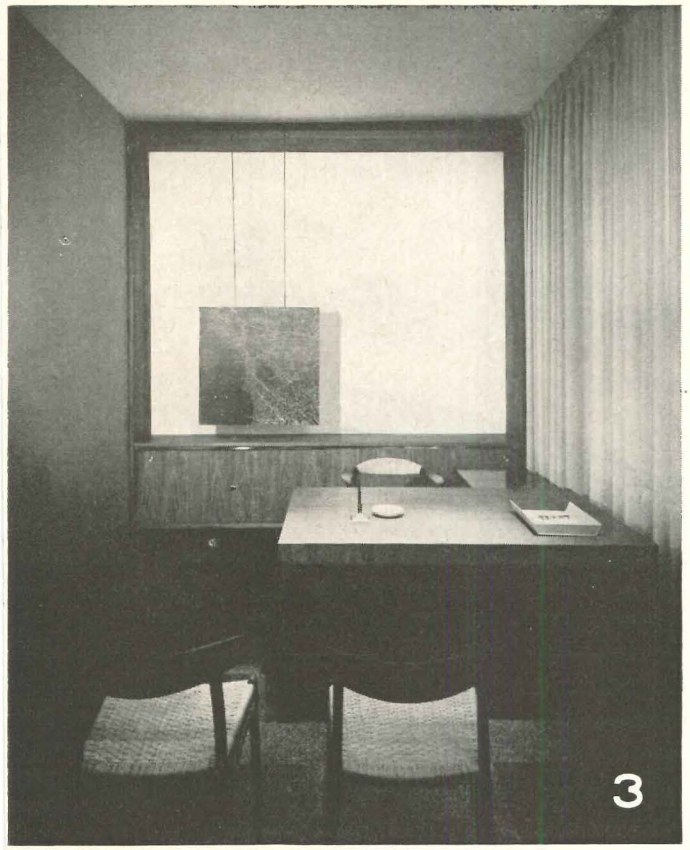


ARCHITECTS' OFFICES

WESTERN EXAMPLES

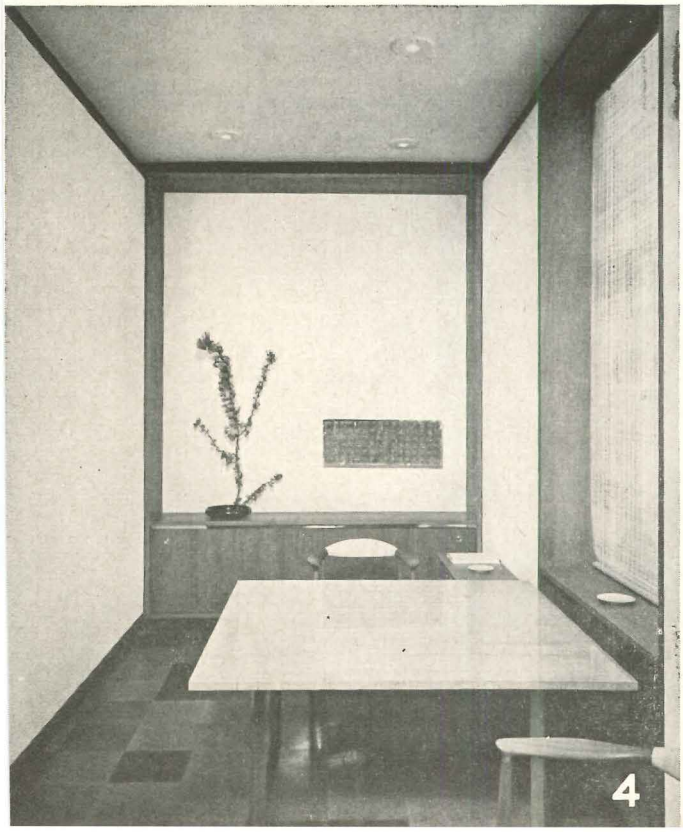




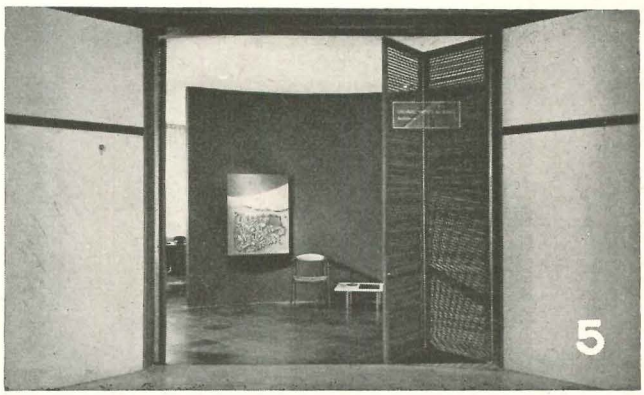
Skidmore, Owings & Merrill, Architects

San Francisco, California

LOCATED at the important intersection of Market, Montgomery and Post Streets in San Francisco in one of the city's best known older office buildings (Crocker First National Bank building), Skidmore, Owings & Merrill's offices are convenient to all parts of the business district. The metamorphosis by which the building's standard office space was transformed into the elegant and restrained atmosphere shown here was accomplished without any real plan changes; essentially, color, lighting and furnishings in natural wood finishes were the means by which the transformation was made. The actual changes made were minor: the entrance doorway from elevator lobby to reception area was widened and teakwood louvered doors substituted for glass doors; one door (from conference room to clerical area) and high windows along lobby wall were blocked off. A wall of louvered doors hides standard double hung windows in the conference room. In private offices, end walls are designed as "tokonoma" (alcove for display of art object, hanging or flower arrangement) with wall cabinets hung below. Desks and tables were designed by the architects.



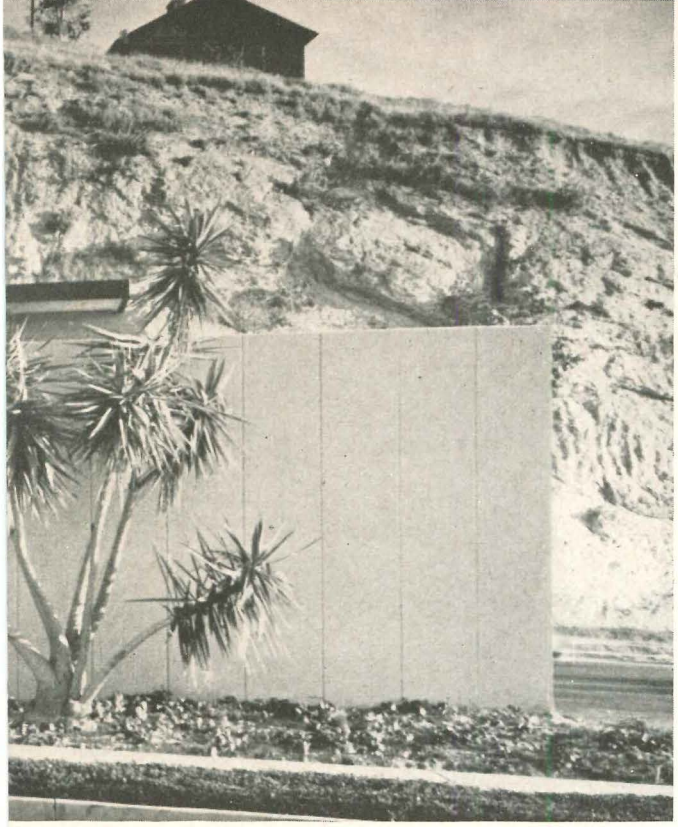
Morley Baer

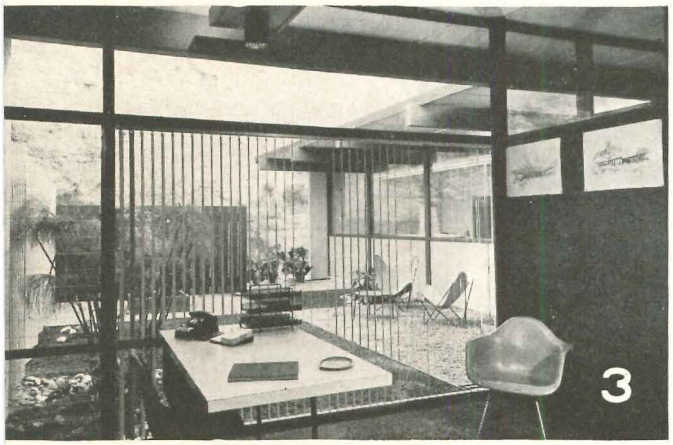


1. *Freestanding curved screen in reception area is painted midnight blue; chairs are stock items, table was architect designed.* **2.** *Louvered doors of teakwood screen building's windows; shutters adjust for light. Carpet, upholstery are dark blue-green.* **3 & 4.** *In private offices for John B. Rodgers (3) and Nathaniel Owings (4) "tokonoma" (alcove) is distinctive feature. Trim, furnishings are teak and oak.* **5.** *White marble lobby walls dramatize dark blue screen beyond entrance*

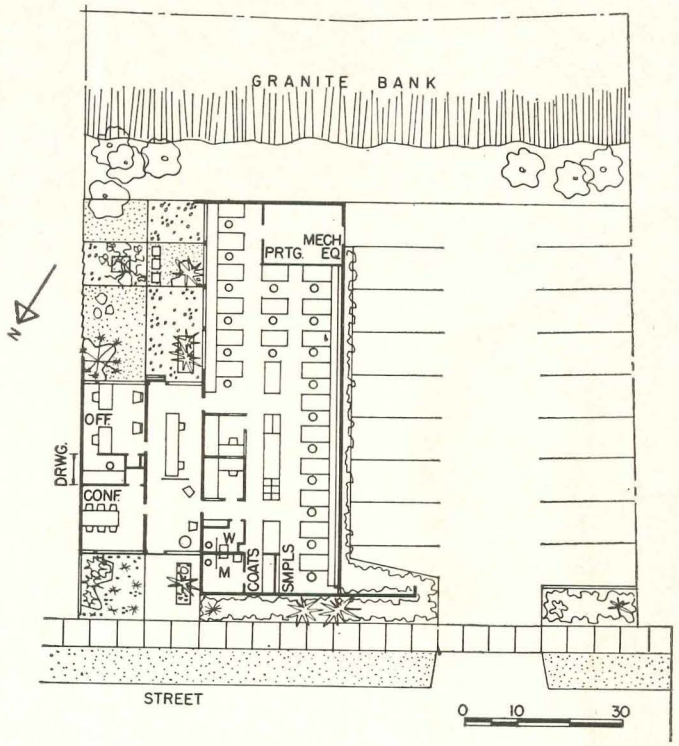
1

2





John Hartley

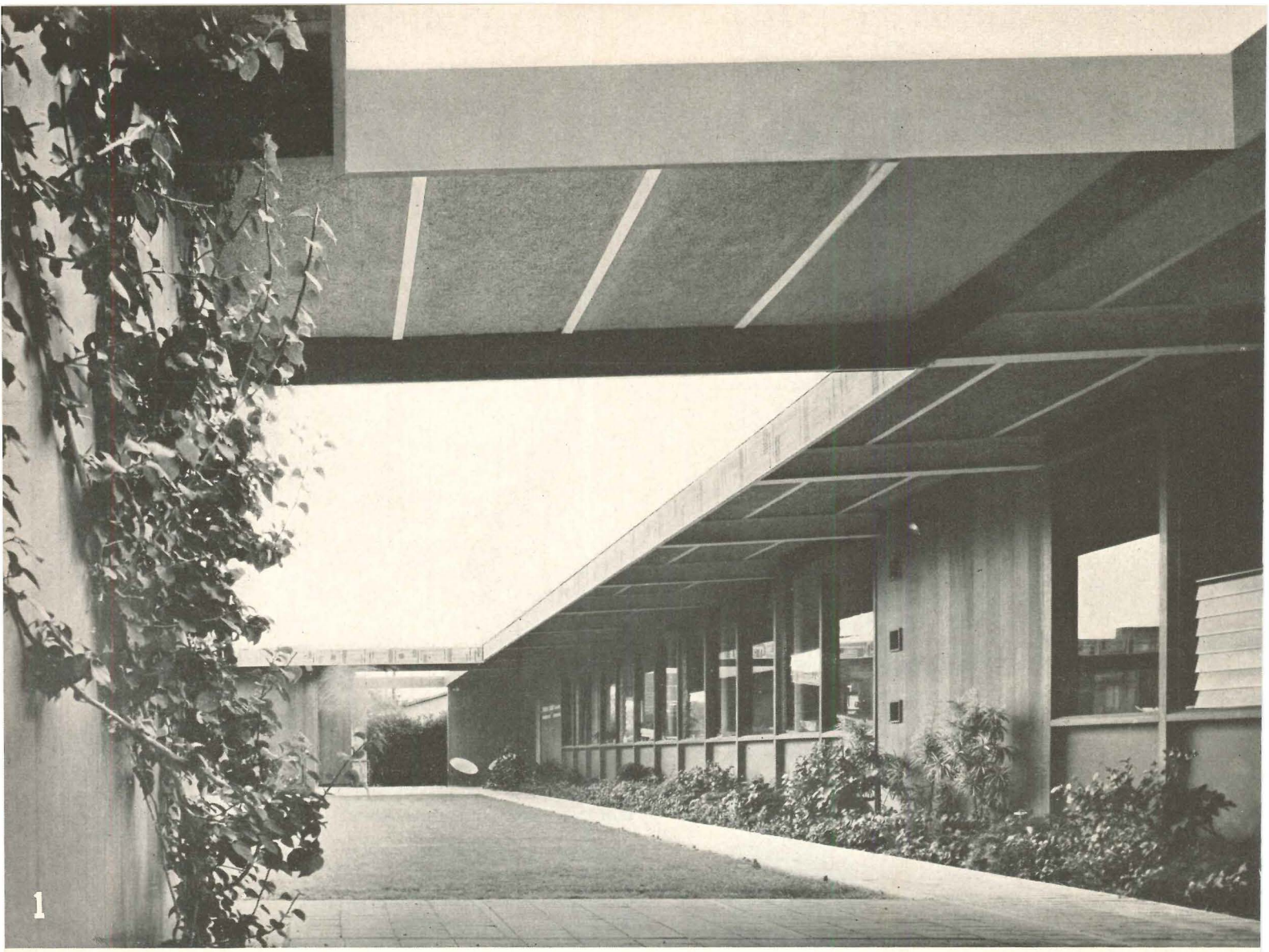


Neptune and Thomas, Architects

Pasadena, California

CONSIDERED as a "show window" of architectural service, the architect's office is an important and often invaluable — although silent — aid in client relations. This was one of the reasons which architects Neptune and Thomas felt justified erecting their own office building. Their other reasons, more practical but as important, were the dearth of good architectural office space for rent and the serious parking problem, not only for clients and visitors, but for employes also, in most downtown locations. Their solution to all of these problems was this new building, situated on a main east-west street at the Los Angeles border of the Pasadena city line. The building provides the kind of space they needed and an atmosphere "which indicates to clients and prospective clients the type of architectural service they can expect from us"; a wide frontage (106 ft) makes possible a parking area at one side; the private patio at the rear contributes to the pleasant working conditions which the architects feel a responsibility for providing. Including air conditioning, the building cost $10 per sq ft.

1. *West elevation contrasts open entrance with drafting room's unbroken concrete block wall.* **2.** *Terrazzo-paved entrance court leads to glass-walled public areas.* **3.** *Architects' office opens onto enclosed landscaped patio.* **4.** *From patio view is through reception area to entrance.* **5.** *Drafting room is at left, architects' office at right*



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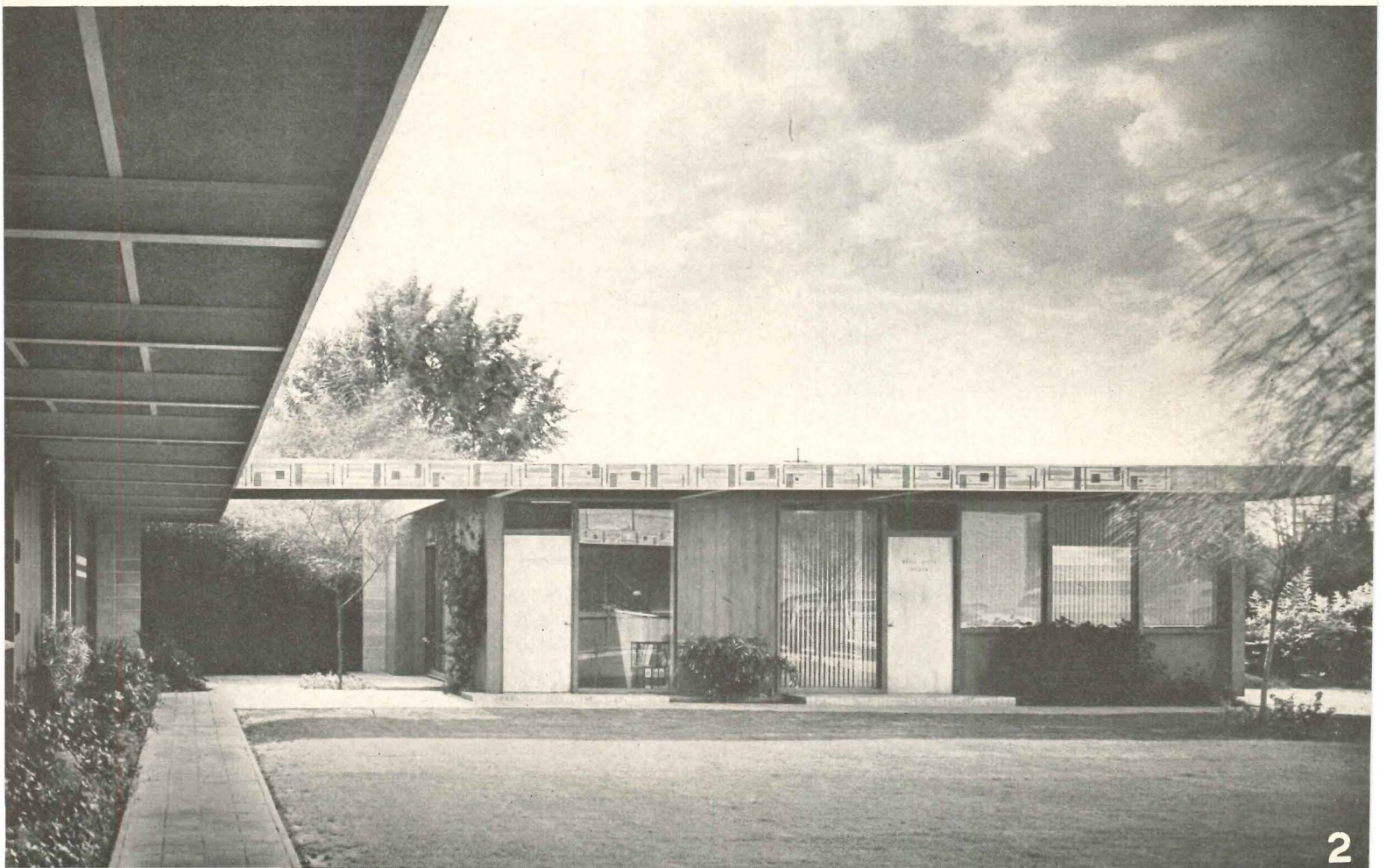

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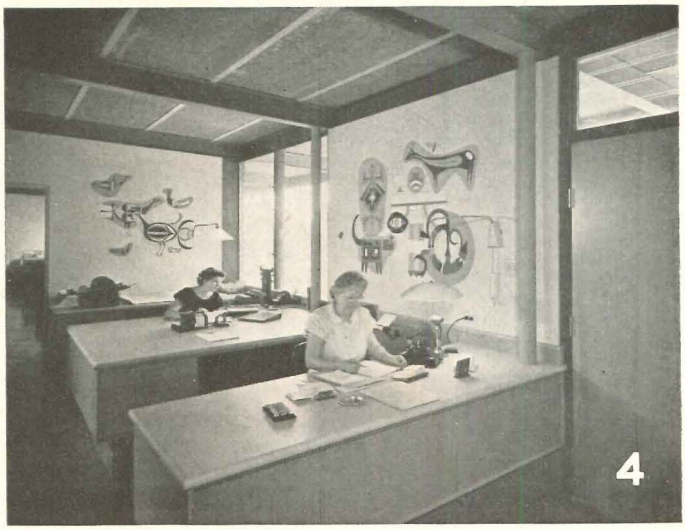
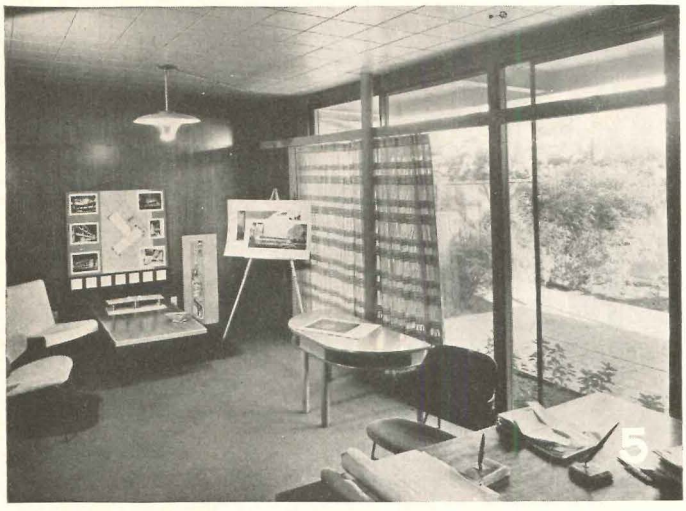
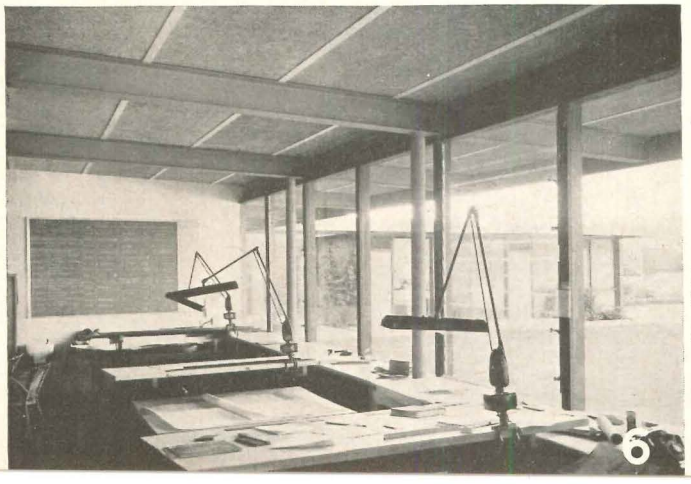
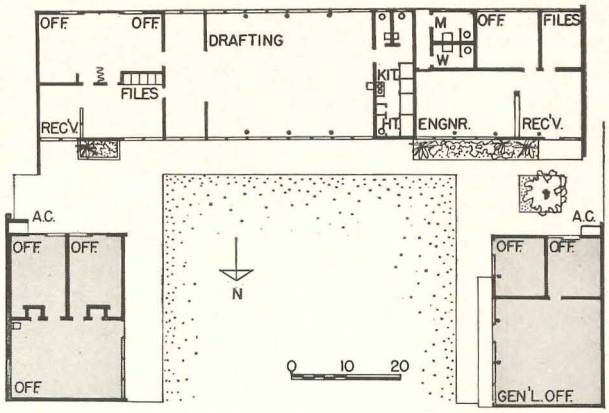






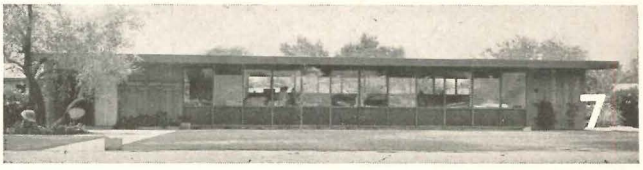
Stuart Weiner



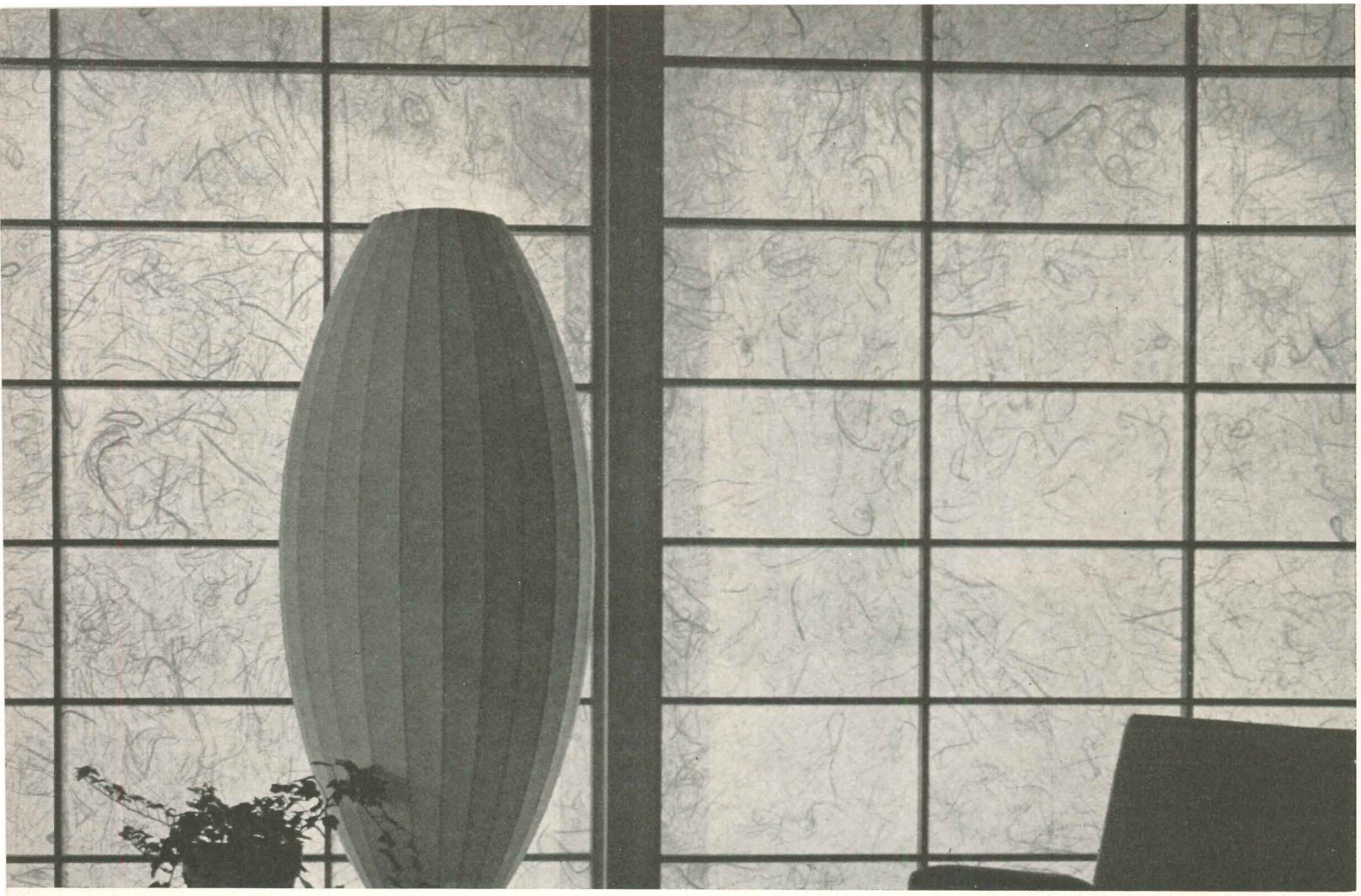
Rental Units shaded

Edward L. Varney • Associates
Architects and Engineers
Phoenix, Arizona

ORIGINALLY planned as a two-story lift-slab building with the architect's offices on the first floor and rental units above, this project developed into a group of single story units arranged around a court. The architect's building in the center of the court was the first to be built; almost immediately an engineer's office was added at one end. The other units, designed for rental, were built over a two-year period. The location in one of Phoenix's fast-growing areas, East Camelback Road, two blocks from a main north-south street, and the pleasant environment of the rental units keep them occupied. The architect's building is steel framed; exterior finish is redwood siding laid vertically, and cement asbestos panels, painted turquoise, under glass panels. Tile fascia, in brown, turquoise and red, is used on all units. The buildings are air conditioned.



1. *Architect's office (right) is in center of court with rental units on each side connected by covered walk.* **2. & 3.** *Rental units are similar to architect's building but smaller. Doors are birch.* **4.** *Murals in clerical area are based on Indian themes, use Indian colors.* **5.** *Architect's office opens onto private patio.* **6.** *Steel frame of building is exposed in drafting room and painted flamingo red. End wall is yellow; ceiling is gray.* **7.** *Architect's office was first unit; extension at right was immediate addition*



Rice paper screen in front of window: Stephen L. MacDonald, architect. Joern W. Gerdts photo

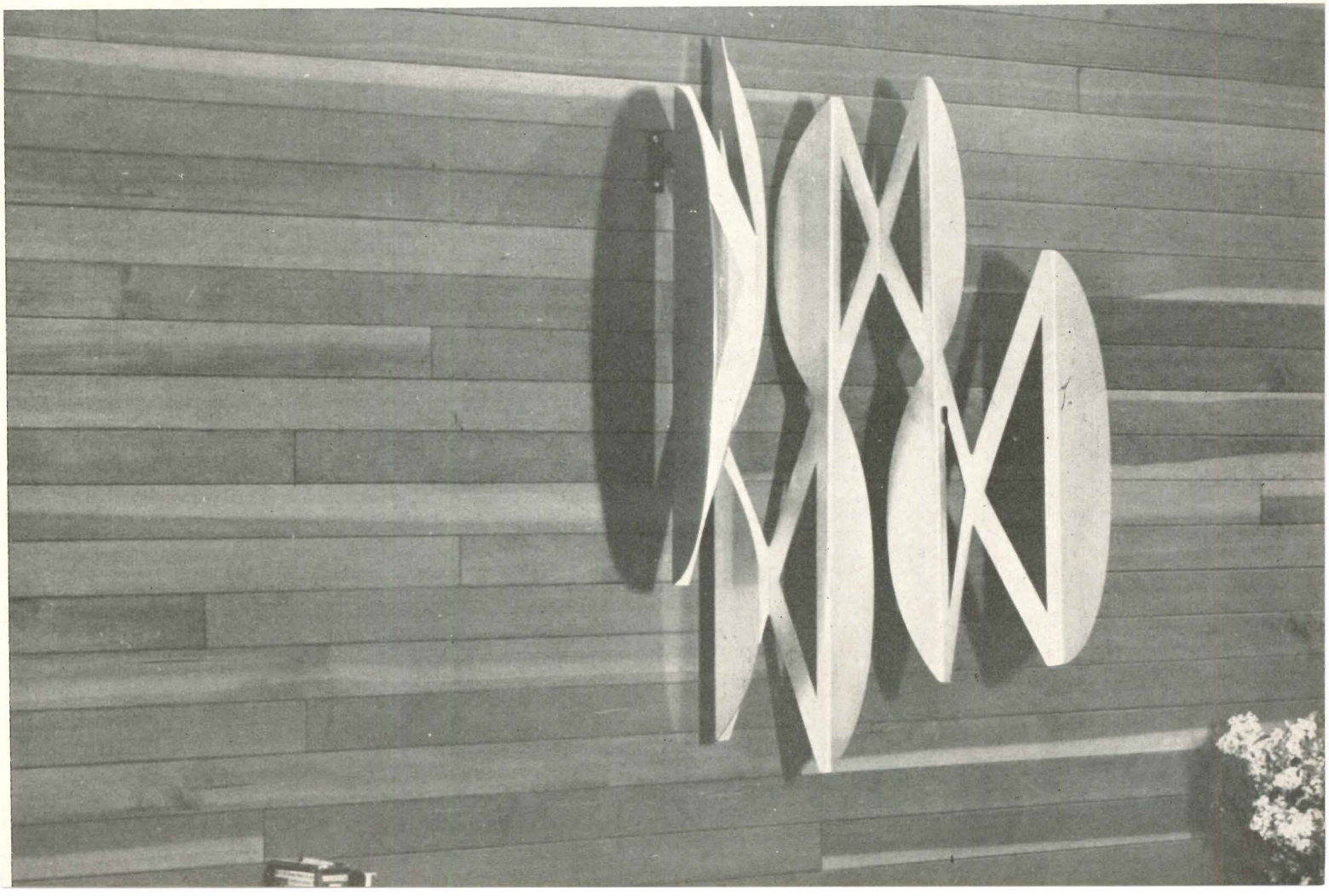
RESIDENTIAL TEXTURES | WALLS

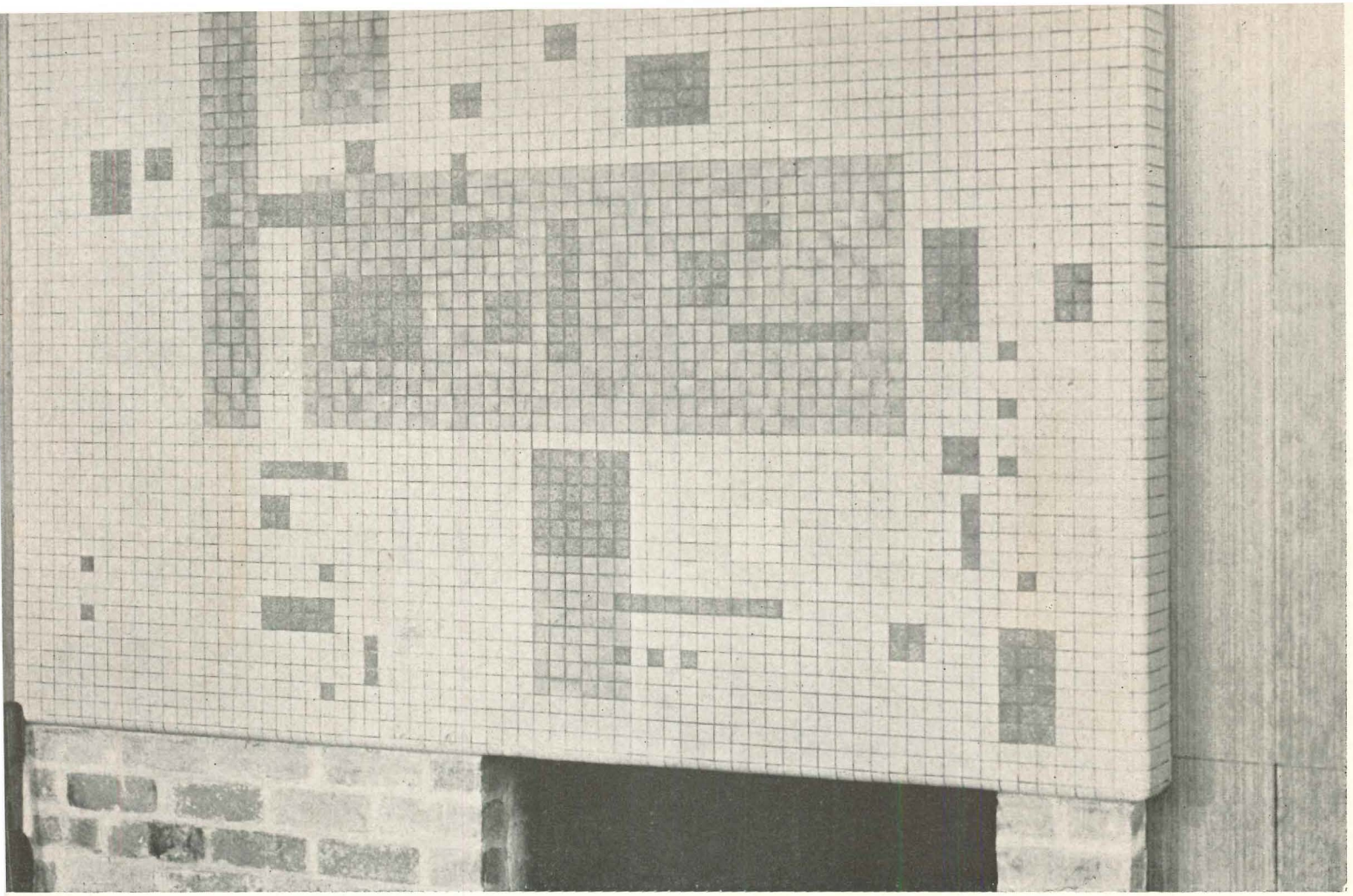
ARCHITECTURAL INTERIORS

Design | Details | Materials | Equipment

Corrugated asbestos sheeting on wall: Curtis & Davis, architects. Joseph W. Molitor photo

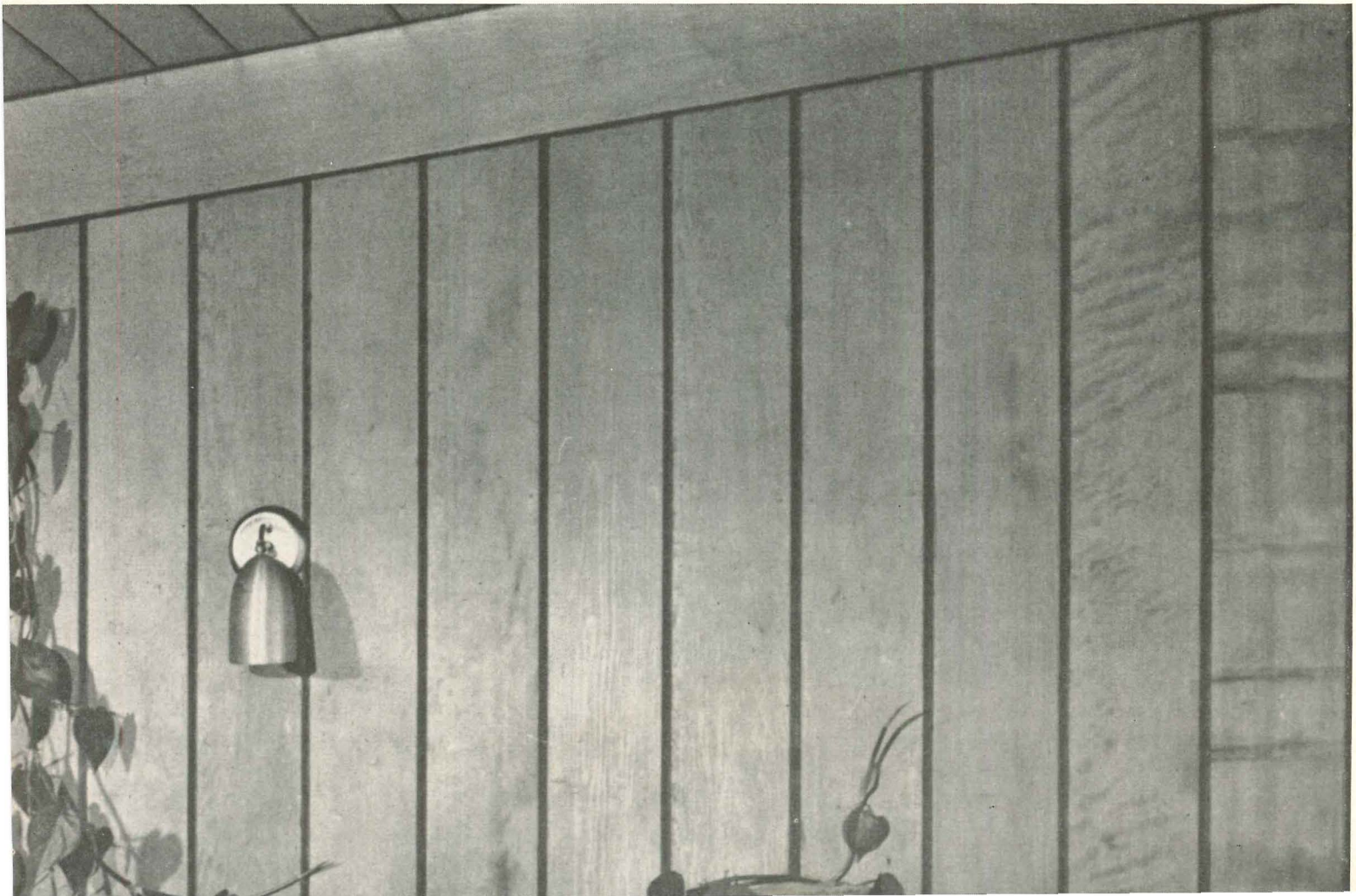
Clear edge grain fir: Charles Burchard and William Lyman, architects. Joseph W. Molitor photo





Ceramic tile mural over fireplace: Curtis & Davis, architects. Ulric Meisel photo

Vertical redwood, varnished: W. Rowe Smith, architect. Biddulph Studios photo



Flagstone in entrance hall: Carl Koch & Associates, architects. © Ezra Stoller photo

RESIDENTIAL TEXTURES

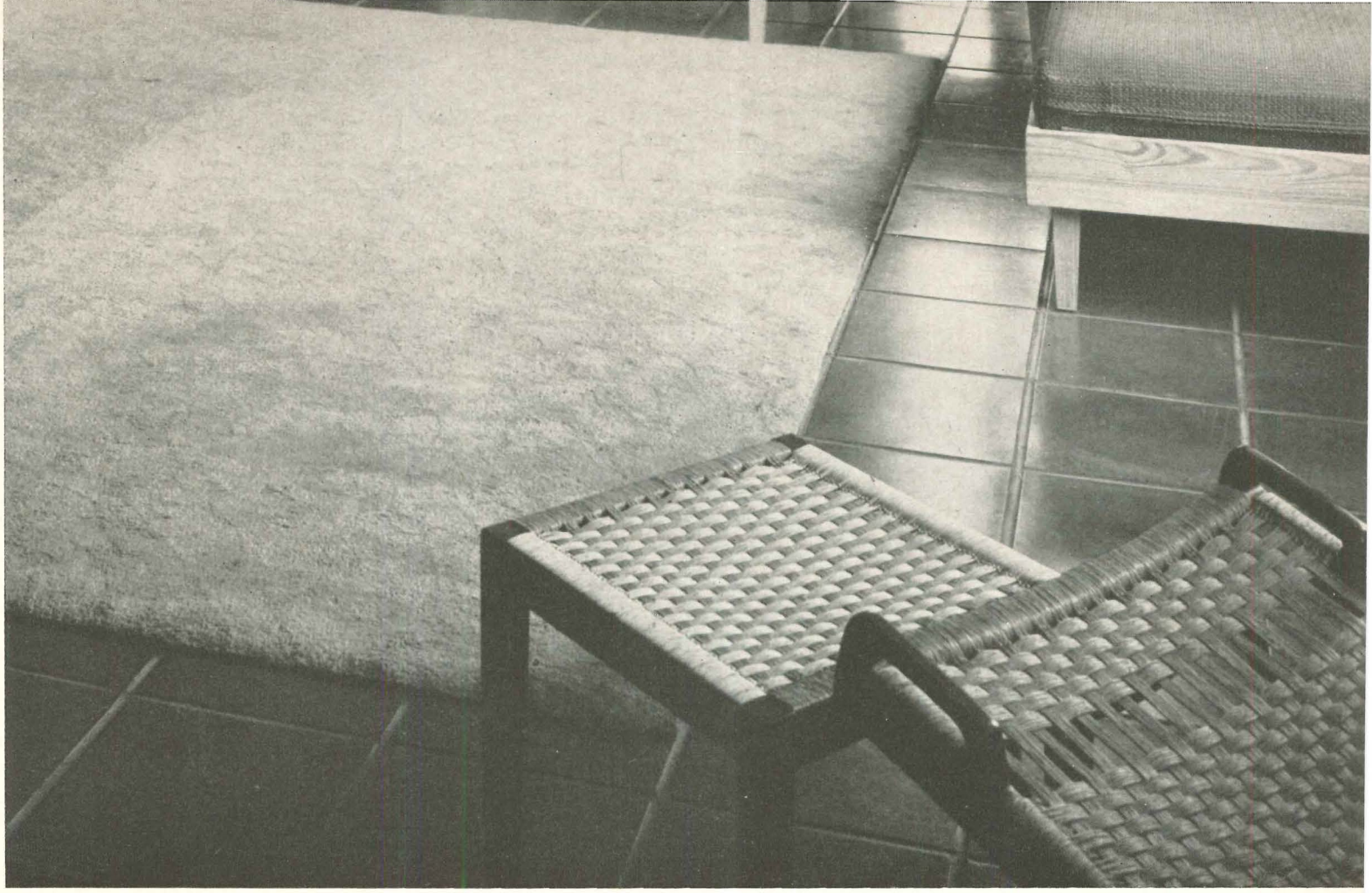
FLOORS

ARCHITECTURAL INTERIORS

Design | Details | Materials | Equipment

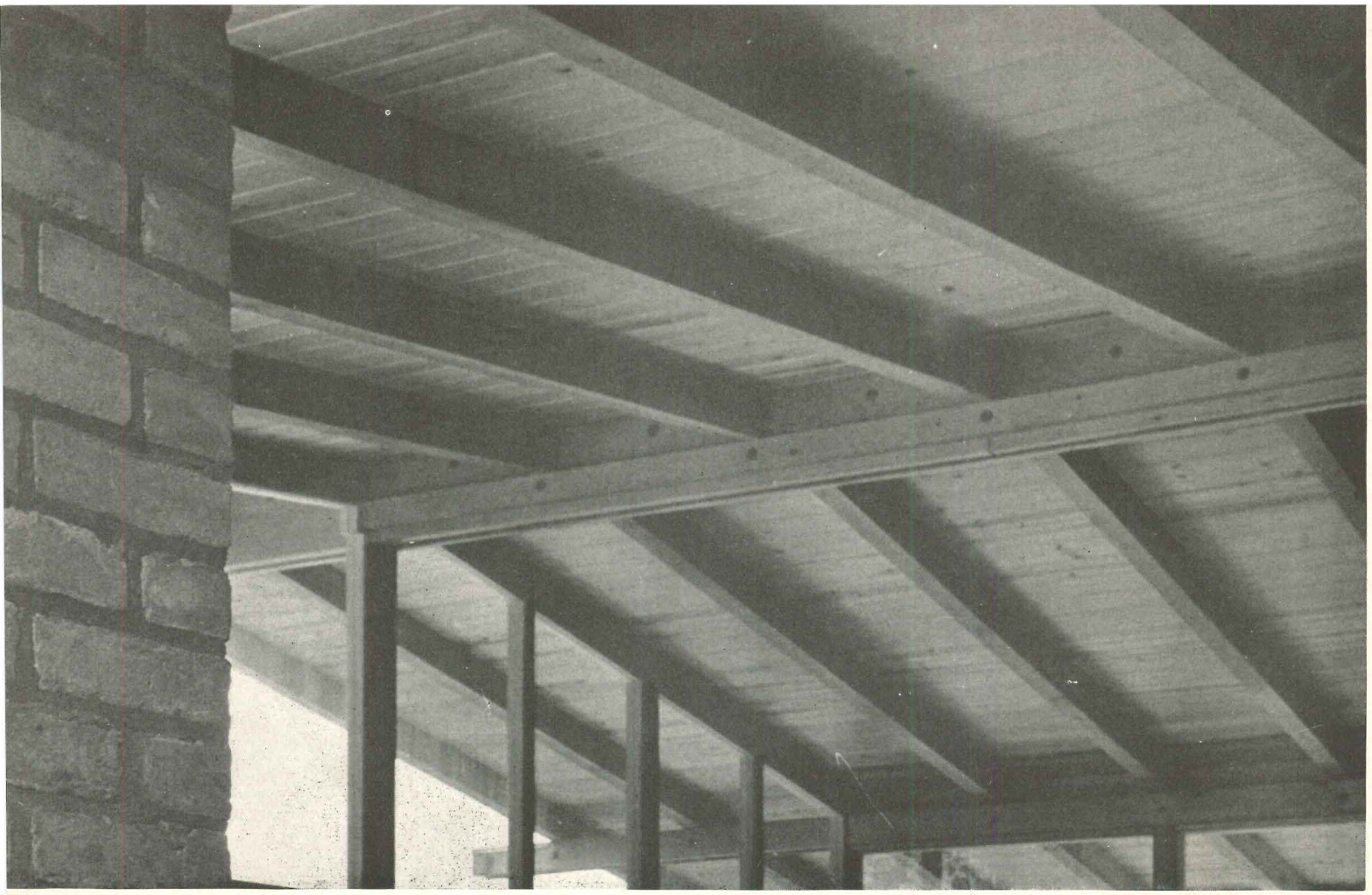
Natural cork tile: Curtis & Davis, architects. Ulric Meisel photo

Large squares of slate: George Fred Keck – William Keck, architects. Hedrich-Blessing photo



Precast, prefinished concrete tile: Aaron Resnick, architect. Joseph W. Molitor photo

One-inch split brick: Calvin Straub, designer. Hank Hoag photo



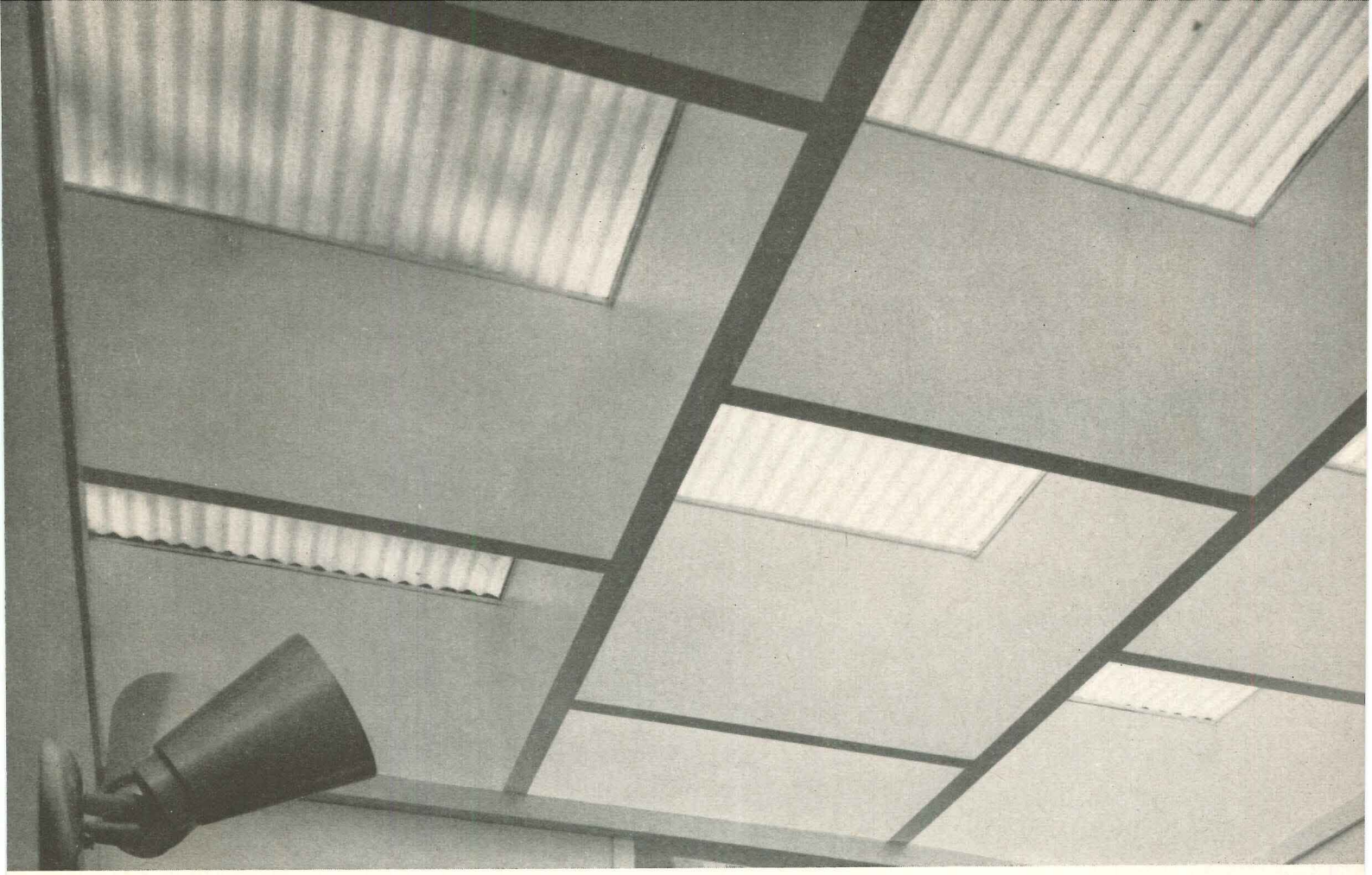
Wood beams and paneling: R. Gommel Roessner, architect. Mears Photography photo

RESIDENTIAL TEXTURES

CEILINGS

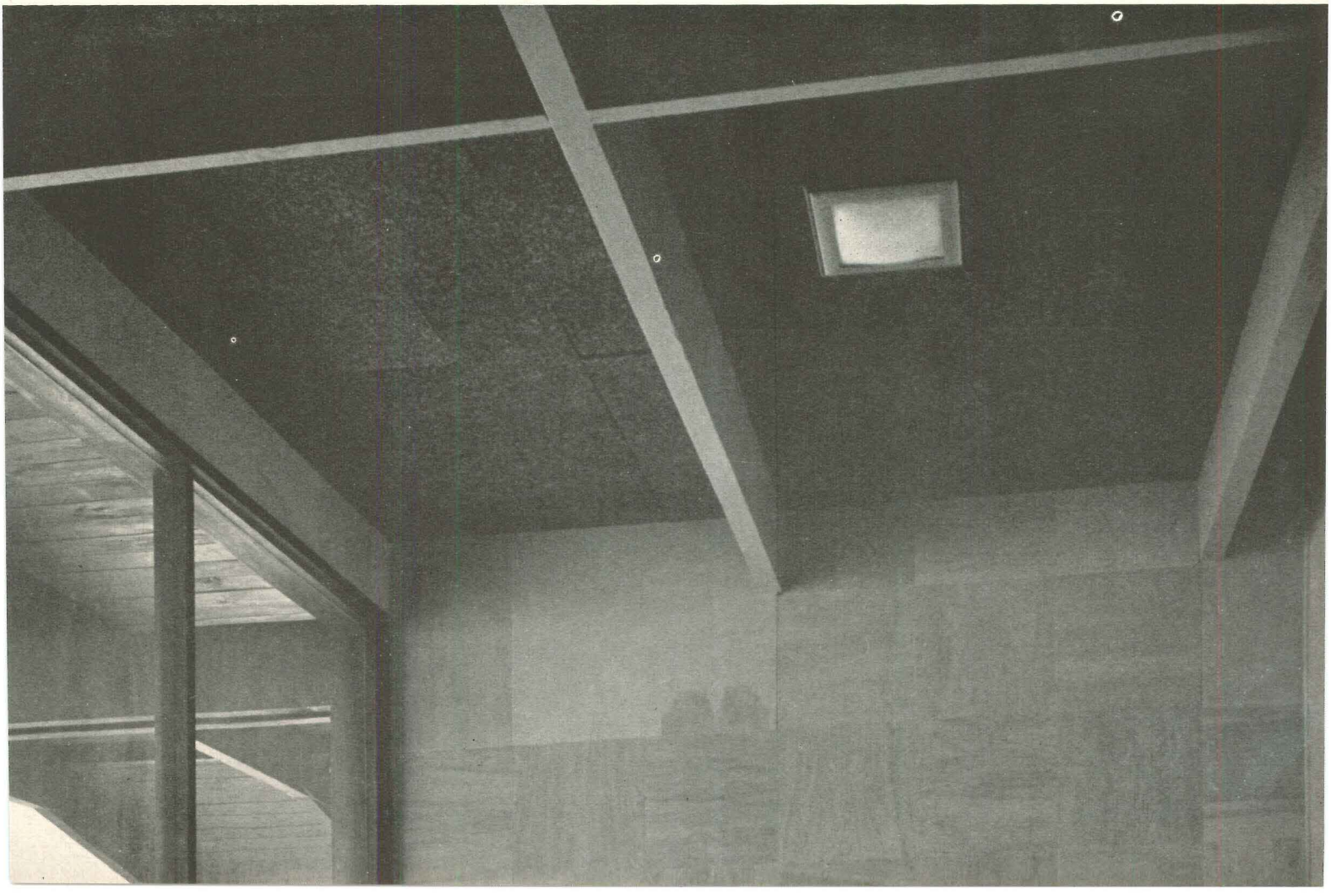
ARCHITECTURAL INTERIORS

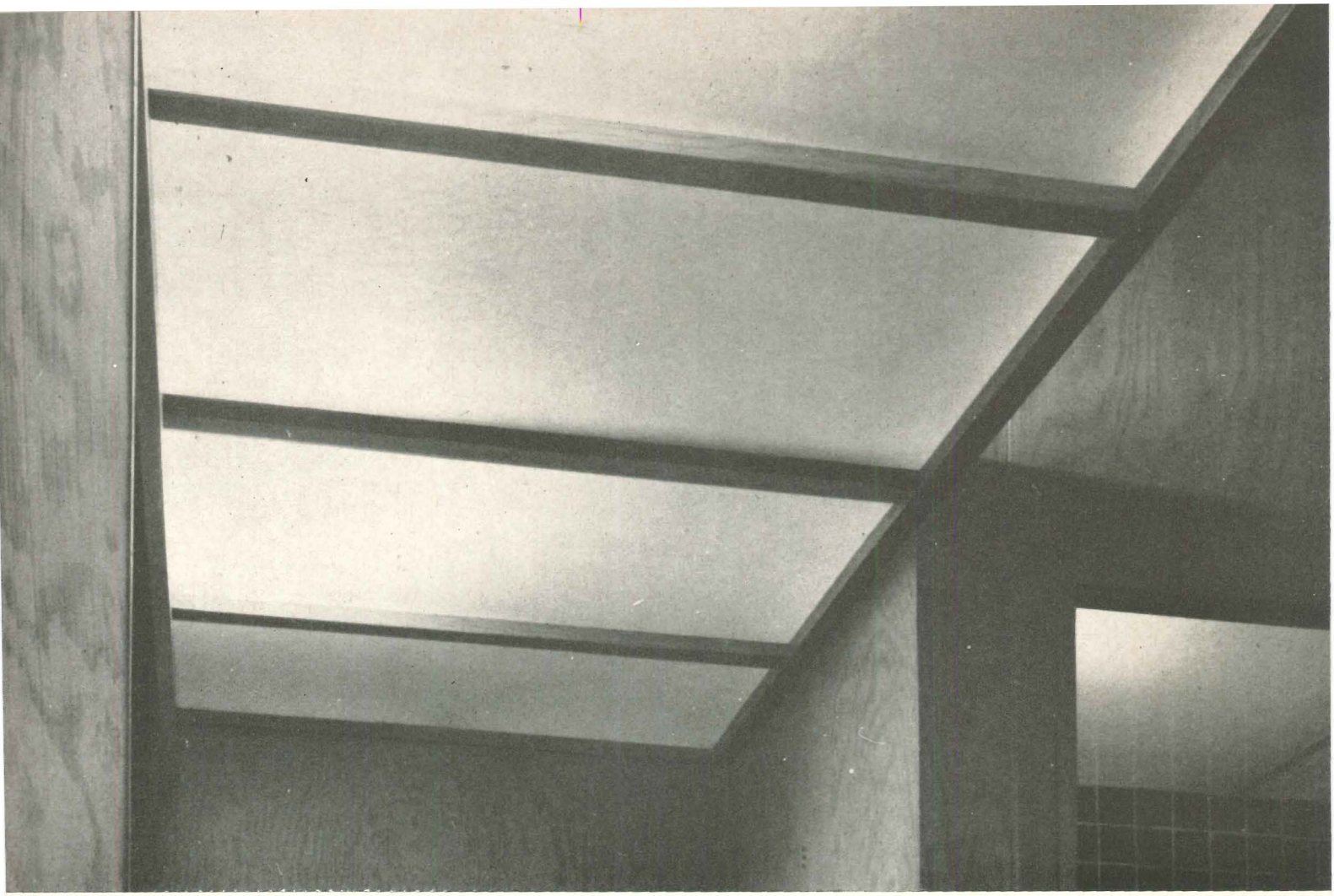
Design | Details | Materials | Equipment



Yellow corrugated plastic in entry: E. H. and M. K. Hunter, architects. Joseph W. Molitor photo

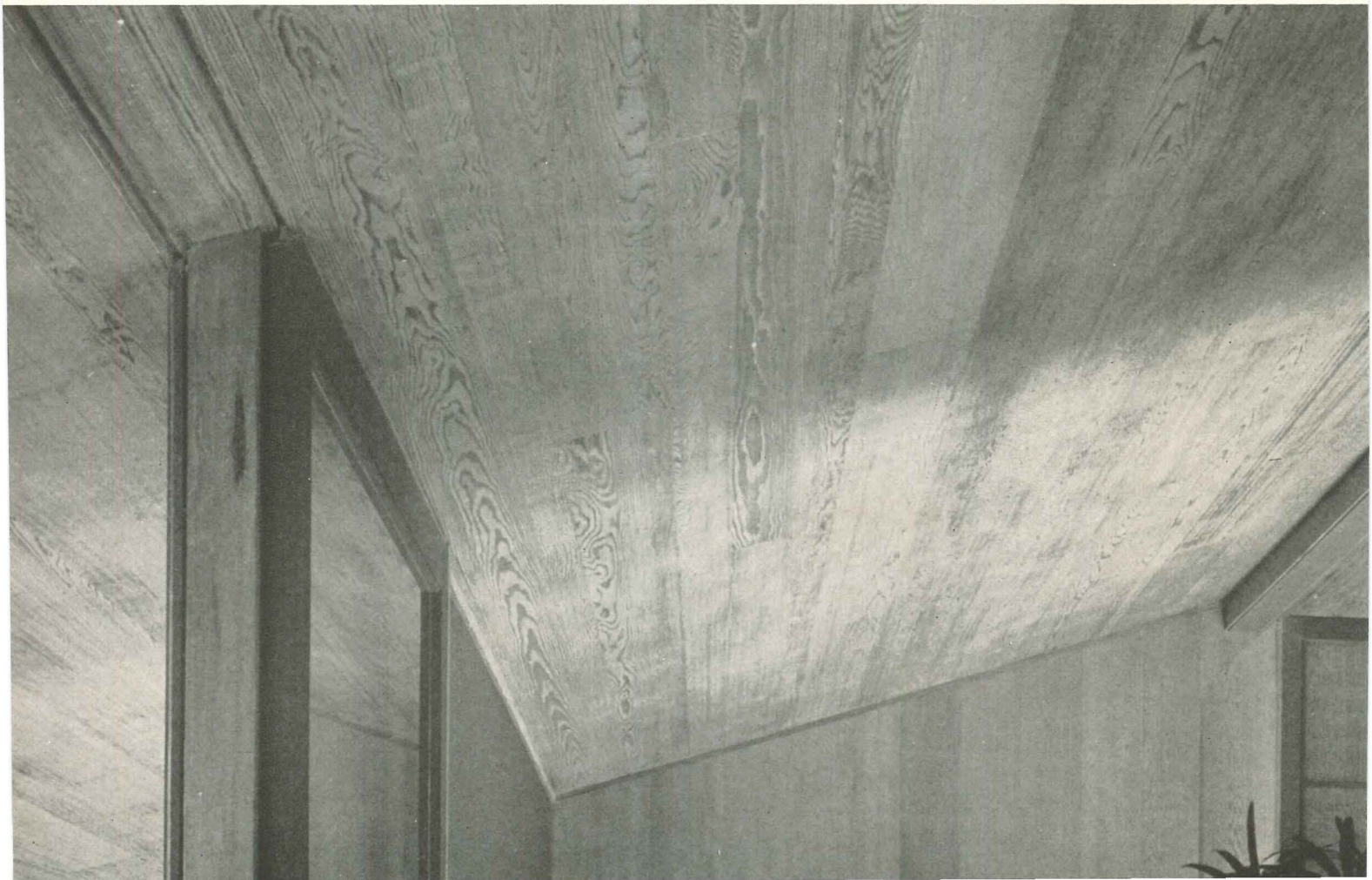
Industrial cork in kitchen: Stephen L. MacDonald, architect. Joern W. Gerdts photo





Glass skylight over bar in kitchen. Kolbeck & Petersen, architects. Rondal Partridge photo

Wirebrushed redwood tongue-and-groove. Vladimir Ossipoff, architect. R. Wenkam photo



ARCHITECTURAL RECORD'S BUILDING TYPES STUDY NUMBER 227 ®

the NEW HIGH SCHOOLS

SOME educational ideas that have been quietly simmering for several years are beginning to boil. The heat is on; the predicted demand for secondary schools is here. It's good that there are fresh ideas ready; it would be a serious indictment of our abilities if we could do no more than serve up warmed-over versions of the high schools of the 1920's. That was the era of consolidation, if you remember, consolidation in the name of efficiency, because secondary education had become a specialized, compartmented complex requiring huge buildings and a multiplicity of costly items of equipment. Some of the more recent examples have been dished up with a contemporary architectural sauce, though essentially they were little changed.

From time to time ARCHITECTURAL RECORD has sampled the simmering ideas to get some notion of their probable effects on building design (for instance, in Building Types Studies Nos. 196, March 1952, and 224, July 1955). At bottom, there are perhaps three educational concepts; from them others may be considered to evolve and to them factors not strictly educational can be related; all are positive determinants in plant design for secondary schools. The three are comprehension of the importance of the individual pupil as a human being; realization that monumental size alone guarantees neither efficient school administration nor successful educational methods; and an awakening, not yet full, to the dangers over-specialized education may hold for both our high school pupils and our society. There's nothing revolutionary in all this. In retrospect, it is somewhat ridiculous to have expected a high degree of individual pupil development from assembly-line teaching techniques, but that is beside the point. What matters more to conscientious educators is to continue the considerable progress we have made in determining and providing for our adolescents the best possible educational climate, literally and figuratively.

Guiding a pupil through the vast maze of facts on the great variety of subjects with which contemporary education must make him familiar, helping him to develop his own creative abilities and to cooperate with his fellow pupils as he must throughout his life, is scarcely possible when he is one of a couple of thousand adolescents being processed through the same educational mill. Whoever has tried to conduct a seminar knows how difficult it is to work with more than a dozen students. Yet the isolated small high school, as recent history demonstrates, is too much for us to carry administratively or financially; as silly as an army with a general commanding each squad; and the army of secondary pupils is increasing apace. The logical way out of this dilemma would appear to be subdivision of the large high school into smaller units more manageable, more human, more stimulating and less frightening than the monument we built in 1929. Is such a way out more than just an exit? Does

it have positive virtues? Can we retain the advantages the big school had, or must we lose the good as we discard the bad? And, by the way, isn't this merely another justification of "campus" development of the school plant in contrast to the single "big" building? Just what is dangerous about specialized education?

A good many educators argue enthusiastically that far from being a mere exit, the subdivided high school is the best means yet found for achieving the educational ends of a democratic society; that in such a plant improvements on established practices can be instituted easily; that a number of such units grouped under a central authority can retain the advantages of both bigness and smallness. While the educational concept is beginning to take architectural form in many localities as a group of buildings on a campus, this is not its only materialization; Dearborn, Michigan's Edsel Ford High School is a large continuous structure grouped around a series of courts (Eberle Smith, Associates, Architects; *AR* May 1955). In Hagerstown, Maryland's newest high school (McLeod & Ferrara, Architects), now being designed, four such units are being placed under a single roof. Perhaps a comparable scheme can be devised for denser urban areas where high land costs keep sites small, although it is difficult to visualize a massive building in which the component units are successfully individualized.

One of the indications that secondary education needs improvement is contained in the requests from large industrial and business concerns received by such institutions as Teachers College at New York's Columbia University for studying the possibility of deferring specialized education. High development of special skills during secondary years usually means curtailed opportunities for general education or what we have called the liberal arts. Lack of familiarity with fields outside a limited specialty, the businessman says, produces an employe of limited usefulness. If this is true of business and industry, can it be less true of the world at large? Is this one reason for an apparent increase of selfish materialism?

The subdivision of the high school, a unit of 150 to 500 pupils assigned to their small group by chance rather than by special selection, will have a very diverse student body in which each member can develop individually under close personal supervision, and at the same time satisfy his normal interest in the activities of all other pupils. His studies may be primarily vocational, but in receiving his general education he will rub shoulders with the college preparatory student; the program for both expands. In some instances such influences have reshaped the curriculum; in others change comes more slowly, but inevitably there appears to be on the horizon a closer integration of all subject matter. This unification of student body, of learnings and of instructional methods emphasizes a need for a focal area within the small school unit, a room or court for group pursuits, for hunting out source material, for assembling large work projects jointly developed. Even eating *en masse* becomes suspect; lunching in small groups is more compatible with the whole concept, and it can help inculcate better eating habits than the adolescent's natural tendency to bolt his food and run.

A main focal area and adjacent smaller instructional spaces, supplemented by conference rooms, storage space, sanitary facilities and the like, is exactly the form these units are taking. The pupil uses his own unit most of the time. Only for activities too noisy or requiring special facilities too expensive to duplicate repeatedly need he leave his own small school: for portions of his physical education program, for intensive shop training, for instrumental music and the like.

Many problems posed by our times can be solved by this kind of an approach. There is a teacher shortage; the small school can conceivably employ a faculty consisting partly of fully qualified teachers and partly of aides or teachers-in-training. Human size, scale and proportion, widely discussed in this and other publications as being architecturally desirable today, are natural attributes of these less pretentious buildings. Construction costs are high and budgets low; enough contracts have been let for the new schools to prove that costs can be kept down without impairing quality. The group of small structures affords excellent opportunities to capitalize on the qualities of a particular site and locale, its microclimate, the nature of the community of which it is a part, etc. Such a group can be built piecemeal to accommodate a growing pupil load without undue sacrifice during initial phases of a program.

Schools of this kind have been called "little schools", "schools within a school", even — ponderously — "learning units". None of these titles is quite right, so we have purposely avoided them. Whatever they are eventually called, in the following pages are several examples, all different in degree of application of an underlying idea and as diverse as the pupils who occupy them.

— Frank G. Lopez, A.I.A.

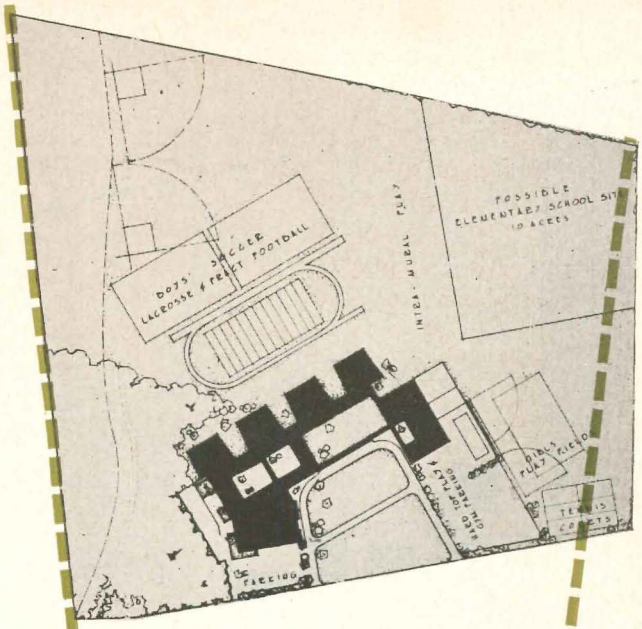
NOT-SO-PUBLIC RELATIONS

A report on architect response to opportunities afforded by the White House conference on Education, to be held in Washington, D. C., November 28 – December 1, appears on page 15 of this issue.

NEW HIGH SCHOOL FOR A MUSHROOMING SUBURB

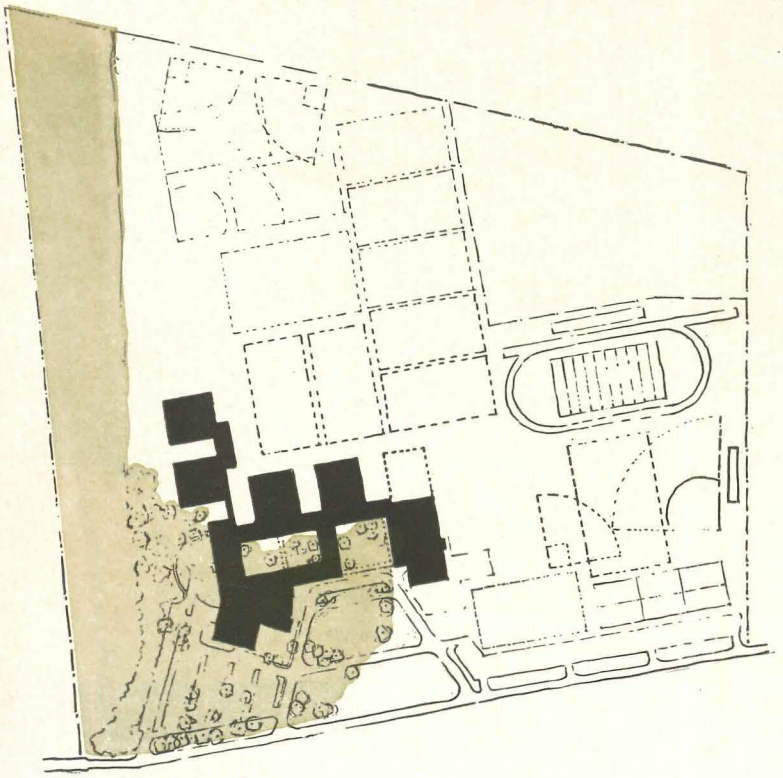
Eggers & Higgins, Architects

Engelhardt, Engelhardt & Leggett, Educational Consultants



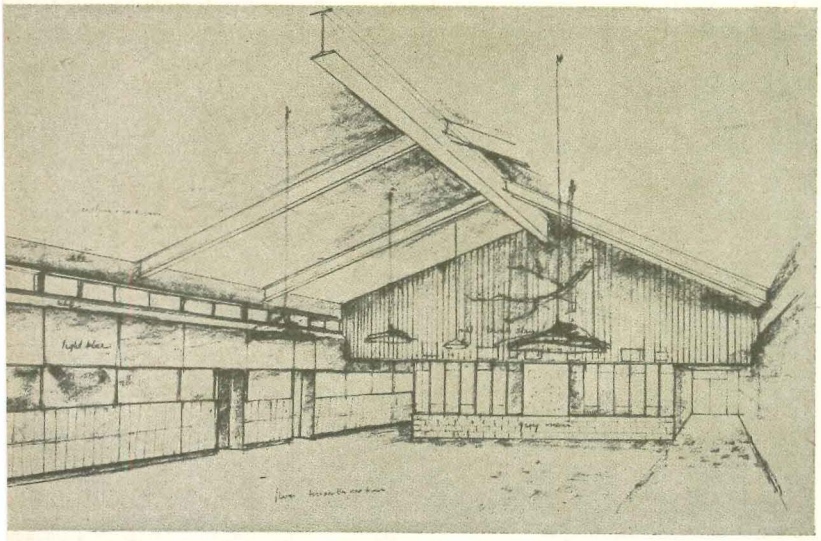
A new kind of high school — little schools grouped around courtyards — is being developed for Syosset, New York. The Fund for the Advancement of Education has helped determine its program

Fairchild Aerial Surveys



Above is final site plan for Syosset's new high school. Preliminary site plan on preceding page was prepared for the brochure distributed prior to the bond election; earlier the school had been programmed by a capable group of consultants, administrators and citizens

Early study, for a project room in one of the Little Schools; see plans on following pages



LITTLE SCHOOLS AND

by R. Jackson Smith, Partner,

SYOSSET HAS AN AREA of approximately 15 square miles near the North Shore of Long Island, and lies about 25 miles east of New York City. The school district includes the three unincorporated villages and elementary school districts of Syosset, Woodbury and Locust Grove. In 1940 its 350 elementary school children went to the Split Rock, Locust Grove and Woodbury Grade Schools. Some 150 high school students traveled to nearby Oyster Bay, Huntington, Westbury, Hicksville, and Glen Cove.

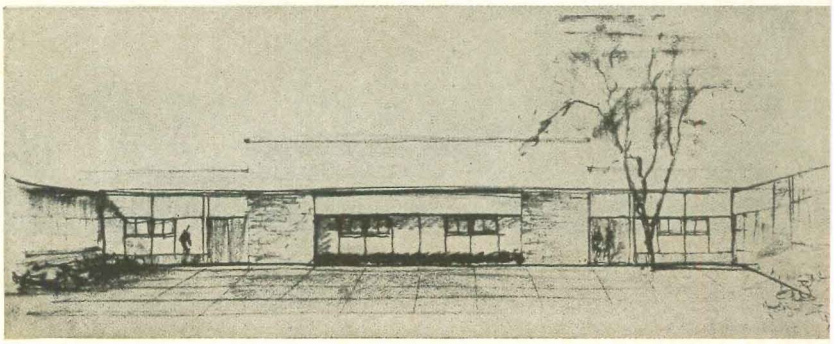
After World War II, as the rush to the suburbs gained momentum and fertile potato farmlands and wooded estates gave way to bulldozers and development builders, the district found itself with a skyrocketing population — from 2500 to 12,000 in 10 years — and, by 1955, with 3000 public school pupils. The postwar baby tide was met by adding to one elementary school and hurriedly building five new grade schools. And in 1953, when neighboring high schools burst at their seams and were forced to withdraw their commitments to take tuition-paid, out-of-district pupils, the need for a central high school was forcibly impressed upon Syosset board members and citizens.

A centralization referendum in June 1954 was passed by a conclusive vote, and a nine-member central school board set out to solve secondary school problems. Inevitably these involved a determination of the educational aims of the district and a program of requirements.

Convinced that an analysis of educational aims had to be made before an

THE QUADRANGULAR PLAN

Eggers & Higgins, Architects



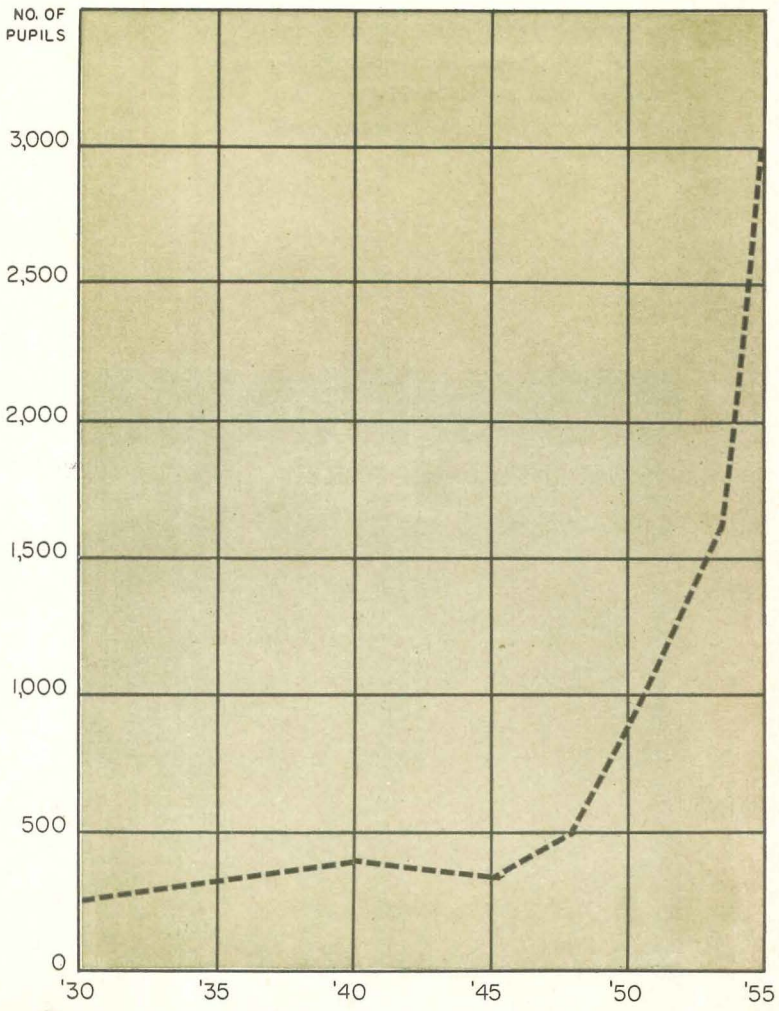
Another early study, Quadrangle "A," facing the high school's cafeteria

architect could be engaged, the Board selected a superintendent, Dr. Ernest F. Weinrich. The Fund for the Advancement of Education, an offshoot of the Ford Foundation, became interested; two of its most able secondary school men, Dr. Lester Nelson and Dr. Burton Fowler, with the new district's new Superintendent and Assistant Superintendent, Frank Manarel and a group of citizens, worked several months on a curriculum for the unbuilt Syosset High School.

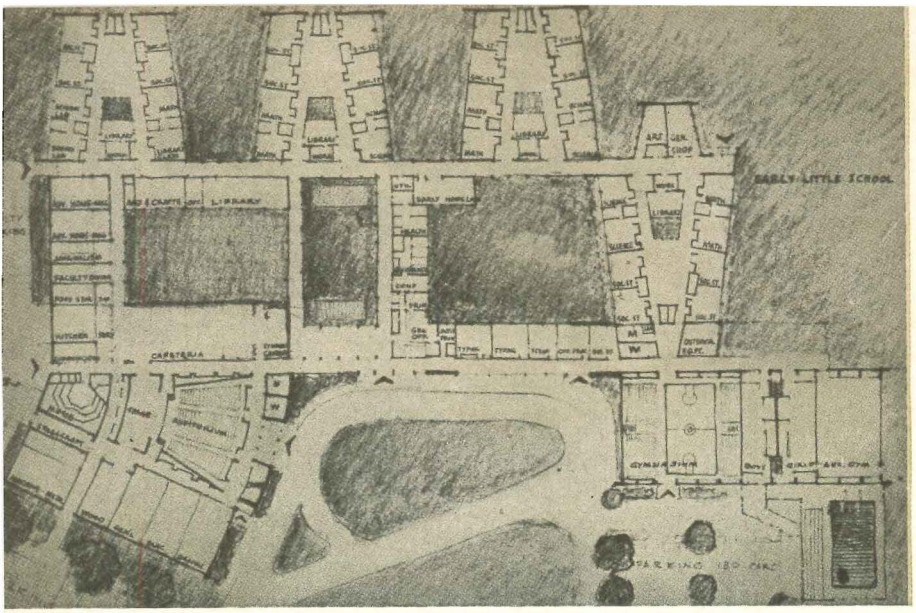
Added to this team early in 1955 were the educational consultants, Engelhardt, Engelhardt and Leggett, whose experience enabled the team to save many valuable weeks in the process of summing up and coordinating data supplied by citizens, and in compiling a clear concise program which stimulated an imaginative design approach.

In April 1955 we were commissioned as architects by the Board of Education and sketches for the proposed school were commenced. We developed three alternate schemes; of these, the one based on a series of quadrangles and incorporating the "little school" concept was accepted by the Board of Education.

In early planning discussions with the Board we established several premises. Since the 73-acre site was generally flat and had a heavily wooded 6-acre tract at the southeast corner, it was determined that the building would be located in the wooded area, leaving the flat farmlands for athletic fields. This would permit saving a selected number of large specimen oaks to shade the building and would reduce the visual importance of parking areas. Further site considera-



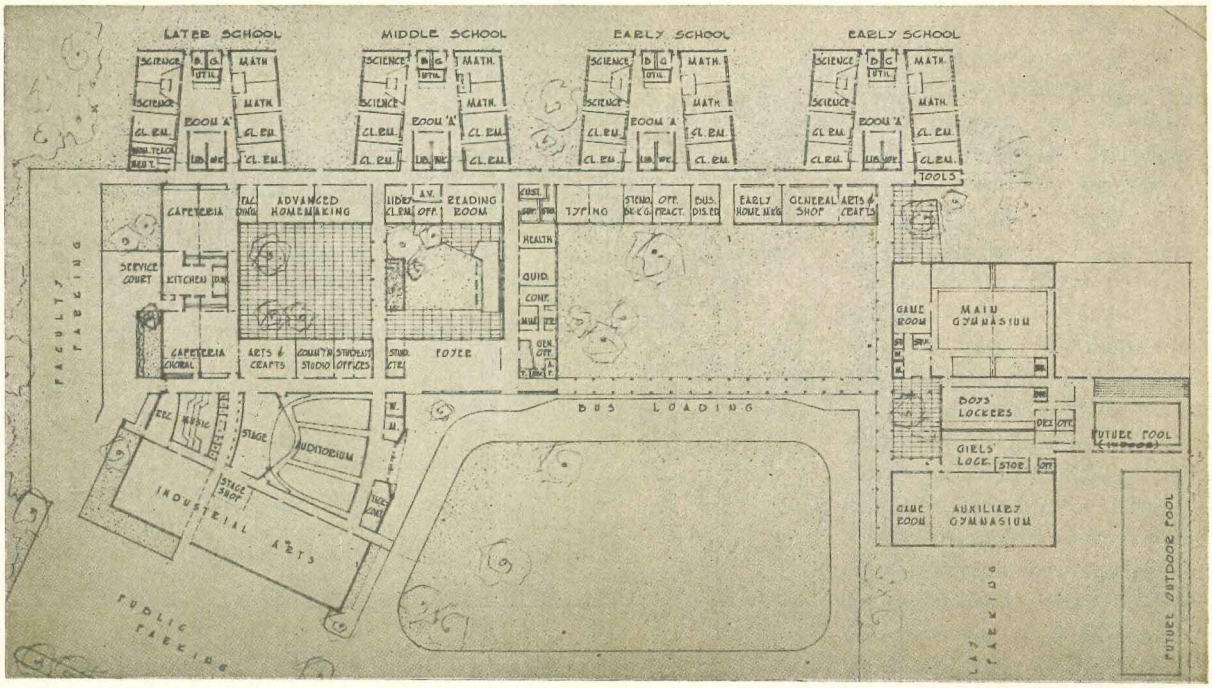
PUPIL GROWTH CHART, KINDERGARTEN THROUGH GRADE 12



NEW SUBURBAN HIGH SCHOOL

Three of the several phases through which the plan of Syosset's new high school has passed are shown here: above, a preliminary scheme like the one the Board approved; below, as it had been developed by the time the brochure was issued; facing page, final plan. Numerous public hearings afforded opportunities for full discussion of the program, size, capacity, virtues of the spread-out plan versus multi-story, etc., before the bond issue was favorably voted

Fairchild Aerial Surveys

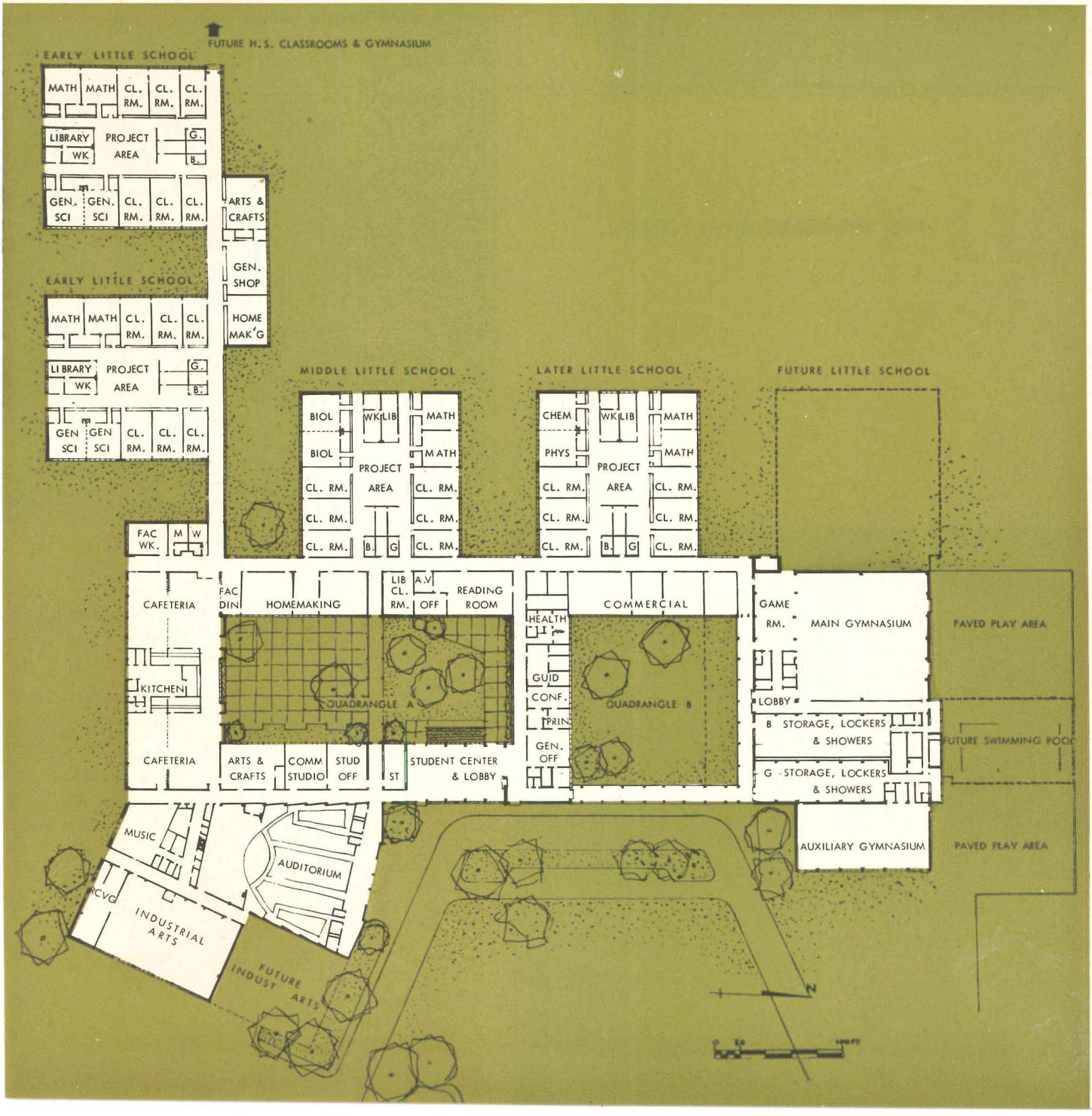


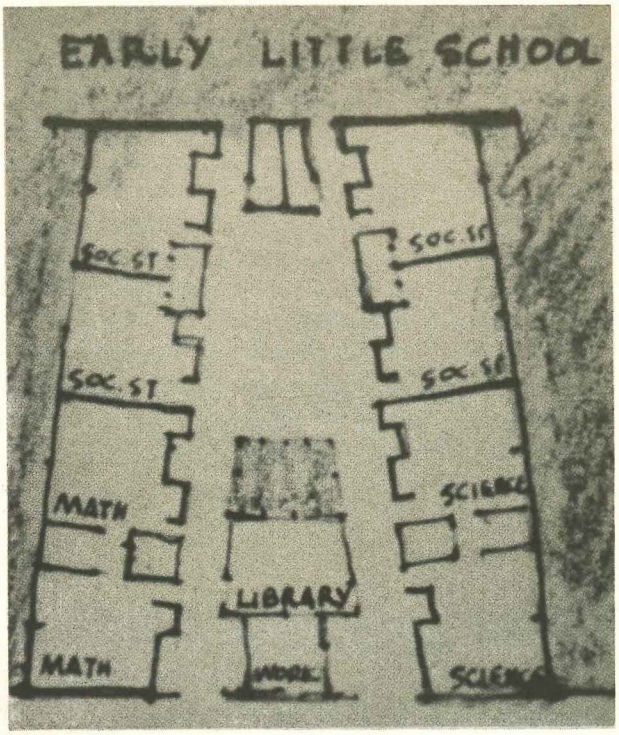
tions were the impending construction of a north-south Long Island parkway adjacent to the southwest corner of the site, and a desire to limit the length of approach and delivery driveways.

In retrospect, even so soon after the event and in the midst of our concentrated effort to produce drawings and specifications — the job is to get out for bids at the earliest possible date — it is hard to believe that as much was accomplished as actually did get done in those recent early days. The citizens had to be informed and convinced of the validity of our proposals so they could vote intelligently on the question of a bond issue. Before July 1 (we had been engaged in April!) the "brochure" scheme illustrated was drawn up and sent to press, and the bond issue campaign was on.

The little school idea as developed by the program and planning team had captured our imagination. In a secondary school where 1000 to 1500 students in grades 7 through 12 would be housed for several years, where, later, the enrollment might exceed 2000 senior high school pupils, the idea of limiting school groups to 300–400 had great appeal. It also became more and more apparent in discussions with the Board and with citizens in the community that the little school plan offered great flexibility because it permitted both easy expansion and the use of a unit for lower grades if necessary.

After a series of meetings throughout the community the bond issue was approved. A concentrated three-week series of meetings was then held with the team, the Board and the Citizens Advisory Committee. Out of these meetings came the final plan for a 4-unit, 1760-pupil, expandable high school. Future addi-



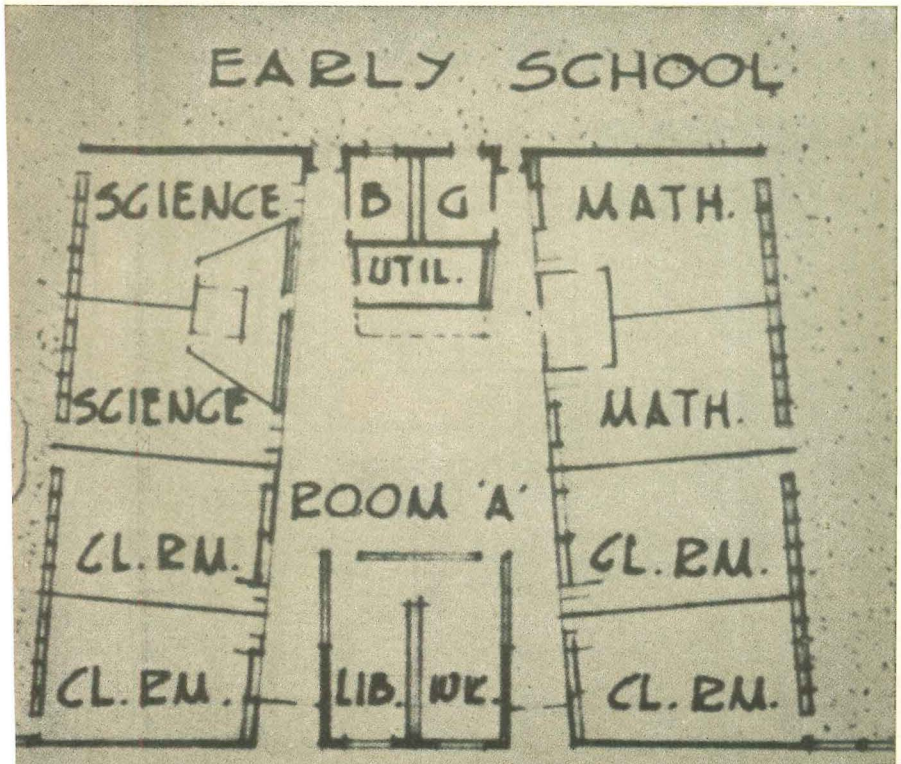


tions, for which provisions have been made in the plans, include: **a**, two additional little schools; **b**, an additional indoor physical education wing; **c**, a 40 by 75 ft swimming pool with spectator space for 400; **d**, additional industrial arts shops; **e**, additional commercial education rooms.

The little schools are the heart of the Syosset plan. In contrast to the buildings of a departmentalized high school, whether it is designed as a campus group or as a single large structure, each Little School is a unit which contains educa-

NEW SUBURBAN HIGH SCHOOL

Fairchild Aerial Surveys



As the total scheme was developed the plan of the Little School unit kept pace: at top of page, the preliminary scheme; left, plan presented in the brochure; facing page, final plan. At one time it was felt that the courts between Little Schools might be too deep and narrow, hence the splayed sides of early schemes; these were later abandoned

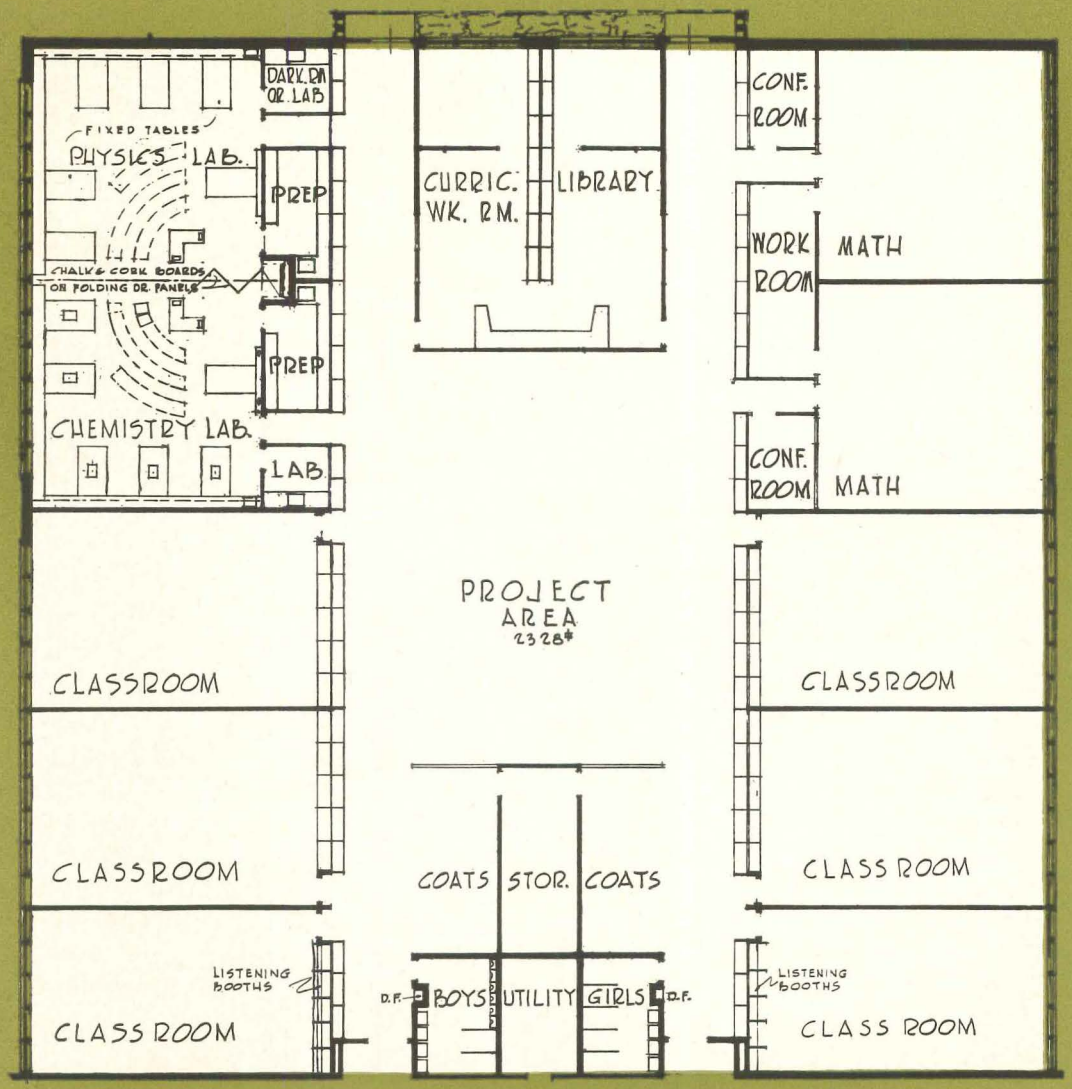
tional spaces where 300 to 400 pupils may be expected to spend a large part of the school day. Each unit will have two science labs and two mathematics labs, in addition to six interchangeable classrooms for general academic subjects.

In the center of each Little School, the 45 by 50 ft Project Area serves as a multi-purpose space where students will meet, work, and pass each other as on a traditional New England village green. The walls will be lined with keeper lockers up to 4 ft 6 in. above the floor, with glass and display space above. The floor will be asphalt tile, walls will be masonry, wood panelled at the ends. The ceiling will be acoustically treated.

At the entrance end of each Little School there will be toilet, utility and coat rooms. At the open end will be located the Little School library and the curriculum work room. The library will contain reference books and special study books, and will operate as a branch of the central library. The curriculum work room will operate as a central planning area for faculty coordination of subject material and study projects within the Little School unit. The science lab and lecture rooms will have a common preparation room and will be divided by a folding door to permit both large lecture groups and smaller lab groups. Individual student science projects may be carried out in separate small labs.

Serving the Little Schools will be a number of special areas, accessible to the units by covered and open passageways.

Physical educational facilities for all



the students were required by the Citizens Curriculum Committee report. The five-teacher-station physical education plant is located for easy access from parking areas, with direct access to outdoor playing fields. The locker plan is based on "wet" and "dry" circulation to the gymnasium areas, as well as to the future swimming pool. Locker dressing spaces will be of the class-cage type, with individual storage lockers for each student. Provision is made for extensive intramural and varsity athletic programs. In addition to dressing areas, there are spaces for coaches, equipment issue and drying, laundry, and towel-issue rooms.

The 600-seat cafeteria is divided into two rooms, one either side of the kitchen, to permit four serving lines and a central dish-return alcove. The double cafeteria permits smaller eating groups, lower ceilings, and multi-use of the space. Each of the dining spaces may be divided by a folding partition providing a total of four areas for such uses as study, chorus, art projects, assemblies and student activities.

There are three shops in the Early Little School Work Center, where pupils can develop proficiency at art, crafts, cooking, sewing, planing, sawing, drilling, sanding, painting and other basic work-arts.

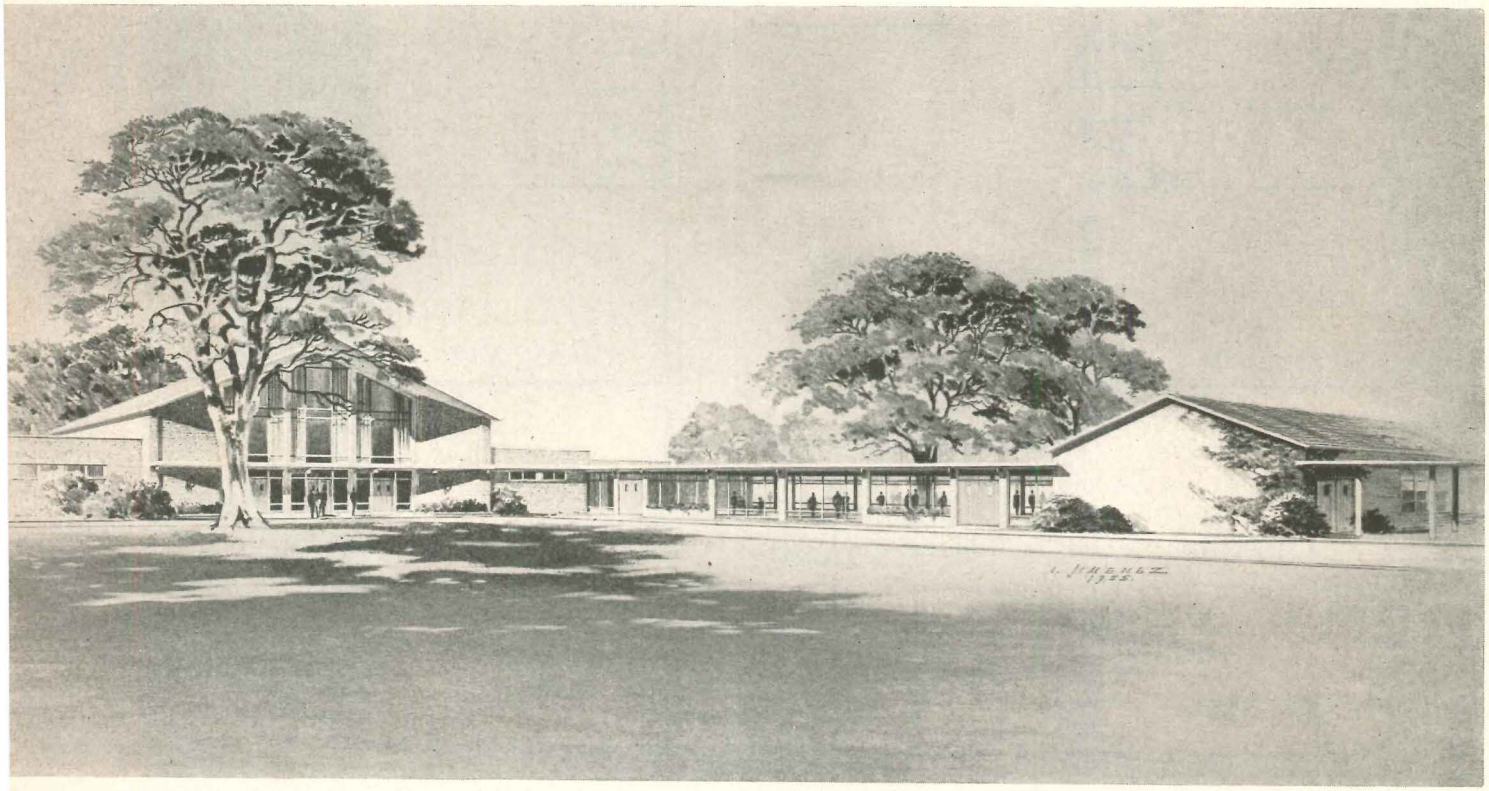
Business education will be offered at Syosset in 2 typing rooms, 1 stenography and bookkeeping room, 1 office practice room and 1 business and distributive education room. Centrally located to serve all of units, special areas and the the public is the administrative wing.

Of greatest importance in the Syosset story, perhaps, is the effect of its educational philosophy on its architectural design. The concept of building impressive pieces of architecture and pushing students through imposing entrances into dark tunnels and stairwells leading to stacked, beehive-like classrooms is conspicuously missing in the Syosset plan. No corridor, as such, extends very far without opening into a windowed area. No student need feel engulfed by his surroundings.

The Little School concept and the Quadrangular Plan offer the architect an opportunity to design spaces for students at a suburban scale rather than at the scale of the large city and the crowded block. They do away with the type of planning which fits small boxes into larger boxes, and then stacks them in tight piles.

The Syosset High School will be light, pleasant, warm and friendly. Trees and planting around the buildings and in the quadrangles will be an important part of the plan. By taking advantage of everything at hand, from such tangible assets as trees to such intangibles as ideas, we have tried to make it a good school for pupils and community.

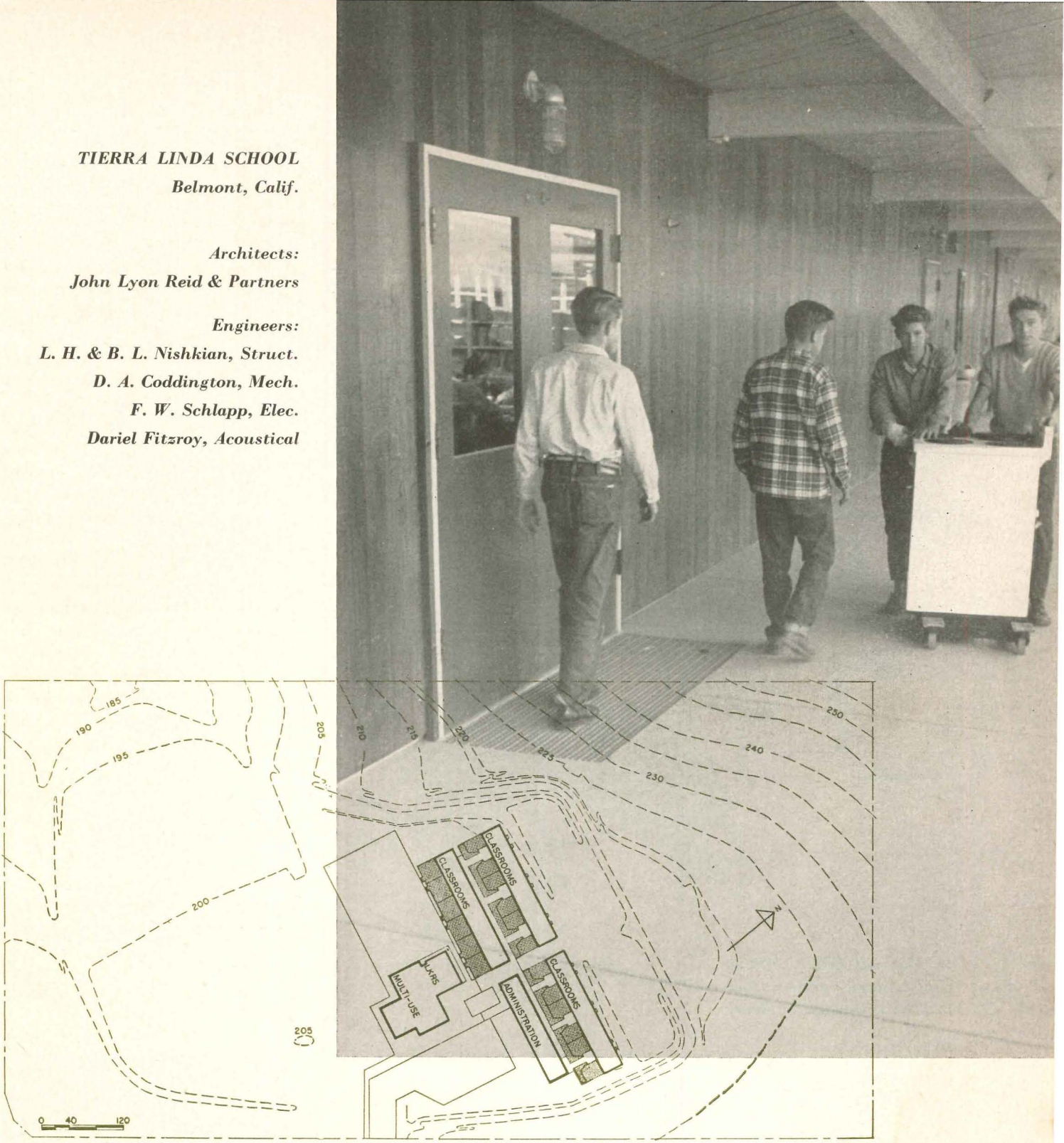
Perspective of the entrance façade with auditorium and future industrial arts structure shown at left



TIERRA LINDA SCHOOL
Belmont, Calif.

Architects:
John Lyon Reid & Partners

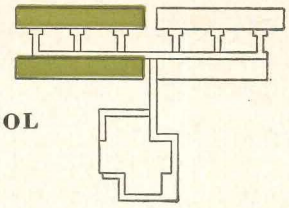
Engineers:
L. H. & B. L. Nishkian, Struct.
D. A. Coddington, Mech.
F. W. Schlapp, Elec.
Dariel Fitzroy, Acoustical



HOME ROOMS FOR SEVENTH AND EIGHTH GRADES

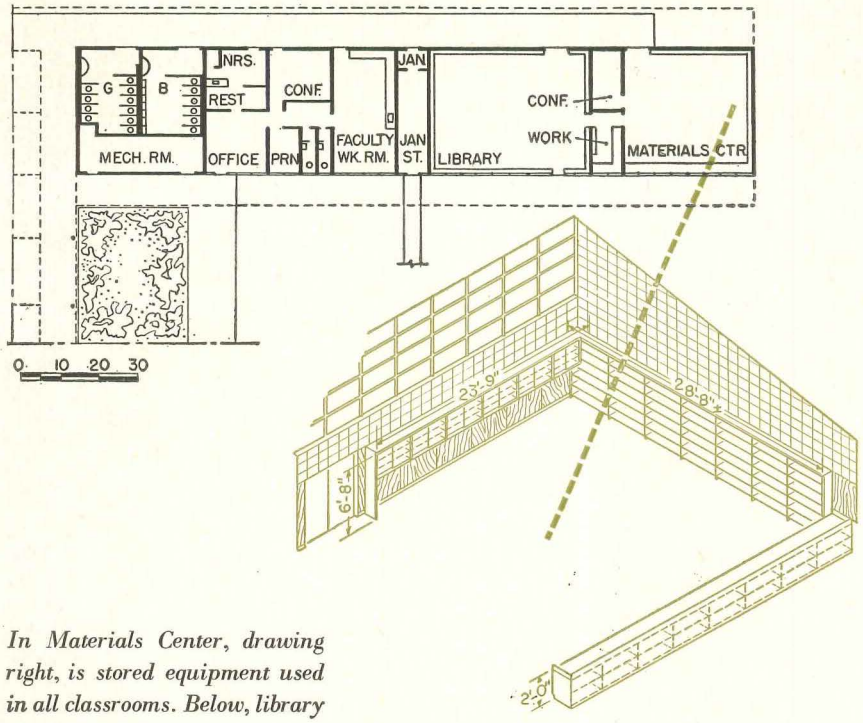
THIS SCHOOL for seventh and eighth grade pupils was first presented in ARCHITECTURAL RECORD in November 1952, as one of the early developments of a new type of secondary school program. At that time, part of it was under construction; it has since been more than doubled, and it can be further expanded to an ultimate 30 classrooms for which the initial scheme made provision.

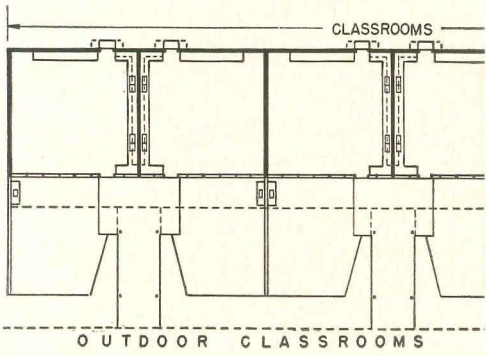
The unusual age grouping, the unique teaching methods — at the time these were considered revolutionary — and



the very different building design were truly the result of community-educator-architect cooperation. Literally months of discussions and defining of requirements, with laymen, board members, administrative staff, faculty and the architects all participating, preceded design. While what has resulted has the outward appearance of a typical California finger-planned plant, in dimensions, equipment, purposes and actual use Tierra Linda is a distinct departure, much closer to the "little school" concept than to the traditional platoon-system junior high school. Its organization might be compared to the home-room type familiar in elementary schools, in that all subjects except music and physical education are taught in each classroom; each class tackles academic subjects, home making, science, light shop work, arts and crafts within its

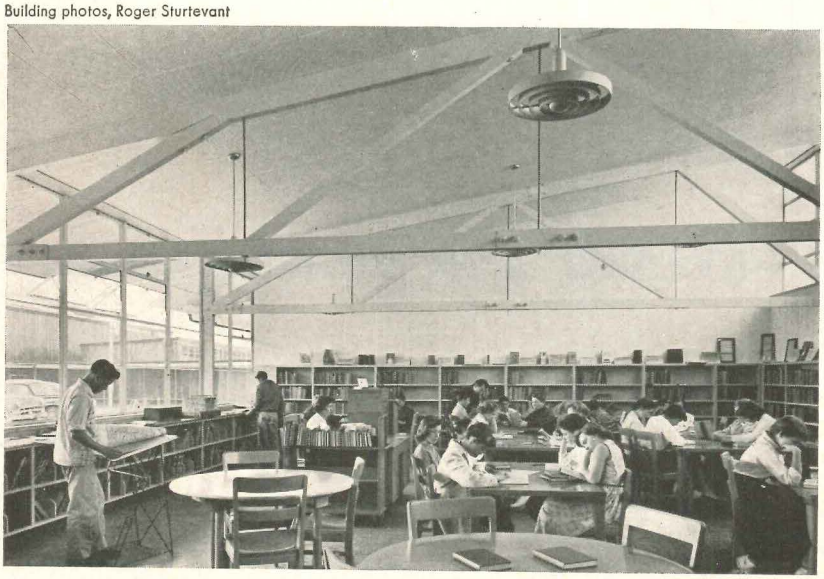
Top row: students requisition equipment in Materials Center; range and kiln in use in classroom; lower row, classroom planning session precedes carpentry exercises in outdoor classroom

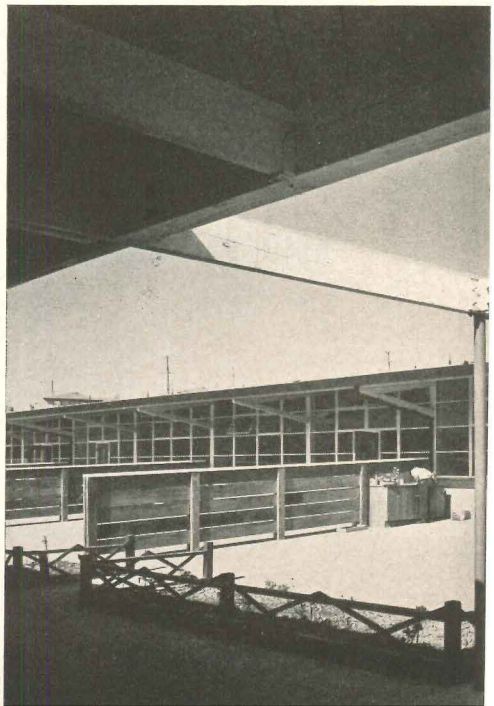


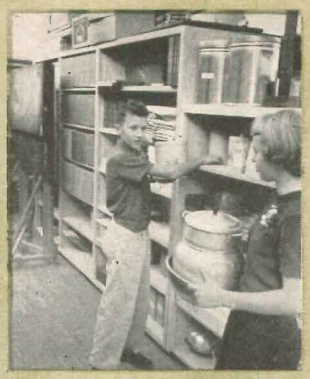


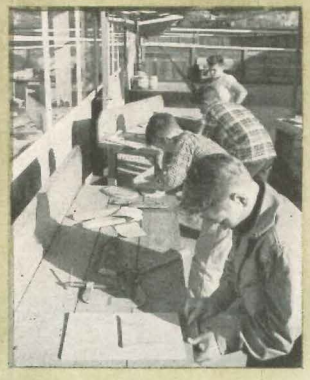
In Materials Center, drawing right, is stored equipment used in all classrooms. Below, library

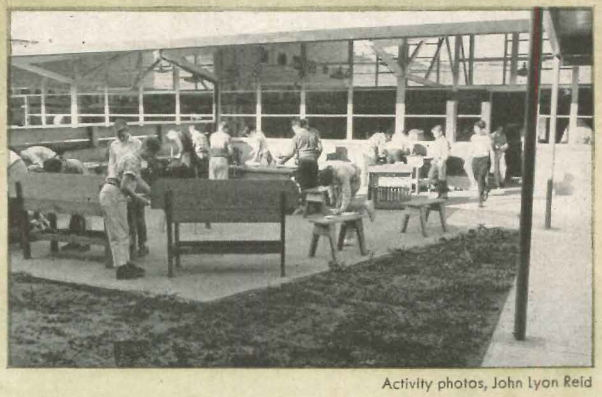
Building photos, Roger Sturtevant



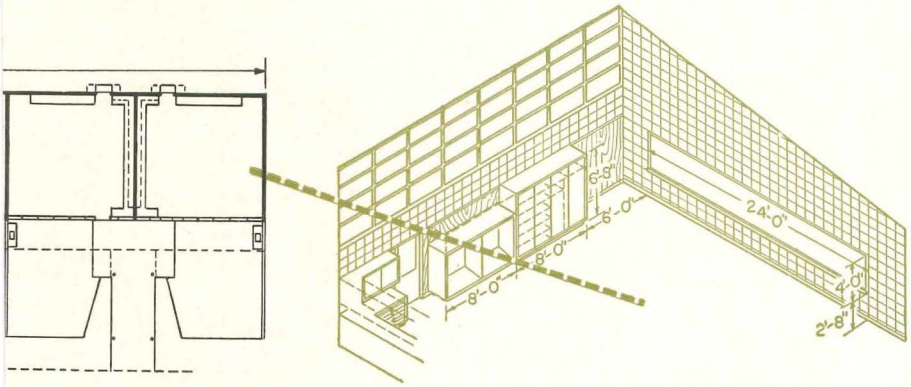


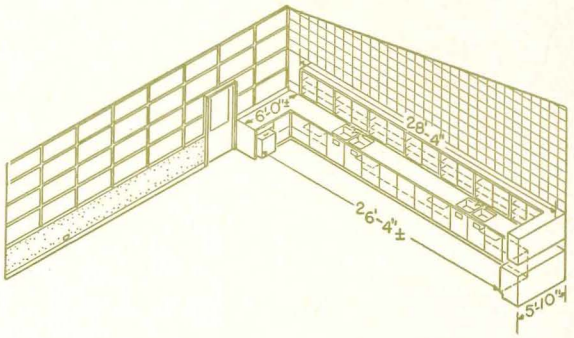


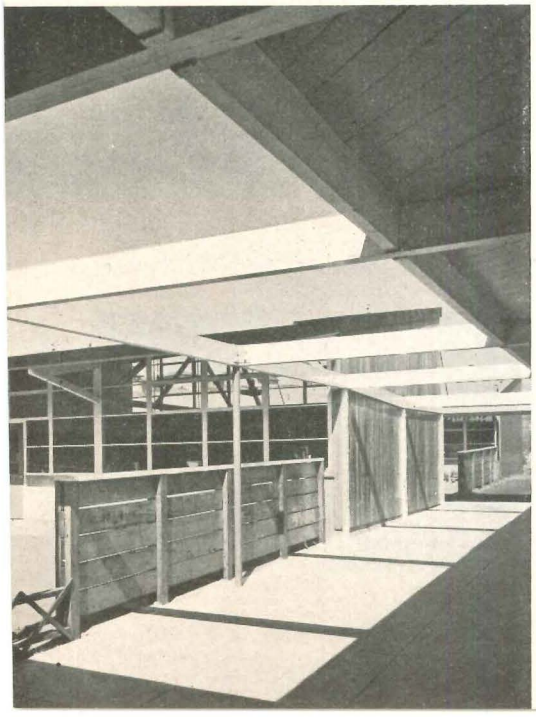


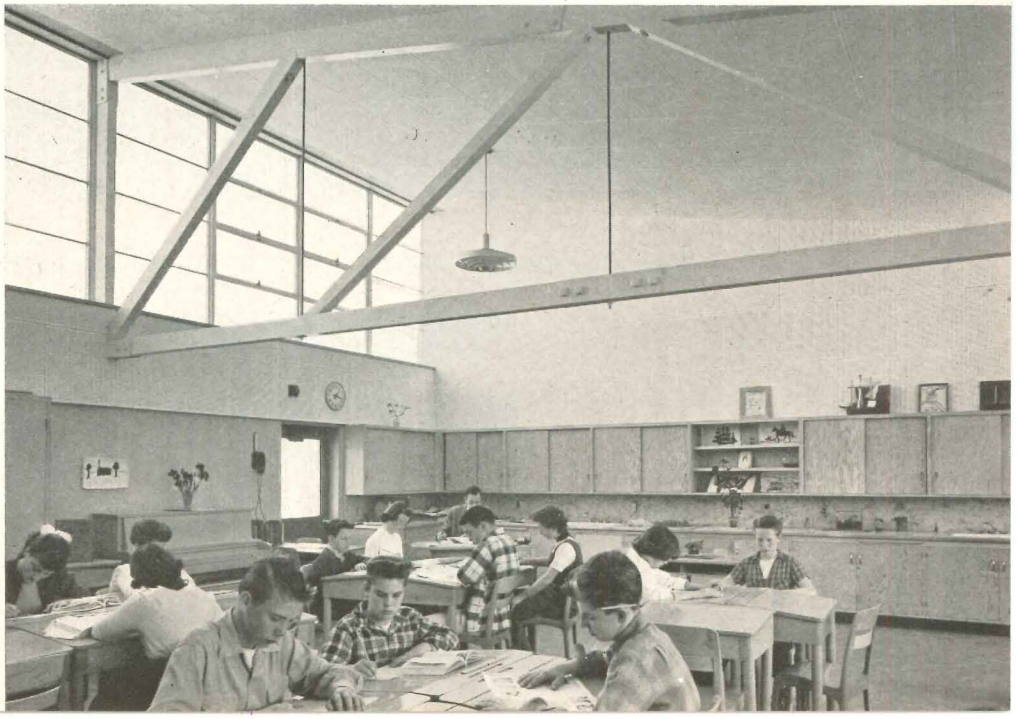


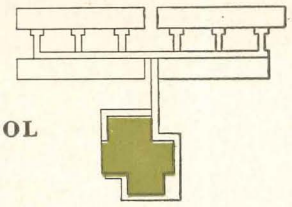
Activity photos, John Lyon Reid



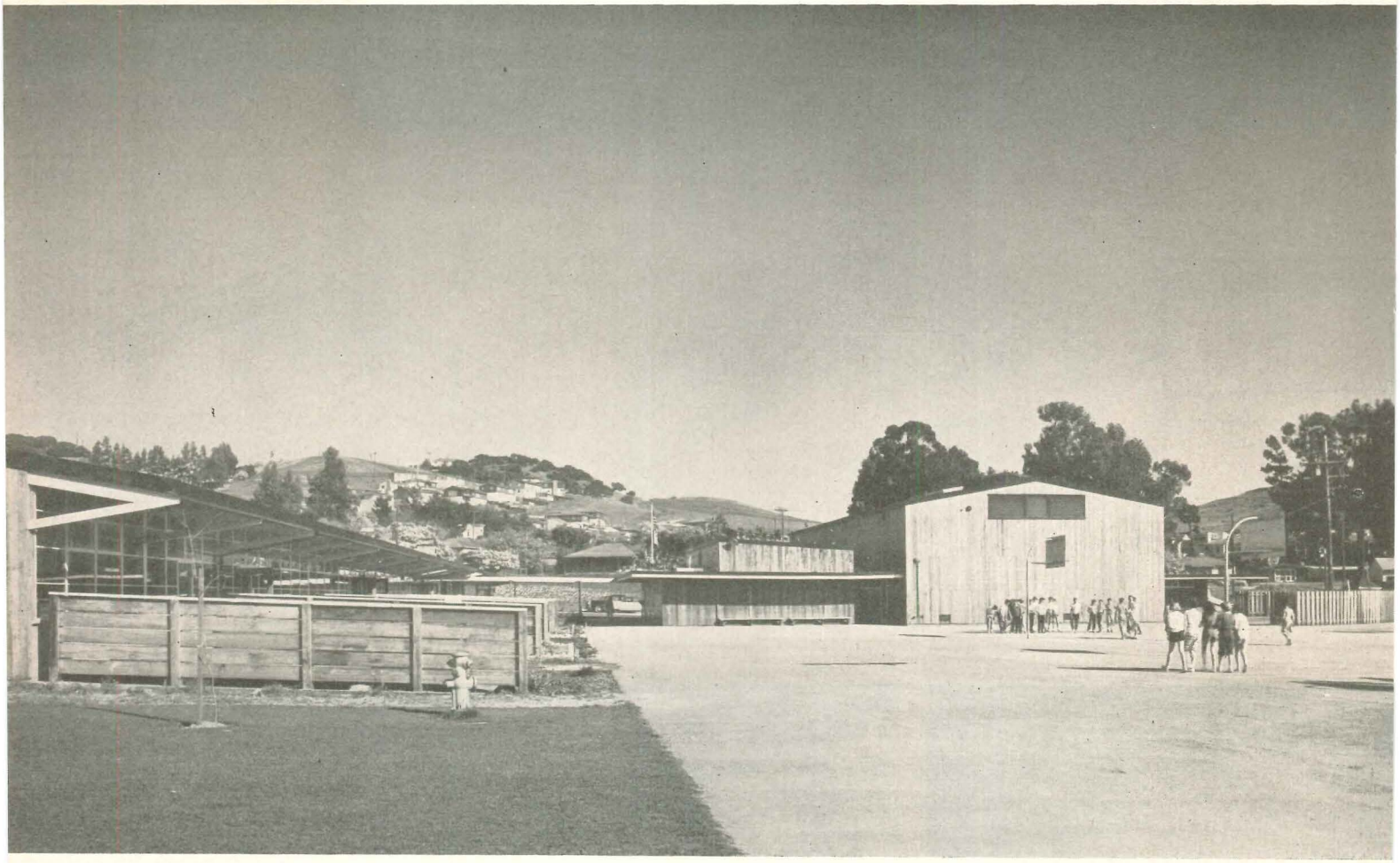




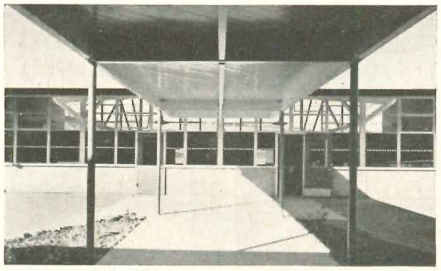




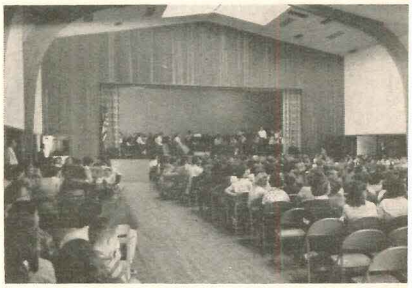
home-room environment. All kinds of class projects are proposed, discussed, organized and carried through in the one area. Some of these necessitate special connections to utilities, multiple sinks, extensive counter space; there must be room for work and discussion groups; unusually ample display space is required. Each classroom has its adjacent paved outdoor classroom, partially under the wide roof's eaves, surrounded by planting spaces which are both teaching tools and decoration and separated from its neighbors by simple redwood fences. The outdoor rooms are actively used for subjects which might be too noisy or space-consuming for the indoor classrooms, ample though these are, and they provide an outlet for characteristic physical energy. Equipment ordinarily found in shops and laboratories — kilns, ranges, tools, etc. — is stored in a materials center, requisitioned as needed and transported on dollies to the home room by the pupils. The library, adjoining the materials center, is used as a research center. The program and its plant make unusual demands on the teaching staff; the challenge has been enthusiastically accepted and the school is reported to be operating more successfully than its pioneering protagonists dared to hope.



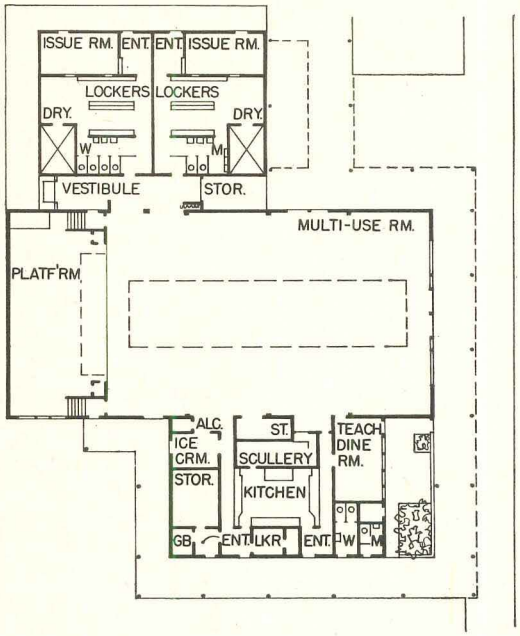
Above, multipurpose building; Below, left, corridor to classrooms; right, to multipurpose building and dining terrace



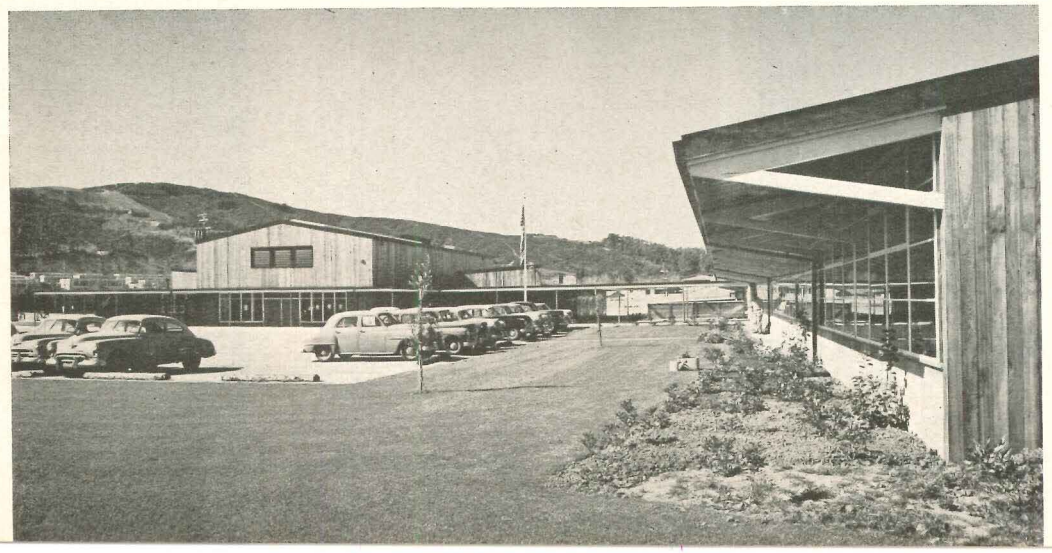
Photos: Roger Sturtevant except as noted

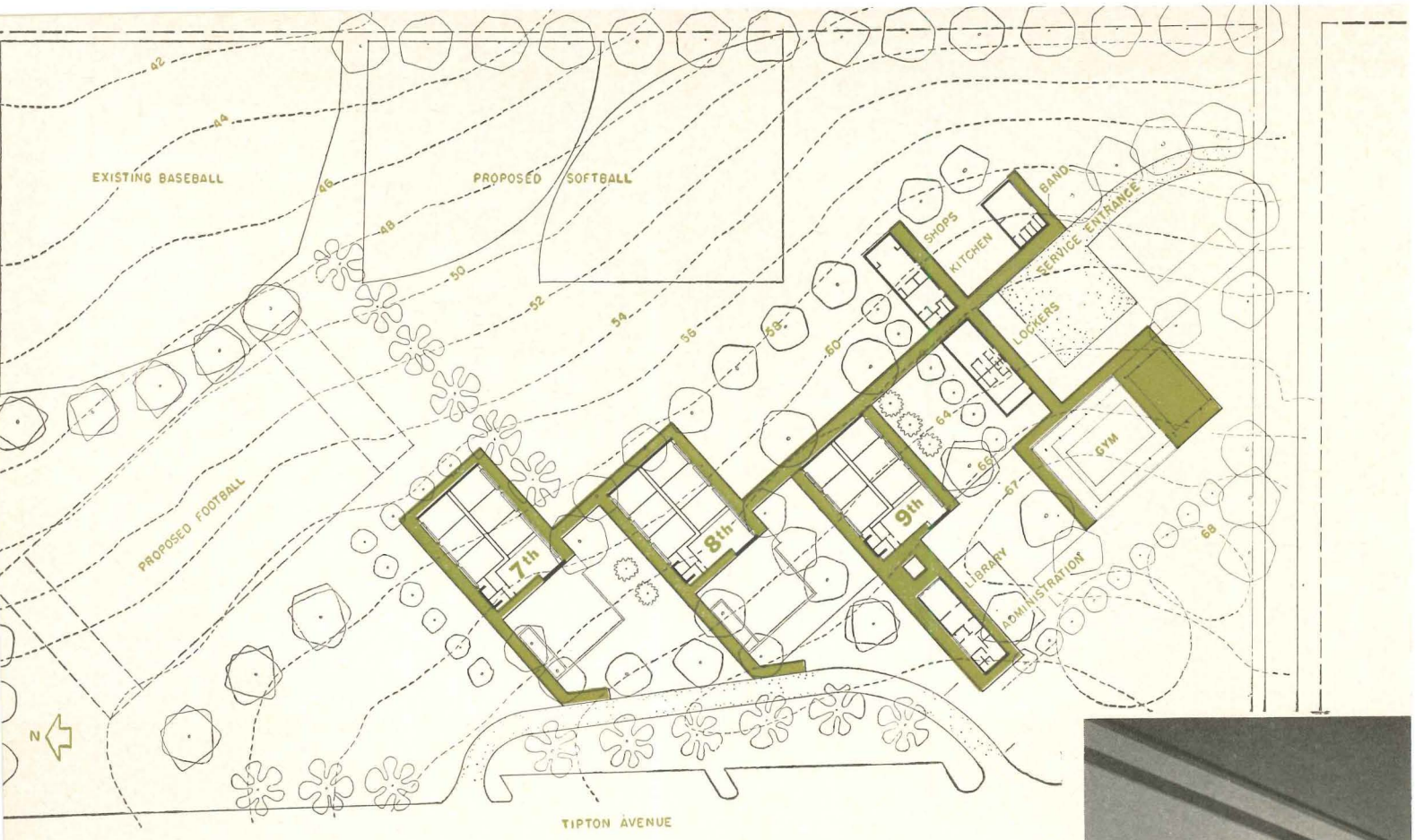


John Lyon Reid



Top of page, multipurpose room (see plan at left) houses a student dance; immediately above, same room during a concert

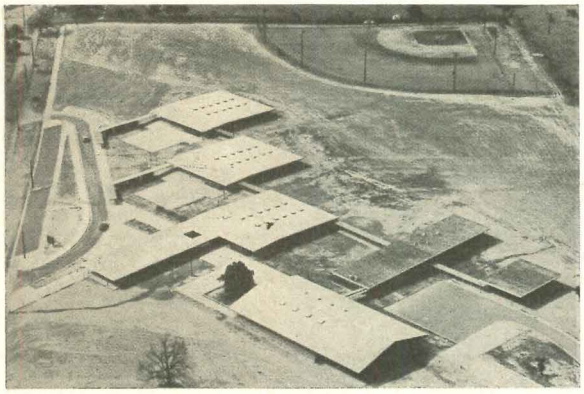




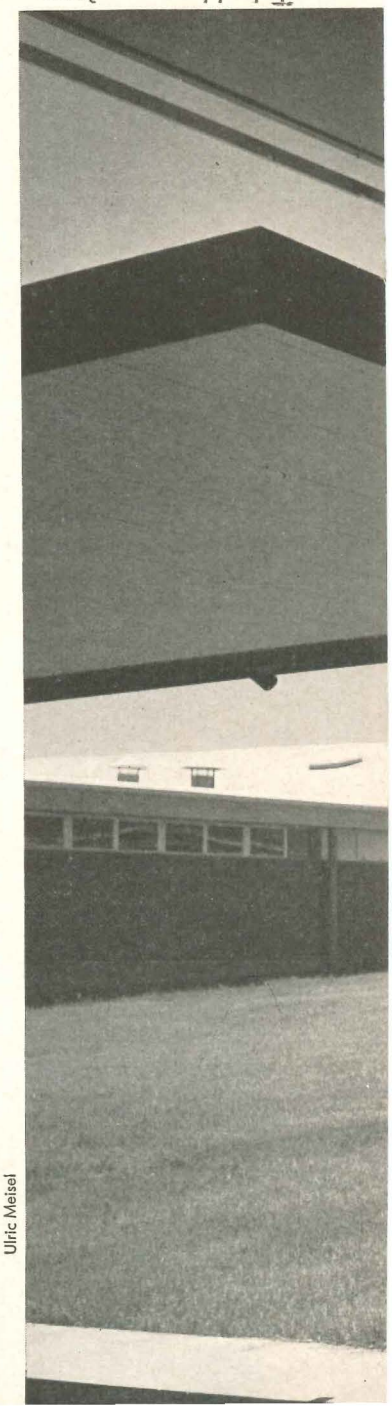
DEFINING TEEN-AGE NEEDS PRODUCES A DIFFERENT SCHOOL

This term, junior high pupils in Tyler, Texas, attended for the first time a school designed particularly for them. Its program is based on the needs of children 13 to 15 years old — it is neither a downward penetration of the high school nor just a projection of the elementary.

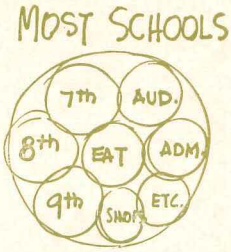
The teen-aged child desires and needs the knowledge and skills that will help him proceed on his own; his relations with others, his own nature and his environment cry for exploration; his body is changing rapidly and profoundly; he wants both independence and security; he must find personal values in his social setting and participate responsibly in larger groups.

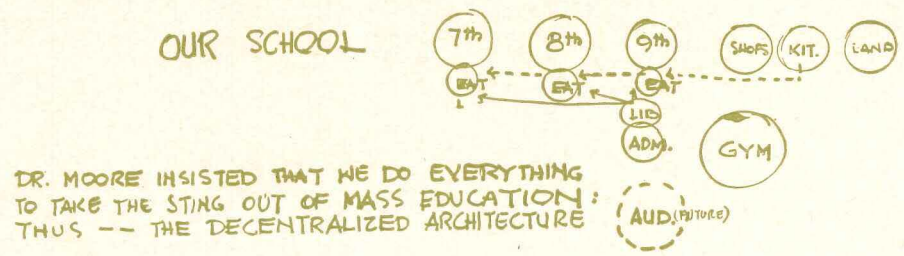


Jay Oistad & Assoc.

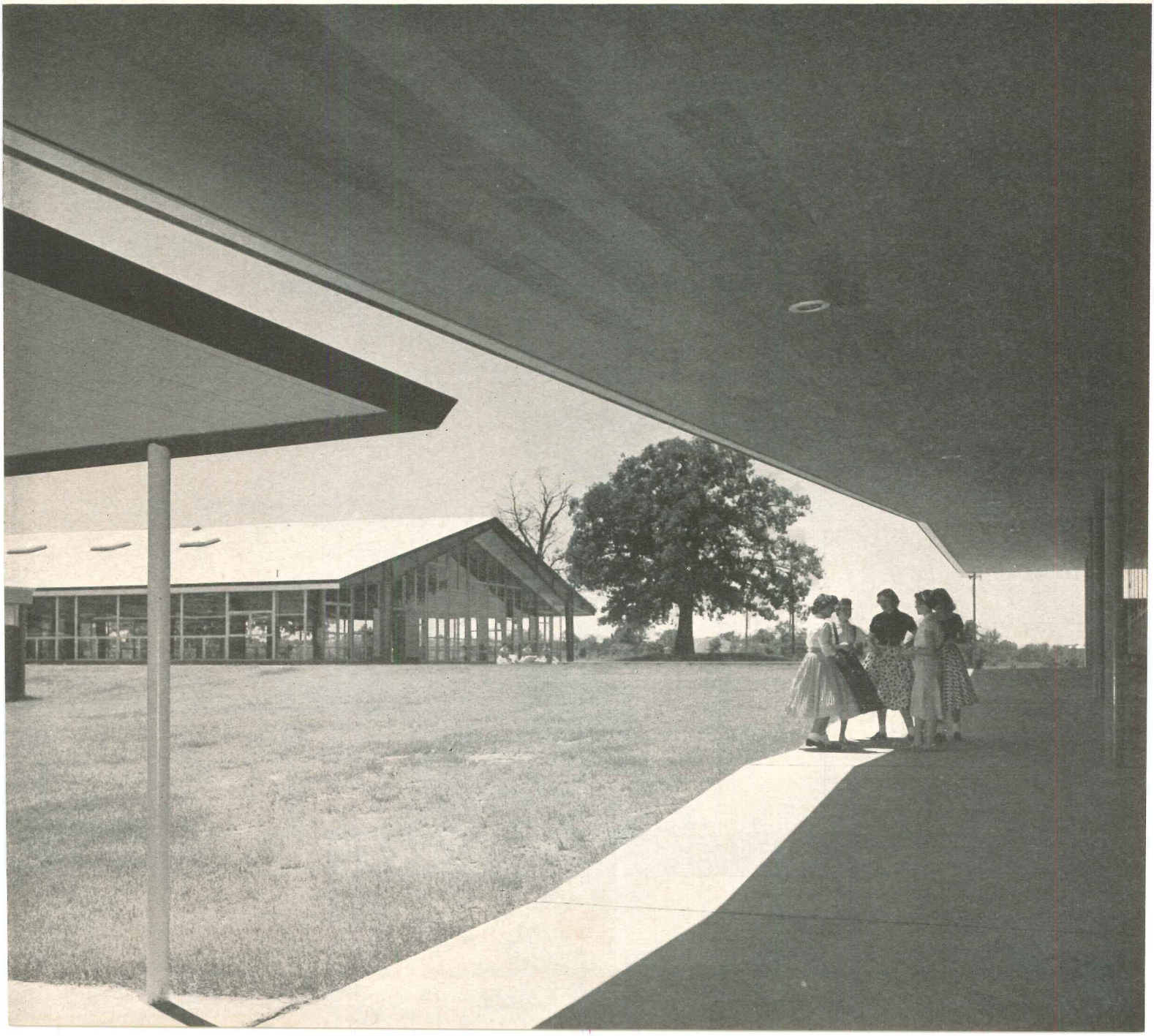


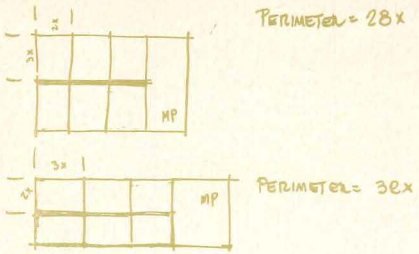
Ulric Meisel



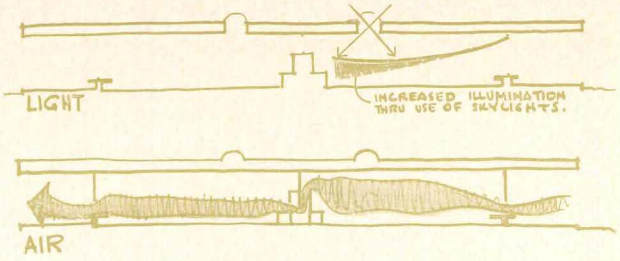


The advanced educational program for the new J. R. Moore Junior High School in Tyler, Texas, was developed by the community's school administrators and classroom teachers, headed by Hollis A. Moore, Superintendent. It was translated into architecture by Caudill-Rowlett-Scott, Bruce & Russell, Associated Architects & Engineers; Robert F. White was the Landscape Architect

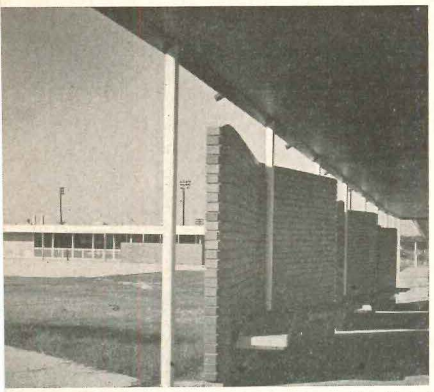




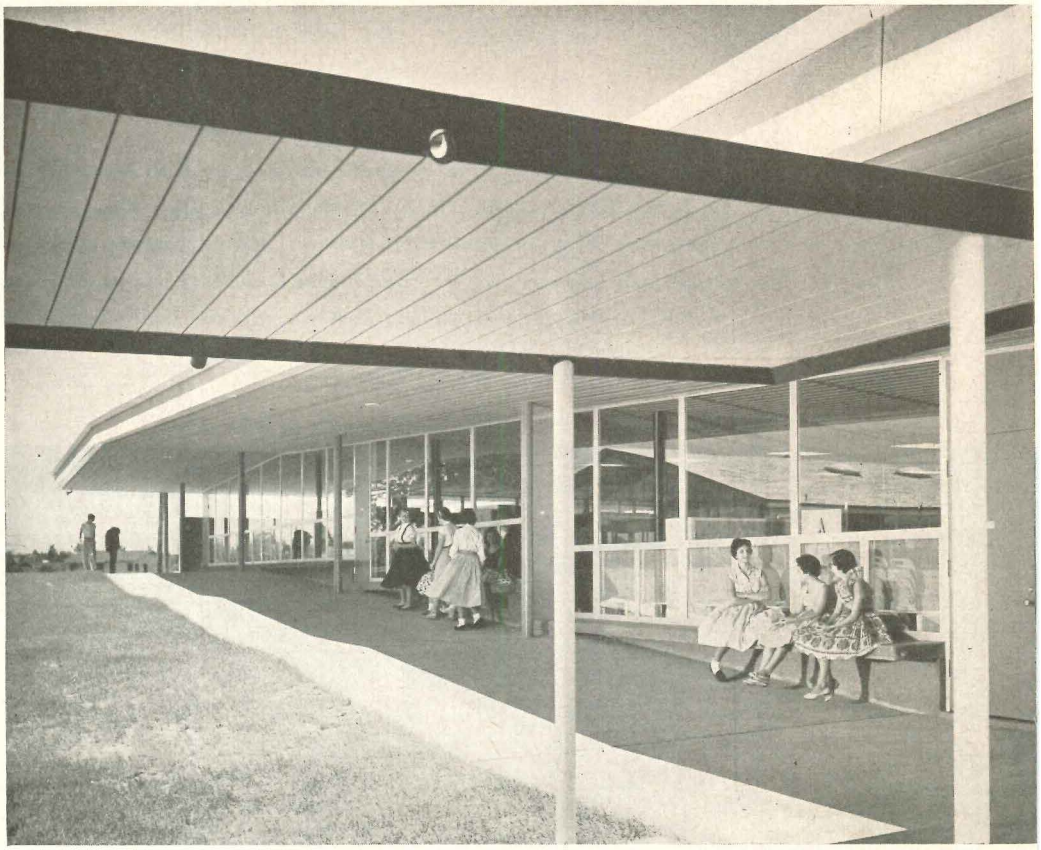
- walls to exterior are most expensive - must be minimum.
- classrooms placed back-to-back on core with long side of classroom on interior wall.
- good lighting obtained by skylights.



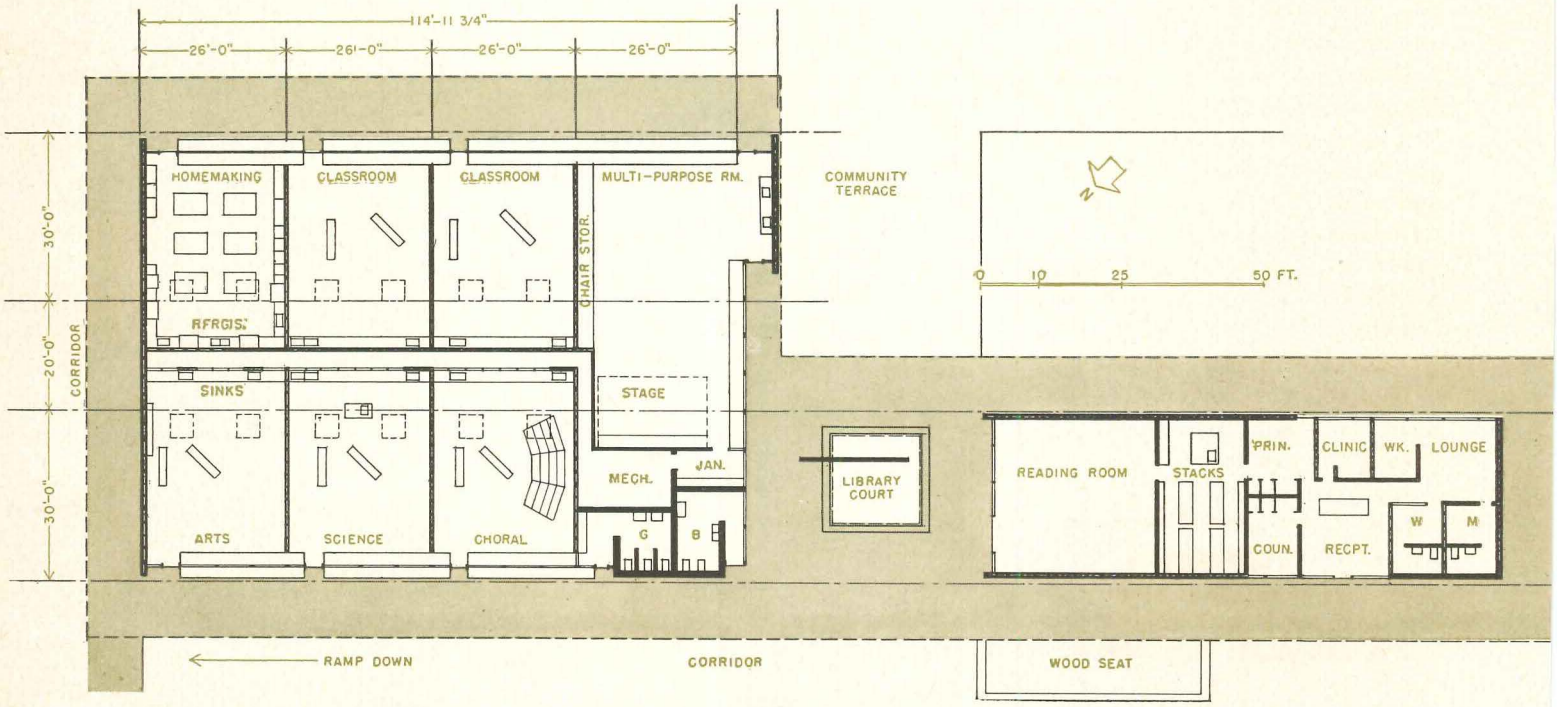
DESIGNED FOR TEEN-AGERS

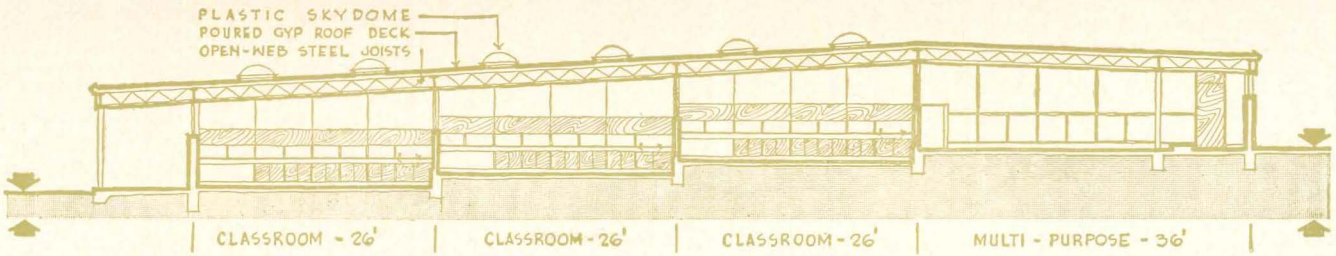


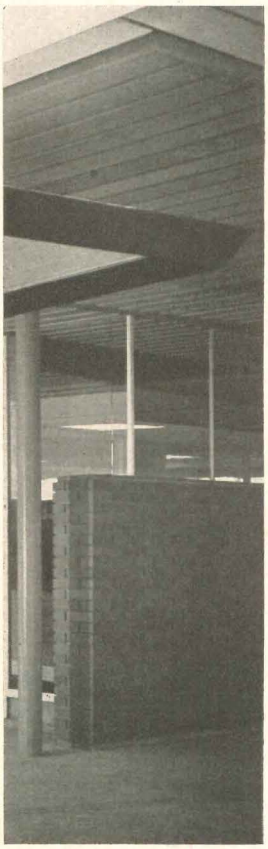
Ulric Meisel



Strategically placed baffle walls and attached seats help define each grade's outdoor neighborhood. In grade units, upper walls between classrooms are glazed to increase visual unity, reinforcing the educational aims



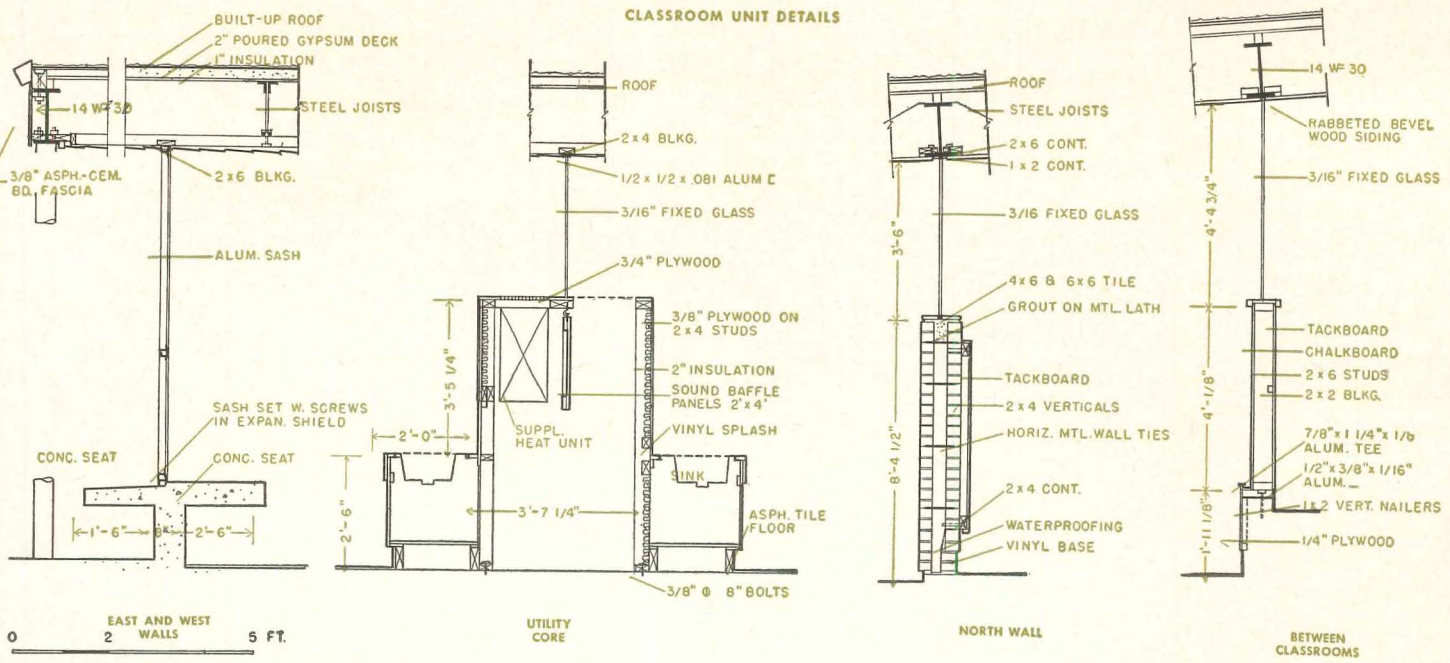




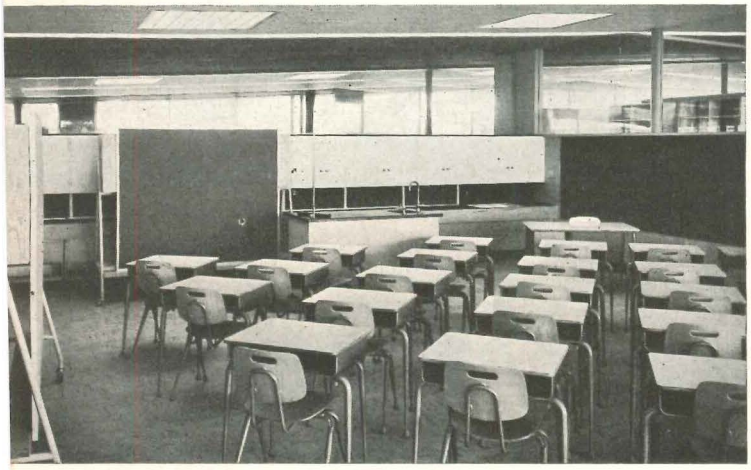
With the junior high school thus conceived as an interim step in the educational ladder, the next decision was to face mass education, to resolve the conflict between sheer numbers of pupils and their need at this age for individual instruction. The only visible answer was subdivision of the large group, which was seen to have the further advantage of providing in a number of sub-groups opportunities for fitting the educational program even more exactly to pupils' requirements, year by year. This led to an organization by grades rather than a complete junior high school per subgroup. Further research produced the concept of each grade level functioning as a unit, with children of like age and similar aptitudes carrying on many joint activities. This is precisely counter to the departmentalization characteristic of most senior high schools, and to the demands of more specialized education. Here, it was felt, first consideration should be given mastery of the skills and tools of learning and the pupil should be given a broad perspective of such organized areas of learning as science and vocations, rather than intensive study or training.

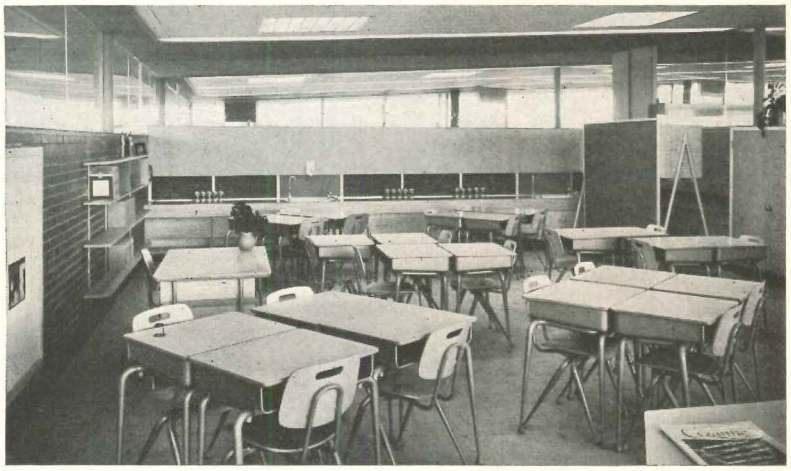
Such, then, were requirements: a school for a large number of pupils to be subdivided into a succession of teenagers' neighborhoods, on a 21-acre site; the climate was difficult; money, as always, had to be conserved. The architectural program — a series of six-classroom units each focussed on a student center to serve many functions, all served by a group of facilities which demanded separate buildings — evolved naturally.

Equipment varies from room to room within each grade unit. Rooms are deep, skylighted

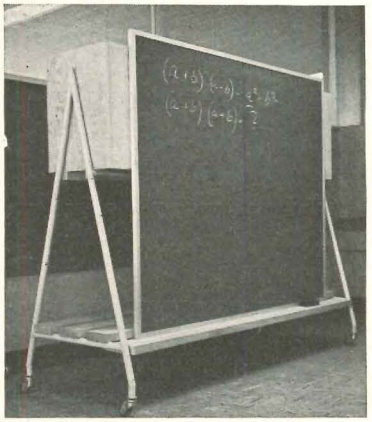


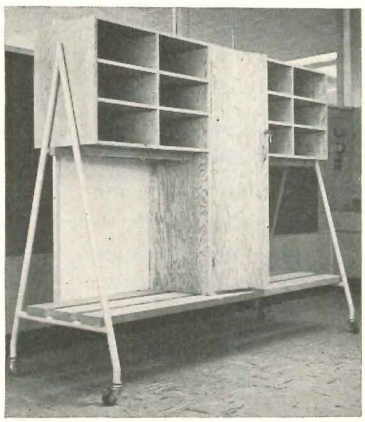
Below, two more of the room arrangements within a typical grade unit at the new Tyler, Texas, junior high school. Above, non-load-bearing walls are independent of framing





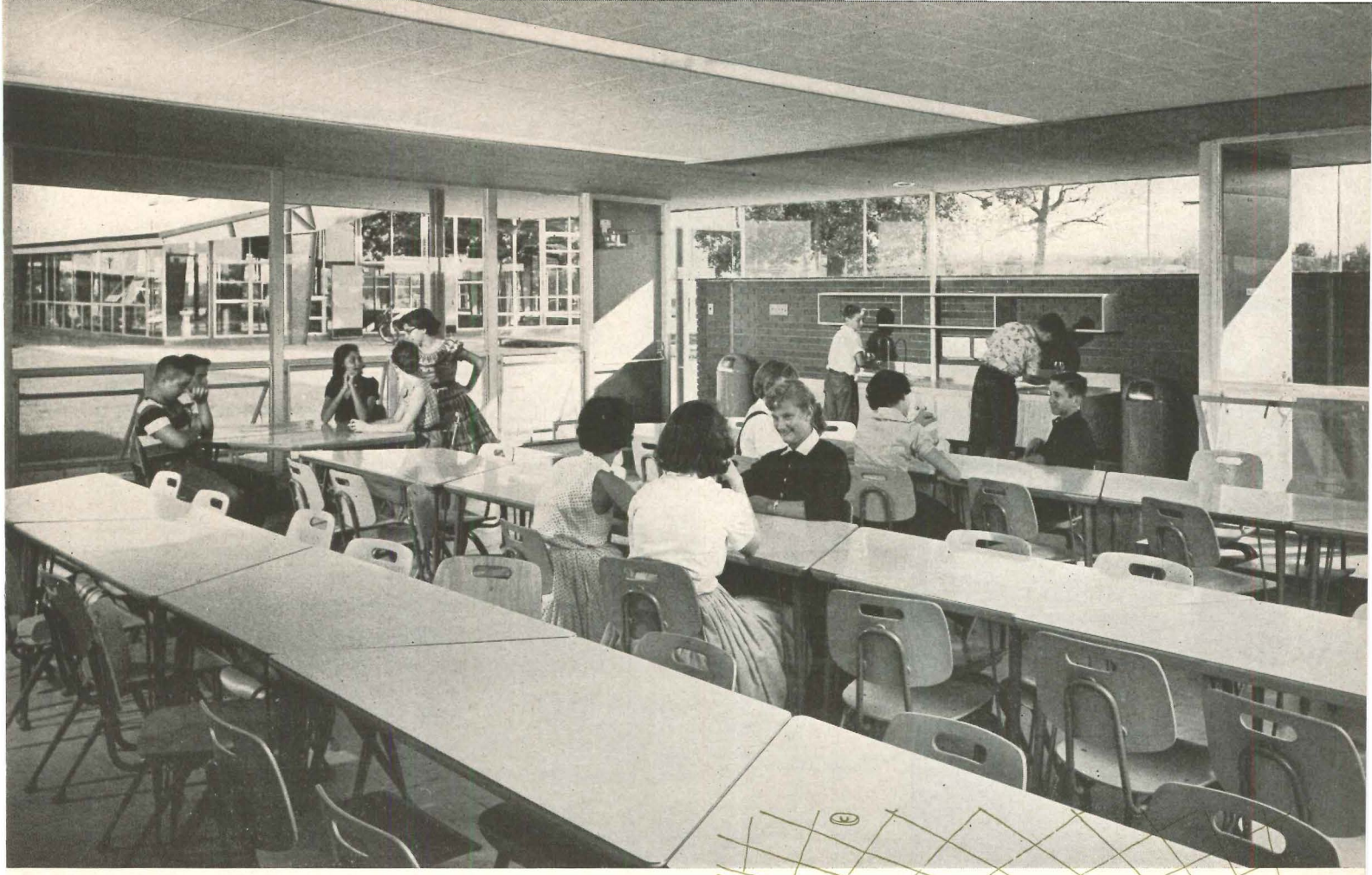
Ulric Meisel

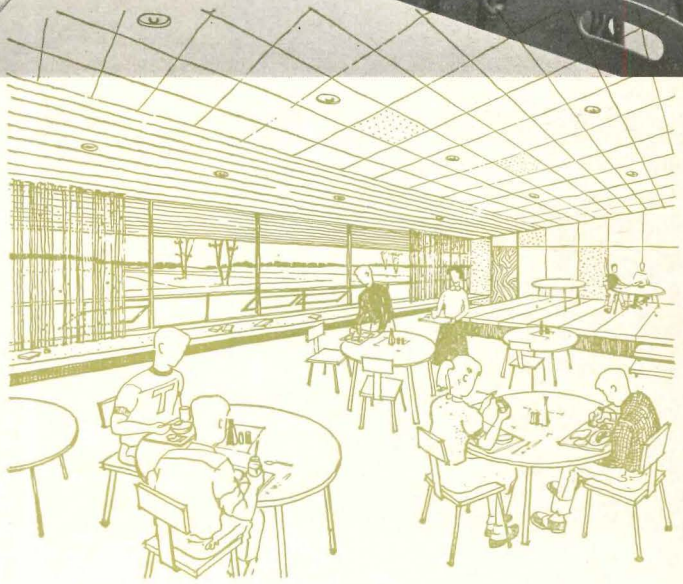




Portable storage, clothing and chalkboard units were designed and detailed by the architects, provided by the contractor

The Tyler junior high school takes seriously its role as a *transitional* school unit. For seventh graders it has a series of completely self-contained classrooms, following the elementary school formula. A partly self-contained classroom concept serves eighth graders; and a departmentalized set-up, like the senior high school's, is provided for ninth grade pupils. However, regardless of what direction the teaching program for teen-agers takes, this school plant will be able to accommodate it because its layout is decentralized. It will permit





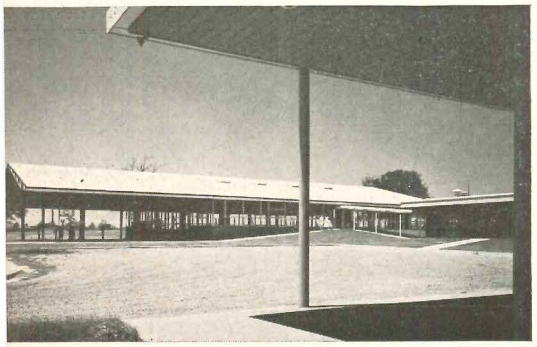
The multi-function room or student center contained in each grade unit appears above. The trapezoidal tables may be arranged as shown for eating or grouped differently for other purposes, as indicated in the preliminary design sketch at right. It was considered imperative that pupils in each unit eat with their own small group; mass eating was believed to be as bad as mass education, perhaps worse. Food is prepared in a central kitchen (see next page) *and brought to individual student centers by carts*

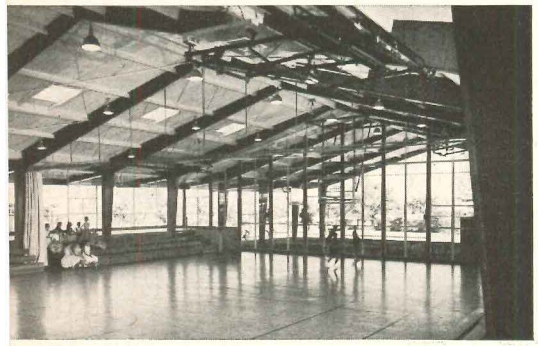
economical, efficient expansion, although the hope is that enrollment will not exceed 750 pupils.

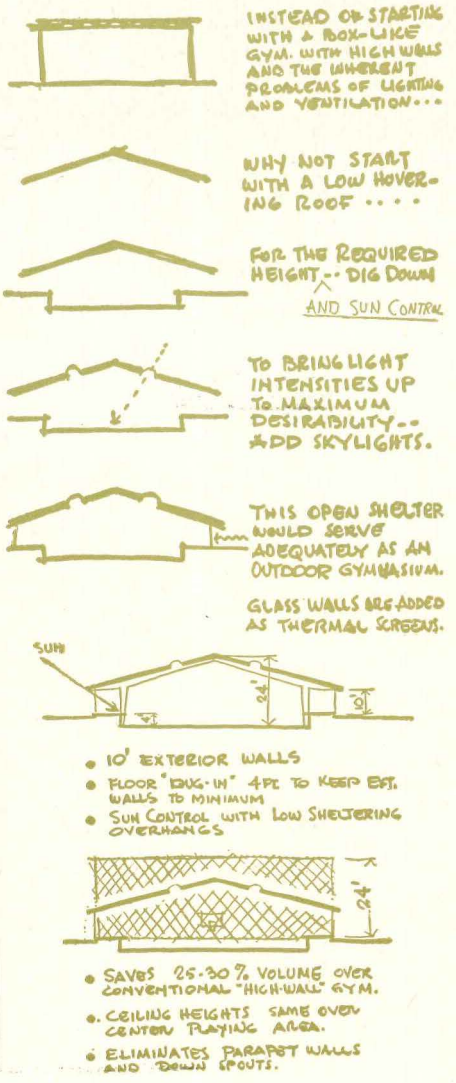
Each of the three student centers is roughly equivalent in size to two classrooms. Each opens into an informal terrace, with built-in, sheltered seats where children may discuss everyday problems in informal groups. The centers themselves will serve as unit assembly rooms (provision is made for a separate future auditorium), as dining rooms, as places for group performances, for class activities requiring tables, for visual aids, conferences, parent meetings, student parties, faculty meetings, demonstrations, display of trophies and the like, as well as for study and reading. They are intended to be the pupils' living rooms, their homes at school, places where they can gather in the mornings before the first bell rings.

The classrooms in each unit step down, following the natural grades, each about 1½ ft below the next. Because the upper portion of each wall between classrooms is glass, a teacher standing in the student center will be able to see entirely through the building, and the continuity of the roof — which, too, follows the slope — helps to increase the sense of unity, of being part of a homogeneous group, which was one of the cardinal principles stated in the educational program. Technically the classrooms should be more than satisfactory; they were tested in model form at the Texas Engineering Experiment Station to make sure there would be more than the required minimum 25 footcandles of light at desk level, and ample natural cross-ventilation.

DESIGNED FOR TEEN-AGERS

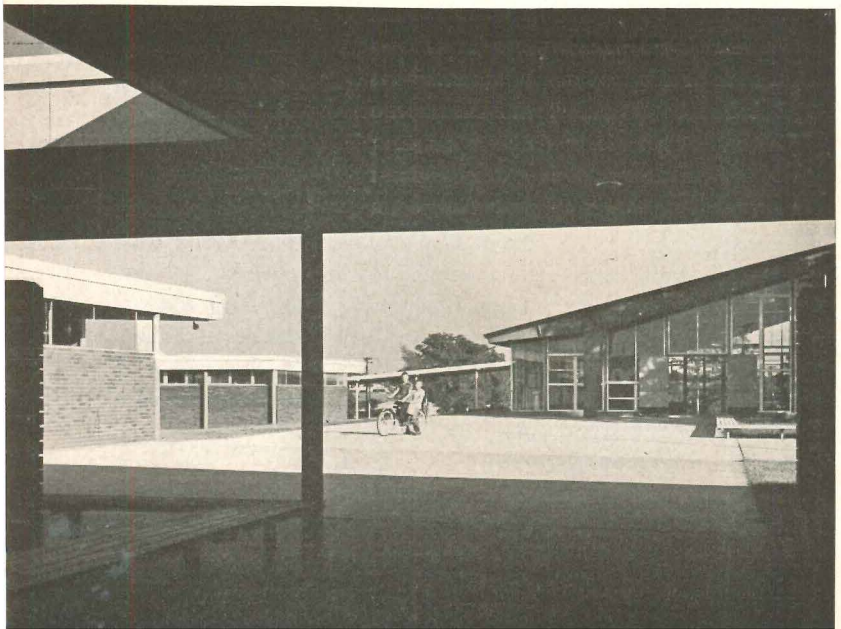






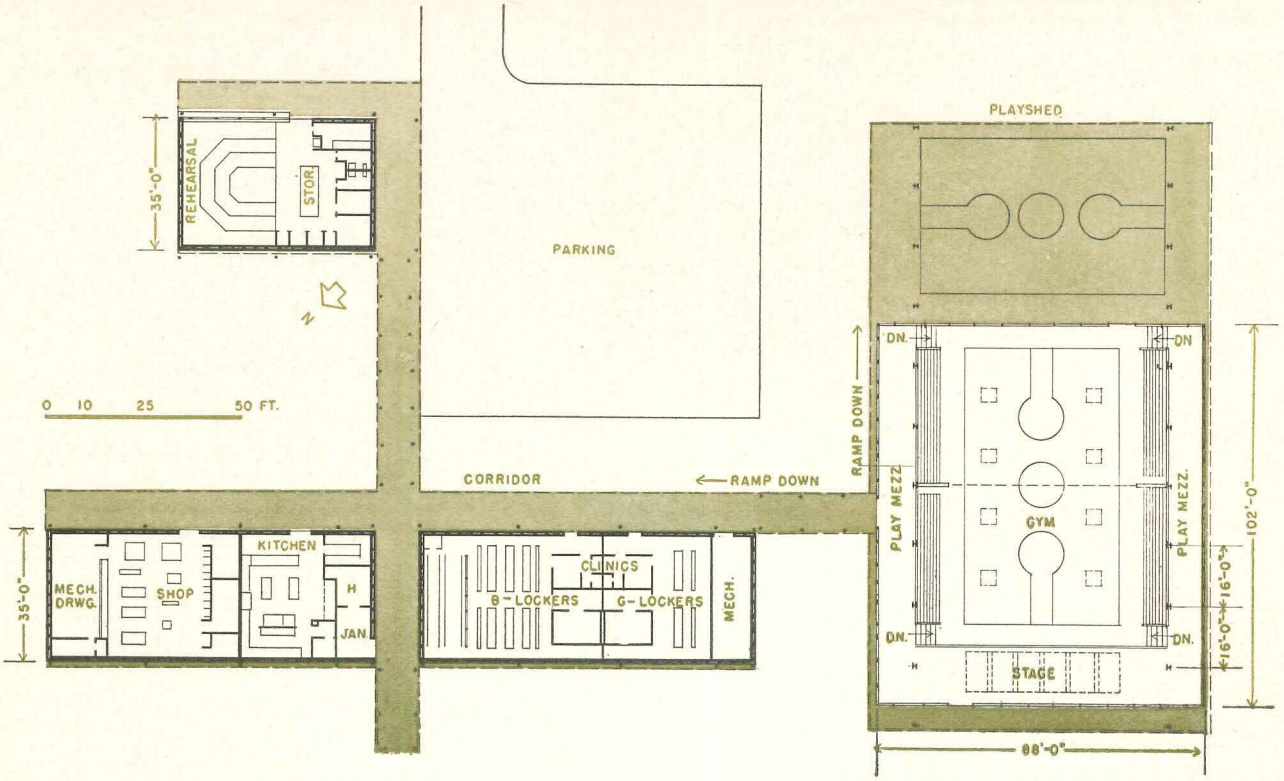
Of the special buildings at Tyler's new junior high, design of the gymnasium is perhaps the most exciting though all have their excellences. The thinking which accompanied development of this super-playshed, partially enclosed by glass walls and partially open, is graphically shown in the accompanying sketches. Locker rooms were put in another building, combined with the kitchen, so one mechanical ventilation plant could take care of odors from both. Other deciding factors were the realization that, since many games can be played best outdoors, the more a gym could be like the outdoors, the better; natural ventilation should be through low openings; massive masonry was too expensive; the activity area should be completely shaded.

Construction costs were surprisingly low. The general contract was $452,949; mechanical, $79,184; electrical, $45,159; kitchen equipment, $7,720 — total $585,012. Figuring heated areas (44,580 sq ft) at unity and covered areas (14,163 sq ft) at ½, the cost per sq ft was $9.95. The general contract included terraces, walks and drives not figured in the above areas. This is attributed to the logical, simple construction and to such factors as the use of bold yet pleasing color rather than monumental materials; and these are also the elements which make the school a very human structure.



Ulric Meise

Photos, this page, top to bottom: band room (in separate building); playshed and gymnasium with band and shop buildings in distance; gymnasium exterior and interior, gym from library court. Facing page; gym from 9th-grade student center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35'-0"
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CORRIDOR
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H
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B-LOCKERS
G-LOCKERS
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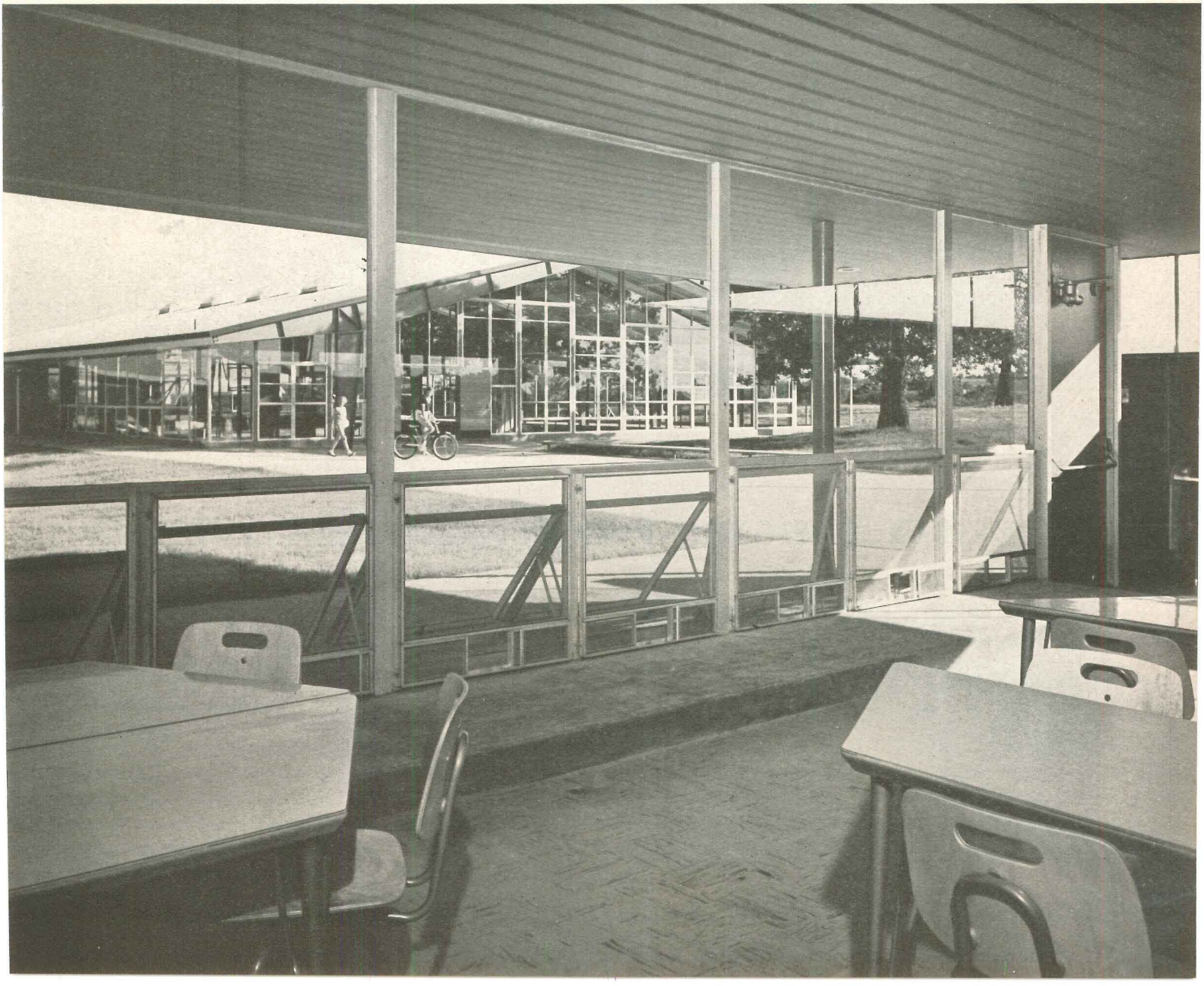
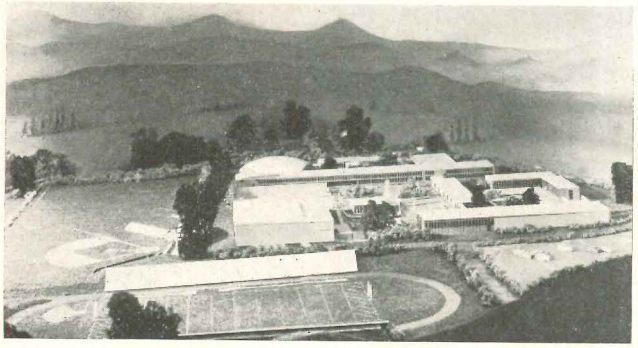
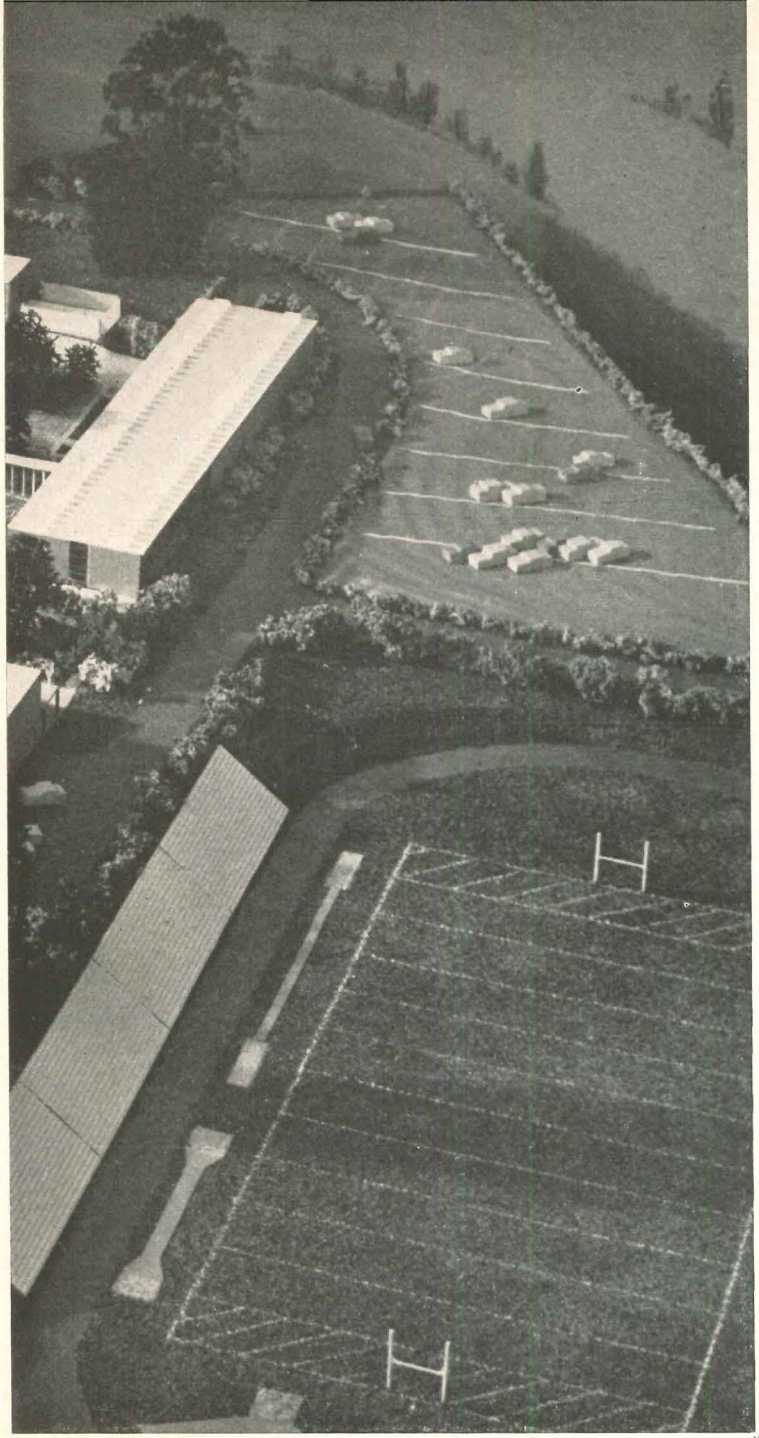


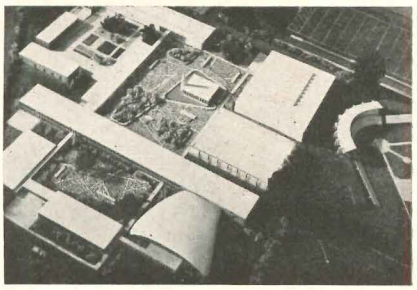
FLEXIBLY DESIGNED FOR ULTIMATE DEVELOPMENT



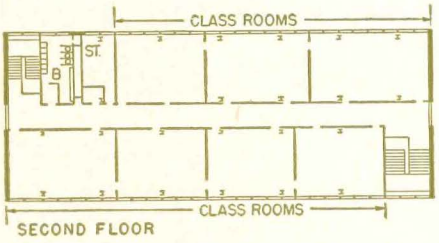
JUNIOR HIGH SCHOOL, FARMINGTON, N. MEX.

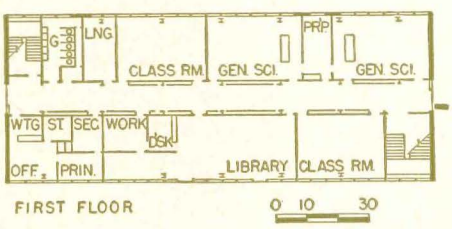
Flatow & Moore,
Bryan & Fairburn,
Architects

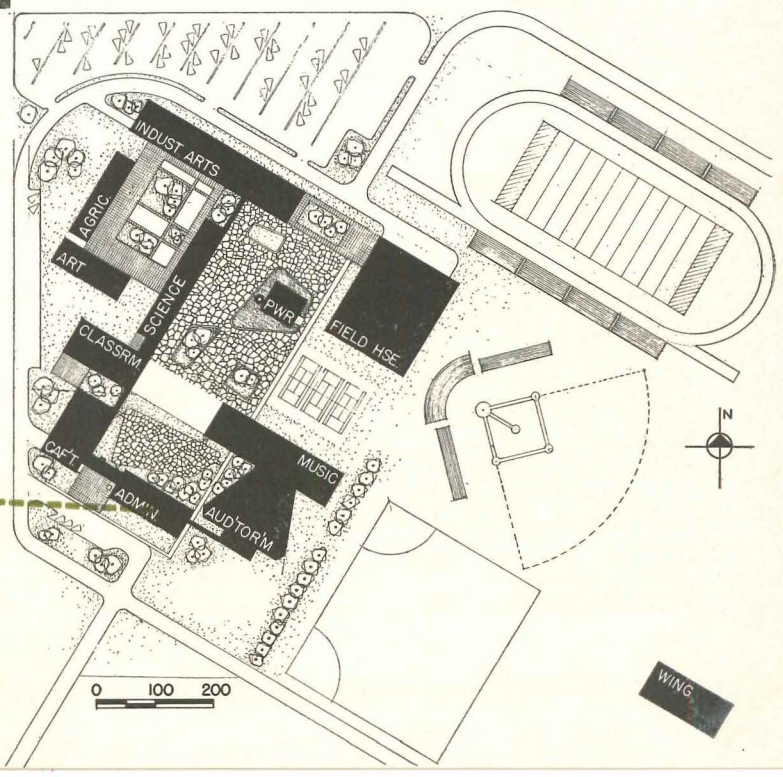


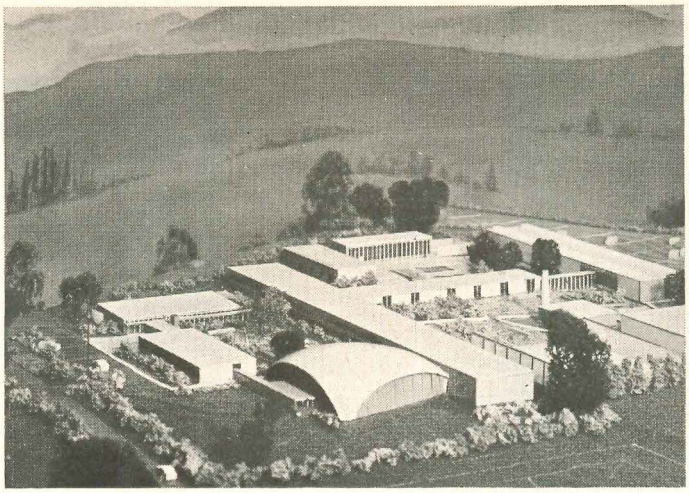


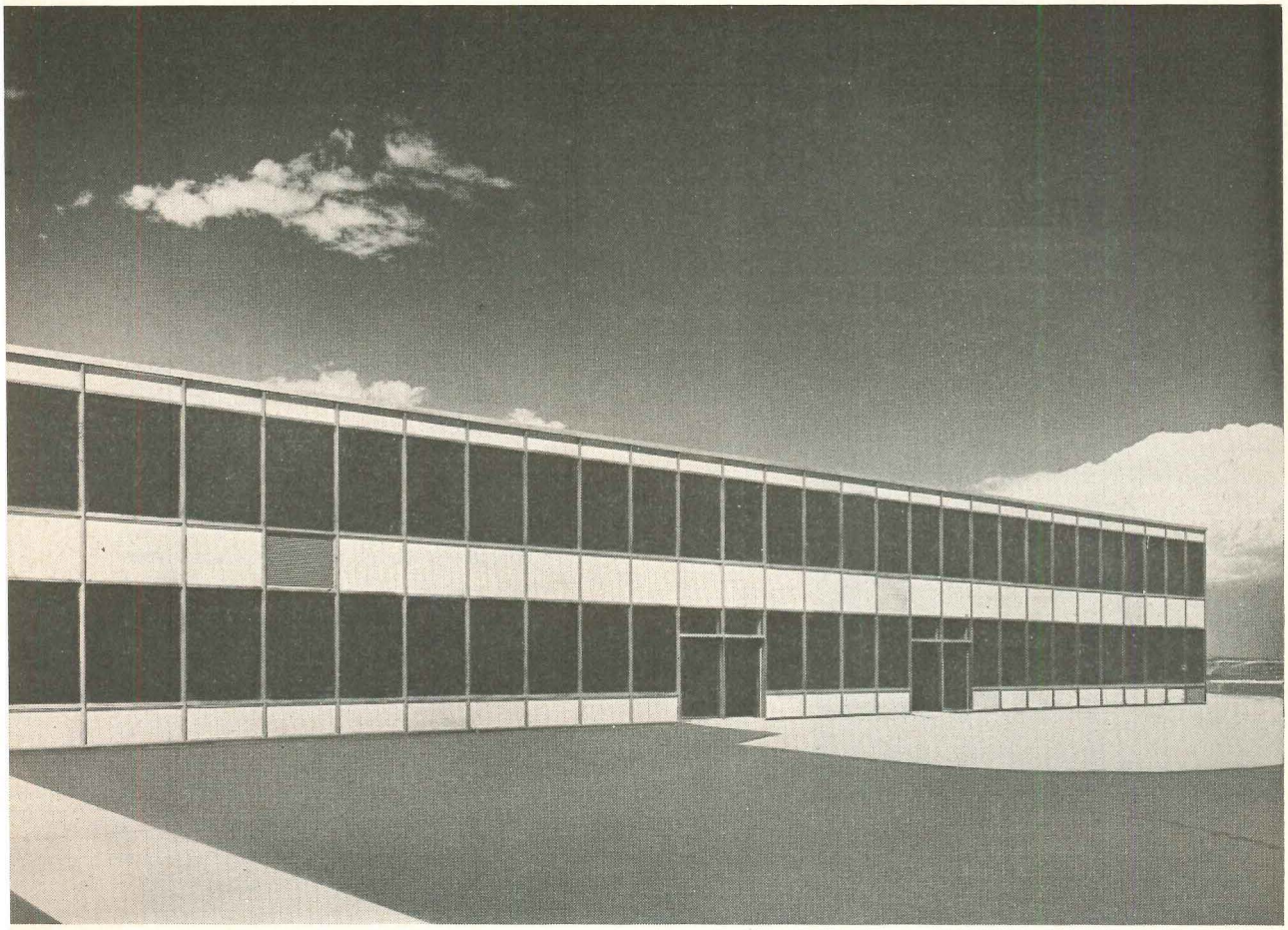
CAMPUS PLANS for secondary schools, only yesterday a novelty, are now being executed in many localities. On the limited level area of this New Mexico site is being erected, unit by unit, one of the most highly developed of the departmentalized junior high school campuses we have seen. The plant has been designed for an eventual full complement of buildings for an enrollment of less than 1000 pupils, although only one segment, a portion of the two-story classroom wing, is open and occupied this season. All partitions between classrooms are movable; which means that should the educational program, nature of rooms or size of classes change, building interiors can be rearranged without disturbing the structure or the shell; and that offices now in the completed unit can be replaced by more classrooms when the administrative wing is built.









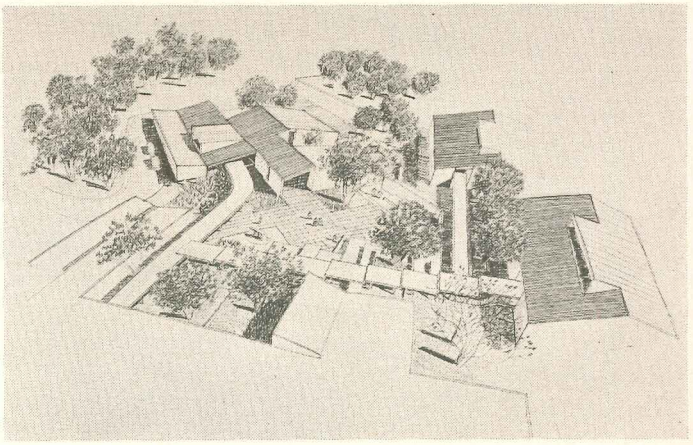


NEW MEXICO JUNIOR HIGH SCHOOL

Like the completed unit, all classroom buildings are to have a steel frame, concrete slab decks on bar joists, insulated steel and asbestos board "sandwich" side walls with large expanses of heat-absorbing plate glass. All glass is fixed; there are no movable sash; there are complete mechanical ventilation and steam heating — a combination designed for economical operation in this climate of extreme temperatures. Movable partitions between classrooms are 3-in. solid T & G west coast cedar in 4-ft panels.

Vincent G. Kling, Architect **Engelhardt, Engelhardt & Leggett, Educational Consultants**

OF THESE THREE SECONDARY school campuses, the Muhlenberg, Pa. plant is under construction; the other two are in the working drawing phase as this is written. A desire to provide something better than what the architect calls "an industrial character," which large plants of this kind so often have, was the architectural starting point in all three cases. In this, his efforts follow the trend toward more human scale and proportion; and he has further developed the campus plan, giving it unity and order as well as humanity, by introducing a large central space to serve



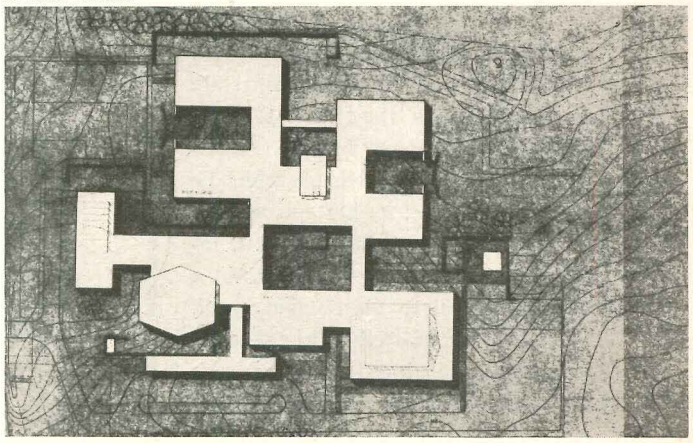
JUNIOR HIGH, MUHLENBERG TWP., PA.

SIMILAR EDUCATIONAL AND ARCHITECTURAL

as a stage for much of each school's social activity.

Such an activity center, like all worthwhile architectural entities, has more than a merely architectural purpose. It is also part of the educational program, an extremely important expression of the educator's realization, paralleling if not motivating the architect's awareness of pupils as human beings as well as subjects for improvement. As to program, the Glen Head school started out perhaps somewhat in advance of the other two. Midway in design the first Glen Head scheme was, to quote the

Lawrence Williams



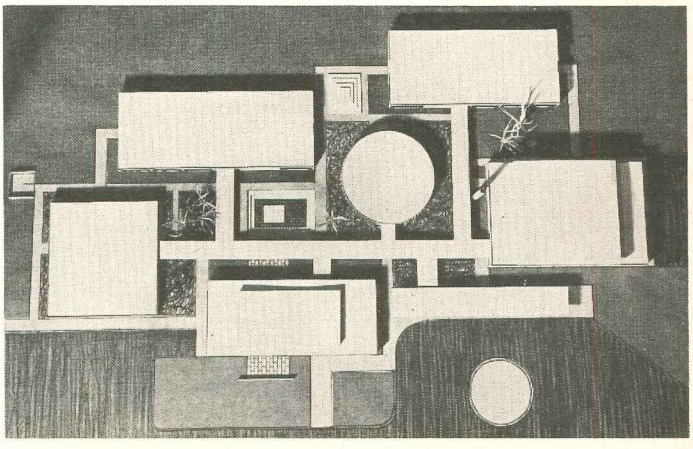
JUNIOR-SENIOR HIGH, GLEN HEAD, N. Y.

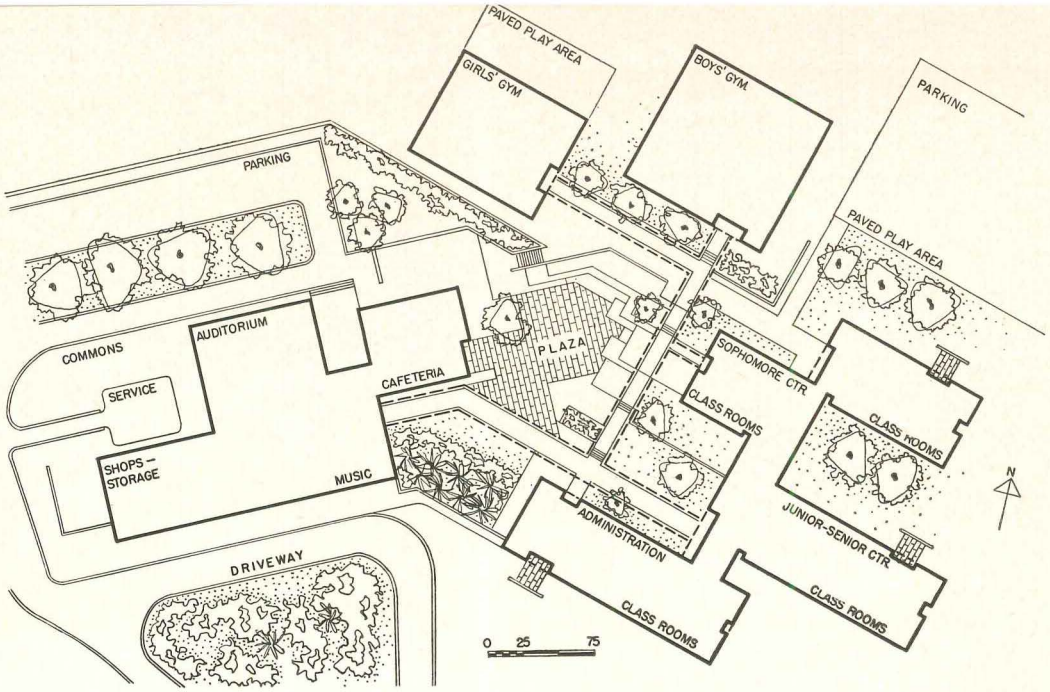
APPROACHES PRODUCE THREE DIFFERING RESULTS

architects, "given the axe by a drastic program change." Initially it had consisted of a group of units each organized around its own interior court, a concept which could easily have developed into facilities for the kind of subdivided high school described in preceding pages. Now the scheme has been revised, the various units are more tightly organized, there is a principal court and the subsidiary courtyards have become less important.

Differences in site conditions and allowable costs bore strongly on the three designs. At Glen Head, the secondary school is part of a larger program which

SENIOR HIGH, LOWER MERION, PA.





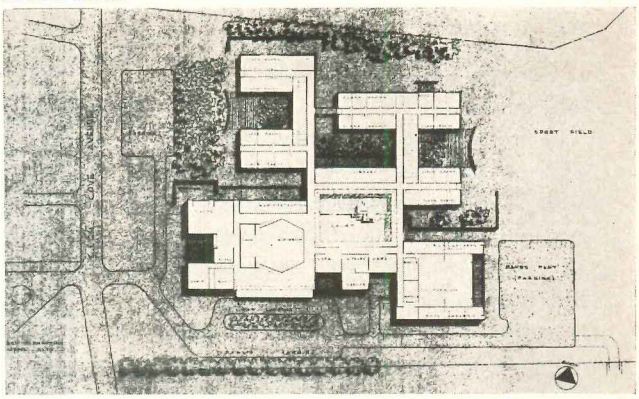
Lower Merion Senior High School

THREE DIFFERENT SCHOOLS

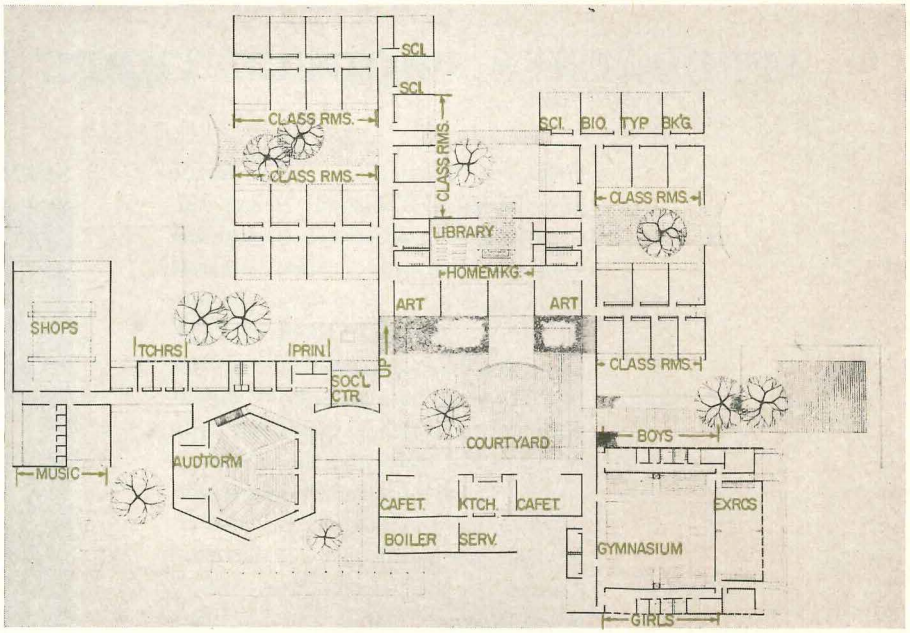
includes an elementary plant on an adjacent plot, and the surroundings are less inviting than they are at either Muhlenberg or Lower Merion. Consequently the Glen Head school might be called introversive; its life and vitality are focussed within. At one point, indeed, it would have presented almost a solid blank wall to the outside world. However, a careful study of the plant in model form convinced the architects that there was danger that it would be quite inhuman in scale because of its excessive length and relatively low fascia. In the final scheme, corridors in the Junior and Senior units have been opened to allow vistas into the small courtyards, the library now opens into a quiet, intimate space, and an informal outside activity area has been added to the north of the gymnasium, connected by a wide paved walk to the more formal central court.

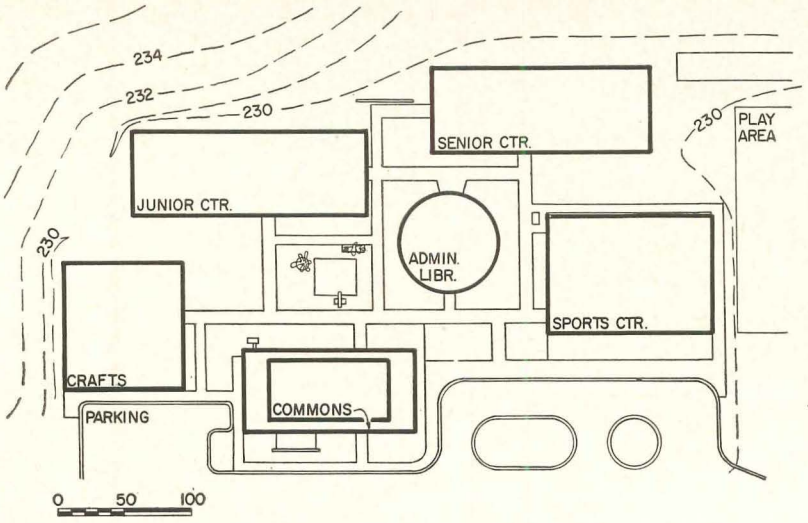
The Lower Merion school, on the other hand, has a rugged site (in contrast to Glen Head's relatively level campus) surrounded by pleasant Pennsylvania views. The buildings, stepped down the slope so that from below they build up in an interesting manner, are grouped around a comparable central court; some of them are closely interconnected and some separated; but all open out pleasantly; Lower Merion Senior High is outgiving, the reverse of Glen Head.

Lawrence Williams

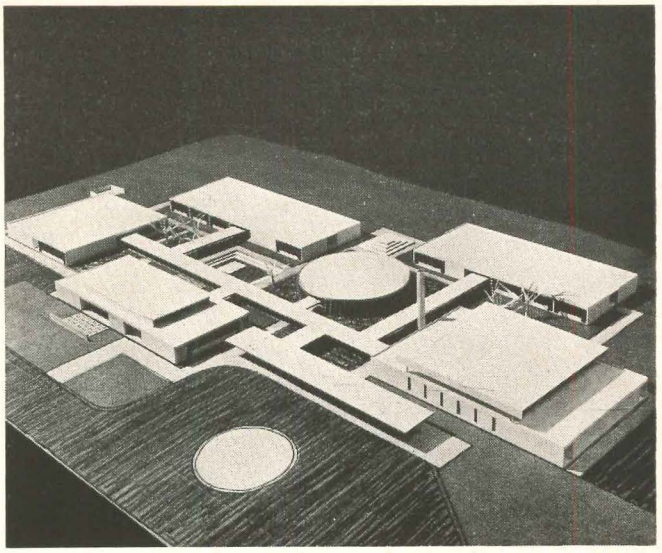


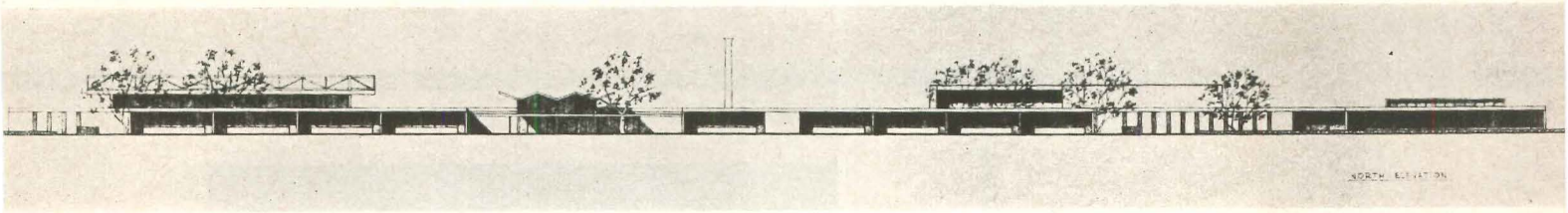
Glen Head High School; an intermediate step in planning above, new below



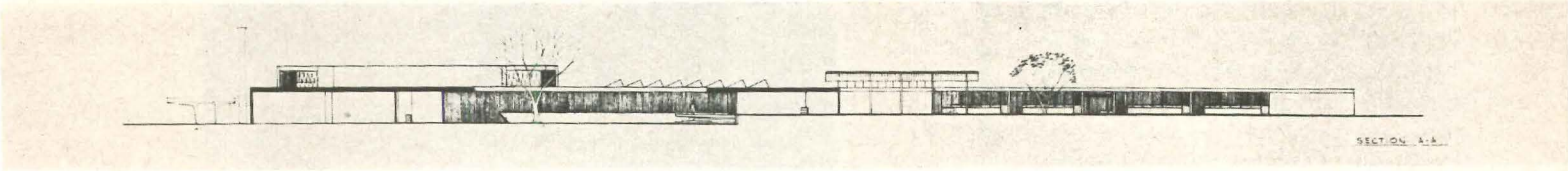


Muhlenberg Junior High School





North Elevation



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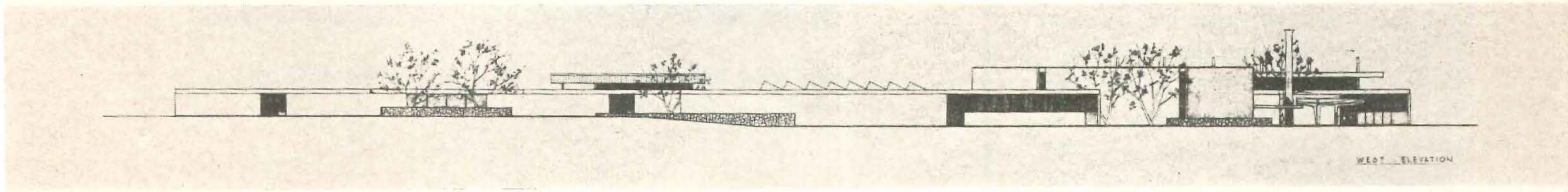
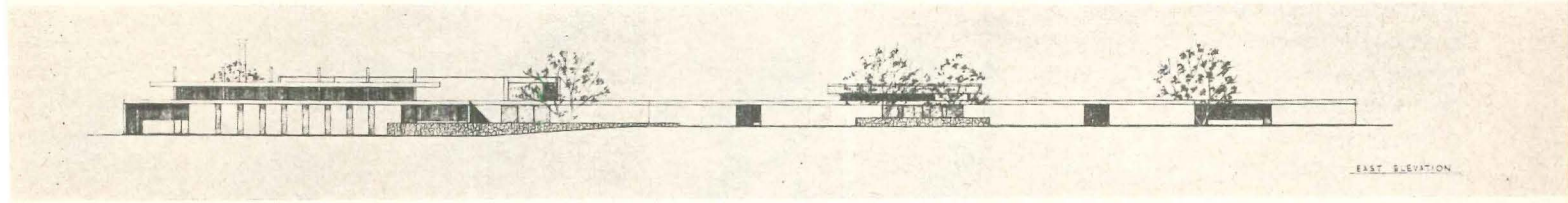
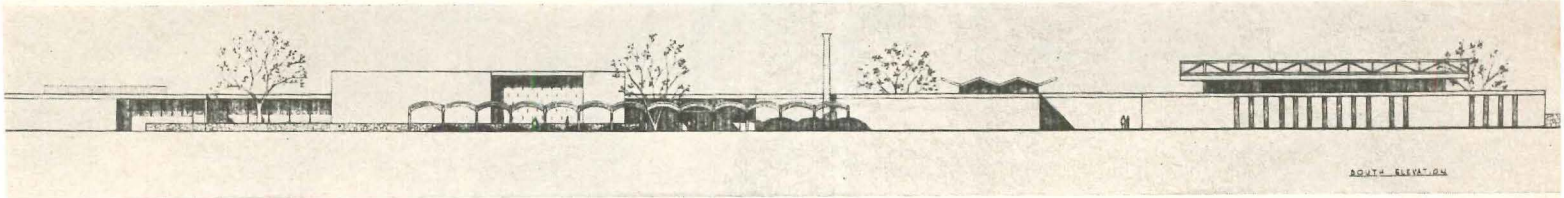


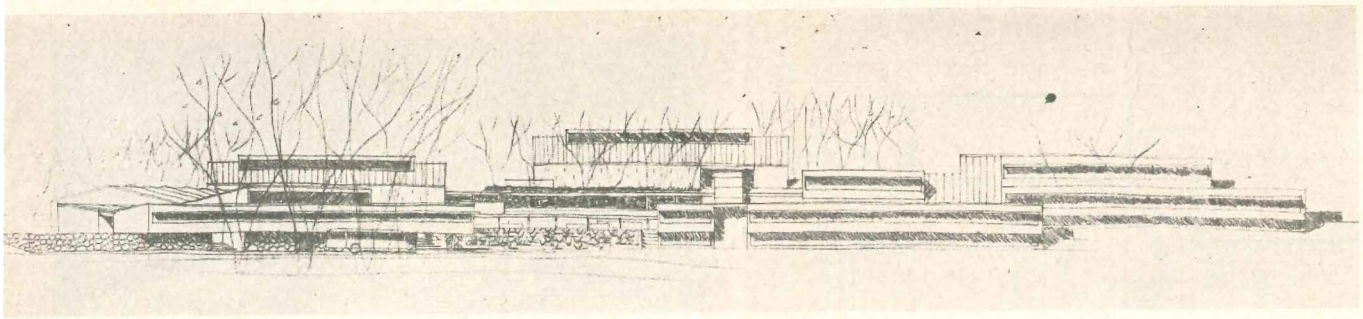
West Elevation

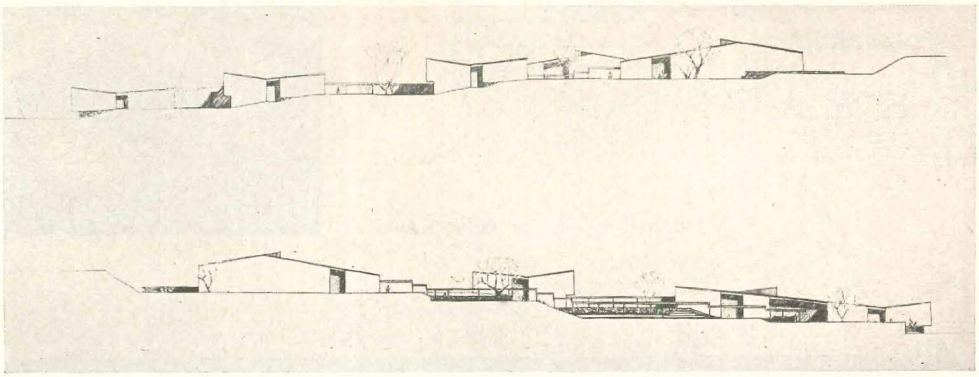


East Elevation



South Elevation



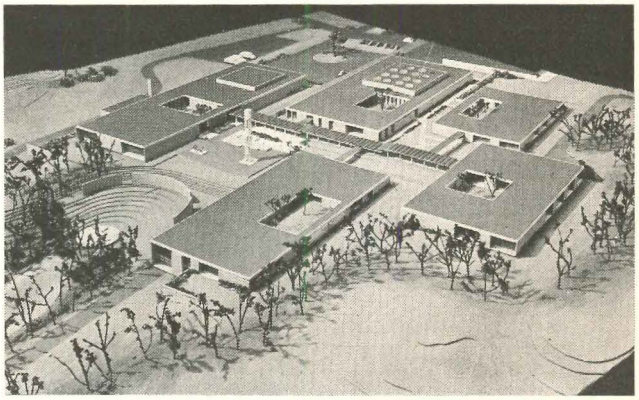


Lower Merion Senior High School

THREE DIFFERENT SCHOOLS

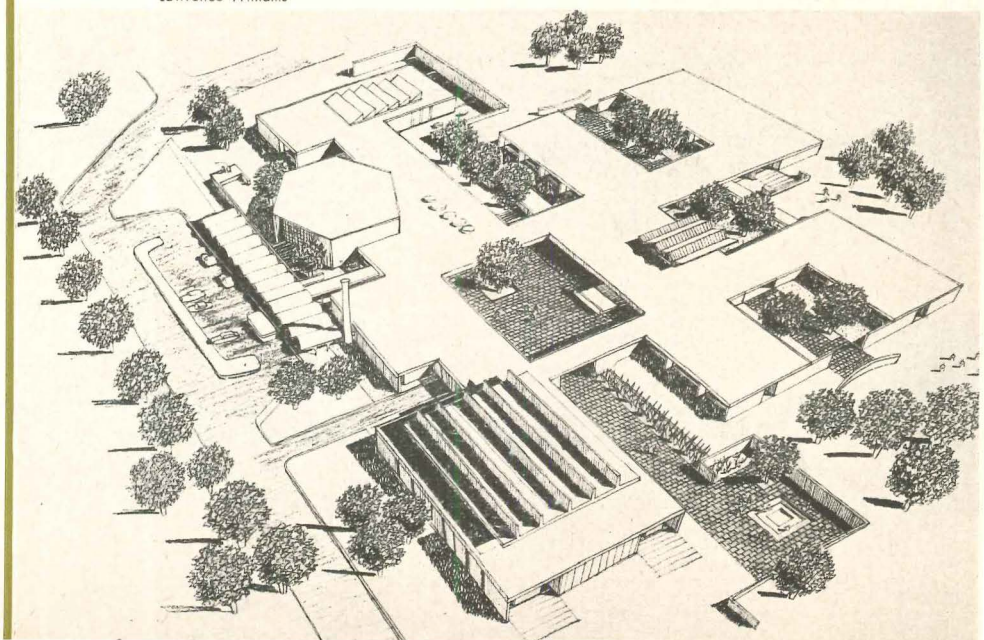
At both Glen Head and Lower Merion reasonable economy was of course an important factor. At Muhlenberg Junior High School it came close to dominating the entire concept. Muhlenberg's buildings are ultra-simple in mass and organization; there is a conscious paring down in the sum and in all details. Nevertheless, however compactly the individual buildings are organized, however economically short are the runs of corridors, the designers have found room for the familiar central plaza. It is sunken this time, offsetting the close proximity of the school's buildings, and mostly paved so its maintenance will not be much of a problem. To relieve what might have been a monotonous repetition of simple box shapes, the administration-library unit is circular, with glass walls from floor to roof.

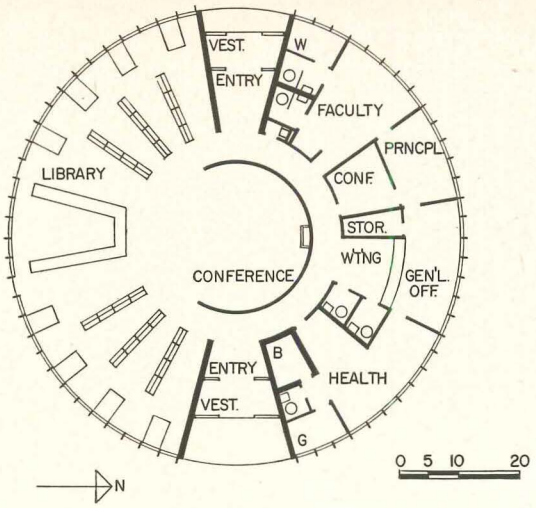
For all three schools the educational programs though not identical have many similarities; for all three the architectural point of departure was the same. The same educational consultants and architect developed all three. Local factors — site, community character and financial situation — lie behind their difference in design.

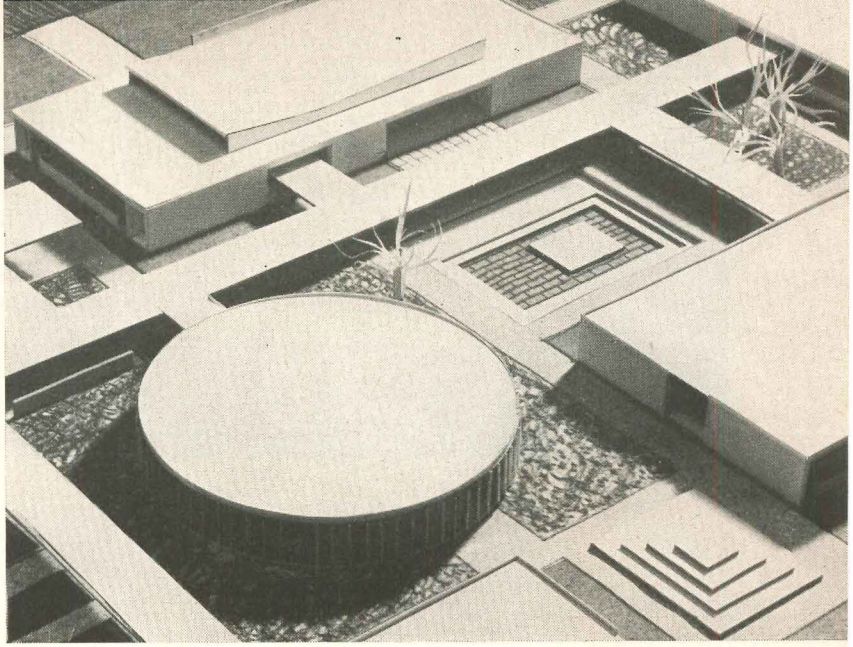


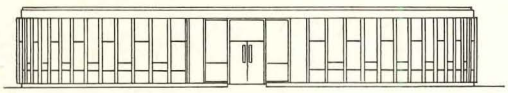
Glen Head High School; first scheme above, present design below; entrance on facing page

Lawrence Williams



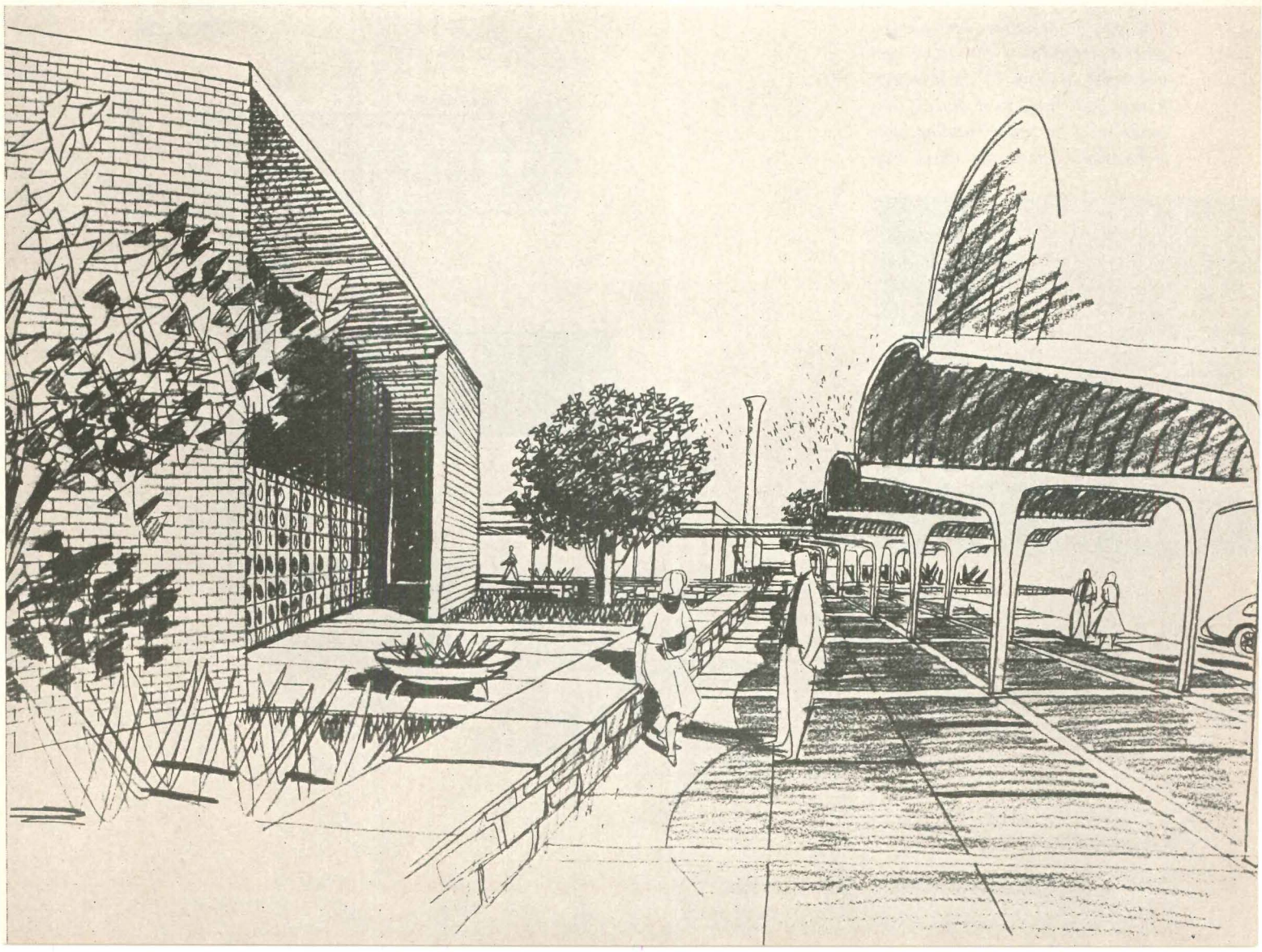


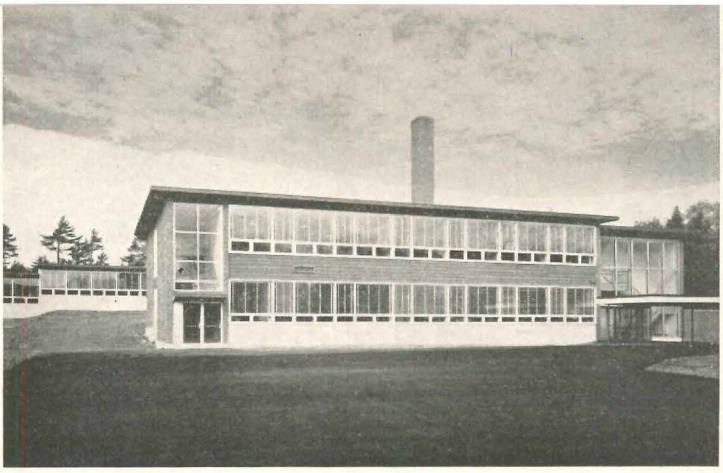


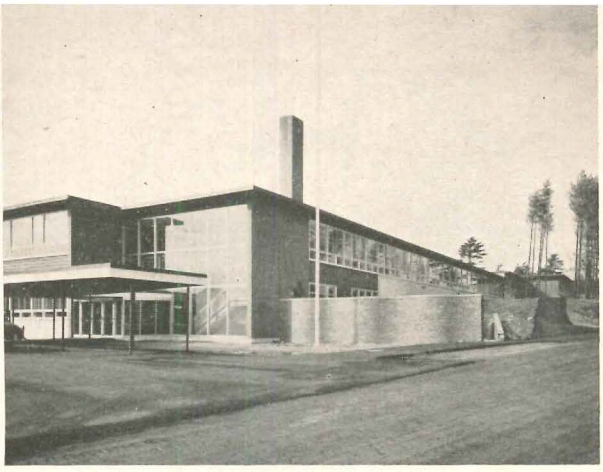


EAST ELEVATION

Muhlenberg Junior High School



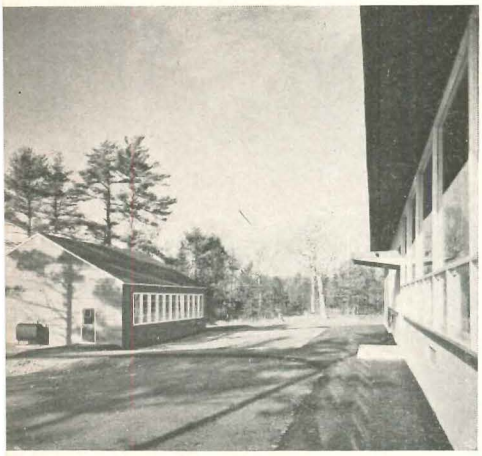


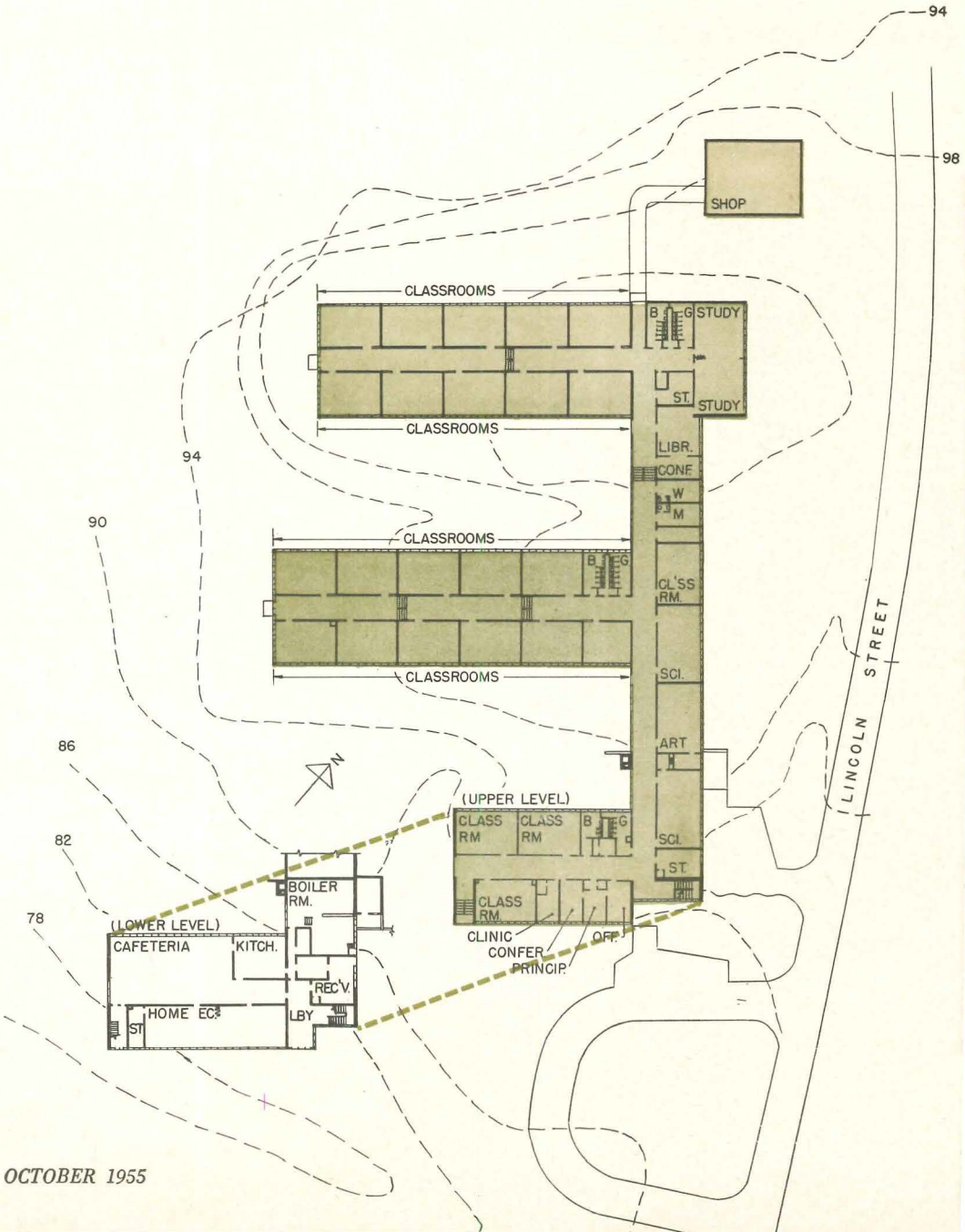


Joseph W. Molitor

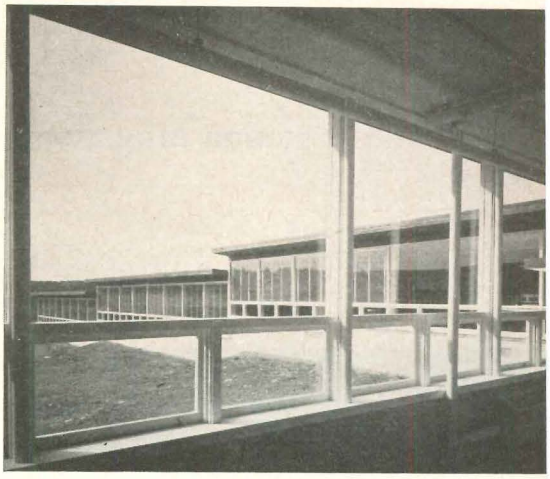
CONVENTIONAL PROGRAM, UNCONVENTIONAL SITE

This may be the earliest example of a general contractor's job office and warehouse designed by an architect; it was built first, used during construction of the main building, now economically houses the school shop





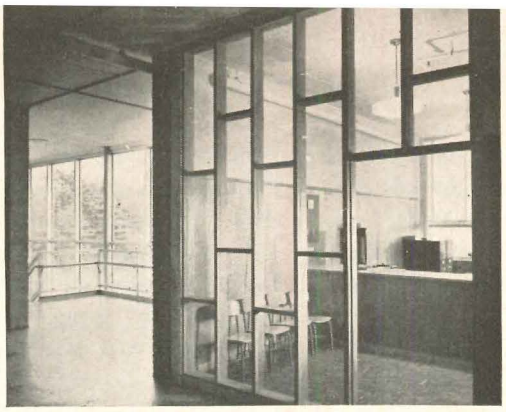
WHILE the educational program for Bath Junior High School is conventional, the nature of the site — extensive acreage, sloping terrain and ledge rock close to the surface — and the desire to realize all the advantages of a one-story scheme, led to an unconventional modification of the finger plan. Two wings with double-loaded corridors step down the contours from a spinal corridor along which the special rooms are arranged. The entrance wing, at the site's low point, is two stories, with administrative offices above, cafeteria and home making below. At one corner of the plot, a substantial small building was erected to serve during construction as the general contractor's job office; this later became the school shops. This is no campus plan; yet it has some characteristics of a campus. It is not a traditional colonial building, though it is in harmony with its locale. Its structure and detailing are also unconventional in that the roof is supported independently of the window walls, which are large panes of insulating double glazing with smaller vents beneath them; the concrete foundation is carried up all the way to the window sills. So simply and logically was this designed that, though unusual, it caused the general contractor no difficulty. Cost was $545,500, or $18,000 per classroom.



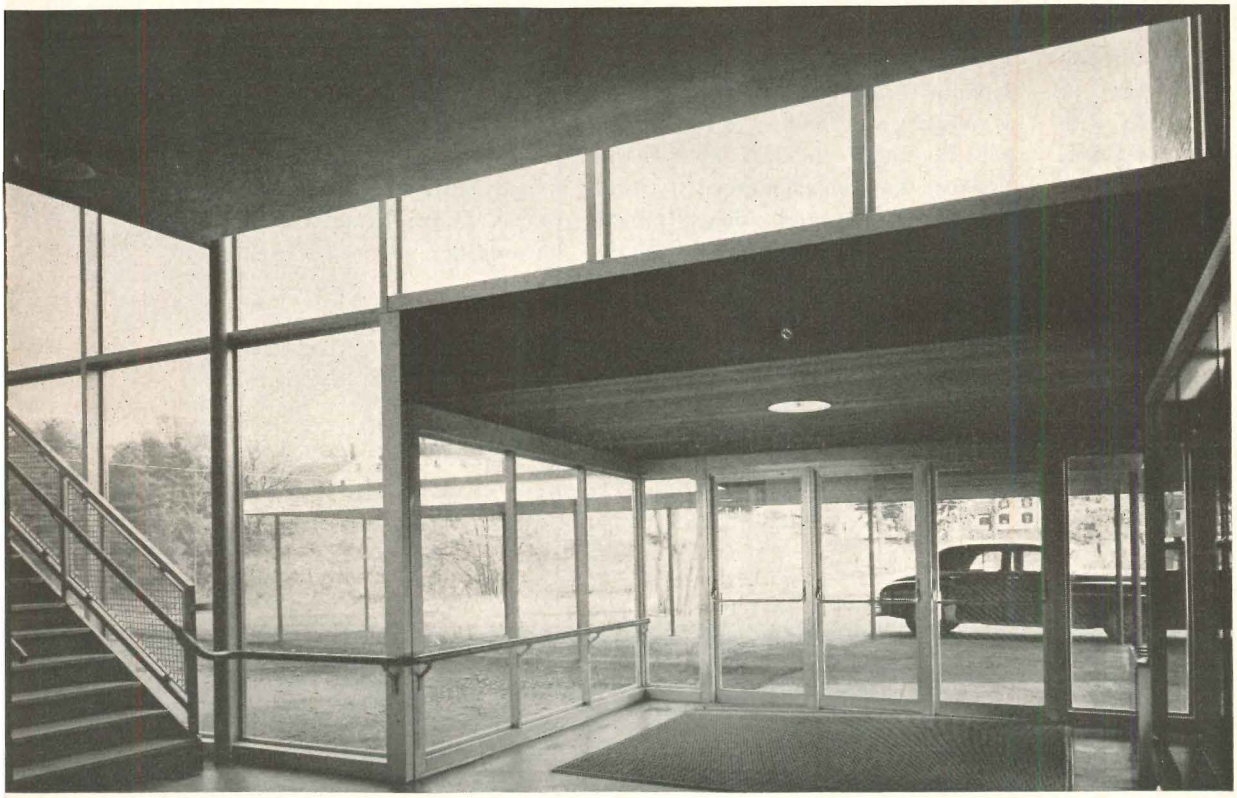
From inside spinal corridor of modified finger plan, classroom wings step down slope. Design virtually eliminated rock excavation

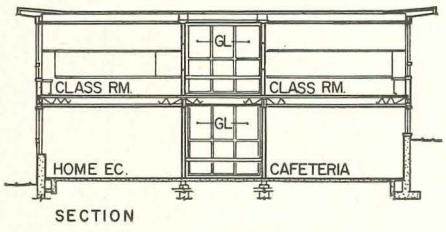
JUNIOR HIGH SCHOOL, BATH, ME. ***Alonzo J. Harriman, Inc., Architects-Engineers***

MAINE JUNIOR HIGH SCHOOL

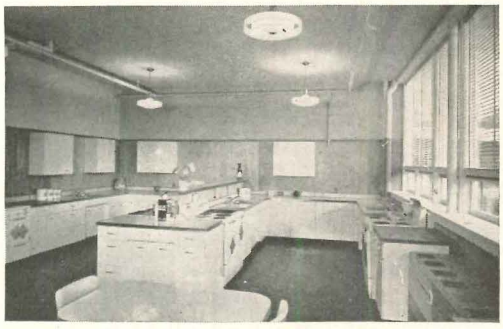


Joseph W. Molitor





SECTION



Above, typical section through classroom wings. Large photo shows grade-level entrance and stairs from which most of school is reached. Small photos, top, administrative offices over lobby; at right, a classroom, homemaking room, and another classroom prepared for visual aids program

THERMAL INSULATION—12: U Factors for Flat Roofs

By Laurence Shuman, Consulting Engineer

Legend:

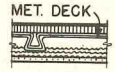
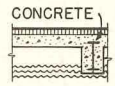
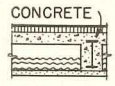
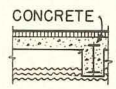
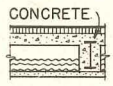
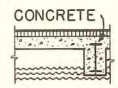
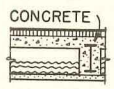
Insulation on Roof Deck

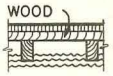
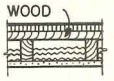
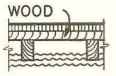
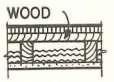
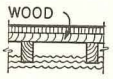
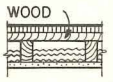
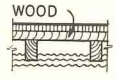
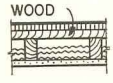
- **A** None
- **B** ½″ insulation board
- **C** 1″ insulation board
- **D** 1½″ insulation board
- **E** 2″ insulation board
- **F** 1″ corkboard
- **G** 1½″ corkboard
- **H** 2″ corkboard

Ceiling Finishes

- **7** 1 sheet aluminum under air space at least 7½″, no ceiling
- **8** Aluminum foil back-up on lath, plaster ceiling
- **9** 2 sheets aluminum foil, two air spaces, no ceiling
- **10** Aluminum foil back-up on lath and 1 sheet foil, two air spaces, plastered
- **11** 3 sheets aluminum foil, three air spaces, no ceiling
- **12** Aluminum foil back-up on lath, 2 sheets foil, three air spaces, plastered

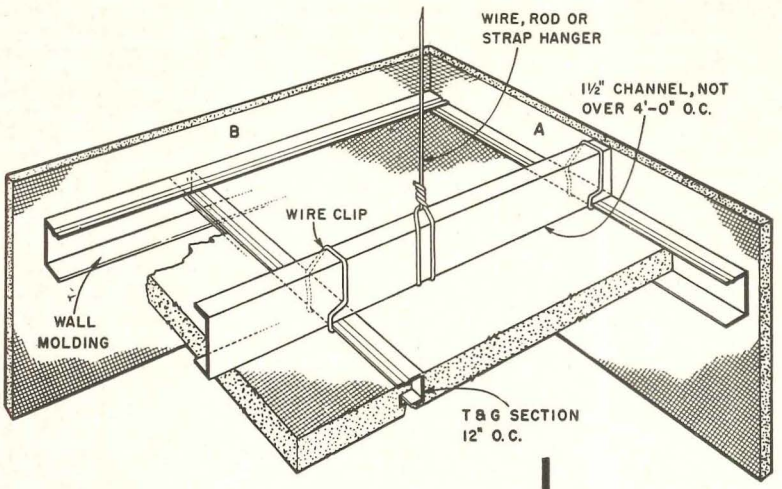
ROOFING
INSULATION
CEILING

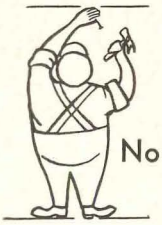
Roof Deck	Ceiling Finish	Season	Insulation on Roof Deck A	B	C	D	E	F	G	H
Metal roof deck	7	Winter	.30	.21	.16	.13	.11	.15	.12	.10
		Summer	.10	.08	.07	.07	.06	.07	.06	.06
	8	Winter	.30	.20	.16	.13	.11	.15	.12	.10
		Summer	.11	.09	.08	.07	.07	.08	.07	.06
	9	Winter	.19	.15	.12	.10	.09	.12	.10	.08
		Summer	.07	.07	.06	.05	.05	.06	.05	.05
	10	Winter	.19	.15	.12	.10	.09	.12	.10	.08
		Summer	.08	.07	.06	.06	.05	.06	.06	.05
	11	Winter	.14	.11	.10	.08	.07	.09	.08	.07
		Summer	.06	.05	.05	.05	.04	.05	.04	.04
	12	Winter	.13	.11	.10	.08	.07	.09	.08	.07
		Summer	.06	.06	.05	.05	.04	.05	.05	.04
Concrete roof deck 2″ thick	7	Winter	.29	.20	.15	.14	.11	.14	.12	.10
		Summer	.10	.08	.07	.07	.06	.07	.06	.06
	8	Winter	.28	.20	.15	.14	.11	.14	.12	.10
		Summer	.11	.09	.08	.07	.06	.08	.07	.06
	9	Winter	.19	.14	.12	.10	.09	.11	.09	.08
		Summer	.07	.06	.06	.05	.05	.06	.05	.05
	10	Winter	.18	.14	.12	.10	.09	.11	.09	.08
		Summer	.08	.07	.06	.06	.05	.06	.06	.05
	11	Winter	.13	.11	.09	.08	.07	.09	.08	.07
		Summer	.06	.05	.05	.05	.04	.05	.04	.04
	12	Winter	.13	.11	.09	.08	.07	.09	.08	.07
		Summer	.06	.06	.05	.05	.04	.05	.05	.04
Concrete roof deck 4″ thick	7	Winter	.27	.19	.15	.14	.10	.14	.11	.10
		Summer	.10	.08	.07	.07	.06	.07	.06	.06
	8	Winter	.27	.19	.15	.14	.10	.14	.11	.10
		Summer	.11	.09	.08	.07	.06	.08	.07	.06
	9	Winter	.18	.14	.12	.10	.08	.11	.09	.08
		Summer	.07	.06	.06	.05	.05	.06	.05	.05
	10	Winter	.18	.14	.11	.10	.08	.11	.09	.08
		Summer	.08	.07	.06	.06	.05	.06	.06	.05
	11	Winter	.13	.11	.09	.08	.07	.09	.08	.07
		Summer	.06	.05	.05	.04	.04	.05	.04	.04
	12	Winter	.13	.11	.09	.08	.07	.09	.08	.07
		Summer	.06	.06	.05	.05	.04	.05	.05	.04
Concrete roof deck 6″ thick	7	Winter	.26	.19	.15	.13	.10	.14	.11	.09
		Summer	.09	.08	.07	.06	.06	.07	.06	.06
	8	Winter	.26	.19	.14	.12	.10	.14	.11	.09
		Summer	.10	.09	.08	.07	.06	.08	.07	.06
	9	Winter	.17	.14	.11	.10	.08	.11	.09	.08
		Summer	.07	.06	.06	.05	.05	.06	.05	.05
	10	Winter	.17	.14	.11	.10	.08	.11	.09	.08
		Summer	.08	.07	.06	.06	.05	.06	.05	.05
	11	Winter	.13	.10	.09	.08	.07	.09	.08	.07
		Summer	.06	.05	.05	.04	.04	.05	.04	.04
	12	Winter	.13	.10	.09	.08	.07	.09	.08	.07
		Summer	.06	.05	.05	.05	.04	.05	.05	.04

Roof Deck	Ceiling Finish	Season	Insulation on Roof Deck A	B	C	D	E	F	G	H
Wood roof deck 1″ thick	7	Winter	.22	.17	.13	.11	.10	.13	.11	.09
		Summer	.09	.08	.07	.07	.06	.07	.06	.06
	8	Winter	.22	.17	.13	.11	.10	.13	.11	.09
		Summer	.10	.09	.08	.07	.06	.07	.07	.06
	9	Winter	.16	.13	.11	.09	.08	.10	.09	.08
		Summer	.07	.06	.06	.05	.05	.05	.05	.05
	10	Winter	.16	.13	.11	.09	.08	.10	.09	.08
		Summer	.07	.07	.06	.05	.05	.06	.05	.05
	11	Winter	.12	.10	.09	.08	.07	.08	.07	.06
		Summer	.05	.05	.05	.04	.04	.05	.04	.04
	12	Winter	.12	.10	.09	.08	.07	.08	.07	.06
		Summer	.06	.05	.05	.04	.04	.05	.04	.04
Wood roof deck 1½″ thick	7	Winter	.21	.16	.13	.11	.09	.12	.10	.09
		Summer	.09	.08	.07	.07	.06	.07	.06	.05
	8	Winter	.21	.16	.13	.11	.09	.12	.10	.09
		Summer	.09	.08	.07	.07	.06	.07	.06	.06
	9	Winter	.15	.12	.10	.09	.08	.10	.08	.07
		Summer	.07	.06	.05	.05	.05	.05	.05	.05
	10	Winter	.15	.12	.10	.09	.08	.10	.08	.07
		Summer	.07	.06	.06	.05	.05	.06	.05	.05
	11	Winter	.11	.10	.08	.07	.07	.08	.07	.06
		Summer	.05	.05	.04	.04	.04	.04	.04	.04
	12	Winter	.11	.10	.08	.07	.07	.08	.07	.06
		Summer	.06	.05	.05	.04	.04	.05	.04	.04
Wood roof deck 2″ thick	7	Winter	.19	.15	.12	.10	.09	.11	.10	.08
		Summer	.08	.07	.06	.06	.05	.06	.06	.05
	8	Winter	.18	.15	.12	.10	.09	.11	.10	.08
		Summer	.09	.08	.07	.06	.06	.07	.06	.06
	9	Winter	.14	.11	.09	.08	.07	.09	.08	.07
		Summer	.07	.06	.05	.05	.05	.05	.05	.04
	10	Winter	.14	.11	.09	.08	.07	.09	.08	.07
		Summer	.07	.06	.06	.05	.05	.06	.05	.05
	11	Winter	.10	.09	.08	.07	.06	.08	.07	.06
		Summer	.05	.05	.04	.04	.04	.04	.04	.04
	12	Winter	.10	.09	.08	.07	.06	.08	.07	.06
		Summer	.06	.05	.05	.04	.04	.05	.04	.04
Wood roof deck 3″ thick	7	Winter	.15	.12	.11	.09	.08	.10	.09	.08
		Summer	.07	.07	.06	.06	.05	.06	.05	.05
	8	Winter	.15	.12	.11	.09	.08	.10	.09	.08
		Summer	.08	.07	.06	.06	.05	.06	.06	.05
	9	Winter	.12	.10	.09	.08	.07	.08	.07	.06
		Summer	.06	.05	.05	.05	.04	.05	.05	.04
	10	Winter	.12	.10	.09	.08	.07	.08	.07	.06
		Summer	.06	.06	.05	.05	.05	.05	.05	.04
	11	Winter	.09	.08	.07	.06	.06	.07	.06	.06
		Summer	.05	.04	.04	.04	.04	.04	.04	.04
	12	Winter	.09	.08	.07	.06	.06	.07	.06	.06
		Summer	.05	.05	.04	.04	.04	.04	.04	.04

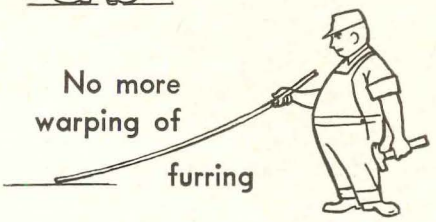
*Securitee and G system

A mechanical method of suspending Tongue and Groove Acoustical Tile





No more nails



No more warping of furring

Can be suspended to desired ceiling height

Speeds up installation

*Securitee SYSTEMS

This new addition to the Securitee Line is made under the same exacting conditions as all Securitee Systems. Heavy gauge rust resistant steel, sturdy spring clips, accurate fabrication—all engineered to last the life of the building.

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W. J. **HAERTEL** & CO.

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*T.M. REG. U. S. PAT. OFF.

THERMAL INSULATION—13: U Factors

By Laurence Shuman, Consulting Engineer

U Factors for Flat Roofs

Legend:

Insulation on Roof Deck

- **A** None
- **B** ½″ insulation board
- **C** 1″ insulation board
- **D** 1½″ insulation board
- **E** 2″ insulation board
- **F** 1″ corkboard
- **G** 1½″ corkboard
- **H** 2″ corkboard

Ceiling Finishes

- **7** 1 sheet aluminum under air space at least 7½″, no ceiling
- **8** Aluminum foil back-up on lath, plaster ceiling
- **9** 2 sheets aluminum foil, two air spaces, no ceiling
- **10** Aluminum foil back-up on lath and 1 sheet foil, two air spaces, plastered
- **11** 3 sheets aluminum foil, three air spaces, no ceiling
- **12** Aluminum foil back-up on lath, 2 sheets foil, three air spaces, plastered

ROOFING
INSULATION
CEILING

Roof Deck	Ceiling Finish	Season	Insulation on Roof Deck A	B	C	D	E	F	G	H
Gypsum fiber concrete roof deck 2½″ thick	7	Winter	.20	.15	.12	.10	.09	.12	.10	.08
		Summer	.08	.07	.07	.06	.06	.06	.06	.05
	8	Winter	.20	.15	.12	.10	.09	.12	.10	.08
		Summer	.09	.08	.07	.06	.06	.07	.06	.06
GYPSUM	9	Winter	.14	.12	.10	.09	.08	.10	.08	.07
		Summer	.06	.06	.05	.05	.05	.05	.05	.04
GYPSUM B'D	10	Winter	.14	.12	.10	.09	.08	.09	.08	.07
		Summer	.07	.06	.06	.05	.05	.06	.05	.05
GYPSUM	11	Winter	.11	.10	.08	.07	.06	.08	.07	.06
		Summer	.05	.05	.04	.04	.04	.04	.04	.04
GYPSUM B'D	12	Winter	.11	.10	.08	.07	.06	.08	.07	.06
		Summer	.06	.05	.05	.04	.04	.05	.04	.04

Roof Deck	Ceiling Finish	Season	Insulation on Roof Deck A	B	C	D	E	F	G	H
Gypsum fiber concrete roof deck 3½″ thick	7	Winter	.17	.14	.11	.10	.08	.11	.09	.08
		Summer	.08	.07	.06	.06	.05	.06	.06	.05
	8	Winter	.17	.14	.11	.10	.08	.11	.09	.08
		Summer	.09	.08	.07	.06	.06	.07	.06	.05
GYPSUM	9	Winter	.13	.11	.08	.08	.07	.09	.08	.07
		Summer	.06	.06	.05	.05	.04	.05	.05	.04
GYPSUM B'D	10	Winter	.13	.11	.08	.08	.07	.09	.08	.07
		Summer	.07	.06	.06	.05	.05	.06	.05	.05
GYPSUM	11	Winter	.10	.09	.08	.07	.06	.07	.07	.06
		Summer	.05	.05	.04	.04	.04	.04	.04	.04
GYPSUM B'D	12	Winter	.10	.09	.08	.07	.06	.07	.07	.06
		Summer	.05	.05	.05	.04	.04	.04	.04	.04

U Factors for Pitched Roofs

Legend:

Insulation or Ceiling on Underside of Joists

- **A** Roof only, underside of joists open
- **B** Metal lath and plaster
- **C** ⅜″ gypsum board
- **D** Wood or gypsum lath and plaster
- **E** ⅜″ plywood
- **F** ½″ rigid insulation board
- **G** ½″ rigid insulation board, plastered
- **H** 1″ rigid insulation board
- **I** 1″ rigid insulation board, plastered
- **J** 1″ flexible insulation
- **K** 2″ flexible insulation
- **L** 2″ flexible insulation, and gypsum board, lath and plaster
- **M** 3⅝″ flexible insulation
- **N** 3⅝″ flexible insulation, and gypsum board, lath and plaster
- **O** 1 sheet reflective aluminum, 1 air space
- **P** Aluminum foil back-up on lath, and plaster
- **Q** 2 sheets reflective aluminum, 2 air spaces
- **R** 1 sheet reflective aluminum plus aluminum foil back-up on lath and plaster, 2 air spaces
- **S** 3 sheets reflective aluminum, 3 air spaces
- **T** 2 sheets reflective aluminum plus aluminum foil back-up on lath and plaster, 3 air spaces

Type of Roofing	Season	Insulation or Ceiling on Underside of Joists A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
Slate or tile on wood sheathing	Winter	.56	.34	.34	.32	.31	.23	.23	.17	.17	.17	.10	.09	.06	.06	.22	.23	.14	.15	.10	.11
	Summer	.52	.34	.33	.32	.31	.23	.23	.17	.17	.17	.10	.10	.06	.06	.15	.18	.10	.11	.07	.07
Asphalt shingles or roll roofing on wood sheathing	Winter	.53	.33	.33	.31	.30	.23	.22	.17	.16	.16	.10	.09	.06	.06	.21	.23	.14	.15	.10	.11
	Summer	.49	.33	.32	.31	.30	.23	.22	.17	.17	.17	.10	.10	.06	.06	.15	.18	.10	.11	.07	.07
Wood shingles on wood strips	Winter	.49	.31	.31	.30	.29	.22	.21	.17	.16	.16	.09	.09	.06	.06	.21	.22	.14	.14	.10	.11
	Summer	.46	.31	.31	.29	.29	.22	.21	.17	.16	.16	.10	.09	.06	.06	.15	.17	.09	.10	.07	.07

Why REZNOR sells 1 out of every 2 Gas Unit Heaters

Reznor leads in QUALITY

One out of every 2! Such complete domination of a market shared by more than 100 producers can't be an accident. Reznor achieved this leadership by building a better unit heater. An alert, aggressive product development program keeps Reznor ahead of the field. And the highest standards of craftsmanship and materials insure to every Reznor user the full advantages of Reznor's "years-ahead" engineering.

Reznor offers the best PRICE

The best heater at the lowest price? No, it isn't possible. Prices on Reznor heaters are comparable to those of the best competitive units . . . higher than those of some inferior units. But the economies of mass production enable Reznor to build a better heater for the price. Wise buyers take advantage of this to get more heater value, dollar for dollar, from Reznor than any other manufacturer can afford to offer.

Reznor is first in KNOW-HOW

Gas unit heaters are a specialty, not just a side line, with Reznor. Every emphasis is given to the development of more efficient gas-fired space heaters for business and industry. This determination to do one thing well means that every possible improvement will be fully explored and exploited—never sidetracked for other projects or products.

And because Reznor sells more, many more, gas unit heaters than any other manufacturer, Reznor knows more about gas unit heating. If your Reznor representative or distributor doesn't have the answer you need, he can get it. Somebody somewhere in the Reznor organization will have the solution—proved by experience.

Reznor is tops in AVAILABILITY

Reznor has distributors in more than 300 cities. Most of them maintain complete warehouse stocks. Wherever your job is located, you can specify "Reznor" with complete assurance that the equipment you call for will be available where and when it's needed.

Wherever you are, if it's information you need, your Reznor distributor is as close as your telephone—for the price of a local call. If you don't find a Reznor listing under "Heaters-Unit" in the classified pages of your telephone directory, please let us know. We'll give you the name and address of your nearest representative and distributor.

There is no "equivalent" for Reznor Gas Unit Heaters!

REZNOR
THE WORLD'S LARGEST-SELLING GAS UNIT HEATERS
REZNOR MANUFACTURING COMPANY
62 Union St., Mercer, Pa.

NORTH AMERICAN BUILDING STONES — 18

Presented through the cooperation of the International Cut Stone Contractors' and Quarrymen's Association

INDEX OF BUILDING STONES — (Conclusion)

80 OATMEAL
Company Name: Palos Verdes Stone Dept., Great Lakes Carbon Corp.
Quarry Location: Rolling Hills, Calif. (Mail address: 612 Flower St., Los Angeles, Calif.)
Geological Designation: Silicified limestone and chert
Texture: Medium coarse
Color: Buff
Furnished As: Ledgestone. Heights — 4″–12″. Lengths — 6″–24″
Surface Coverage: 30–50 sq ft per ton

81 ORNAMENTAL
Company Name: Palos Verdes Stone Dept., Great Lakes Carbon Corp.
Quarry Location: Rolling Hills, Calif. (Mail address: 612 Flower St., Los Angeles, Calif.)
Geological Designation: Silicified limestone and chert
Texture: Coarse
Color: Variegated gray
Furnished As: Dimensional

82 PLASTER ROCK
Company Name: Palos Verdes Stone Dept., Great Lakes Carbon Corp.
Quarry Location: Rolling Hills, Calif. (Mail address: 612 Flower St., Los Angeles, Calif.)
Geological Designation: Silicified limestone and chert
Texture: Coarse
Color: Variegated off-white

83 PLUM VALLEY STONE
Company Name: The Babcock Co.
Quarry Location: Kasota, Minn.
Geological Designation: Dolomitic limestone
Texture: Uniform
Color: Pinkish tan
Physical Tests: Tests not completed
Furnished As: Ledgestone. Heights — 2″–6″. Lengths —1′–3′6″
Surface Coverage: 45 sq ft per ton

84 SPECIMEN
Company Name: Palos Verdes Stone Dept., Great Lakes Carbon Corp.
Quarry Location: Rolling Hills, Calif. (Mail address: 612 Flower St., Los Angeles, Calif.)
Geological Designation: Silicified limestone and chert
Texture: Rough and eroded
Color: Gray and buff
Furnished As: Dimensional

85 TENNESSEE MARBLE
Company Name: Tennessee Marble Co.
Quarry Location: Knoxville 10, Tenn.
Geological Designation: Marble
Texture: Fine-grained
Color: Pink, gray, cedar
Chemical Composition: Calcium carbonate — 99.46%
Physical Tests: Absorption — 0.06%
Strength: Crushing strength — 14,000–18,000 psi
Furnished As: Dimensional, Splitface. Dimensional: Average building sizes. Splitface: Heights — ⅞″–7″, ¾″ rise. Lengths — 1′–5′
Surface Coverage: Splitface. Average 40 sq ft per ton. Dimensional — 170 pcf
Furnished As: Splitface. Heights — 1″–3″. Lengths — 12″ –36″
Surface Coverage: 30–50 sq ft per ton

86 WATERWASH
Company Name: Palos Verdes Stone Dept., Great Lakes Carbon Corp.
Quarry Location: Rolling Hills, Calif. (Mail address: 612 Flower St., Los Angeles, Calif.)
Geological Designation: Silicified limestone and chert
Texture: Smooth
Color: Weathered off-white
Furnished As: Dimensional. Heights — 4″–8″. Lengths — 6″–18″
Surface Coverage: 30–50 sq ft per ton

87 LAURELSTONE
Company Name: Laurelstone Corporation
Quarry Location: Waldron, Ind. (Mail address: P.O. Box 121, Shelbyville, Ind.)
Geological Designation: Dolomitic limestone
Texture: Very dense
Color: Soft pastel shades of buff, brown and gray permanently intermingled by nature with the rich texture of the ledge face
Furnished As: Natural bed face ledgestone. Heights — 2¼″, 5″, 7¾″. Lengths — 16″–4′
Strength: Compressive strength — over 20,000 psi
Other Facts: Special width stones for sills, steps and cop ngs sawed either 2, 4 or 6 sides on request

CORRECTIONS

13 COLORADO ROSE STONE
Quarry Location: Add "(Mail address: P.O. Box 947, Lyons, Col.)"

44 NEW PARK MINING STONE
Company Name: Change from "New Park Mining Co." to "Mountain Park Quarries, Inc."

45 ONEONTA STONE
Furnished As: Change from "Heights — 1″–8″. Lengths — 6″ up" to "Heights — 1″–8″. Lengths — 1′–4′"

46 PEARL SANDSTONE
Surface Coverage: Change from "50 sq ft per ton" to "50 sq ft per ton ashlar veneer"

The SUBURBAN

. . . with Extruded Plastic Diffuser

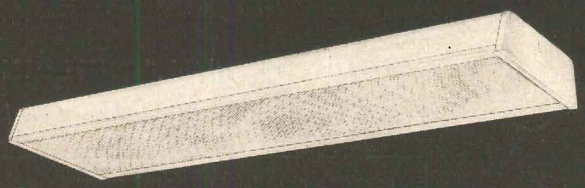
S240. . . . . 2 lamp 48" Rapid Start

S220. . . . . 2 lamp 24" Trigger Start
S420. . . . . 4 lamp 24" Trigger Start
S440. . . . . 4 lamp 48" Rapid Start

TYPICAL PERFORMANCE CURVE

The MERCHANT

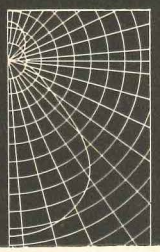
. . . with Lucite* Diamond Lens



M242. . . . . 2 lamp 48" Rapid Start

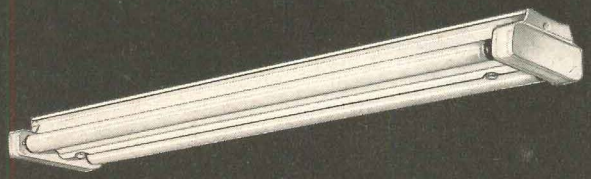
M442. . . . . 4 lamp 48" Rapid Start

TYPICAL PERFORMANCE CURVE



The SUPERMARKETER

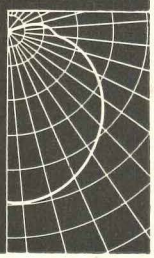
. . . for high levels of illumination



72B4. . . . . 2 lamp 48" Rapid Start

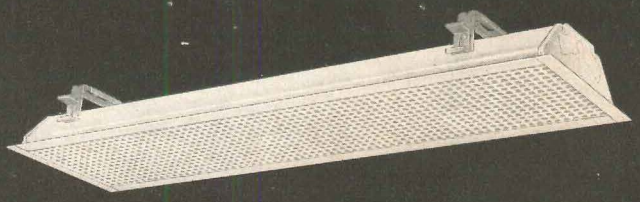
72B8. . . . . 2 lamp 96" Rapid Start
74B4. . . . . 4 lamp 48" Rapid Start
74B8. . . . . 4 lamp 96" Rapid Start

TYPICAL PERFORMANCE CURVE



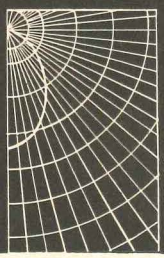
The Packaged TROFFER

. . . with Plastic Louver



T240. . . . . 2 lamp 48" Rapid Start

TYPICAL PERFORMANCE CURVE



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. . . with the new Miller Merchandise Line of

Here is a completely new concept in modern lighting—four basic fixture types with tremendous flexibility and unusually broad application. Slim and handsome in appearance, they provide new highs in lighting efficiency and meet the most exacting requirements for modern layout planning and ease of installation.

Styled by one of America's leading architect-designers, the SUBURBAN and the MERCHANT are strikingly handsome fixtures, extremely shallow with smooth, trim, modern lines. The Packaged TROFFER, only 4½" in depth (fits any 5" recess) is complete with lay-in enclosure, integral side and snap-on end trim flanges, adjustable hanger brackets and Universal furring clips. The SUPERMARKETER is designed to provide high levels of illumination in modern merchandising areas.

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ADDITIONAL ADVANTAGES of the MILLER MERCHANDISE LINE

- Hot-sprayed baked enamel on Bonderized 20-gauge steel
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- All fixtures wired with ETL Certified HPF ballasts . . . readily accessible for very easy maintenance

Ask your Miller representative for complete information about the new MILLER MERCHANDISE LINE