PROGRESSIVE ARCHITECTURE

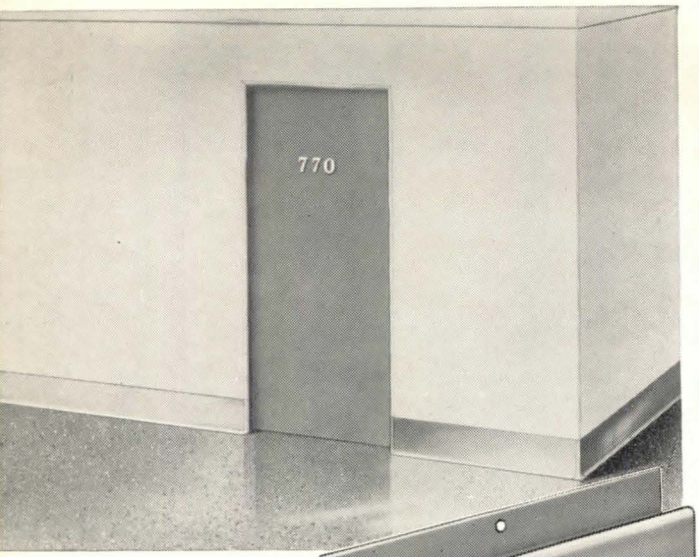
1953

design techniques

1

january 1953

largest architectural circulation in the world



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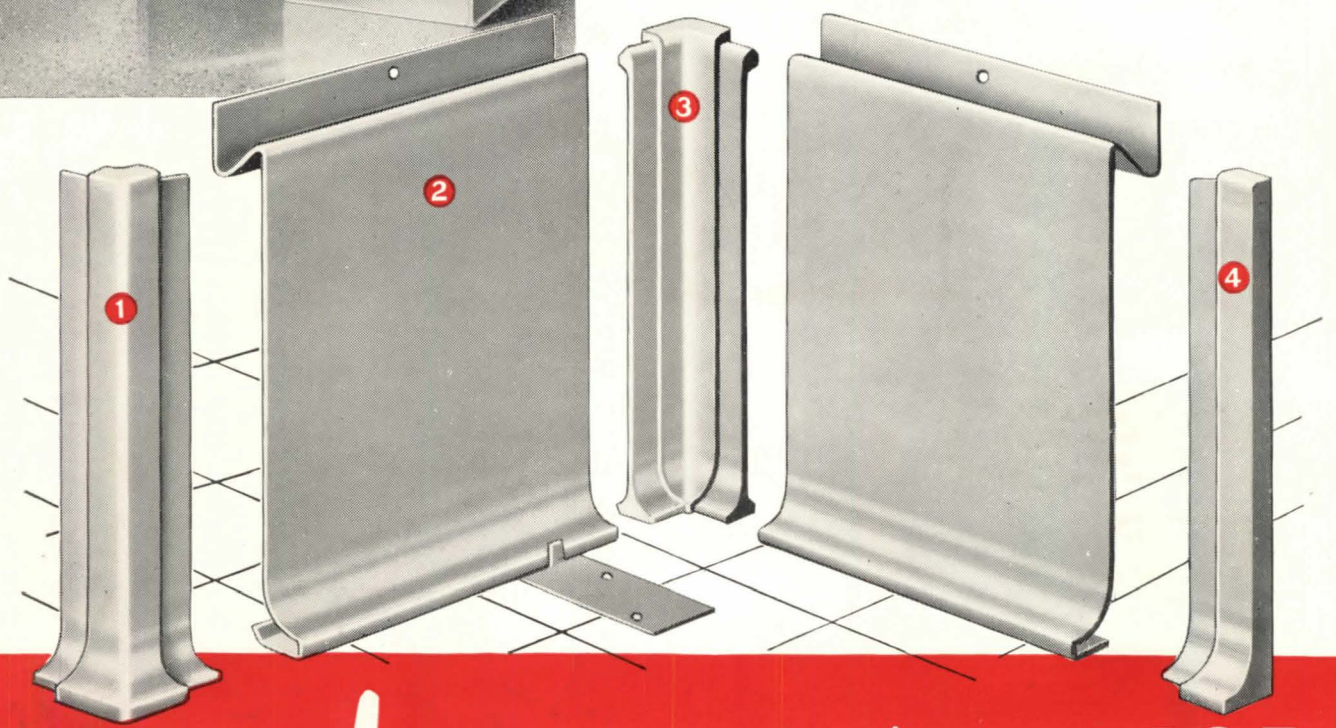

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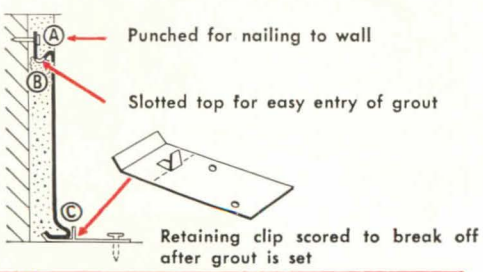

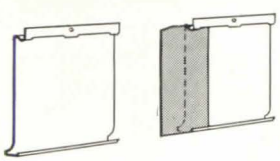

No punching, no exposed screws

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PROGRESSIVE ARCHITECTURE

January

design/techniques 1953

interior design data

selected details

$1,000 defense bond first prize

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*Tiny Baker, General Superintendent for Diller and Gunther Subdivision Developers of Los Angeles, California, warming up at California Building Contractors' Association Convention at San Diego, November 14, 1952

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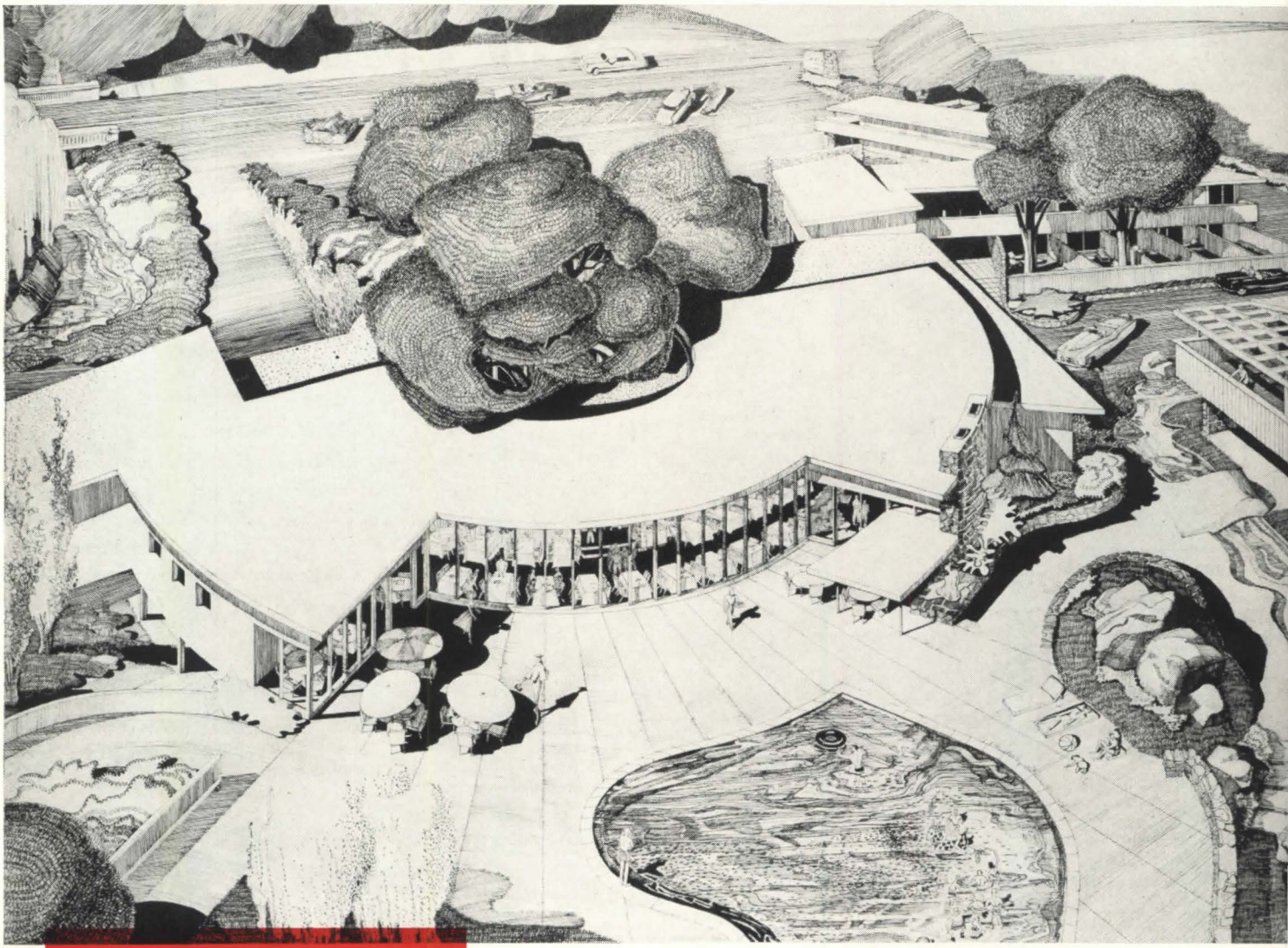
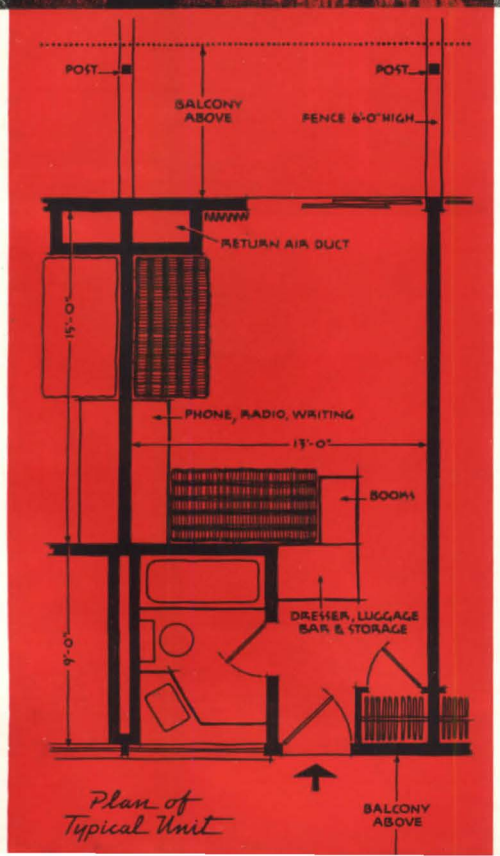


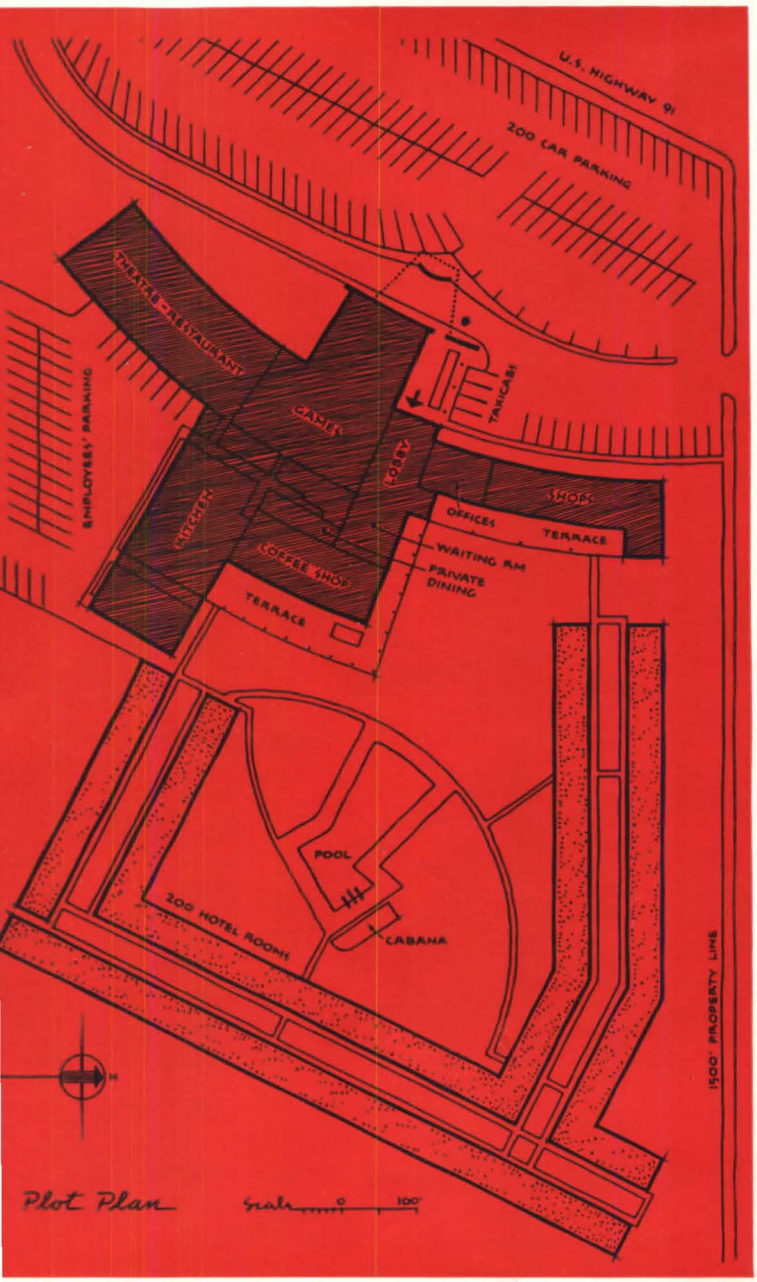


Plan of Typical Unit

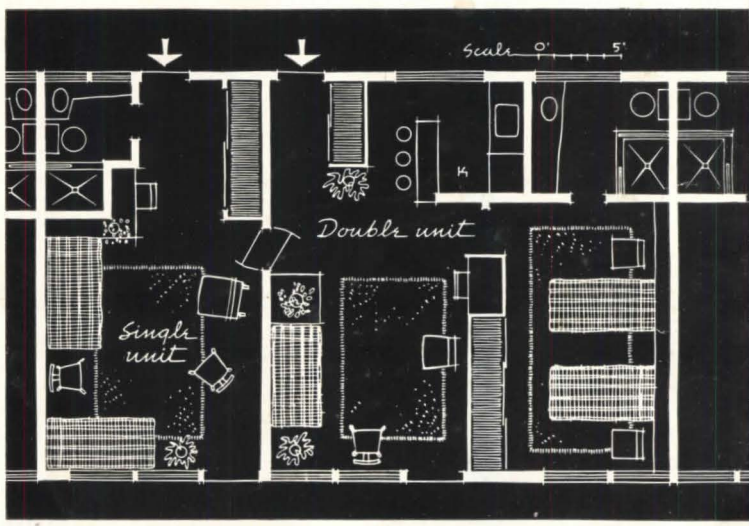
roadside architectonics, California

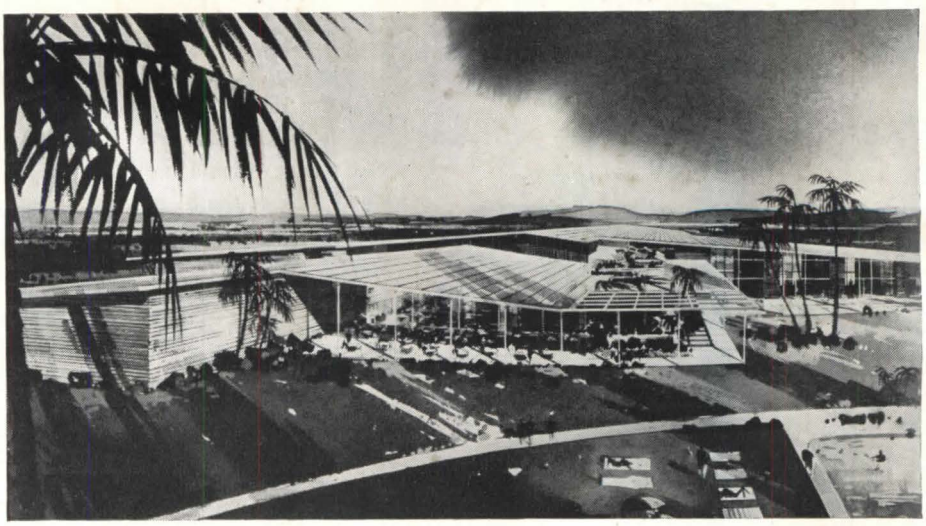
A function of architectural design frequently underplayed, even ignored by some architects who apparently think it "not quite nice," is the commercial publicity value of a striking façade or building group. Kenneth C. Rickey, Architect, of Rickey & Brooks, Sacramento, California, frankly accepted noticeability as a major element of this design for a hotel and restaurant intended to attract transient guests seeking entertainment and relaxation as well as overnight accommodations. The main building of the $1 million project features the restaurant and broad terrace around a swimming pool. The wings at the rear of the tree-shaded site will contain 100 suites of rooms, with parking areas near each group. *Rendering: Fred E. Brooks*

roadside architectonics, Nevada



Near the new racetrack at Las Vegas, Nevada, and prominently located on the main highway will be this eye-catching rambling group of buildings designed by Edward H. Fickett, Architect, of Los Angeles, California. Behind the main structure—containing a theater-restaurant, a gaming casino, and a row of luxury shops—will be a large swimming pool court surrounded by the wings containing 200 guest rooms. The architecture and amenities ($1.5 million) are intended to attract the high-pressure vacationer and provide the 24-hour entertainment expected in Nevada resorts. *Color renderings: "Val"*





design/techniques 1953 | *FORECAST*

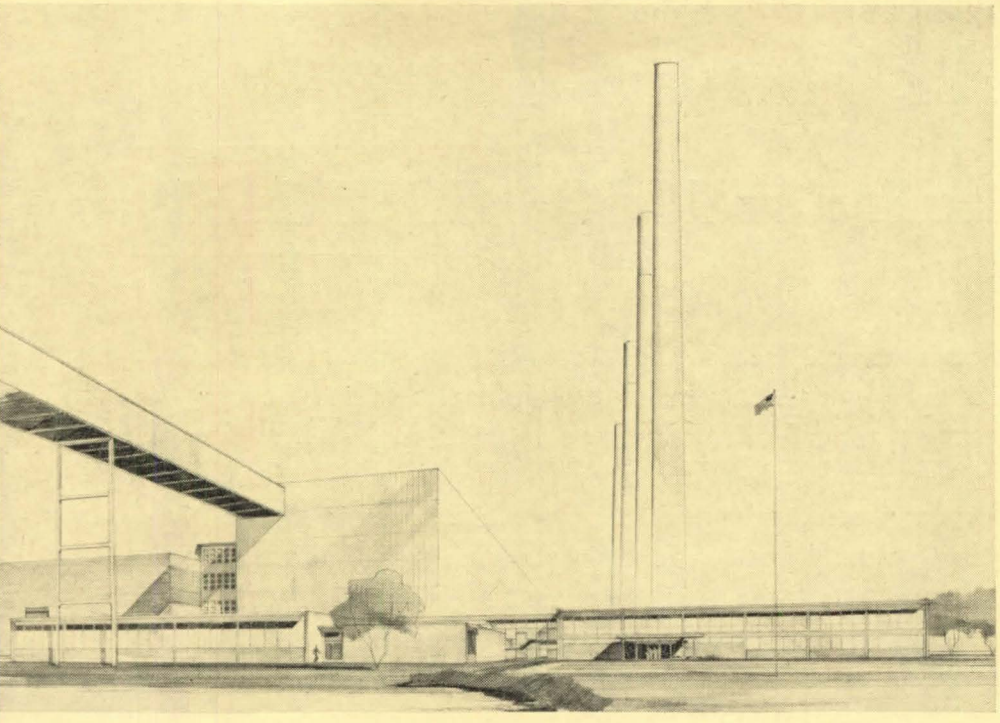
There is a busy year ahead for the architects in the United States—one of the busiest that architects as a whole have ever had. P/A's annual survey indicates that the average active firm will make working drawings for $4,037,000 of construction in 1953, an increase of 25% over the past year's volume; and in 1953 the average firm will see $3,767,000 of its work reach the construction stage, an increase of 30% over 1952's figure. The Michigan area expects the largest average volume (due to continuing defense work) and the Northwest region the lowest, according to reports to P/A. Schools and housing will be the two most active building types, aside from defense commissions. Employment opportunities in the architectural profession should be good—average staff in the firms surveyed is expected to increase from 10 to 12. New structural techniques and the use of a few new materials will have a noticeable effect on design trends this year. Government restrictions—the last of which are expected to be lifted shortly—have not markedly influenced the preliminary design and specification of 1953's new buildings.

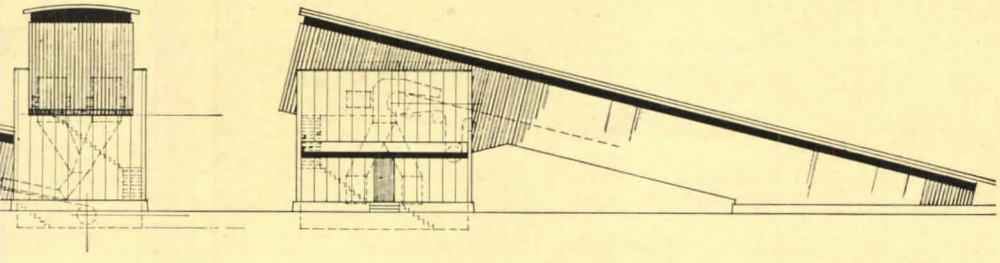
That is the quick summary of P/A's third first-of-the-year survey estimates, supplied to us by the architects themselves, based on work on their boards in both preliminary and final design stages. On the next two pages is an analysis by regions and by building types of the figures compiled from questionnaires returned from representative offices, large and small, in big cities and small towns all over the country. And through the pages that follow is a sampling of the most interesting projects that are likely to go ahead during the year.

The selection of illustrative material was again made with the advice and assistance of a "jury" of editorial advisors. John Grisdale, Philadelphia architect, of the firm of Carroll, Grisdale & Van Alen; Sidney L. Katz, New York architect of Katz, Waisman, Blumenkranz, Stein, Weber, Architects Associated, and teacher at Pratt Institute; and Robert W. McLaughlin, Jr., New York architect, of the firm of Holden, McLaughlin & Associates, and Director of the School of Architecture at Princeton University: these were the men who helped the P/A Editors make this year's selections from the material submitted. On page 52 there is a summary of design trends, as they seemed to be indicated in the *designs examined* by the Editors and the Advisory Jury.

This year, for the first time, P/A sent questionnaires to a number of Consulting Engineers. The significant developments that they reported in relation to the work on *their* boards are discussed in a section of this issue starting on page 88).

Here, then, is what 1953 in architecture in the United States will constitute—and what it will look like.





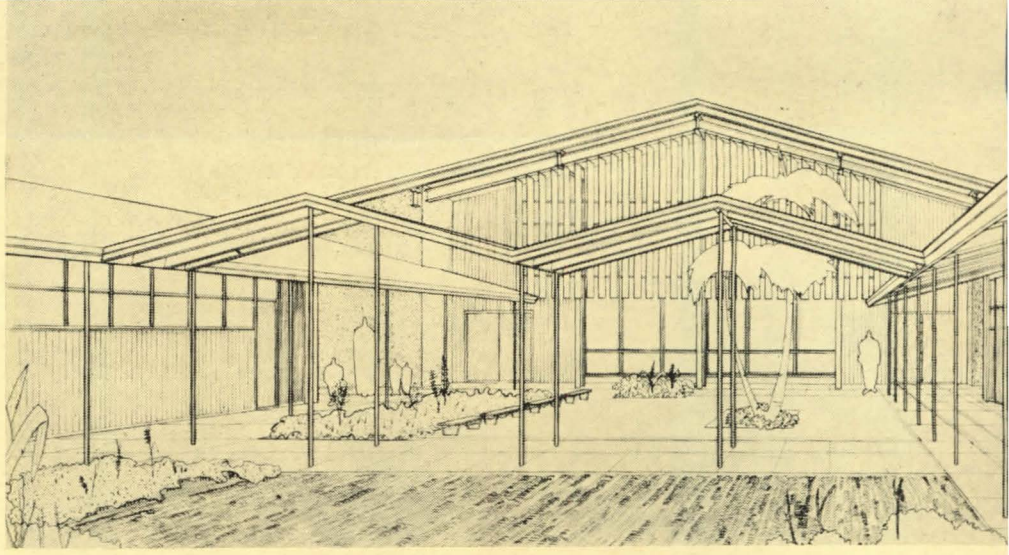
Colbert Steam Plant, Colbert County, Alabama: Tennessee Valley Authority Division of Design. "Wonderful . . . beautiful . . . marvelous" were words the Jury found to describe this most recent in a long line of TVA architectural triumphs. According to Harry B. Tour, TVA Head Architect, "the exposed structural steel frame will be painted dark blue-green; warm-gray face brick will be used for fin walls and first-floor spandrels, with fluted, insulated-aluminum panels above . . . The conveyor system (detail, left below) *will have maroon, asbestos-protected metal siding, fluted, with a continuous opening at the eaves for light and ventilation."*

Illustration credits: page 136

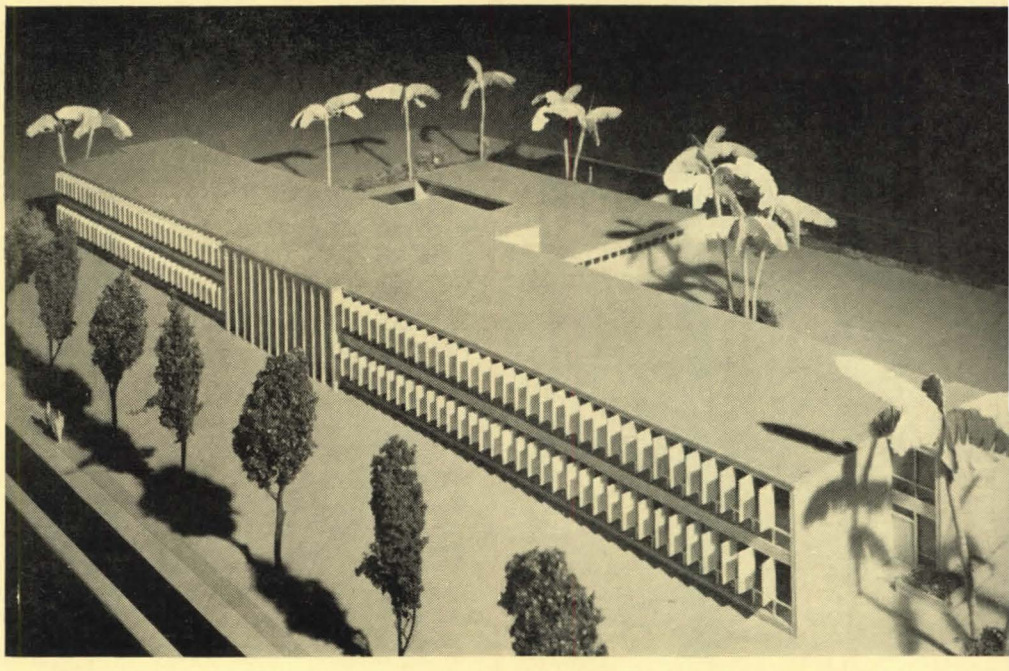
Several over-all conclusions can be drawn from the figures supplied this year. There seems to be no doubt that the volume of *architect-designed* work will increase substantially in 1953 over 1952.

Last January, the architects reported an anticipated drop from the year before: an analysis of government figures for actual total 1952 construction shows that in the building types from which most architects gain most of their commissions, there *were* drops—private residential, commercial, educational, health, and religious structures all fell off. The order in which architects estimated that building types would supply dollar volume of work this past year (residential, industrial, educational, defense, health, commercial, public use, and religion, in that order) also held true with one exception: commercial work last year topped building for health, by a hair. Since these architect-supplied estimates have proved-out once more, we feel confident in reporting that a substantially greater *total volume*, as well as proportionate volume, of construction designed and controlled by architects, can be expected in 1953.

Before there can be any comparative discussion of building types this year, something must be said about defense work. Judging from the figures supplied, work for the military and naval establishments, for AEC and for other purely defense agencies may have a larger dollar volume than any other activity. And yet it would not be fair to average this work with other building-type categories, because the great bulk of it is concentrated in the reports of a few big firms, and in a few districts; it averages only 8% of the work reported



Garfield School, Arden-Carmichael Union Elementary School District, Carmichael, California: John Lyon Reid, Architect. To be built with special State funds extended to provide minimum schoolhousing in areas where the need is critical, the school will serve children from kindergarten age through the sixth grade. Estimated cost: $209,328. The enclosed court between classroom wings (right) is used for outdoor eating and is adjacent to the multiuse room (background).



Tuberculosis Mental Hospital, Phoenix, Arizona: Weaver & Drover, Architects. A 100-bed hospital, to be built as part of the expansion program for the Arizona State Hospital; $450,000. In the architects' opinion, the item of main interest is a "tree-shaped rigid steel bent frame," with the cantilever areas housing the metal-louvered sun terrace (that borders the patients' rooms) on the south (right) and nursing services on the north.

by other firms over the country. So let us recognize the fact that design for defense will be the major activity of some architects, but not of many, and then see how the other building types compare.

The four leaders are: education, 26%; housing, 20%; commercial, 18%; industrial, 16%. Health drops to 8% of the estimated volume; there follow public use, 7%; and religious structures, 5%. It is interesting that educational design leads the list in all regions of the country except the Detroit area (where industrial activity is top, with education second) and Texas (where commercial work leads, but education again is second). The highest averages for hospital work were reported from the Gulf states; for housing from the Chicago area; for church building from the Northwest and the Midwest.

While architects' business prospects seem good, there will apparently be a difference by regions. Although more than half of the reporting firms anticipate an increase in work (average hopes being a 50% boost), about 20% expect business to drop (average estimate being two-thirds last year's total). Most optimistic estimates for percentage increases came from architects in the Southeastern states; most pessimistic from the Gulf states. Others held near national averages. As far as dollar-volume differences are concerned, there is also a variation by regions. The Detroit industrial area reports the highest average (even after the defense work has been removed from the figures) with California next and the Northeast, third. The Northwest has the lowest average, with the Rocky Mountain region slightly above it.

design/techniques 1953: *FORECAST*

This is not a jury report, in the true sense, for the designs that follow, but there was a good deal of discussion among the regular and the Advisory Editors during the selection period, which may be summarized. Design techniques for 1953, the group felt, are:

. . . more impressive in residential and institutional work, than in commercial or industrial.

. . . in general, a reflection of the indecisions and the uncertainties of the time.

. . . inclined to be better planning solutions, than successful esthetic expressions.

. . . refinement of accepted design concepts, more often than attempts at originality.

. . . more understanding and more successful expressions of structure, than heretofore.

Among the building-type categories, the Jury felt that house design showed a much more sure and more developed approach than any other. Commercial work in general was not admired, although there was recognition of the need for solving customer-attraction problems. "O.K. for a promotional type of building," was a typical comment. The two projects shown in the PROGRESS PREVIEW section of this issue (pages 15 and 16) were recommended as "good combination of advertising and architecture." TVA's submission was the only one in the industrial category that the Jury fully liked. "Wonderful to see good strong work still going on there," was one man's comment.

As an over-all picture of design accomplishment, there was a feeling that today's design reflects today's uncertainties. If an architecture is an expression of its period in social history, then this architecture, devised in 1952, probably must reflect indecision and unsureness. Perhaps 1953 will offer a more stable social background in which to bring these designs to fulfillment.

Economic planning problems are more capable of sure definition and specific solution than abstract design problems, and the jurors found themselves commenting in many instances, "A good serious job," or, "Will probably wear a lot better than some of the more flashy schools," or even, "Not terribly pretty—a little bit crude—but well planned. We like it."

While the jurors were not searching for startlingly new design just for the sake of newness, there was a feeling of disappointment that little originality was to be found. It is good, they felt, to develop and improve and stabilize contemporary design concepts, but there seemed to be a sameness and even a copying of established elements that was disappointing. "Good example of current architecture," one man remarked about a well-known architect's house design. "Yes," responded another, ". . . it has all the fashionable features."

Perhaps because of this "refinement, but no aggressiveness," as one of the consultants put it, there was admiration for the sensitivity of some of the work presented. The *articulation* that a good designer searches for in a fully developed project was often found and admired. "Has a very consistent quality," was the comment about one of the churches, ". . . looks like an architect did it." Beautifully refined expression of a structure, as in Schweikher & Elting's project (pages 86-89) was felt to be significant in enough cases to indicate a trend away from the cute, the tricky, the "corny" and the "redwoody."

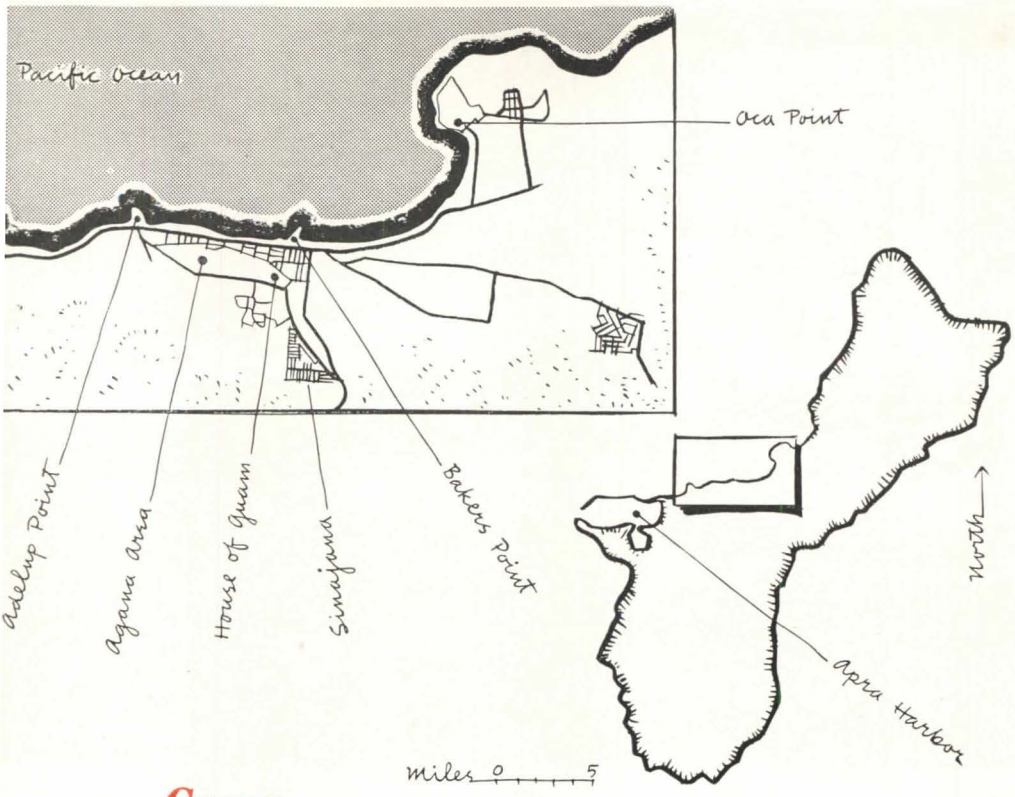
As summary, then, a surer exploitation of structure and technique, and a more refined and mature expression of these techniques, are probably 1953's outstanding design contribution. Added to this, though, must be another 1953 possibility: extension to wider areas of the planning and design ability that we have now, as in Neutra's and Alexander's Guam project that is shown on the following pages.

guam

design/techniques 1953

PLANNING

The Island Territory of Guam—largest of the Marianas—lies midway between Japan and Australia, on the direct route from Bangkok and Manila to Honolulu and California. Spanish territory from Magellan's discovery in 1521 until it was acquired by the United States in 1898, the island has been subject to all the benefits and ills of Oceania's exploiters and developers. It was badly mauled by the Japanese and battered by the reoccupying Americans in the last war. Now the inhabitants of Guam are going to benefit from an over-all planning study made and being carried into detailed effect by Richard J. Neutra and Robert E. Alexander. As the following account of this exciting development indicates, the Architects have a deep respect for the people of Guam and serve diverse business, social, and legislative interests with equal dedication.



Map of Guam (left) *indicates the size and shape of the island. The section at larger scale centers around the Agana area, and shows that town, contemplated adjacent planned communities such as that at Sinajana* (pages 56 and 57). *Adelupe Point* (new school shown on page 60), *and the free port area being developed at Apra Harbor* (page 57).

The architects and planning consultants—Neutra and Alexander—give grateful credit to devoted staff work on this important project: to Dion Neutra, who directed the architectural section; to Arthur Parker and Jack Zehnder for engineering; to Sam Zisman for legislative matters, and to Frank Kelly, Richard Hunter, Frederick Reichl, Benno Fischer, and Don Ramos, as well as building- and zoning-code writers, draftsmen, modelmakers, statisticians, and experts and collaborators in various phases of the work.

Guam

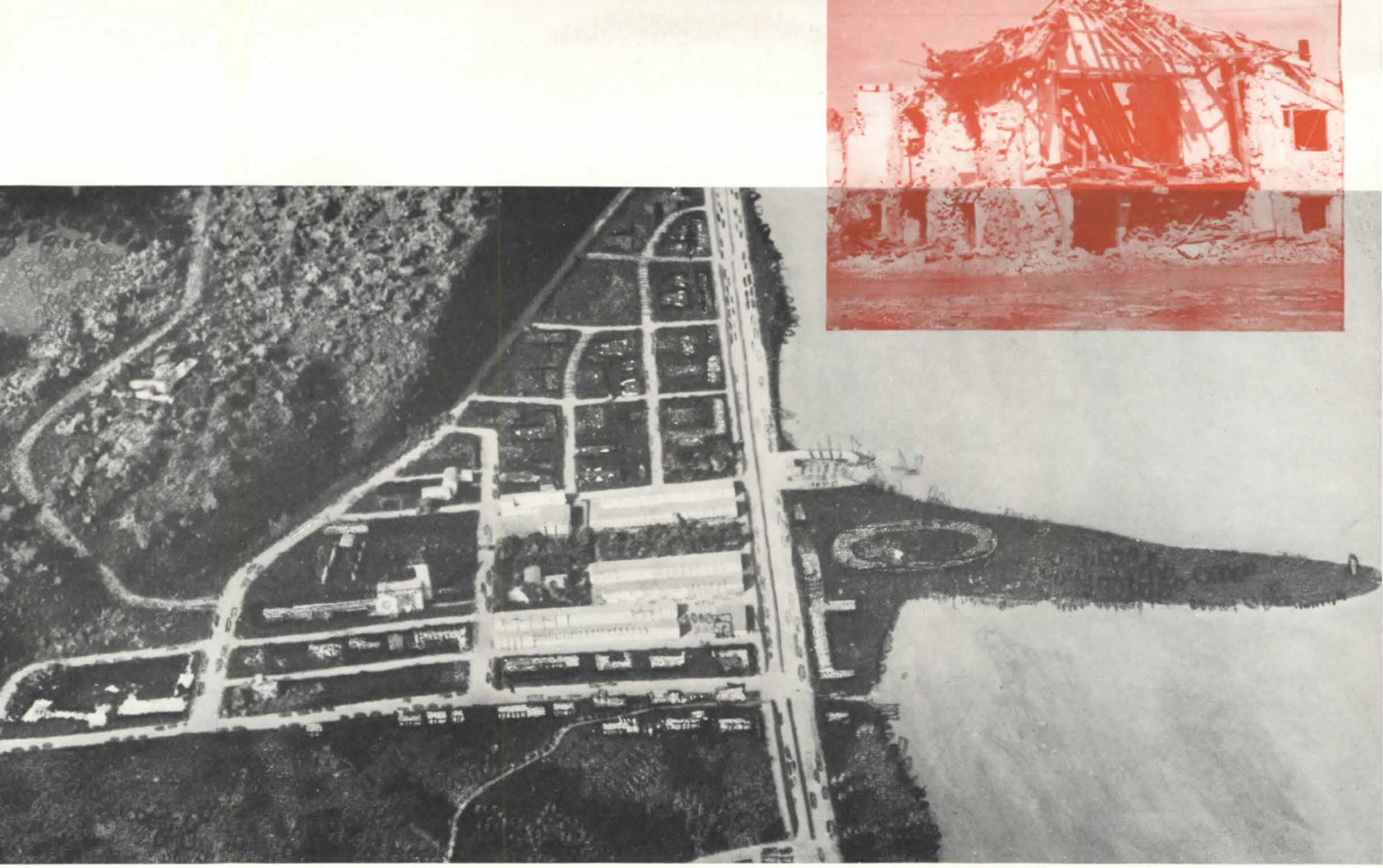
Richard J. Neutra and Robert E. Alexander, Architects and Planning Consultants

With a large part of the colonial world—the remnants of empires carved out by conquest and exploitation—in a state of rebellion, the task and the duty of the United States in its outlying territories becomes ever more clear. Planning for these peoples, such as the residents of Guam, must make possible a way of life which will spell always greater opportunities for independent growth and development, placing at their disposal all the knowledge and experience that planning technicians have accumulated, and all the technical knowledge and experience that American industry has developed, to plan complete communities (schools, industries, transportation, and recreation, all related to housing). Here, in a place like Guam, is the opportunity for us to demonstrate—in elementary but comprehensive terms—that the extension of our economy and technology, if properly planned, can benefit the peoples of less developed areas of the world.

It is fortunate that two men such as Richard Neutra and Robert Alexander, with their broad combined background of planning, housing, and architectural studies in various parts of the world, have been retained as architects and planning consultants to the civil community of Guam. As Neutra says, "Architects are practical and constructive socio-economists. Even the humblest practices teach architects to become co-ordinators, forseers, with a sense of the past which is prologue." By planning, Neutra and Alexander mean much more than mere neighborhood or even town or regional planning in a physical sense. It was only three years ago that Guam became a self-governing territory, when an act of Congress set up an elected legislature and a civil governor (with a hard-working cabinet of department heads). When the consultants, first called in on housing matters, recommended comprehensive planning as the first step, it was necessary to start with the appointment and strengthening of the Planning Board itself. A memorandum on "Broad Objectives," which the consultants prepared, discussed not only physical planning, but also steps "to facilitate the desirable development of all potential resources of the Island" (*see page 57*). A long-range program, without regard to priority, suggests all necessary steps from a study of soil, topography, and natural resources, to a public education program which would range from citizen education on planning matters to "accommodation of visitors in a badly needed hotel."

Capital improvement programs and democratic procedures for compiling and submitting them have been studied by the consultants. And, since the physical as well as the socio-industrial problems must take almost a new start after war destruction, it was necessary to develop a basic building code, a zoning law, and a subdivision law to control construction in the urban area at once. (The consultants plan to simplify and illustrate vital principles involved for use in villages and even as a school text.) When one considers that from these basic beginnings the work of the consultants concerns all the stages of land-use study, population analyses, transportation, road and utility mapping, health and education programming, to the detailed design of individual buildings which are now under construction, the scope and the challenge of the task can be appreciated.

The map (*above*) indicates the shape and size of the Island of Guam—it is only 30 miles long, with an average width of eight miles (five miles at the narrow center). The southerly portion is of vol-



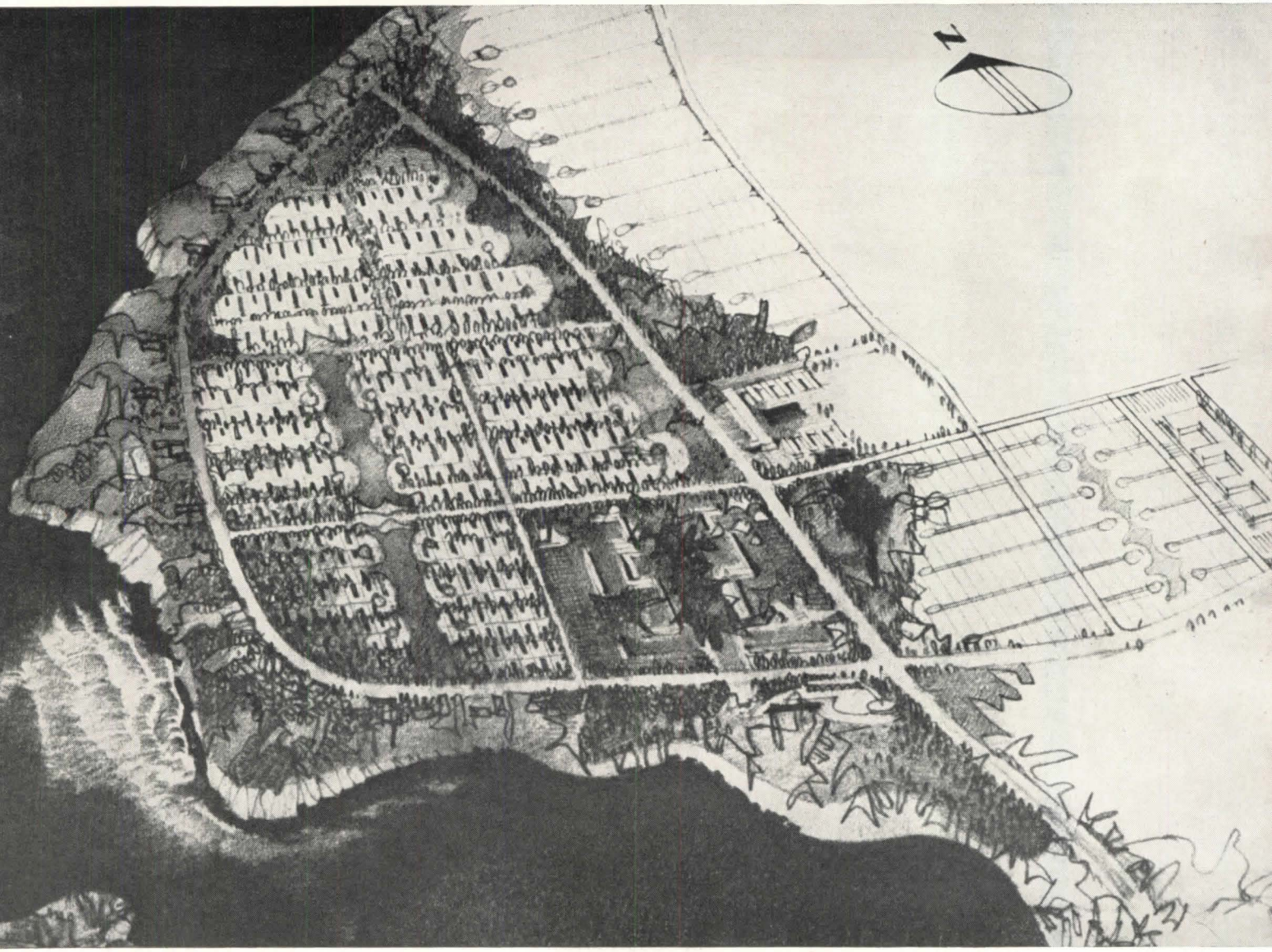
canic origin, and is quite mountainous; the north is a coral plateau. Beaches surround it; it is rich in luxuriant vegetation in some parts and so shallow of soil in others that deep plowing is impossible. Capable of supporting a population of possibly 150,000, it is now spotted by a few towns, the largest of which — Agana — dropped from more than 10,000 inhabitants before the war to 800 in 1950. Buildings and entire villages were wiped out by the Japanese occupation and the American reoccupation, and the population was scattered. A road network exists, and natural harbor facilities at Apra provide the basis for a port development near Agana (*see page 57*).

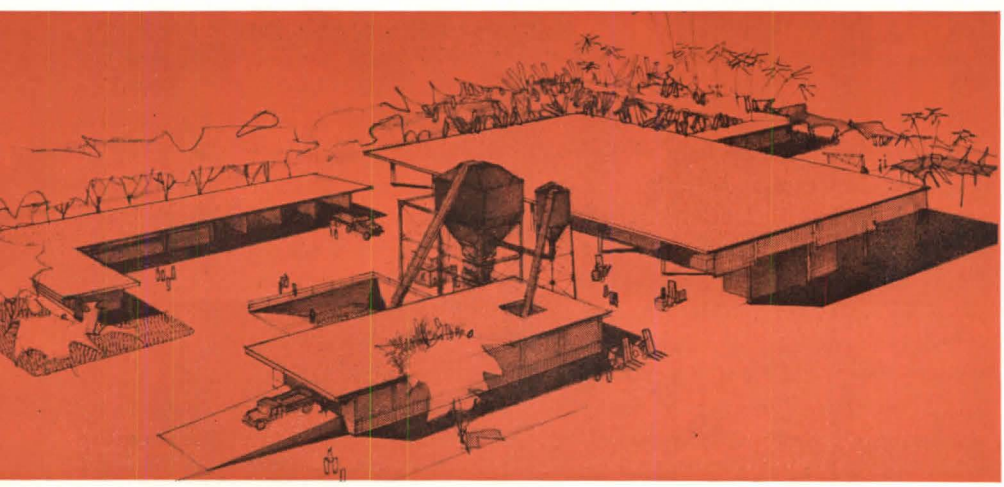
The fact that there are military establishments on the island has had interesting effects on the planning. Largely for military reasons, impressive highways were built, inviting motorization. The architect-consultants report that the Guamanians have invested heavily in automobiles — "many a family seems to have a jeep and a Dodge; frequently a truck in addition to that. At the same time people have been living in accommodations that do not measure up to their needs by mainland standards." The reason for this, very simply, has been that materials and labor for building have not been available, and a home is not the imported package that a car is. For the military construction, Philippine contract labor has been imported, housed in compounds. Since automobiles and highways are valid determinants—and since a good part of the population for some time will be employed by the military establishments—new neighborhoods have been located in relation to the present road and utility network.

The rendering (*above*) shows the proposed development of the town of Agana. The resurrected capital, now that the island has been motorized, will be more than ever the commercial center. Shops and parking areas are indicated adjacent to a central mall. On the hillside is the social center of Guam, near the home of the governor (*for details see pages 62 and 63*). A recreational area very near the town center is made possible by the jutting peninsula of Baker Point. Such long-range studies are still in a formative stage.

While the master planning is proceeding, and now that a resident planning office has been established in the department of land management, some immediate construction is going right ahead. The material on the following pages indicates study and thinking, which must be carried to rather specific points even in the early study stages, so that as authorizations are granted, the architects will be prepared to go into the working drawing stages. At the present time, some of the school plants and certain housing projects are at that ready-to-go-ahead point, and the harbor installations, the social center, and Adelupe School (*see pages 60 and 61*) are under construction.

The principal point that the architect-consultants emphasize—in discussing the project and in their memoranda to the administration and the legislature—is the need for basic planning studies as a source for dynamic rather than static final solutions of problems which are obviously fluid. Neighborhood planning and school planning, for instance, are based on population studies which attempt to assess the *dynamics* of the people in addition to easily-obtainable *static* statistics. This approach, together with the ability to solve specific projects as construction is authorized, constitute the problem and the consultants' contribution.



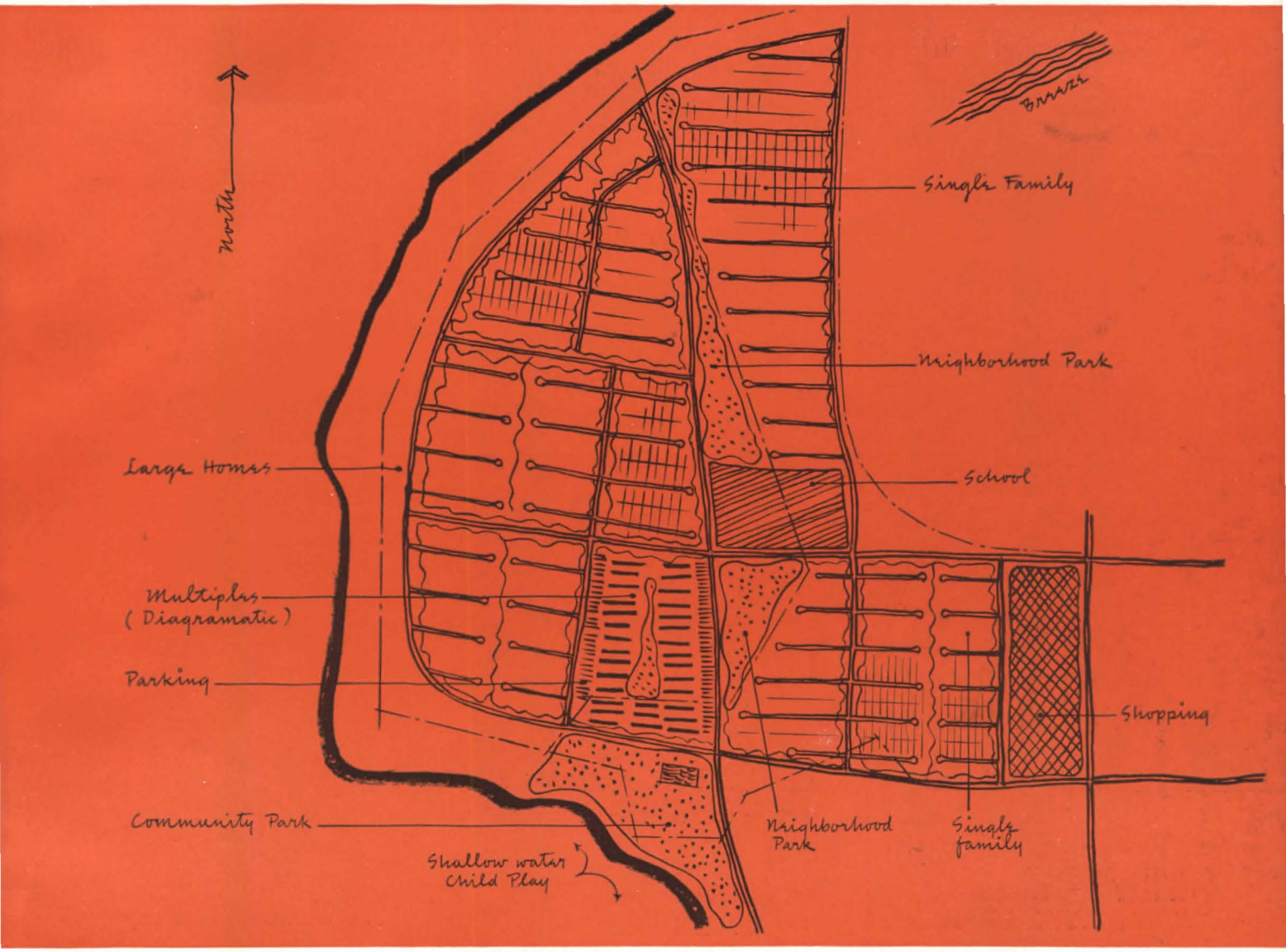


Proposal for a concrete-block manufacturing plant. Raw materials, fed in at left, go to forming machines and then to curing shed.

Guam Neighborhoods

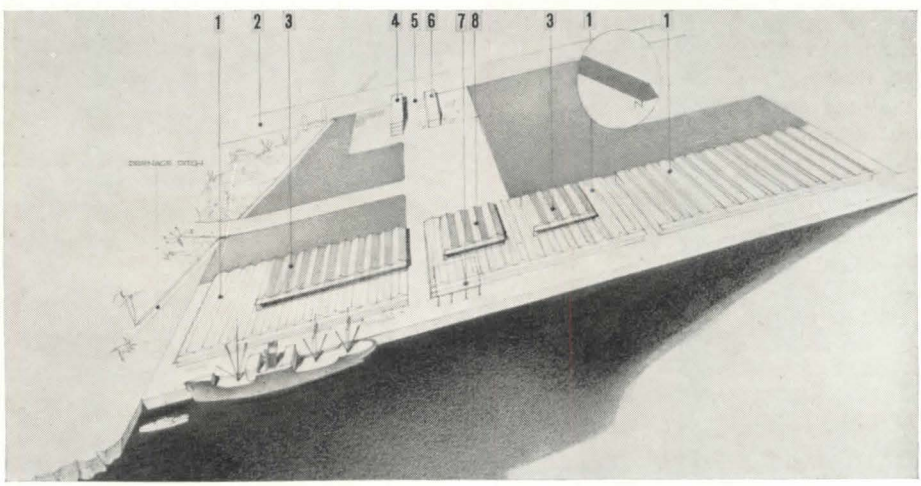
Development of new communities on Guam is complicated by the existing military establishments, by jungle growth, by existing roads, and by the present location of the scattered population. Sinajana (*above*) is now largely a community of navy-built huts which occupants have often skillfully and colorfully improved. Most schools are still inadequately housed — but water is available and there is a sketchy "business" section. Replanning will organize the community into residential neighborhoods, with school, shopping and recreation areas.

Even before the new communities, however, certain improvements must be made to advance the building industry itself. High on the priority list is the commercial port at Apra Harbor (*rendering at right*).

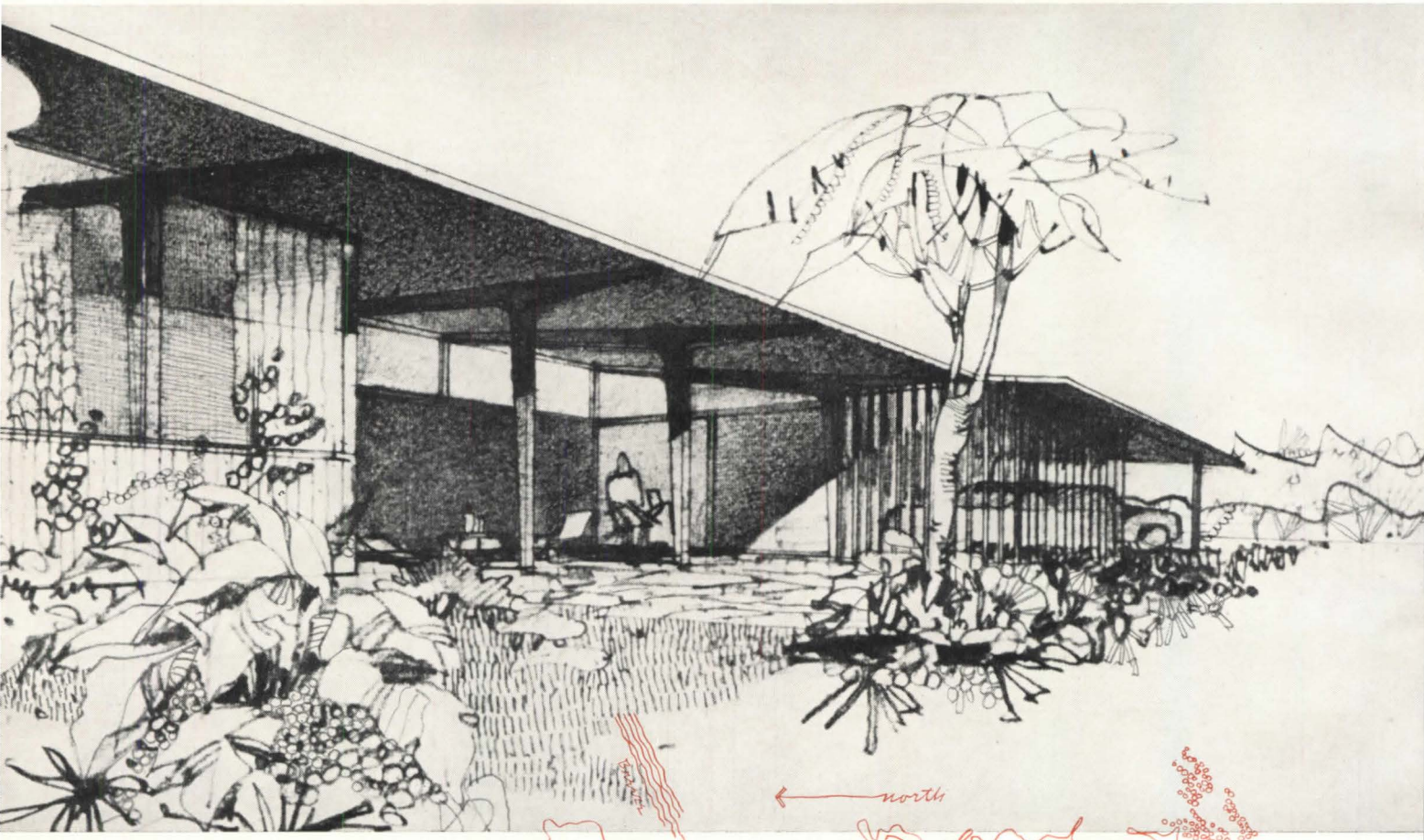


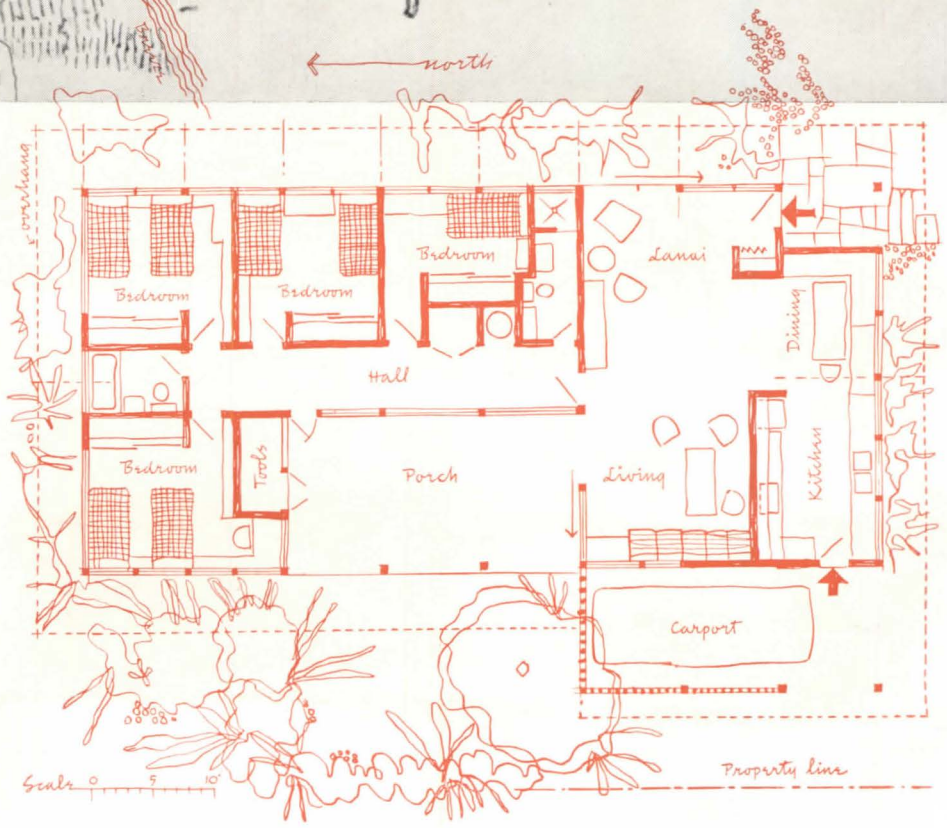
Certain commercial possibilities may be realized only when the free port is ready to handle merchandise; the very building program waits on the ability to handle prefabricated structural members. The consultants point out that this is as much a part of the planning problem as the design of the buildings of which they will become a part.

Equally a part of planning is the development of natural resources, such as fishing, canning, and shark processing, and new industries such as the manufacture of building materials. For example, Neutra and Alexander have analyzed the use of concrete block and have proposed construction of block-making plants, such as the one pictured (*left*).



Proposed port at Apra Harbor. 1. Future Development. 2. Future access road. 3. New warehouse. 4. Future office building. 5. Main entrance. 6. New maintenance and repair building. 7. Present temporary transit shed. 8. Present warehouse.





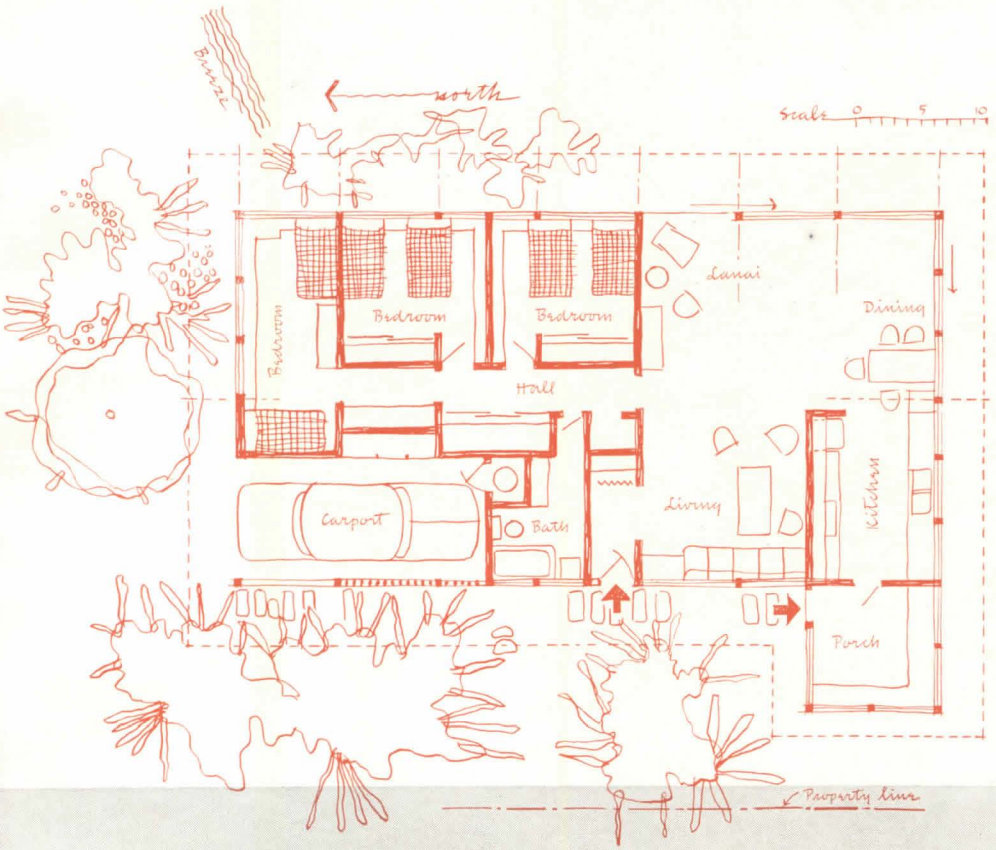
Guam Houses

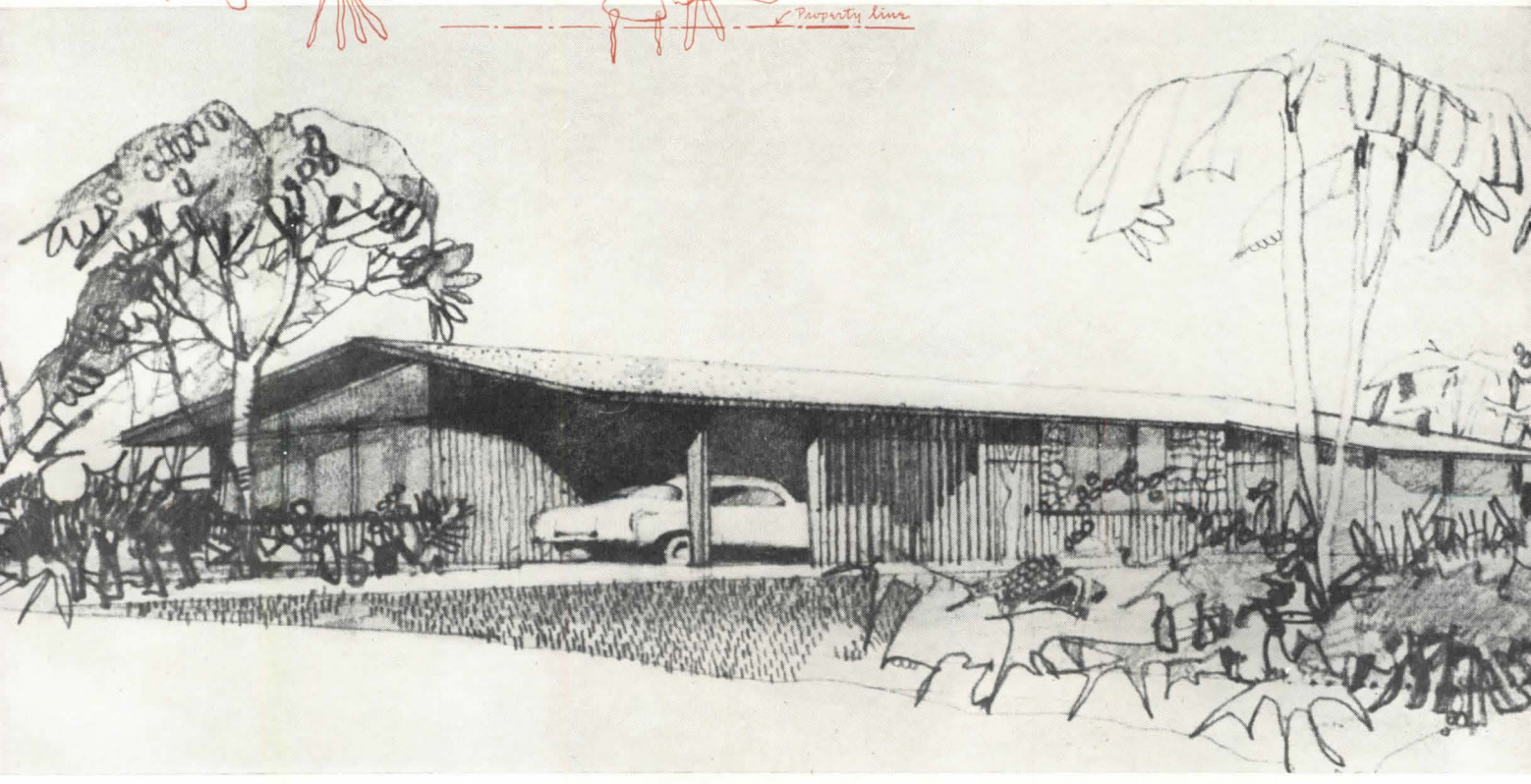
On these two pages are shown some of the many studies that have been made, and are still being made, of housing to suit the needs of the climate of Guam and the living habits of the Guamanians. Like the climate, none of the concepts at the moment is frozen: thought is being given to such other schemes as houses on stilts—a tropical tradition long before its more stylistic modern adaptation in other parts of the world.

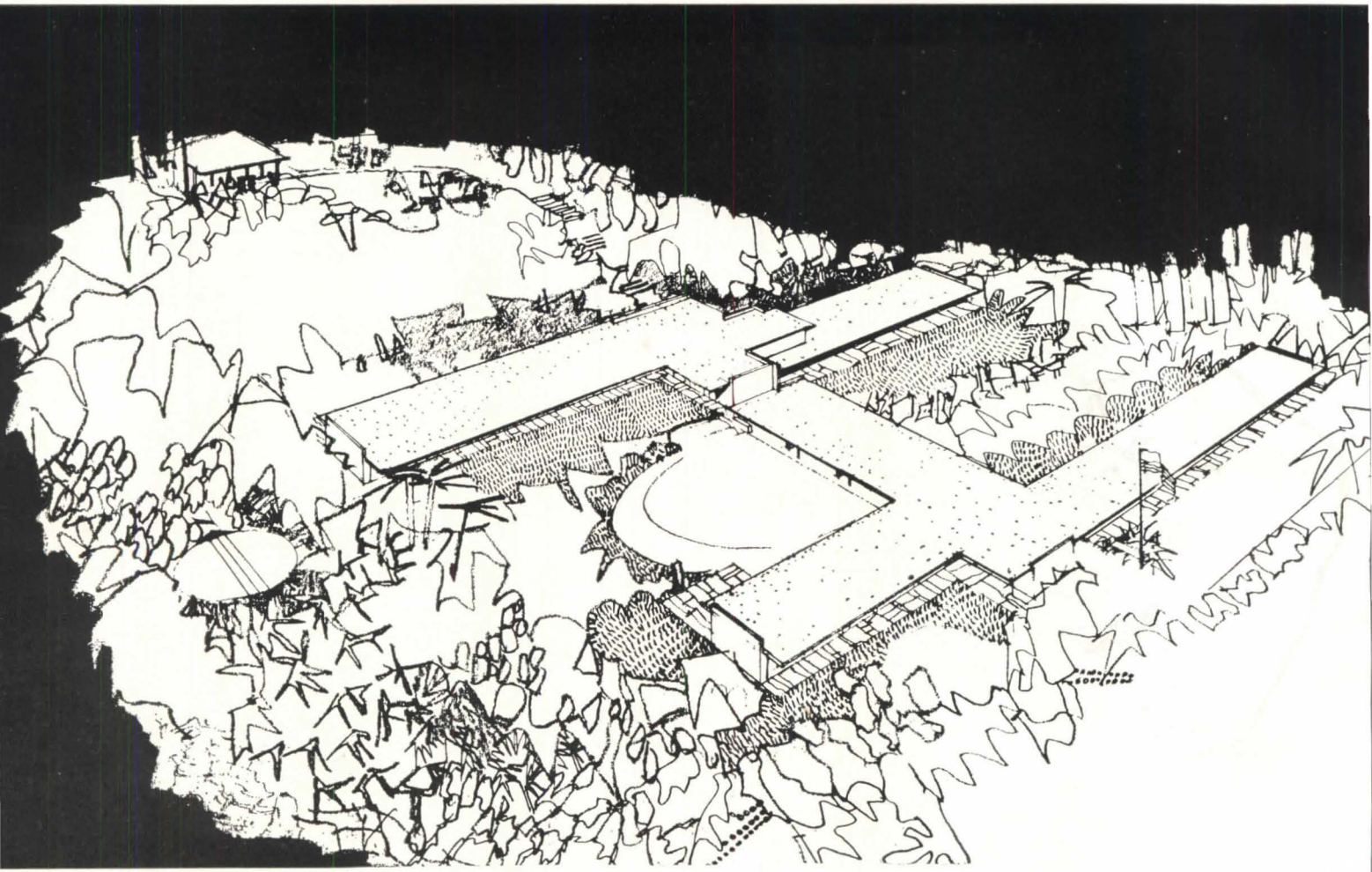
House planning is influenced by two important factors—the steadily prevailing northeasterly breezes, and sudden and frequent rainsqualls. Openness, little partitioning, wide porch and roof overhangs, and an orientation toward the northeast seem the solutions.

Cement materials and reinforced-concrete construction seem logical today for Guam housing—both because these materials can be used by the labor available on the island; and because the people of Guam are psychologically tired of the temporary war structures they associate with wood, and the deteriorated and partially abandoned Quonset huts they see as the disadvantages of exposed metal in that climate.

The architect-planners believe that prefabrication will play its role, ultimately, in Guam building methods. Prefabricated wide-span laminated frames (designed for cargo handling, transit on the island, and storage) may well be utilized in future construction.





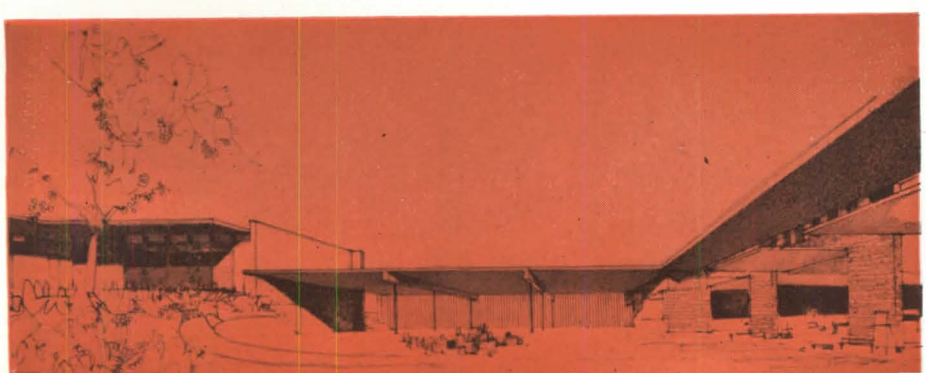


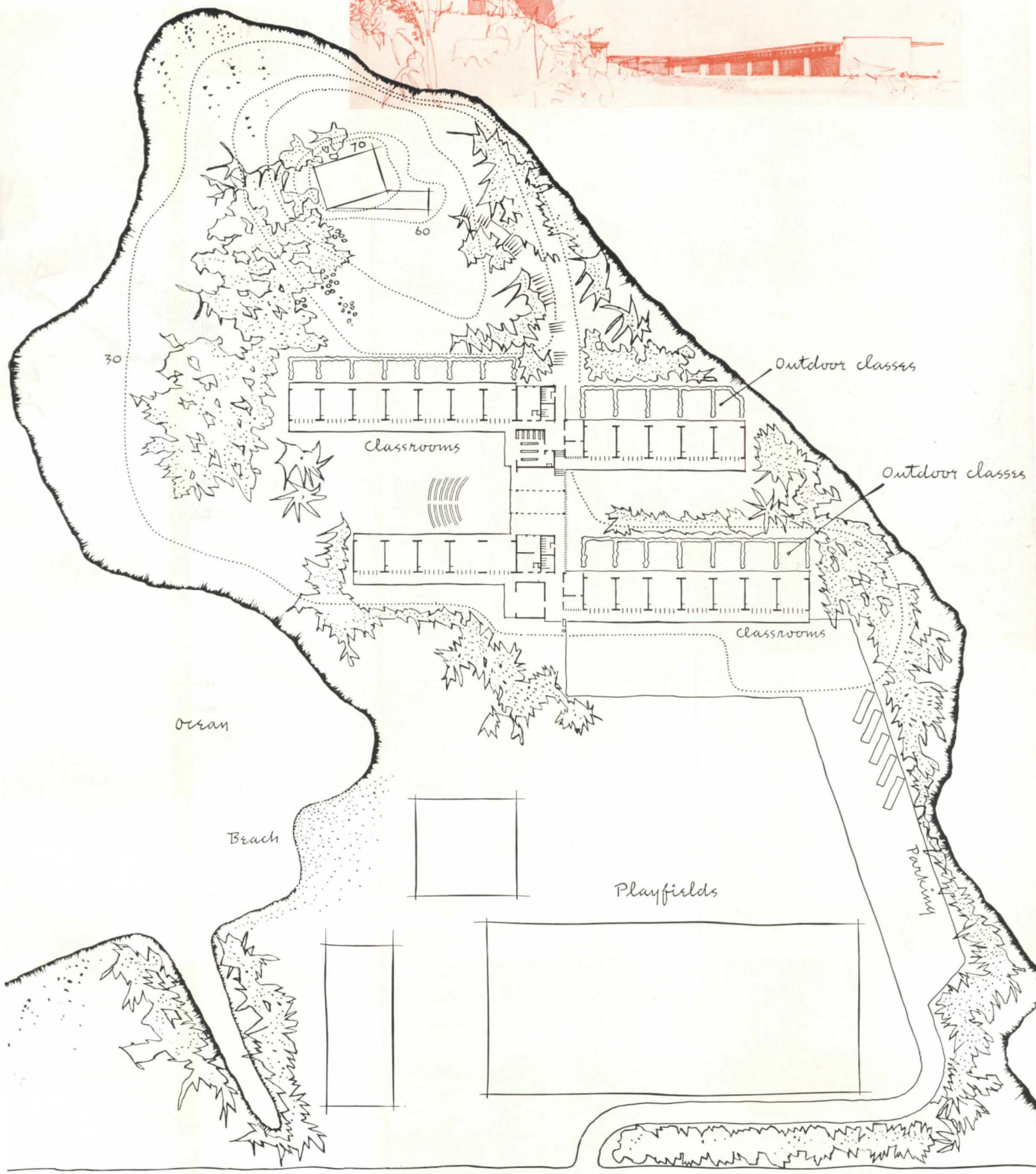
Guam Schools

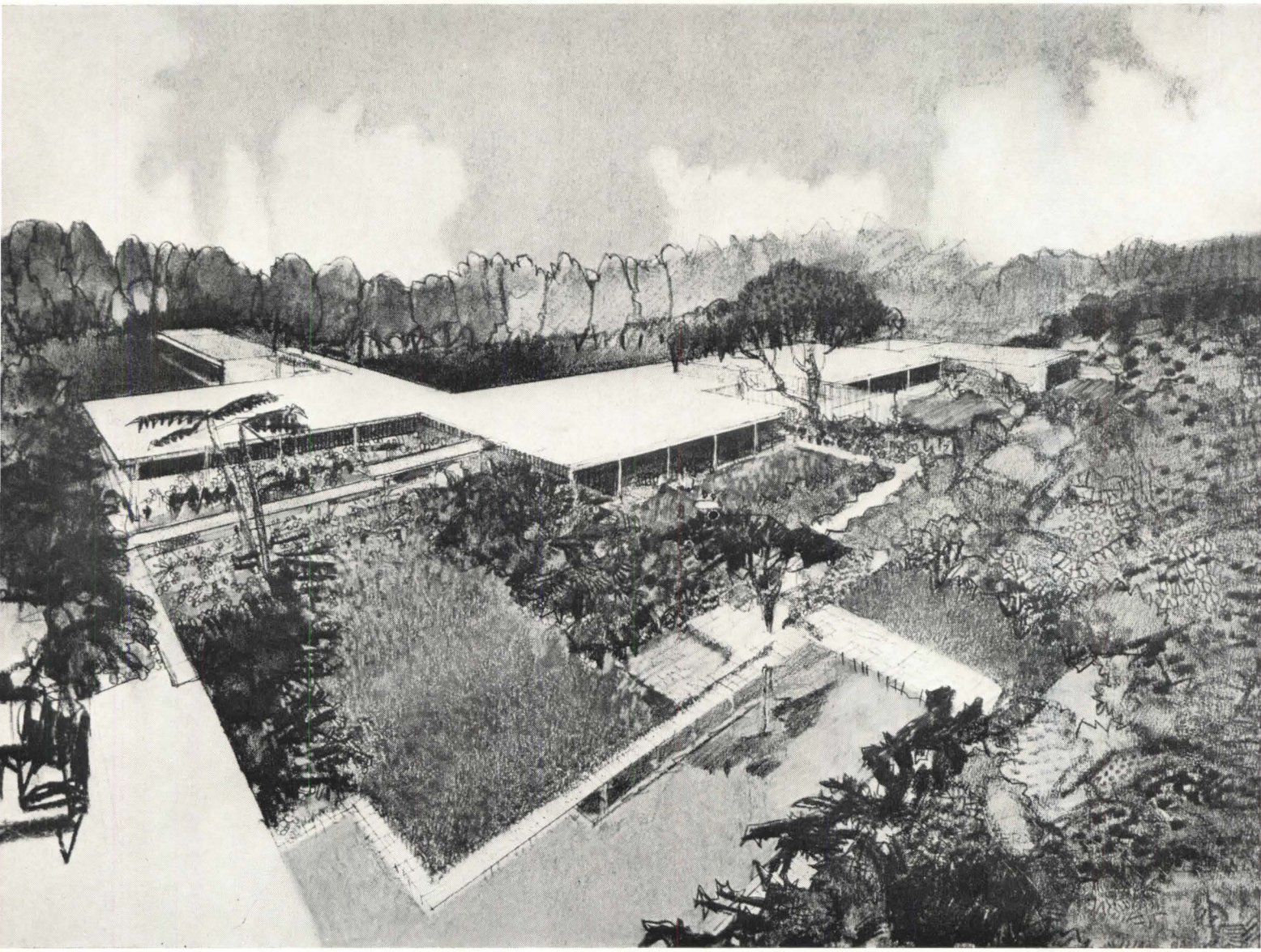
The school with classrooms extending into open-air instructional areas is a tropical tradition; Neutra points out that "teaching and learning have been carried on under a mango tree long before the Nordics had their chance of sitting comfortably at the feet of great teachers." It might also be pointed out that Architect-Planner Neutra originally translated this tradition into semi-outdoor schools for California, and later carried on the studies in Puerto Rico, before this latest tropical-education planning problem.

In Guam, the needed continual natural ventilation, the frequent rainstorm, and the occasional typhoon, all influence school planning. Best orientation, the architects believe, is a turn to the northeast, to catch the trade winds blowing constantly from that direction. Swivelling or horizontally-folding doors, on north and south, may at times have to be closed. Since typhoons are now well-heralded in advance, enclosure panels stored against their use seem adequate protection.

The Adelupe School (*shown on these pages*) is now under construction. It is conceived as a community social and recreational center as well as a school. Planning is as open as possible, to induce through ventilation. Since coral rock excavation is difficult, the school is staggered on three levels to fit the site.



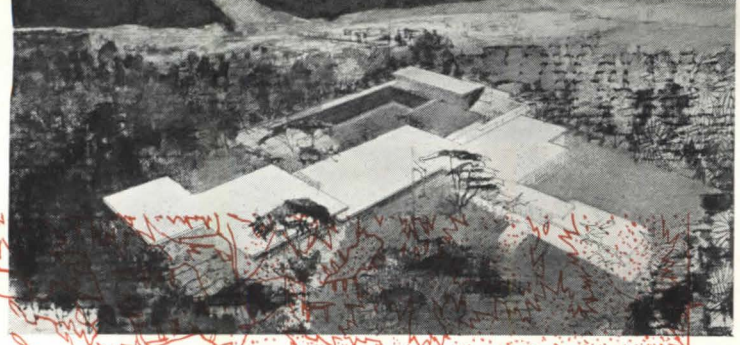

70
60
30
Outdoor classes
Classrooms
Outdoor classes
Classrooms
Ocean
Beach
Playfields
Parking

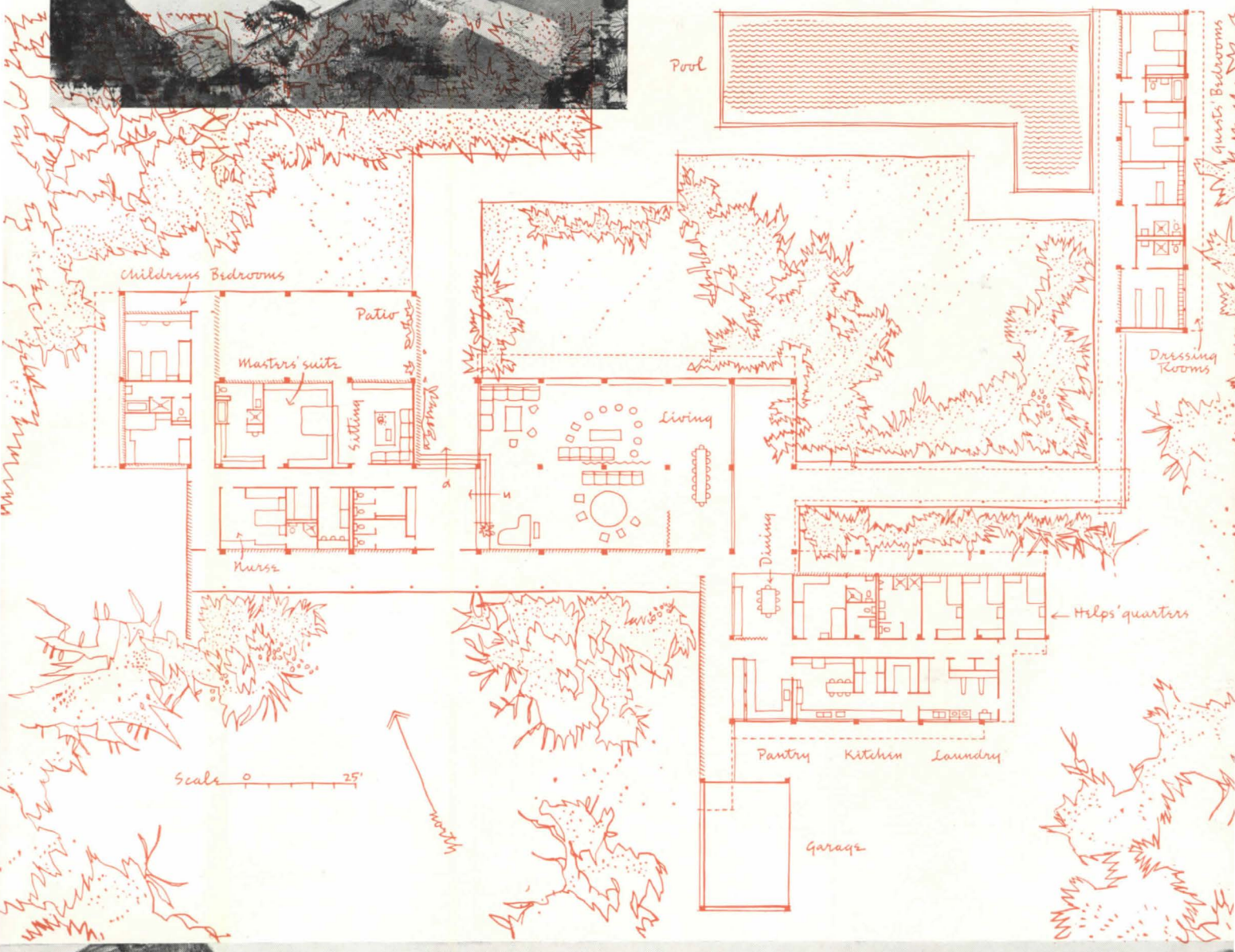


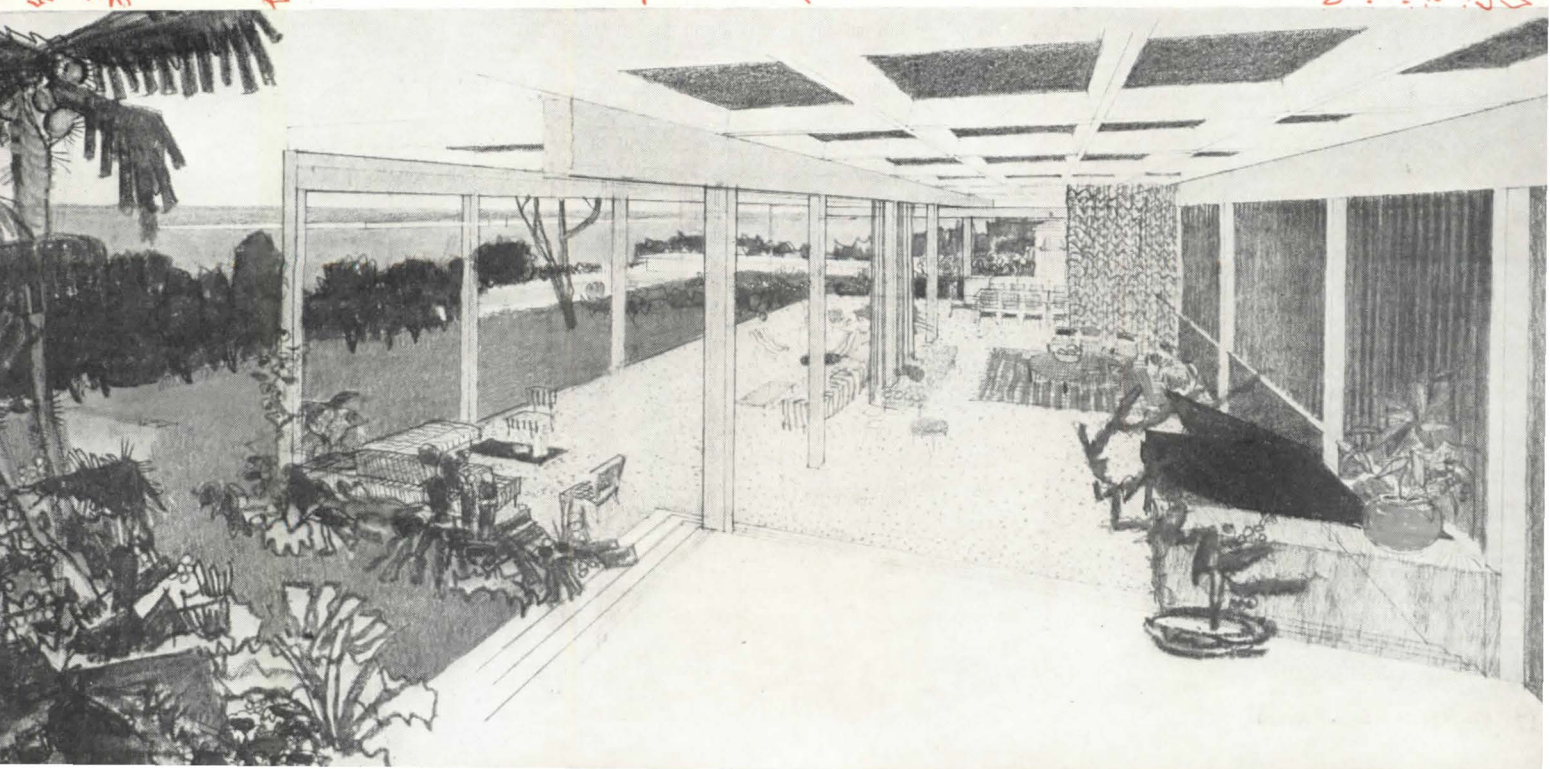
House of Guam

Shown on these pages are studies for "The House of the People of Guam"—a totally new concept for a Government House, as it used to be found in a "colony." As Richard Neutra expresses it, "A Governor is no longer an aloof ruler surrounded by military splendor and palatial settings . . . he is no more than the highest-ranking servant of the people." His house, then, "is nothing sumptuous, but should have the privacy of any decent middle-class dwelling." So the House of Guam is conceived as a place in which the residents of Guam can take pride, in their own right. Social facilities are apart from the Governor's residence—a social center flowing out onto the grounds, for representative gatherings and for the entertainment of distinguished visitors. A third element of the concept is a pair of guest rooms, where certain visitors may be offered "the hospitality of the people of Guam." They are detached, but within easy serving distance.

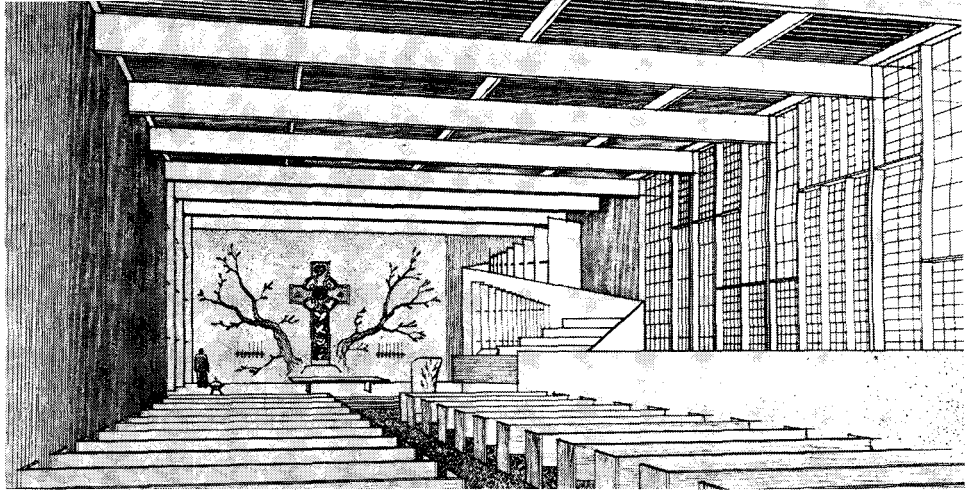
Guam House is a symbol of the new concepts of democratic planning, recognizing the importance of traditions where they have been based on local climatic, social, or emotional needs. The total Guam planning concept is thus rooted—in valid tradition translated in modern terms.

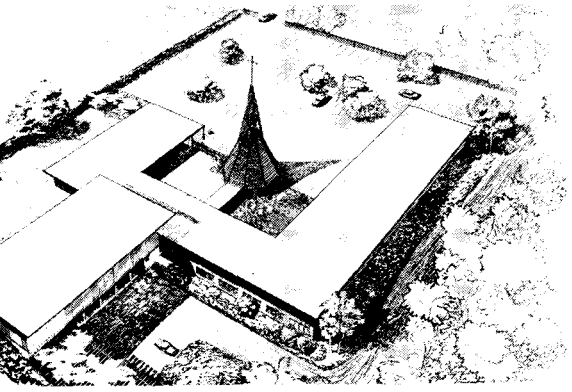


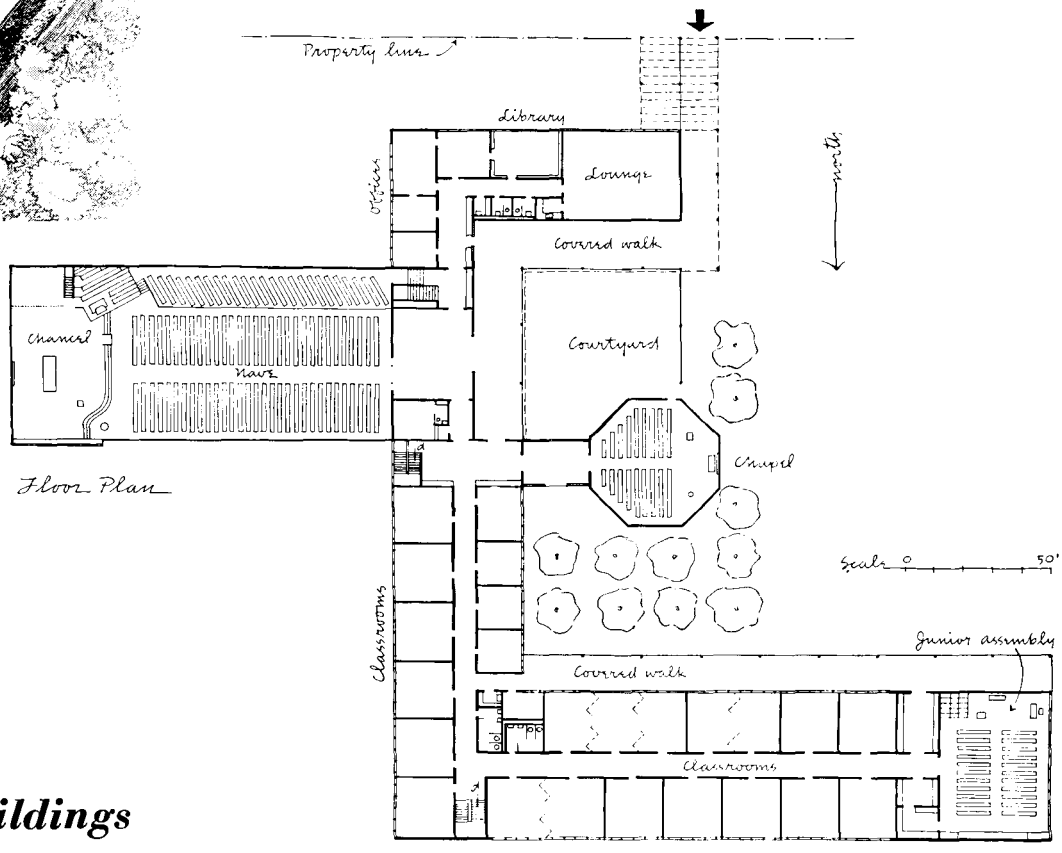

Pool
Guests' Bedrooms
Dressing Rooms
Childrens Bedrooms
Patio
Masters' suite
Sitting
Nursy
Living
Dining
Helps' quarters
Pantry
Kitchen
Laundry
Garage
Scale 0 25'
north



First Presbyterian Church, Vancouver, Washington: Stewart & Richardson, Architects. A lower floor includes (under the main church) a large parish hall, a choir practice room, youth activity room, five additional classrooms, caretaker's room, and boiler room. Estimated cost: $350.000.





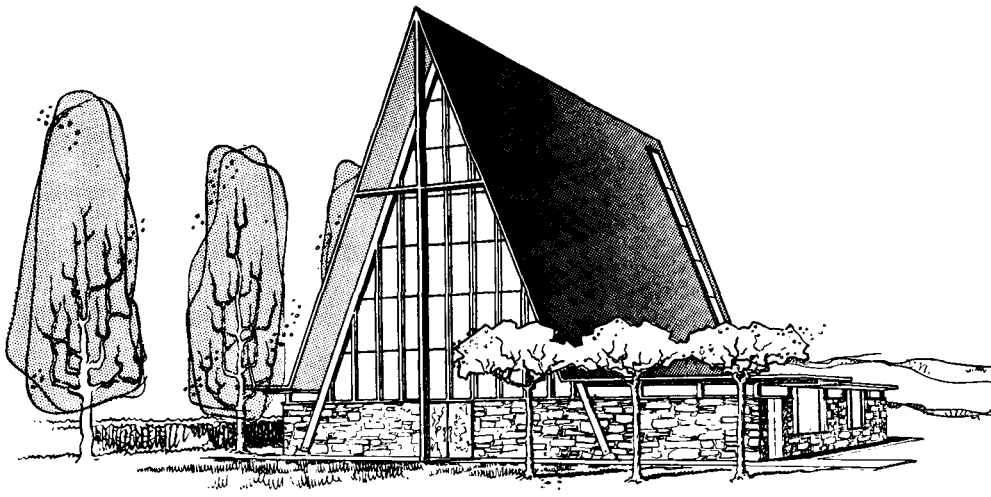


Religious Buildings

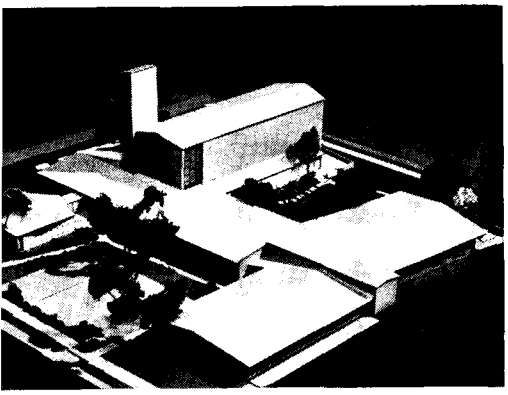
No building type is more surrounded with "given conditions" than the House of Worship. Apart from the strong sentiment that exists among pious conservatives, an invariable design requirement is to house prescribed ritual forms. Anything too extraordinary in plan simply misses the basic problem. This does not mean, however, that churches and temples cannot employ advanced structural methods and new materials—and take advantage of the new esthetic possibilities that these permit—so long as the desired inspiration, dignity (perhaps mysticism) are maintained.

One now finds not only new interpretations of the time-honored church, but also inclusion of many new facilities that echo modern religion's determination to play an ever more important role in community life. Esthetically—as the few examples shown here attest—new forms are being developed that link technical resourcefulness with spiritual need.

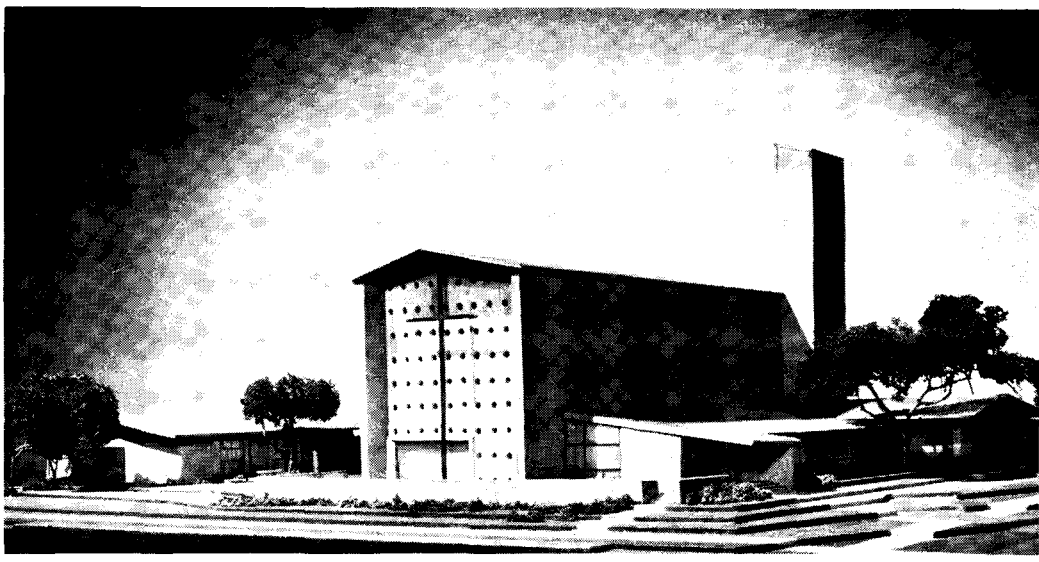
This year, as in 1952, religious structures account for the smallest dollar volume of any building category reported. Yet they represent 5% of the total this year, as compared to 1½% last year. And in the Pacific Northwest states, the category accounts for an impressive 14%.



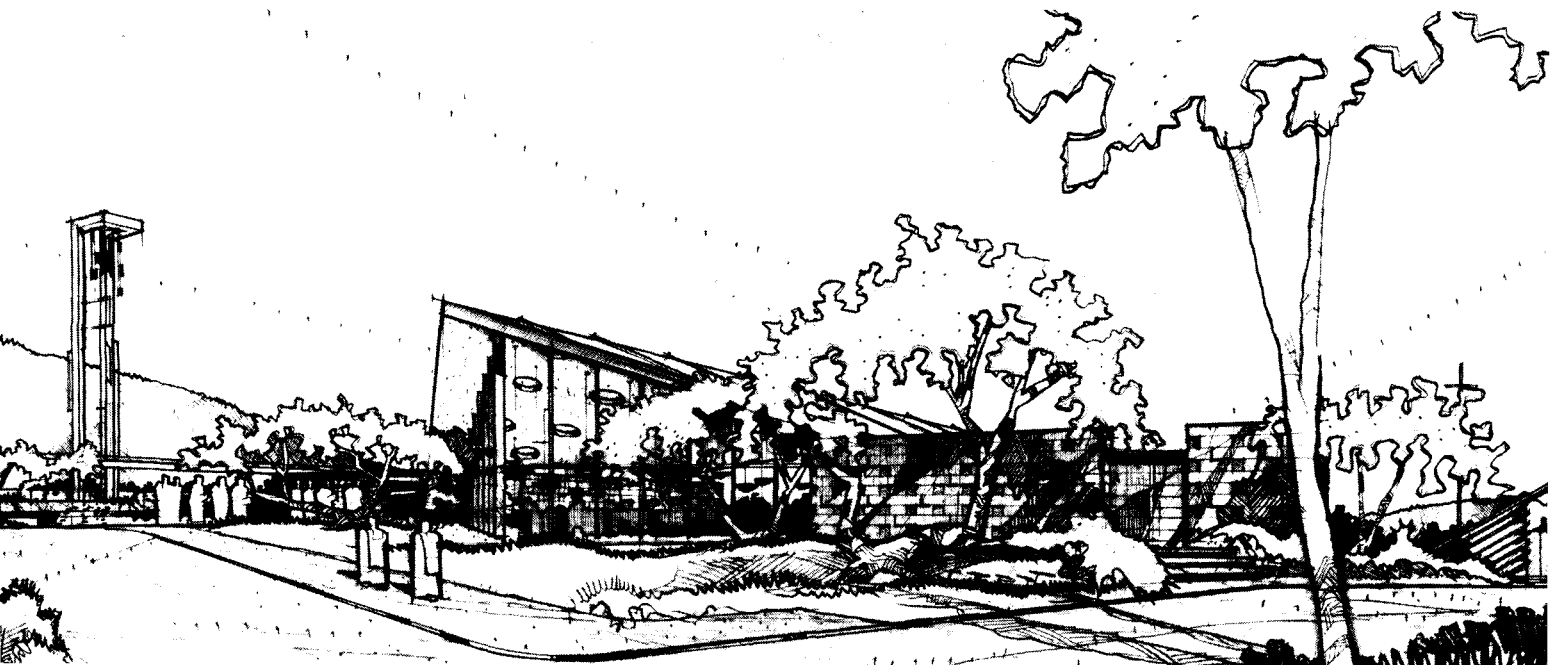
Lutheran Church of the Atonement, Florissant, Missouri: Harris Armstrong, Architect. To be built for a newly formed group, this church was praised by the Jury for its lack of affectation. Movable chairs are to be used instead of pews, and when the room is serving purposes other than worship, draperies will close off the chancel area. Cost estimate: $65,000.

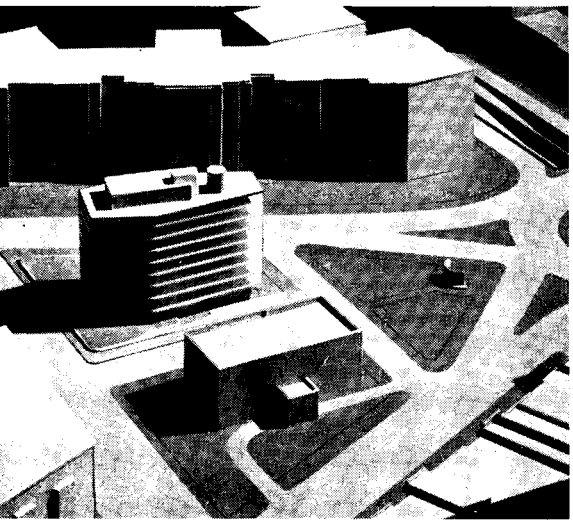


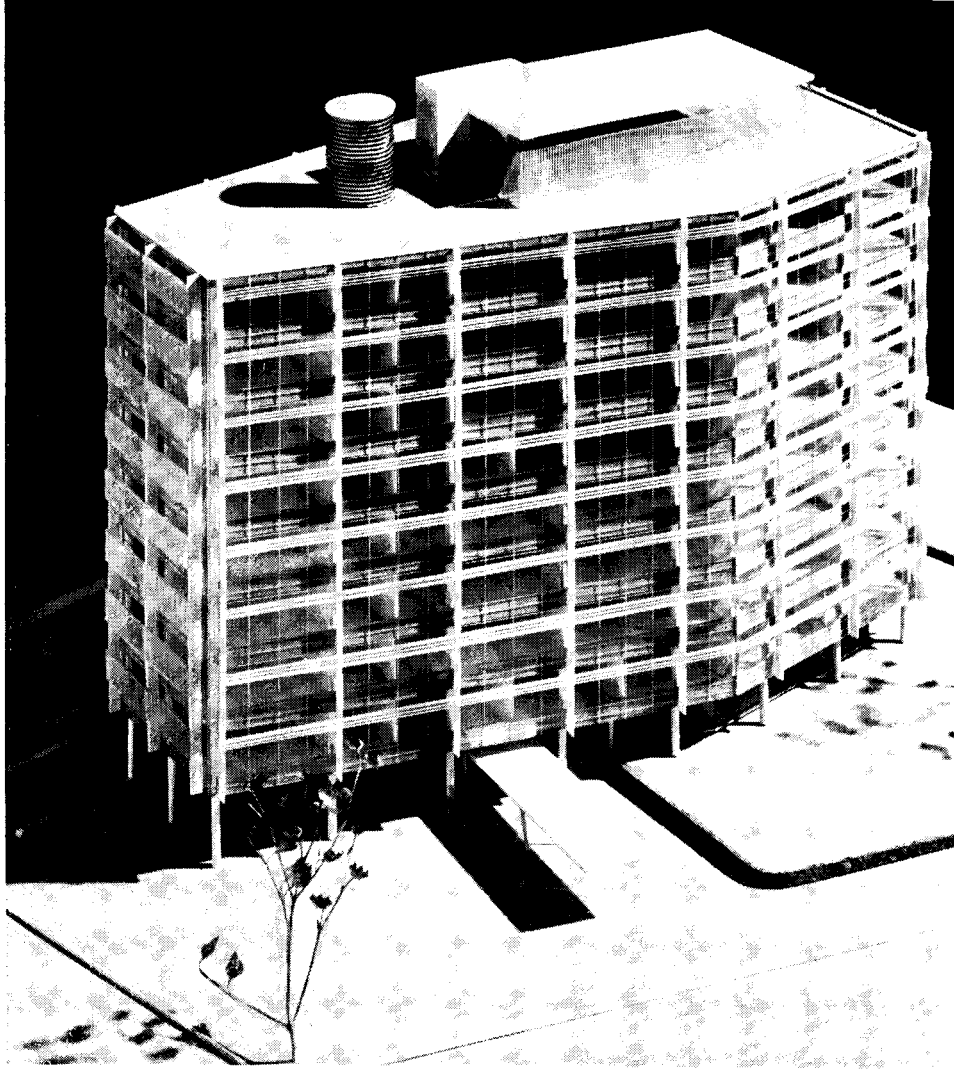
Portland Avenue Christian Church (above and at right), *Minneapolis, Minnesota: Thorshov & Cerny, Inc., Architects; Newton Griffith, in charge. In addition to the main church, there is a chapel, school rooms, and social meeting halls. Front of main church is to be of large panels of cast terrazzo-like material, with colored glass insets in the round apertures.*



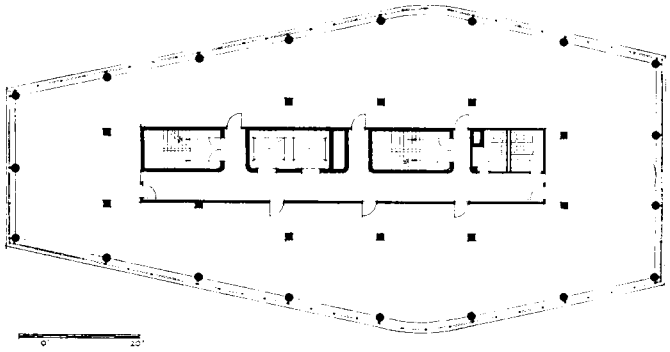
St. Matthew's Episcopal Church, Pacific Palisades, California: A. Quincy Jones, Jr., and Frederick E. Emmons, Architects. The plan of the nave area is a perfect square, with the structure of the pitched roof coming directly down to the ground at two opposite points, where it will be firmly anchored.







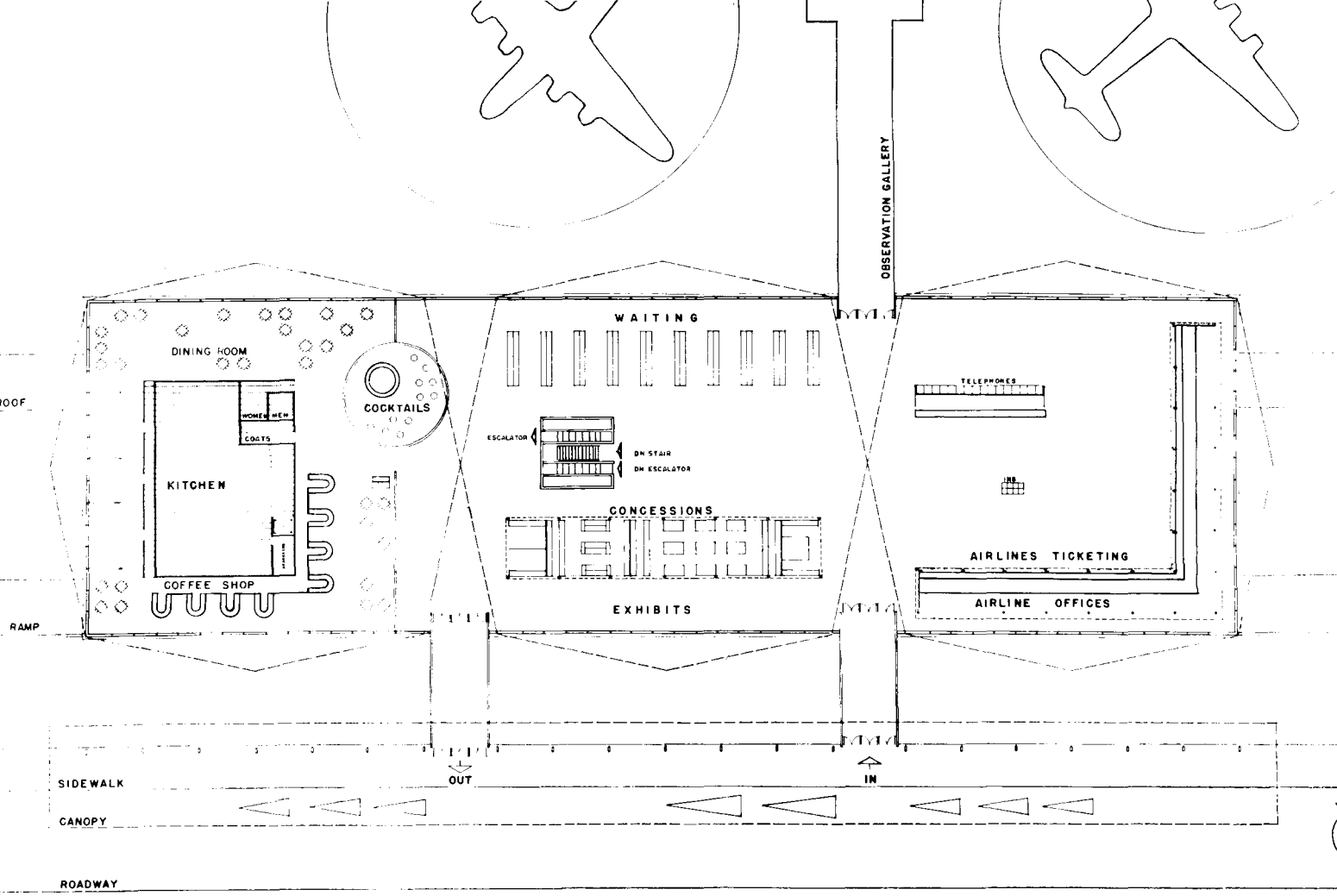
Headquarters Building, American Association for the Advancement of Science. Washington, D. C.: The Architects Collaborative, Architects. The Association plans to have lounge and conference rooms on the ground floor, with offices above; some of the upper-floor space may be leased to similar institutions. The building will have an underground parking garage. The concrete structure employs a modified "slab band" system.

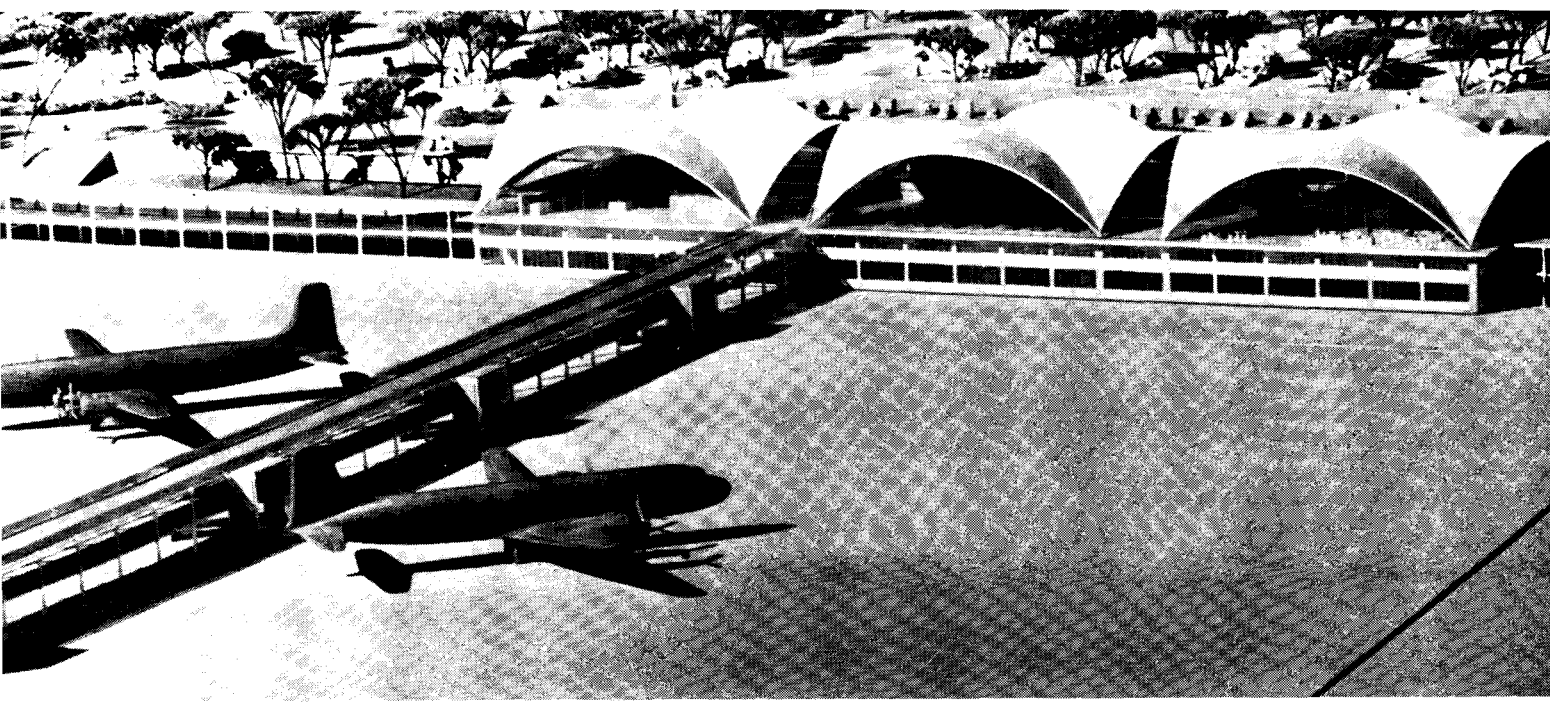


Public-Use Structures

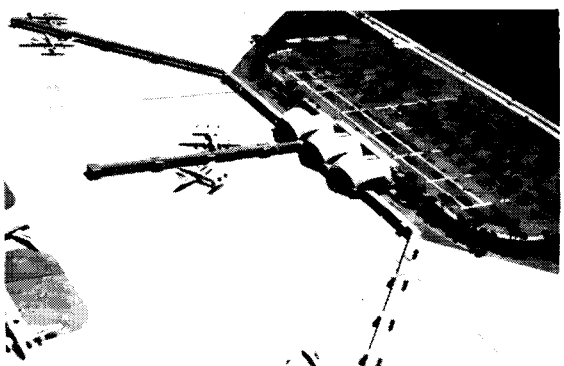
It may be a significant commentary on our times that of the buildings architects reported as likely to go ahead this year, the smallest estimated dollar volumes are for religious structures and buildings for public use. We shall be armed to the teeth (even incomplete figures in the defense category indicate); we shall have many more schools; we shall have considerable housing of various sorts; and our commerce and industry will flourish. We shall not, however, be overly concerned with provisions for our health; our religious building needs will be very meagerly met; and our public services will fare only slightly better. Of the total anticipated construction, excluding TVA's $900 million, only 7% seems destined for public-use structures.

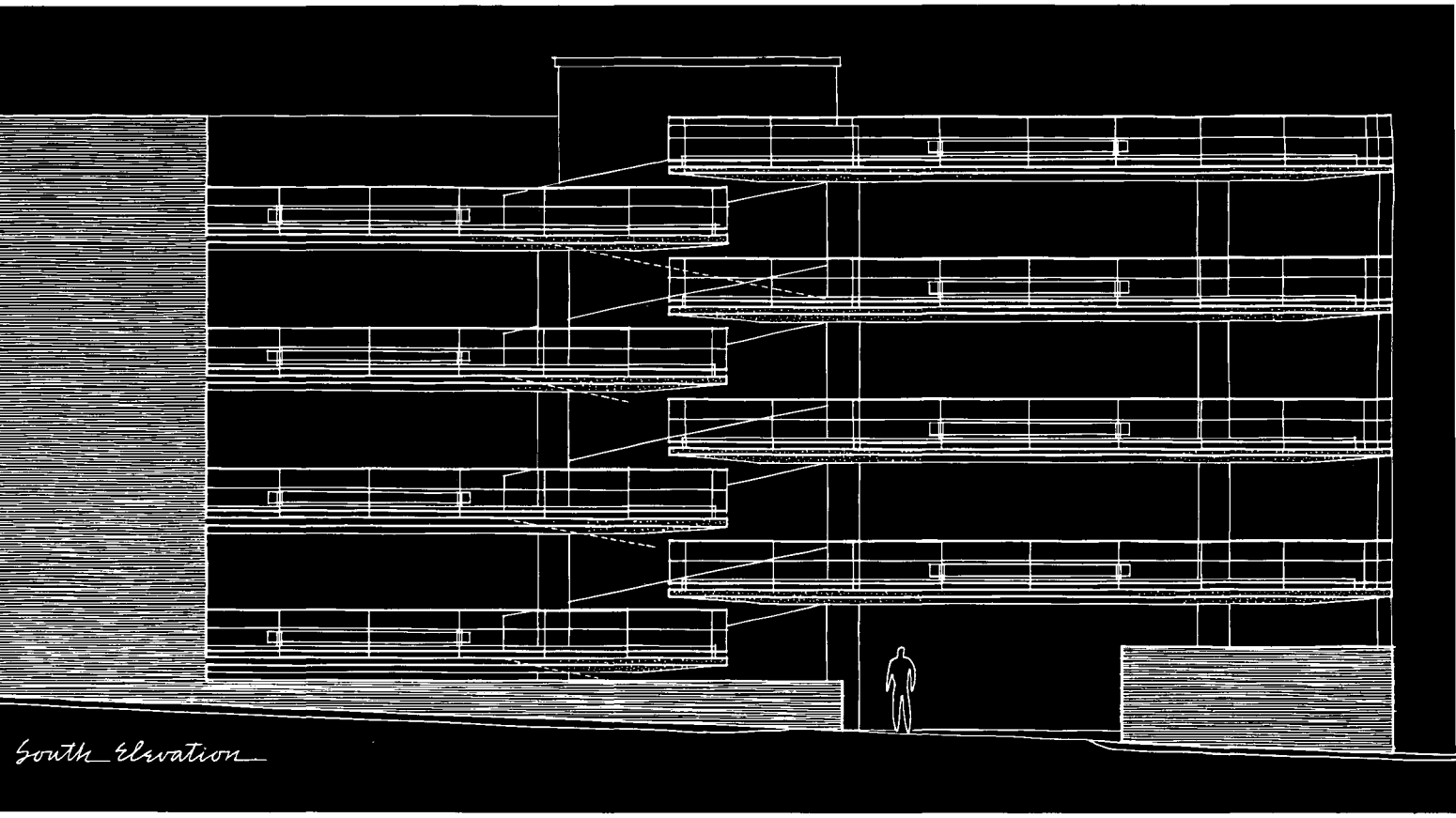
Buildings for public or quasi-public use demand design qualities that differentiate them from all other building types. For, in addition to functioning properly, they must stand as symbols of official or community importance. In former times, this aspect was contrived with mere impressiveness; a public structure was frequently—and approvingly—referred to as "imposing." As, indeed, it was, and often pompous. Today, the best of them—as witness the two projects illustrated here—possess, rather, the qualities of efficiency, cleanliness, and confidence.





Terminal Building, Lambert-St. Louis Municipal Airport, St. Louis, Missouri: Hellmuth, Yamasaki & Leinweber, Architects. Estimated cost: $4,000,000. Passengers will arrive at the top level (plan, above) *and come down by moving stairways to the finger level and thus proceed under cover almost to the door of the plane. At the apron level are trucking and service facilities and space for handling air mail and express.*





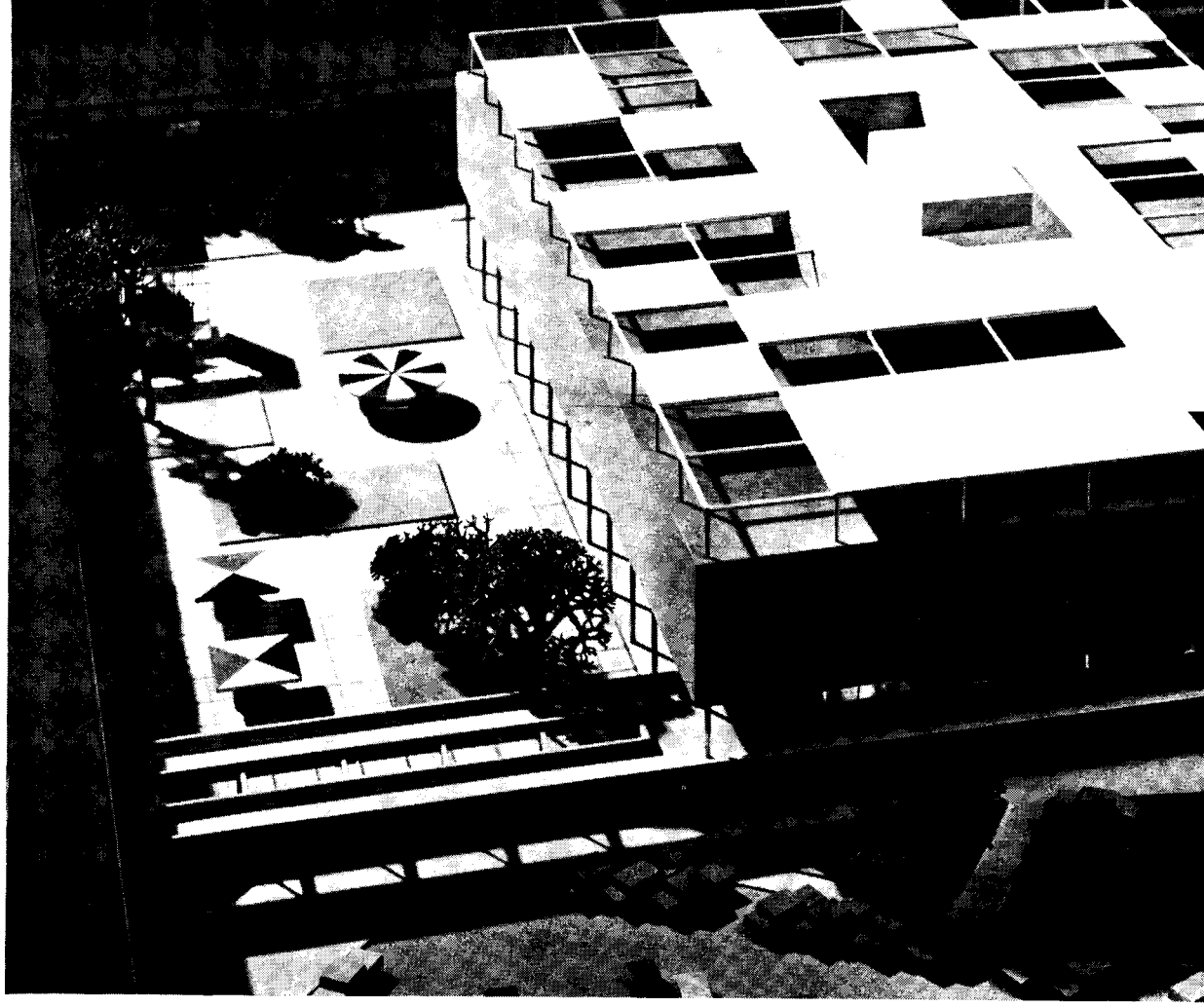
Williams Parking Deck. Atlanta, Georgia: Aeck Associates, Architects. To make efficient use of a 90′ x 99′ lot, a one-way ramp system is employed, with split levels, overlapping each other 4′-1½″. Capacity: 192 cars. Structure is a beamless reinforced concrete flat plate, with each level cantilevered on all four sides.

Commercial Buildings

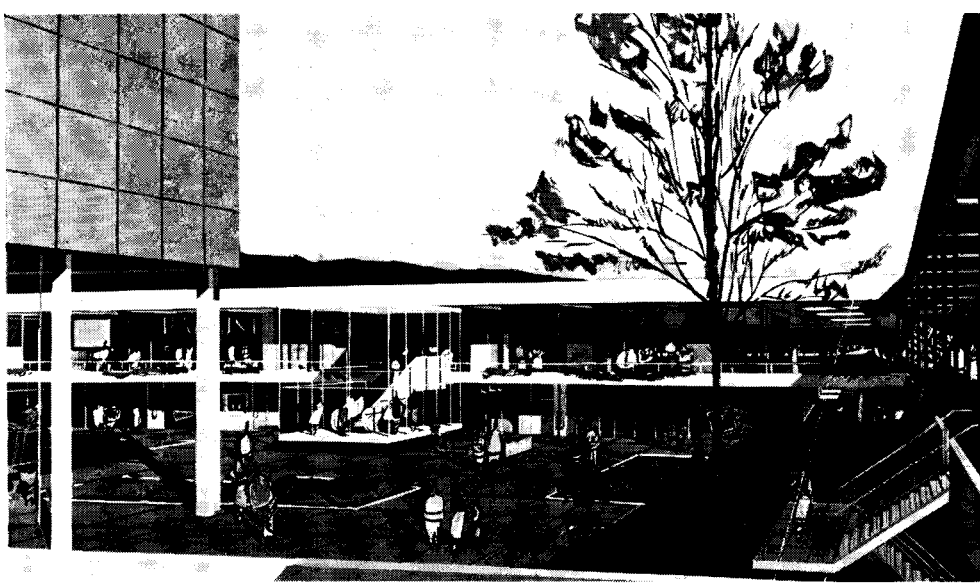
Commercial buildings represented the fourth largest category reported—18% of the total of anticipated architectural work *for 1953*. The Jury did a good deal of speculating about appropriate expression in buildings for commercial use. Primarily, a job designed for dollar return must function acceptably, be resourceful in use of space, and economical in maintenance. But the questions for which there were no final answers were the extent to which the billboard or "come on" aspect was essential, and whether or not this could be assayed from an architectural standpoint.

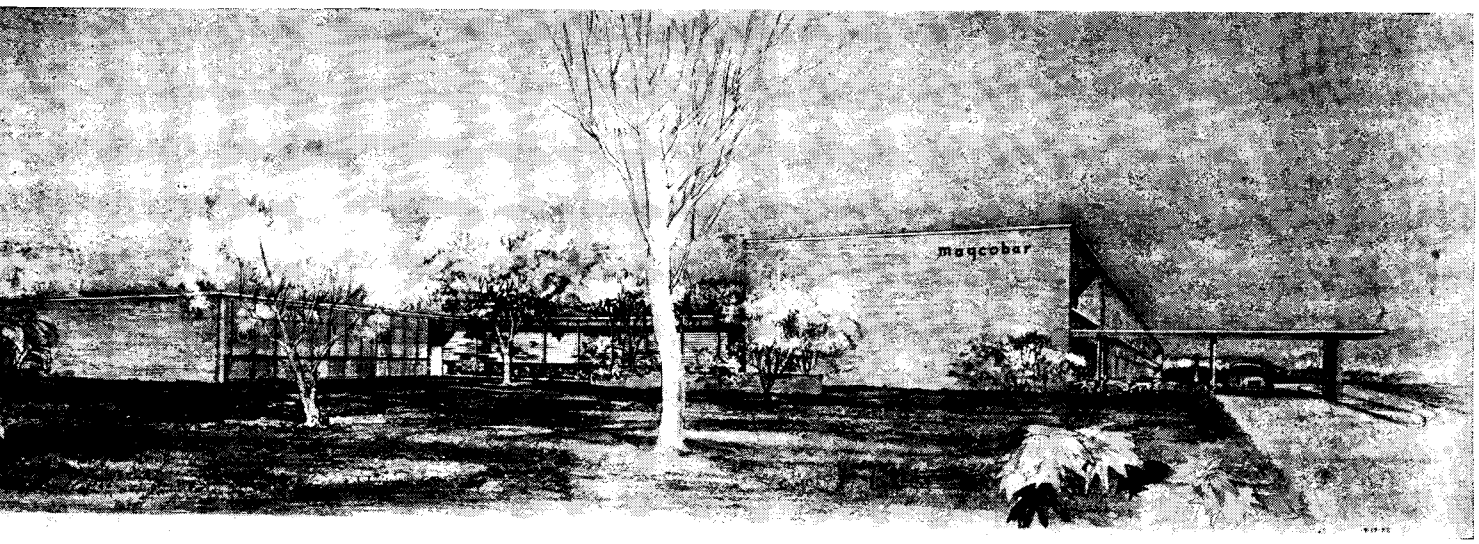
Clearly, a basic function of the commercial building *is* to lure customers; and clearly, this end result could be achieved by the most blatant forms of shouting in bright lights and other eye-catchers. Yet the buildings shown in this section all possess a definite public-relations quality, and in each instance this has been achieved by architectural means. For example, the Petroleum Association Building for Tulsa (page 70) is sure to command attention by the mere fact that it is a round structure. The shopping center for Oakland, California (page 69) lures the eye—and the customer—through a variety of means: size; color; bold, geometric pattern, etc.

A tentative conclusion would indicate that architecture alone can be enough to satisfy this requirement; that if extraneous means have to be employed to do the job, the original design was something less than wholly successful.

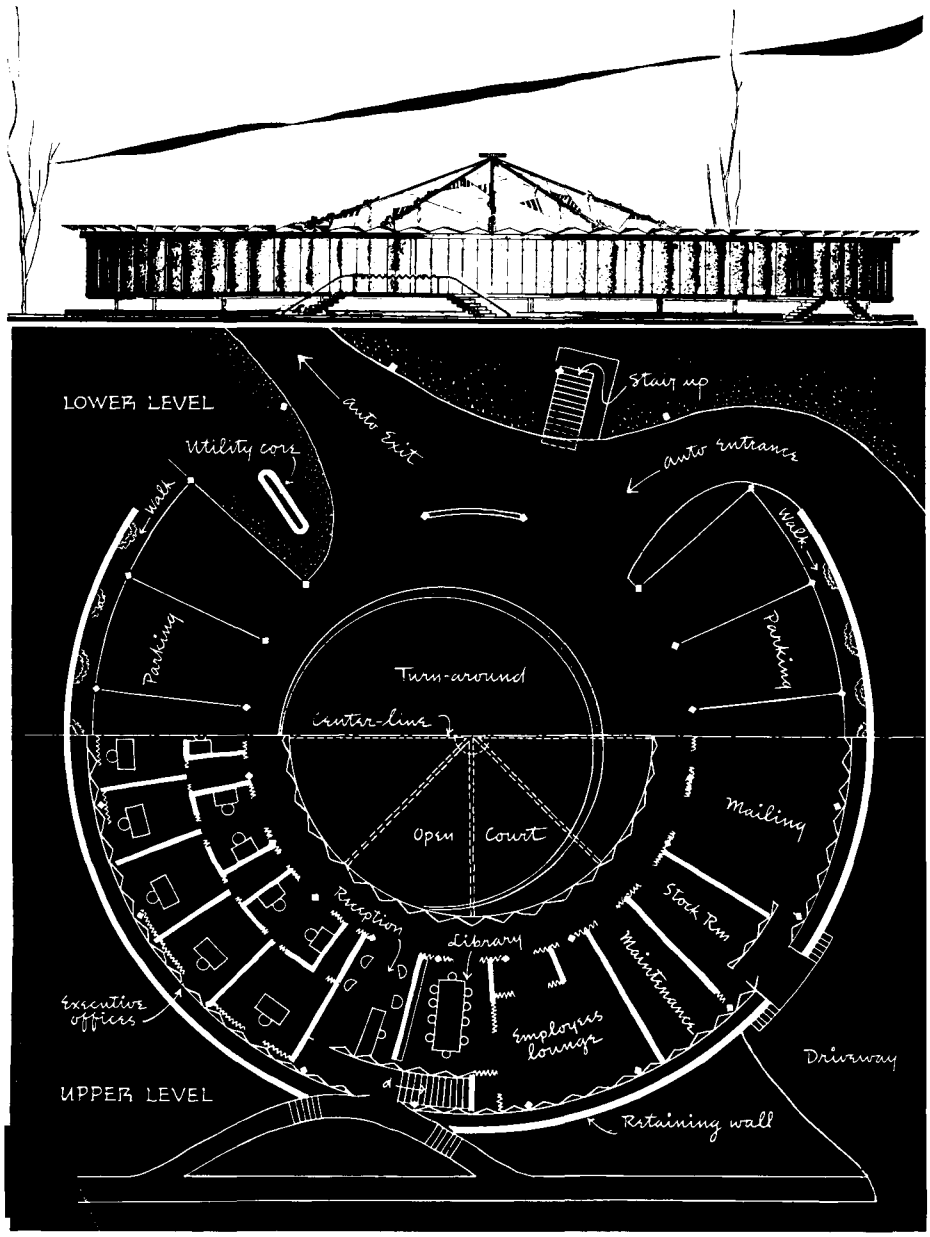


Bay-Fair Regional Shopping Center, Oakland, California: Victor Gruen, Architect; Larry Smith & Company, Economic Consultants. "'Way above all the other shopping centers submitted," commented the Jury. Estimated cost: $10,000,000. Located in the center of parking areas on the 45-acre site, the L-shaped building layout, with large department store forming a pedestrian shopping court in the angle, is organized on two selling levels. A subterranean truck tunnel serves all rental spaces.





Laboratory and Office Building for the Magnet Cove Barium Company (above): *Houston, Texas. George Pierce & Abel B. Pierce, Architects; Richard S. Colley and Ford & Rogers, Consulting Architects. The west-facing building has most principal offices and labs in two, parallel, east-west wings, both planned for future expansion. Structure uses lift-slab technique, with cantilevers forming automatic, economical sun control.*

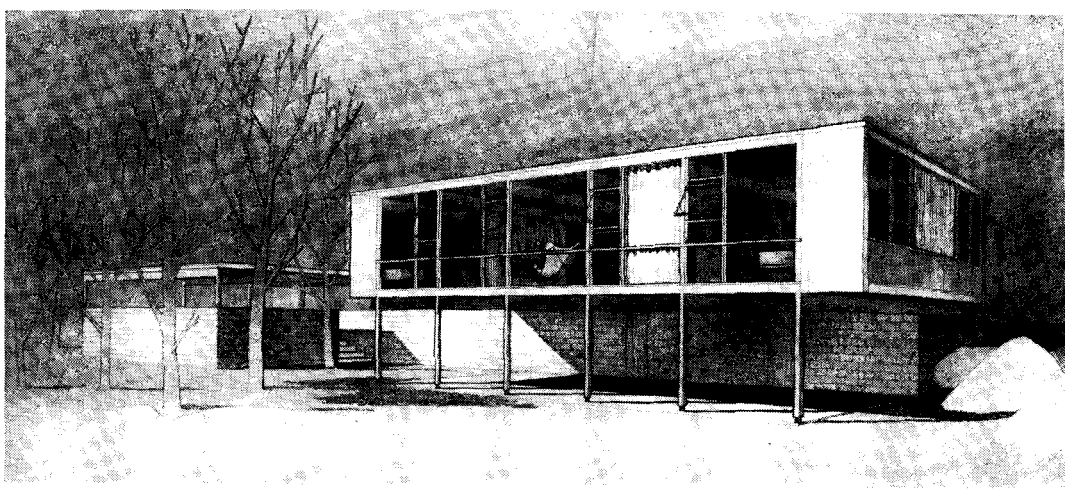


National Headquarters Building, Independent Petroleum Association of America: Tulsa, Oklahoma. Robert E. Buchner, Architect; A. Blaine Imel, Associate. A building to house executive and business offices, magazine editorial offices, employes' rooms, conference room, and library, this remarkable circular structure is raised half a floor above the ground, with car parking provided underneath. Concrete construction is based on simple post-and-lintel principles; partitions are either painted concrete block or folding partitioning. Year-round air conditioning.

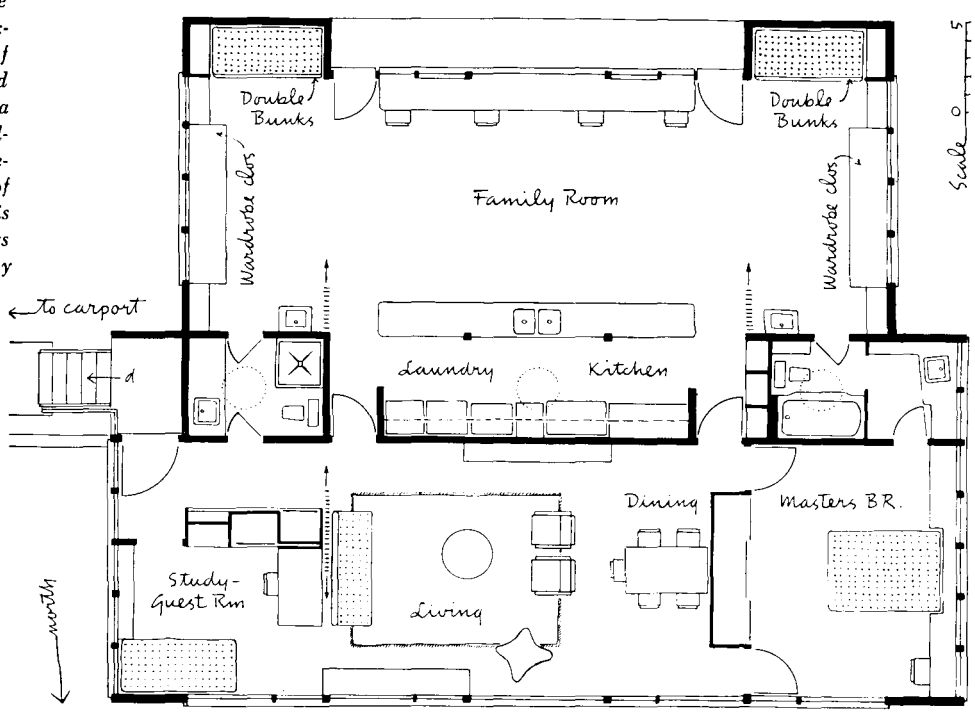
For several years, the dollar volume of housing construction has been close to one quarter of the total reported. Though the anticipated volume fell off in this year's forecast, it still accounts for 20%. Regionally, there is considerable variation—from a high of 29% on the North Atlantic Seaboard to a low of 3% in the States immediately south of the Great Lakes. It is only fair to temper this latter figure, however, for it is from this area that a disproportionate outlay was reported for scheduled defense work.

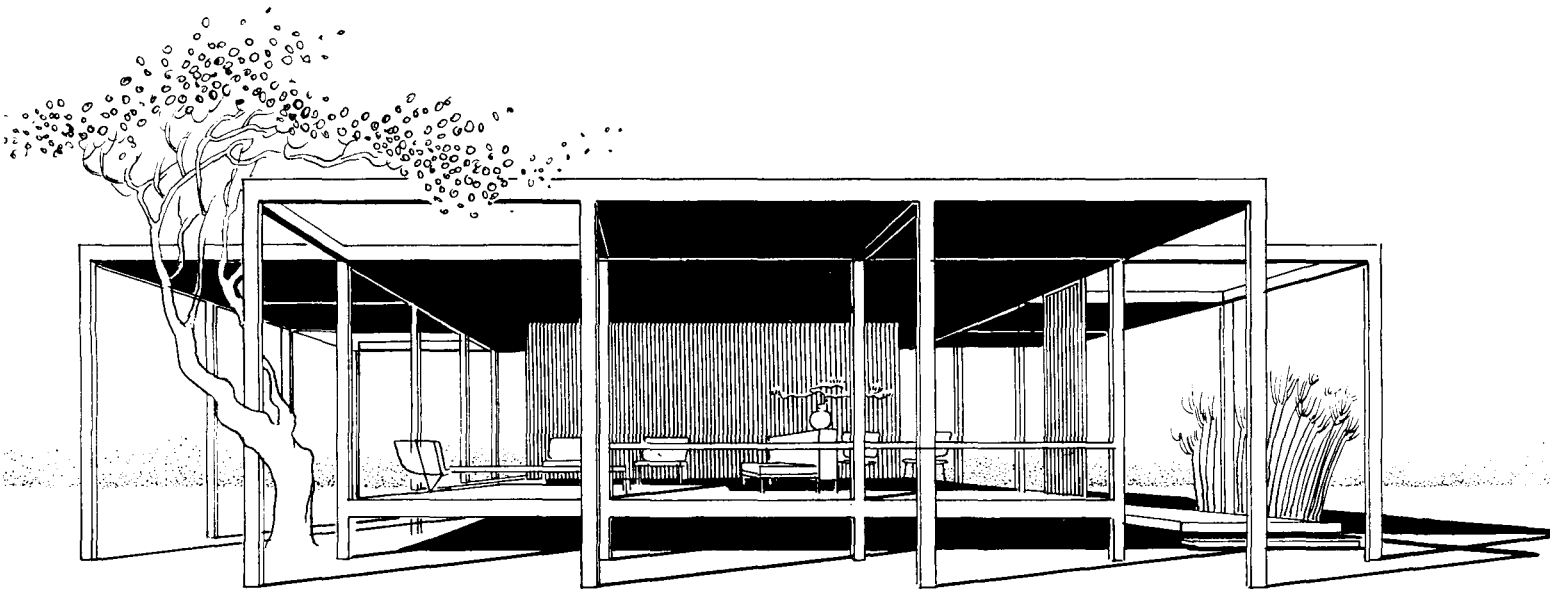
The private house is a curious sport in the architectural field. Some basic criteria exist, but in the main, a house for a single family is a highly individual affair, and exact general standards are almost meaningless. The happiest way we have found to view the private house from the architectural standpoint is as a fortuitous laboratory for design experimentation. The individuality (in some instances, pure "orneriness") of the one-man client makes it possible to try things in this field that would not readily be countenanced in a school, or hospital, or church. Observation will prove, however, that many an idea that was first tried in the home of some open-minded client, later has found its way into buildings with a broader financial and communal base.

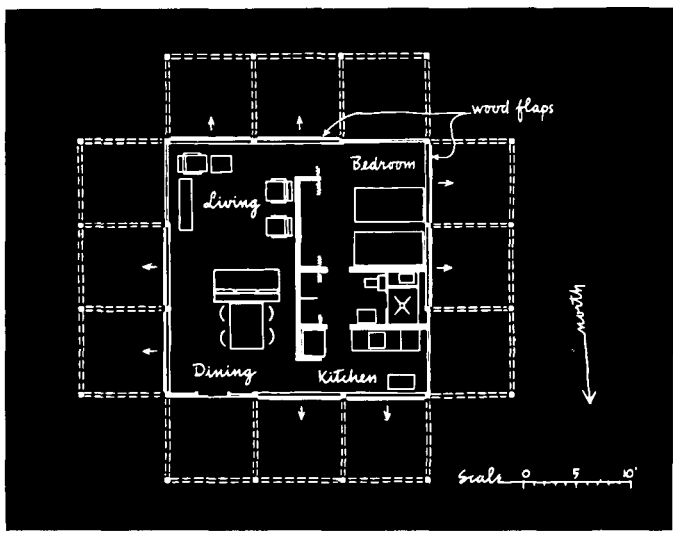
The houses illustrated on these pages are a good demonstration of the diversity, experimental quality—even pure whimsicality—that one encounters in the custom-designed house. There is no point in attempting to compare, for example, the guest house in Florida (page 72) with the development houses destined for Paradise, California (pages 74 and 75). Yet there is no question that each of these—as well as the other houses shown—offers fresh potentials to stir the imagination. Viewed as products of the design-research laboratory, as well as appropriate solutions to highly individual living problems, one can welcome the broad palette that is offered. And be pleased that housing still claims approximately one fourth of the architect-designed building-dollar volume.



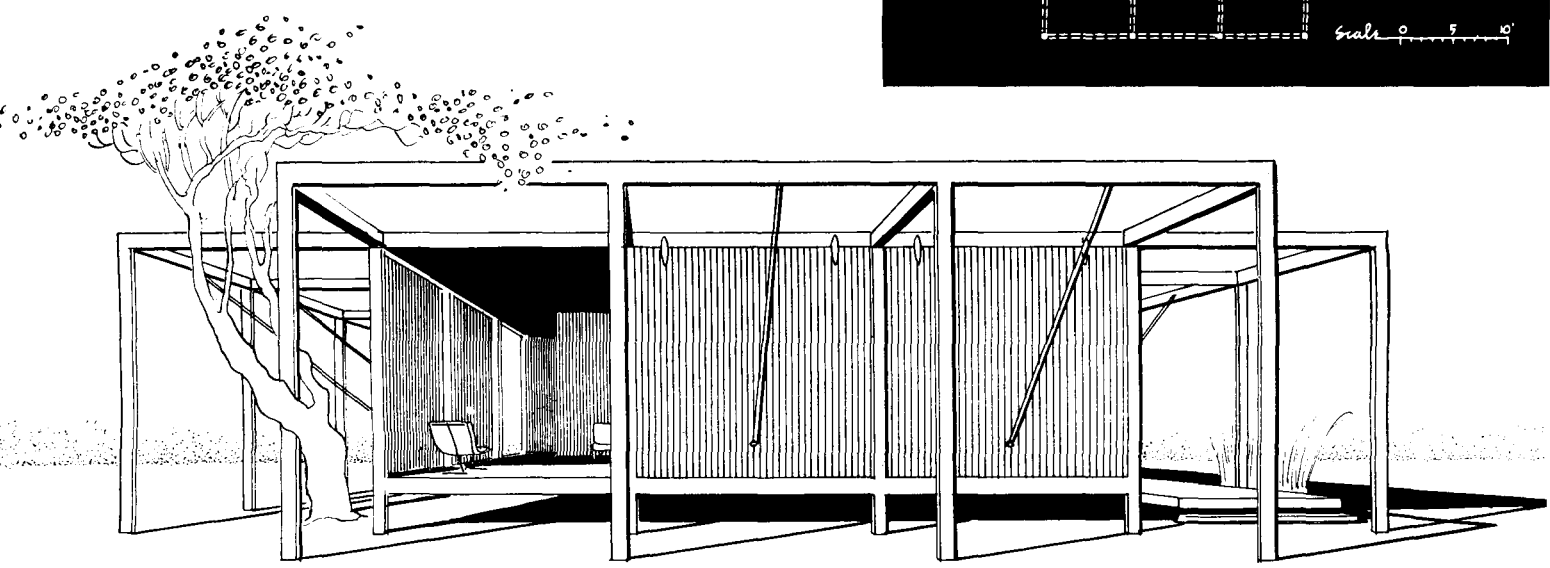
House, Chapel Hill, North Carolina: George Matsumoto, Associate Professor of Architecture, North Carolina State College School of Design, Architect. A home for parents and four young sons, this house is perched on a 12 to 15% slope. At the lower level is a sheltered outdoor sitting area and a partial basement (storage and heater rooms) in back of a one-block retaining wall. The main floor is divided between adult and children's quarters by a continuous-strip utility core, lighted by plastic bubble skylights.

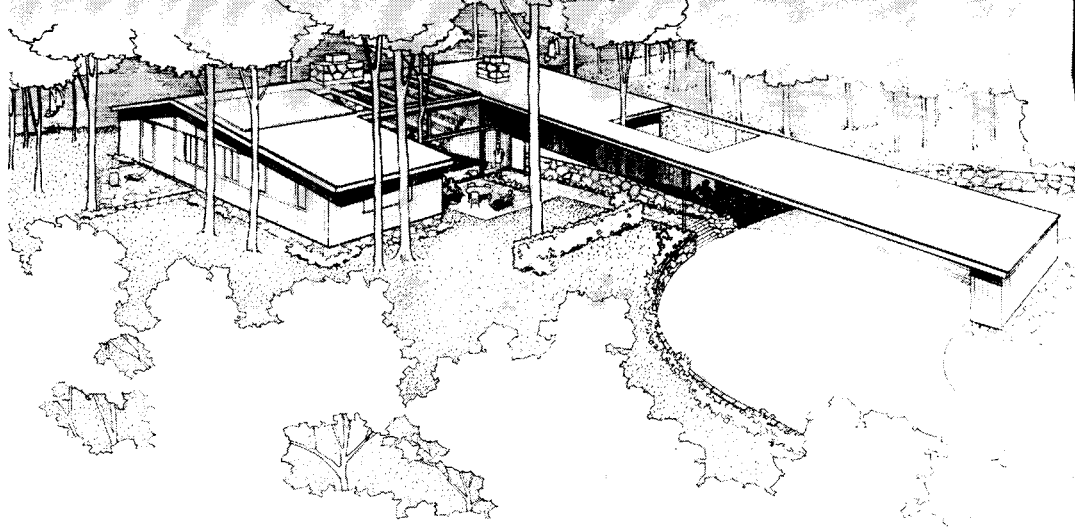


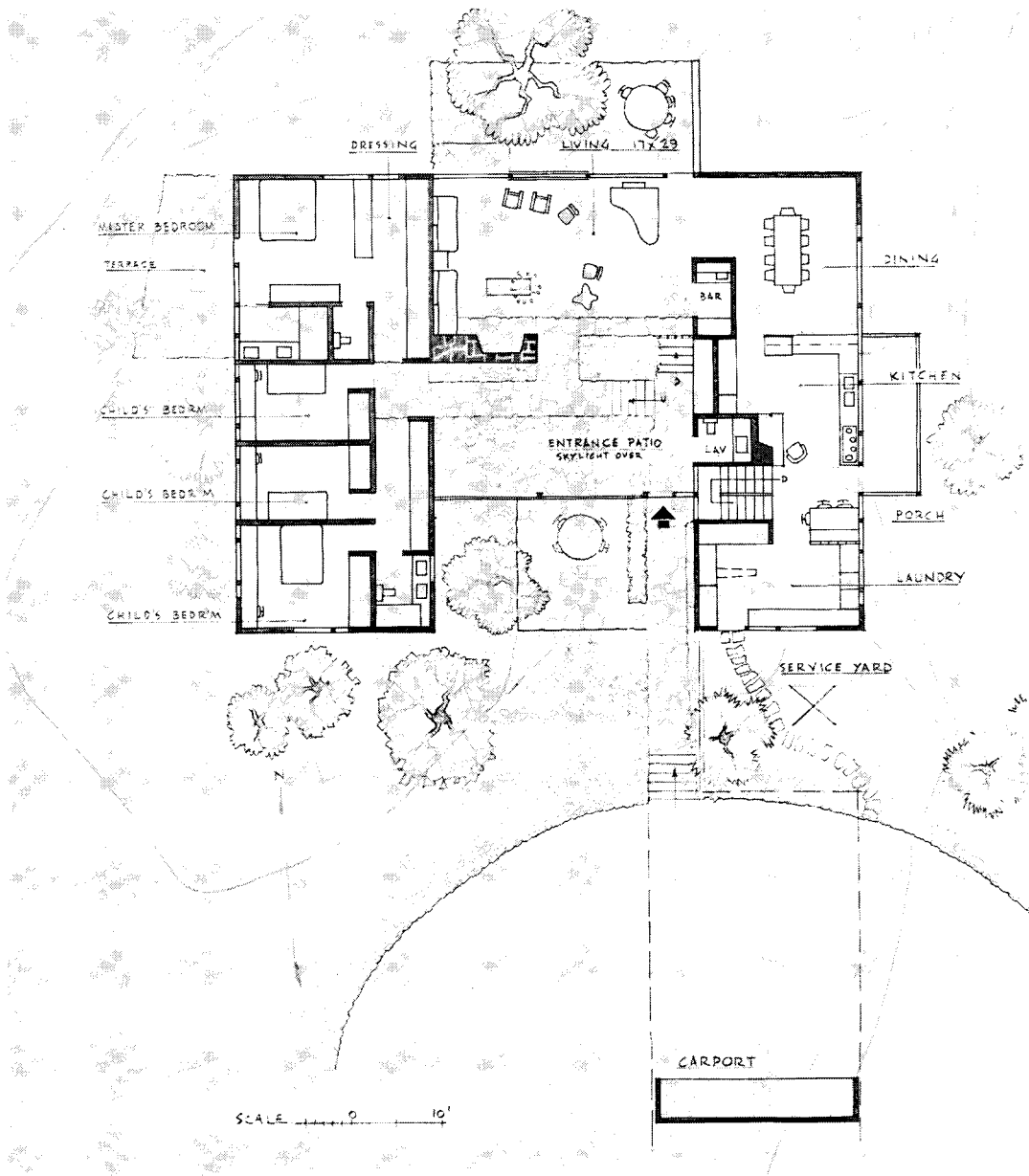




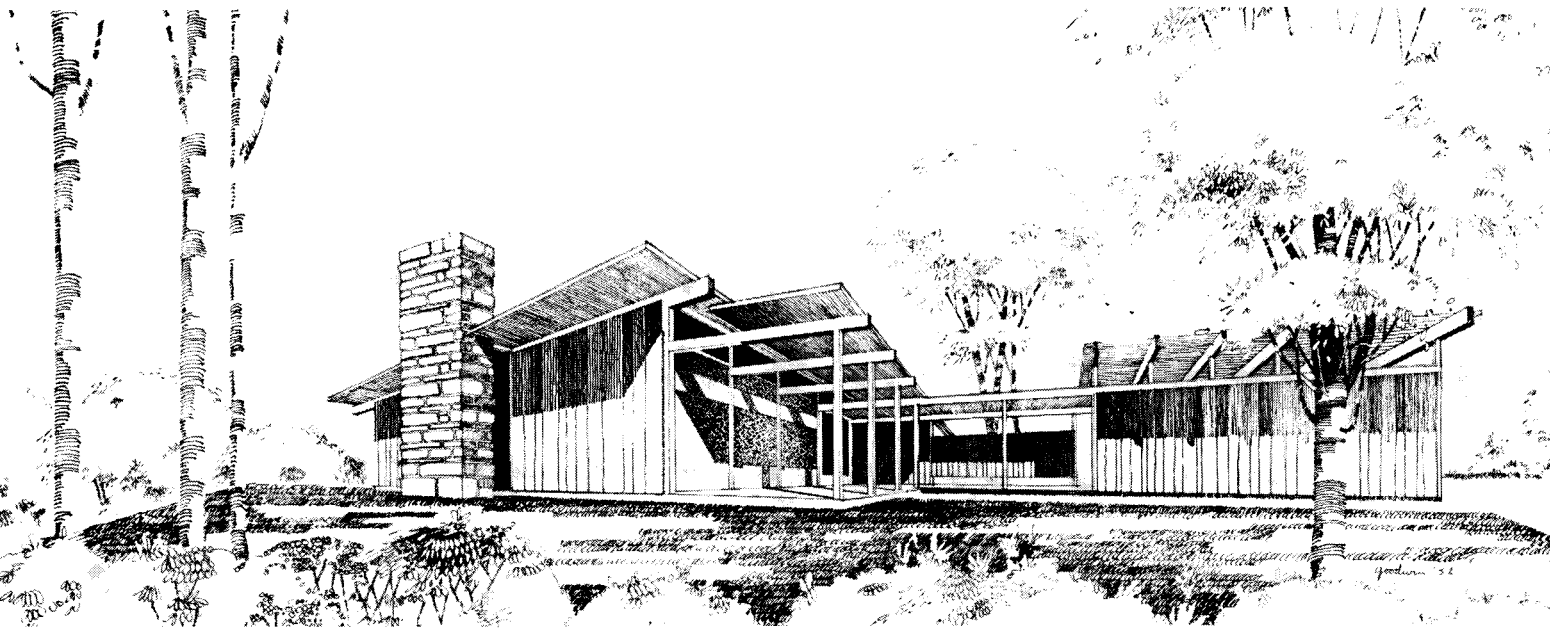
Guest House, Sanibel Island, Florida: Paul Rudolph, Architect. Each side wall of this square house is made up of three equal panels —one of fixed glass (or including a door); the other two, of upswinging, counterbalanced wood "flaps," outside fixed screening. Thus, with all panels lowered, the house may be quite enclosed; when the flaps are raised, it becomes a large, screened living pavilion, with the lifted panels forming effective sunshades.

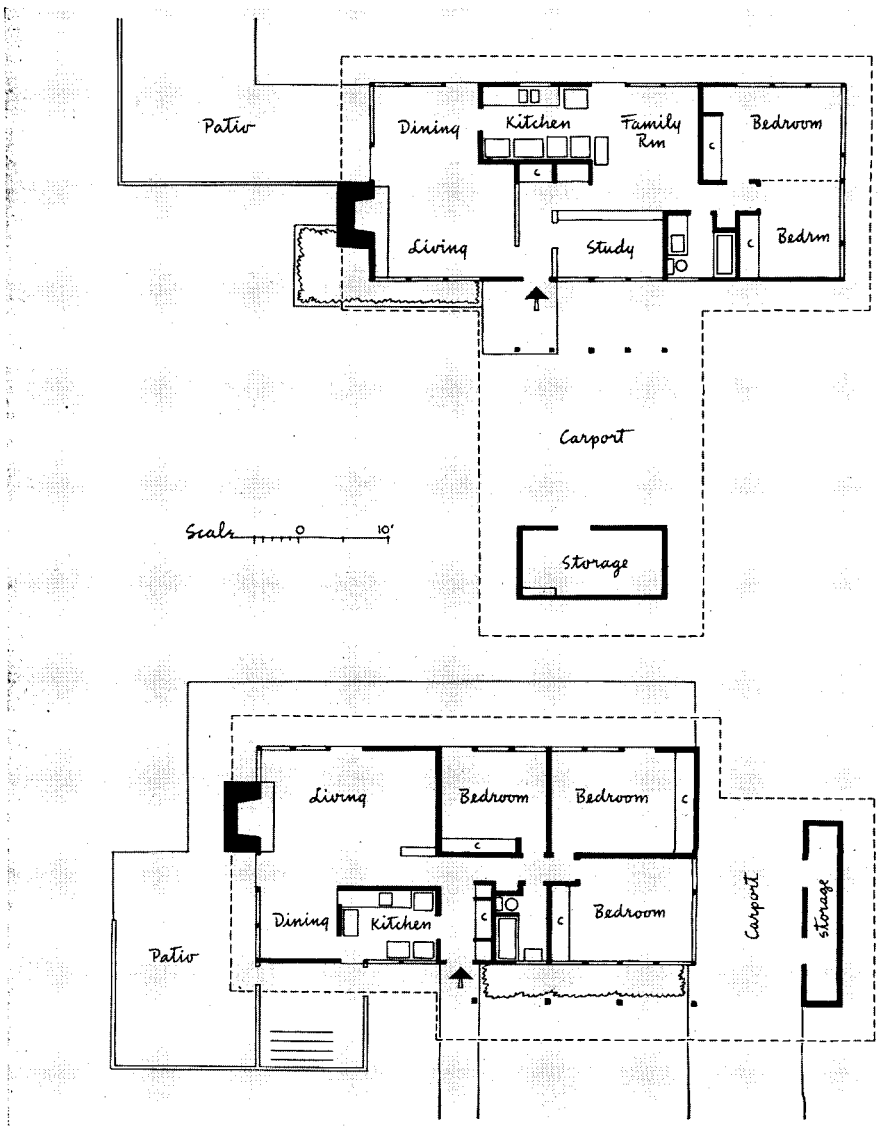




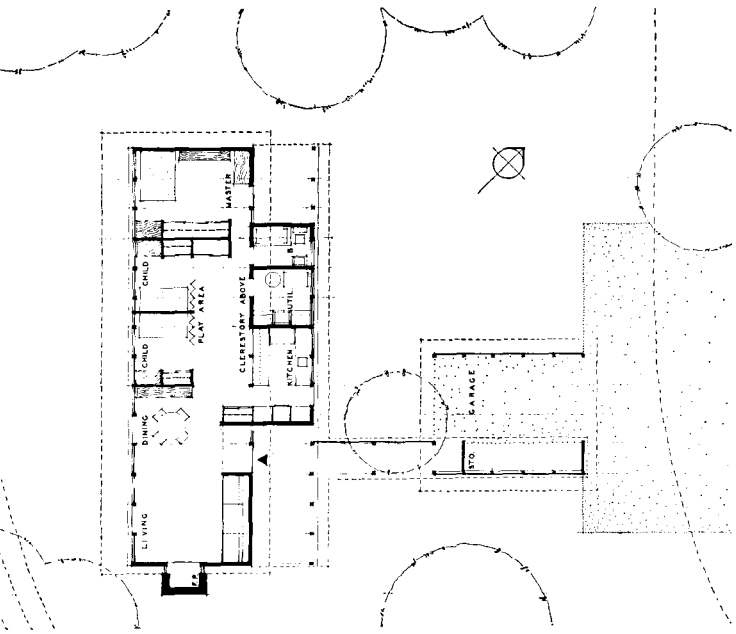


House, Cooper's Bluff, New York: Carl Koch & Associates (Frederic L. Day, Jr., Leon Lipshutz, Margaret M. Ross), Architects. Designed for a spectacular site with views of the Long Island Sound to north and west, this house is organized on several levels. From the glazed entrance patio, a half-flight leads up to the living level; bedrooms are on the west wall; a lower floor occurs under the east wing.

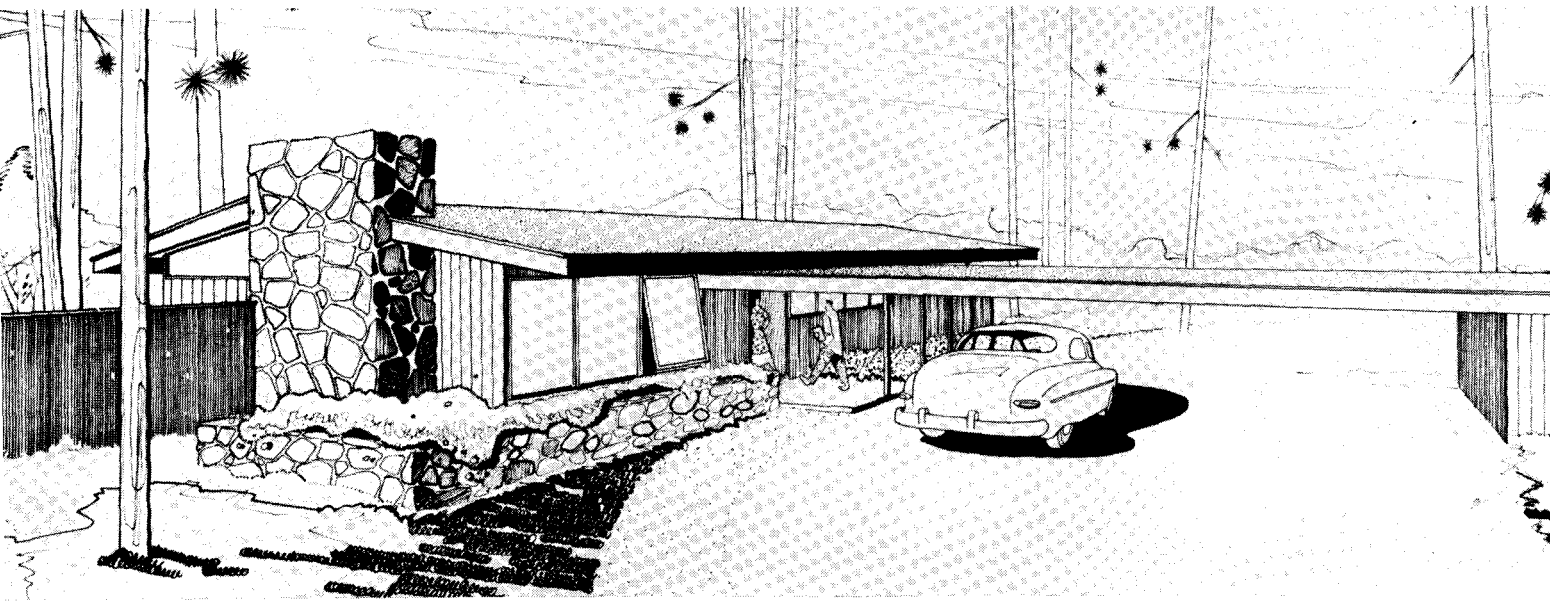


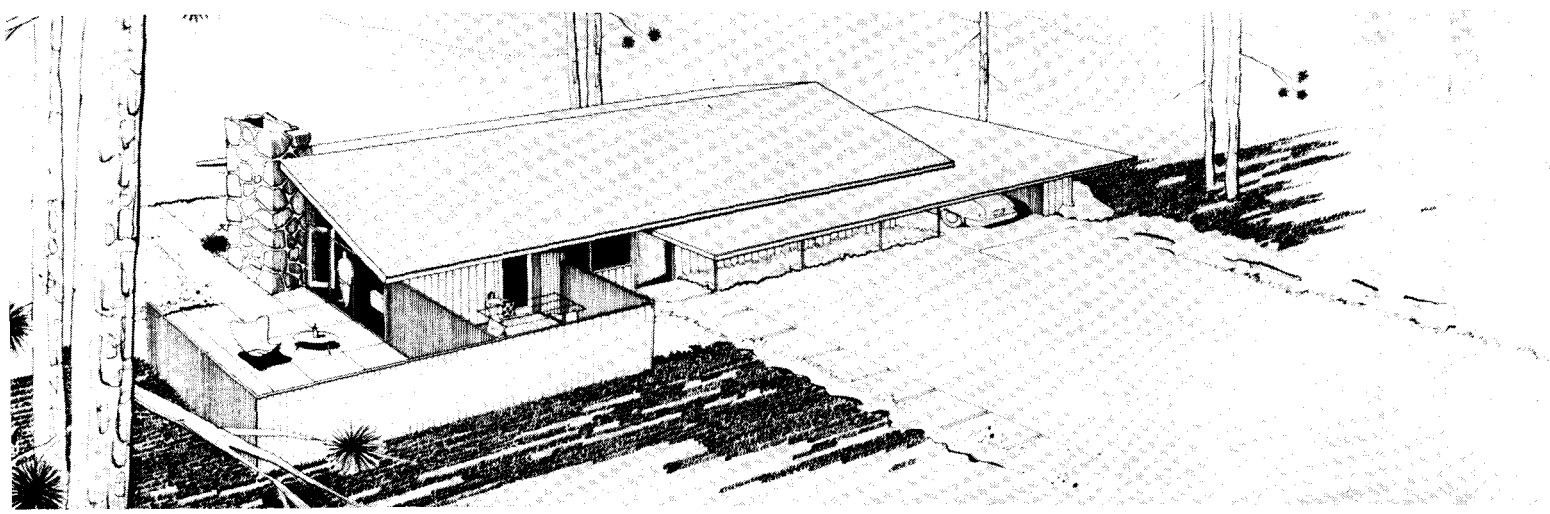


Development. The two floor plans (right) *and renderings* (acrosspage) *show two of the basic house types for a 44-home development known as the McGregor Plot, Paradise, California: Roger Lee, Architect. Roy Holt, the owner-builder, wanted a subdivision of houses (perhaps six types and their reverses) for informal and outdoor living on quarter-acre plots. Sales price, including lot, to be around $16,000.*

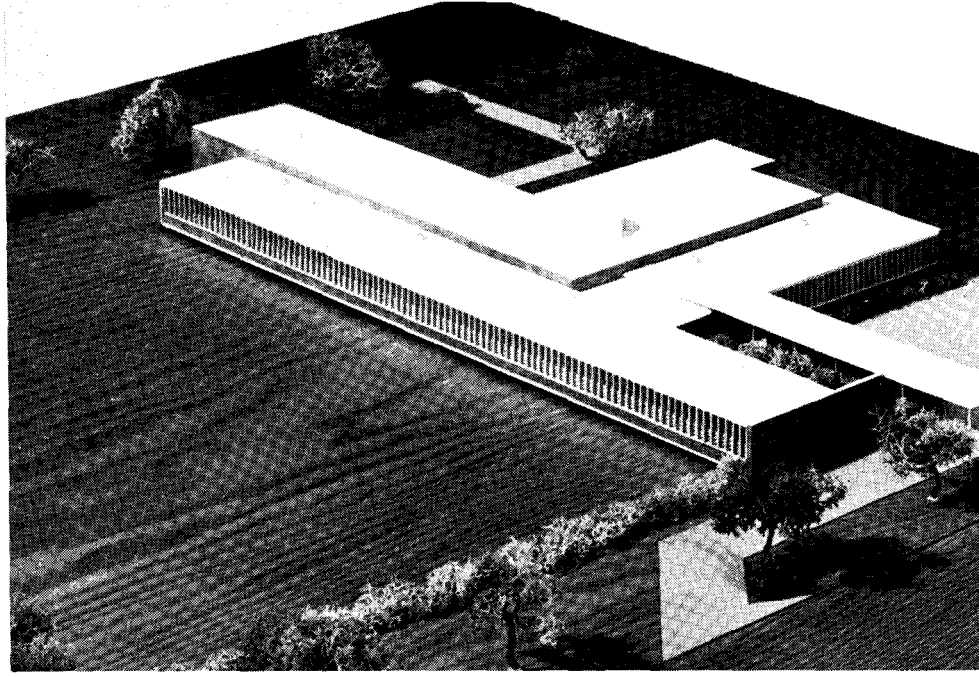


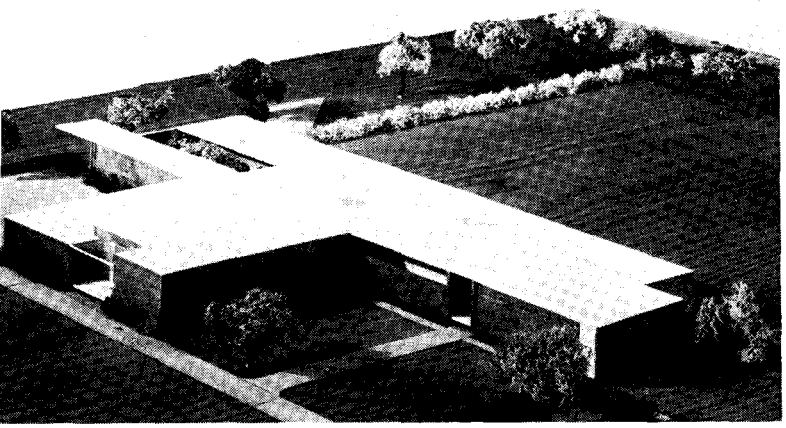
House, East Liverpool, Ohio (plan, left) (rendering, acrosspage): *Porter & Kelly, Architects. A home for a family consisting of parents and a young daughter and son. The house employs an exposed post-and-beam system, with fir plank walls, inside and out; the roof is of cement-bonded wood fiber, giving finished acoustical ceiling, insulation, and one ply of roofing in the single material. Warm-air perimeter heating in concrete floor slab. The bedroom corridor doubles as play space.*





design/techniques 1953:





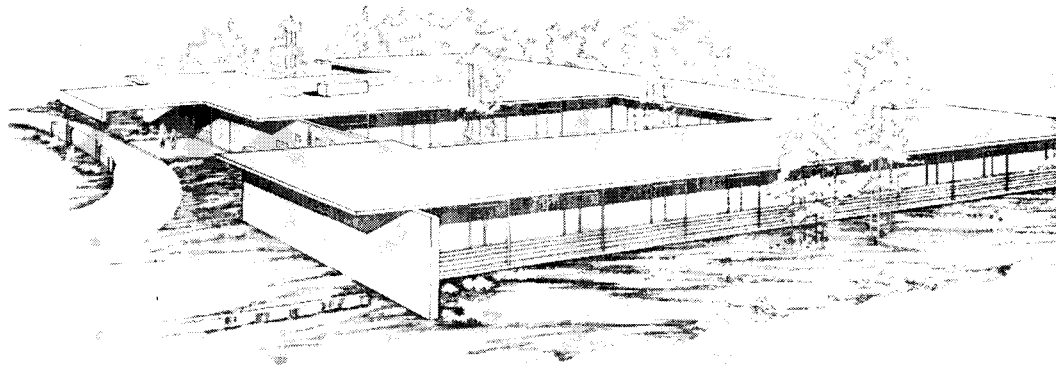
St. James Parish Hospital, Lutcher, Louisiana: Curtis & Davis, Architects. A 25-bed general hospital, with the main entrance to the east; operating rooms, ancillary services, outpatient department, etc., in a north wing (left); *and patients' rooms in a south-facing pavilion* (above) *bordered by adjustable, vertical aluminum louvers. A second 25-bed pavilion may be added later, some distance south of the initial one and joined to it by a central corridor. Estimated cost, including all equipment: $305,000.*

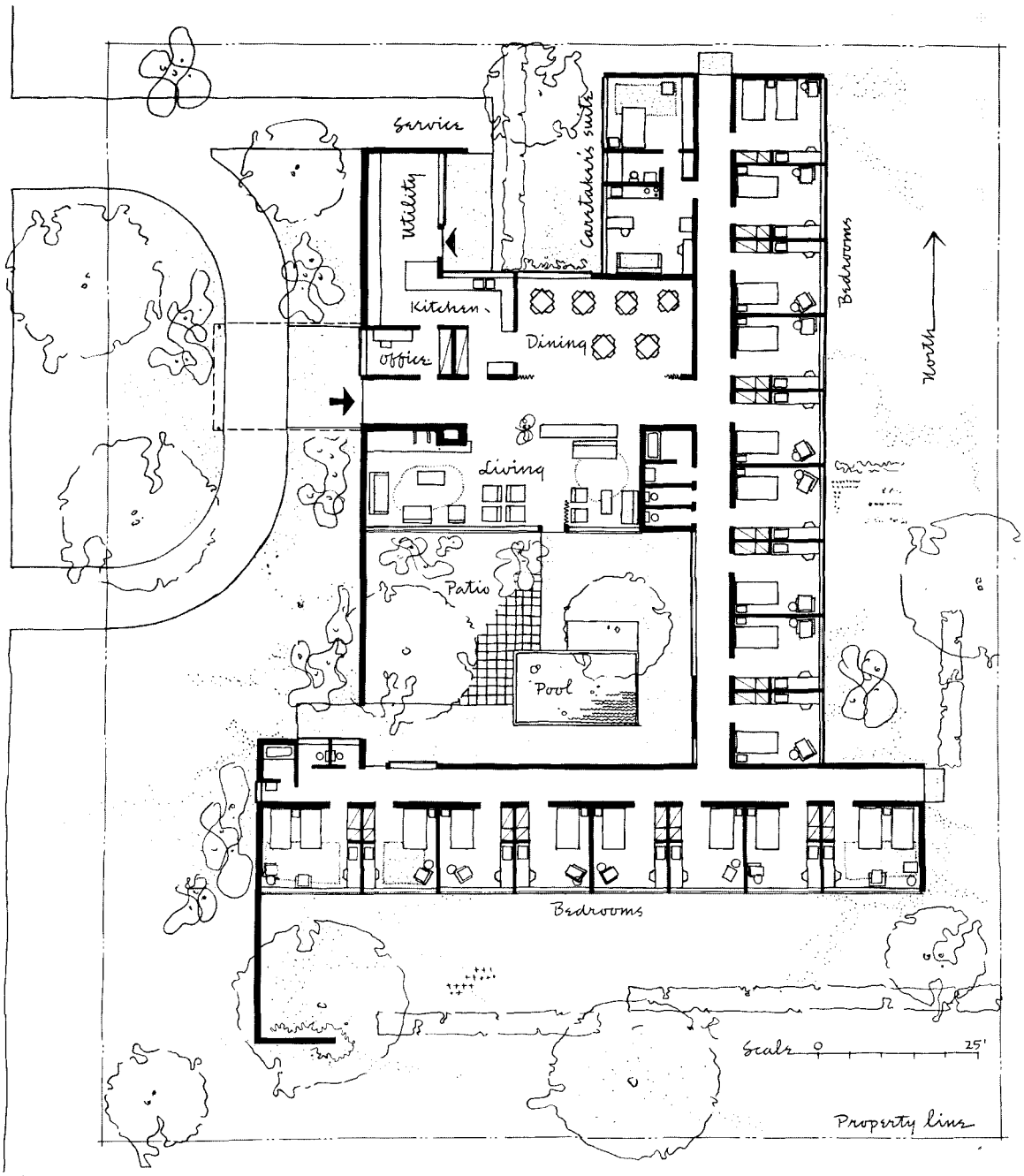
Health Facilities

Of all the building categories, health facilities probably stand the best chance of reaching a completely objective design solution. For the problem usually can be quite definitely stated, and all concerned wish to achieve as efficient and up-to-the-minute a solution as the budget, latest medical knowledge, and architect's talent can produce. While health facilities do not account for a large percentage of the total building dollar to be spent—for this year, the estimated percentage is but 8%, as against 14% for 1952—they consistently constitute some of the most forward-looking and untrammeled designs in the entire architectural field. While the group that came to the Jury's attention this year included numerous general hospitals—two of the smaller ones winning their special acclaim (above and page 51)—perhaps the greatest interest lay in the indication of new types of health care and new organization of established services that, in effect, result in new building types.

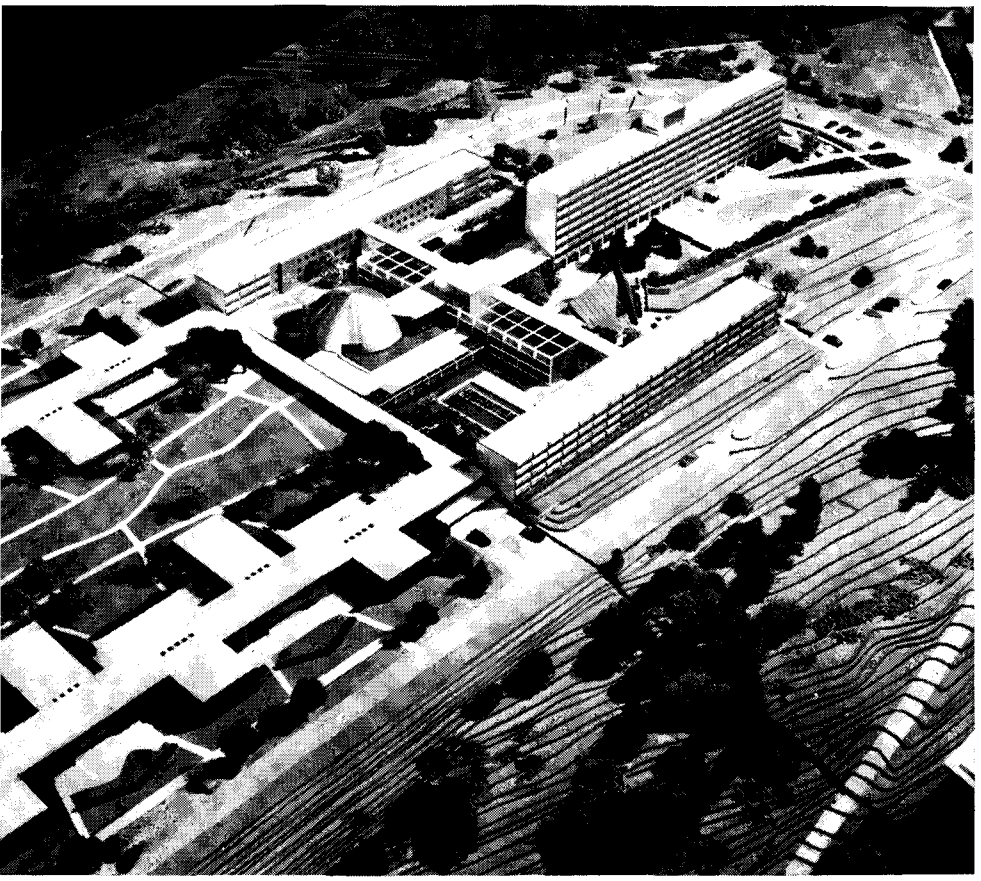
Most noticeable in this regard are indications that humane care for the aged is receiving more social—and architectural—attention. Among the few projects shown here, for instance, are a home for the aged (page 77) that puts emphasis on a home-like atmosphere, and the complex to serve the Pittsburgh area (page 78) that, in addition to a general hospital, includes specialized new types of buildings to further the well-being of elderly people in various states of health.

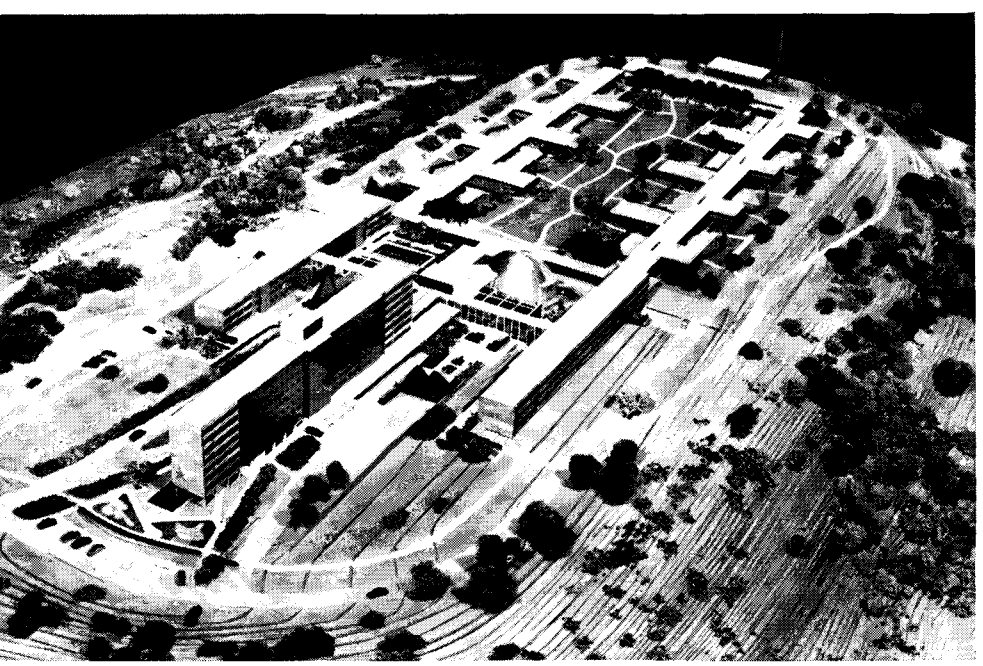
Home for Aged People, Wichita, Kansas: Ramey & Himes, Architects. In designing this home for one of the least-favored social groups in the community, the effort was to minimize the institutional aspect, face as many rooms as possible to the south or east, and provide a homelike atmosphere in the living areas and landscaped patio. Fireproof construction; approximate cost $125,000. "Good planning," the Jury commented.



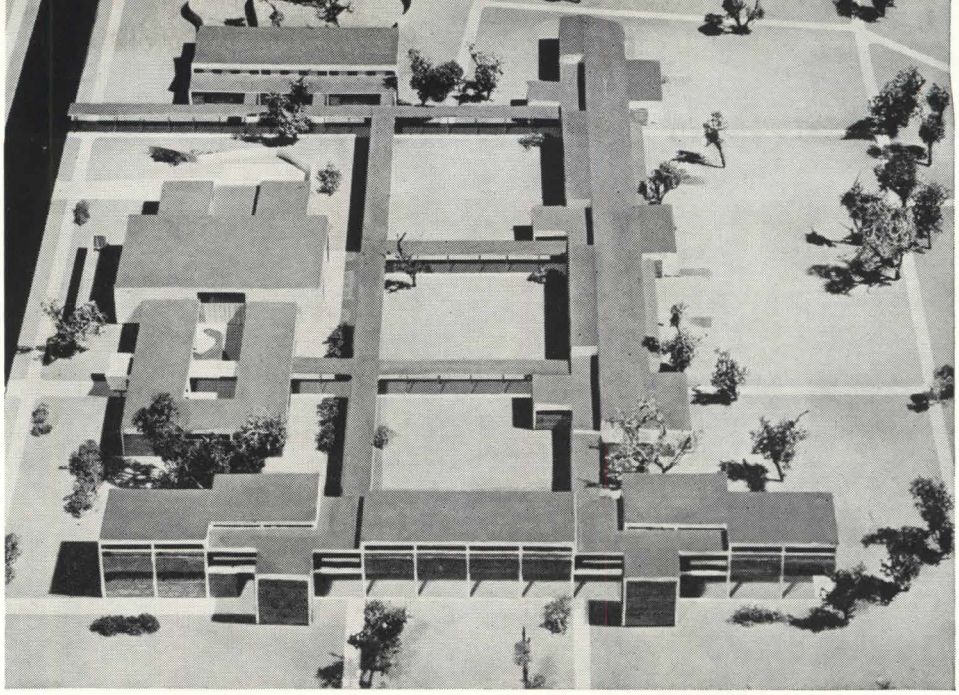


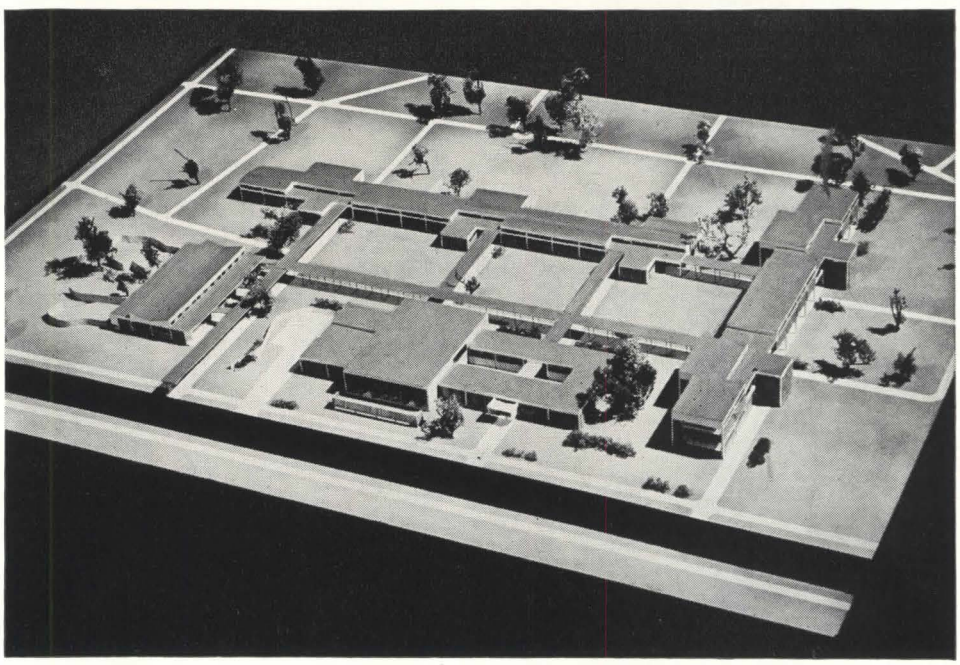
design/techniques 1953: HEALTH FACILITIES





Allegheny County Home and Hospital, Pittsburgh, Pennsylvania: Button & McLean, Senior Architects; Mitchell & Ritchey, Architects-in-Charge of Planning and Design. This 2100-bed project includes (top photo, left to right) *a pair of one-story pavilions (one for men; one for women) for ambulant residents; a pair of multi-story buildings for semi-ambulant; connecting common-use elements, such as the round auditorium, library, chapel, etc.; and the general hospital. Approximately $15,000,000. Jury admired plan concept and total design expression.*





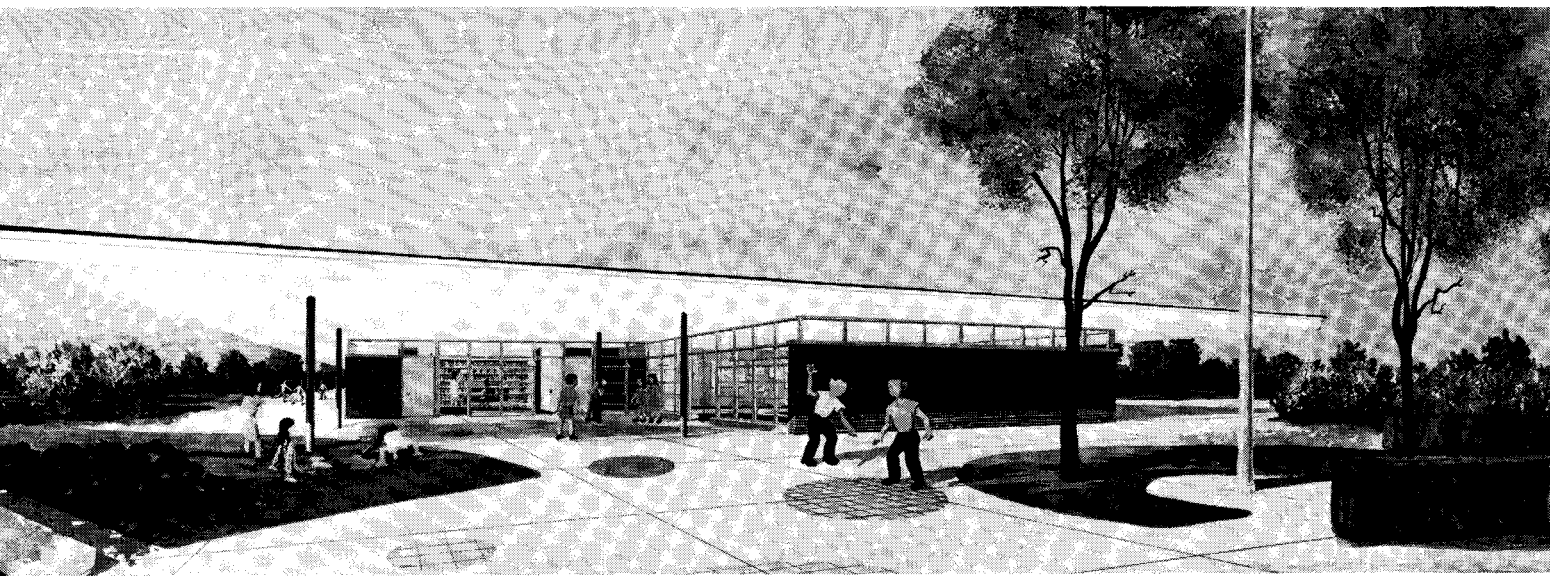
Oak Park Elementary School, New Orleans, Louisiana: William R. Burk, Associated Architects and Engineers. Organized around a series of courtyards in separate units, according to age groups, the main elements are (photo right, bottom) *kindergarten (foreground, left); administration and cafeteria unit; long, two-story, north-south wing, with library, multi-use rooms, and classrooms on the ground floor; fourth, fifth, and sixth grades on the second floor, and (in the background) classroom groups for the first, second, and third grades, in a one-story building. Estimated cost: $500,000.*

Educational Buildings

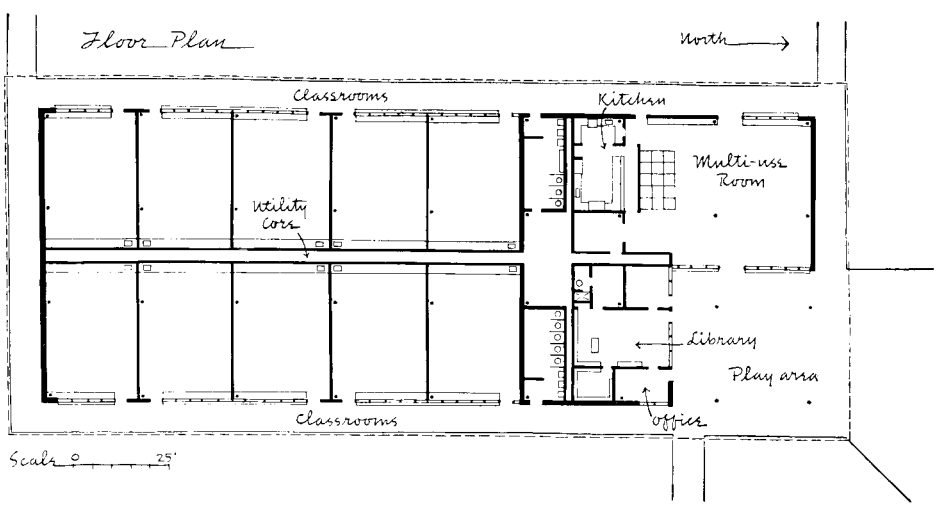
Even in this troubled era, by far the largest number of building dollars (with the exception only of those going for defense buildings) will be spent this year for educational structures. If one may be permitted to read between the lines, one might conclude that whatever is to happen, at least it will be with benefit of well-schooled younger generations. However (the point is often raised), no matter how excellent the buildings that are provided for education, the more important criterion is *what* is being taught. Yet one can also argue fairly that whether the educational program is stodgy or progressive, it will be the better for being housed in a building well planned, well built, properly lighted, pleasant, and efficient.

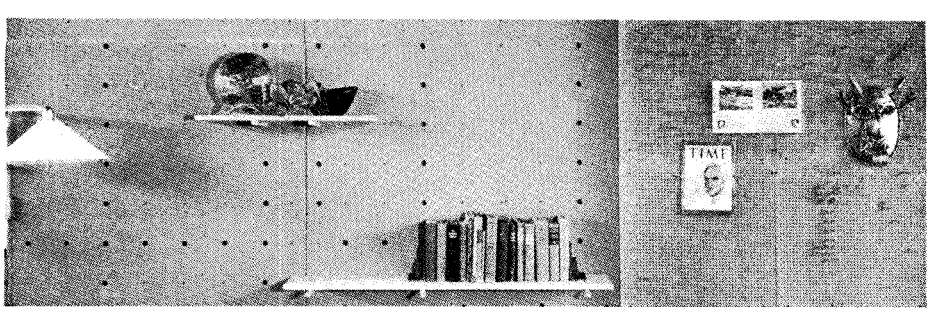
Since this is to be such an active field, it is not surprising that we show more buildings for education than we do of any other building type reported. More and more, schools appear to be planned to serve the entire community, as well as the school children immediately attending. Design experimentation continues to thrive in this field. In plan, ideas now range from the extreme compactness of the elementary school for Laredo, Texas (page 80), to the conscious dispersal of elements illustrated by the school for Taunton, Massachusetts (page 81); from the highly departmentalized plan, such as the one for the New Orleans school (see above), to huge, campus-like schemes, as instanced by the school for Antioch, California (page 84). In structure, one finds laminated-wood arches used for clear spanning of large areas, the lift-slab technique; and in the building for Maryville College (page 86) perhaps the most inspired structure and refined design of any building shown.

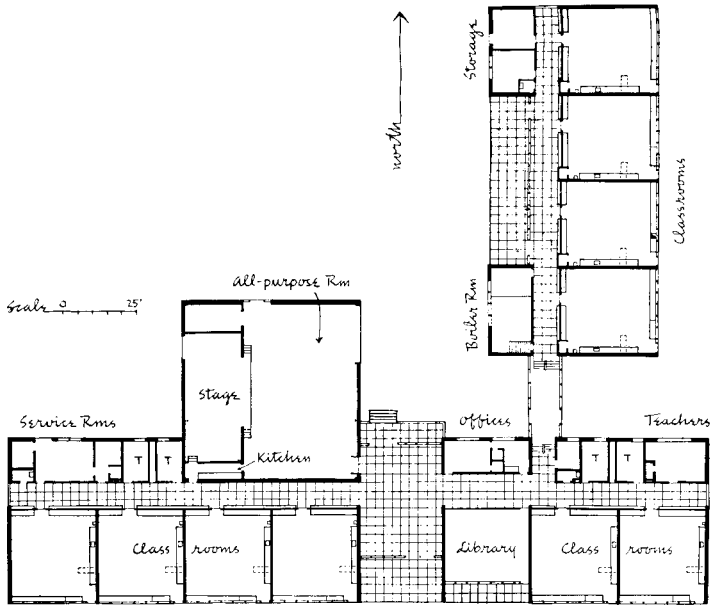
For a time, it seemed as if contemporary school design had frozen in one or two good basic solutions and their variations. A study of the following pages, however, demonstrates that architecture for education is as lively as ever.

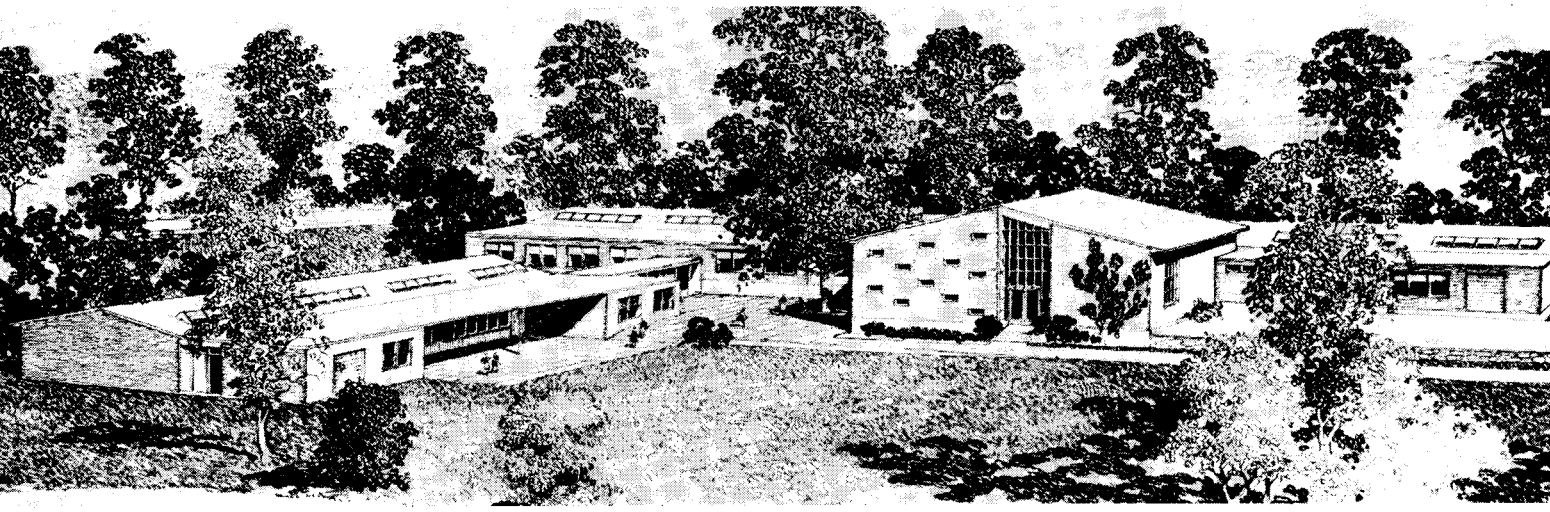


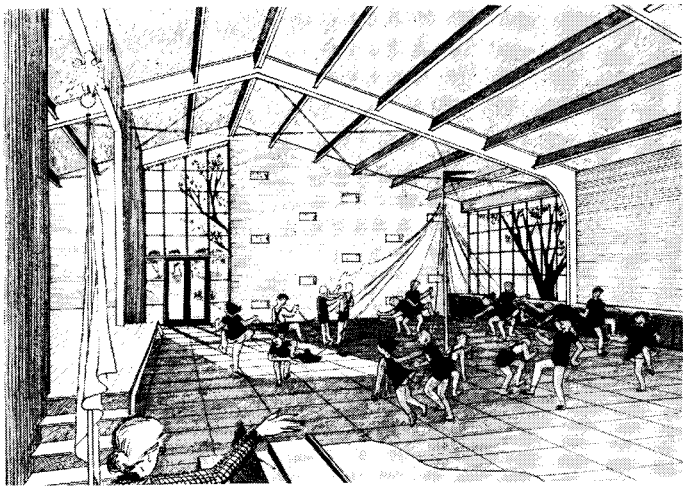
New Heights Elementary School, Laredo, Texas: Caudill, Rowlett, Scott & Associates, Architects; A. A. Leyendecker, Associate Architect. Economical plan, with back-to-back classroom scheme, the core serving both for utility lines and as a ventilation channel. Lift-slab construction, the cantilevers forming shelter for the perimeter access walk. Classroom partitions (detail, bottom page) *composed of corkboard, chalkboard, and panels of perforated fiberboard or plywood. Estimated cost: $9.45 per sq ft.*

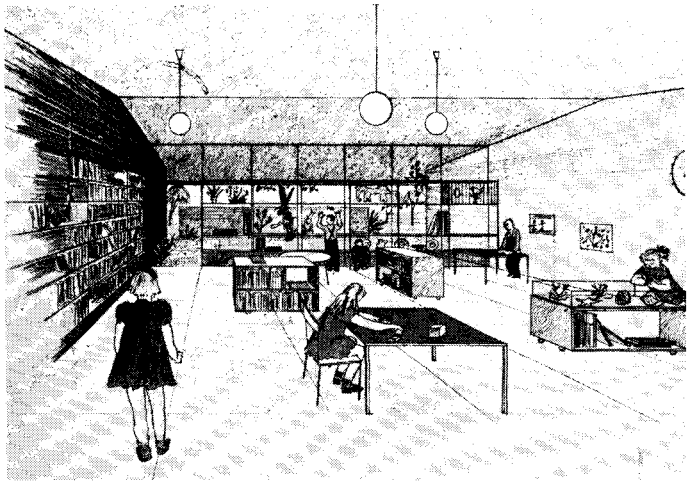




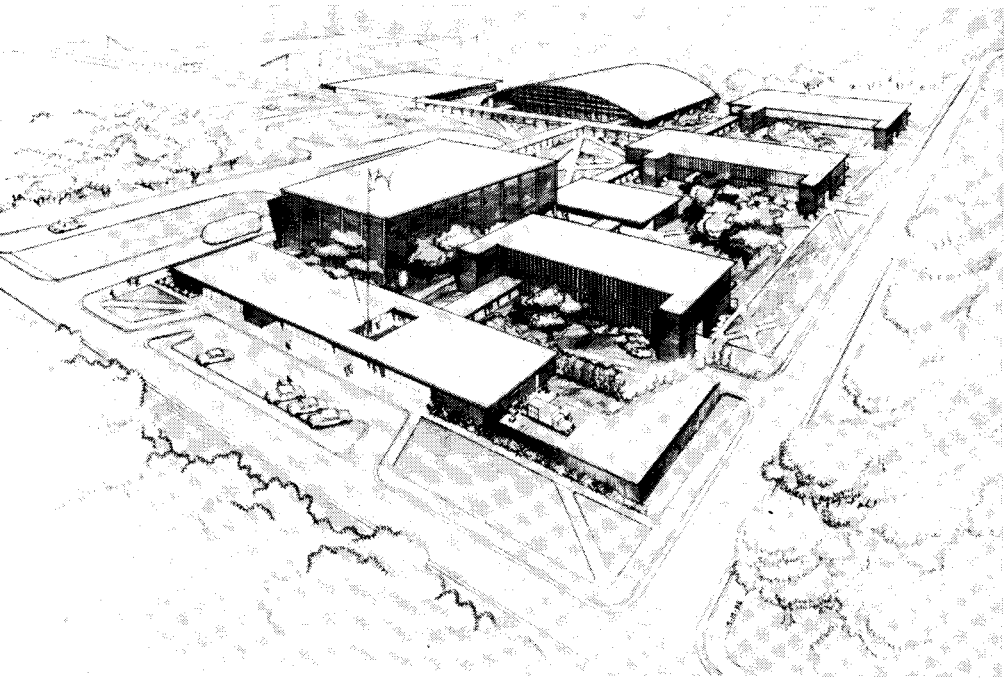


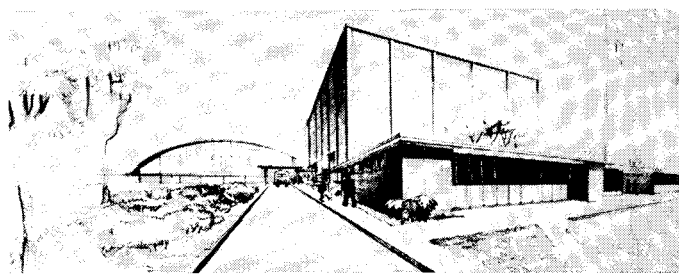


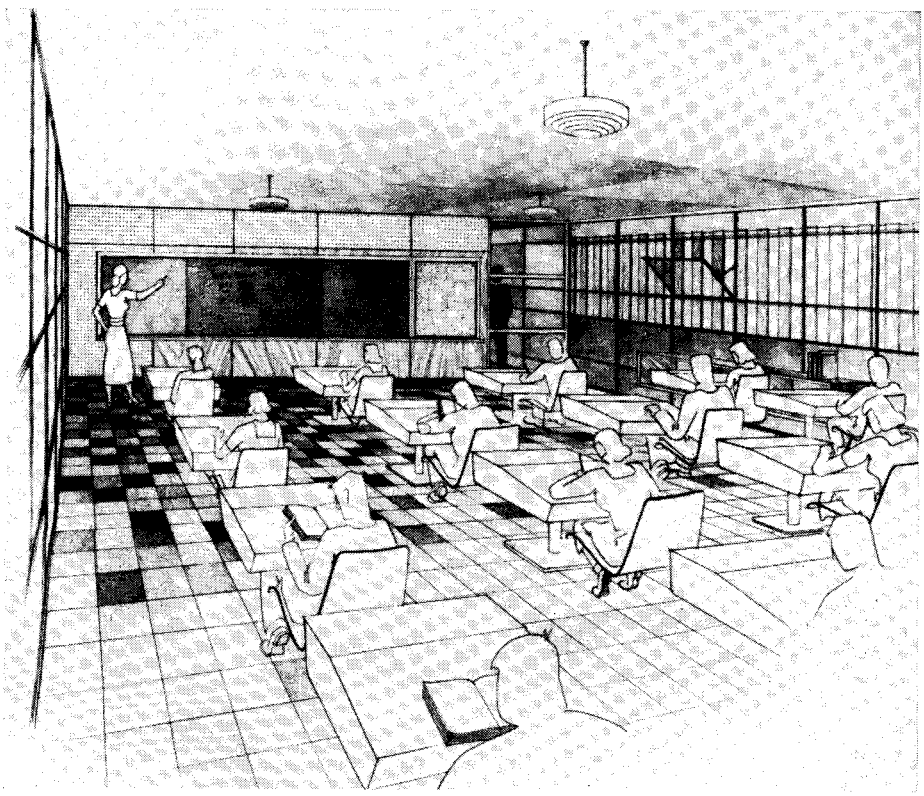




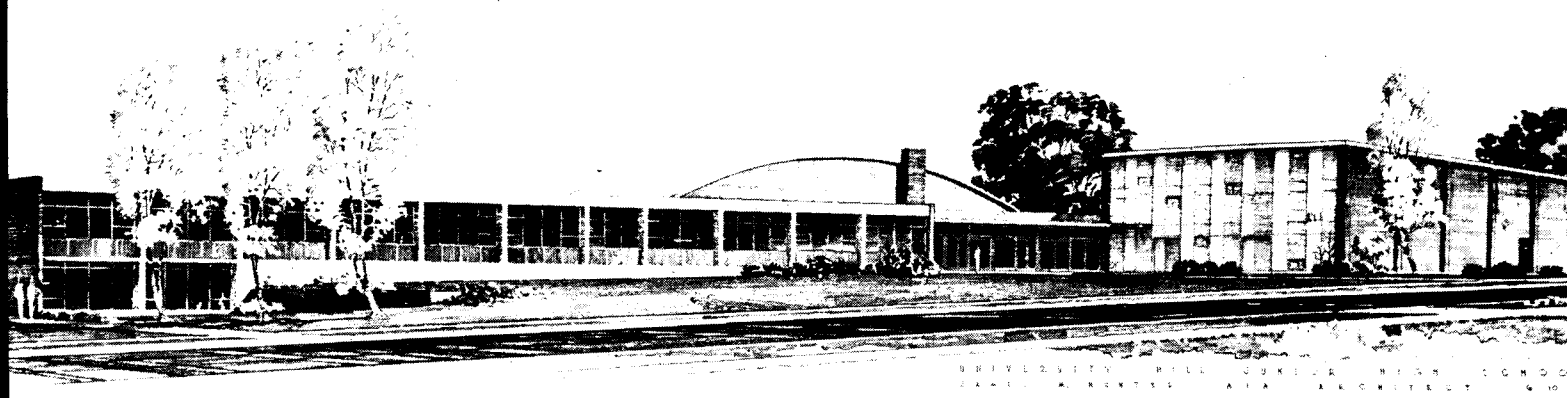
Oak Street Elementary School, Taunton, Massachusetts: The Architects Collaborative and Smith & Sellew. Associated Architects. Design goals: to have classrooms on one side of the corridor, service rooms on the other; to maintain an intimate child scale, and to break up units so that the total is not overpowering. The aerial perspective is from the rear; interiors show the all-purpose room (left) *and library. Estimated cost: $350,000.*



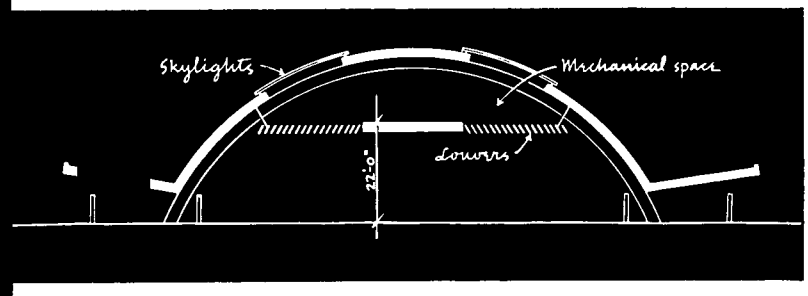




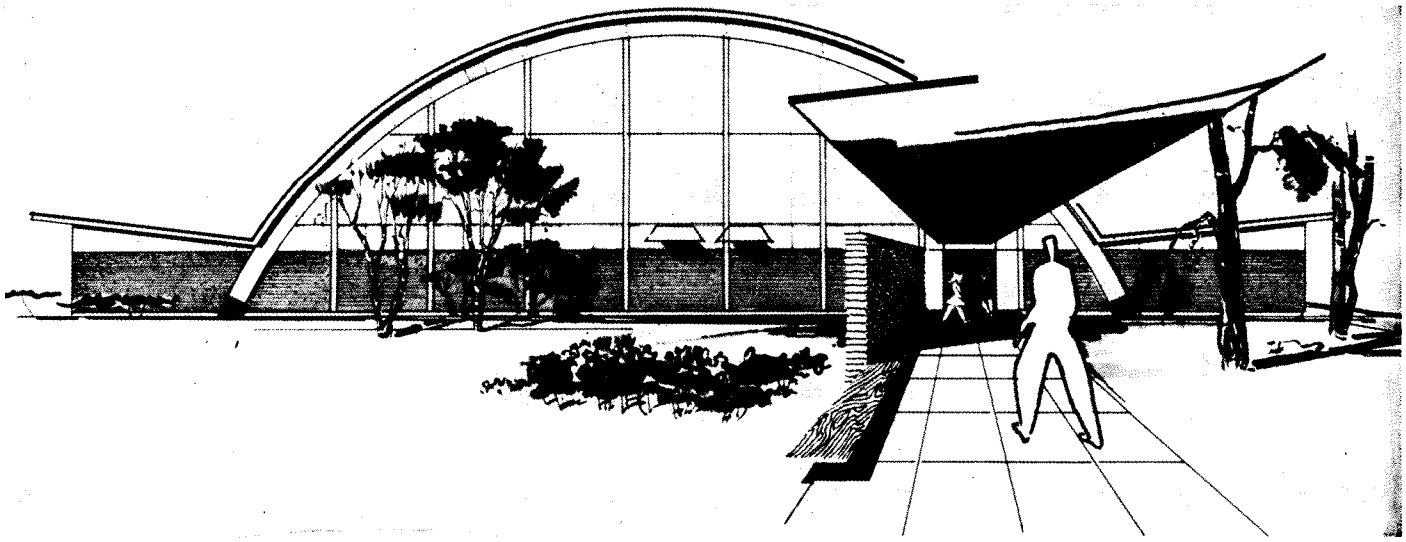
High School, El Campo, Texas: Richard S. Colley; Ford & Rogers, and William Tamminga, Associate Architects. Planned for an eventual enrollment of 600, this spreadout scheme includes a large auditorium, curved-roof gymnasium, administrative building, and office-cafeteria-music unit, as well as three, two-story classroom blocks, with clear windows on the north and, on the south, outside access corridors, bordered by vertical sunscreens. Looking past the music building and auditorium (small photo above) *one sees the gymnasium in the background.*



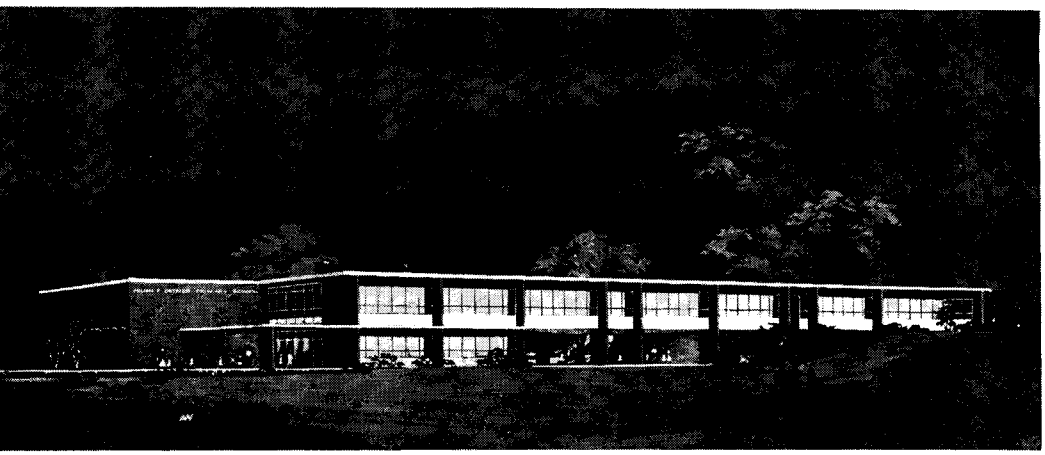
University Hill Junior High School, Boulder, Colorado: James M. Hunter, Architect; Hobart D. Wagener, Associate. Seen from the northwest, the two-story classroom wing is at left, the upper level coming at grade as the land slopes upward. At right is the auditorium, while the curved roof of the gym, supported on laminated-wood framing, appears in the background. All interior room areas have plastic sky domes to assist natural illumination. Outline of prestressed concrete structure of classroom wing, on page 89.



High School Gymnasium, Davenport, Washington: J. Lister Holmes; McClure, Adkison & MacDonald, Architects and Planning Consultants. Primary framing arches are glue-laminated wood, providing a 22-foot ceiling. The side bays housing locker rooms, showers, etc., are framed in steel, with wood-joist roof. Skylights and louvers in suspended ceiling are designed to provide 30 ft candles.

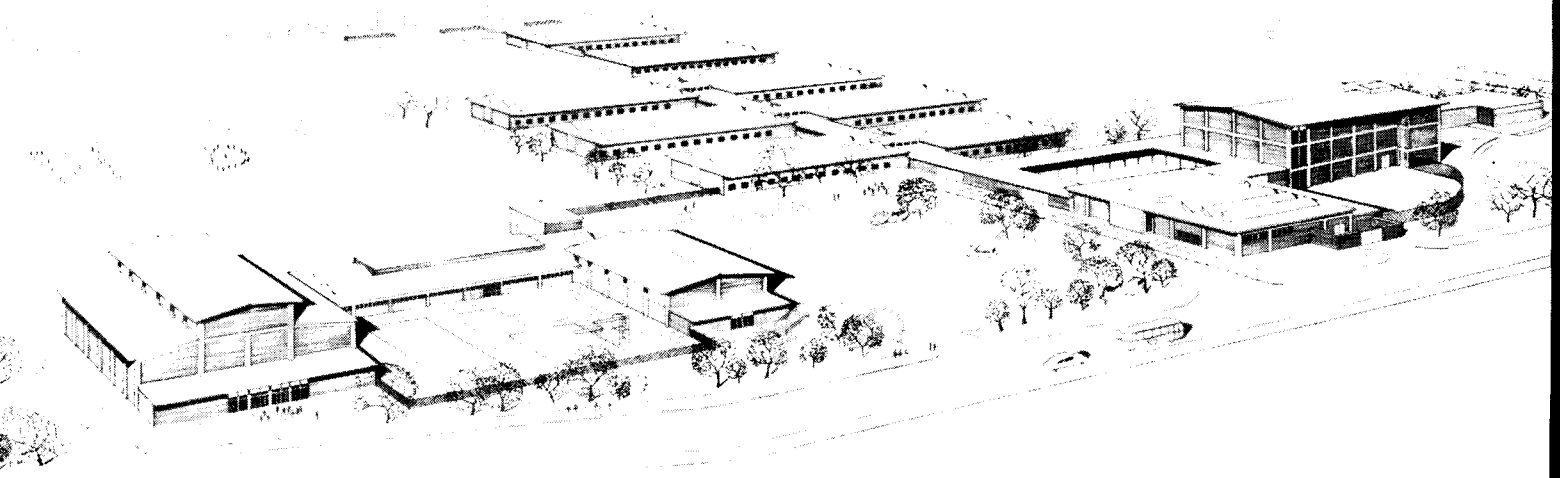


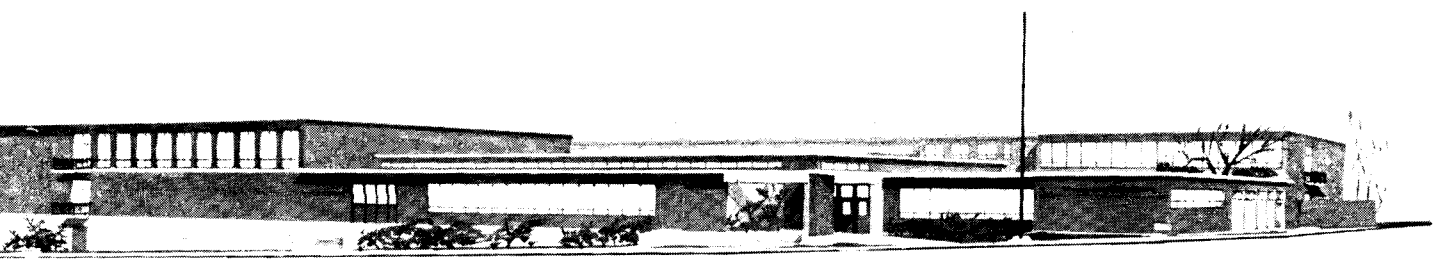
design/techniques 1953: EDUCATIONAL BUILDINGS



Primary School for the Tarrytowns, Westchester County, New York: Robert A. Green, Architect. Accommodation to the site slope places all classrooms, including kindergarten, on upper floor; main entrance, a health unit, access to the gym-auditorium-cafeteria unit, and the covered outdoor play space are at the lower level. "A good serious job," said the Jury. "Will probably wear a whole lot better than most others we have seen."

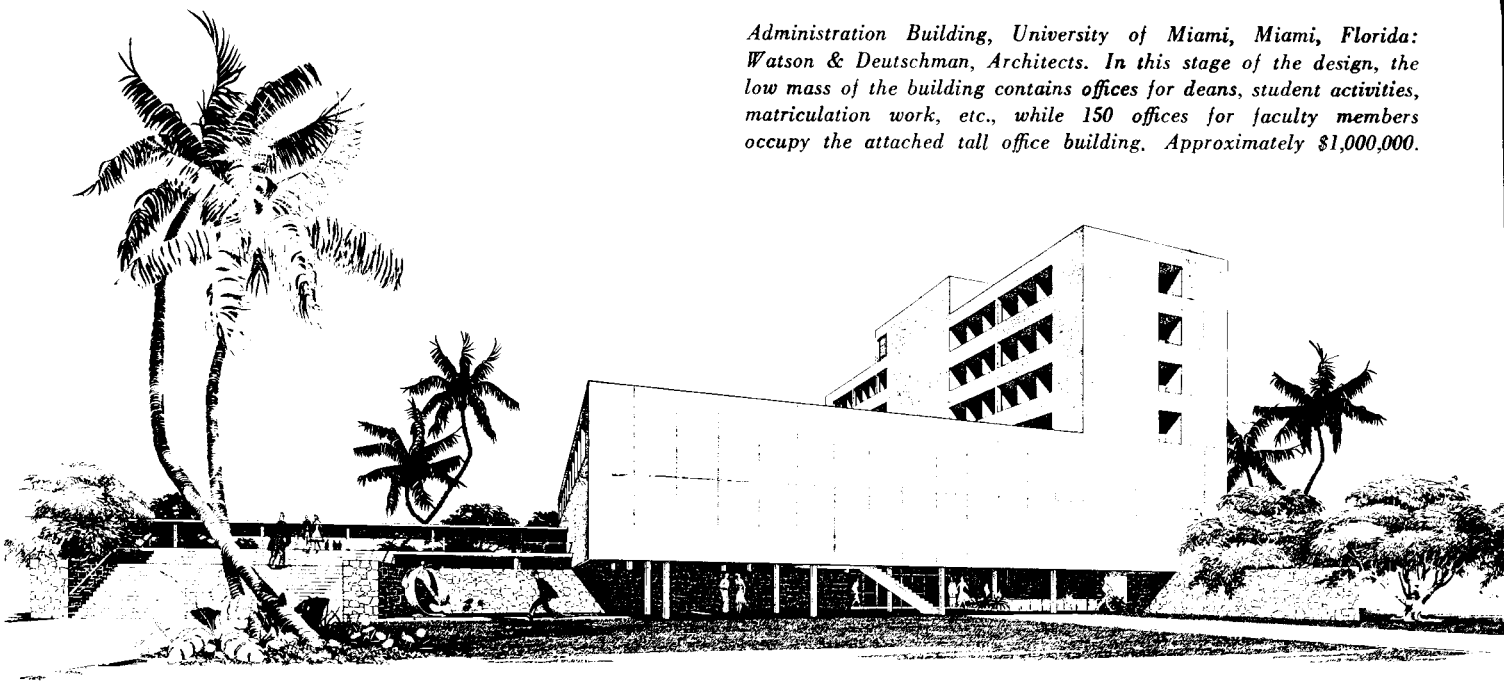
Senior High School, Antioch, California: Wurster, Bernardi & Emmons, Architects. Nearest the public road (foreground, rendering below) *are the boys' and girls' gyms, either side of swimming-pool court* (left) *and the cafeteria-auditorium group* (right). *Double-loaded corridor classroom pavilions, in quieter location toward rear of site. Estimated cost: $2,500,000.*

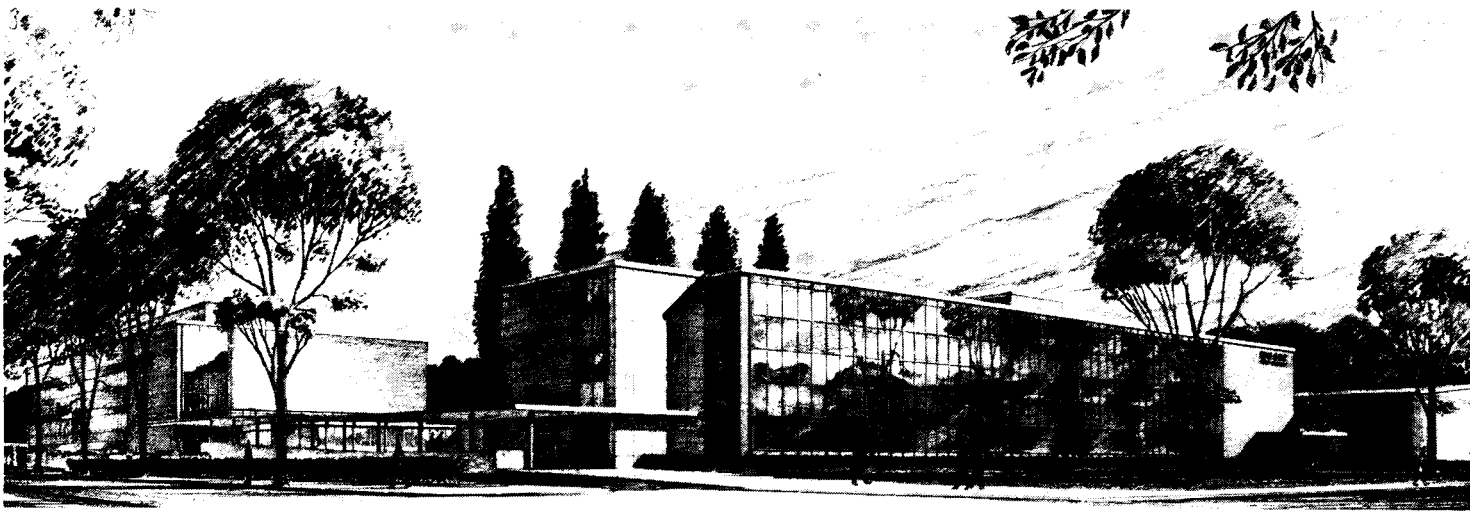


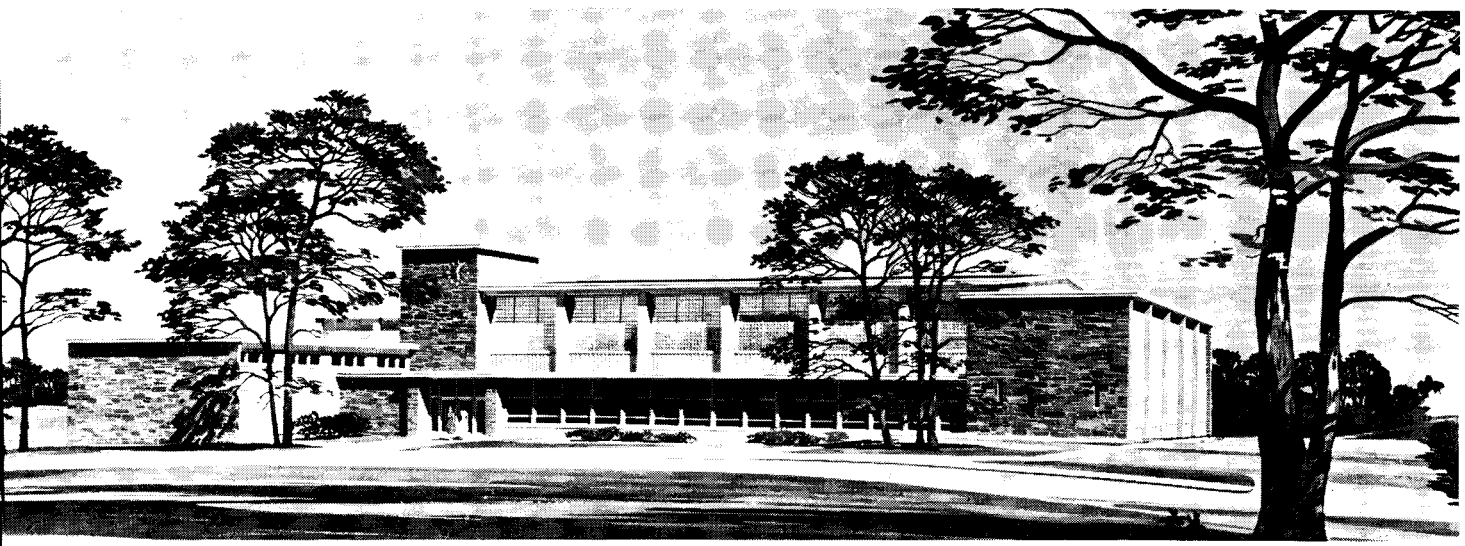


Frederick Douglass Stubbs Elementary School, Wilmington, Delaware: Victorine & Samuel Homsey, Architects. A 26-room school. the classrooms are in a two-story, L-shaped element at left and background of rendering, while gym, cafeteria, auditorium, multipurpose rooms, and community health unit are in one-story units nearest the street where they are readily accessible. Estimated cost: $1,350,000.

Administration Building, University of Miami, Miami, Florida: Watson & Deutschman, Architects. In this stage of the design, the low mass of the building contains offices for deans, student activities, matriculation work, etc., while 150 offices for faculty members occupy the attached tall office building. Approximately $1,000,000.

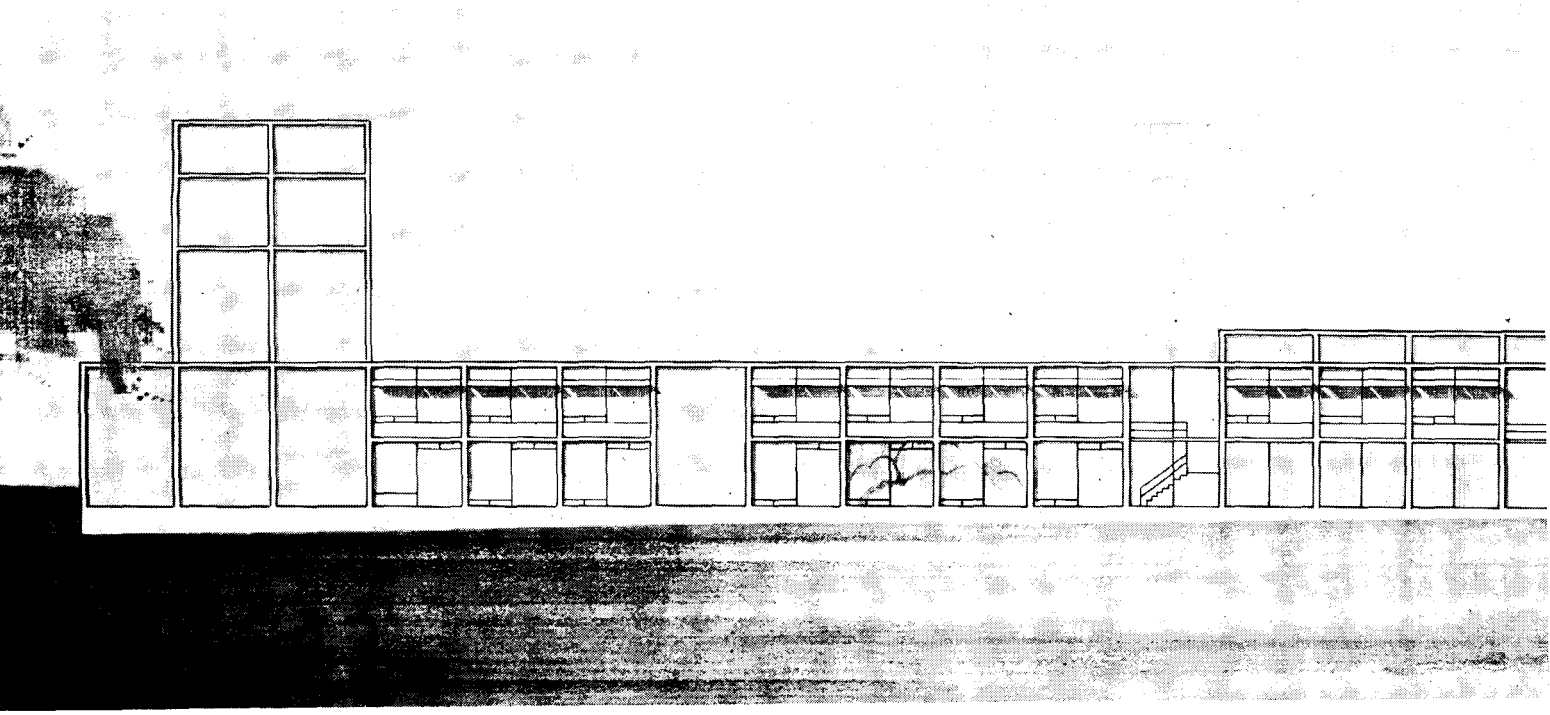


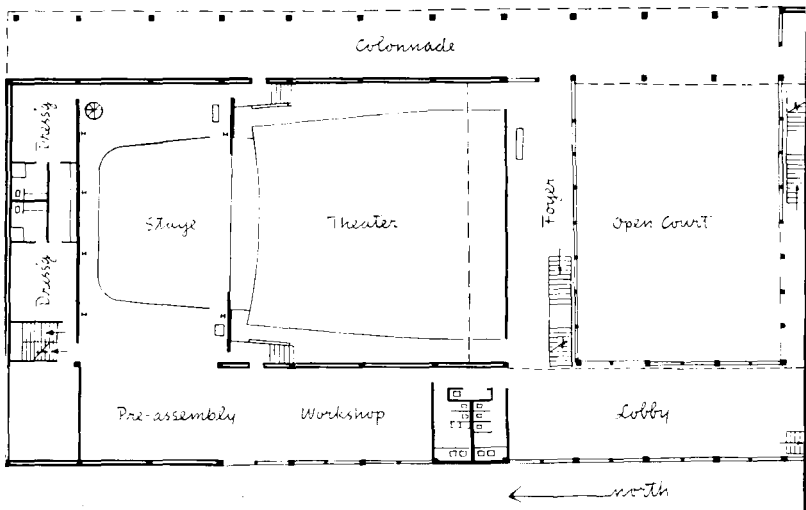


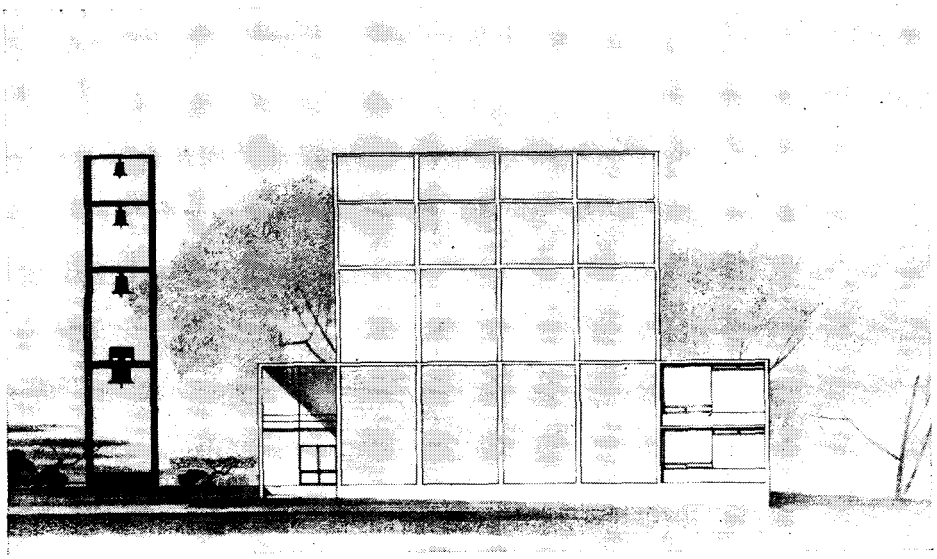


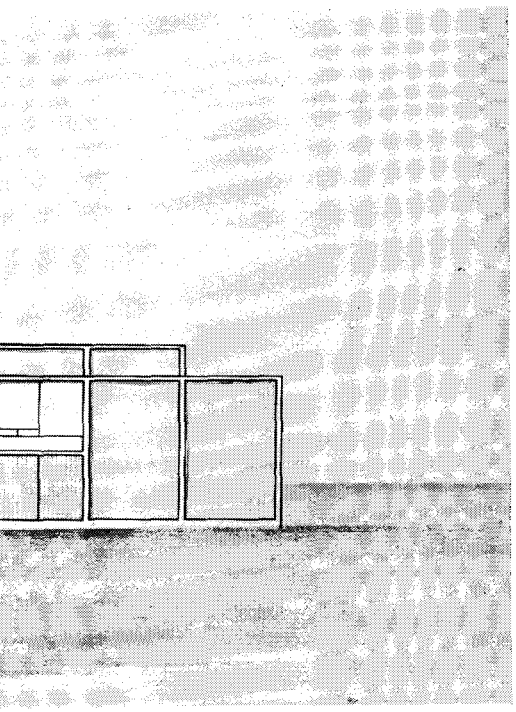
Community Arts Building, Wayne University (center, above), *Detroit, Michigan: Suren Pilafian, Architect. Classrooms for instruction in art, music, and speech departments; also a 600-seat auditorium.*

Physical Education Building, Goucher College (immediately above): *Baltimore, Maryland. Moore & Hutchins, Architects. About $600,000. "In very good taste," the Jury felt.*

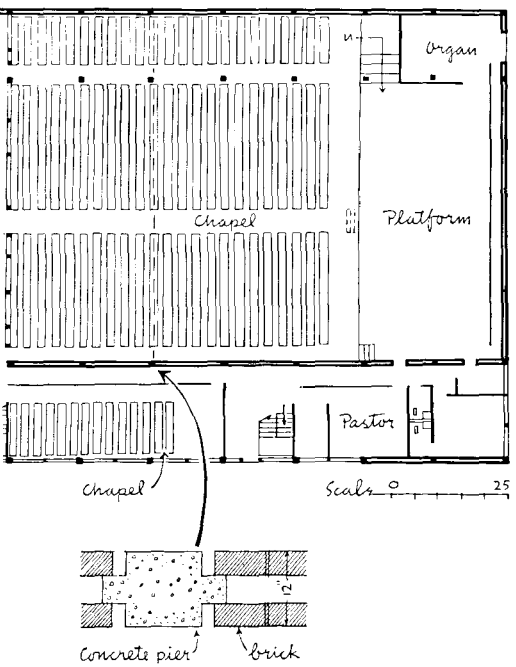


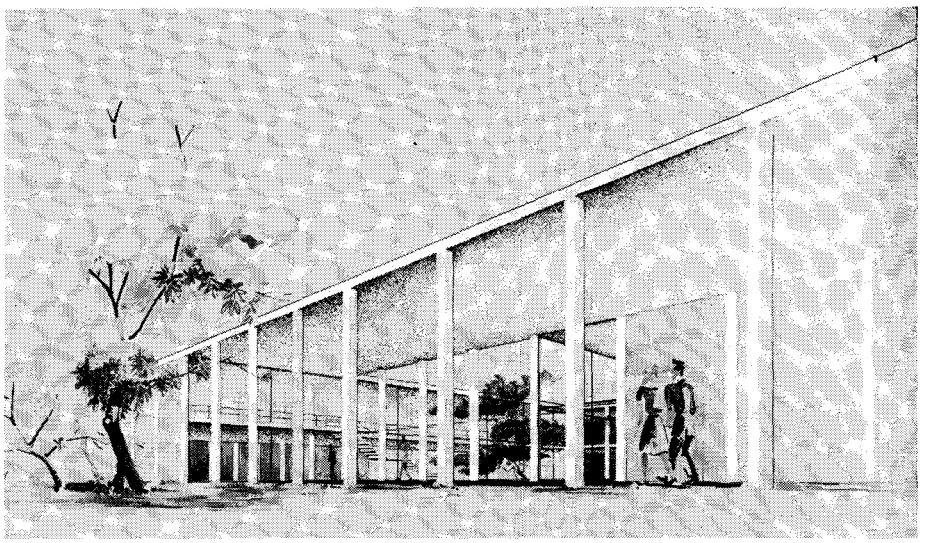

Colonnade
Truss
Stage
Theater
Foyer
Open Court
Dress
Pre-assembly
Workshop
Lobby
north

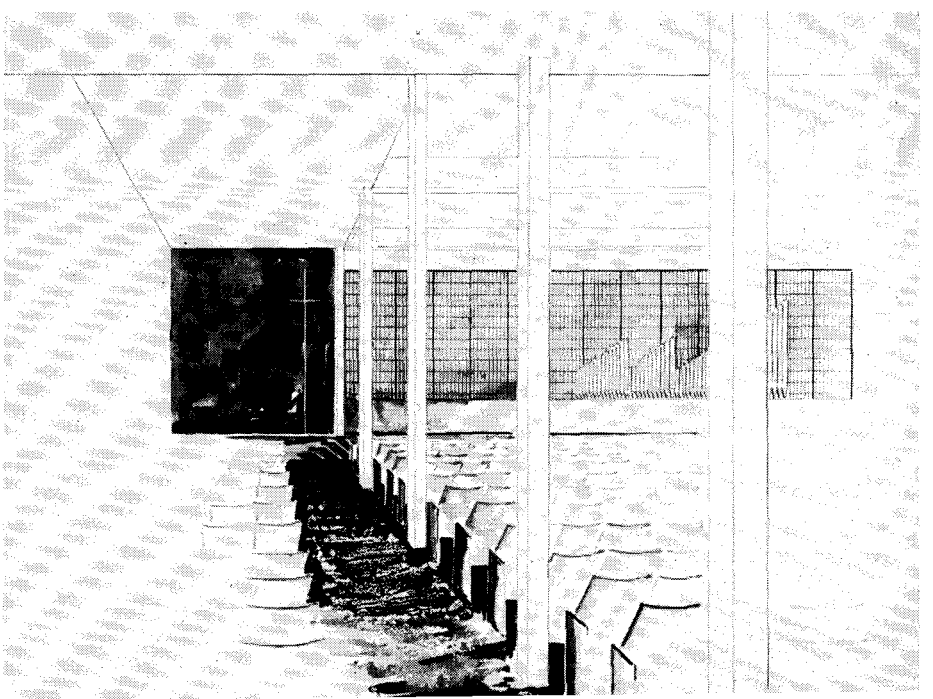




Samuel Tyndale Wilson Chapel, Maryville College, Maryville, Tennessee: Schweikher & Elting; Barber & McMurry, Associated Architects. The two main elements are disposed within the disciplined rectangle of the plan—at the south end, the chapel proper, which, including its balcony, will seat 1200 worshippers; at the opposite end, a small college theater, to seat 450 and equipped with a full working stage. A landscaped court separates the two and provides access to the second-floor classrooms, along the west side. The highly rationalized structural system is described on page 89. The freestanding bell tower, to the east, is to be built of steel. The Jury's enthusiasm was unbounded—"excellent . . . beautiful . . . extremely sensitive feeling."







Engineering Forecast

Perhaps the newest refinement in structural design available to the architect and engineer for 1953 will be the two-way prestressed-concrete slab. Two such slabs, each measuring 88 ft x 38 ft x 6 in. with 24-ft column spacings, have recently been prestressed at the Southwest Research Institute, San Antonio, Texas, and have now become the floor and roof of a laboratory building there. Being a project of that Institute, one would be correct in suspecting that the slabs were poured one on top of the other at ground level, and then lifted into position by means of hydraulic jacks placed on top of the steel columns. One major saving that is possible with these prestressed slabs is in the required steel. Only 1½ psf of steel is needed as compared to the conventional 4¼ psf for reinforced-concrete flat-slab construction. Further, the 6-in. thickness of the prestressed slab replaces an 8-in. thickness that would be required normally. To accomplish these savings at San Antonio, 200,000 psi ultimate strength steel, ¼ in. diameter, was prestressed by post-tensioning. Inherent advantages of these slabs are: larger slabs, savings in material, minimum deflections, and reduction of critical shear stresses. Combined with lift slab, the prestressing of flat plates will be a very important consideration in construction.

In addition to the illustrated structures containing prestressed girders (pages 89 and 93), numerous other examples of prestressing were reported from different parts of the country. Among these are prestressed roof girders for a heavy equipment shop at Salem, Oregon, designed by Carl C. Schneider of the State Highway Department. One of the first examples (as well as the heaviest) of continuous prestressed concrete girders in the United States will be found in San Francisco. These have been designed by Ellison & King, Consulting Engineers, in collaboration with T. Y. Lin, Associate Professor of Civil Engineering at the University of California. At midspan (spans are approximately 60 ft), these girders support columns carrying six floors of parking!

The battle for recognition of tilt-up seems to have been won and many instances of its use were reported. One of the most interesting designs has been made by Jean R. Driggs, Salt Lake City Consulting Engineer. Lightweight perlite-concrete panels, 10 ft high, 20 ft long, and 6 in. thick, have been cast at the site and assembled on a rigid frame. Driggs' construction promises to be highly effective in producing a fireproof, self-insulating, economical warehouse.

The steel industry will continue to promote the use of steel exteriors for multistory buildings. Stainless steel, porcelain enameled steel, as well as carbon steel are finding increased acceptance in this field. In the stainless steel group, Type 430 is gaining recognition as an architectural steel to help fill the place of restricted Type 302. Steel will also be promoted for the use of industrial roofing and siding, residential structures, and for residential equipment.

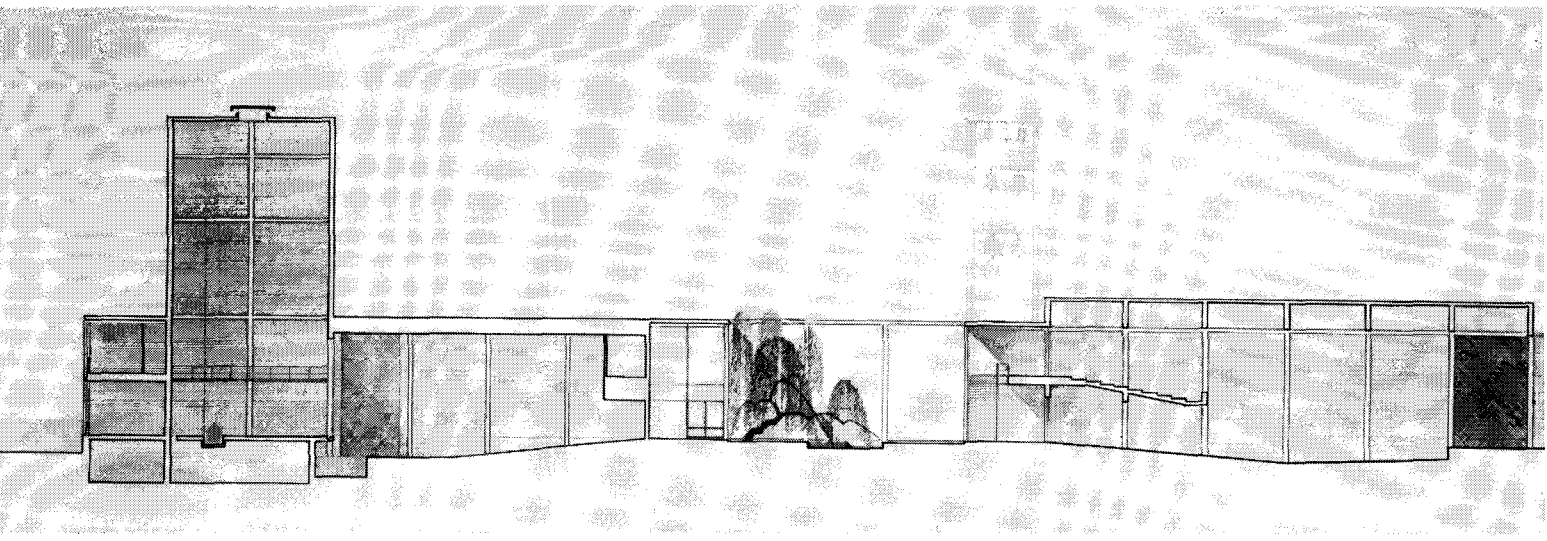
One of the most promising steel developments to be announced during the coming year will be the results of research being performed by the office of William Lescaze, New York Architect, for the Porcelain Enamel Institute. Assisted by four representatives of outstanding enameling firms in this country, Lescaze has attempted to perfect a suitable curtain-wall panel to meet existing urban codes. The proposed uses of the panel have been considered for: (1) noncode areas (noncombustible) and (2) code areas (where two-, three-, and four-hour fire ratings may exist). Porcelain enamel will be used for all steel surfaces and as the researchers do not wish to limit the core to any one material, several types are being investigated. These will include cement-bonded wood fibers, calcium silicate, and glass fiber board. To minimize maintenance no calking will be needed for the finished wall and maximum use will be made of gaskets. Although the bay system, floor-to-floor height, and window sizes can all effect the size of a panel, it is contemplated that none of the panel weights will exceed 150-160 lb—an amount that is convenient for two men to handle. Panel erection will be from the inside of the building to eliminate scaffolding. One of the major contributions of this type of panel will be the many color possibilities that can be introduced into the design of a building. By now, a full-scale model (for noncode areas) has been fabricated and is currently undergoing thorough testing.

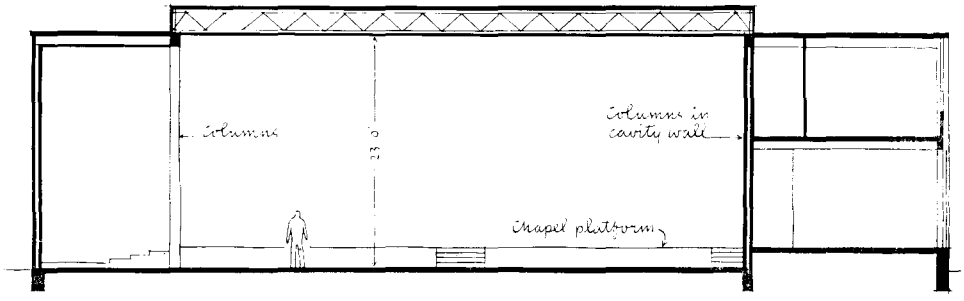
Aluminum will be used for countless new architectural products and at least a dozen multistory buildings with all-aluminum curtain-wall construction are either under construction or in the design stage in the midwestern and southwestern areas of the country.

Numerous state and municipal electric power companies are continuing to investigate the feasibility of heat pump installations for their respective areas. Architects Lacy, Atherton & Davis have informed us that they will install a heat pump for the Metropolitan Edison Building in Wilkes-Barre, Pennsylvania. Consulting Engineer Robert H. Emerick, North Charleston, South Carolina, advises that the use of heat pumps is also gaining ground in his section of the country—particularly the 5-ton size. He also notes a generally expressed desire on the part of his clients to have the ducts of warm-air heating systems sized for eventual summertime duty, handling chilled air.

Something new has been added to fluorescent lighting. By means of a new light control system, developed at Nela Park, Cleveland, the brightness of fluorescent lamps can now be controlled merely with the turn of a knob, just as smoothly and easily as incandescent lamps have been dimmed or brightened in the past. The dimming feature is expected to find favor in such a variety of places as theaters, auditoriums, schools, display rooms, stores, hotels, night clubs, restaurants, show windows, and many others.

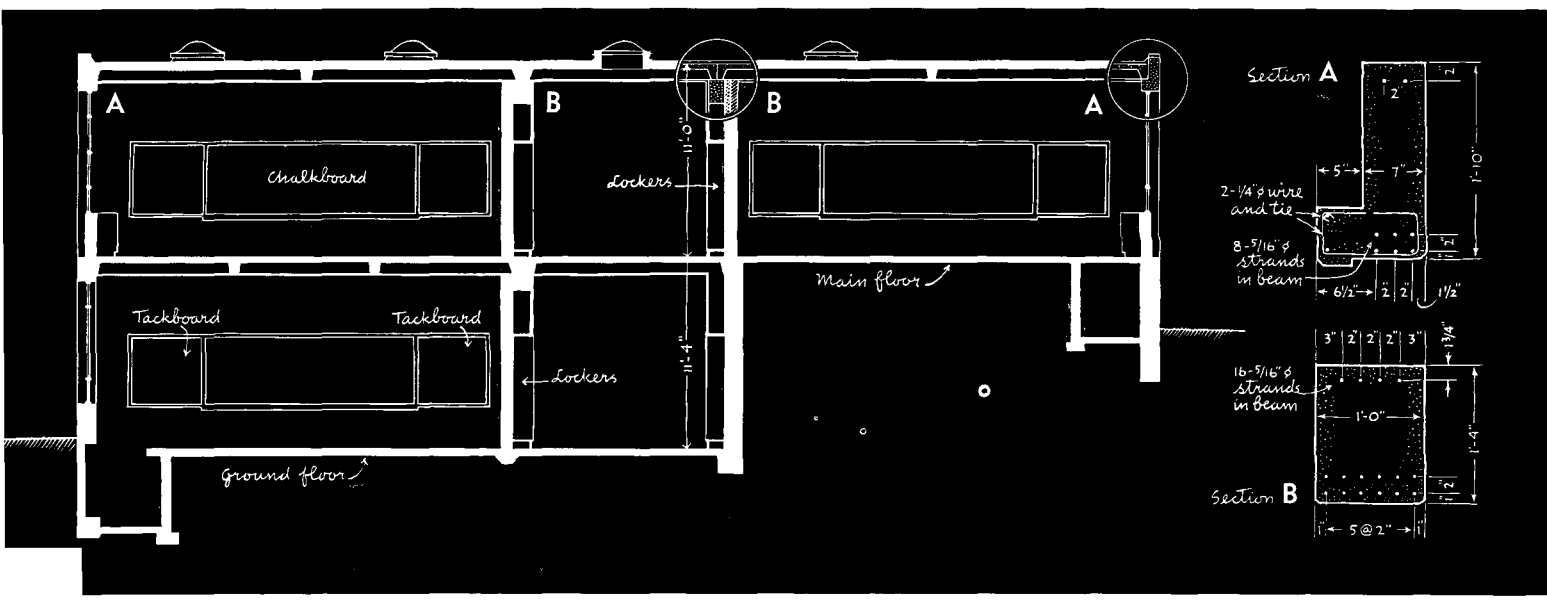
The Plumbing and Heating Industries Bureau has announced a new development of interest to builders of homes beyond water mains, owners of resorts, and farmers; it is the submersible pump. Both pump and motor can now be obtained in one complete assembled factory unit which can be installed in a well below the water level. The City of Los Angeles has specified submersible pumps and motors of this type for the storm drain pumping plant for the Sepulveda Boulevard Subway under the runways of the International Airport.

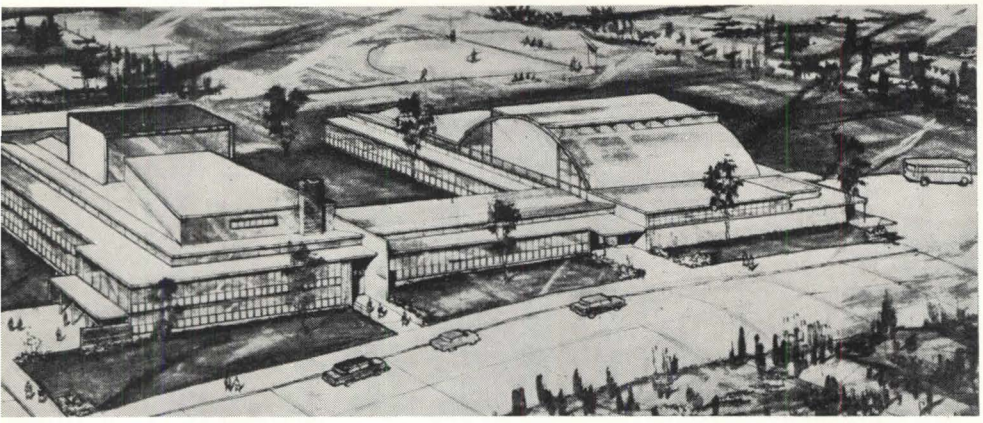


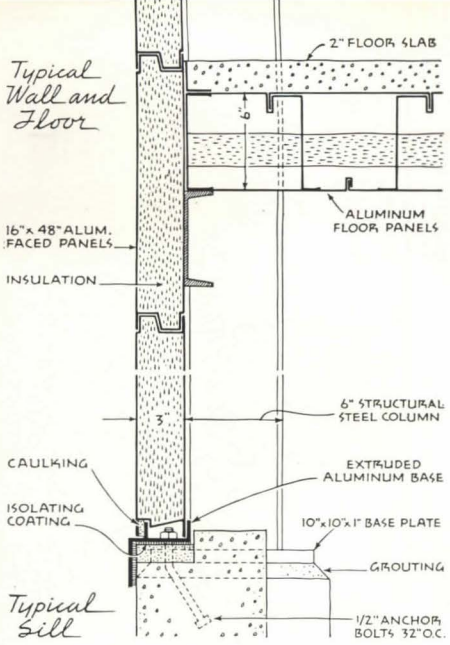


Samuel Tyndale Wilson Chapel, Maryville College, Maryville, Tennessee (longitudinal section above, transverse left). *Schweikher & Elting: Architects; Barber & McMurry: Associated Architects; Samuel R. Lewis & Associates: Consulting Mechanical Engineers. A simple rectangular scheme was developed with a 15-ft modular bay of poured concrete columns, beams, and slabs. As required by plan, the space between columns is void, transparent, translucent, or solid. Void panels form exterior or interior arcades; transparent panels are glass; translucent panels are wood grilles over glass; and the solid panels are cavity walls of brick exposed on both sides. A conscious and constant effort was made to keep the concrete structure as light and delicate as possible—consistent with rigidity requirements.* (Plan and elevations on preceding pages.)

University Hill Junior High School, Boulder, Colorado (below): *James M. Hunter, Architect; Phillips-Carter-Osborn, Inc., Consulting Structural Engineers. Prestressed concrete girders and channel slabs will be used in the classroom area of this school solely for reasons of economy and expediency. As the prestressed concrete members can be installed cheaper than unprotected steel, the school board will receive a fireproof building at the lowest possible figure. 6000-lb concrete with a ¼-in. slump has been specified.* (Rendering shown on page 83.)

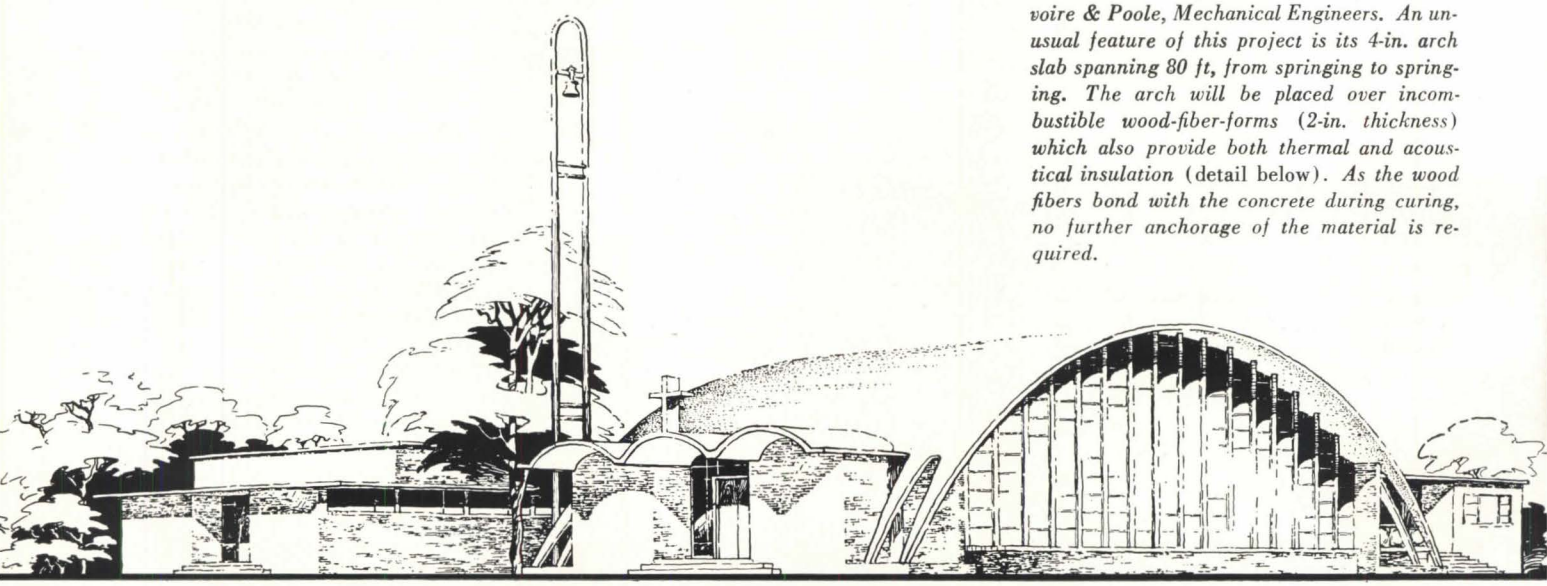


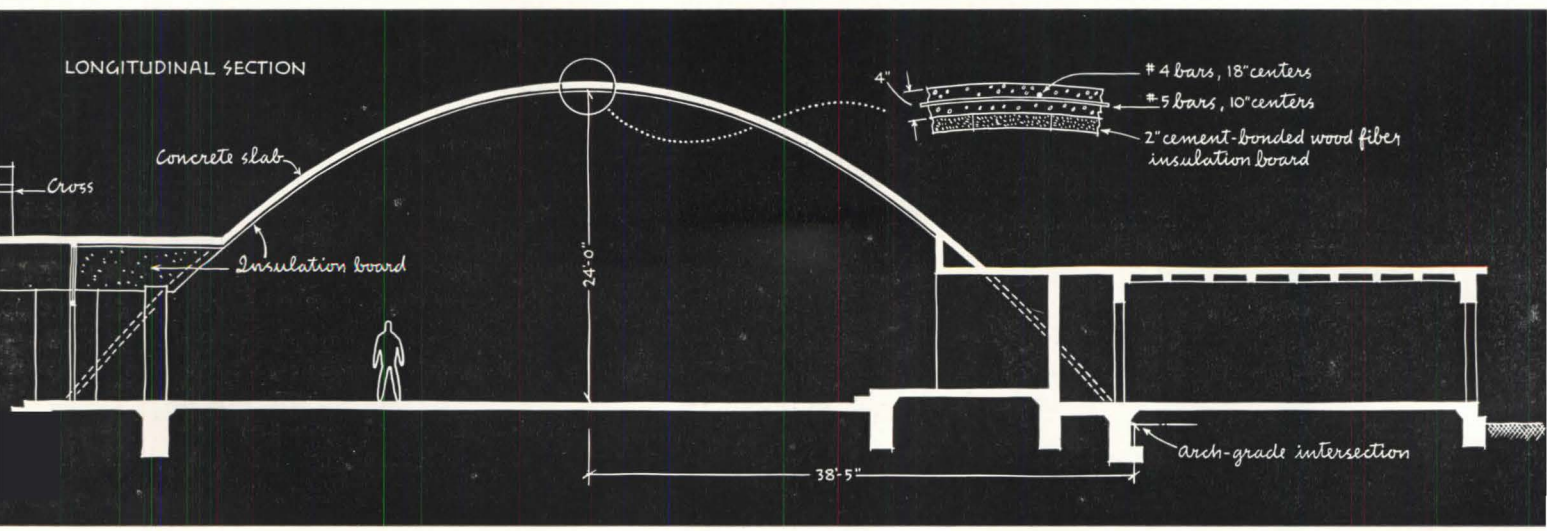


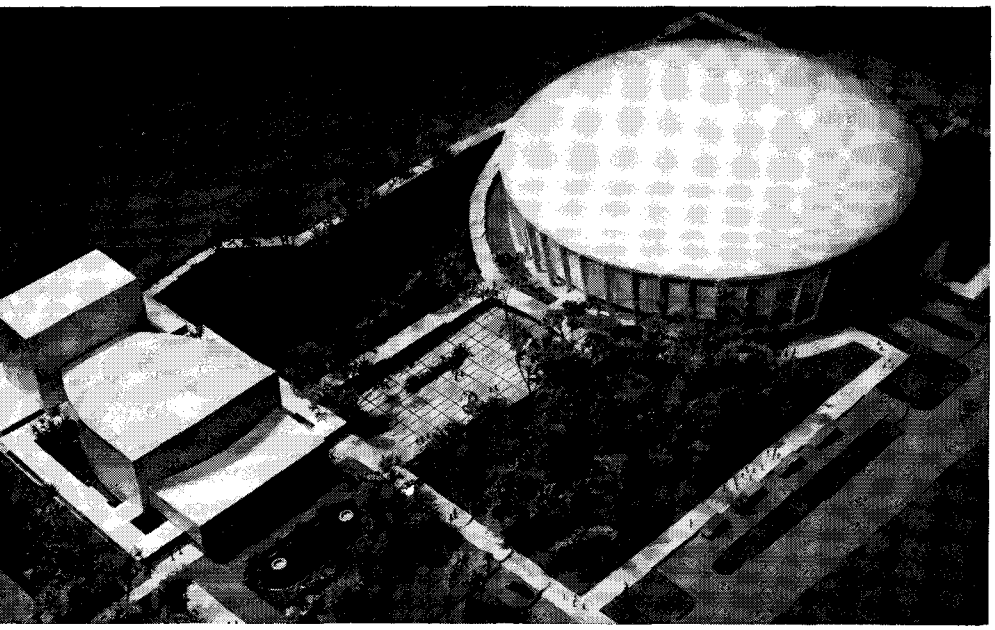


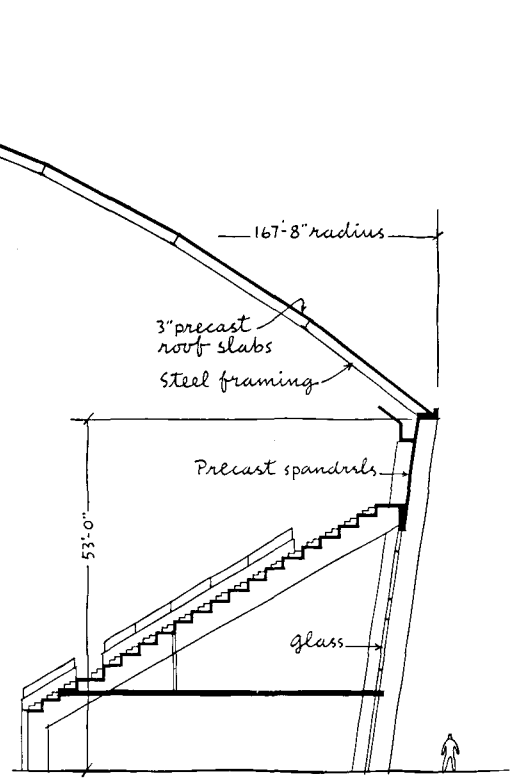
High School, Ketchikan, Alaska (above): *Johnson & Botesch, Architects and Engineers; Peter Hostmark, Structural Engineer. The high cost of concrete construction in Ketchikan does not favor the use of that building material; further, the high rainfall (150 in. per year) would have made the formwork and other on-site work not only expensive but also drawn-out. Therefore, it was decided to use a structural steel framework with insulated-aluminum-panel curtain walls.*

Hellenic Eastern Orthodox Church, Galveston, Texas (below): *Thomas M. Price, Architect; R. L. Reid, Structural Engineer; Revoire & Poole, Mechanical Engineers. An unusual feature of this project is its 4-in. arch slab spanning 80 ft, from springing to springing. The arch will be placed over incombustible wood-fiber-forms (2-in. thickness) which also provide both thermal and acoustical insulation* (detail below). *As the wood fibers bond with the concrete during curing, no further anchorage of the material is required.*

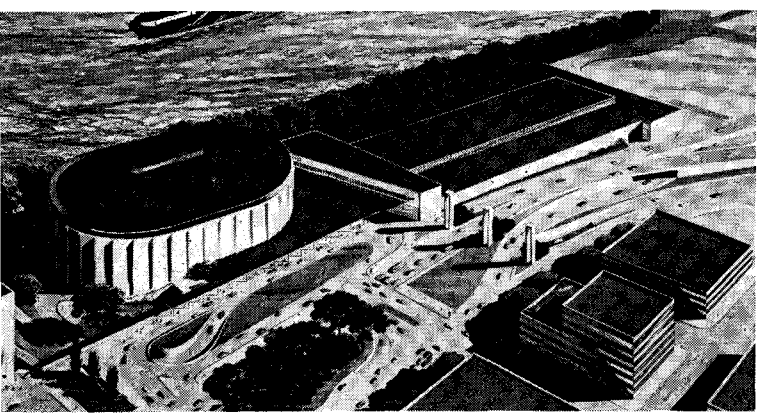




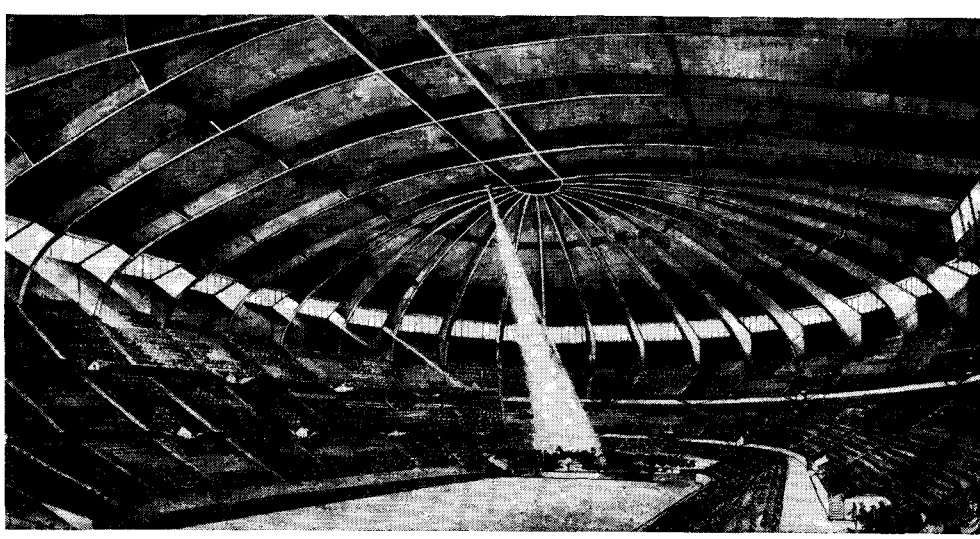




Auditorium and Coliseum, Charlotte, North Carolina (above, left and right): ***A. G. Odell Jr. & Associates, Architects and Engineers; Severud-Elstad-Krueger, Consulting Engineers.*** *The Auditorium and Coliseum are physically separated, in order to isolate their respective noises and traffic as well as to provide space for a future exhibition hall and meeting rooms in a building connecting the two structures. Considered the most economical roof framing as well as enclosing a greater sq ft area than any other perimeter, the structural steel dome will span 332 ft 4 in. at extreme diameter. The Coliseum has 10,000 permanent fixed seats, plus portable seats for the main floor which will increase capacity for a boxing match to 13,500 persons. Tilt-up walls will be used for both Auditorium and Coliseum walls.*



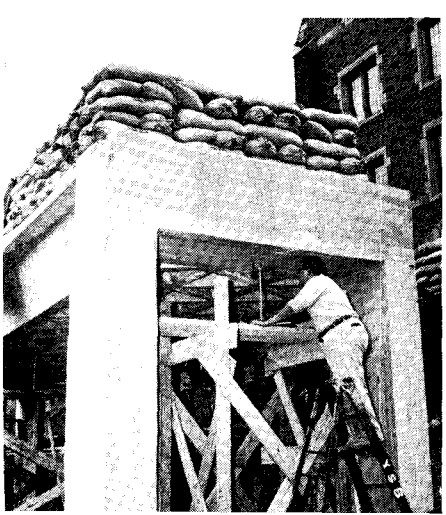
Convention Hall, Detroit Civic Center, Detroit, Michigan (above and right): ***Giffels & Vallet, Inc., L. Rossetti, Associated Architects and Engineers.*** *Development of the structural design proceeded from the start by the integration of architecture and engineering into a single planning center. Two-hinged, welded-rigid-frames were selected for the roof supports for reasons of economy, savings in depth of steel, and esthetic appearance. To the arch forms that span the width of the convention hall, legs will be added on each side to exploit to the limit the available width of the building and natural rise of the arch—thus the rigid frame takes form and evolves from the arch.*



Three-dimensional Floor System

Design Laboratory, Yale University, New Haven, Connecticut: Louis Kahn and Douglas Orr, Associated Architects; Henry A. Pfisterer, Consulting Engineer. Full-scale model of three-dimensional floor-ceiling system undergoes load test (below). *With 215 psf (twice live load) placed on the floor, the measured deflection at center of the 40-ft span was 0.15 in.*

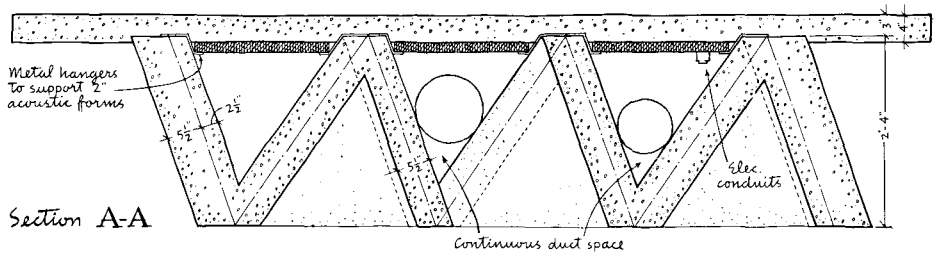
Reflected ceiling plan and cross section (right) *illustrate tetrahedron pattern.*

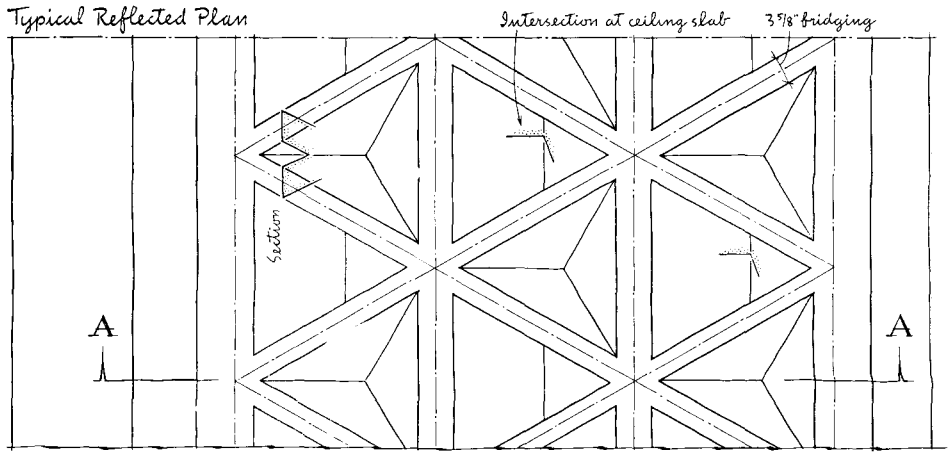


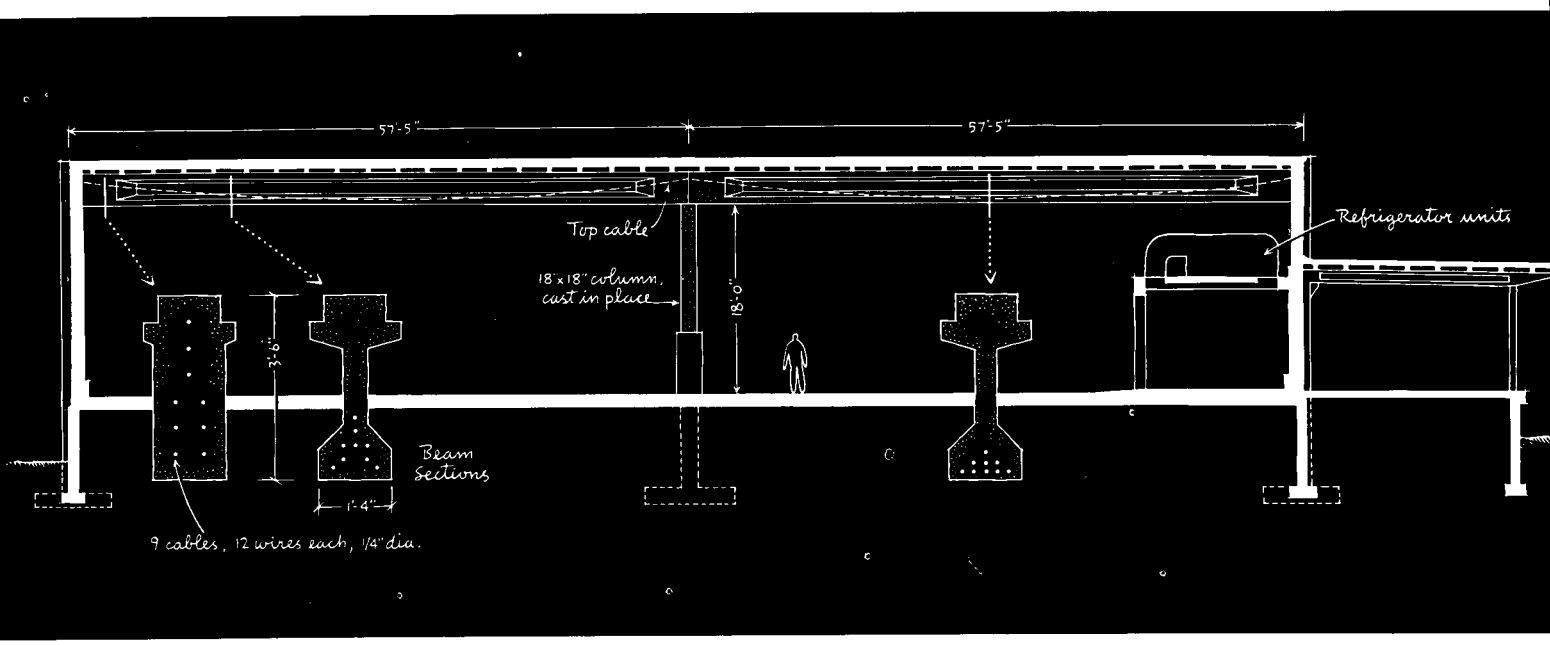
Undoubtedly the most interesting structural innovation of the Yale Design Laboratory Building (an addition to the existing Art Gallery) will be the new three-dimensional floor-ceiling system conceived by Louis Kahn—Philadelphia architect and faculty member of the Department of Architecture at Yale. Kahn's philosophy of structure holds that a building material should be designed to take maximum advantage of all its physical properties. Thus, when all integral elements are capable of working at capacity, the resultant form is the correct expression for a given material. Kahn visualizes a concrete floor-ceiling system for a design laboratory as working most efficiently when cast in a tetrahedron-type design (*reflected ceiling plan and cross section below*). Such a design, which will be constructed for the first time, has already been developed and load tested at New Haven.

As the local building code requires that some sort of a beam system be used for all floors, an exact translation of Kahn's original conception was not possible and the longitudinal ribs of the tetrahedron design somewhat act as beams. A special full-scale test model of the new span was erected to satisfy the New Haven Building Department that the system would meet minimum safety requirements (*photo, below left*). The design load for the model was: 100 psf live load and 175 psf dead load (including 15 psf for floor surfacing materials). The ribs were poured to a depth of approximately 2 ft 4 in.; over the ribs was placed a 2-in. layer of cement-bonded wood-fiber panels and a 4-in. slab of concrete—the panels bonding automatically with the concrete. The bottom of each primary rib contains a 1¼-in. square bar while a ⅝-in. round was placed in each secondary member of the pattern. 3000 psi concrete was specified for the floor-ceiling and 3750 for the columns. Bags weighted with crushed stone were placed atop the slab until an amount equal to twice the live load had been attained. Although 0.70-in. deflection would have been permissible for the 40-ft span, the actual recorded deflection at the center was only 0.15 in.

Kahn calls this development three-dimensional construction, as the ceiling forms a pattern that is in contrast to the traditional flat-surface type of ceiling. Among its advantages are: all ductwork and conduit can be easily placed within the ceiling without being readily apparent and without effecting the strength of the system whatsoever; lighting elements can be placed in the tetrahedrons so that when viewed from any other location than immediately below. direct light from the source is cut off by the ribs; good acoustical conditions are inherent.



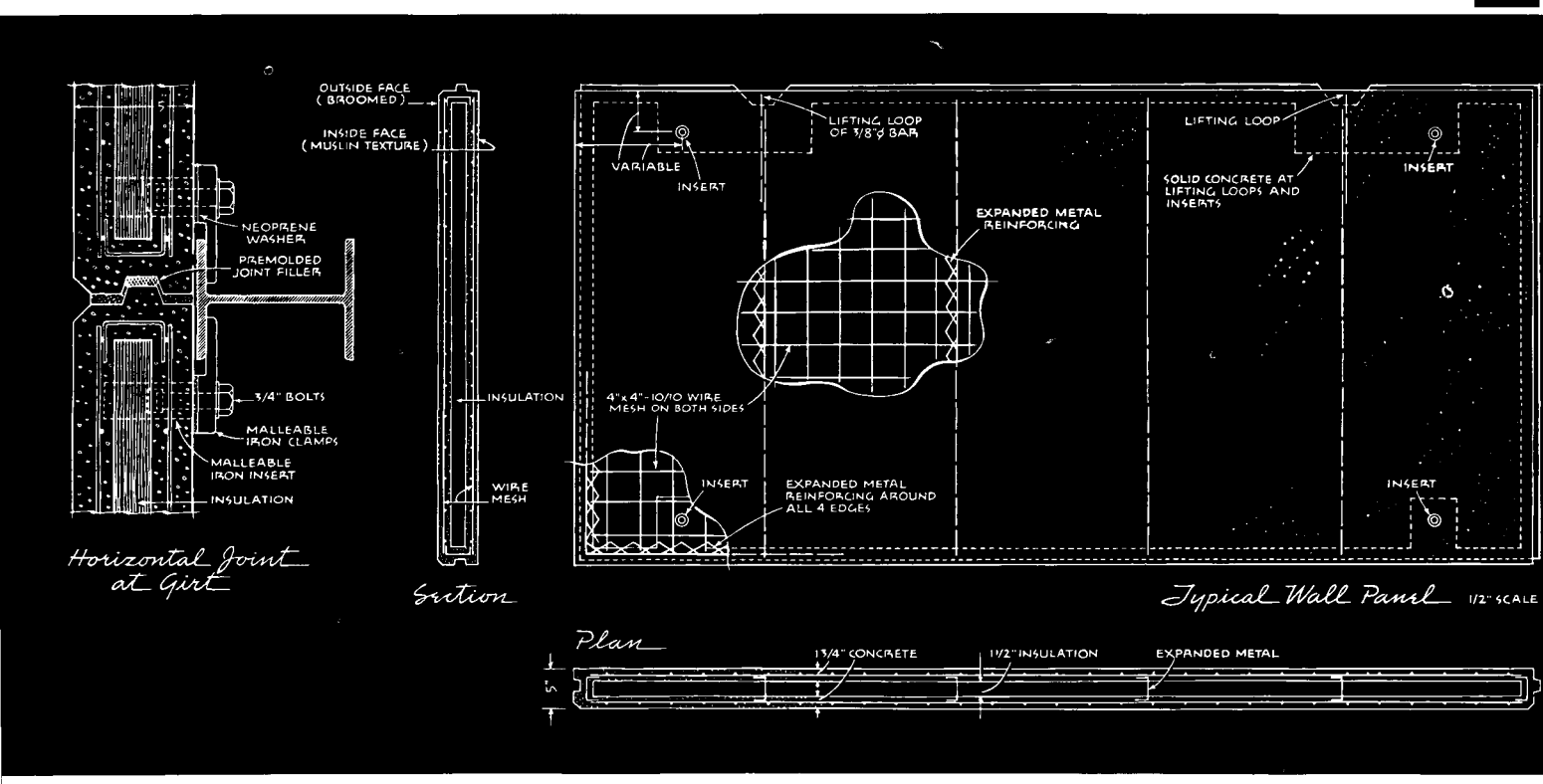


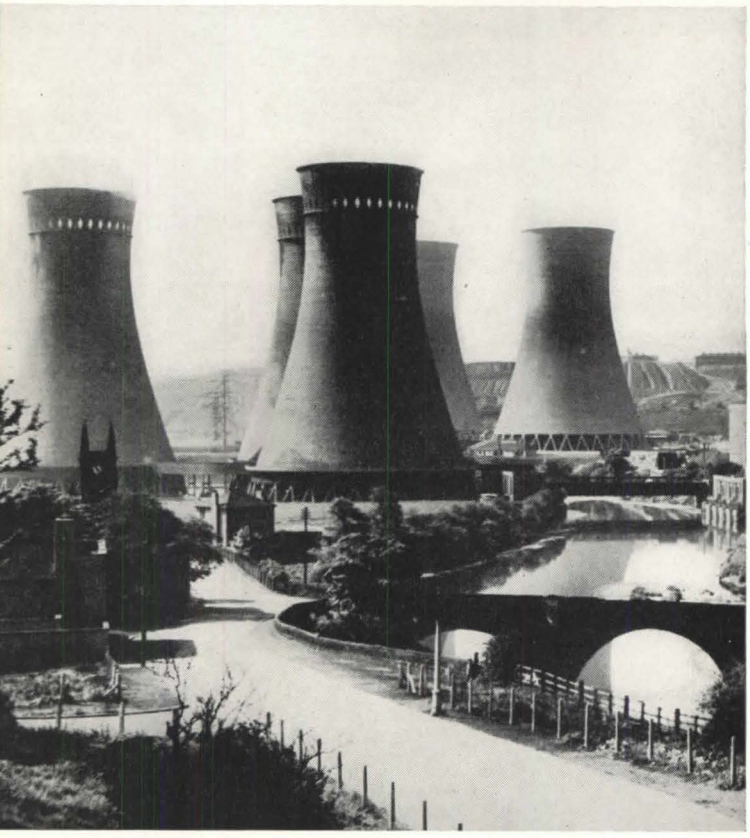


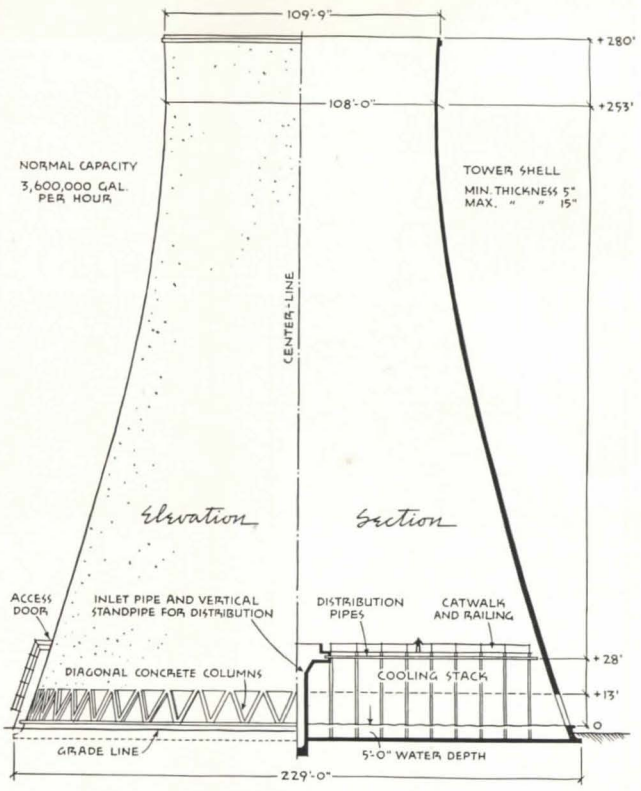
Cold Storage Warehouse, Beatrice Foods Company, Denver, Colorado (above): *Nat S. Sachter, Professional Engineer. Critical requirements in this design were to maintain an 18-ft clear height (for maximum stacking of food products on pallets with fork lift trucks); to minimize the height within the building above the 18-ft clearance (to keep the volume to a minimum and thus reduce refrigerant costs); and to maintain clear span of 57 ft (to reduce waste space around columns). A roof structure of prestressed concrete girders (post-tensioned) and slabs fulfilled all these conditions.*

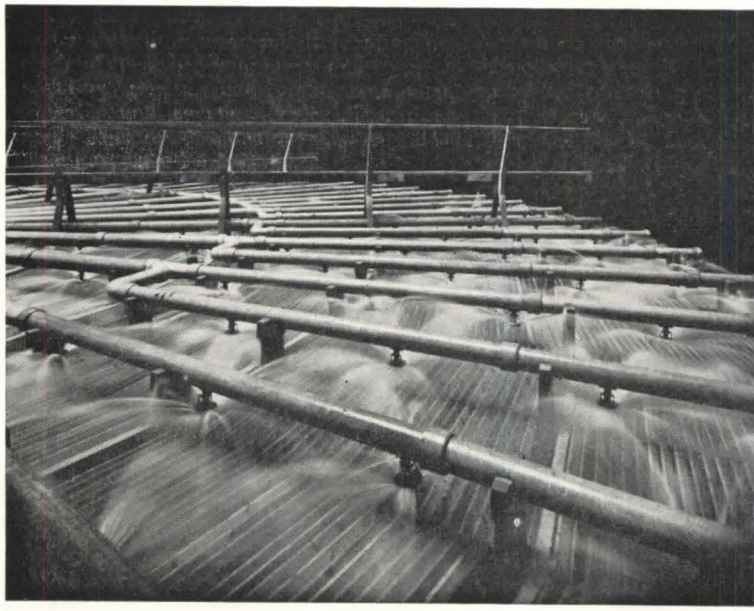
Peconic River Plant and Facilities, Grumman Aircraft Engineering Corporation, Calverton, Long Island, New York (below): *Walker & Poor, Architects; Seelye Stevenson Value & Knecht, Consulting Engineers. Exterior portions of these curtain walls are of air-entrained concrete in which the entrainment is at least 3½% and not more than 4½%. Combined with glass-fiber insulation the completed 5-in. sandwich has a computed U factor of 0.14 and a computed value of decibel loss in sound transmission of 45.*

Landers Residence, Houston, Texas (below): *Theodore Ahlborn, Consulting Engineer. Walls tilted with simple machinery in five minutes.*





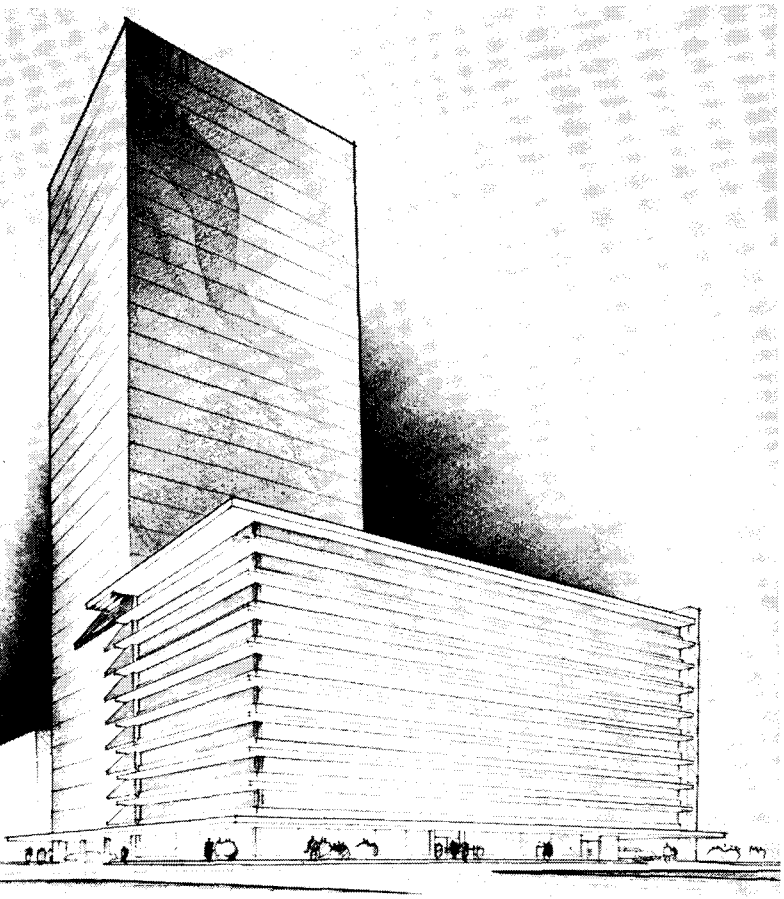




Hyperbolic cooling towers, similar to those located at Keansly, England (above), *will make their appearance in the United States during the coming year. Serious inquiries for such towers have come from certain areas of Texas, Illinois, California, New York, and other states where the water supply is inadequate. Designs have been prepared by L. G. Mouchel & Partners, London, England, and International Technical Enterprises, Inc., Chicago, Illinois.* (Typical section, above right.)

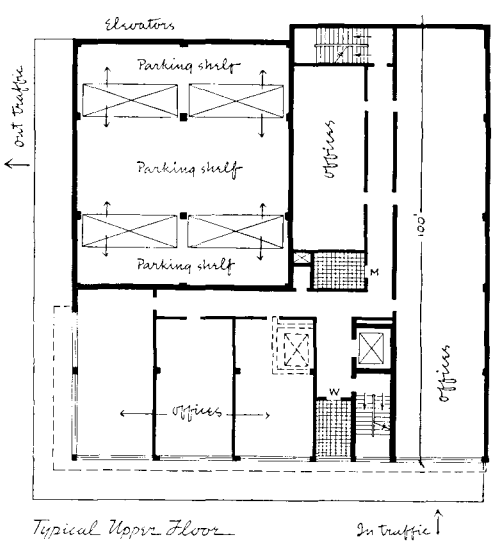
Genuine interest in hyperbolic cooling towers of reinforced concrete is being shown in certain sections of the United States where the water supply needed for the operation of condensers in electric steam-power stations is inadequate. These cooling towers, through their chimney construction, decrease the temperature of circulated water by natural draft and are capable of handling 6- to 8-million gallons per hour. Employed extensively in Europe for the past 30 years, this system for permitting the reuse of circulating water is believed to provide great benefits for power stations, steel plants, refineries, and process industries. Use of such towers makes possible the location of power stations near industries utilizing the produced electric power or near the fuel supply.

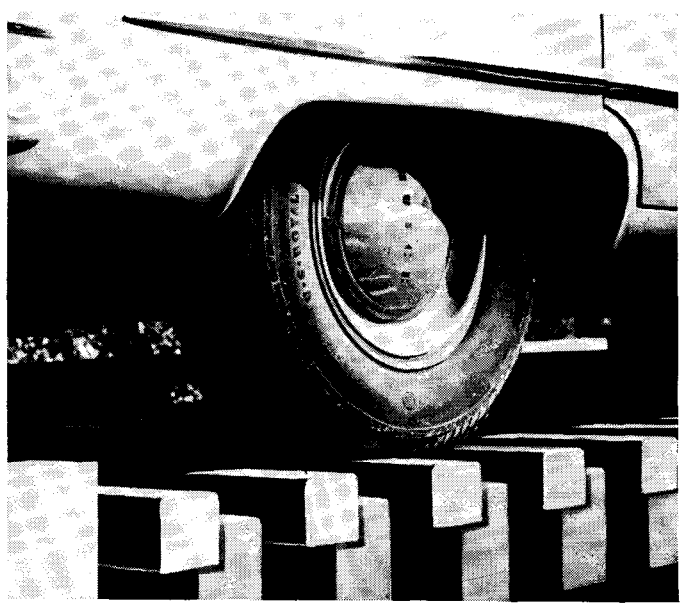
The hot water is pumped to a height of approximately 24 to 28 ft and enters into distributing pipes. The water is then sprayed, through sprinklers, on splashboards and cools as it drips down to the collecting pond at the base of the tower (*photo above*). These cooling towers, built of reinforced concrete thin shell construction and curved in two planes, need little maintenance, and offer strong resistance to gales, tornadoes, and earthquakes.



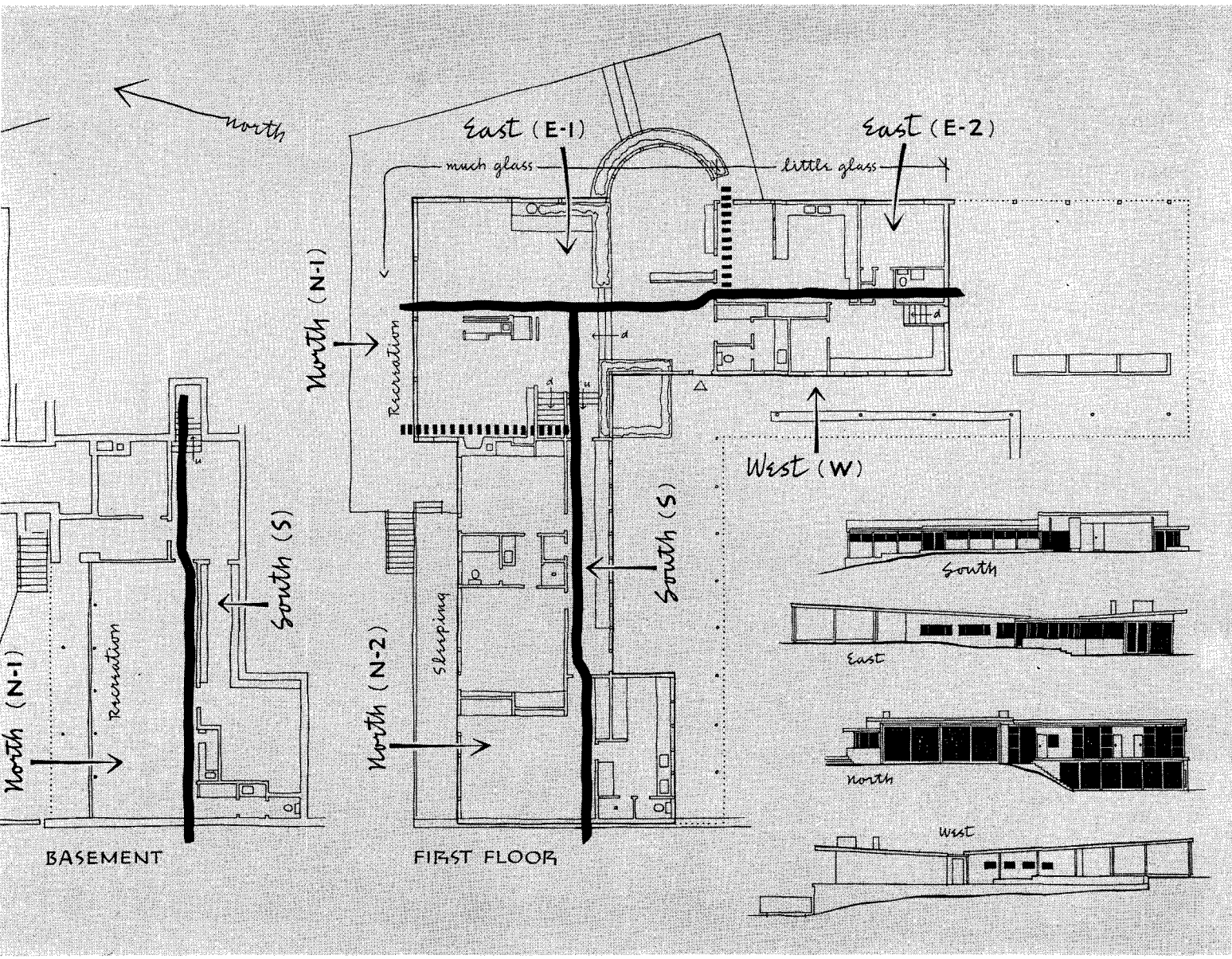
Proposed Parking Garage and Office Building, Houston, Texas (left): *MacKie & Kamrath, Architects. Building to integrate Alkro Parking System perfected jointly by Cornelius Kroll & Company, Engineers, and Michael Alimanestiano, Graduate Engineer. Method of operation: (1) owner drives car into garage, steps out, and (if desired) locks car; (2) attendant pushes button and car is automatically picked up and moved sideways onto an elevator-conveyor; (3) elevator raises car to desired level, then car is moved sideways onto a parking shelf* (see plan, below left).

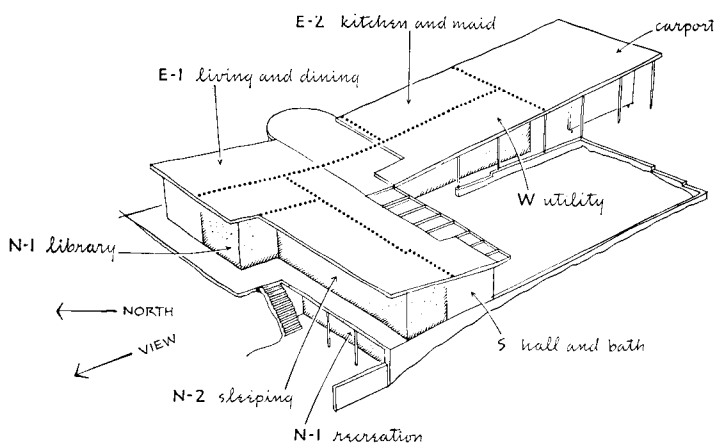
Conveyor can be raised, lowered, or moved to either side of elevator platform. When raised, upper part of conveyor (detail below) *meshes with beams of parking shelf. When lowered, car remains on shelf and conveyor is permitted to return to shaft for descent to ground level.*



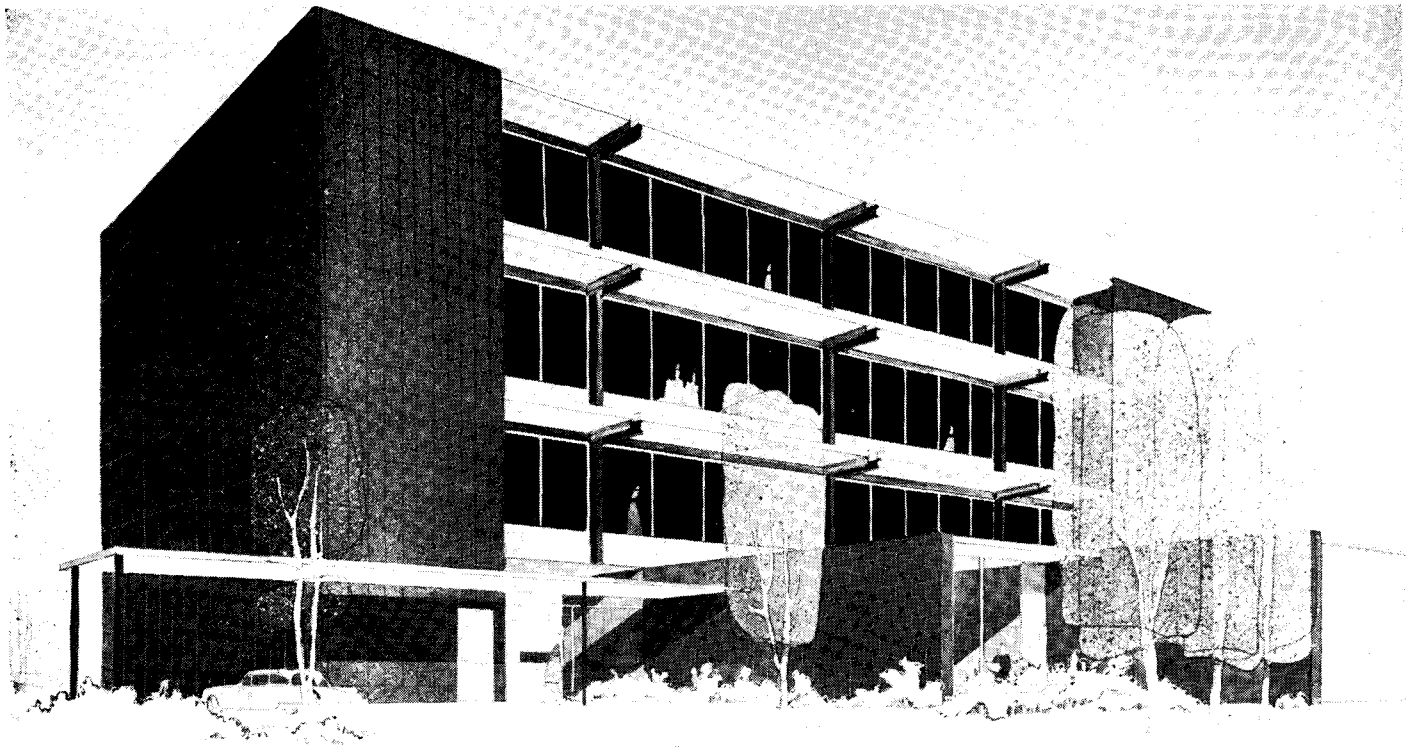


Parking became a problem when conventional facilities could no longer pay their way in high-cost ground areas. MacKie & Kamrath have spent a great deal of effort developing a proposed garage and office building for the Alkro Parking System to be used for those high-cost land areas of various cities throughout the country. The Alkro system is intended to be an integral part of a commercial building and compared with parking garages of the past has the following basic advantages: (1) requires a minimum of ground per automobile; (2) requires a minimum of operating expense—less than half of the operating expense of conventional facilities; (3) eliminates a personnel problem—its entirely automatic operation requires only one cashier and two attendants to co-ordinate all facilities; (4) provides the fastest, most convenient, and most satisfactory service for the car owner.



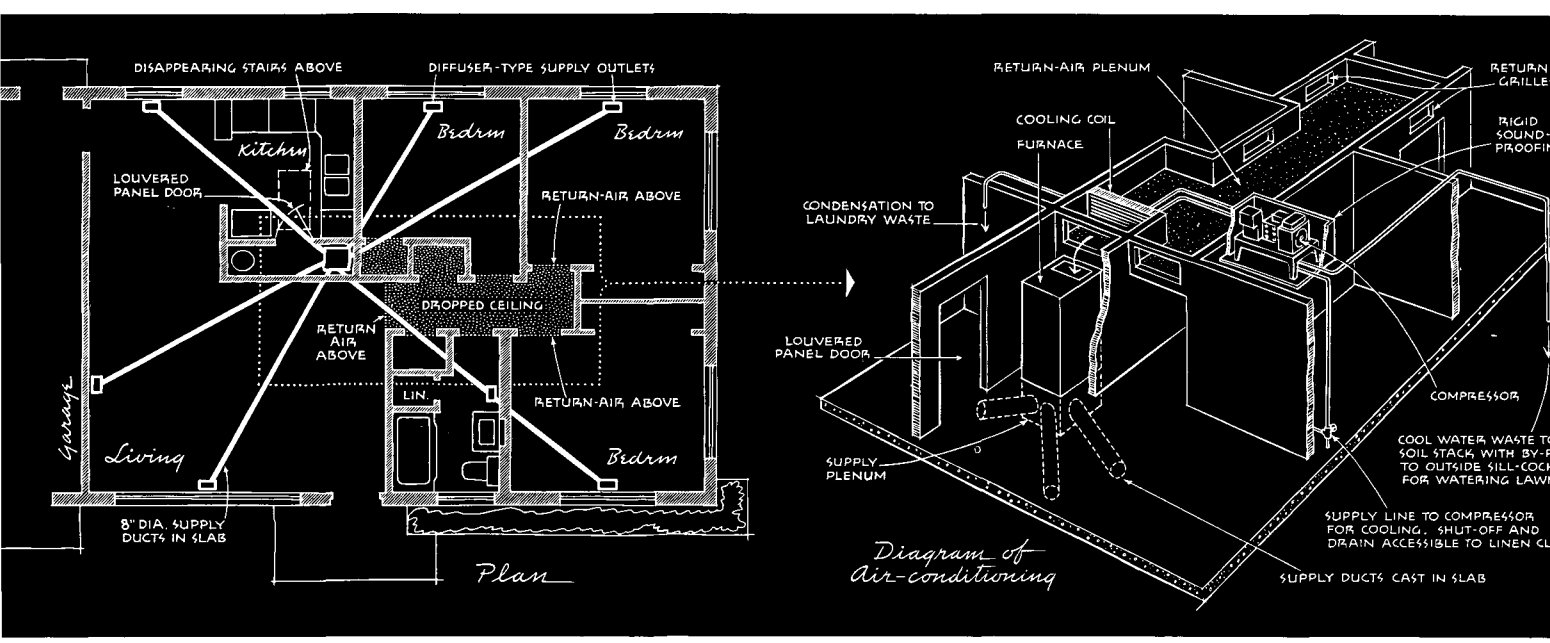


Stulman Residence, Baltimore County, Maryland: Daniel Schwartzman, Architect; McGuinness & Duncan, Engineers. Because of an exceptional north view, that exposure was selected for the principal living areas. It was evident that there should be four major zones. The north zone must operate when out of the sun; motorized valves permit different control of the bedrooms from that of the library-recreation room grouping. The east zone is also divided by similar controls so that the glass-walled dining-living area can operate separately from the small-windowed kitchen-maid area. Limited glass is a characteristic of the south and west zones and each operates as a unit according to the effect of the sun. To avoid cold floors, promote thermal stability, and to create an updraft for combating window condensation, about one third of the output in each room is located in perimeter floor coils.



Medical Clinic, Canton, Ohio (above): *Tuchman & Canute, Architects. This clinic will have year around air conditioning, heating and cooling, by use of a heat-pump system. In the Canton area, there is an extensive underground water supply which remains at a fairly constant temperature of 55 F. For this system two wells will be dug—one to bring water to the system, the other to carry used water back to the source. Heat-loss calculations indicate that the total heating and cooling requirement can be accommodated entirely by the heat pump without booster units.*

Northern Hills Development, Dayton, Ohio (below): *American Construction Corporation, Builders. The application of air conditioning to an existing system will be accomplished by installing the component parts of the conditioner as integral parts of the system. Principal design changes involve an increase of the return-air-grille areas and an increase of the blower capacity in the furnace from a normal rating of about 750 cfm to 1500 cfm. Both changes are necessary to handle the larger volume of air required for the air-cooling system. It will also be necessary to increase the horsepower of the blower motor as well as to utilize a two-speed blower to permit a simple conversion back to a normal heating system.*



pa MANUFACTURERS' LITERATURE

Editors' Note: Items starred are particularly noteworthy, due to immediate and widespread interest in their contents, to the conciseness and clarity with which information is presented, to announcement of a new, important product, or to some other factor which makes them especially valuable.

air and temperature control

★ 1-220. **American-Standard Radiator Heating** (R52), 198-p. hard-bound catalog of radiator heating equipment including boilers, baseboard radiation, radiators, convectors and convector cabinets, conversion units, water heaters. Photos, drawings, dimensions, ratings, construction details of each unit. Complete installation and application data illustrated by tables. American Radiator & Standard Sanitary Corp., Bessemer Bldg., Pittsburgh 30, Pa.

1-221. **Uni-Flo Engineered Air Distribution Products** (F4471-1), 4-p. bulletin on sidewall and ceiling outlets and accessories for air-conditioning or ventilating systems. Description of models, photos. Barber-Colman Co., Air Distribution Div., 150 Loomis, Rockford, Ill.

1-222. **Sterling Baseboard Radiation,** AIA 30-FI (101), 8-p. booklet listing exclusive features of heating unit; design and installation data. Drawings of sheet metal assembly and heating element detail. Sterling Radiator Co., Westfield, Mass.

1-223. **Year 'Round Air Conditioning With One Central Unit** (DH DM 137), 4-p. bulletin describing new automatic residential air-conditioning unit. Advantages, construction data, drawings, photos. Typhoon Air Conditioning Co., Inc., 794 Union St., Brooklyn 15, N.Y.

1-224. **Gas Fired Unit Heaters** (23-2), 4-p. folder illustrating suspended-type gas-fired unit heater. Table of capacities, dimensional drawings of blower and fan types, unit selection suggestions. United States Air Conditioning Corp., 33rd & Como Ave., S.E., Minneapolis 14, Minn.

Bulletin and catalog describing radiation units for industrial and residential heating. General description, engineering data, applications, typical piping layout; cutaways, drawings, photos. Vulcan Radiator Co., 26 Francis Ave., Hartford, Conn.:

1-225. **Vulcan Radiation for Industrial and Residential Heating** (42)

1-226. **Vulcan Radiation,** AIA 30-C-4 (125)

1-227. **Surface Dehumidifiers** (1660), 30-p. brochure on surface dehumidifiers for use in central-plant type, commercial, and industrial air-conditioning systems. Typical applications, special features, typical specifications, selection procedure, direct expansion-coil data, details of construction, and other data illustrated with charts, drawings, tables. Westinghouse Electric Corp., Sturtevant Div., 200 Readville St., Hyde Park, Boston 36, Mass.

construction

3-178. **Armco Special-Purpose Steels** (252 8-52), 12-p. booklet listing grades and finishes of steels, their characteristics, applications, and fabricating properties, data on steel tubing. Tables, photos. Armco Steel Corp., 252 Curtis St., Middletown, Ohio.

3-179. **Ayr-Trap: The Air-Entraining Agent,** 16-p. booklet discussing an air-entraining agent, functions of entrained air in concrete, general description, effects, advantages of the agent. Photos, tables, charts. A. C. Horn Co., Inc., 10 St. & 44 Ave., Long Island City 1, N.Y.

★ 3-180. **Specifications for Carey Built-Up Roofs** (6159), 80-p. manual covering types of roofing including asphalt felt gravel, pitch and felt, pitch and asbestos, asbestos and felt, gravel and smooth, mineral, tile. Specifications, materials, deck surfaces, and application of each with cutaways; flashings and construction detail. The Philip Carey Mfg. Co., Lockland Station, Cincinnati 15, Ohio.

3-181. **You Too Will Like a Concrete Home** (p38), 32-p. brochure in color displaying photos and plans of concrete block homes built in various parts of the country. Advantages of concrete in residential construction. Portland Cement Assn., 33 W. Grand Ave., Chicago 10, Ill.

3-182. **Utility Nailing Channel** (UC-52), 4-p. bulletin describing use and installation of a nailing channel for light suspended-ceiling construction. Construction data on the suspension system, specifications. Drawings, photos. The Sanymetal Products Co., Inc., Suspended Ceilings Div., 2093 E. 19 St., Cleveland 15, Ohio.

Two booklets discussing framing anchors and trussed rafters, respectively. Design and application information with drawings, recommended safe working values of the anchors; uses of trussed rafters in homes, churches, and commercial buildings, special framing with trussed rafters. Timber Engineering Co., 1319 18 St., N.W., Wash. 6, D.C.

3-183. **Architects Aids for Better Homes and Other Wood Construction,** AIA 19-B-5

3-184. **Wood Frame Teco Trussed Rafters,** AIA 19B

3-185. **Unistrut,** AIA 14-G (800), 84-p. pocket catalog of metal framing system. Design load data, typical installations, reference tables. Contents page, photos, diagrams. Unistrut Products Co., 1013 Washington Blvd., Chicago 7, Ill.

doors and windows

4-222. **Andersen Windowalls,** AIA 16L (531), 20-p. catalog describing four types of window units with photos, drawings, cutaways. Specification data, installation details, tables of stock sizes, glass layouts, opening dimensions. Andersen Corp., Bayport, Minn.

4-223. **For Modern Building . . . Bayley,** AIA 16C (APW53), 16-p. booklet covering line of aluminum projected and projected-ribbon windows. Features, sectional drawings, specifications, installation data, full-size details. The William Bayley Co., Springfield, Ohio.

4-224. **Latest Color Style News,** 24-p. brochure illustrating pine paneled doors which can be stained, painted, or decorated with appliques. Styles of doors, decorating ideas, color drawings. Ponderosa Pine Woodwork, 38 S. Dearborn St., Chicago 3, Ill.

Two brochures presenting features of steel frames for sliding glass doorwalls and horizontal sliding windows. General information on models and types, isometric drawings of engineering features and construction details. Installation photos. Steelbilt Inc., 18001 S. Figueroa, Gardena, Calif.

4-225. **Steel Frames for Sliding Glass Doorwalls,** AIA 16-E

4-226. **Horizontal Sliding Windows,** AIA 16-E

★ 4-227. **Air Infiltration Through Weather-stripped and Non-Weather-stripped Windows** (35), 48-p. booklet published by the University of Minnesota Institute of Technology. Economic value of weatherstripped windows, par-infiltration and its application, research program, text apparatus, summary of results, conclusion. Illustrated with drawings, photos, charts, tables. Weatherstrip Research Institute, Box 101, Riverside, Ill.

electrical equipment, lighting

5-149. **What You Should Know About Circuit Breakers** (101), 16-p. manual explaining operating principles of basic circuit breaker designs and providing engineering data on application factors. Colored charts and diagrams. Heinemann Electric Co., 496 Plum St., Trenton 2, N.J.

5-150. **Church and Public Building Lighting,** AIA 31-F-2, booklet illustrating Gothic, Romanesque, Colonial, Georgian, and Modern styles of lighting brackets. Standard specifications, finishes, glass; drawings, color photos. R. A. Manning Assoc., Box 643, Sheboygan, Wisc.

5-151. **Standard Specifications for Industrial Lighting Units,** AIA 31-F-233, 46-p. revised booklet containing detailed specifications for 18 of the most commonly employed incandescent and fluorescent industrial lighting units. Index, tables. RLM Standards

Institute, Inc., 326 W. Madison St., Chicago 6, Ill.

finishers and protectors

6-85. **Protection for Aluminum** (690A), 6-p. folder giving general information about a coating that protects both painted and unpainted aluminum; applied by brush or spray process. Chemicals and equipment required, five steps in applying the coating, advantages of its use. American Chemical Paint Co., Box 301, Ambler, Pa.

6-86. **The Key to Gymnasium Floor Finishing,** AIA 25G (735452), 6-p. bulletin containing data on the proper finishing and care of gym floors, correct use of wood sealers and maintenance products, official rules affecting the painting of basketball court lines. Specification table of floor finishing products, diagrams, drawings. Huntington Laboratories, Inc., 968 E. Tipton Ave., Huntington, Ind.

sanitation, water supply, plumbing

19-318. **Uni-Built** (ET-452), 12-p. brochure containing detailed information on a series of centrifugal pumps and featuring new leakproof mechanical seal which eliminates leakage occurring when conventional packing glands are used. List of construction materials with cutaway, selection tables, dimensions, installation, operation, and parts list. Bell & Gossett Co., 8200 N. Austin Ave., Morton Grove, Ill.

19-319. **Automatic Controls for Gas Water Heaters** (SA 2021), 16-p. catalog describing three models of controls for domestic hot-water heaters. General description, specifications, installation data, lighting instructions, service and adjustment information, temperature setting, parts list of each model. Drawings, photos. Minneapolis-Honeywell Regulator Co., Appliance Controls Div., 8775 Mettler St., Los Angeles, Calif.

19-320. **Root-Proof Pipe and Fittings** (306), 12-p. booklet covering properties of nonmetallic sewer pipe and fittings. Description of manufacturing process, advantages, specifications of fittings, drawings. Orangeburg Mfg. Co., Inc., Orangeburg, N.Y.

19-321. **Thesco Equipment** (352), 56-p. refrigeration catalog for architects containing specifications and prices for all types of refrigeration equipment used in commercial kitchens including walk-in, reach-in, normal, low-temperature refrigerators; also storage refrigerator for flake and cube ice. Photos, cutaways, drawings. The C. Schmidt Co., 1712 John St., Cincinnati 14, Ohio.

19-322. **Hot-Water Temperature Control,** 2-p. bulletin discussing methods of supplying hot water to occupants of apartment houses, hotels, and office buildings, procedures and equipment that may be used to maintain temperature of water in proper range; drawings. Water Service Laboratories, Inc., 423 W. 126 St., New York 27, N.Y.

19-323. **Electric Water Cooler** (2WC-0610), 4-p. folder. Construction and design specifications of water cooler with built-in storage and freezing compartment. Dimensional drawings, photos. Westinghouse Electric Corp., Electric Appliance Div., Springfield 2, Mass.

specialized equipment

★ 19-324. **Planning the X-Ray Processing Facilities and Equipment,** 90-p. booklet of compiled data to assist architects and hospital personnel in planning X-ray processing facilities and equipment. Covers planning general layout, light-tight entrances, electric wiring, ventilation, floor- and wall-covering, illumination, construction of loading bench, design, materials, installation, plumbing, temperature control for X-ray processing tanks. Medical X-Ray Sales Div., Eastman Kodak Co., 343 State St., Rochester 4, N.Y.

19-325. **Everything for the Theatre,** 48-p. catalog describing uses and illustrating materials of theatrical equipment and supplies, including rigging and light equipment, draperies and curtains. Price lists, drawings. Theatre Production Service, 1430 Broadway, New York 18, N.Y.

surfacing materials

19-326. **Vinyl-Cork Tile** (53), 8-p. revised catalog describing floor covering combining advantages of both cork and vinyl, for use in residential and commercial buildings. Uses, installation specifications, directions for care and maintenance; color chart, design data, comparison table of test results. Photos. Dodge Cork Co., Inc., Monroe & Laurel Sts., Lancaster, Pa.

19-327. **Federal Specification: Tile, Floor, Asphalt** (SS-T-306b), 10-p. booklet containing specification for asphalt floor tile superseding Federal Specification SS-T-306a in effect since 1943. Approved for use of all Federal agencies. Tables, photos. Superintendent of Documents, Government Printing Office, Washington 25, D.C. (5 cents per copy; send directly to Government Printing Office.)

vertical traffic

20-12. **Dumbwaiter and Elevator Catalog,** revised 9-p. catalog containing illustrations and descriptions of electric and manually operated dumbwaiters, dumbwaiter doors, elevators, residence lifts, stair travelors. Dumbwaiter specifications, dimensioned layouts for electric and manual dumbwaiters and electric sidewalk elevators. Sedgewick Machine Works, Inc., 90 Eighth Ave., New York 11, N.Y.

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4-222	4-223	4-224	4-225	4-226	4-227	5-149	5-150
5-151	6-85	6-86	19-318	19-319	19-320	19-321	19-322
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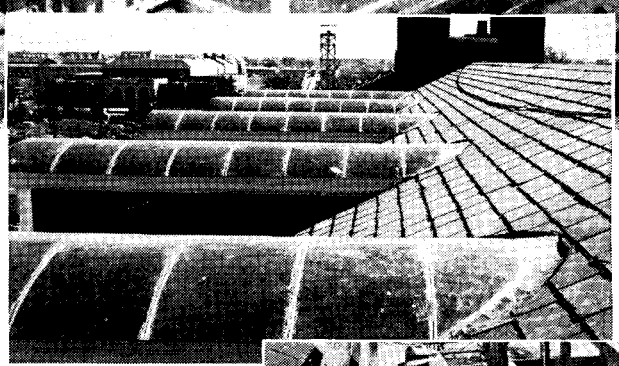
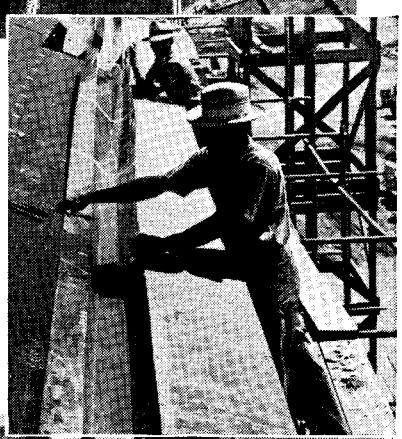
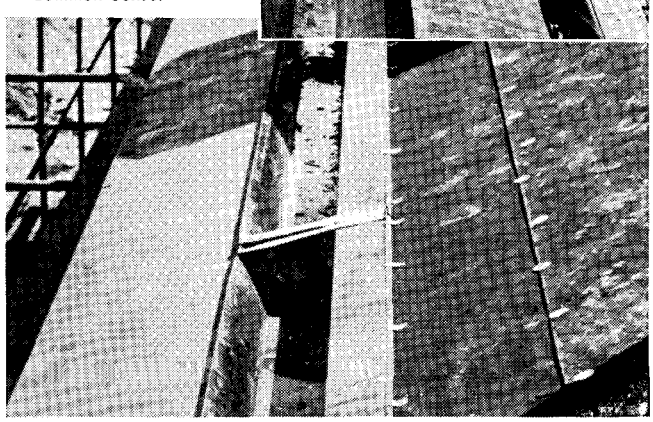


LASTING, NON-RUSTING REVERE 16-OZ. COPPER covers the dormer roofs of the buildings in the Theological Quadrangle of Southern Methodist University.



NOTE WORKMEN—putting prefabricated 24-oz. Revere Copper Gutter sections into place. Installation was made in accordance with Revere's recommendations in the booklet, "Copper and Common Sense."



CLOSE-UP OF EXPANSION JOINT before capping. Joints were placed 24 ft. apart. The facia copper leading from the upper, outer edge of the gutter over the masonry cornice, was 16 oz. Revere Lead Coated Copper. 68,000 lbs. of Revere Copper was used on the entire Quadrangle project of 7 buildings. Architect—Mark Lemmon. Gen. Cont.—Henger Construction Co. Sheet metal contractor—American Sheet Metal Co. Revere Copper furnished by Moncrief-Lenoir Mfg. Co., all of Dallas, Texas.

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P/A is happy to introduce this new column, dealing both lightly and seriously with the subject of specification writing. PROGRESSIVE ARCHITECTURE *has always been interested in the architect's specification problems, and Ben John Small has written more on the subject than anyone we know of. An associate in the office of Alfred Hopkins & Associates, he is co-author of* Architectural Practice *and author of* Streamlined Specifications Standards, *Reinhold books.*

insulation

The Partner said to the Associate, "Ben, on with the heavy long Johns and up you go to Greenland to see how your specifications are surviving." He was referring to Thule Air Base, 900 miles from the North Pole, over which the office has seethed with activity since January 1951. Before one could issue an addendum I had traversed the 2400 miles northeast from New York and found myself talking to a cold, irritable, tough field superintendent who was putting his hastily erected temporary shanty in order. The shanty served as office and bedroom. It was 20° F above

zero. Conditioned by recent investigations of insulations, caulking compound, gaskets, vapor barriers, and other problems of creating shelter in low temperature areas, I asked him what was the "U" of the walls. He shrugged his shoulders negatively. How about the "k" value of the insulation. Another negative shrug. What *was* the insulation material, I pressed. After a long pause he replied, "If you promise not to tell the guy who wrote it you may be interested to know that crumpled specification sheets work just fine!" I have heard of many uses for specifications, but never as a building material—even in a temporary shanty.

chemistry lesson

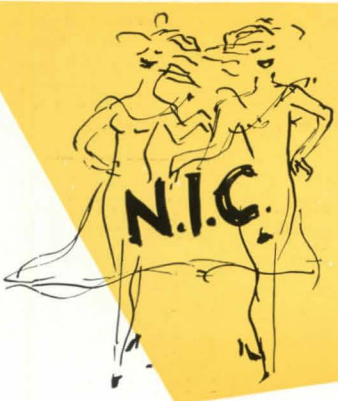
In searching for a caulking compound suitable for the prefabricated structures at Thule Air Base, one was found that seemingly met all requirements of flexibility, adhesiveness, potential longevity, nonshrinking characteristics, and so on. Since the use of proprietary names is frowned upon in governmental projects I asked the manufacturer to suggest a general description that would permit broad competition. He suggested "Saturated long chain synthetic hydrocarbon polymer" which I used. Some weeks later a chemist friend of mine telephoned to inquire what we planned to do with thirty thousand gallons of vaseline! He later explained that had not the word "synthetic" been included someone's face would have been quite red.

bible story

In designing low temperature structures one must never be caught with his vapor barrier on the wrong side. We had been studying, analyzing, checking, testing, and philosophizing about vapor barriers until we were conversant with the "perm" of dozens of them including pitch. Vapor barriers are relatively new in construction, at least that was my impression until the Bible proved otherwise. In Genesis 6 is stated, "Make thee an ark of gopher wood; rooms shall thou make in the ark, and shalt pitch it within and without with pitch."

etaoin shrdlu

Typographical errors in specifications are often serious and sometimes humorous. In a recent food service specification I was describing a double food warmer which was to be furnished with "two metal corrosion-resisting *ladles*" which appeared in



the specifications as "two metal corrosion-resisting *ladies*." The Contractor submitted a cut from the manufacturer of the food warmer which showed a photograph of the specified unit and, by some rare coincidence, two charming young ladies, smiling engagingly and pointing to the warmer. Our shop drawing checker dutifully marked the ladies "N.I.C." (Not In Contract).

specification exhibit

Walking through the architectural exhibits at the American Hospital Association Convention held in Philadelphia, Pa., last September, I wondered about the specifications story behind the completed buildings. How many specifications were as well written as the drawings were drawn? How many were clear, concise, comprehensive? How many can be accused justifiably of contributing to the increased cost of the structures because of ambiguity, conflicts, disregard of local construction practices, excessive testing requirements, unnecessary exclusion of product competition. How many specifications were started too soon or, worse yet, too late? How many specifications reflect muddy thinking with regards to matters properly drawn or scheduled on the drawings and not specified? For example, a door mirror was indicated by dimension on the drawings as 5′0″ high. The 5′0″ figure was repeated in the specifications. In the transition from manuscript to printed specification it appeared erroneously as 50″. A needless conflict was created.

dilemma

A free lance specification writer friend of mine was bemoaning his fate the other day. He is no longer certain what a specification is. His clients ask him for a bank-type specification (good enough for mortgage purposes), a public-works-type specification (good enough to withstand the critical onslaught of the reviewers), a lightweight-type specification (a psychological device to encourage low bidding), a heavyweight-type specification (to impress clients that the fee is hard earned), a blanket-type specification (we do little detailing here—you cover it).

architect's graveyard

At the last A.I.A. convention in New York during a joint A.I.A.-C.S.I. (Construction Specifications Institute) meeting a prominent architect with 40 years experience described his recent downfall. His fatal mistake was to take his sons in practice with him. First they took his board away from him on the grounds his stuff was not sufficiently contemporary. After a series of similar demotions they reluctantly gave him a desk with a specification assignment. He hopes fervently he will make good.

BEN JOHN SMALL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auditoriums

Interior design of auditoriums encompasses four main elements—acoustics, lighting, seating, and decoration—and the success of the job depends on the quality of these elements. Probably most important is the attention to acoustical properties. Sound must be carried from the source so that it is heard well in any part of the auditorium, without "dead" spots or distracting echoes. Often the attention to acoustics also contributes a great deal to the effectiveness of the design. Ceilings may be dramatic creations and all fabrics and materials used to aid the acoustics can just as easily be well designed.

Sometimes there is a combination of daylight and artificial light, but both must be controllable for various activities—many of which require complete blacking out. The lighting fixtures may be an important part of the design, or the lighting may be completely concealed, with equal effectiveness.

The decoration of auditoriums is a little different from decoration of many other rooms. It must be interesting enough to arouse imagination when the stage is empty; yet not so overpowering that it detracts from the action when the stage is in use. It should play the supporting role, rather than being the star. Everything, both decoratively and structurally, should help to lead the eye toward the stage.

Seating, of course, should be comfortable and arranged for good vision. There should be enough space around the seating to permit ease of audience movement.

On the following pages are shown examples which well demonstrate effective handling of these four elements. The auditorium of the Fitchburg Youth Library has been planned to accommodate many different activities, and even several activities at one time (a sliding panel will be installed to divide the room). An entrance has been provided, so that activities need not disturb the adjacent library. What a magnificent ceiling—both functional and attractive—made of sweeping fins of oak batten! Here the adornments of the room are the lighting fixtures and the curtain decoration. The designers have relied on the beauty of the materials in their natural colorings. The auditorium of the Fine Arts Building of the University of Arkansas, could not be a handsomer setting for any production. The seating space is luxuriously ample. In fact, all the elements—the hidden cove lighting, the wall sculpture, the structural lines, and the stage curtaining—contribute to the creation of an extremely attractive and efficient theater.

There was a very definite budget consideration in the Speech Room of the Birmingham High School, nevertheless a pleasant and highly satisfactory result has been produced. The physical set-up is not extraordinary, but an adroit use of material and color have kept it from the realm of the everyday. All colors are carefully co-ordinated so that they are an integral part of the whole, and the wall murals repeat each of the colors in the room. Our fourth example, the auditorium of the Peter Thacher Junior High School, in Attleboro, is especially knowing in its reliance for design on the natural color and texture of materials. And the shape of each element—for example, the acoustic panel—is, as all good design is, right for its purpose and pleasant to the eye.

auditoriums

curtain decoration

window wall

Dutch linoleum

Continental seating

location	Fitchburg Youth Library, Fitchburg, Massachusetts
architects	Carl Koch & Associates*

* *Frederick L. Day, Jr., Leon Lipshutz*

data

cabinet work

Lectern: designed by Carl Koch/ fabricated by H. V. Lindberg, Gen'l. Contractor, 90 Electric St., Fitchburg, Mass.

doors and windows

Doors: built-up metal-clad/ Pratt & Forrest, Lowell, Mass.

Hardware: Independent Lock Co., Fitchburgh, Mass.

Windows: Hopkins projecting sash/ Hope's Window, Inc., Jamestown, N. Y.

Glass: "Twindow"/ Pittsburgh Plate Glass Co., 2108-A Grant Bldg., Pittsburgh 19, Pa.

Shades: installed by John C. Perry Co., 343 Belgrave Ave., Roslindale, Mass.

equipment

Radio, television, and music producing equipment: Hi-Par Products Co., Fitchburg, Mass.

furniture and furnishings

Seating: #TC700/ blue-grey #122 enamel-finish on metal, natural-birch armrests/ Heywood - Wakefield, 174 Portland St., Boston, Mass.

Upholstery: seats, Redo vinylite plastic-coated fabric, color #109 green/ Goodall Fabrics Inc., 525 Madison Ave., New York, N. Y.

Curtain: designed by Gyorgy Kepes/ sewn and hung by C. B. Swift & Co., 132 Newbury St., Boston, Mass.

lighting

Downlights: #388/ **footlights;** #811M/ **border lights:** #411/ **floodlights:** #1590 Lekolite/ Century Lighting Inc., 419 W. 55 St., New York, N. Y.

walls, ceiling, flooring

Sidewall: Harvard antique Gonic brick (waterstruck)/ New England Brick Co., Boston, Mass.

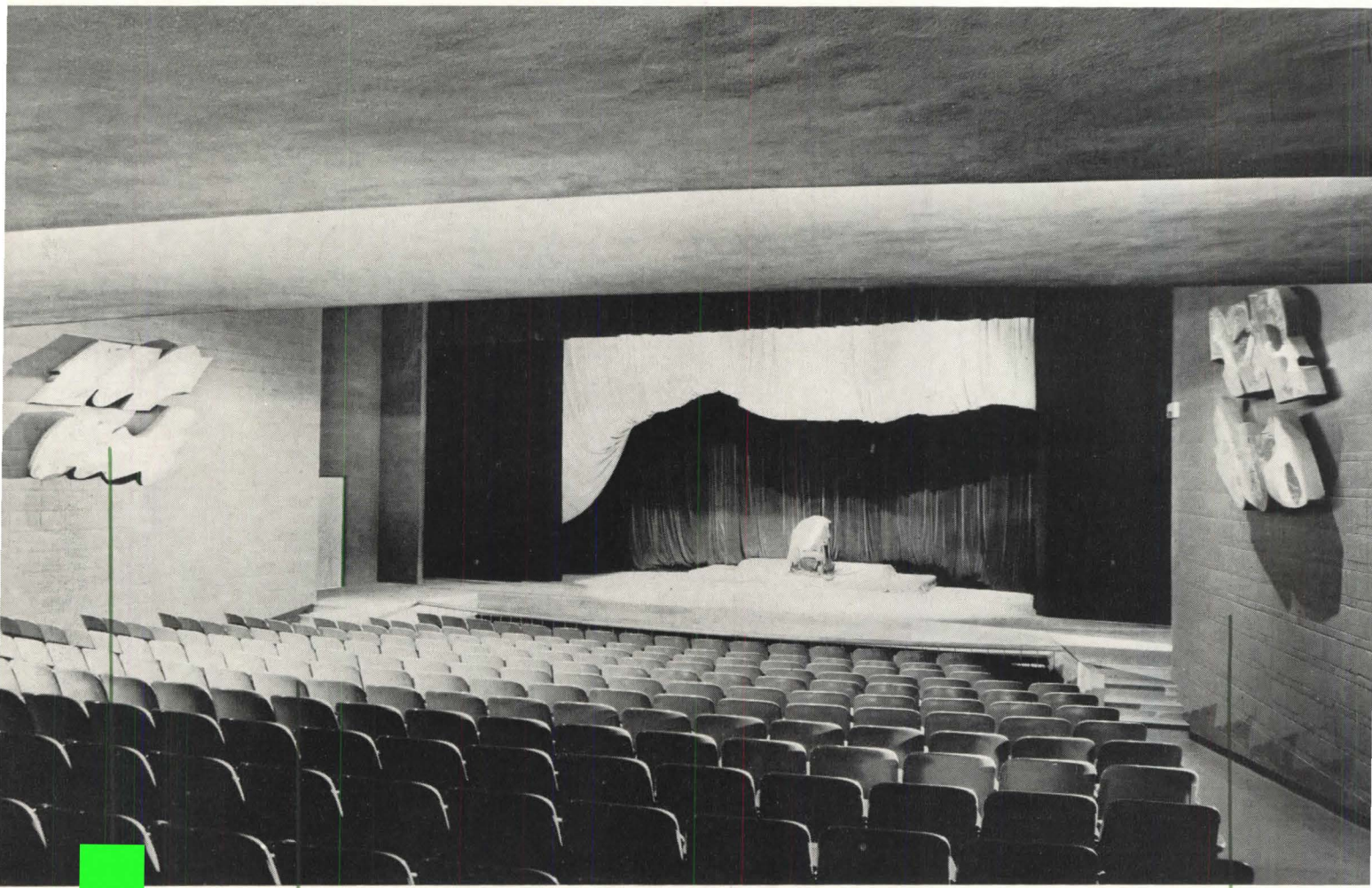
Rear wall and ceiling: oak batten on Masonite/ fiberglas sound absorption/ installed by H. V. Lindberg, Gen'l. Contractor.

Flooring: Velvet-lino cork carpet/ Linoleum Krommenie, Holland.

Connected to an unusually attractive library with garden reading room for children, this auditorium is used mainly for library activities. It is equipped to seat 200, but is divisible to accommodate smaller groups for story hours, music, and other activities. The glass wall and doors in the lower section of the auditorium look onto the garden. Besides making a spectacularly handsome ceiling, the shaped oak battens serve as fine acoustical aids by diffusing and directing sound waves. The entire color of this room depends upon the natural coloring of the materials used. To make the effect completely successful, the curtain decoration is equally good with curtains drawn or closed.

Photos: Ezra Stoller

auditoriums



wall sculpture

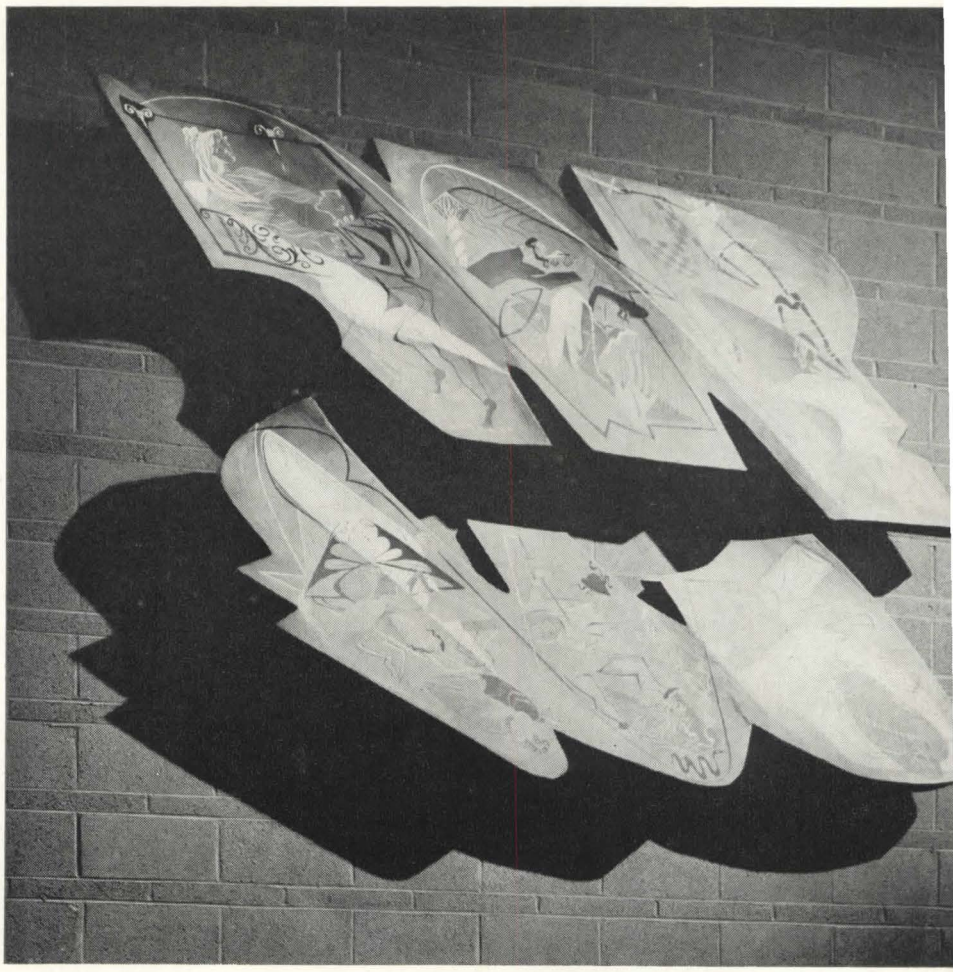
Continental seating

haydite walls

A feeling of drama has been created in this auditorium without any action on the stage. Contributing to this effect is the physical layout—the wall sculptures, the lighting, and the Continental seating—which leads the eye toward the stage. There are no distracting aisles, yet there is a generous space between the rows of seats to permit ease of movement to and from seats and to contribute to seating comfort. The simplicity of surfaces—ceiling, wall, and floor also add to the mood and atmosphere. Here is an auditorium with a definite personality.

Photos: Lionel Freedman

location	Fine Arts Building, University of Arkansas, Fayetteville, Arkansas
architects	Edward D. Stone and Haralson & Mott
theater consultants	Norman Bel Geddes, Edward C. Cole



data

furniture and furnishings

Seating: special design, combination of elements of several styles.

Upholstery: #60-F, long-pile mohair/ American Seating Co., Ninth & Broadway, Grand Rapids 2, Mich.

lighting

Fluorescent concealed cove lighting: Ledlin Lighting Inc., 49 Elizabeth St., New York, N. Y.

murals, sculpture

Plaster sculpture: designed by Gwen Lux/ scenes from Shakespeare's plays.

walls, ceiling, flooring

Walls: exposed haydite.

Ceiling: acoustic plaster.

Flooring: asphalt tile/ David E. Kennedy Inc., 58 Second Ave., Brooklyn, N. Y.

concealed cove lighting

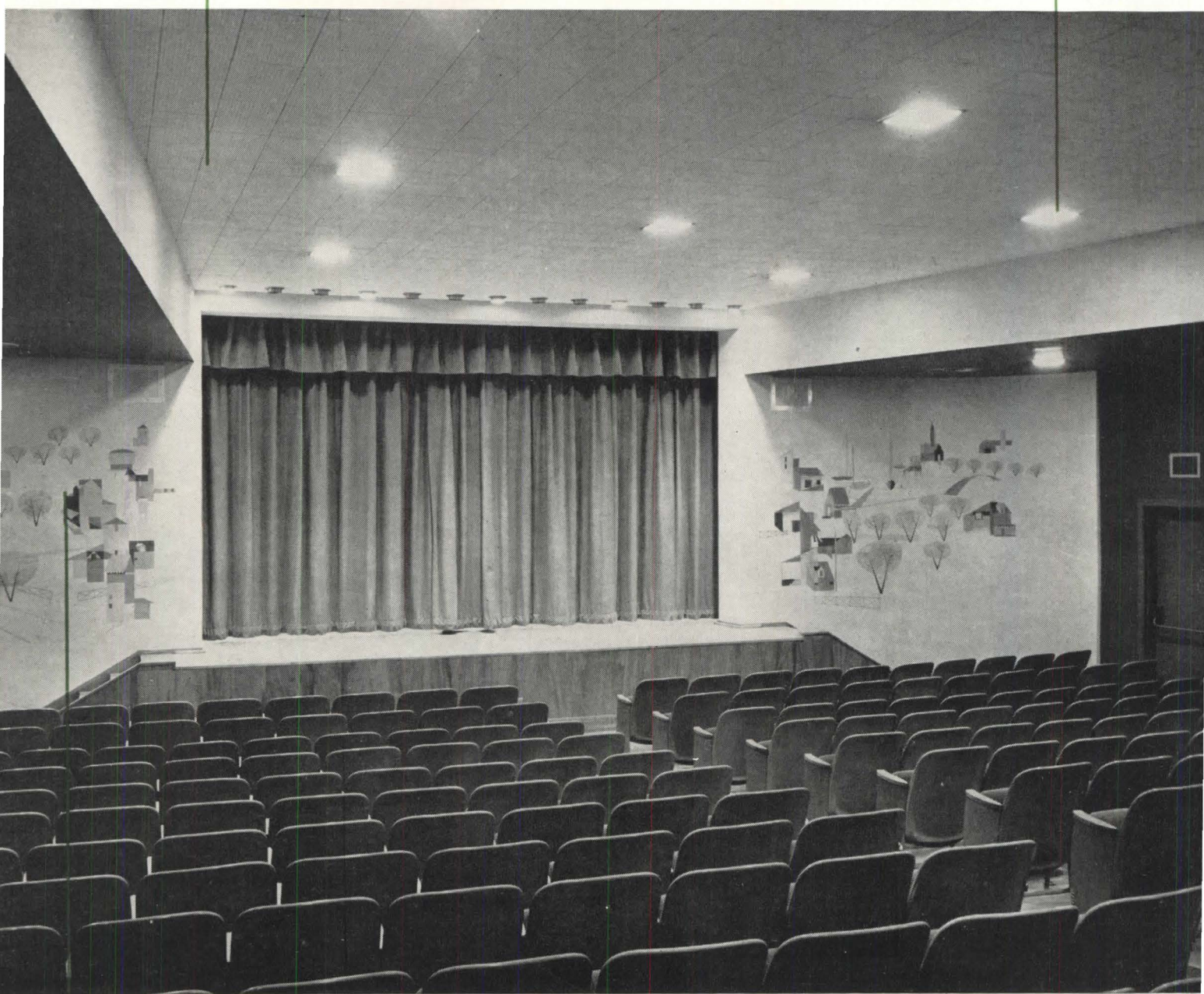
p/a interior design data

auditoriums

location	Speech Room, Birmingham High School, Birmingham, Michigan
architects	Swanson Associates
interiors	Pipsan S. Swanson

acoustic ceiling

recessed lighting



wall murals

Murals on plaster carry all of the colors used in the rest of the Speech Room of the Birmingham High School; the blue of the painted cinder-block walls and fabric on the seats, the gray of the flooring, the beige of the chair frames and cyclorama, and the apricot of the stage curtain lining. What a difference this makes in the room! Yet it is not too overwhelming in strength or coloring. An auditorium must be interesting to the eye when there is no action on the stage, yet be only background when the action takes place. This room meets these requirements with ease.

Photo: Richard Shirk

data

• **furniture and furnishings**

Seating: #16-001-286/ American Bodiform chairs/ beige enamel on metal.

Upholstery: blue-striped Normandy mohair/ American Seating Co., Ninth & Broadway, Grand Rapids 2, Mich.

Curtain: #1/ beige flameproofed Spotlite Repp/ Mork-Green Studios, 243 W. Congress, Detroit 26, Mich./

facing: #25470/ rayon-and-cotton texture, apricot color/ Lussky, White & Coolidge, Inc., 216 W. Monroe St., Chicago, Ill.

• **lighting**

Ceiling fixtures: #816/ recessed circular concentric louver/ adjustable spot with color filters/ #508L/ Litecraft Mfg. Co., 135 Rome St., Newark 5, N. J.

• **murals, sculpture**

Murals: on plaster/ designed by Martha McClintock, Grosse Point, Mich./ off-white ground with blues, greys, beige, brown, apricot.

• **walls, ceiling, flooring**

Walls: cinder block/ Boice Bros. Builders Supply, Pontiac, Mich.

Ceiling: acoustic tile/ ¾" 12 x 12 perforated fiberglas, Owens-Corning Fiberglas Corp., Toledo, Ohio.

Flooring: stage: edge-grain maple/ Whitcombe-Bauer Co., 1031 Lyndon, Detroit, Mich./ **auditorium:** "Vinatread," mottled grey Revere-pattern plastic tile/ Southbridge Plastics, 470 Fourth Ave., New York, N. Y.

location | Peter Thacher Junior High School, Attleboro, Massachusetts

architects | The Architects Collaborative

data

• **furniture and furnishings**

Seating: #TC705 "Aristocrat"/ back and seat, natural-birch finish/ end standards, blue-grey enamel on metal/ Heywood-Wakefield, 174 Portland St., Boston, Mass.

Curtain fabric: #14207, color #5 blue/ contemporary tweed/ Cheney Bros., 509 Madison Ave., New York, N. Y.

Cyclorama: #10809/ heavy rib twill/ natural color/ Cheney Bros.

• **lighting**

Hung fixtures: 3' dia./ Gotham Lighting Corp., 37-01 31 St., Long Island City, N. Y.

Fluorescent: side wall, continuous strips behind plywood panels/ Gotham Lighting Corp.

• **walls, ceiling, flooring**

Side walls: painted concrete block/ California Stucco Co., Cambridge, Mass.

Rear wall: cypress siding/ board-and-batten detail.

Acoustic tile panel: Pitcher & Co., 67 Rogers St., Cambridge, Mass.

Flooring: concrete/ **stage floor:** oak/ **aisles:** cork/ Armstrong Cork Co., 1010 Concord St., Lancaster, Pa.

Designed to be used during the day for visual aids programs and to accommodate the entire school enrollment, this auditorium is without windows, to avoid the ever-present problem of blacking-out. Materials were chosen for their simplicity and durability, and, as is immediately obvious to the eye, the room has successfully integrated function and attractiveness. Concrete block walls and metal seat frames are painted gray-blue, ceiling is white, plywood panels (which diffuse light on side walls) and chair seats and backs are natural birch finish. The front and back walls are of natural cypress. With all the simplicity of design, there is still a wonderful feeling of texture in the materials used.

Why Carrara Glass

is the preferred material for washrooms, walls and partitions

• The quality of Carrara Structural Glass is outstanding. Every piece is mechanically ground and polished. It permits joints that are true and even, without lippage or warpage.

Carrara's smooth, homogeneous surface is unaffected by moisture, soap, damp atmospheres and pencil marks. It won't absorb odors.

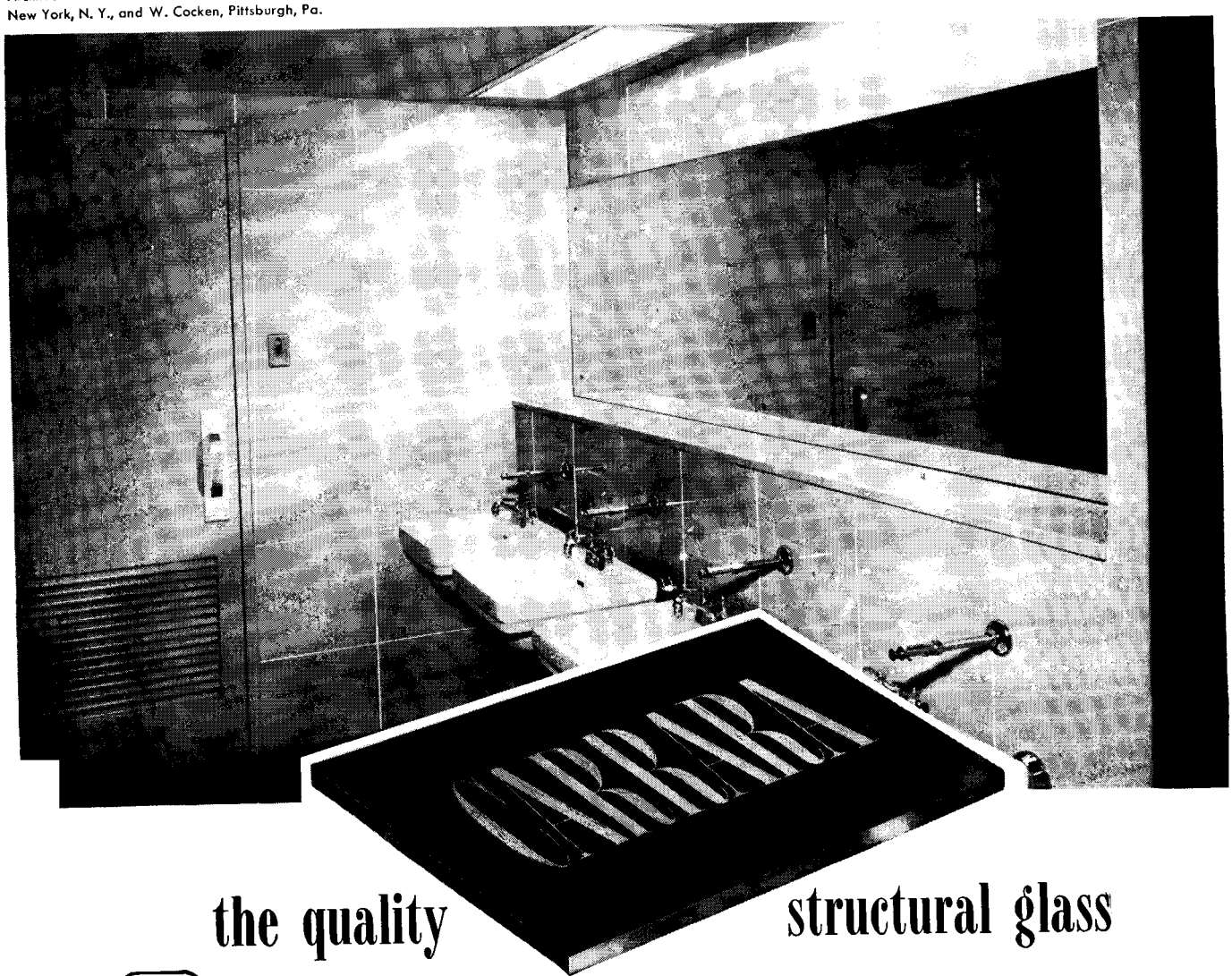
The finish of Carrara Glass is permanent. It won't check, craze, stain or fade.

Carrara Glass is sanitary . . . and easy to keep clean. It is installed in large sections with fewer joints and crevices to catch dust and dirt.

The versatility of Carrara Glass . . . its ten glowing colors . . . makes it adaptable to any number of design possibilities. Many of America's most famous buildings, designed by leading architects over the past fifty years, have washrooms with walls and partitions of Carrara Glass.

For the detailed information on Carrara Glass, consult Sweet's Catalog, or write Pittsburgh Plate Glass Company, Dept. 3111, 632 Duquesne Way, Pittsburgh 22, Pa.

Mellon-U. S. Steel Building, Pittsburgh, Pa.
Architects: W. K. Harrison, M. Abramovitz, New York, N. Y., and W. Cocken, Pittsburgh, Pa.



the quality structural glass

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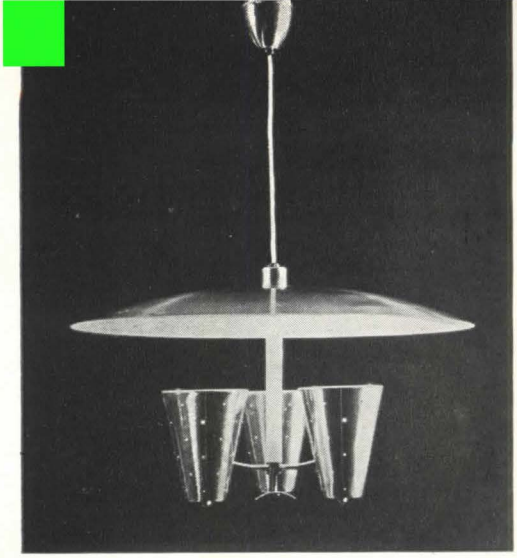
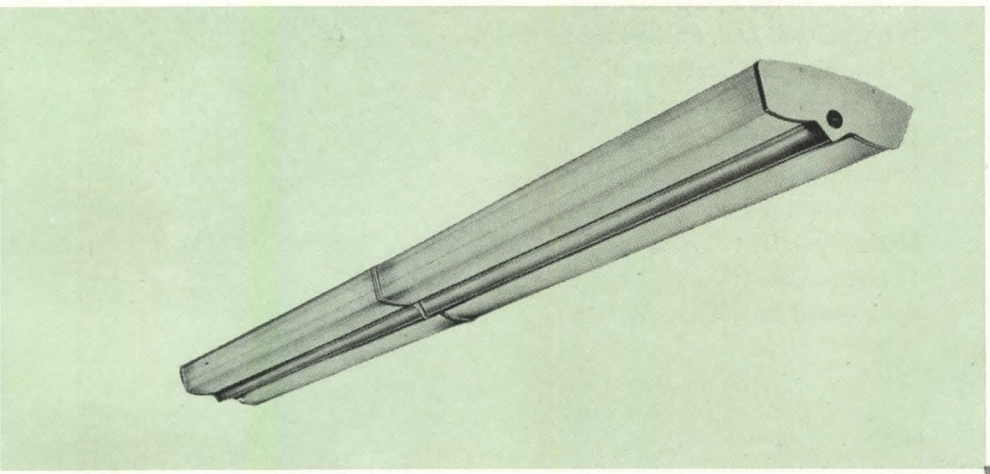
PITTSBURGH PLATE GLASS COMPANY



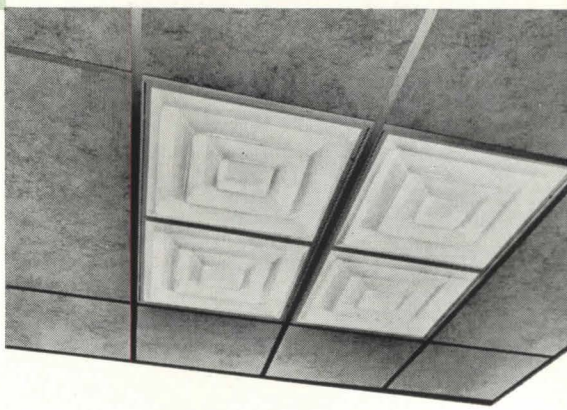
Lighting Fixture: #40163/ pierced, polished brass/ three buckets cast light upward into reflector/ concealed reel in a brass spheroid on suspension cord gives complete vertical flexibility/ 25" diameter shade/ designed by Gerald Thurston/ **retail:** $75/ **Lightolier, Inc., 11 E. 36 St., New York, N. Y.**

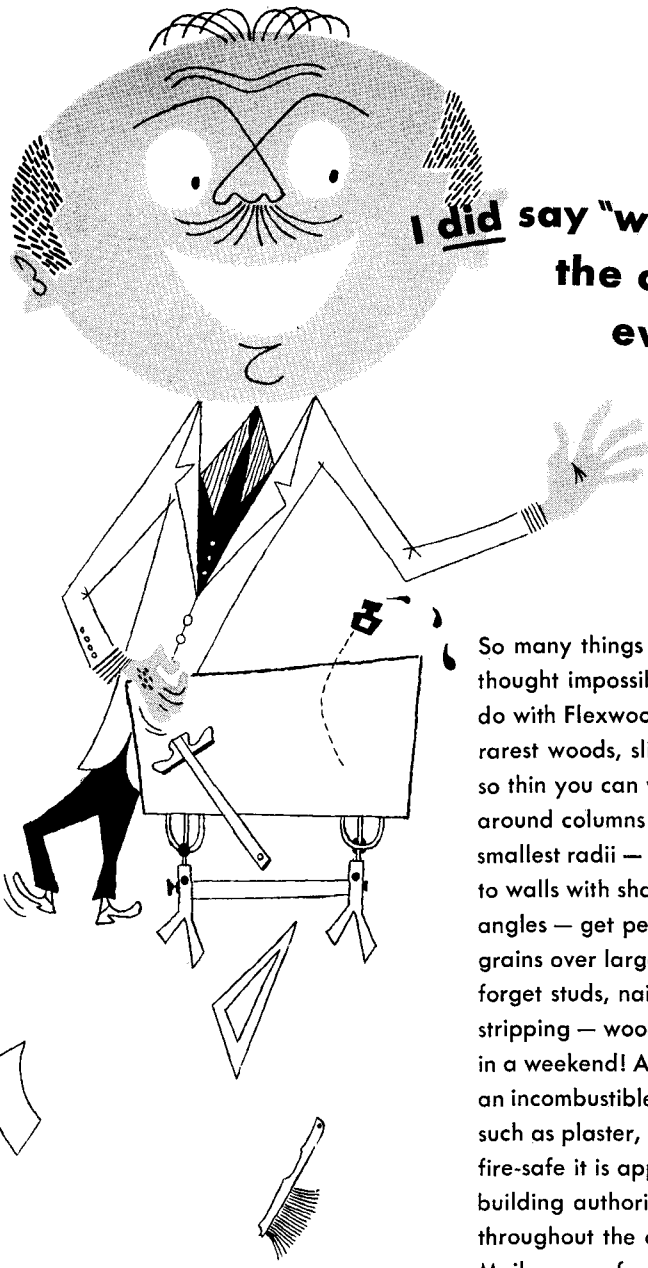
Italian Lamps: floor lamp has finger-grip adjuster to vary height/ swivel shade focuses light in various directions and levels/ base and adjustable stem finished in gray-black gunmetal, metal shade is white baked enamel/ designed by Gino Sarfatti/ **retail:** $63/ **Knoll Associates, Inc., 575 Madison Ave., New York 22, N. Y.**



Lighting System: "Mobilex"/ enclosing elements: ribbed glass, molded plastic, and steel louvers/ engineered for use with standard fluorescent lamps/ sides of fixture compress for insertion in grid opening of ceiling/ may be used in tees, squares, crosses, rectangles, and increased or changed by removing ceiling panels/ require no hangers or straps/ sizes: 24" x 24" and 24" x 48"/ **net price:** #24292 $41.16 (plastic panel in hinged frame)/ **Day-Brite Lighting, Inc., 5411 Bulwer Ave., St. Louis 7, Mo.**

Lighting Fixture: "Princess," 5000 Series, indirect fluorescent fixture/ fine-ribbed polystyrene plastic side panels diffuse light and hide lamp from direct view/ heavy-gage steel-channel cover and end plates, baked-white "Fluracite" enamel finish/ wired for 110-125 volt ac circuits with high-power ballasts/ available for 4, 5, and 8 ft. fluorescent lamps/ **list:** $26, $43, and $55/ **Curtis Lighting, Inc., 6135 W. 65 St., Chicago 38, Ill.**





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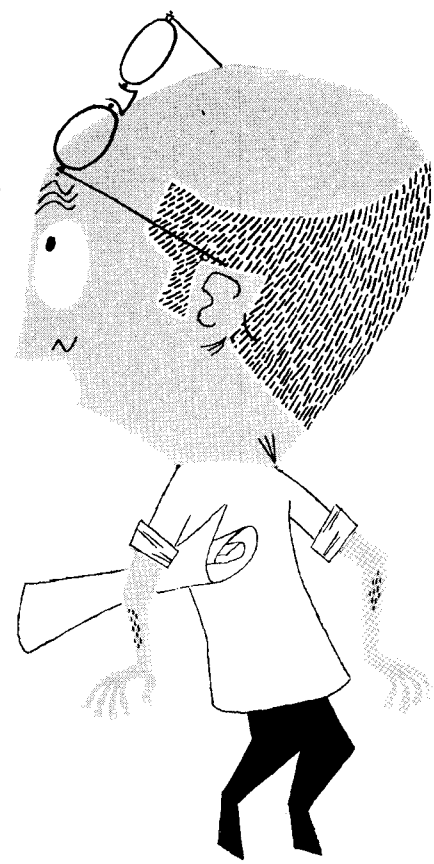

flexwood

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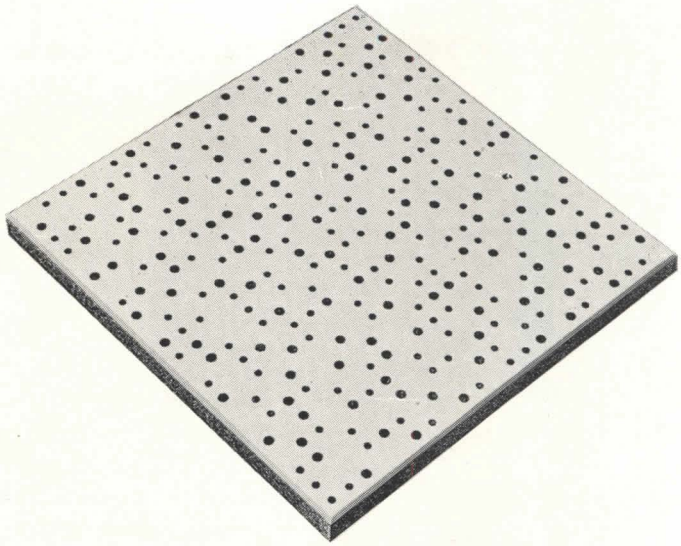
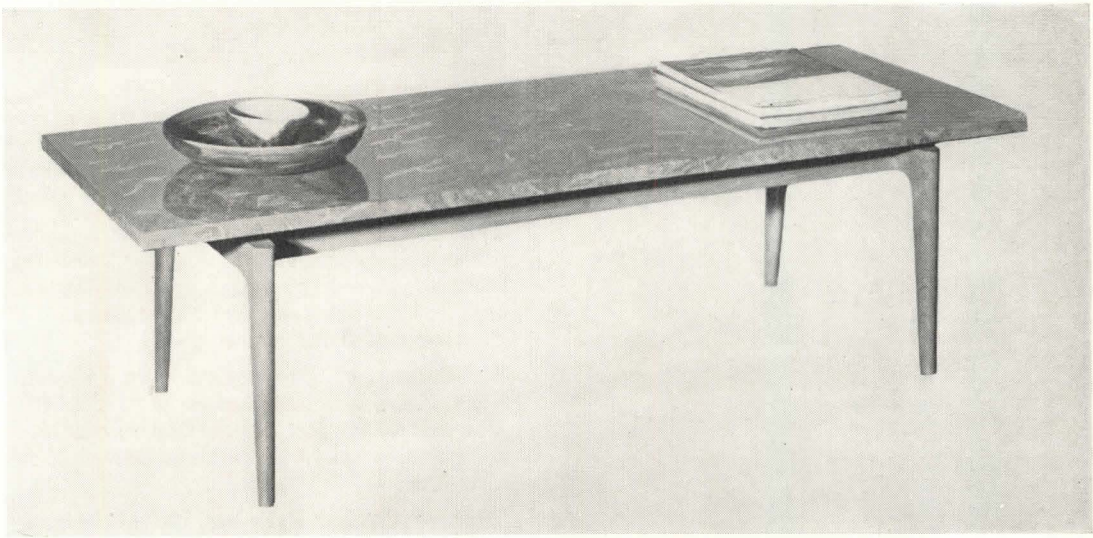
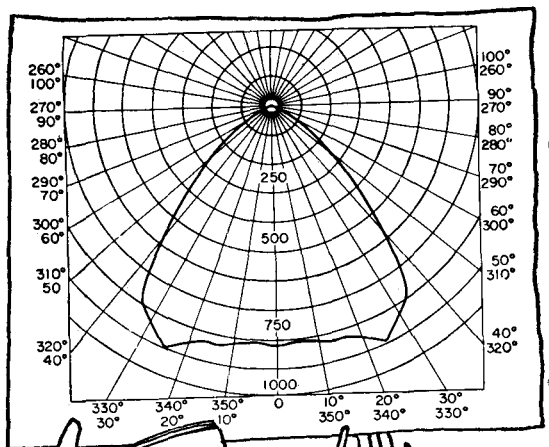


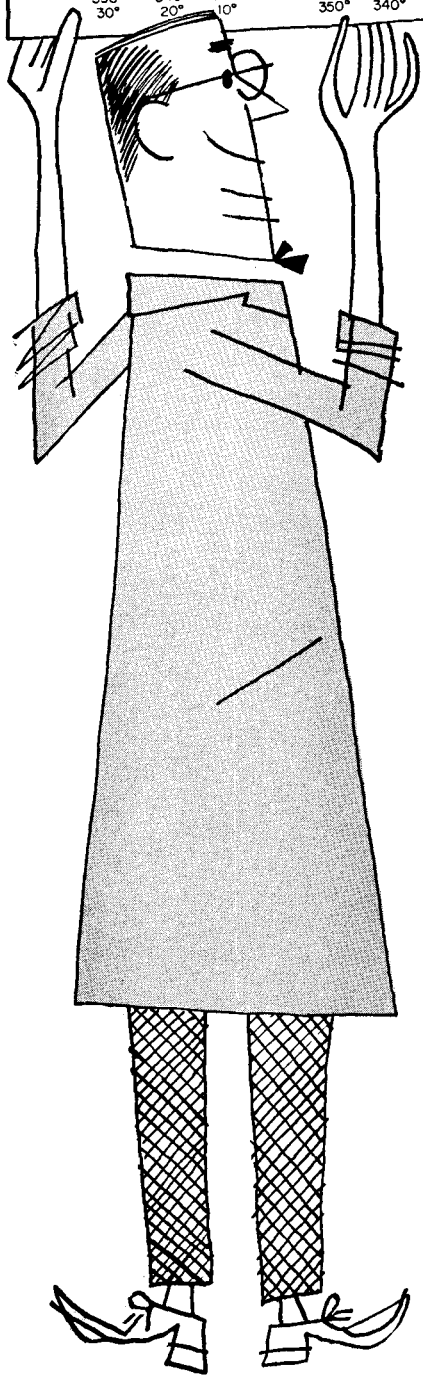
Acoustic Tile: "Random Pattern" Acousti-Celotex/ cane fiber with scattered perforations of varied sizes that minimize joint lines/ washable white finish of high light-reflectivity/ available with Duo-Tex flame-retarding oil base finish/ standard sizes and application/ "Celetone" fissured mineral tile/ pattern resembles travertine marble/ **The Celotex Corporation, 120 S. La Salle St., Chicago 3, Ill.**



Marble-topped Tables: available in cocktail, round, end, corner and bridge tables/ bases of walnut; tops may be had in variety of marbles or Realwood Formica/ "suspension" principle/ designed by Harold Bartos/ **retail: cocktail tables 19 x 54 x 15 inches high, with wood top,** $142.50; **Formica top,** $156.25; **marble top,** $170.25/ **36 x 36 x 15 inches high, with wood top,** $142.50; **Formica top,** $156.25; **marble top,** $175.25/ **Lehigh Furniture Corp., 16 E. 53 St., New York, N. Y.**

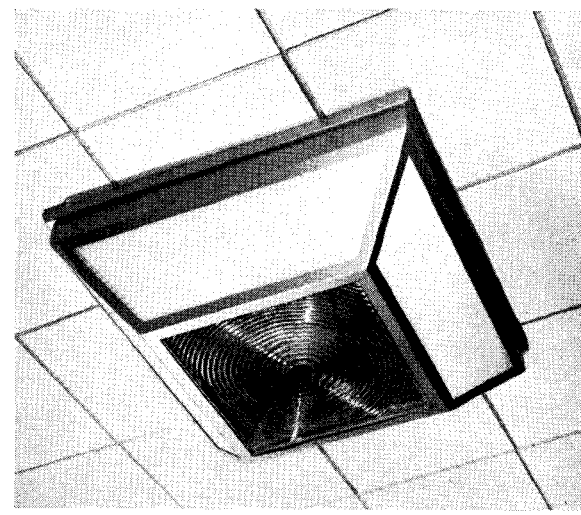


curves tell half the story



GRUBER PYRA-LITE, MODEL 6718
Surface mounting; 21½" square, 7½" deep . . . Horizontal porcelain socket for 200 or 300 watt lamp . . . 18 gauge cold-rolled steel, die-formed, welded construction . . . Albalite side diffusing panels; wide-angle Holophane Controlens* . . . 16 gauge specular alumilite reflector . . . Phosphortized undercoat; 2 coats 350° baked white enamel finish . . . Asbestos insulated backplate . . . UL approved; IBEW label

*(R) Holophane Co., Inc.



Illumination curves tell half the story of a lighting fixture . . . how well it distributes light. The balance of the story . . . how long the fixture will last, and how easily it can be maintained . . . is in the specifications. Together, illumination curves and specifications are the true measure of a fixture's design and quality.

Take the Gruber Pyra-lite. A new type of incandescent luminaire, it creates high level, well diffused light. And for versatility, the Pyra-lite has no "or equal." Its focused down-light and supplementary side-panel-light bring out the functional best in offices, stores, banks, lobbies and auditoriums. Its illumination curve is a good impartial reference.

But the rest of the story on Pyra-lite . . . the story of its life . . . is in the specifications. Here, exacting standards of quality . . . from the smallest cadmium plated lock-nut to the Holophane Controlens* . . . guarantee the features you look for in a luminaire: easy installation, low-cost maintenance, long life and steady performance.

The new Gruber Pyra-lite, like all items in the complete Gruber line of commercial-institutional luminaires, is the product of 30 years' experience in the engineering and manufacture of lighting fixtures . . . uncompromising standards for long-range economy . . . which mean that you can be design and quality sure when you specify GRUBER.

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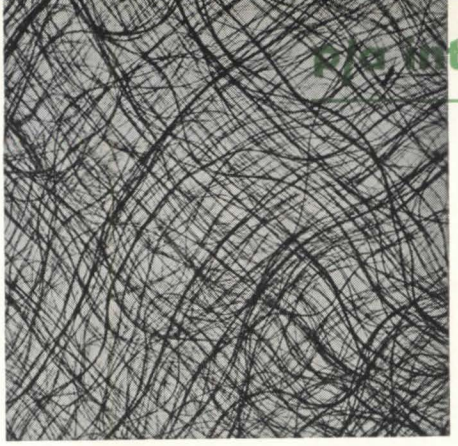
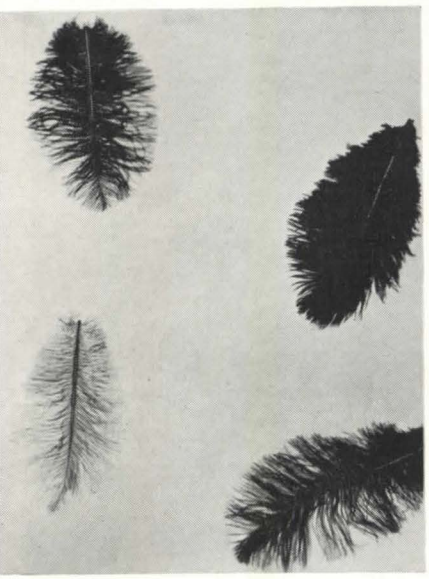
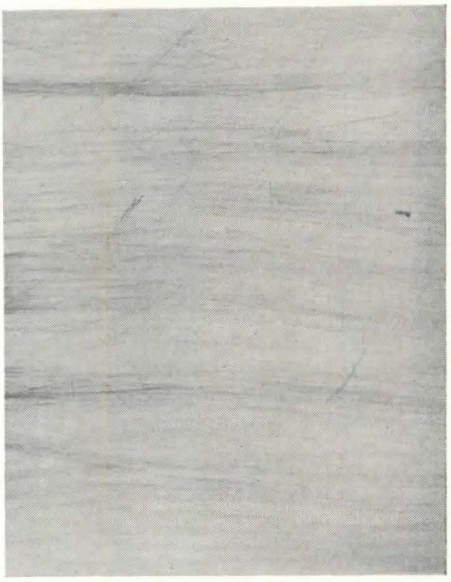
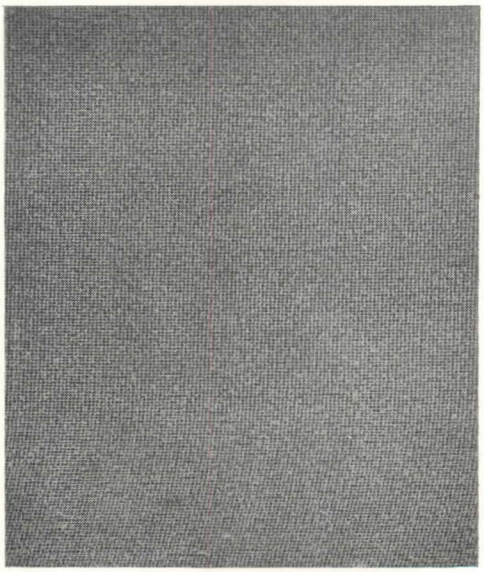


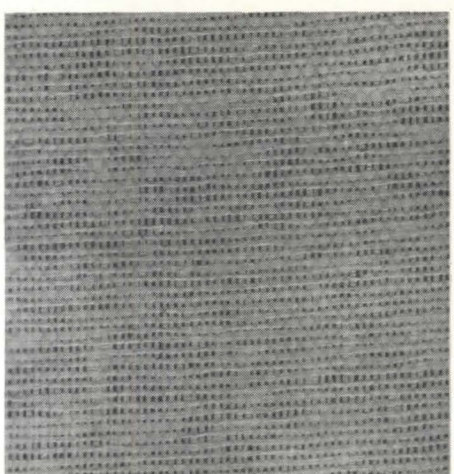


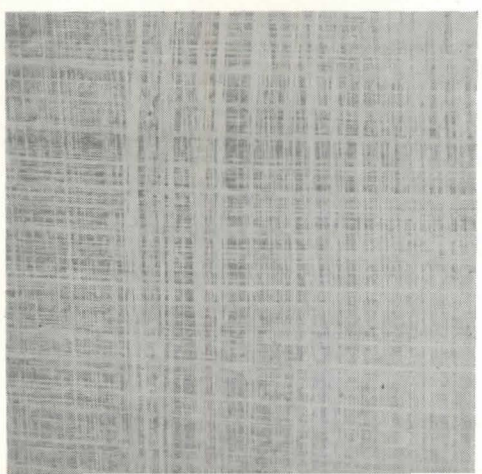


Rigid Laminates: metallic yarn fabric, unwoven glass fibers, ostrich plumes, and hemp fibers locked in translucent Vinylite plastic rigid sheets/ **"Panlam"**/ suitable for lampshades, room dividers, folding screens, vertical blinds, and wall covering/ **retail:** $.54 per sq ft/ **Polyplastex United, Inc., 441 Madison Ave., New York, N. Y.**

Flexible Laminates: agrosti grass, Fiberglas boucle, flat fiber fabric, and unwoven Fiberglas locked in translucent Vinylite resins/ **"Panflex"**/ suitable for upholstery, decorative table surfaces, and wall covering/ **retail:** $.65 per sq ft/ **Polyplastex United, Inc., 441 Madison Avenue, New York, N. Y.**



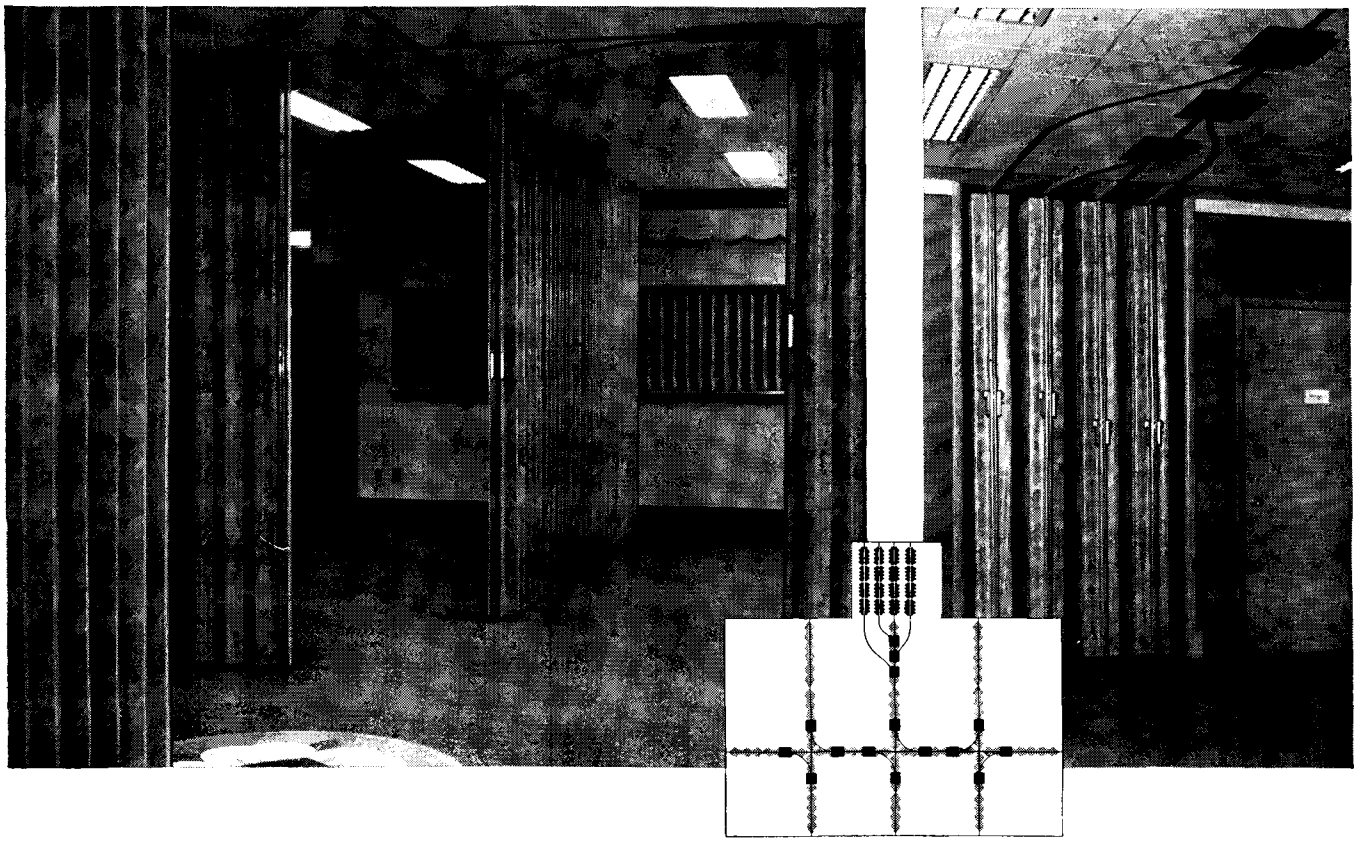




8 in the side pocket

Eight *rooms,* that is, thanks to "Modernfold" *movable walls*—and to patented "Modernfold" switch tracks. One minute this church basement is a single room, perfect for large groups.

The next minute "Modernfold" doors come out of the "side pocket," then roll smoothly and quietly along overhead switch tracks to form *as many as eight* private classrooms.



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And because this line is *complete,* you're sure to save time and get exactly what you want when you specify better looking, easier operating, longer lasting "Modernfold" doors.

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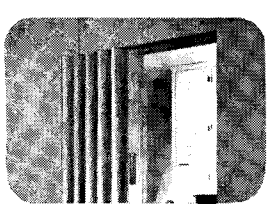

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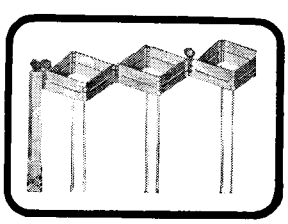
Fabric covering conceals all operating mechanism. No cornice needed. Adjustable trolleys keep doors hanging flush to jamb.



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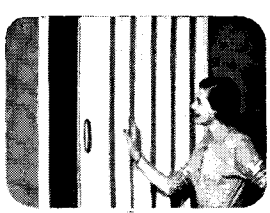

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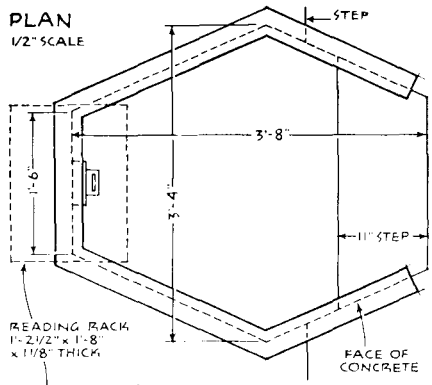
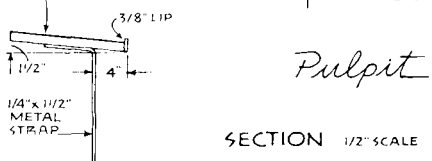
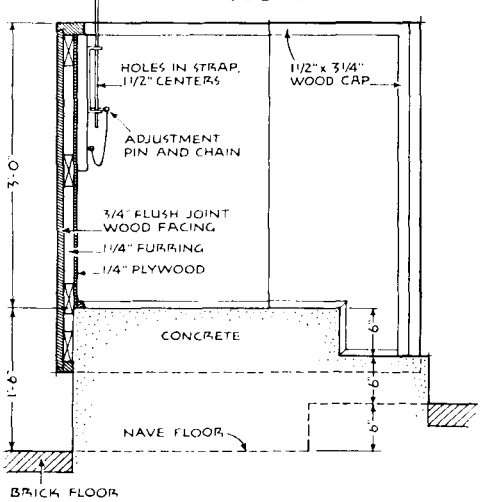
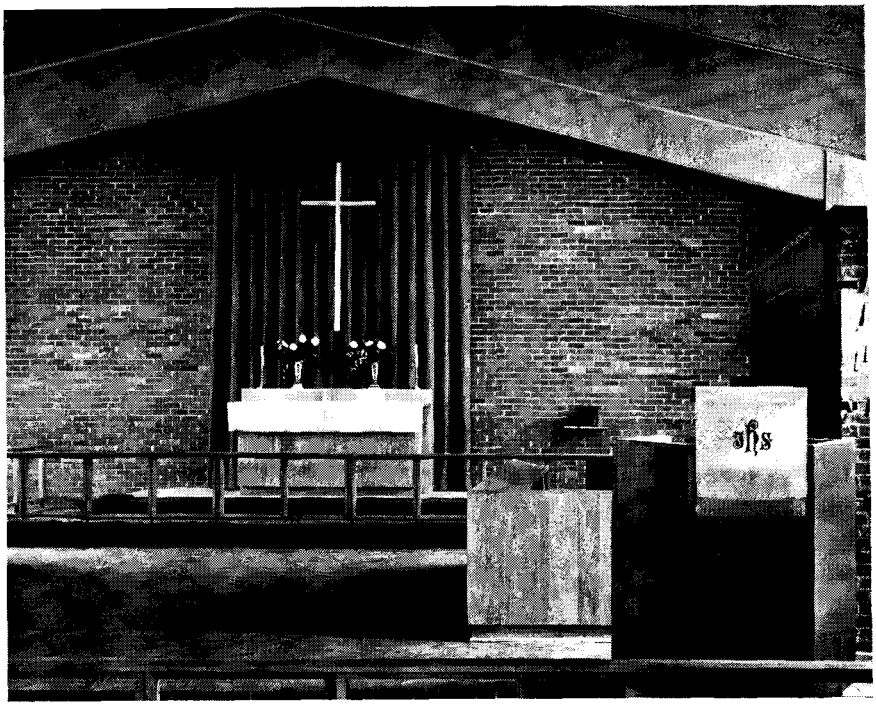


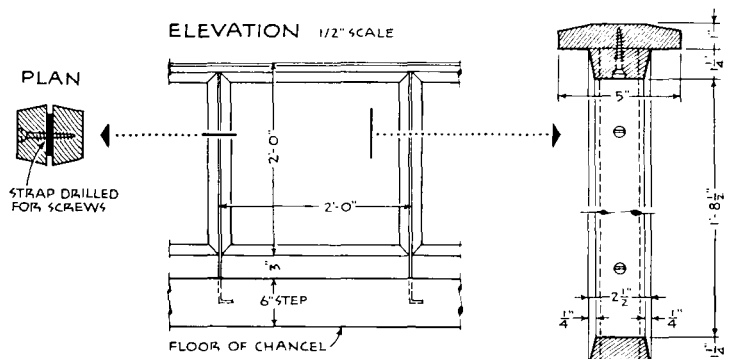


Pulpit

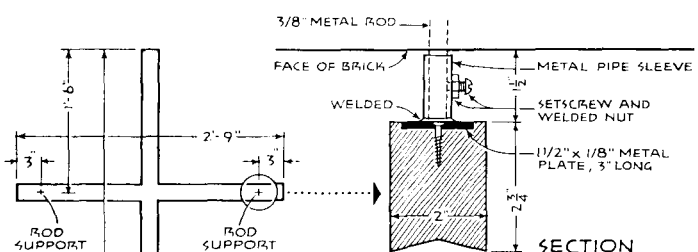


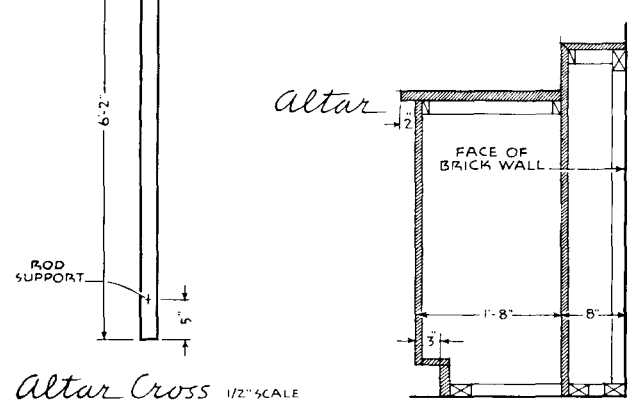


JACK HOLMES

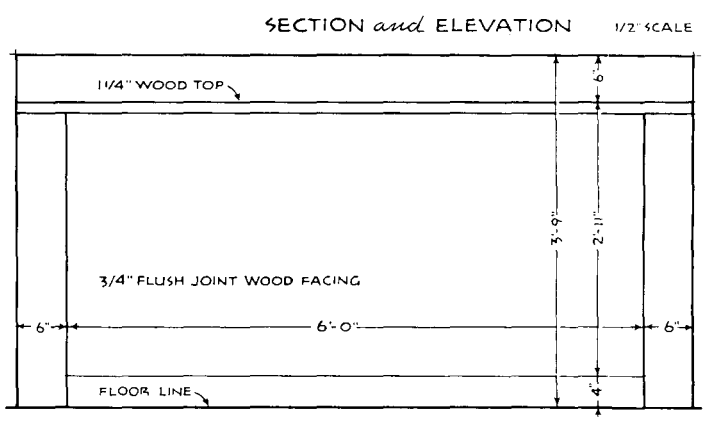


Altar Railing





Altar Cross 1/2" SCALE



ST. ANDREW'S EPISCOPAL MISSION STATION, Tuskegee, Ala.
Sherlock, Smith & Adams, Architects-Engineers

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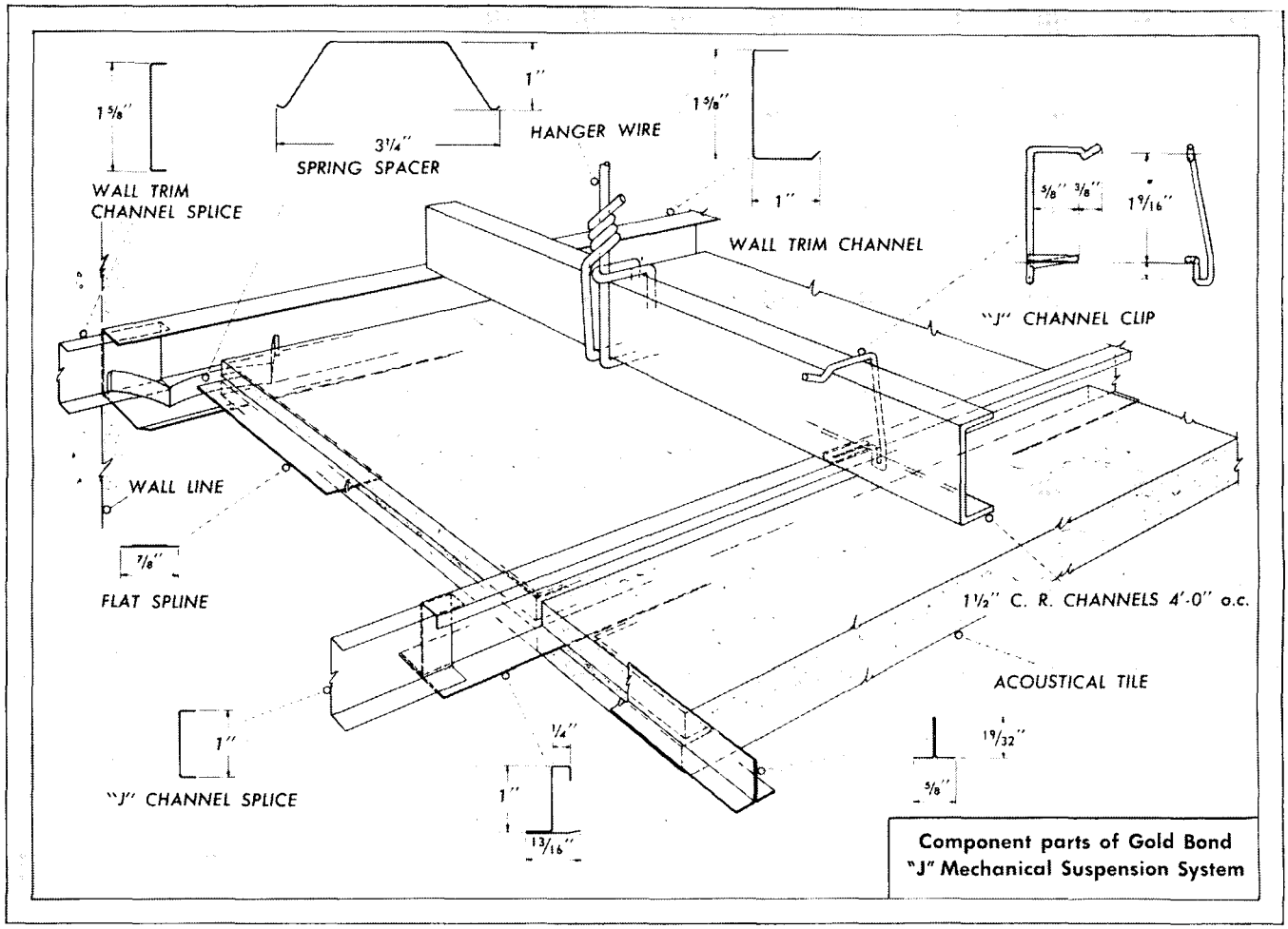

Component parts of Gold Bond "J" Mechanical Suspension System

Gold Bond's new system for mechanically suspending acoustical ceilings makes jobs easier and faster; it accommodates any acoustical tile under most circumstances; and it permits economical maintenance.

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4. Recessed light troffers can be installed.
5. Gypsum Wallboard and asbestos-cement board bases may be used.
6. Permits stepped ceiling assemblies.
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Besides construction advantages, you and your client receive additional benefits from the "J" System. It is covered by National Gypsum Company's policy of undivided responsibility...Gold Bond supplies the system, gypsum wallboard and acoustical materials, and qualified Gold Bond Acoustical Applicators install the complete ceiling.

Before you specify any mechanical suspension system, write our Architectural Department for complete information and a set of drawings which show details of Gold Bond's new "J" Mechanical Suspension System.

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Lath, Plaster, Lime, Sheathing, Gypsum Roof Decks, Wall Paint, Textures, Rock Wool Insulation, Metal Lath, Sound Control Products, Fireproof Wallboards, and Decorative Insulation Boards.

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J. P. Trouchaud, Architect

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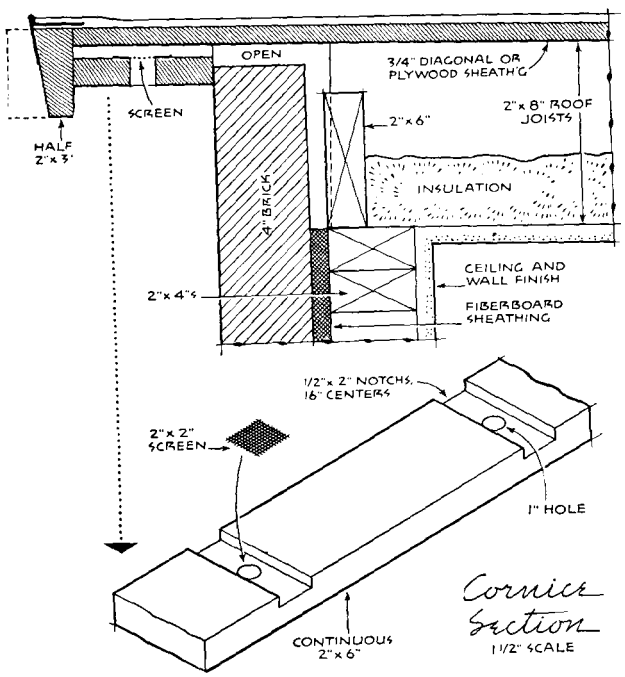
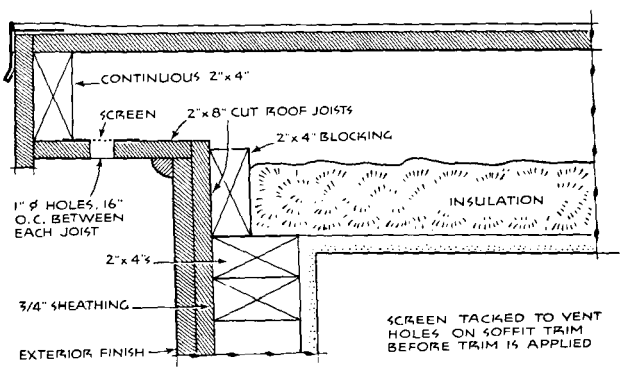
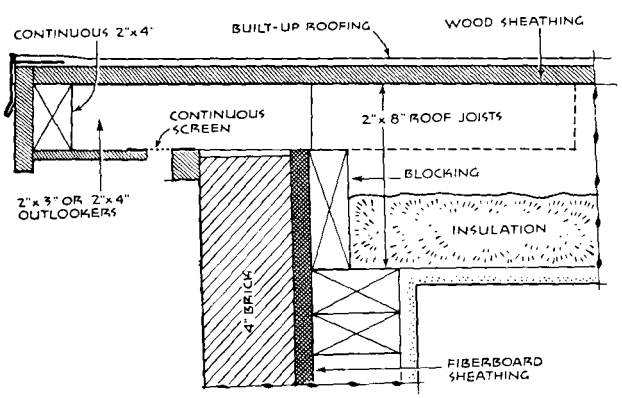
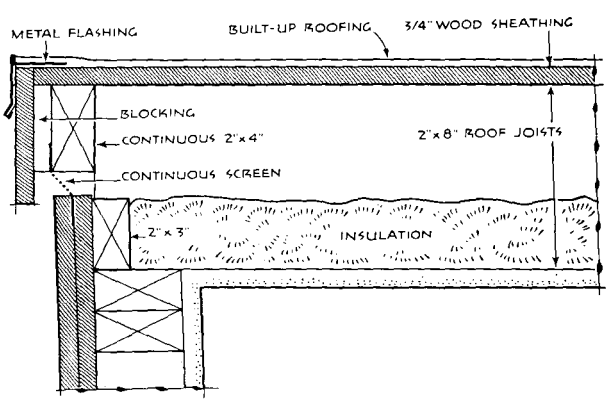


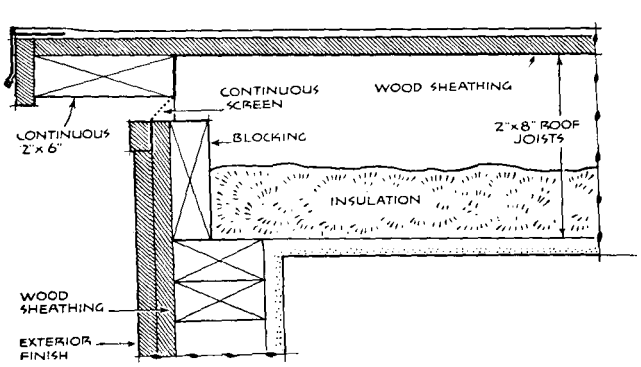
Cornice Section
1 1/2" SCALE

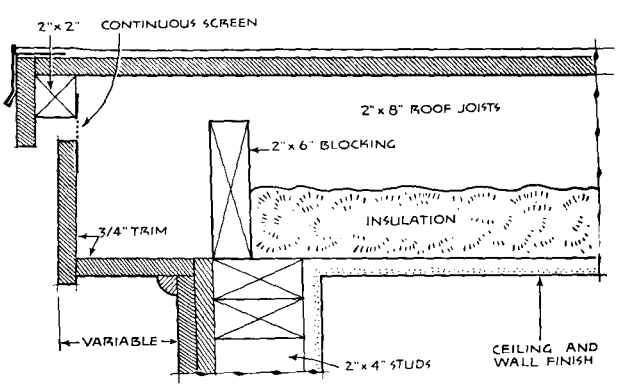


Suggested Variations



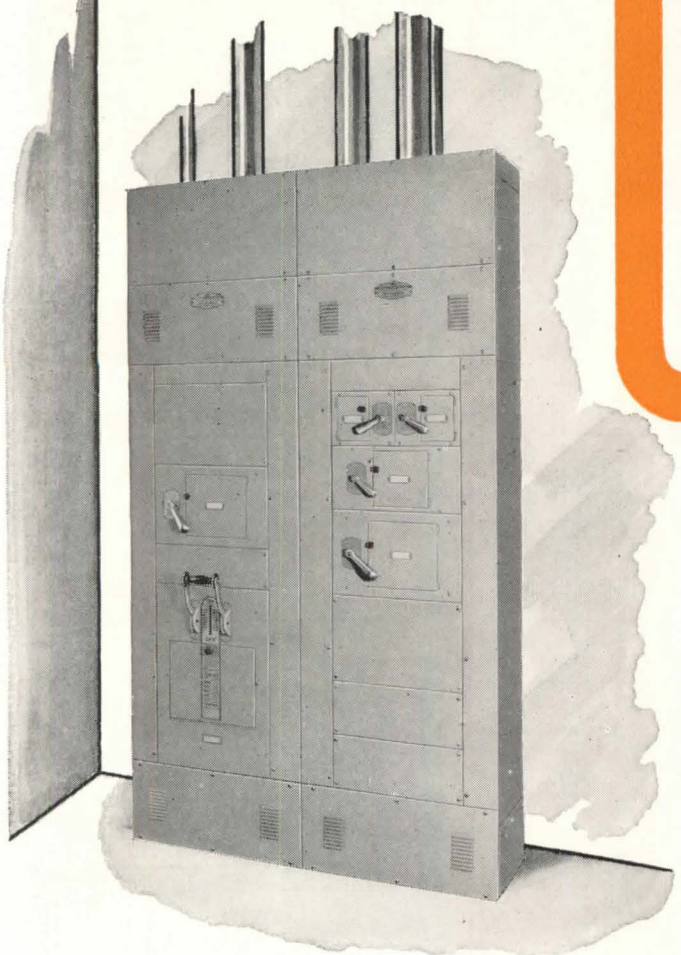






where space is limited

INSTALL FA TRADE MARK SWITCHBOARDS front-connected



The FA Switchboard, Front-Connected illustrated here is 54" x 96" x 14½" and contains two (2) 60 Amp., one (1) 100 Amp., two (2) 200 Amp., and one (1) 400 Amp. 3 P. Shutlbrak Switches; also space for two (2) 100 Amp. and two (2) 200 Amp. future switches.

FA Switchboards, Front-Connected are available in the following types and capacities:

SHUTLBRAK — 30 to 1200 amperes, 250 volts AC or DC and 600 volts AC. Rotary type operating handles furnished on 30 to 200 ampere capacities. Straight handles on all others.

KLAMPSWITCHFUZ — 30 to 600 amperes, 250 volts AC or DC.

SNUFARC — 30 to 200 amperes. 600 volts AC.

Like all FA Switchboards, these space-saving boards are built from standard, pre-assembled units that fit readily together to form one complete assembly.

Designed for floor mounting against wall, they are constructed of standardized unit type sectional enclosures with integral pull boxes at top and bottom.

Switching units are either Shutlbrak or Klampswitchfuz, plug-in design, permitting ready interchangeability and replacement without the use of tools.

Want to know more about these light and power distribution units? Your nearest FA representative, listed in Sweets, will be glad to give you complete information.

Frank Adam Electric Co.

P. O. BOX 357 ST. LOUIS 3, MISSOURI

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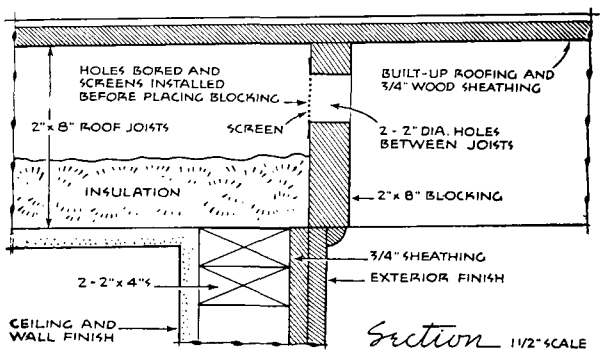
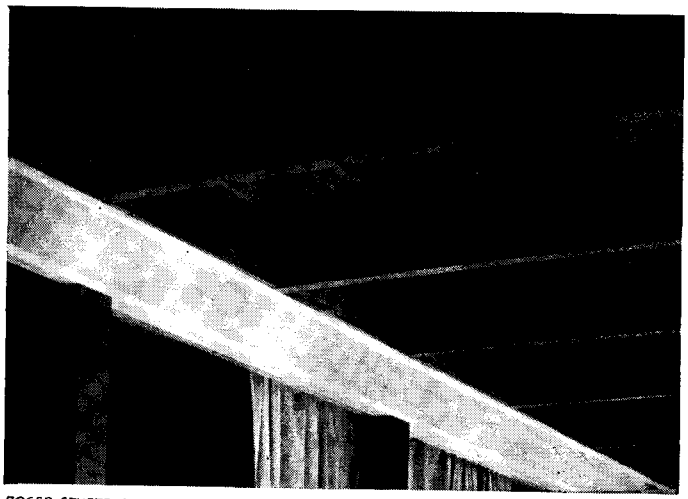
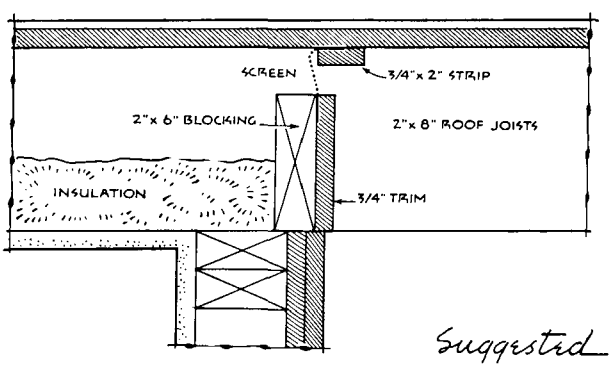
MELVIN COHAN RESIDENCE, Fresno, Calif.
Henry Hill, Architect

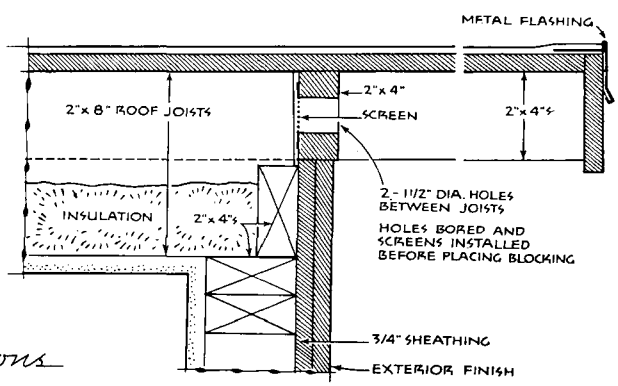


Section 1 1/2" SCALE

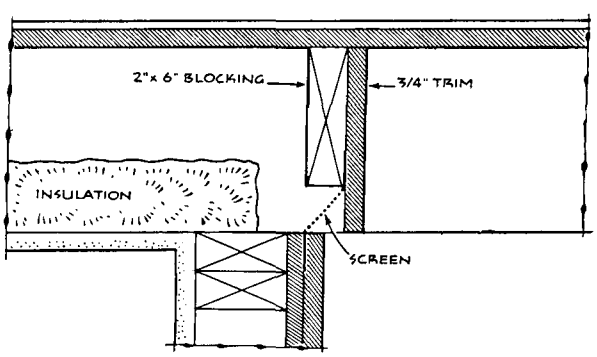


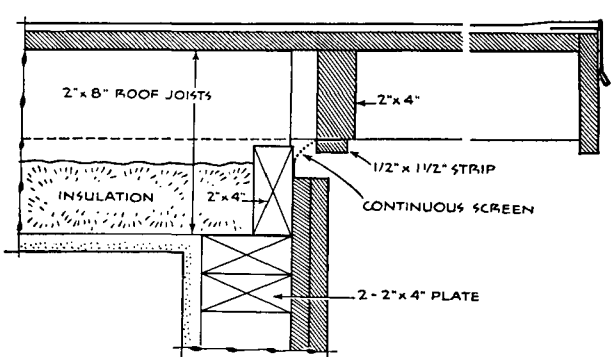
ROGER STURTEVANT

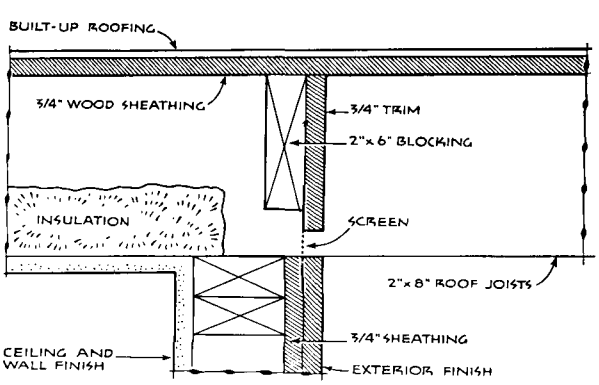


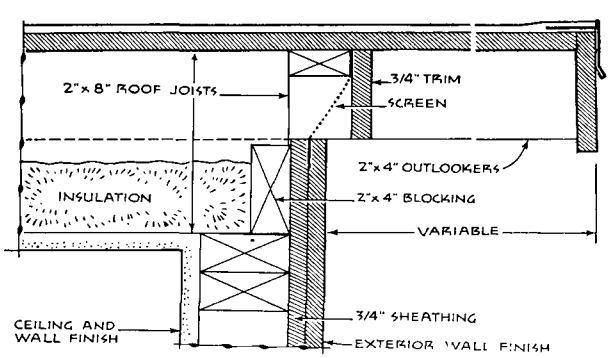


Suggested Variations









What, if anything, is to be done by architects about the practice of architecture by engineers? What are the differences between the professions of architecture and engineering? When may it be said that the latter is encroaching upon the area of activity of the former? What are the bounds, if any, as prescribed by law?

The distinction between the professions is generally recognized to be of considerable importance, but the relative success in maintaining two distinct categories have largely been dependent upon the type of legislation in effect and its construction by the state courts.

For example, in *Clark* v. *Eads*, 165 S.W. 2d 1019 (1942), a Texas court denied recovery for architectural services rendered by an engineer who represented himself as an architect, and who was not licensed as an architect. It is important to note, that there are thirteen such jurisdictions which have in effect title statutes where anyone may pursue the practice of architecture, provided that he does not use the title "architect" and represent himself as an architect. Apparently the result would have been different if the engineer had not represented himself as an architect.

A licensed engineer, who was not licensed as an architect, was denied recovery for architectural services in *Gionti* v. *Crown Motor Freight Co.*, 128 N.J.L. 407, 26A.2d 282 (1942), despite the overlapping of the two professions. The statutes distinguished the two professions and the court held that a license to practice in one did not carry the right to practice in both. The court declared, on page 285:

"It is argued that as a result of the progress made in the professions of the practice of architecture and engineering, many 'overlapping functions and activities' have arisen between them, that the result has been that all 'distinctions' between them have 'passed away,' that they 'differ in name only,' and, therefore, we should construe the respective statutes relating to these professions accordingly. However interrelated the professions and the statutes relating to them may be, the legislature has made and maintained a marked cleavage between them. It is beyond our power to thwart that clear legislative cleavage."

A recent New York case, *D'Luhosch* v. *Andros*, 109 N.Y.S. 2d 491, 200 Misc. 400 (1951), in construing the wording of the definitions of architect and engineer, found them to be substantially the same, except for the inclusion in the definition of an architect of the phrase including "esthetic and structural design" and the further statement that his professional service "requires the application of the art and science of construction based upon the principles of mathematics, esthetics, and the physical sciences." No engineer drafting plans and specifications for any dwelling would knowingly and seriously avoid using this art, reasoned the court, and therefore recovery was granted to a licensed engineer for services rendered in drawing plans and specifications, even though he was not a licensed architect. The reasoning of the Court is interesting and is therefore appended.[1]

A similar result was reached in *Smith* v. *American Packing and Provision Co.*, 102 Utah 351, 130 P. 2d 951 (1942), wherein a licensed engineer was permitted to recover for services which covered an area common to the field of architecture. The court declared that the real criterion for determining if a licensed professional engineer must also have a license as an architect, is not whether some service he performs might be lawfully performed by an architect, but whether such functions are necessarily embraced within the scope of engineering covered by his license.

See also, *Rabinowitz* v. *Hurwitz-Mintz Furniture Co.*, 19 La. App. Rep. 811, 133 So. 498 (1938), where a licensed engineer recovered for services rendered under a contract drawn on a printed form for architects. Use of the printed form was not enough to subject him to the architect's licensing statute, nor did it amount to a holding out that he was an architect. The court defined an architect as one "who, skilled in the art of architecture, designs buildings, determining the disposition of both their interior and exterior space, together with structural embellishments of each and generally supervises their construction," while a civil engineer is one "whose field is that of structures, particularly foundations, and who designs and supervises construction of bridges, great buildings, etc. One judge, in a vigorous dissent, sets forth the contrary view in succinct fashion.[2]

Finally, the wording of several of the practice statutes has, in some instances, all but erased the distinctions between the two professions. A typical example of this is the Kentucky statute providing that ". . . no person shall practice architecture without having a license . . ." but adding that "nothing . . . shall prevent engineers, mechanics, or builders from making plans and specifications for buildings. . ."

Shall anything be done about it?

---

[1] *"(1,2) Both articles define a person practicing professional engineering, Sec. 7201, and architecture, Sec. 7301. The wording of the two definitions are substantially the same except for the fact that the definition of an architect uses the word esthetic. However, both definitions specifically provide that both an engineer and an architect may plan, design, and supervise the construction of buildings both private and public. Both articles are similar with respect to the educational qualifications required of licensees, disciplinary proceedings, penalties, prosecutions for violations, etc. Moreover, both articles provide that nothing contained in either statute shall be construed so as to effect or prevent the practice of the other profession by one duly licensed thereunder, the only prohibition being that an engineer shall not use the designation or hold himself out as being an architect nor the latter as an engineer. Secs. 7208, 7307, I cannot find that there is any statutory distinction between the services which may be legally rendered by a licensed engineer and that by an architect. True it is, that historically at least, an architect has always been classified as one associated with the arts, Young v. Bohn, C.C., 141 F. 471, 472, which does not appear to be so with respect to the engineer. This undoubtedly accounts for the inclusion in the definition of an architect of the phrase including 'esthetic and structural design' and the further statement that his professional service 'requires the application of the art and science of construction based upon the principles of mathematics, esthetics, and the physical sciences.' However, it can scarcely be contended successfully that the principles of mathematics and the physical sciences are not and have not always been utilized by the engineer, and to some extent at least, the art of esthetics. Certainly no engineer drafting plans and specifications for any dwelling would knowingly and seriously avoid using this art. Moreover, there is further evidence within the article defining architecture readily indicating that the licensed professional engineer is placed on an equal footing with the architect. The same educational qualifications are required by the State as hereinbefore noted. Moreover, Sections 7203 and 7302 dealing with public works specifically indicate that either or both may be employed to prepare plans, specifications, and construction. In the past undoubtedly, so far as construction itself was concerned, the architect frequently required the services of the engineer. Today, however, the architect appears to possess at least equal qualifications, and a statute authorizing his sole employment in preparing plans and specifications for the erection and construction of multiple dwellings in the City of New York, has been held constitutional. Goldschlag v. Deegan, 135 Misc. 535, 238 N.Y.S. 3, affirmed 254 N.Y. 545, 173 N.E. 859. It is significant that the lower court in his opinion stated that, 135 Misc. 536, 537, 238 N.Y.S. 4, 5, 'the architect of the future will probably be more of an engineer than of what was formerly known as an architect' but that 'speaking of today, there are many elements of service in the preparation of plans for the construction of a building of whatever type, and the superintendence of construction, that may be more properly left to what we now know as an architect than to what we now know as an engineer.' Of course, it must be borne in mind that the court in rendering the foregoing decision was passing upon a statute which involved a new type of dwelling in the designing and planning of which I think it is only fair to say, an architect would be more properly trained than an engineer. Only to a limited degree, if at all, may this be said to be true of a dwelling house as in the case at bar.*

"(3) It must also be remembered that neither statute prohibits the practice of the other's profession, but on the contrary as already pointed out, specifically accepts the other profession from the statute under consideration. Fundamentally as stated in the statutes, the purpose of licensing both engineers and architects is to protect and safeguard life, health, and property."

[2] *"Janvier, J. (dissenting). Plaintiff Rabinowitz admits that he is not a licensed architect. Thus he is prohibited by Act No. 231 of 1910 from undertaking architectural work.*

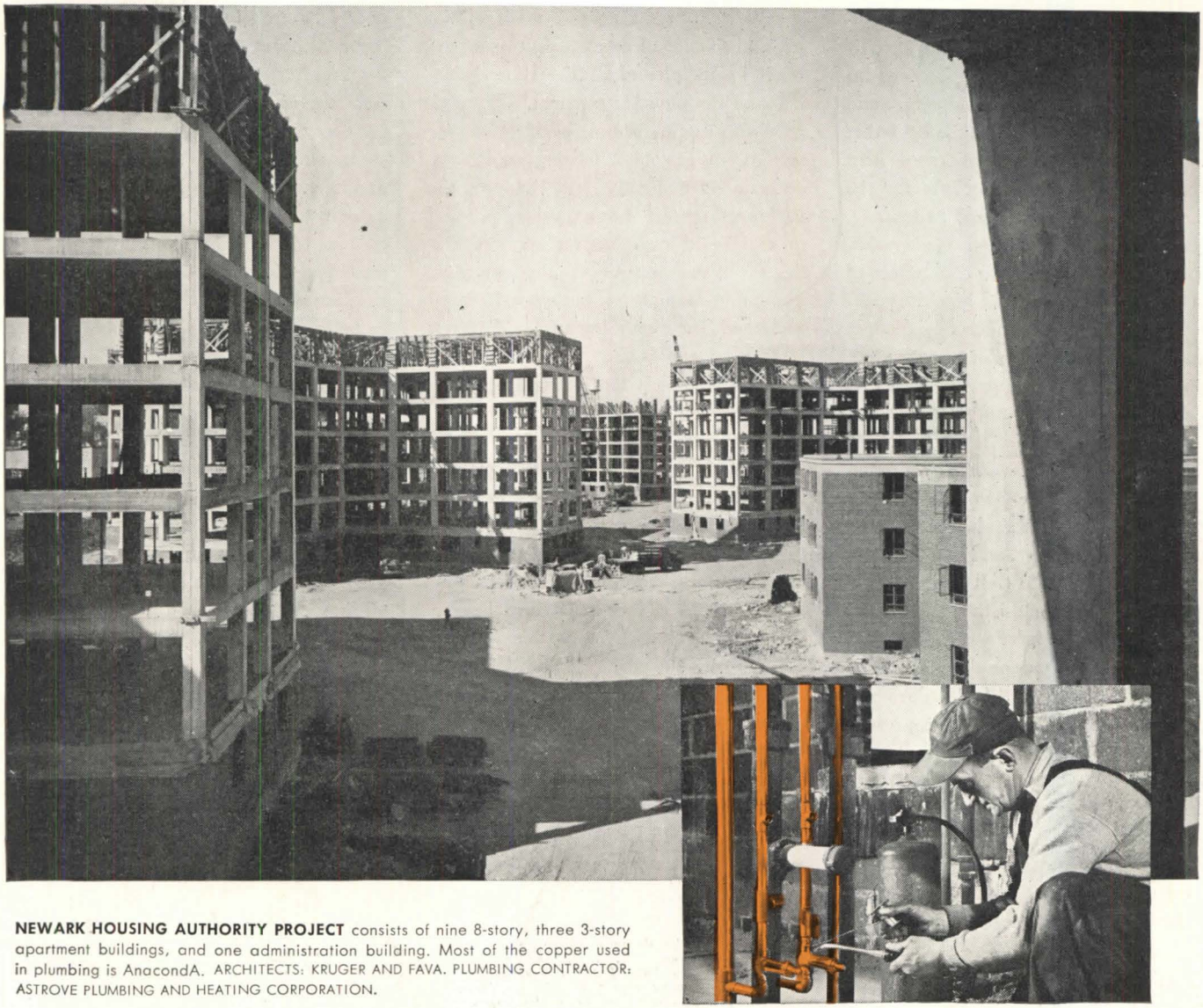
That the work which he here undertook and for which he now seeks remuneration is architectural is best evidenced by the fact that the contract under which he obtained the employment was executed on a standard form of the American Institute of Architects, prepared for use where a contract is entered into between an owner and 'an architect.'

I am well convinced that one who prepares plans for and supervises the remodeling of the entire front, of a store building thus undertakes architectural work. That is what Rabinowitz did here.

The fact that the plans required certain structural steel work to be done did not deprive the whole work of its architectural character. In the organization of a corporation a notarial charter is necessary. Does this fact render the work of organizing and advising the corporation notarial rather than legal? Or does it give to one who is a notary and not an attorney the right to give legal advice to the corporation?

It cannot be denied that considerable difficulty was encountered in the carrying out of the work. It was to eliminate as far as possible just such difficulties that the statute of 1910 was enacted.

Architectural work should be done by architects, and it is a plain violation of the statute for a civil engineer to undertake it. His styling himself a 'civil engineer' does not change the character of the work."



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