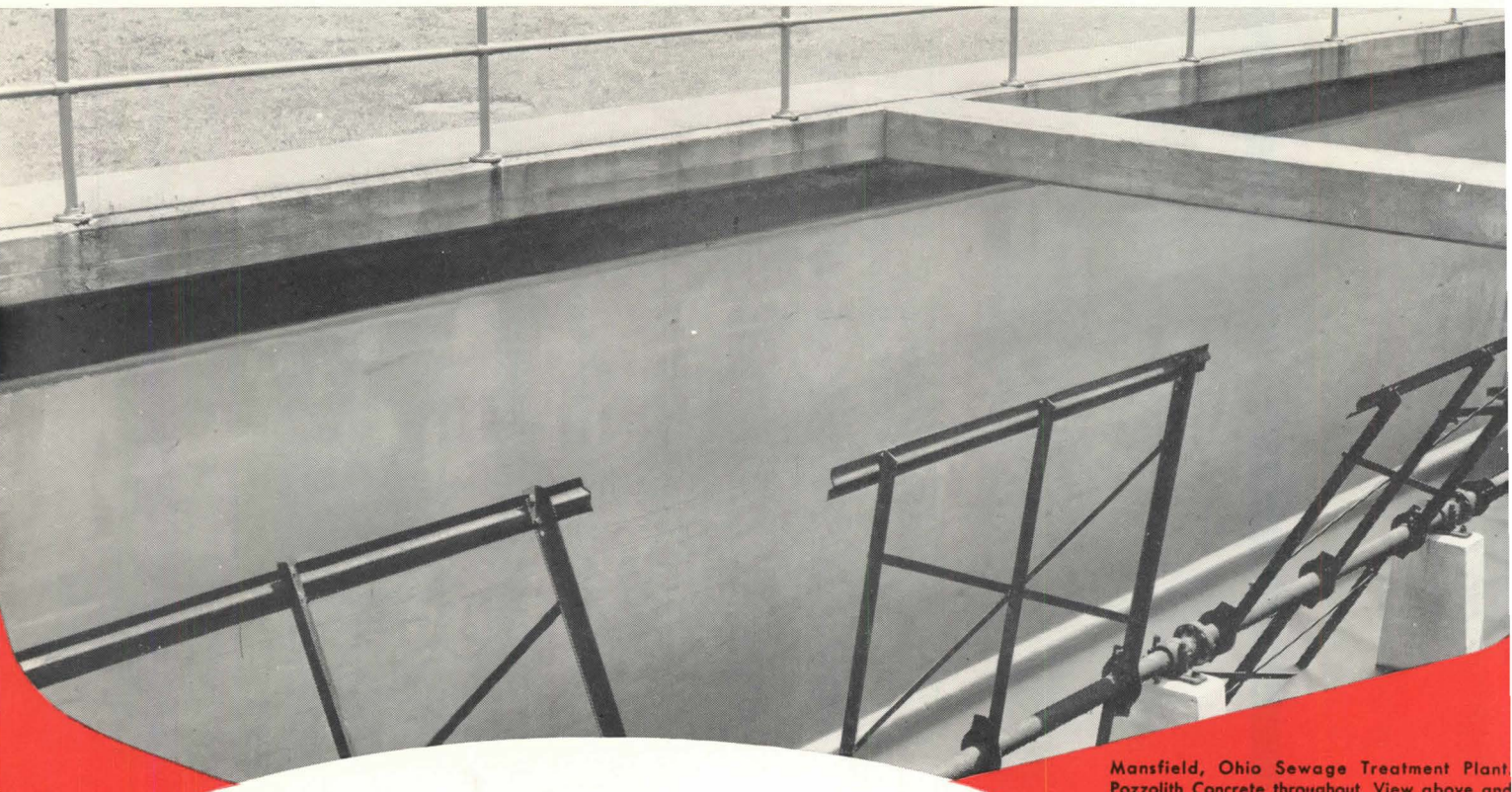
progressive architecture

8

august 1953

resort planning

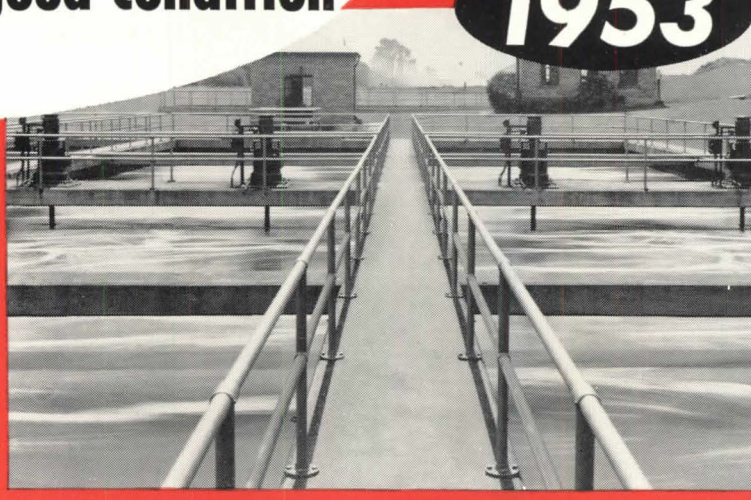
largest architectural circulation in the world



Mansfield, Ohio Sewage Treatment Plant. Pozzolith Concrete throughout. View above and view immediately below show condition of concrete today. Consulting Engineer — George B. Sowers

After 17 years of severe service
POZZOLITH CONCRETE in good condition

1953



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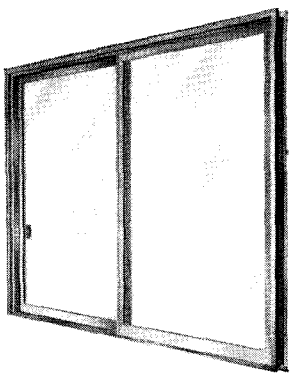

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Glide Window installation at University of Southern California. Lunden, Hayward and O'Connor, A.I.A.

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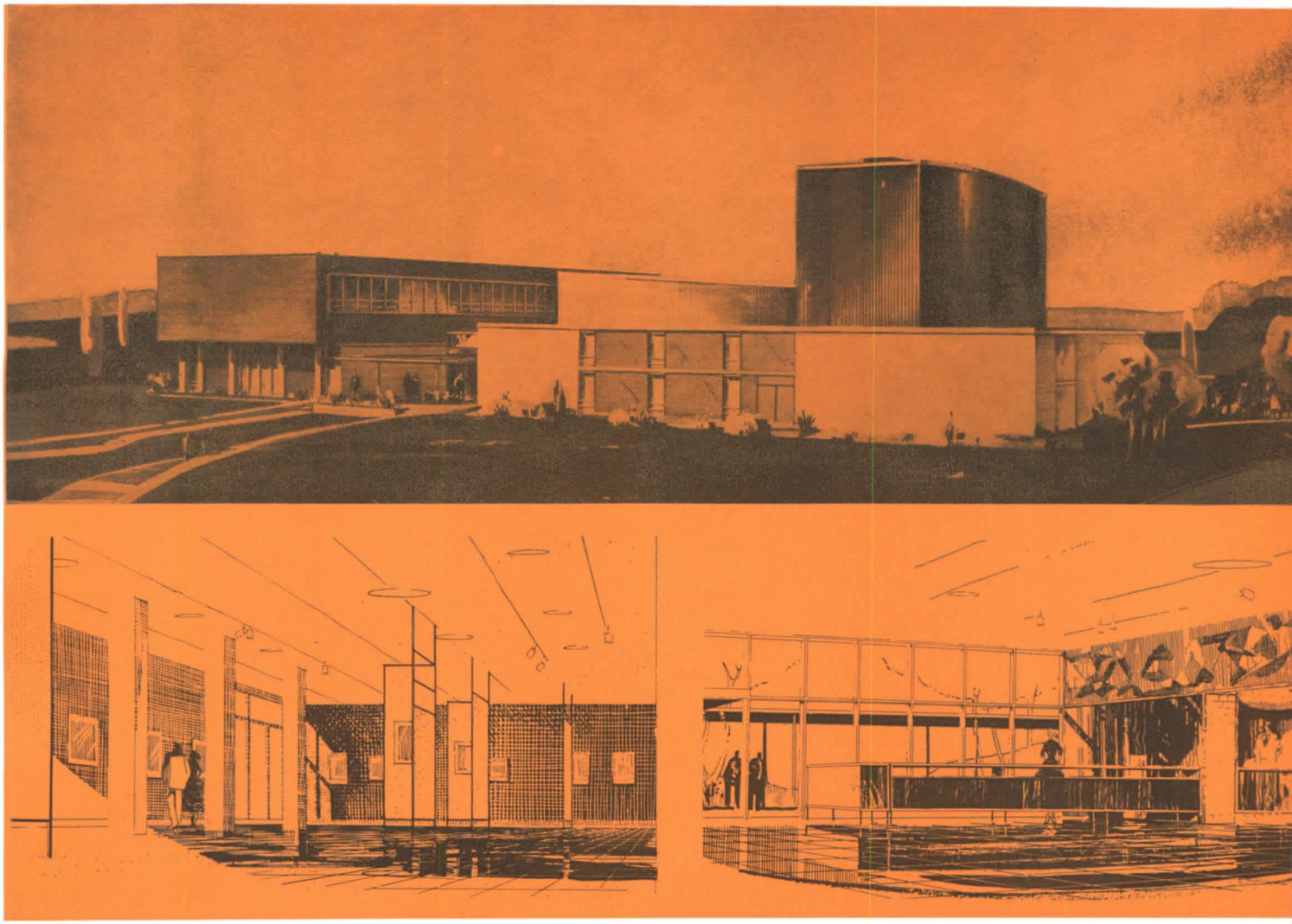
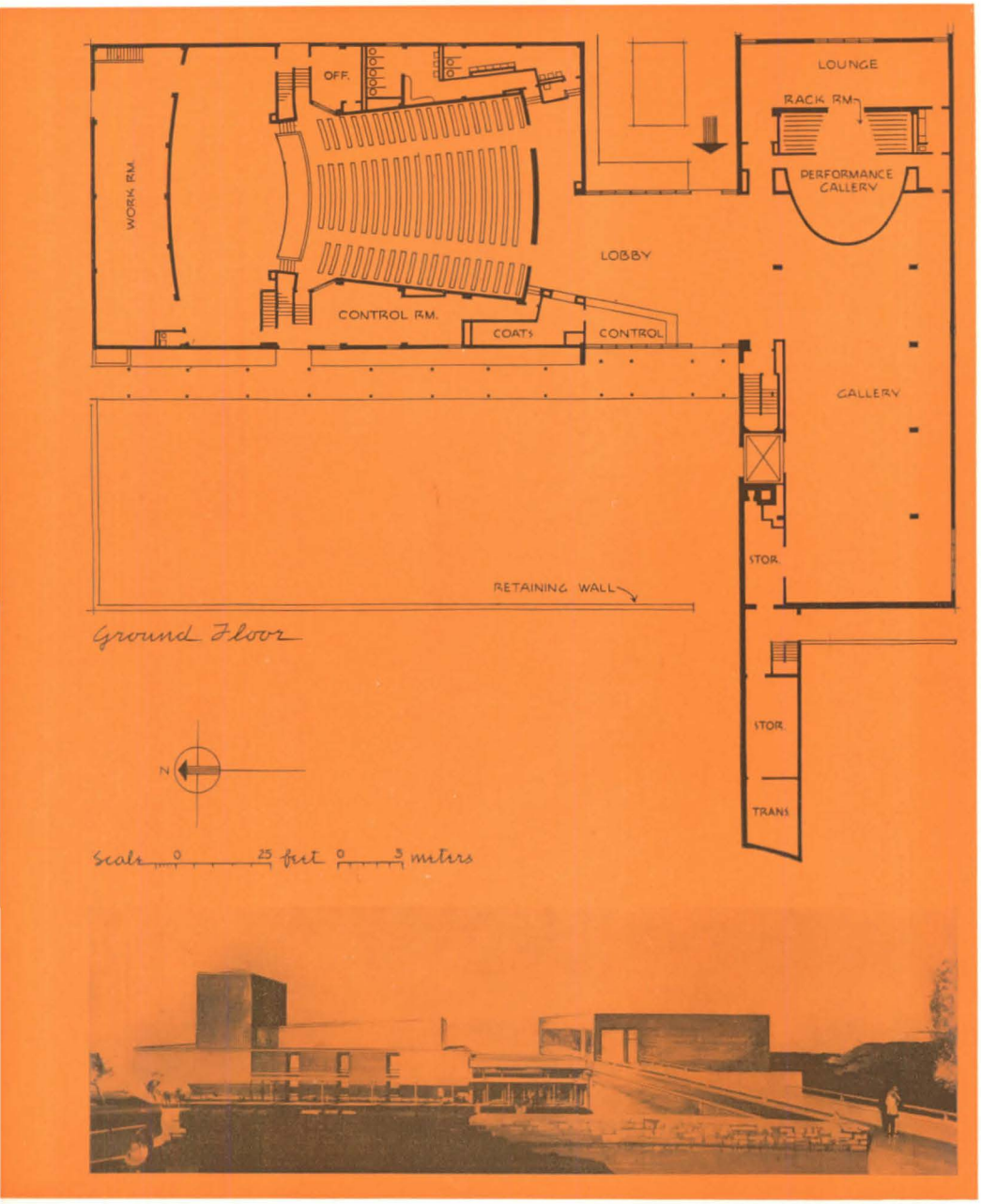


a community center for the arts

In Fort Worth, Texas, millions of dollars were being spent for recreation, parks, schools, hospitals, a coliseum, an auditorium, and other facilities, while the public art collection was confined to one gallery and a classroom in the Public Library. A move for adequate facilities for art education was led by the Fort Worth Art Association, which successfully backed a bond issue and raised money to build and maintain a Community Art Center.

The auditorium-gallery group *(shown here and overpage)* is now under construction, designed to become the hoped-for art center. Architects are W. G. Clarkson & Company, with A. George King, Associate Architect; Herbert Bayer, Design Consultant; and Gordon Chadwick, Associate Design Consultant. Next year it will be ready to serve the art program for the city of more than 300,000 population.

What is a community art center? The Art Association explains: "A workshop of the arts for painting, sculpture, music, theater, industrial design, dance, the crafts, and architecture. It will serve to (1) provide a program of art activities in which all interested people may participate in any or all of the arts; (2) give encouragement, counsel, and material aid to independent cultural groups and to other educational programs; and (3) to



enable the city to give public and specific evidence of its cultural growth."

The glass-walled lobby will link two major wings composing the L-shaped structure. The auditorium, with ample stage and workroom at back, will occupy one wing. At a right angle will be the wing containing galleries on two floors, a club room for art center members, a library, studios, and classrooms for a program of art instruction. The sloping site enabled the architects to provide a secondary entrance from the rear, directly into the second floor of this wing. This will provide easy access to the classrooms and smaller upstairs gallery.

resort planning: hotel

location	Montego Bay, Jamaica, B.W.I.
architect	Edward D. Stone
associates	Stanley M. Torkelsen John D. Tuttle
mechanical and structural engineer	Peter Bruder
landscape architect	Count Jacques deSebour
interior decorator	Dorothy MacNabb

resort planning: hotel

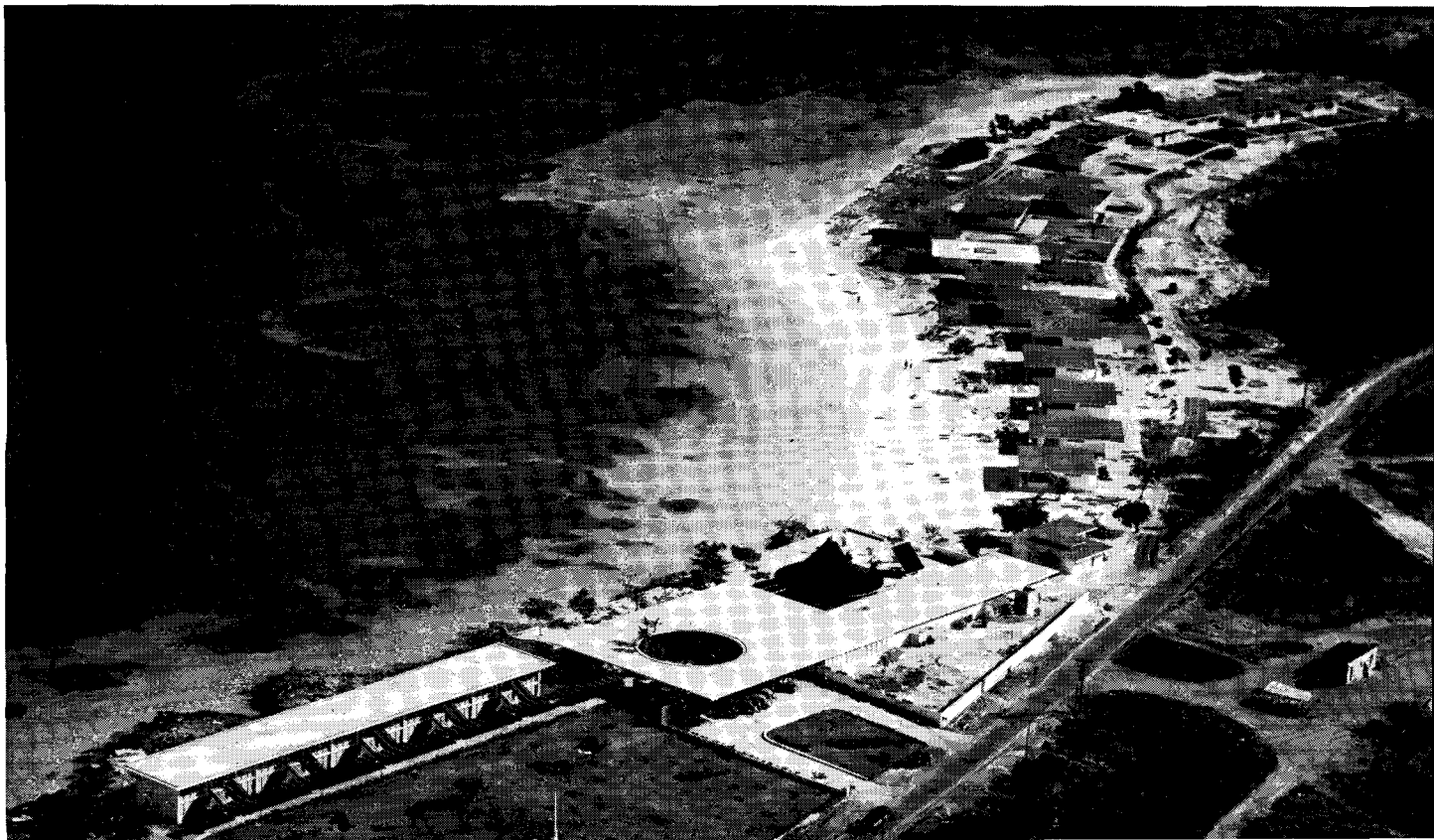
In the design of resort facilities, efficiency is not enough. Somehow, there must also be architectural answers to the vacationer's desire for as complete a change from home as possible; for an "out of this worldliness" that helps him justify his considerable expenditure of time and money; for an atmosphere of relaxed enjoyment.

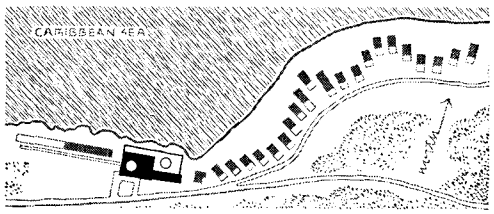
Some natural magnificence—the sea, the mountains, the desert—is the basic lodestone that makes a place a potential resort. But in the design of resort facilities, it would seem reasonable, if not necessary, that things be done—in the disposition of elements, arrangement of openings, use of materials, shape and character of the group—that will dramatize the surrounding natural beauty. One extreme approach might be to work for harmony with the environment, as complete as a bird's nest in a tree. At the opposite end of the scale would be the provision of a bold foil to the site, like a pearl against velvet, each element enhancing the other. Presumably the most fortunate solution is the design that accomplishes a portion of each extreme. In the Bay Roc Hotel, shown on these pages, we feel that the architect has not only fulfilled the basic functional requirements, but also has developed an esthetic that co-ordinates with the tropical, shoreline setting at the same time that it provides a pleasing contrast.

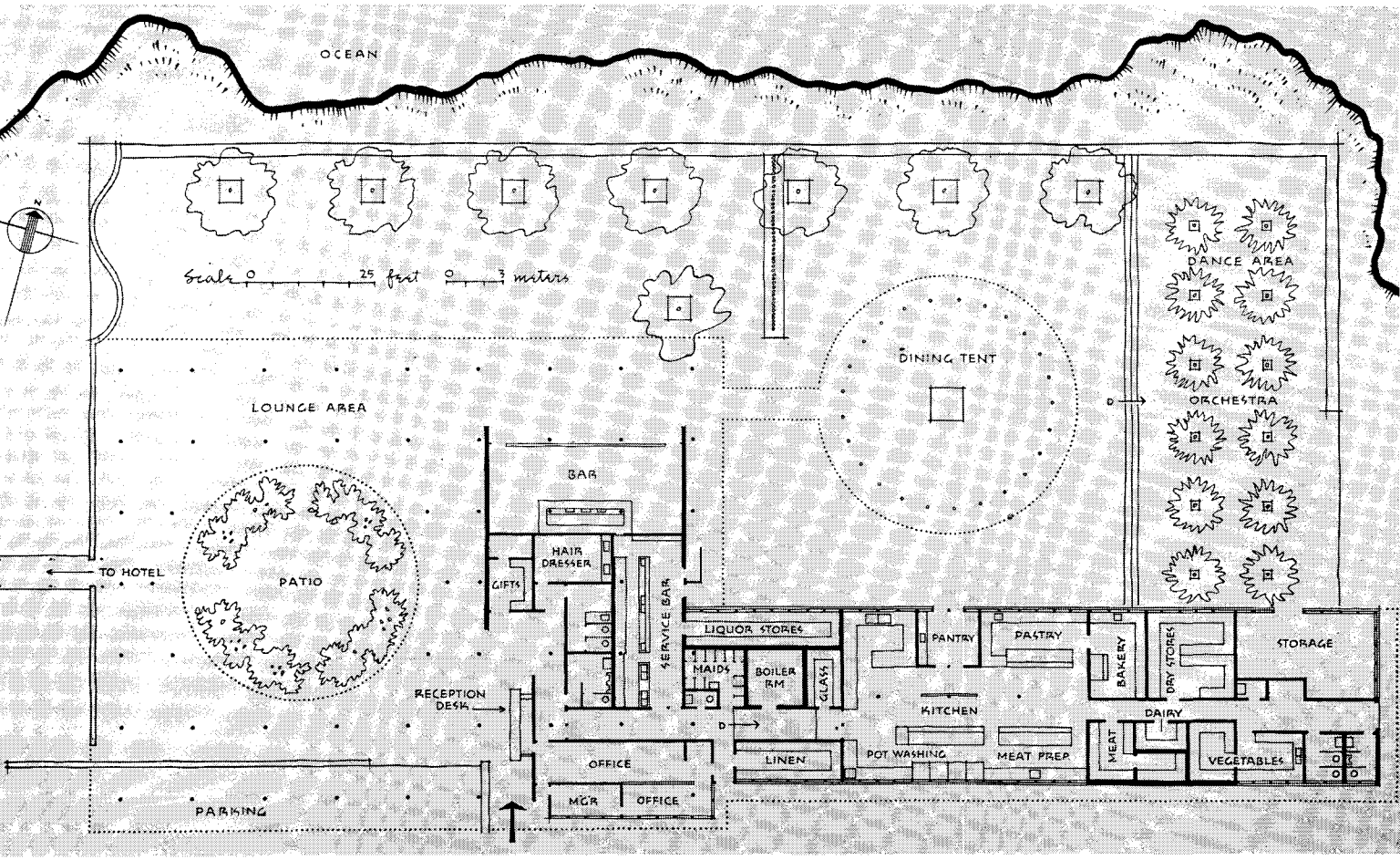
In designing the Bay Roc, the elements of which are organized along the curve of its ocean frontage, a conscious effort was made to create a light, holiday atmosphere in both placement of facilities and appearance of the buildings. Three major functional areas comprise the group—a central administrative unit, including public-use areas disposed around a richly landscaped circular patio; a series of guest cottages east of the central unit (right of aerial view); and a two-level block of hotel bedrooms, to the west. The main bathing beach lies in front of the guest cottages, although bathing is also enjoyed off the rocks directly outside the hotel-bedroom wing.

To insure privacy and quiet for guests, the bedroom wing is separated from the dining-dancing-bar area by the great entrance-patio. Planting and dividing walls provide further separation. Among the many things introduced to exploit the tropical location and emphasize the "away from it all" atmosphere are the lush planting; a patio that serves as the hotel lounge; and a colorful circular tent to shelter the portion of the terrace used for dining.

The buildings are framed with reinforced concrete and pipe columns; wall areas are of cement block, here and there pierced with openings to provide cross ventilation. Floors are cement tile, brick, or cement; and the roofs are flat-slab, reinforced concrete. Cement plaster serves as the wall finish, both inside and out; the exposed concrete slab is also the ceiling finish. In service areas, fluorescent light fixtures are used; while in the public spaces, hotel-room porches, etc., spheres woven of rattan enclose incandescent lamps.







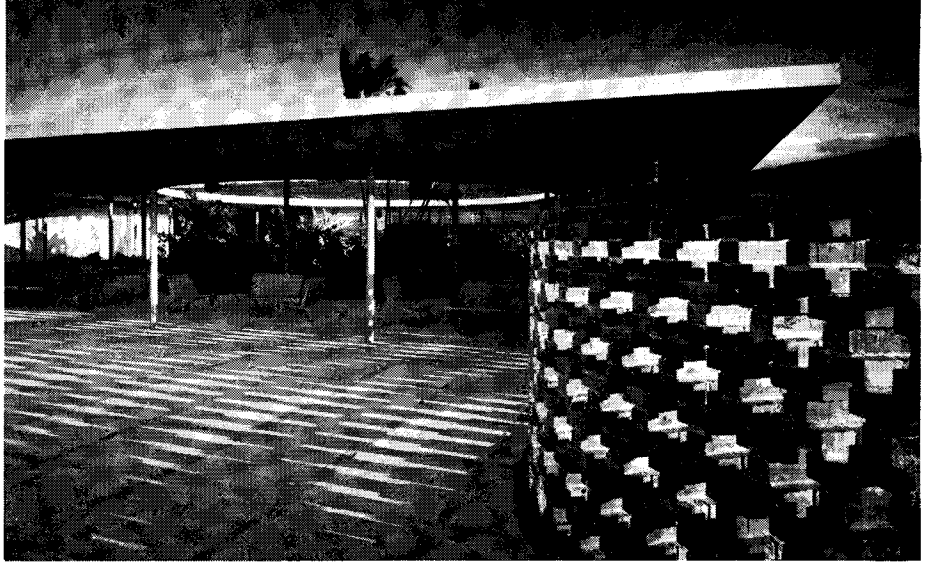
Seen from a plane, the three main elements are clearly discernible (across-page: from left to right): *the two-story mass of the hotel-bedroom wing; the flat-roofed administrative-public-use area, punctuated by the circular opening above the lounge-patio and conical dining tent; and the cottage group following the curve of the shore.*

Photos: J. Alex Langley

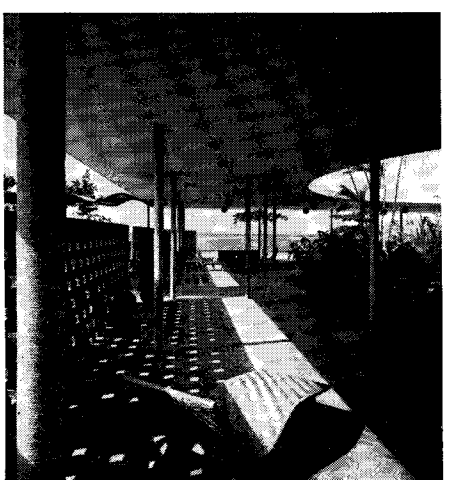
Administration-Public Use. It is questionable whether there were ever such public spaces provided in a hotel, as those at Bay Roc. Everything is so completely open—making the most of the salubrious climate—that the word "room" becomes practically meaningless. After entering under a broad entrance canopy, with the clerk's desk at one side, one immediately comes into a vast square courtyard, brick paved and roofed around its perimeter, and with a circular landscaped patio open to the sky in the center. This glamorous area constitutes the hotel lobby or lounge. Groups of chairs, tables, and settees are placed at various points under the roofed portion. The seascape is framed by the firm straight edge of the roof slab and the undulating lines of a pierced, masonry side wall on the west. The open terrace beyond, toward the ocean, is planted with almond trees, providing additional shaded sitting areas.

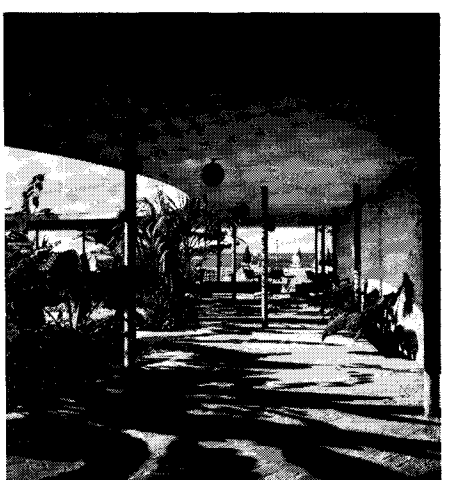
Through an opening in the west walls of the lounge, sheltered access is provided to the guest-bedroom wing. Following the paved space eastward, one passes the bar (recessed and dimly lighted at night, by candlelight) to the broad, open dining-dancing terrace. In the middle of this latter space is the playful, circular dining tent, with its conical roof and side curtains of blue canvas. Service from the kitchen is three ways—to the bedroom wing, to the patio-lounge, and to the bar and dining tent.

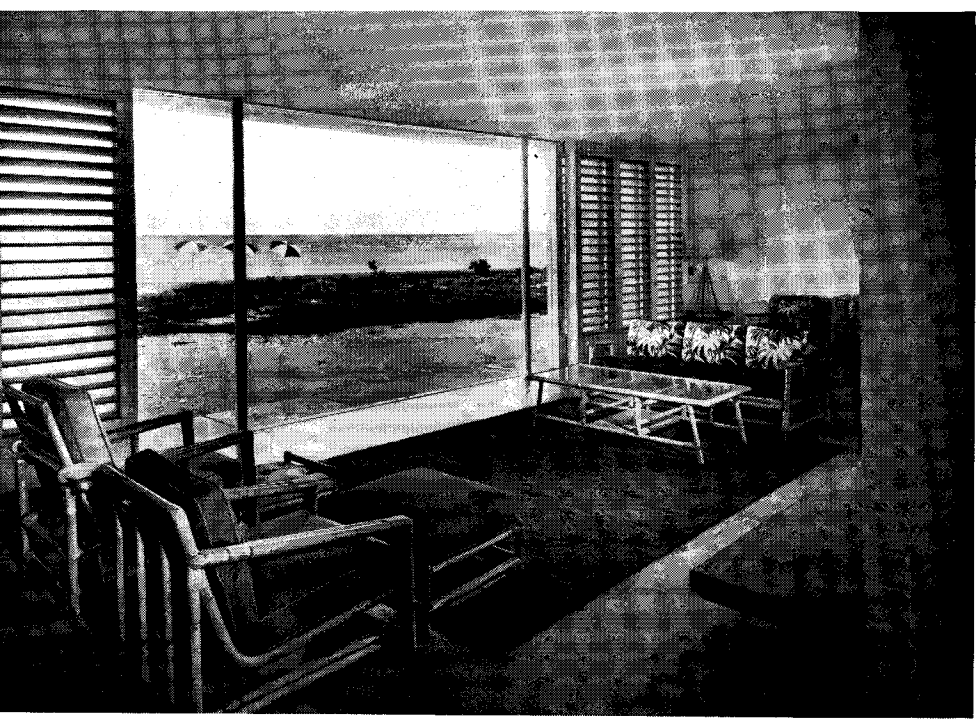
The dining tent, dubbed the "Carousel," is of bright blue canvas lashed to the steel-pipe frame with manila rope. This surprising scheme, initially developed to create a festive aspect, has proved to be impractical, due to unexpectedly strong, midday winds.



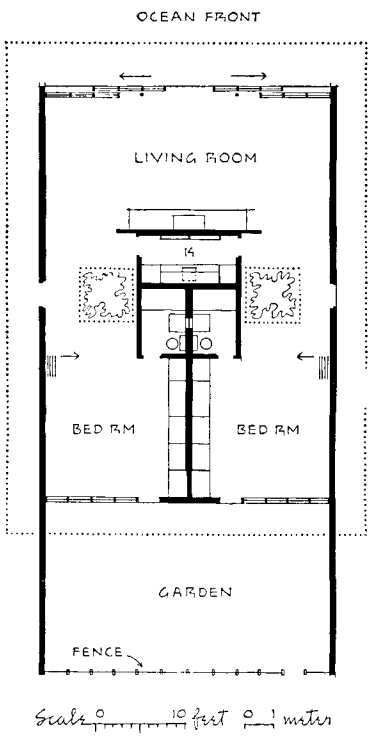
On the oceanfront terrace (right) *a pierced serpentine wall separates the lounging area from the bedroom wing. The other views show varying aspects of the patio-lounge, looking toward the sea.*

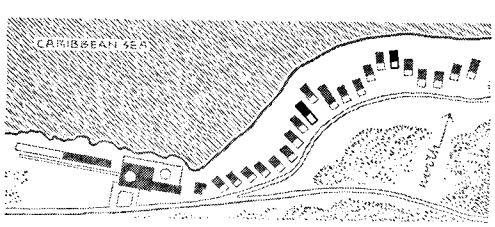




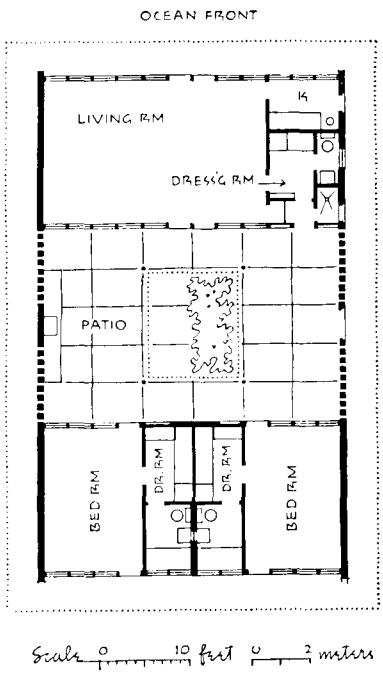


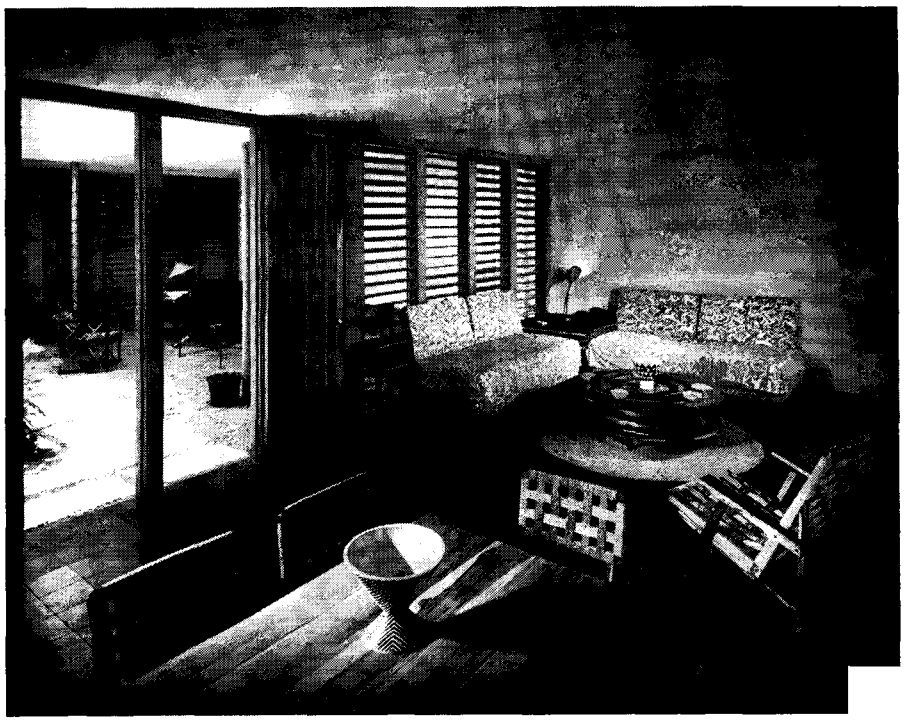
In the cottage shown on this page, half of the jalousie wall facing the beach slides open, in effect making the large living room into a deep, shaded loggia. Outside doors are so arranged that the two bedrooms can readily be rented separately.



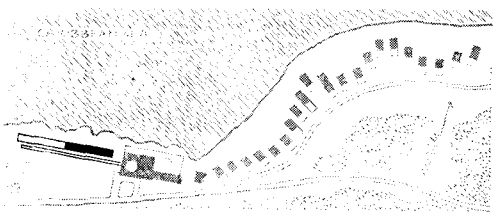


Private Cottages. The cottages along the curving beach at the east end of the property are all privately owned, built by the hotel stockholders. When the owners are absent, the cottages are rented. Though varying in size and plan, all have design elements in common. In every case, there is full cross-ventilation, made possible by louvered walls, sliding jalousie panels, folding shutter doors, and pierced masonry areas. And in all of the houses there is some interior garden or patio area. Flooring is of cement-tile squares, and walls of brick or stucco on concrete block.

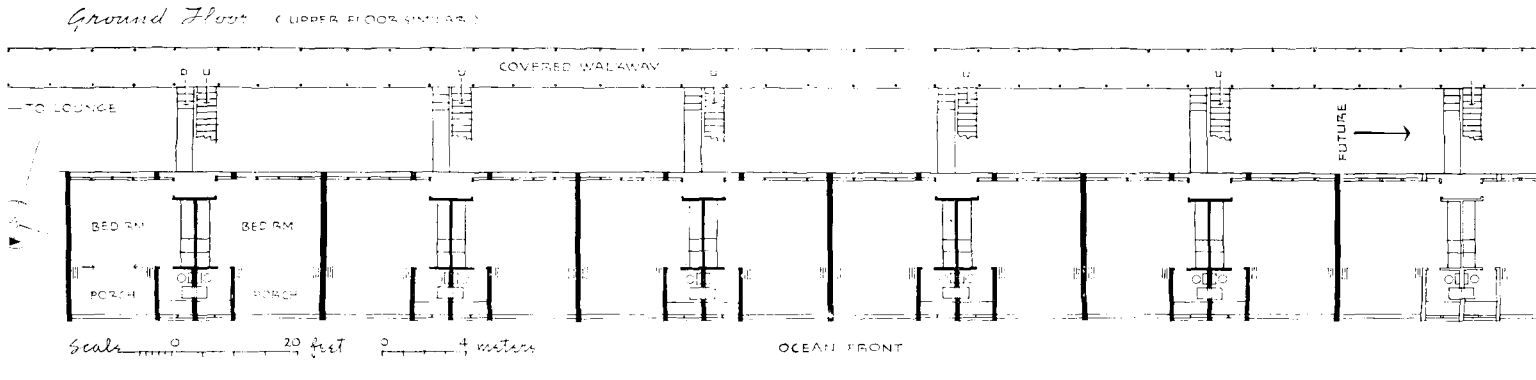


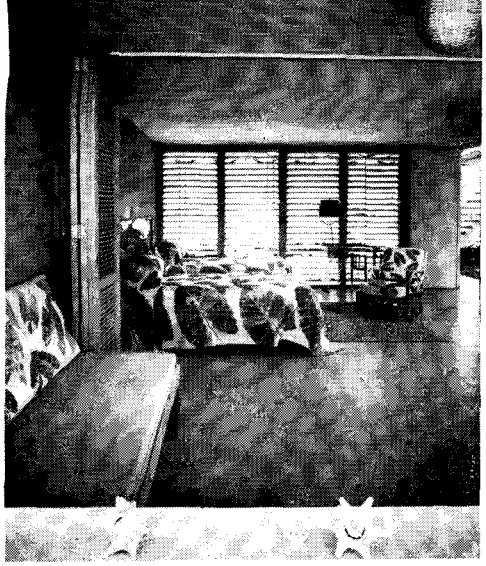


This more spacious cottage is disposed around a large central patio, open to the sky above the rectangular planting bed. Pierced walls and louvered panels lure the breezes.

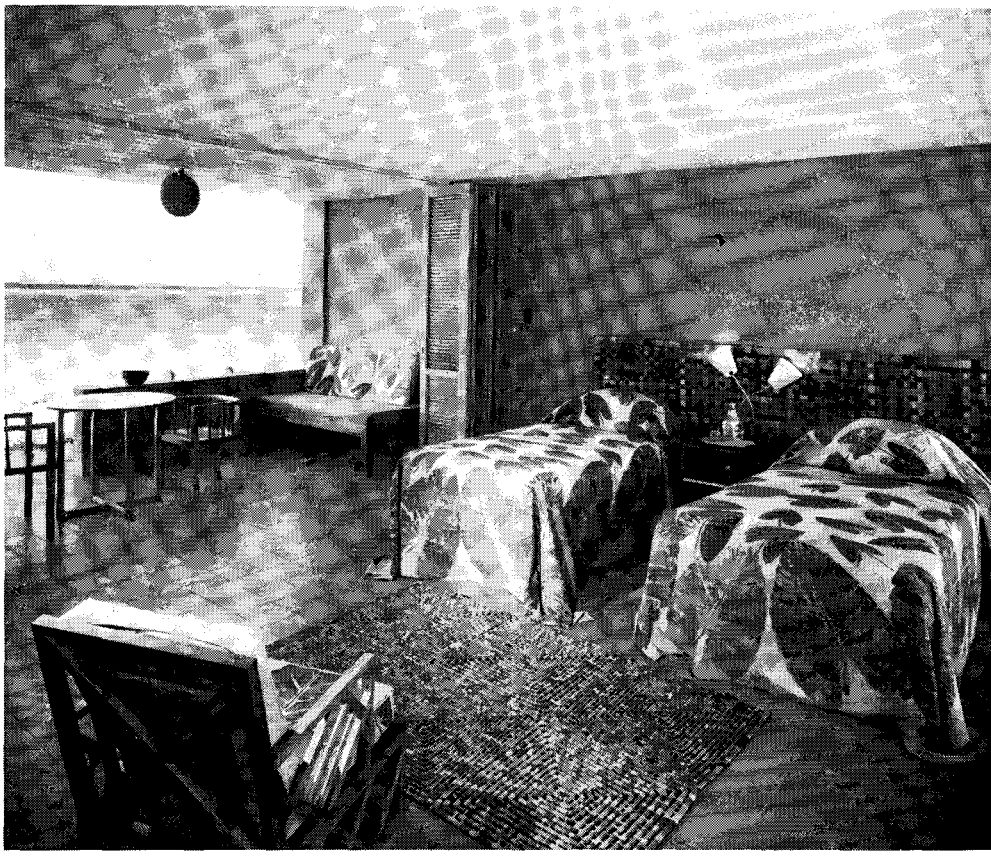


Hotel Bedrooms. The present guest-bedroom wing consists of 20 suites, 10 on each level. Future plans call for enlarging the building to twice this size by an addition on the west end. Access from the patio-lounge is by means of a walk sheltered by a sinuous sheet-metal roof supported on pipe columns. The walk, which is well separated from the building by planting beds (to insure privacy for the rooms), is somewhat above the groundfloor level. Stepping stones lead down to the rooms on the lower floor, and covered wood stairways provide access to upstairs rooms. All rooms occupy the full depth of the building and have complete natural ventilation, with jalousie walls on the inland side, and folding shutter panels opening onto the private porches or balconies facing the sea. The bathrooms are located on the wall opposite the entrance doors, to eliminate the usual entrance corridor and to open the dressing area to the room, increasing the sense of spaciousness.

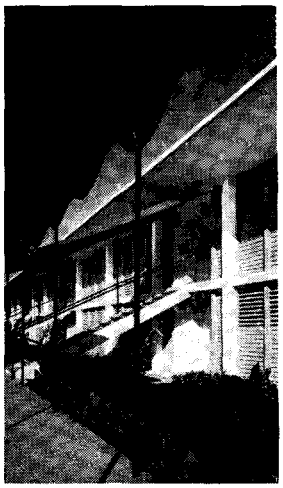




The typical guest suite (above and at right) *has an 8'-10"-deep porch opening off the generous main room—approximately 16' square. The light shades were specially woven of rattan.*



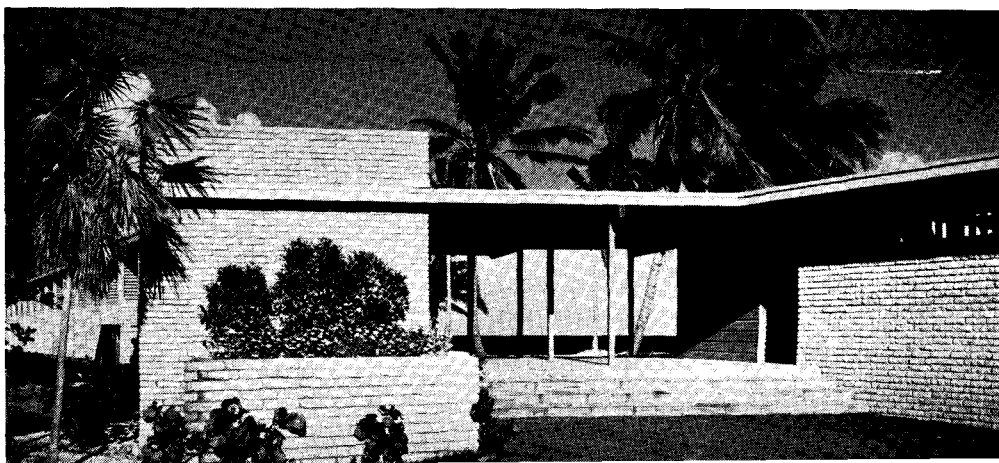
Access stairways along the south wall of the concrete-framed building occur between each pair of rooms, forming a bold design pattern and eliminating interior corridors.

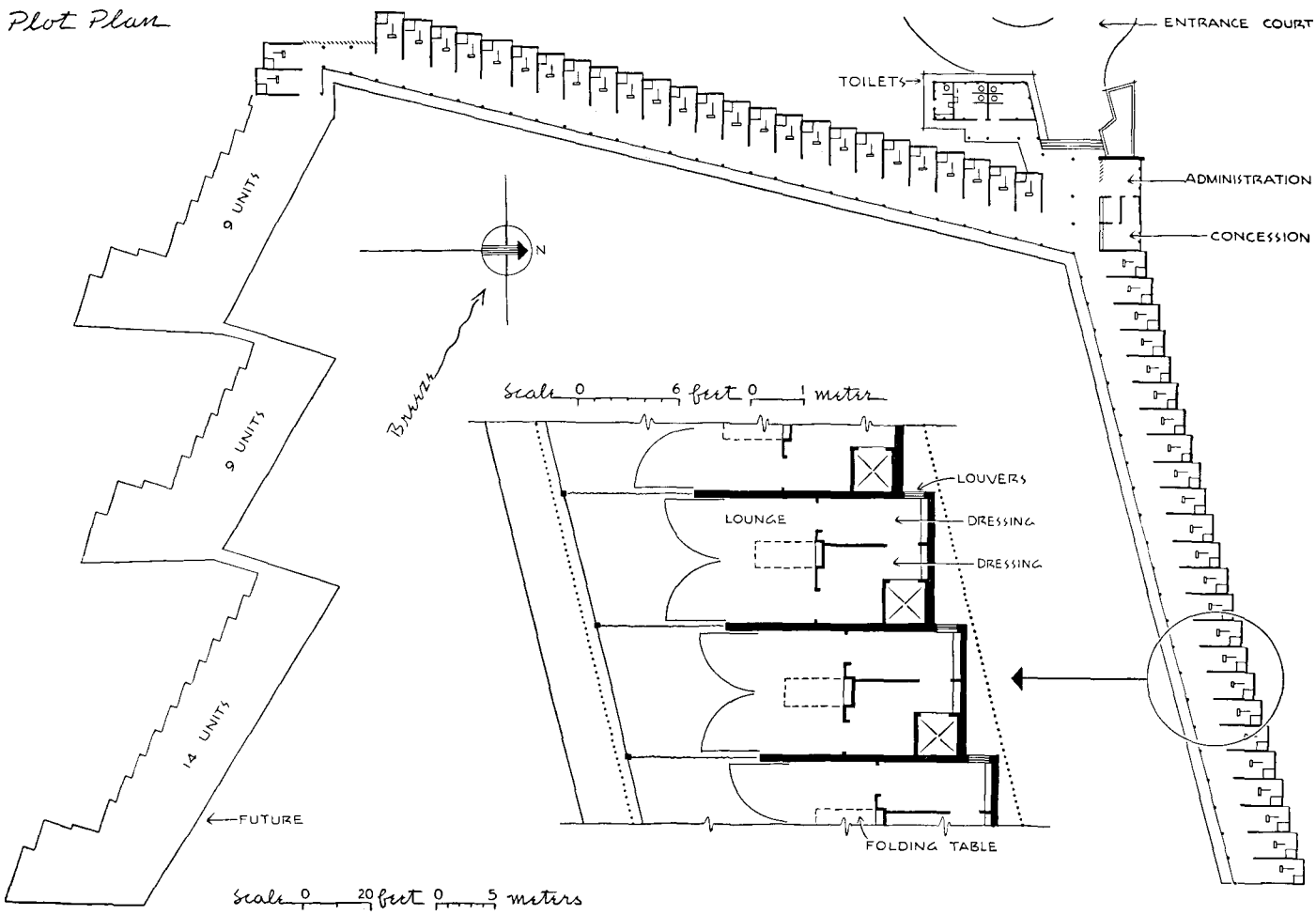


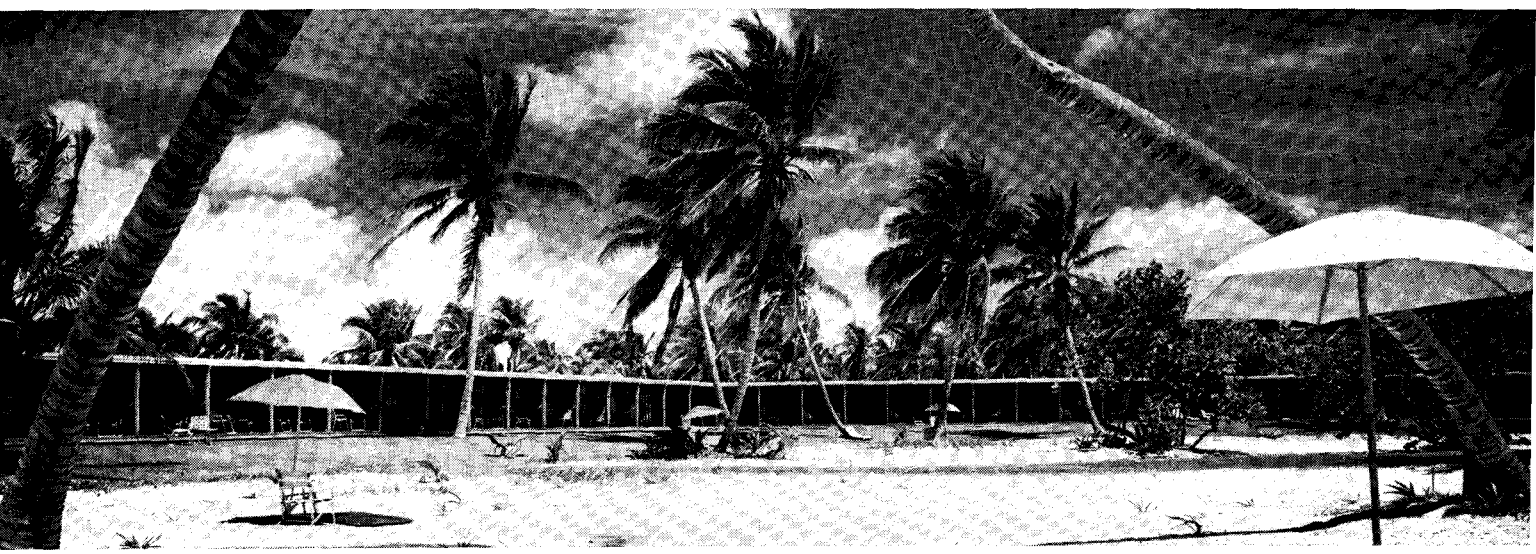
resort planning: cabana colony

location	Key Biscayne, Florida
architect	Robert Fitch Smith
general contractors	Witters Construction Company St. Johns Construction Company

Viewed from the approach side (above), *the stepback alignment of the cabanas forms a bold, sawtooth wall pattern. Around the main entrance and toilet wing* (below), *adobe block is the wall material. Between the cabanas and the ocean beach is an extensive sunbathing area* (acrosspage). Photos: Ezra Stoller





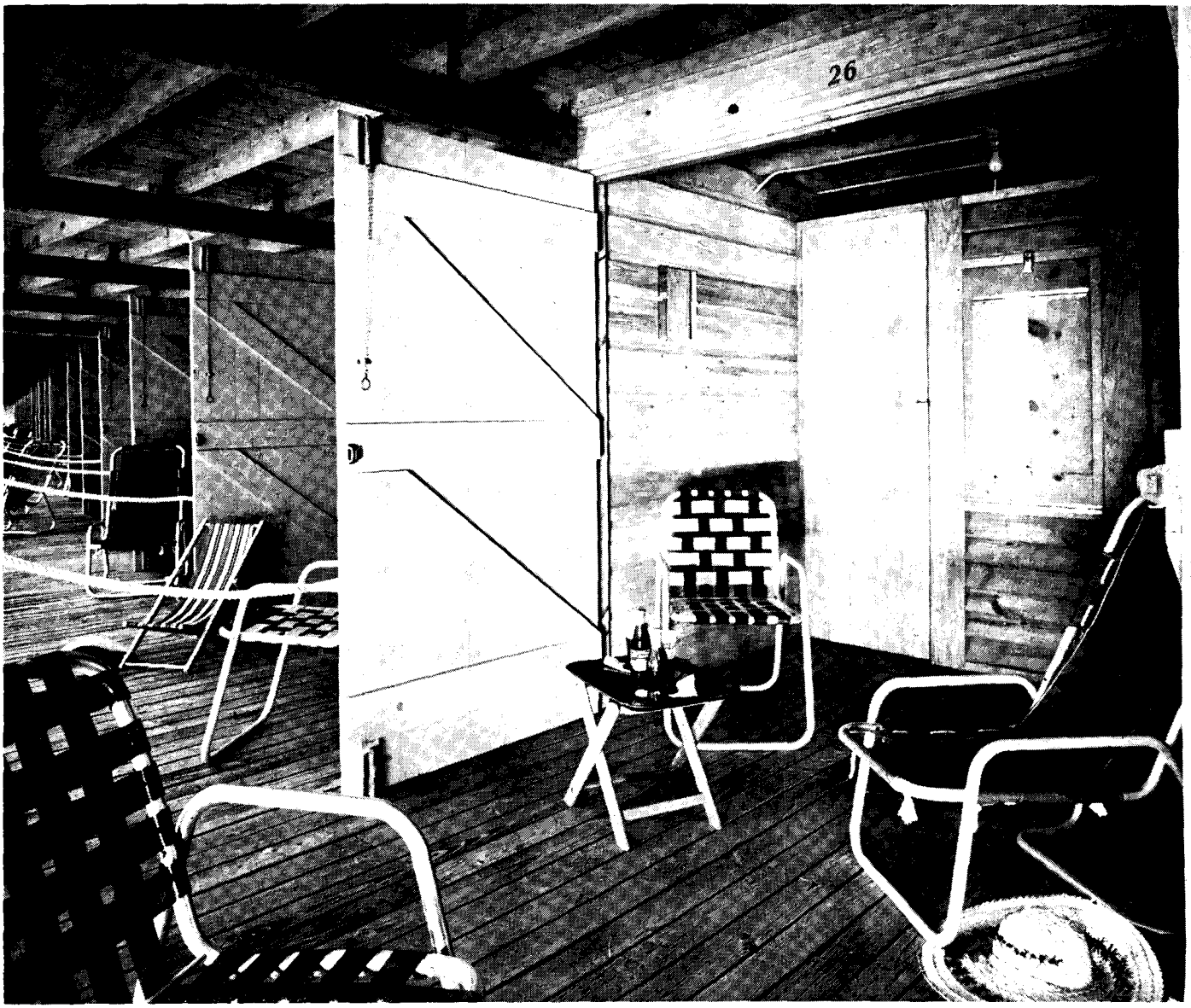


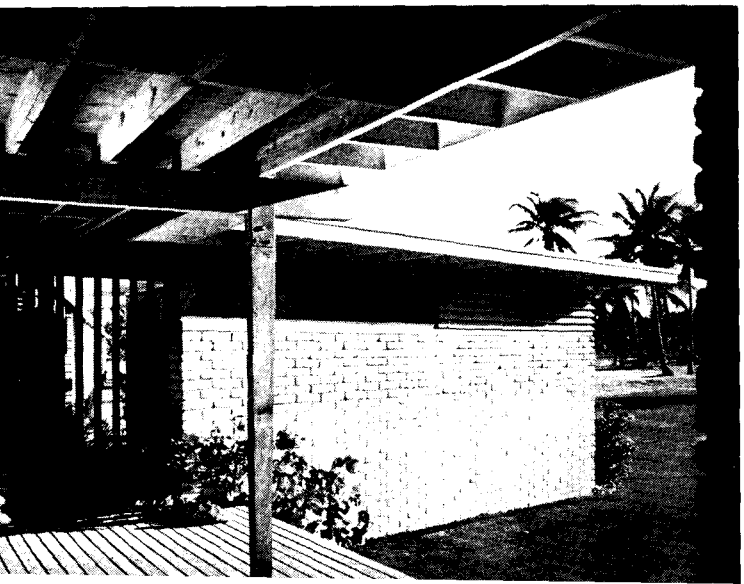
Arranged in a spreadout plan so that all cabanas enjoy a view of the ocean, this resort facility was developed on a 400′ x 650′ plot on a small island 10 miles from downtown Miami. A membership establishment, the project shown here is made up of 51 cabanas. It will eventually have a total of 83 units. In addition to the cabanas, there is an administration office, a concession (where lunches may be obtained), public toilets, play courts, and parking space. For its adroit design, the building won Honorable Mention in the 1952 Gold Medal Program of The Architectural League of New York.

Constructed in the sandy soil on longleaf yellow-pine piling, the building is mainly of frame construction designed to withstand winds of hurricane velocity—which it has done. All floor joists and studs were pressure-treated with chromated zinc chloride. Exterior wall surfaces are of novelty drop siding except around the entrance area where exposed adobe is used. Wood surfaces, both inside and outside, are treated with driftwood creosote-shingle stain. Flooring consists of 2 x 4's spaced ¼″ apart. Above the exposed rafters and T&G sheathing the finished roofing is built-up, using white gravel as a heat reflector.

The sturdy wood framing, apparent in both the beachside general view (above) *and in the entrance detail* (acrosspage, bottom) *has already proved its windworthiness in gales of hurricane strength.*

When opened, the paired doors between cabanas form partial dividing walls for privacy. The cabinet in the middle of the rear wall lets down to become a serving table. When folded into the wall it can be padlocked.





accounting in the architect's office, part 2

by Clinton H. Cowgill

Every architect should know how each project in the office turns out financially. Some professional people dislike the term "profit," as being commercial, but none can object to the provision of sufficient reserves to keep the organization intact. To do this, it is necessary to keep records indicating the extent to which each project is able to contribute to reserve funds, or the extent to which reserves must be reduced for that project. It is also desirable to know how the cost of the project is broken down into various subdivisions —and possibly, in some cases, even into the cost of individual sheets of drawings. Only thus can efficiency be increased, and inefficiency uncovered. This job-cost accounting is also useful in supplying data for making budgets for future jobs.

Aside from the obvious need to see how each individual job is doing, or has done, there are two general reasons for keeping careful accounts: a check on the ratio of overhead to job costs; and verifiable data for income-tax returns.

The sum of all job costs during a given period make up the total *Direct Cost* of the firm. The sum of all other costs gives the *Overhead* for the period. The relationship between these two totals may be revealing. When the firm is fully employed, *Overhead* tends to be less than the normal 70% of direct cost; when work is slack this percentage will be higher. When the books show that the *Overhead* exceeds 90%, there is danger ahead.

Income-tax requirements make it necessary to keep accounts showing income of partners (whether withdrawn or not), amounts paid in salaries, and other items. For tax purposes, it often proves to be advantageous to keep accounts on the "accrual basis." Such a system is actually more realistic than the simpler "cash basis." Expenses are *really* incurred when obligations have been established, or when goods and services have been received; and income likewise is real when services have been rendered.

It is not the intent of this paper to go into details of office accounting methods. There is now considerable literature on the subject and the A.I.A. has made available standard forms and instructions for their use, which are easy to understand. Since, however, some firms are still inclined to be careless in their methods of keeping accounts, the writer would like to point out certain important basic facts about the keeping of *Journal Accounts* and *Ledger Accounts*.

journal accounts

It is necessary to have a *Journal*, if any records of much use to the office management are to be kept. Otherwise, checks and deposit slips would be the sole means of keeping financial records, and totals would have to be computed from them for tax reports. In using the *Journal*, time may be saved by the use of multi-columnar forms. If a pair of columns is provided for each account, it is possible to dispense with ledgers. This results in a rather cumbersome Journal; for the smallest practice at least 27 pairs of columns would be required, in addition to those for subaccounts for clients. Even with specially-designed folding forms, such a book is a bit awkward to use. But the A.I.A. forms, which are of this type, may be used with but little understanding of accounting, and for this reason are preferred by many architects.

It is desirable in any case to keep *Ledger Accounts* for permanent record, and if this is done *Journal* columns need be provided only for accounts in which many entries are expected. Commonly these would be for *Cash*, *Direct Expense*, and *Overhead*. In addi-

tion, the *Journal* should have a pair of columns for miscellaneous items — usually headed *General Ledger*. By the use of symbols, such as account numbers, the items in each of these four pairs of columns may be classified.

For example, when cash is received the amount is placed in the debit column for *Cash* and in the credit column for *General Ledger*. Symbols for the job involved and for the fees-accrued account are then entered in an index column.

Direct Expense entries should be classified by job. For *Direct Expense*, a multi-columnar form should be provided for each job, as an actual job record, the number of the columns depending upon the extent to which a detailed breakdown is desired.

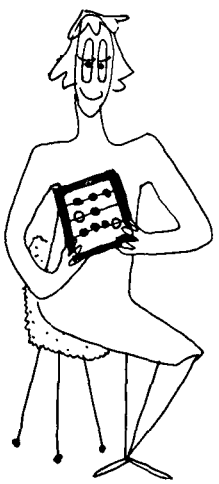
Overhead entries should be classified in the *Journal* as such items as rent, supplies, etc. (using symbols). Single-entry accounts may be used for the actual classified record; a form with 12 columns is suggested, each column being headed by the appropriate name or subaccount number or symbol.

ledger accounts

There probably will be 27 *Ledger Accounts*, if accounting is on a "cash basis," and 32, if the "accrual basis" is used. They need show only totals or balances for each accounting period for *Cash*, *Direct Expense*, and *Overhead*. However, each separate entry in the *General Ledger* columns of the *Journal* should be transferred to the proper account in the *Ledger*, and each of these *Ledger Accounts* should be balanced at the end of each accounting period.

financial statements

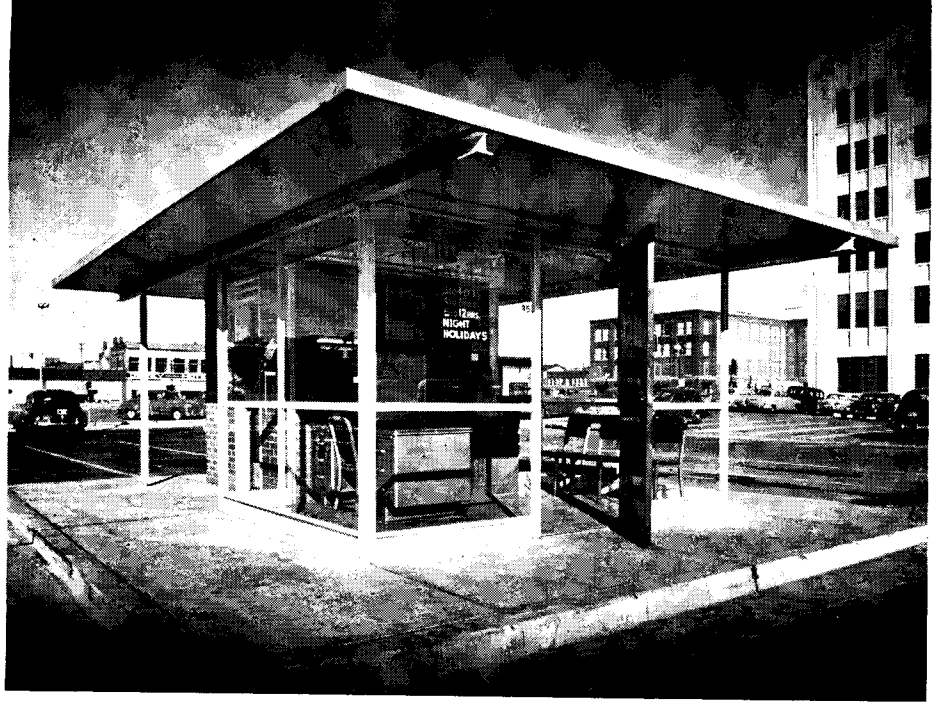
Such a system of accounts may be balanced, and a financial statement prepared, at any time. From the *Journal* the ratio of *Overhead* to *Direct Expense* may be obtained for any period, and the cash gain or loss may be seen. A *Balance Sheet* can indicate at a glance the financial condition of the firm; a *Profit and Loss Statement* can show the relationship between actual earnings and actual expenses. Any intelligent secretary can keep such accounts with a minimum of direction and with the expenditure of only a reasonable amount of time.



exchange of information

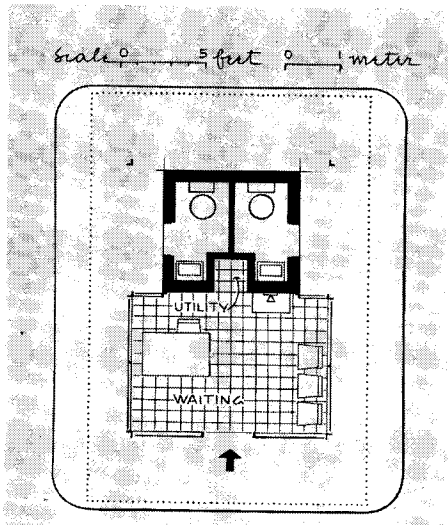
Much benefit could result from architects exchanging information on office practice and cost matters. Among useful data for exchange, to everyone's benefit, might be mentioned: the ratio of *Overhead* to *Direct Expense*; average production costs for different types of buildings; and costs of supervision. Such data would be useful in a conference with a prospective client, especially if a fee based upon the actual cost of architectural service were being discussed. A sliding-scale schedule of charges is desirable when a percentage of the construction cost is the basis for professional charges; and the cost data described would give such a scale added meaning as a basis for agreements with clients. If such realistic data were placed in the hands of inexperienced architects in private practice, it would influence them against fee cutting much more effectively than either preaching or threats of ostracism.

In order to make a meaningful exchange of information possible, a degree of uniformity in keeping of records would be necessary. Any system of accounts might be selected by the individual architect, ranging from a single-entry cash system, using checks and deposit slips for the principal records, up to the most complicated voucher system.

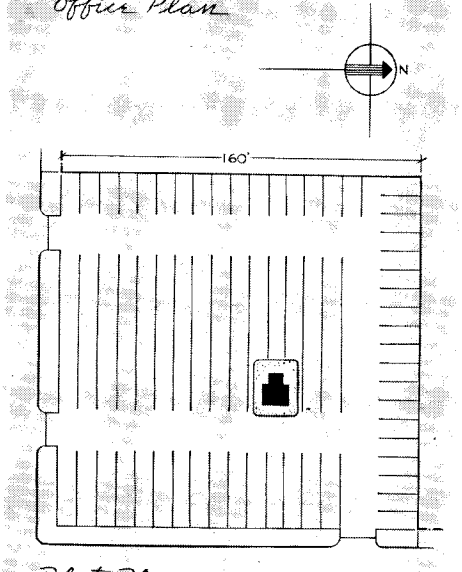


PARKING LOT OFFICE

location	Oklahoma City, Oklahoma
architect	Joseph N. Boaz
general contractor	Frederickson-Parks, Inc.



Office Plan



Plot Plan

The client's instructions were simple: Provide minimal office space and toilet facilities for both sexes (displacing as few parking spaces as possible). No problems were presented by the level site and the effectiveness of this design resulted almost entirely from the simplicity of the structural solution.

Six 3" x 3" steel angles used as columns support two 4-WF-10 sections cantilevered approximately 4' over the end pairs of columns. The WF sections in turn support the thinnest steel roof deck (1.6" deep) that the architect could find, while bulkheads between columns and below plate glass are 5" channe's bolted to sill spacers and ¾" diameter anchor rods tack welded to reinforcing bars. Steel dowels at the ends of the two free-standing columns were designed to load the angles close to their centroids so that minimum bending moments would be transferred to these laterally unbraced vertical members. All of the framework was delivered to the site as an assembled unit complete with footing reinforcement.

Principal environmental control features are provided by a thermostatically-controlled unit heater and simple mounted fluorescent fixtures. Total cost of the building with its surrounding walk and gutter was $5900.

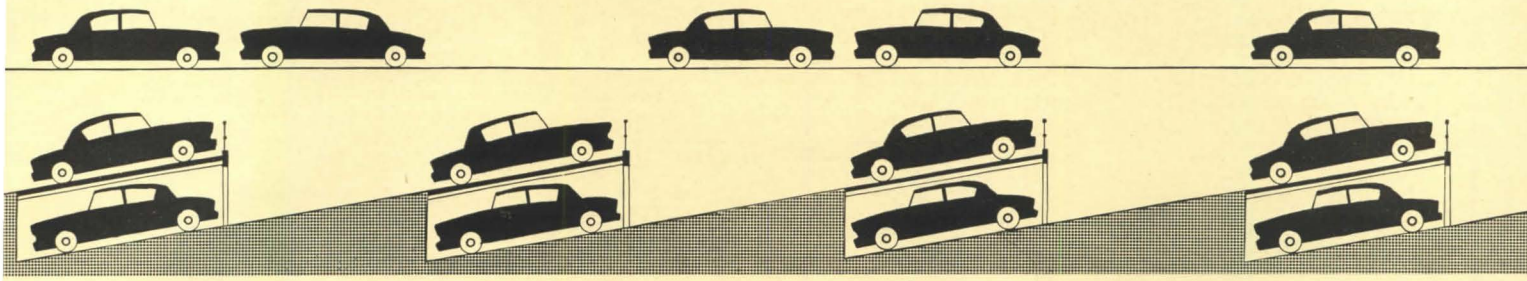


Figure 1—comparison between conventional method of single-plane parking and that employed by Para-Park Parking System for the same plot area; conventional method (top), *Para-Park construction on level site* (bottom).

PARA-PARK
provides parking for 60% more cars in a given space

Without exception, parking lot owners want their properties planned so that a maximum number of automobiles can be accommodated. A solution for an office structure that eliminates a minimum number of revenue-producing parking spaces is shown (acrosspage) *and a relatively inexpensive method of providing a 60 percent increased efficiency in the use of space is described* (below).

A nonmechanical solution to today's serious parking problem has been developed which uses a single projected area for two automobiles by the construction of an upper deck at an incline above a grade deck. This patented solution has been named Para-Park Parking System by its developers William P. Brower, Architect,* and Walter I. Gadkowski, Engineer.* The construction of the parking facility would involve the following: (1) regrading of a plot into a saw-toothed pattern with a balance of cut and fill; (2) the placement of the fill against a retaining wall (concrete, rubble masonry, cribbing, or any other conventional material); (3) the erection of a light structural framework over each grade parking strip with a decking material of thin concrete slab, roadway grating, or timber. Longitudinal drains would run along the base of each retaining wall and feed into a central sewer. For the problem of snow removal, the developers recommend either one of two solutions: radiant heat panels or forcing the snow down-slope into the drainage ditches which could be equipped with steam pipes to melt the snow.

Variations in the design of the system make it suitable for construction on hillsides and building roofs as well as level plots. On sloping sites the ground line would follow the natural slope and where the natural ground slope is as much as 2⅛ to 12 (approximately 17 percent) or more, the roadways and parking decks would be horizontal. On the other hand, if the ground slope is less than this amount, the parking strips would have to be sloped in order to maintain a 6′ 4″ minimum clearance. In the case of rooftop installations, the same general method is applicable, with trusses and beams arranged in the saw-toothed pattern and with the same types of drainage and snow-removal methods mentioned above.

A comparison between conventional single-plane parking systems and the Para-Park method *(Figure 1)* shows that five automobiles can be parked by the commonly used method in an area with the same width of parking strip and approach aisle where space for eight automobiles is provided by this new method. Thus, the result is a 60 percent increased efficiency in the use of the space. There may be a slight variation in this percentage of increase where plot areas may demand a different width allowance per automobile but the increase in space efficiency will never drop below 50 percent.

Although the influence of specific local conditions makes it impossible to generalize on a cost-and-returns comparison between older parking systems and Para-Park, it has been estimated that the installation cost of the latter would be approximately $500 per automobile.

*Saddle River and Chatham, New Jersey, respectively

Figure 2—an example of a Para-Park installation on a level site where the plot has been regraded into a saw-toothed pattern, with fill placed against retaining walls. Either thin concrete slabs, roadway grating, or timber could be used as decking material for the upper decks. A single aisle would serve both grade and deck areas.

lighting of shops and stores

by R. T. Dorsey*

Alert merchandisers have long recognized that carefully planned lighting is a sound sales investment and surveys made by trade associations indicate that lighting is of top importance in modernization. Sales increases of 20 to 40 percent as a result of relighting are not unusual and installations in hundreds of new, successful stores over the past few years clearly establish planned lighting as a dynamic sales force. These advantages are not obtained by merely considering the type and number of fixtures to be installed. Successful store lighting is based on creating a selling environment and is closely integrated with the types of merchandise being sold, merchandising methods and arrangements, architectural control of space, and the design of interior finishes. Broadly speaking, three major considerations apply: (1) Directing *attention* to the store itself, to areas within the stores, and to specific items on display. Traffic control, impulse sales, and emphasis on high profit items can be regulated within wide limits. (2) Creating optimum conditions for the *appraisal* of merchandise. Lighting is a major factor in obtaining sales appeal. It is also important in stimulating the activities of customers and sales personnel, thereby improving turnover and increasing the unit of sale. A combination of fluorescent and incandescent sources is recommended for all selling areas. 96T12 slimline lamps generally offer the lowest over-all cost of light and have the advantages of higher efficiency, fewer lamps to replace, and long, smooth lines of light. (3) Contributing to the *atmosphere* desirable for a particular type of store—from the hustle and bustle of a supermarket to the subdued and sometimes dramatic environment of a fashion apparel shop.

* *Store Lighting Specialist, Application Engineering Department, Lamp Division of General Electric Company.*

To the owner of a shopping center, or a building that will contain shops and stores, the importance of lighting is paramount as it effects the success of his tenants, and thereby the income available from percentage leases. A major consideration of the owner and his architect, therefore, is to insure that adequate facilities are provided so that the tenant can utilize light to the best advantage and at the least expense.

interior considerations

In the early development of contemporary store lighting costly mistakes were sometimes made. Outlets installed on regular centers, regardless of space allotment or size of tenant, often led some tenants to install mediocre lighting on the outlets provided. Others wishing different layouts were forced to move outlets and wiring with the result that money would have been saved had outlets not been installed in the first place. Similar experiences were had with floor and wall outlets.

On many projects today, it is common practice for the owner in his initial planning to provide about 6-w capacity per sq ft for lighting. (Air conditioning load is added to this amount.) It is then desirable to rent all the space before construction begins so that the tenant can have his lighting and merchandising layout prepared in time to install outlets wherever needed and with a minimum of lost time and expense. An allowance can be made by the owner for a specified number of outlets, the difference to be paid by the tenant. Where space is not rented before the building is completed, service can be run to a panel board and the walls and ceiling left uncovered so that outlets can be installed subsequently.

These considerations are not limited to outlets. Such items as dropped ceiling sections and other architectural elements, whether necessitated by duct work or for design reasons, need the same preconstruction planning.

Window displays and the appearance of open-front shops from highway or sidewalk constitute another important facet of store lighting. For the store owner, well lighted windows mean valuable attraction power both day and night; for the individual shop there is a competitive advantage. This is readily apparent in some centers where individual shops are deliberately set up to compete with the department store. In every business area there is very real competition for the shopper's extra dollar—will it be spent in the supermarket, the millinery shop, the drug store, or the florist shop?

The problem of getting attention from the outside is particularly acute during the daytime (when the largest volume of traffic is passing by) as reflections in the window tend to obscure the interior. This is easily solved, but too often overlooked, by providing sufficient brightness on interior displays. Where window displays take up most of the front, high-intensity spot lights such as the new 300-w PAR 56 have proven to be one of the major advances in window lighting in the past several years. Where the window display as such is not important or does not exist, particular attention is needed on the walls or perimeter of the open-front store. Continuous lighted valances, lighted walls and showcases, spotlighted counter and wall displays, and bright niches or feature displays are of *prime importance.*

exterior considerations

Just as interior lighting affects sales in individual stores, exterior lighting offers many opportunities for furthering the success of a group of shops and stores. Sign lighting has received considerable attention both for daytime and nighttime effectiveness. Most architects will agree that

Figure 1—one ft-c of illumination, considered good practice for parking lots, can be obtained by floodlights of 1000- and 1500-w sizes on 60- to 80-ft poles; tall poles also provide mounting for attraction devices. Other ways of lighting parking areas include the use of mercury and fluorescent street lights.

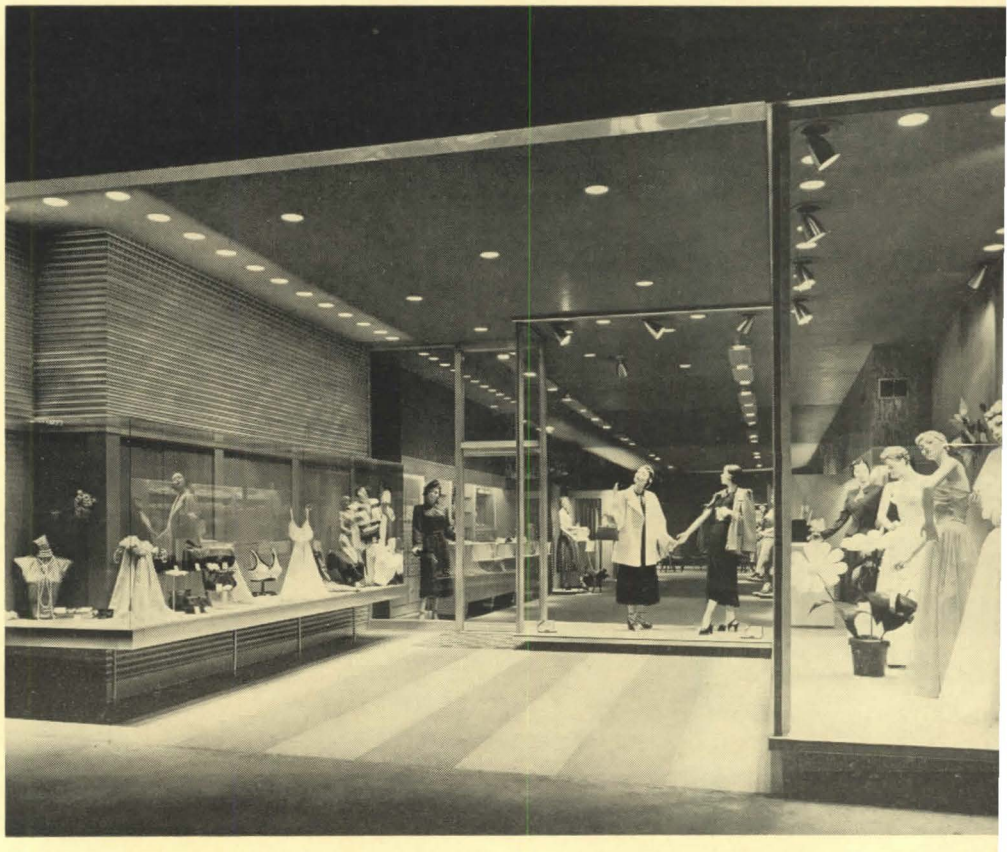


Figure 2—concentrated lighting at entrance and frontage builds up values on featured merchandise and guides the curious customer inside by day. Night use emphasizes the shop-front displays, utilizes interior system to lend depth and background interest. The interior walls, besides separating the shop from its neighbors, frame a display case in which the contents are made alive by calculated brightness distribution.

The lighting installations in these shop areas (one pair for women, below; the other for men, below acrosspage) *indicate something of the range in which lighting can accommodate styling objectives. Each pair includes a shoe shop and an apparel department. In each instance the lighting has been co-ordinated with structure to enhance the merchandising with atmosphere and accents appropriate to the sales problems. In one pair, the ensemble of light and decoration aims to appeal to feminine customers; in the other, to make men feel at home.*

a certain degree of restraint imposed on sign design is highly desirable to obtain unified and dignified appearance. One widely accepted technique is to provide a continuous horizontal element of diffusing glass or plastic lighted from behind with continuous rows of 1½"-diameter slimline fluorescent lamps. Rows are spaced 6" apart and placed 6" to 8" behind the luminous panel for adequate brightness and uniformity. On this panel the tenant is at liberty to apply opaque or colored lettering of his own design. This treatment has the advantage of visually tying the structure together, and the large luminous area is an important factor in attracting the attention of passing motorists. It also tells the prospective shopper at a glance the range of types of stores in which he may shop.

Attention value, of a shopping center for example, is more important than some have realized. It has been found that a center not only obtains trade from the surrounding residential area, but a substantial amount is obtained from nearby towns. Thus, competition between shopping centers is of great importance.

Competitiveness involves among other factors identification at a distance, pleasing appearance, and maximum convenience for the ever-increasing practice of night shopping.

Identification at a distance can be accomplished by a prominent pylon. It is obviously desirable to have its message readily legible from the maximum distance at which it can be viewed. The following guide for determining letter size applies to signs when opaque letters appear against a luminous background. Letter height (ft) =

$$\frac{\text{Maximum viewing distance (ft)}}{300}$$

Where exposed lamps such as the 10-w S14 type in enameled colors are used to form the letter stroke, the guide becomes: Letter height (ft) =

$$\frac{\text{Maximum viewing distance (ft)}}{500}$$

Here another consideration is smoothness

Figure 3—general lighting from incandescent downlights gives sparkle to shiny shoe surfaces, creates a warm atmosphere (above). *Eight-ft slimline lamps in standard cool-white provide color contrast on wall and niches. The pattern of brightness is stimulating as seen from the interior and helps attract attention outside the store.*

Figure 4—this long, narrow space (left) *is visually divided into selling areas by changing wall, ceiling, and floor treatments; by breaks in the rows of 3-lamps troffers; and by accents in brightness from PAR 38 spotlamps. Wall-case lighting directs attention to the display zone and contributes to a cheerful, stimulating atmosphere. Showcases at left are lighted by fluorescent "floodlights" instead of conventional glass-edge reflectors.*

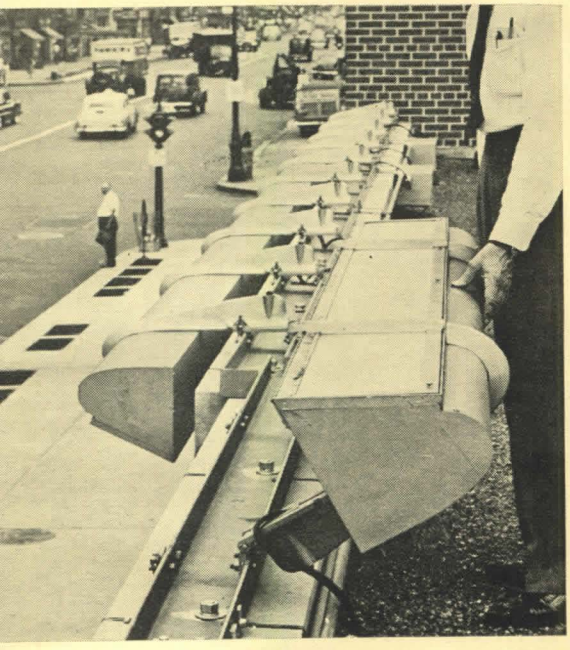


Figure 7—this sidewalk illumination provides protection and has advertising and floodlighting value; easy and safe maintenance are combined with durability and ruggedness. Units, mounted directly to the parapet (left), *rotate 180 degrees so that maintenance can be performed from the roof.*

Figure 8—high efficiency fluorescent lamps produce 10 ft-c on the sidewalk at night (below).

Photo: Rambusch Decorating Company, New York

Figure 5—tailored effects achieved with standard lighting equipment give a trim, masculine touch to this lighting (above). *Continuous-valance lighting over the stock is provided with 40-w standard cool fluorescent lamps. Filament downlights are strategically located over the point of sale area. Recessed, louvered ceiling squares, equipped with 40-w fluorescent lamps provide a balancing component of diffuse illumination to accompany the downlighting.*

Figure 6—this pace-setting installation (right) *possesses: (1) logical arrangements of troffers in terms of proportions of the various areas, ceiling heights, and requirements for uniformity; (2) smooth appearance; (3) deluxe cool-white lamps for good appearance of people and merchandise; (4) spotlights combined with fluorescent; (5) quality perimeter and case lighting; (6) light-colored surfaces.*

Figure 9—one of the most pronounced trends in supermarket lighting is the use of a valance around three of its walls. In this case, two rows of deluxe cool-white 30-w fluorescent lamps furnish 100 ft-c on the produce display. An additional row silhouettes the sign.

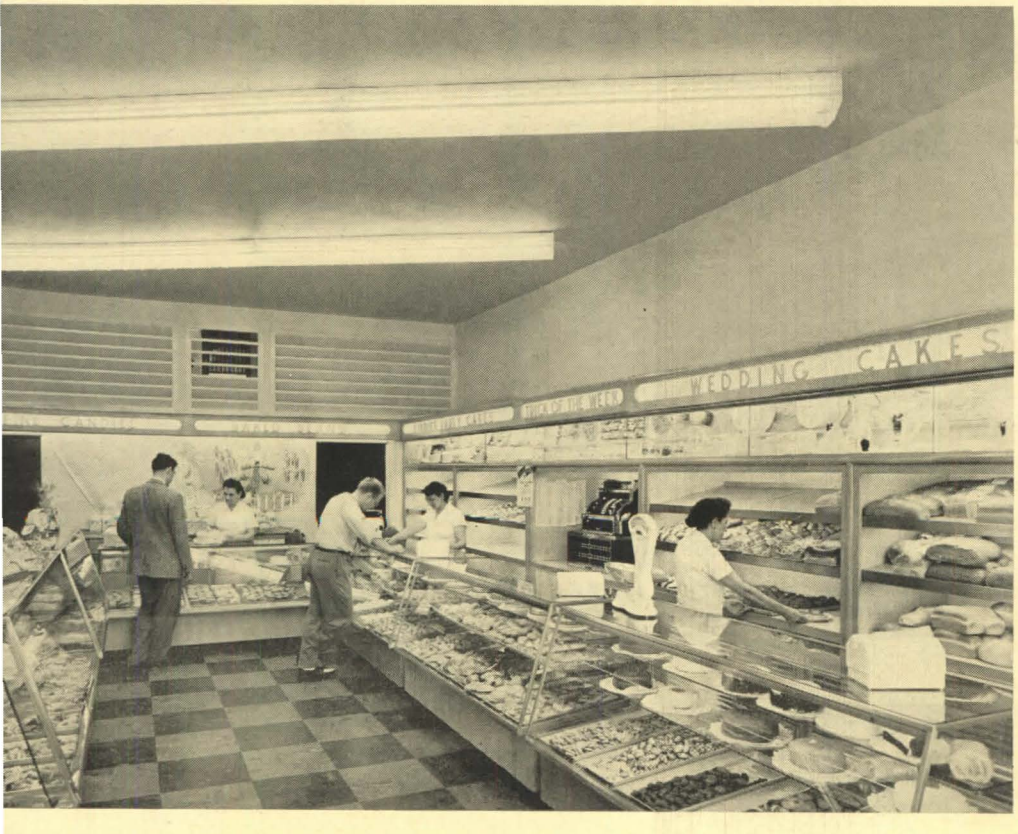


Figure 10—The high degree of integration in this bakery shop is more fully appreciated when considered in terms of lighting applied to zones. Thus, there is an overhead zone which includes the ceiling and upper walls; a display and selling zone which includes the wall and counter cases; and the traffic zone. The display zone is provided with twice the illumination value of the general lighting; each shelf is individually lighted.

of the letter stroke for close viewing. Spacing of lamps (ft) =

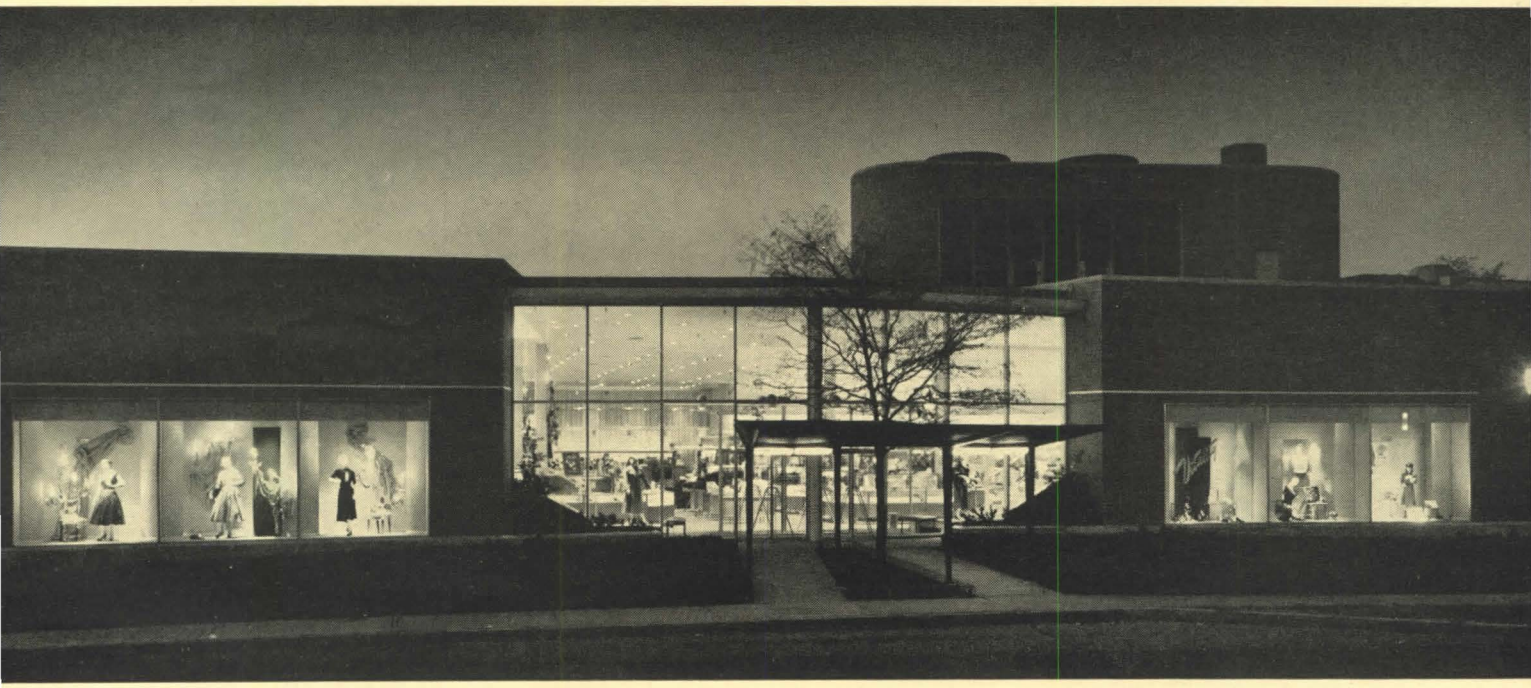
$$\frac{\text{Minimum viewing distance (ft)}}{1000}.$$

To estimate the number of lamps required multiply $\frac{\text{Letter height}}{\text{Lamp spacing}}$ x Number of letters x 2.5. Plain block letters with a letter stroke width equal to 1/7 the letter height are the most legible. Where other letter styles are used, letter height must be increased to provide equal legibility.

Identification at a distance can be improved by employing bright elements atop floodlighting poles. Such a method, of course, is not sufficient in itself.

While attractive appearance in the daytime is almost entirely the result of the efforts of the architect and landscape designers, at night great opportunities are afforded by building floodlighting and landscape lighting. The cost of floodlighting the larger structures (typically the department store) is a very small percentage of the total investment, yet nighttime appearance is entirely dependent on it. The results of well-designed floodlighting have unquestionable advertising, institutional, and attention value.

The effectiveness of landscaping can be multiplied by lighting at night. While not yet widely used in shops and stores, the merits of such techniques have been clearly demonstrated in related fields.



gure 11—the night lighting of this suburban partment store emphasizes three major con-!erations: (1) directs attention to the store elf; (2) creates optimum conditions for the praisal of merchandise; (3) contributes to ? atmosphere desirable for this type of store. , detailed analysis of the design of this store presented in the following feature.)

Photo: Julius Shulman

Maximum convenience and safety for shopping at night mean good lighting of the parking lot and walkways. Two standard practices have evolved for parking lots —high wattage floodlights on 60′ to 80′ poles, and street lights on 30′ to 35′ standards. One ft-c is considered minimum which requires about 1/8-w/sq ft for floodlights, about 1/25-w/sq ft for mercury or fluorescent street lights.

For floodlighting, enclosed types such as those used for major-league baseball fields are recommended. Good practice is to space poles not more than 5 times their mounting height. Thus 80′ poles would be spaced 400′ apart. On this basis 12 1500-w floodlights per pole would produce about 1 ft-c. An adequate maintenance program is important. Because of the cost of labor, cleaning every 400 burning hours with group replacement of lamps every 800 hours (no interior replacements) will give the lowest over-all cost of light in many cases. This is roughly biannual cleaning and annual group replacement of lamps.

From the appearance standpoint floodlights present a few somewhat spectacular tall poles as contrasted with many shorter street lighting standards. Less trenching is necessary for wiring floodlights and the tall poles offer an elevated position for marker lights.

Street lights, two per pole spaced 140′ apart, will produce about 1 ft-c with the H400-E1 Mercury lamp. When using the H400-J1 color-improved mercury lamps for better appearance of people, about 130′ spacing is needed for 1 ft-c. Mercury sources produce a distinctive color of light, but appearance of people is not nearly as good (even with the color-improved types) as with incandescent lamps.

Because of lower pole heights, street lights can be conveniently serviced from the ground by using disconnecting hangars, or from ladder trucks. A detailed economic study is necessary to determine whether group replacement or spot replacement of lamps is lower in cost. The rated life of mercury lamps at five burning hours per start is 4000 hours.

Fluorescent street lights with four 100-w rapid start lamps require about 40 percent more poles for the same illumination as mercury types using twin H400-E1 units. Actually, they are usually used to produce 2 to 5 ft-c. Closer spacing is used and excellent uniformity results. These fluorescent lamps offer about 6000-hours life, less glare, and good appearance of people. The several installations tried so far proved highly satisfactory.

Walkways, particularly around the mall between the typical avenues of shops, have offered some challenges to the lighting engineer, and some interesting solutions have been developed. Perhaps the most common is downlights recessed in the soffit of a projecting canopy.

Where the space between rows of shops is wide, decorative pylons can be developed to light the central area and to conceal spotlights used to light signs on the face of the canopy. Continuous strips of fluorescent lamps in the face of the canopy suitably shielded from principal traffic zones are another possibility.

LAMP RECOMMENDATIONS

R and PAR Lamps[1]

75 R 30

For close-range spotlighting of displays above wall cases and in niches and for downlighting in areas where relatively low levels of illumination are required.

300 R 40

For cove lighting, general lighting in show windows, and outdoor floodlighting. Available also in 150- and 500-w sizes, and in heat-resistant glass for outdoor use.

150 PAR 38

For medium-range spotlighting, downlighting in merchandising areas, and floodlighting and decorative lighting outdoors.

300 PAR 56

For high-intensity show window spotlighting, long-range spotlighting of displays, building and parking lot floodlighting, pylons, and decorative lighting.

Deluxe Fluorescent Lamps[2]

Deluxe cool white

Characteristics: (1) Keyed to natural daylight. (2) Mixes well with daylight; contrasts with incandescent. (3) Contributes to neutral, stimulating atmosphere. (4) Balanced effect on all colors of merchandise and room finishes.

Typical applications: mens wear, sports wear, sporting goods, white goods, hard goods, women's ready-to-wear, furs, toys, fresh produce, meats, flowers.

Deluxe warm white

Characteristics: (1) Keyed to incandescent. (2) Mixes well with incandescent; contrasts with daylight. (3) Contributes to warm atmosphere. (4) Emphasizes reds or oranges, yellows, with good appearance of greens and blues.

Typical applications: home furnishings, restaurants, evening wear, beauty salons, women's fashion clothes, baked goods, dairy products, rugs, furniture, shoes, luggage.

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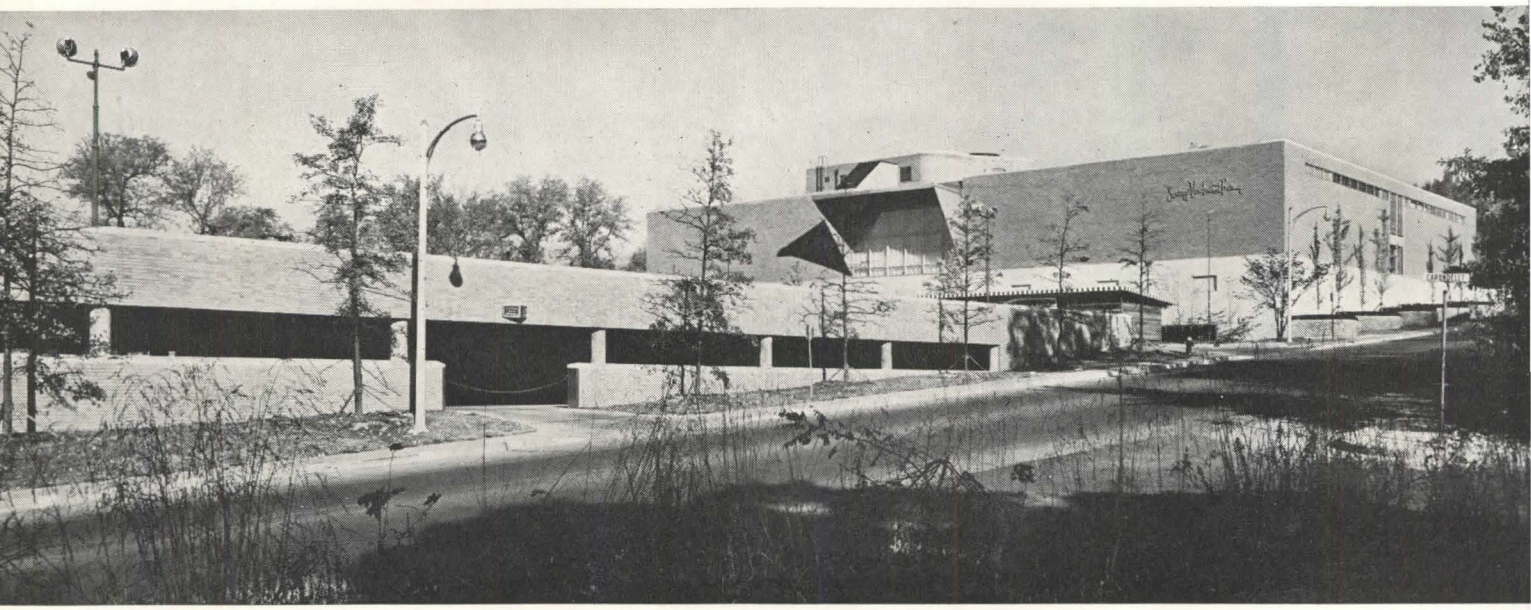
[1] *These reflectorized lamps are increasingly popular in all lighting fields because they offer good control of light, convenience in use, sealed-in reflectors that cannot collect dirt, and because they can be concealed in small spaces.*

[2] *These are not fixed recommendations. There will be many instances when the opposite lamp will be preferred because of color scheme, other parts of the lighting system, merchandising methods, or personal preferences. Often, compromises are desirable in the interest of standardization of lamp types.*

BRANCH DEPARTMENT STORE

location	Clayton, Missouri
architect	Harris Armstrong
landscape architect	Eleanor Scott Mallinckrodt, A.S.L.A.
fixtures and interior decorating	Amos Parrish Co.
structural engineer	Neal Campbell
mechanical engineers	Ferris & Hamig
general contractor	Gamble Construction Company

branch department store



Upper mezzanine view from the bridge shows the top level of the store's parking structure. Tunnel connection from lower garage floor affords a sheltered access to the south entrance.

Photos: Julius Shulman

Department store design, with the plethora of goods to sell and the stringent selling patterns imposed by the moguls, often descends to a significant level of obscurity. We are told that ermines belong at the entrances, and that teacups are not towels: departures are sure to bring chaos or collapse!

By an ingenious use of a site sloping fifteen feet to the south, a careful selection of lighting, and materials and colors chosen to complement sales items, the architect developed this unique solution. There is an entrance at each of the two major floors, a mezzanine-loading platform, and two-level parking facilities. Off-street parking and a sheltered passage to the lower level are afforded by the garage with its connecting tunnel south of the service alley.

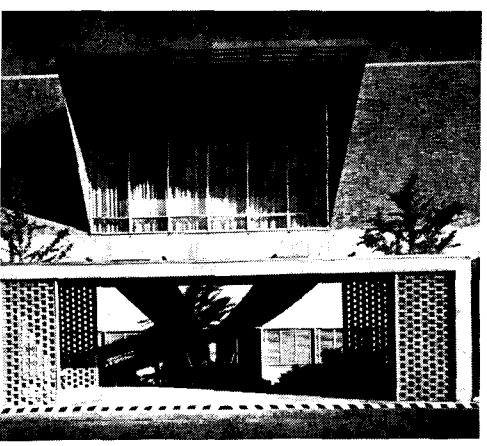
Both floors are equally important. Each with its attendant mezzanine provides selling areas of differing scales, much as a sculpture garden has large and small volumes, secluded and open areas. Sharing the upper mezzanine with the administration unit, a restaurant overlooks the upper-level sales area.

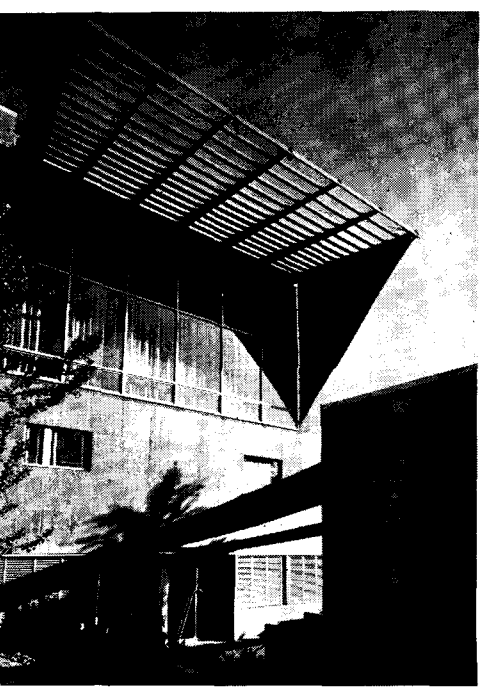
In form, the architect considered a symmetrical building most appropriate, since a "formal treatment was consistent with the position that the store occupies in the minds of St. Louisans." By precise and careful lighting studies, centers of attention are created for large areas and specific items *(see also "Lighting of Shops and Stores," page 84)*. Management was convinced that investments in lighting are actually investments in merchandising. Displays are highlighted, special products are uniformly well lit, and shoppers are able to see what they have come to buy. At night, six show windows concentrate interest of the passers-by, while the interior a richly-subdued background.

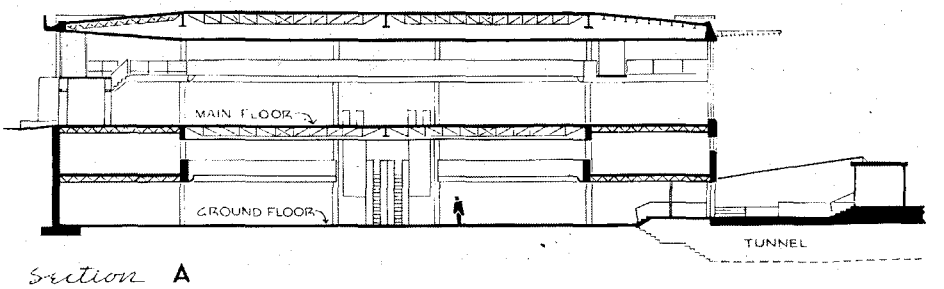
Supplementing the planned lighting scheme, floor-surfacing materials, asphalt tile and terrazzo, and the carpeting harmonize closely with the natural colors of brick, stone, and aluminum. Yet within the uniformity of regular column spacing and the two constant ceiling heights, they afford eye relief. Since the architecture is purposely in a conservative direction, planted areas and landscape design contribute to invite and interest the shopper. Form and color are accented, materials and textures keynoted.

Principal floors with their related mezzanines and opposing entrances (right).

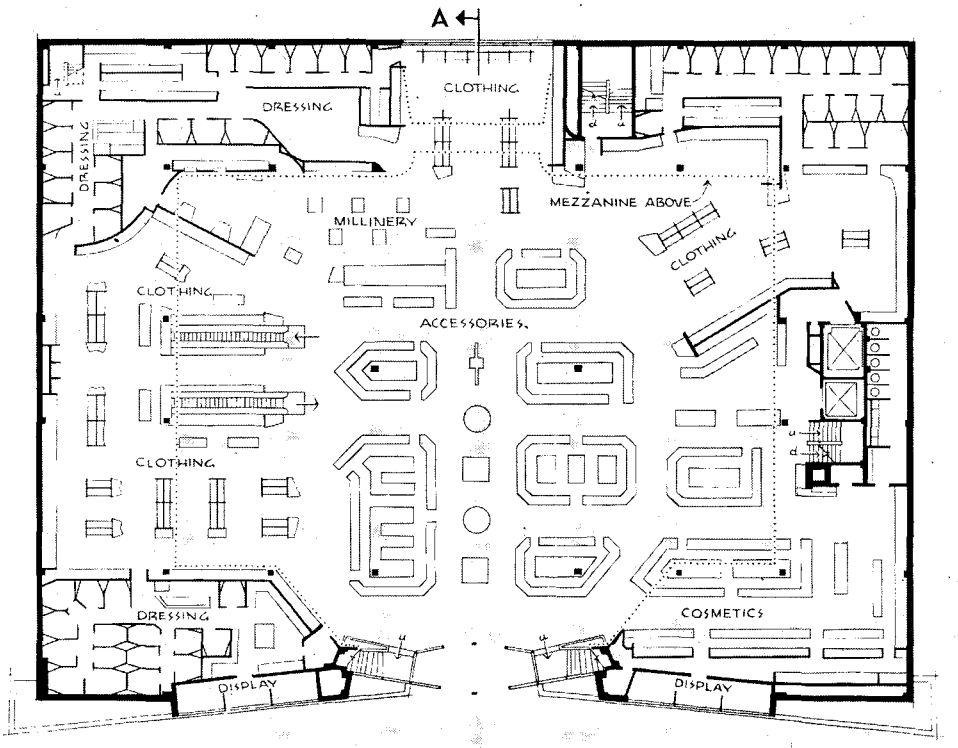
South entrance pavilion opens on customer's service alley; the south window, with its louvered sun control, overlooks parking area (below).



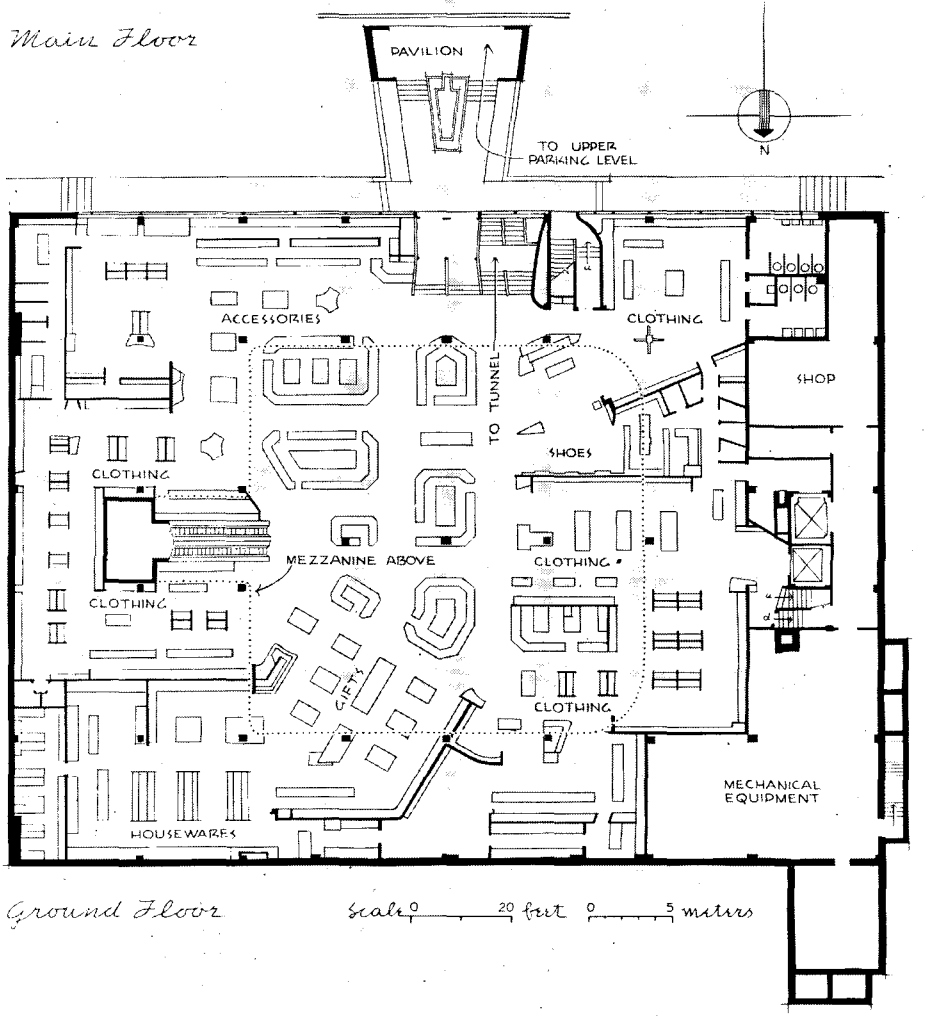




Section A

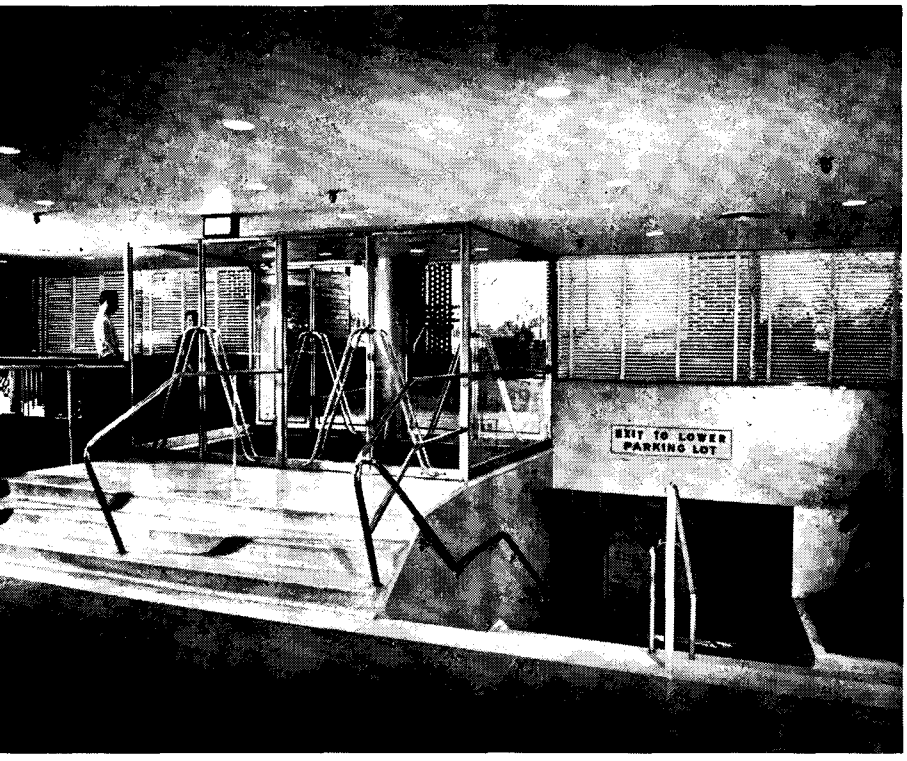


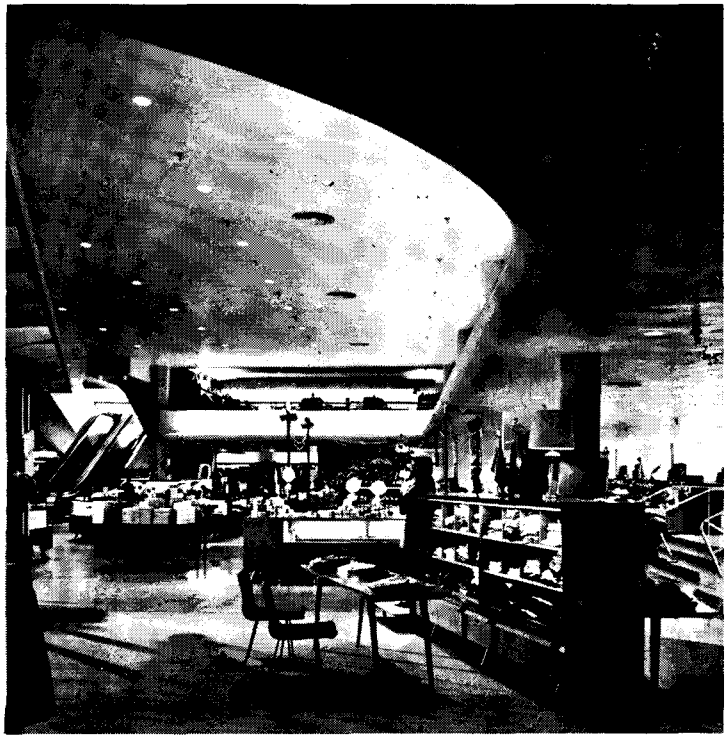
Main Floor



Ground Floor

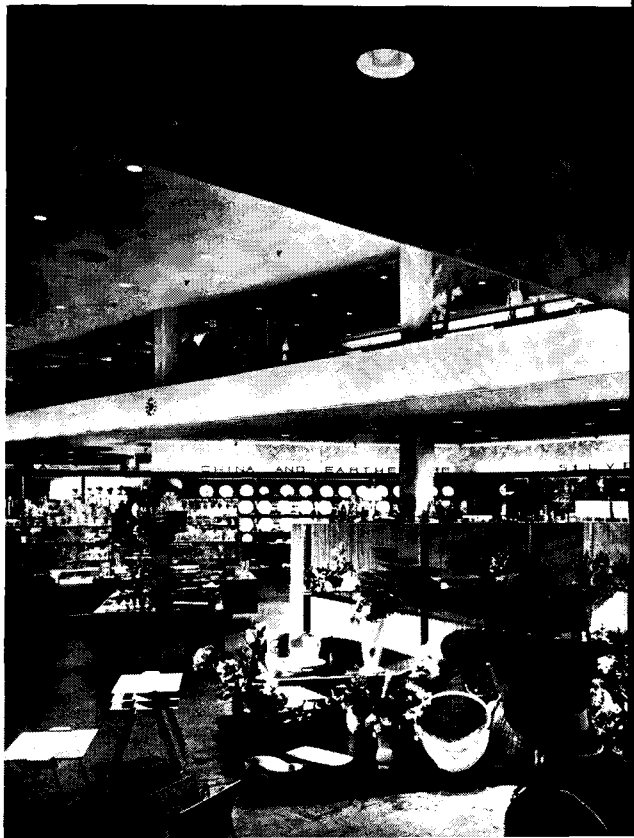
Scale 0 20 feet 0 5 metres



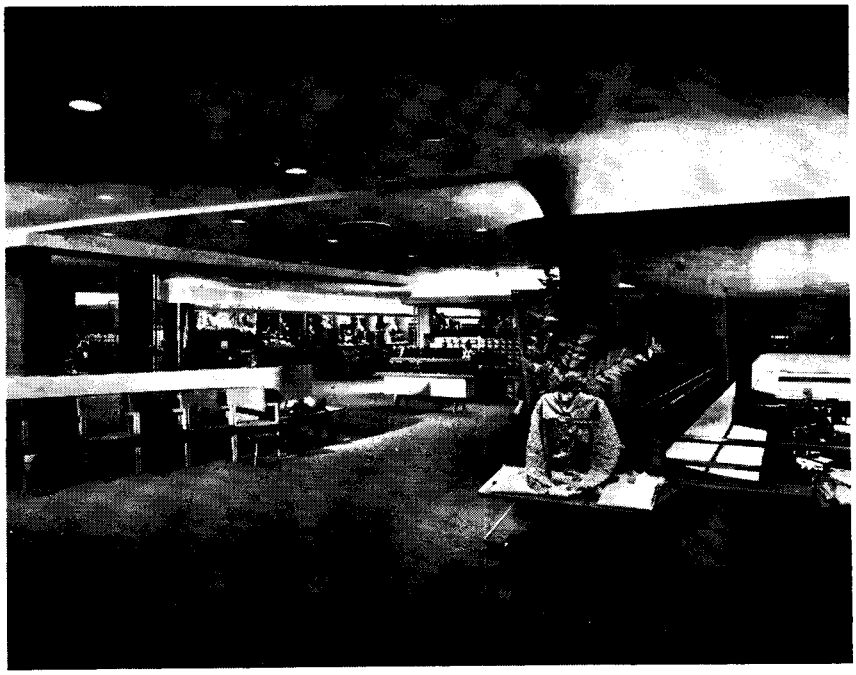


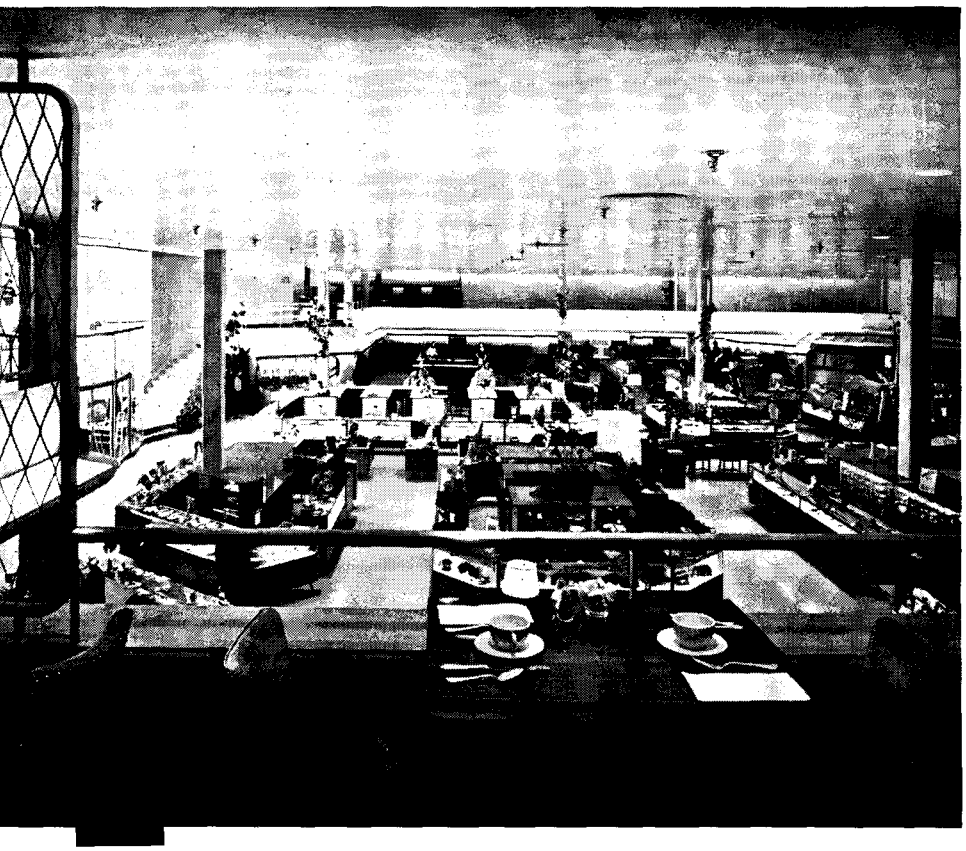
South entrance to store has connection to shopper service alley at upper level and sheltered lower garage floor (above left).

At lower level, looking into the open sales area under mezzanine, optimum conditions for display of merchandise are created by downlights recessed in smooth plaster ceiling (left and below).



Trough lighting with diffusing elements accents, the sales areas of lower mezzanine and provides a uniform, supplementary, indirect light.





Upper-level view (left) *from restaurant-administration mezzanine, illustrates how the attention-value of lighting provides contrasts with a general high lighting level.*

Columns, widely spaced, are integrated with the arrangement of display counters. The varied forms, plus choice of materials and colors, help divide selling areas (below) *and aid circulation patterns.*

Plaster ceiling, hung from joists, creates a plenum for air-conditioning system, diffusers for which are recessed in ceilings (above).

Steel columns and girders support bar joists in roof and floors, providing an easily altered structural system. With electrical distribution already in place, corrugated metal panels are shown (below) *being welded; concrete slab is later poured over forms.*

Photo: Courtesy of Granco Steel Prod. Co.

construction

Foundation, framing, walls: reinforced-concrete foundation—Missouri Portland Cement Company, Laclede Steel Company; steel framing—Mississippi Valley Structural Steel Company; walls: brick and aggregate block—Hydraulics Press Brick Company; floors and roof: steel joists—Laclede Steel Company, concrete on corrugated-steel base—Granco Steel Products Company. **Wall surfacing:** exterior: brick—Hydraulic-Press Brick Company; limestone—Indiana Limestone Corporation; granite—Cold Spring Granite Company; interior: plaster—United States Gypsum Company; paint, wood, and wallpaper; rest rooms: tile—The Mosaic Tile Company. **Floor surfacing:** asphalt tile, terrazzo, and carpet. **Ceiling surfacing:** plaster—United States Gypsum Company. **Roof surfacing:** tar and gravel, roofing material—The Ruberoid Co. **Waterproofing and damp-proofing:** membrane below-grade; masonry surfaces: silicone water repellent—Wurdack Chemical Company. **Thermal insulation:** cork. **Roof drainage:** cast-iron gutters and downspouts; drains: Josam Manufacturing Company. **Partitions:** interior: hollow tile, gypsum, concrete block; toilet: flush hollow metal—Henry Weis Mfg. Co., Inc. **Windows:** aluminum custom-made sash—Architectural Bronze Studio; glass—Selb Company, Lasar Glass and Manufacturing Company; store fronts with aluminum sash—Pittsburgh Plate Glass Company; show windows—The Kawneer Company. **Doors:** hollow-metal interior—Niedringhaus Metal Products Company; elevator doors—Westinghouse Electric Corporation; custom-made aluminum and glass entrance—Architectural Bronze Studio. **Hardware:** lock sets—Yale & Towne Manufacturing Company; door closers—Yale & Towne Manufacturing Company, Oscar C. Rixson Company; special hardware—Architectural Bronze Studio.

equipment

Elevators: hoisting equipment—Westinghouse Electric Corporation; cabs—Tyler Manufacturing Company. **Moving stairways:** Westinghouse Electric Corporation. **Lighting fixtures:** office, sales, and lobby areas—Century Lighting, Incorporated. **Electric distribution:** service entrance switch, panelboards, multibreaker—Frank Adam Electric Co.; duct system—Walker Brothers. **Plumbing and sanitation:** water closets, tubs, lavatories, toilet seats—Kohler Company; toilet fixtures—N. O. Nelson Company; flush valves—Sloan Valve Company; municipal water supply. **Heating and air conditioning:** boiler: Spencer Heating Company; fuel: gas with standby oil; convectors and unit heaters—C. A. Dunham Company; sheet metal ducts; built-up air-conditioning unit with F-11 refrigerant; compressor—Worthington Corporation; grills—Tuttle & Bailey, Incorporated, Barber-Colman Company; blowers—Buffalo Forge Company; filters—Owens-Corning Fiberglas Company; controls—Johnson Service Company; cooling coils—Kennard Corporation; custom-made ventilators as required.

supermarket

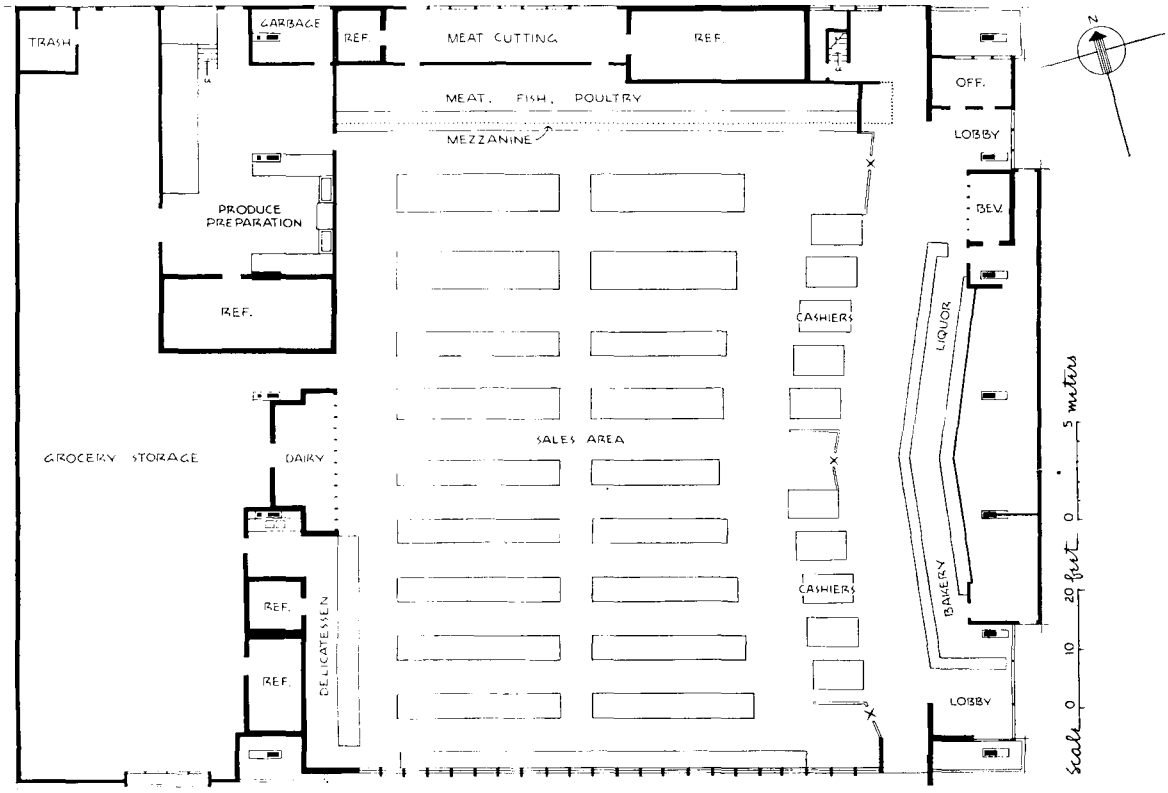
location	Whittier, California
architect	A. Quincy Jones, Jr.
structural engineer	Richard Bradshaw
mechanical-electrical engineer	Lawrence Freed
general contractor	Zimmer Construction Comp

New King Cole is modular rather than merry. And with its fundamentally modular character it becomes a structure designed in terms of earthquake-resistance and budget limitations, to display simply and efficiently 1001 salable items.

Architect Jones literally transformed a potential supermigraine into a supermarket. Seemingly a mixture of ingenuity and careful planning, the structural system relates closely to the specific problem. By regular spacing of laminated-wood arches spanning 130 feet, 25,000 square feet of clear market space is provided. Instead of buttresses, there are reinforced concrete girders acting as tension members between the ends of the arches. Over these "floats" the floor slab, finished with an integrally colored cement.

At the entrance end, the market is terminated by a plane of natural light; sun control provided by wood louvers four feet on center, framing for clear and translucent glass. Slimline fixtures are set between the arches to follow the sweeping form, and they in turn are bordered by thin and inconspicuous lines of sprinkler pipes which further accent the rise. Since the exposed roof joists are essentially a sound-absorbent surface, no acoustic treatment was needed. Using a dual system of evaporative coolers and gas-fired furnaces, the building is kept uniformly comfortable throughout the year, and for those working near the entrance radiant panels are introduced in the floor between check stands.

By this particular structural system, the architect calculates "the cost (including the mechanical equipment) was reduced 12 percent below comparable buildings of the area," while fire insurance underwriters consider it the best "Type 5" risk of this region, and a workable and well-integrated design.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CASHIERS
LIQUOR
GROCERY STORAGE
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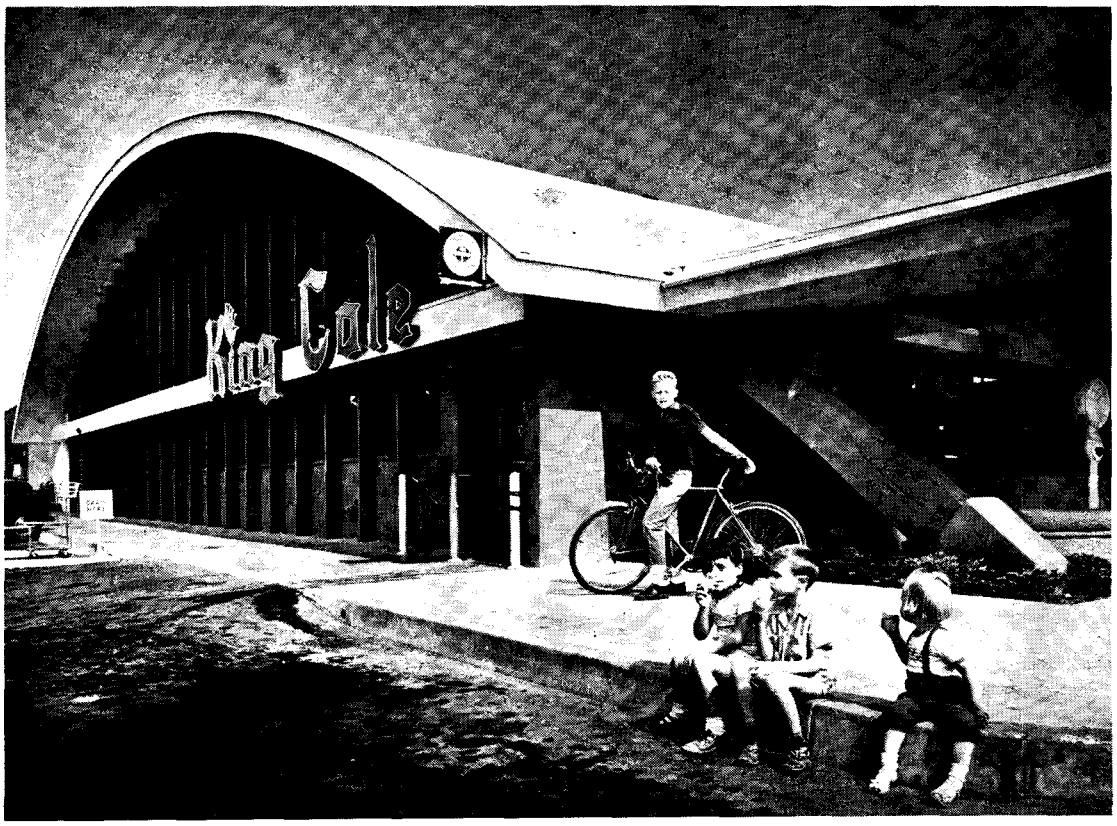

King Cole

Using innovations such as automatic check stands and a directory visible from every point, there is a minimum of spurious movement by employees and customers. Although little confusion exists due to signs, the architect feels that the cluttered effect might be overcome by reducing the weight of the sales "gondolas."

When future expansion is contemplated, the bakery and liquor departments could easily be moved back: perhaps then to be roofed with a similar laminated-arch type system.

Photos: Julius Shulman

streamlined specifications: waterproofing

by Ben John Small*

1. general:

(a) Applicable provisions of "General Conditions" govern work under this section.

(b) These specifications are of the abbreviated or "streamlined" type and include incomplete sentences. Omissions of words or phrases such as "the Contractor shall," "in conformity therewith," "shall be," "as noted on the drawings," "according to the plans," "a," "an," "the," and "all" are intentional. Omitted words or phrases shall be supplied by inference in the same manner as they are when a "note" occurs on the drawings. Words "shall be" or "shall" shall be supplied by inference where colon (:) is used within sentences or phrases.

(c) The Contractor shall provide all items, articles, materials, operations, or methods listed, mentioned, or scheduled on the drawings and/or herein, including all labor, materials, equipment, and incidentals necessary and required for their completion.

2. work included:

(a) Furnish labor and materials necessary to complete all bituminous membrane and metallic waterproofing work indicated, as specified herein.

3. work excluded from this section:

(a) Cement mortar protection coat over horizontal membrane waterproofing is described under "Concrete" Section.

(b) Plumbing pipes passing thru floor areas to be waterproofed and floor drains occurring in such areas will be flashed as described under "Plumbing" Section.

(c) Heating pipes passing thru floor areas to be waterproofed will be flashed as described under "Heating and Ventilating" Section.

(d) Electric conduits passing thru floor areas to be waterproofed will be flashed as described under "Electrical Work" Section.

(e) Dampproofing work is described under "Dampproofing" Section.

MATERIALS

4. bituminous membrane waterproofing:

(a) Deliver materials to site in sealed containers bearing manufacturer's original labels.

(b) Asphalt: A.S.T.M. 449, type "A" (for use above grade level) and type "B" (for use below grade level) (or) FS SS-A-666, type III.

(c) Asphalt primer: A.S.T.M. 41 (or) FS SS-A-701.

(d) Asphalt-saturated woven cotton fabric: FS HH-C-581a.

(e) Asphalt-saturated felt: FS HH-F-191a, type I.

(f) Coal-tar pitch: A.T.S.M. 450, type B (or) FS R-P-381, type II.

(g) Coal-tar-saturated woven cotton fabric: FS HH-C-591.

(h) Coal-tar-saturated felt: FS HH-F-201.

(i) In lieu of asphalt-saturated fabric and coal-tar-saturated fabric, Contractor may use thermoplastic- bitumen-treated fibrous glass membrane as approved.

(j) Insulating fiberboard: FS LLL-F-321b, Class A, ½" thick, termiteproof.

(k) In accord with "General Conditions" submit samples of:

1. Asphalt	—1 pound
2. Asphalt primer	—1 pint
3. Asphalt-saturated fabric	—12" by roll width
4. Asphalt-saturated felt	—12" by roll width
5. Coal-tar pitch	—1 pound
6. Coal-tar-saturated fabric	—12" by roll width
7. Coal-tar-saturated felt	—12" by roll width
8. Fibrous glass membrane	—12" by roll width
9. Insulating fiberboard	—12" square

5. metallic waterproofing:

(a) Specifications for "Portland Cement" and "Water" are included in "Masonry Materials" Section and are hereby made part of this Section to same extent as if they were stated herein in full.

(b) Fine aggregate (sand): washed natural sand, A.S.T.M., C-144; graded from fine to coarse within limits as follows:

sieve no.	percentage retained
8	5 max.
16	10 to 30
30	30 to 60
50	65 to 85
100	95 to 99

(c) Waterproofing material: 90 to 95 percent chemically pure iron plus 5 to 10 percent activating agent; iron shall contain no more than 0.5 percent (by volume) of free nonferrous metal nor more than 0.05 percent of oil. Activating agent: sal ammoniac or similar oxidizing agent. Presence of dirt, paraffin, or other foreign material in excess of 0.1 percent in waterproofing material: not permitted. At mixing time, waterproofing material shall not contain over 5 percent (by volume) of iron oxide. Grade iron particles from fine to course within limits as follows:

sieve no.	percentage retained
35	0
40	10 max.
60	35 max.
100	50 to 60

GENERAL REQUIREMENTS

6. general:

(a) Waterproofing work: performed by subcontractor who is regularly engaged and specializes in water-

* *Associate, Alfred Hopkins & Associates, Architects.*

proofing work of character required by contract. Keep water level outside building below location where waterproofing is being installed.

7. bituminous membrane type:

(a) Contractor may use either asphalt or tar type waterproofing at his option.
(b) Use 5-ply waterproofing for walls of subgrade spaces and for floors on grade.
(c) For floors other than those on grade, use 3-ply waterproofing.
(d) Do not apply waterproofing when temperature is 40 F or below.

8. metallic type:

(a) Apply metallic waterproofing in locations indicated. Unless otherwise specified, materials and methods: permitted, if recommended by manufacturer and approved. Deliver waterproofing material to job in manufacturer's original unopened containers with manufacturer's brand and name marked clearly thereon. Do not apply metallic waterproofing until building is enclosed or until surfaces to be waterproofed are otherwise protected from excessive temperature changes. Apply, protect, and cure waterproofing at about 50 F temperature.

PREPARATION OF SURFACES

9. general:

(a) Surfaces to receive waterproofing: clean, dry. Where necessary to secure dryness, install and maintain adequate drainage system.

10. bituminous membrane type:

(a) Point mortar holes, joints, cracks flush with surface. Cut off or grind smooth high spots. Concrete and mortar: set thoroly before waterproofing is applied. Sweep cleanly surfaces to be covered to remove dust, foreign matter.

11. metallic type:

(a) Concrete surfaces (Brush-Coat Method). Remove high spots. Cut back metal ties, spacers, form braces, if embedded in concrete, at least 1" from concrete face. Cut out holes, open joints, soft or porous places as necessary to remove unsound material or to provide room for filling; clean, moisten (with clean water), treat with bond coat of metallic waterproofing and water; fill with mortar or concrete. Mortar: 1 part Portland cement to 3 parts sand; concrete: 1 part Portland cement, 2 parts sand, and 4 parts aggregate with addition in each case of waterproofing material in proportion of 10 pounds per sack of cement used. Apply mortar patching in layers not over ¾" thick. Work mortar or concrete well; compact into voids; point flush with adjacent surfaces. After cleaning and patching, roughen concrete surfaces by bush-hammering, sandblasting, or other method approved, in manner to remove entire surface to 1/16" depth or more; expose aggregate; leave clean, firm, granular surface.

(b) Brick or block masonry walls (Plaster-Coat Method). Cover surface with Portland cement plaster coat composed of 1 part Portland cement, 3 parts sand. Bring plaster to even, true surface. In locations where plaster finish is to be applied, scratch Portland cement plaster coat to provide bond.

INSTALLATION

12. bituminous membrane type:

(a) For tar-type waterproofing, coat surfaces with hot coal-tar pitch mopping into which embed required number of coal-tar-saturated felt or fabric plies.

(b) For asphalt-type waterproofing, coat surfaces with asphalt primer; allow such coat to dry; then coat with hot asphalt mopping into which embed required number of asphalt-saturated felt or fabric plies.

(c) Heat pitch or asphalt to flow freely; do not heat pitch above 375 F, nor asphalt above 400 F. Pitch or asphalt coatings: hot, when felt or fabric is embedded therein. Apply felt or fabric without buckles or wrinkles; cover with pitch or asphalt coating in manner to separate each ply from underlying ply. Give top surface final mopping; use not less than 70 pounds of pitch or 60 pounds of asphalt per 100 square feet.

(d) Either felt or fabric may be used at Contractor's option except where fabric membrane waterproofing is required specifically.

(e) 3-ply membrane. Apply 3-ply membrane by shingle method, with each strip lapped over preceding strip 22" (if 32" wide material is used) or 27½" (if 36" wide material is used).

(f) 5-ply membrane. Apply 5-ply membrane by shingle method, with each strip lapped over preceding strip 26" (if 32" wide material is used) or 29" (if 36" wide material is used); or by 2- and 3-ply method, having 2 plies with each strip lapped over preceding strip 17" (If 32" wide material is used) or 19" (if 36" wide material is used), followed by 3 plies lapped as specified for 3-ply membrane work.

(g) Where waterproofing is indicated as carried thru foundation walls that are keyed footings; use saturated fabric for membrane portion extending thru foundation walls; provide adequate lap on both sides for bonding into adjacent membrane on wall exterior and in floor.

(h) Where waterproof membrane on floor is turned up at walls, at vertical angles in walls, at any other places where waterproof membrane may be subjected to unusual strain, apply strips of 2 additional saturated fabric plies and alternate moppings of asphalt or pitch. Provide such strips at floors and wall angles of width sufficient to extend 6" or more on floor, 4" or more up wall. Extend strips at vertical corners 5" or more each side or corner.

(i) Where pipes and conduits pass thru floor areas to be waterproofed or where floor drains occur in such areas, do not install waterproofing until after flashing around pipes, conduits, and drains has been installed. Lap such flashing into waterproofing plies; mop in thereto; cover flashing legs with at least 2 additional plies of saturated fabric and moppings of asphalt or pitch.

(j) Where pipes and conduits which are not to be flashed pass thru floors, secure saturated fabric to pipe sleeves with iron clamps and bolts. Flash in same manner around other objects in surface which penetrate waterproofing and in order to produce perfect watertight seal in every instance.

(k) Waterproofing shall cover entire floor area of each space to be waterproofed. Turn up waterproofing on floor slabs above grade around walls or partitions enclosing such areas for height of 4" or more unless other height is indicated or greater heights are *necessitated by* conditions encountered, forming in every instance complete watertight envelope.

(l) In interior spaces where waterproofing occurs, extend it thru door openings 2'-0" beyond each door and 2'-0" beyond door jamb sides. In interior spaces where partitions enclosing areas are of movable type, extend waterproofing on floors for distance of 1'-6" beyond outside partition face.

(m) Extend waterproofing around shower stalls where indicated, around walls to top of tile, marble or other material forming finish of stalls; lap lead floor pans installed under "Plumbing" Section. Extend waterproofing on floors under entire area of lead pans; connect with waterproofing on walls.

(n) At entrances indicated as being waterproofed extend waterproofing into building 2'-0" or more beyond inner vestibule doors.

13. metallic type:

(a) Wet down thoroly surfaces to be waterproofed until no evidence of absorption is present; apply waterproofing (consisting of waterproofing material and water) by brushing with stiff bristle brush; seal pores.

(b) Apply 3 coats with additional coats if required. Each coat: cover surface completely. Allow sufficient

time between coats to permit oxidation of material. Minimum waterproofing quantity to be used per 100 square feet of surface: 8 pounds for first coat, 5 pounds for each succeeding coat.

PROTECTION

14. bituminous membrane type:

(a) Protect waterproofing applied to walls against which backfill is to be placed with single thickness of insulating fiberboard. Press board into final mopping while it is still hot; bring board edges into moderate contact; stagger joints. Fit boards carefully and neatly around pipes and projections; boards shall cover entire waterproofing surface.

(b) Give membranes that are not covered with board temporary protection to prevent injury to membrane by subsequent building operations.

15. metallic type:

(a) Walls. Give walls or vertical surfaces that have been treated with metallic waterproofing, unless specified to be plastered, 2 brush coats of grout. Grout for first coat: 1 part Portland cement to 2 parts sand with 10 pounds of waterproofing material for each sack of cement used. Second coat: 1 part Portland cement, 2 parts sand. Surfaces indicated to be plastered: 2 coats of plaster applied directly over first protective brush coat before grout has set, omit second grout coat. Plaster: 1 part Portland cement to 2 parts sand. Apply first plaster coat with strong pressure, cross-scratch to provide bond for finish coat. Finish coat: 1 part Portland cement, 3 parts sand. Apply finish coat after first coat has set not less than 12 or more than 24 hours; trowel to smooth, true, even surface.

(b) Floors. Cover floors that have been treated with waterproofing with bond coat about 1.4" thick. Mix bond coat as herein specified for wall grout. Before bond coat has set, apply topping coat 1" thick or more in one coat. Finish topping coat (in spaces to have cement-finish floors or floors on which asphalt tile or other resilient-type surfacing are to be installed) as specified under "Concrete" Section. Where floors are to be left depressed for future application of finish floor, topping coat: 1 part Portland cement, 2 parts sand, using as little water as practicable.

(c) Curing. Treat waterproofing to prevent excessive moisture loss for 7 days from time of finish coat application.

TESTING

16. bituminous membrane type:

(a) Give all waterproofed floor surfaces 24-hour flooding test; remedy at once any showing evidence of leakage. Plug drains; build temporary dams at openings so that water will be 1" deep at high point in each space. When directed, remove plugs from drains. In spaces having no drain sweep water on scoops, mop surfaces dry. After water has been removed and when membrane is dry, remove temporary dams.

17. metallic type:

(a) After waterproofing has thoroly hardened, remove any areas that show upon inspection that work is not sound, free from discolorations, peeling, blistering, crazing, and other defects, is out of line, or not bonded thoroly; replace with new work. Make bond test by tapping over entire waterproofed surface with wooden mallet.

(b) Place no loads on waterproofing itself until it is at least 3 days old.

GUARANTEE

18. general:

(a) In accord with "General Conditions," Contractor guarantees that work specified in this Section will be free from defects of materials and workmanship for 5 years.

(b) Furnish written guarantee in form satisfactory to Architect. Provide guarantee in such form as to obligate Contractor to make good requirements of guarantee obligations.

19. bituminous membrane type:

(a) Following types of failure will be adjudged as defective work:
1. Leakage.
2. Delamination of plies.

20. metallic type:

(a) Following types of failure will be adjudged as defective work:
1. Leakage thru surface.
2. Peeling of waterproofing material.

RECOMMENDED NUMBER THICKNESS - MEMBRANE WATERPROOFING - for varying water pressures

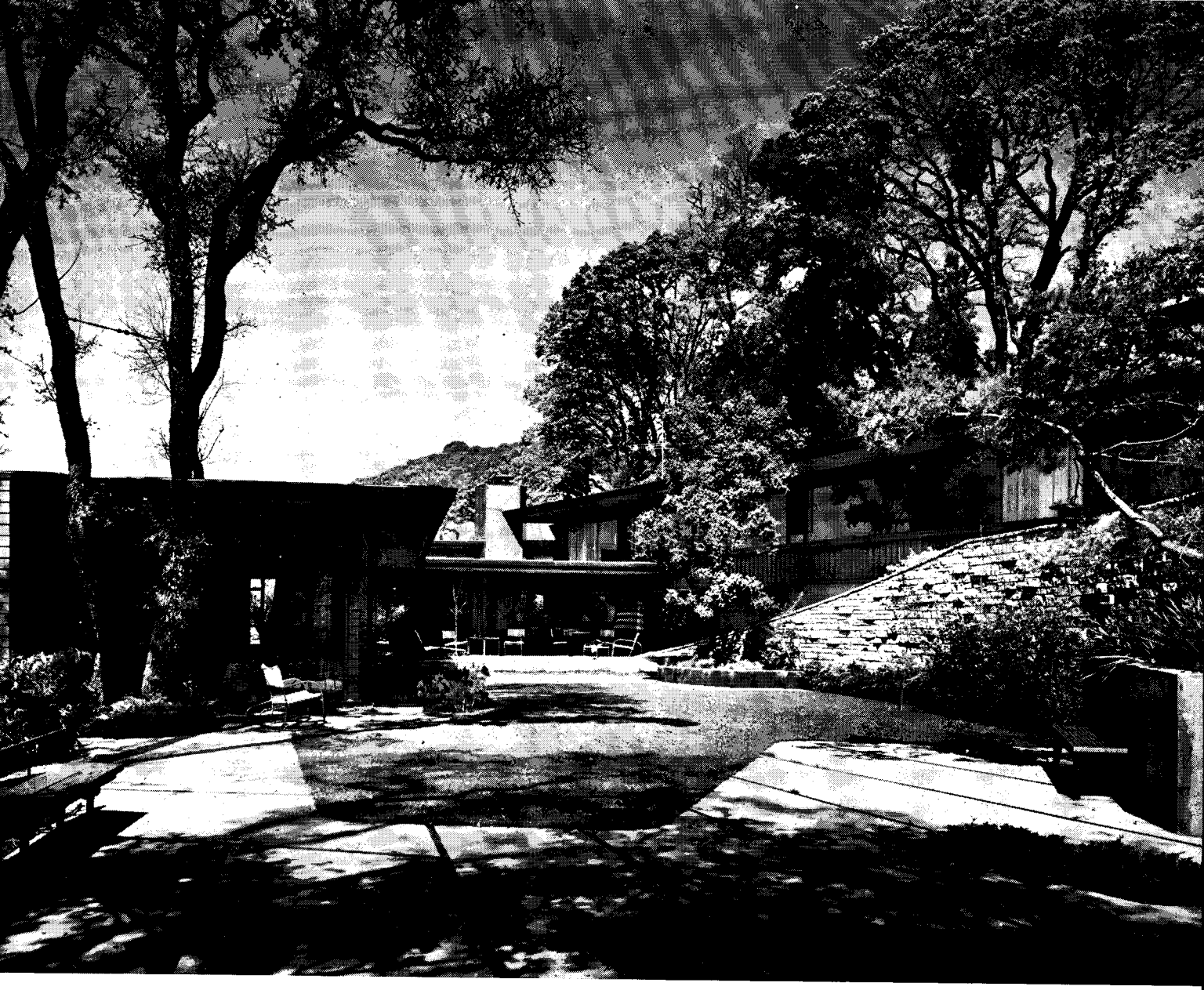
HEAD of water (ft.)	FABRIC & PITCH		FELT & PITCH	
	Plies fabric	Mopping pitch	Plies felt	Moppings pitch
1-3	2	3	2	3
3-6	2	3	3	4
6-9	3	4	4	5
9-12	3	4	5	6
12-18	4	5	6	7
18-25	5	6	7	8
25-35	6	7	10	11
35-50	7	8	11	12
50-75	8	9	13	14
75-100	10	11	14	15

THICKNESS & REINFORCING OF SLAB - WATER HEAD 1 to 10 Ft., SPANS 6 to 24 Ft.

Table based on simple spans. Concrete stress 650 psi, steel 16,000 psi. Mix: 1-2-4

Provide distribution rods perpendicular to main reinforcing and wired thereto, 3/8 ϕ-12" O.C. for slabs 8" or less, 1/2 ϕ-12" O.C. for thicker slabs.

Head of water above bottom of slab	Lifting pressure in lb. per sq. ft.	SPAN	6'	8'	10'	12'	14'	16'	18'	20'	22'	24'
1'	62½	SLAB	4"	4"	4"	4"						
		STEEL	3/8 ϕ-12"	3/8 ϕ-12"	3/8 ϕ-12"	3/8 ϕ-12"						
2'	125	SLAB	4"	4"	4"	4½"	5"	5½"	6"	6"	6½"	6½"
		STEEL	3/8 ϕ-12"	3/8 ϕ-7½"	3/8 ϕ-5"	½ ϕ-7½"	½ ϕ-7"	½ ϕ-6½"	½ ϕ-6½"	½ ϕ-5½"	½ ϕ-5½"	½ ϕ-4½"
3'	187½	SLAB	4"	4½"	5"	5½"	6"	7"	7½"	8"	8"	8½"
		STEEL	3/8 ϕ-7½"	3/8 ϕ-5"	½ ϕ-7"	5/8 ϕ-9"	5/8 ϕ-8"	5/8 ϕ-8"	5/8 ϕ-7"	5/8 ϕ-6½"	5/8 ϕ-5½"	5/8 ϕ-5½"
4'	250	SLAB	4"	5"	6"	6½"	7½"	8"	9"	9½"	10"	10½"
		STEEL	3/8 ϕ-5"	½ ϕ-9"	½ ϕ-6"	½ ϕ-5"	5/8 ϕ-7"	5/8 ϕ-6"	5/8 ϕ-6"	¾ ϕ-8"	¾ ϕ-7"	¾ ϕ-6½"
6'	375	SLAB	4¾"	6"	7"	8"	9"	10"	11"	11½"	12½"	13½"
		STEEL	½ ϕ-7"	½ ϕ-5"	5/8 ϕ-7"	5/8 ϕ-6"	5/8 ϕ-5"	5/8 ϕ-4½"	5/8 ϕ-4"	¾ ϕ-5½"	¾ ϕ-5"	¾ ϕ-5"
8'	500	SLAB	5½"	7"	8"	9½"	10½"	11½"	13"	14"	15"	15½"
		STEEL	½ ϕ-6"	5/8 ϕ-7½"	¾ ϕ-8½"	¾ ϕ-7½"	7/8 ϕ-8½"	7/8 ϕ-7½"	7/8 ϕ-7"	7/8 ϕ-6½"	7/8 ϕ-6"	7/8 ϕ-6"
10'	625	SLAB	6"	7½"	9"	10½"	12"	13"	14½"	15½"	16½"	18"
		STEEL	½ ϕ-5"	¾ ϕ-9"	7/8 ϕ-10"	7/8 ϕ-8½"	7/8 ϕ-7½"	7/8 ϕ-6½"	7/8 ϕ-6"	7/8 ϕ-5½"	7/8 ϕ-5"	7/8 ϕ-5"



HOUSE: Orinda, California

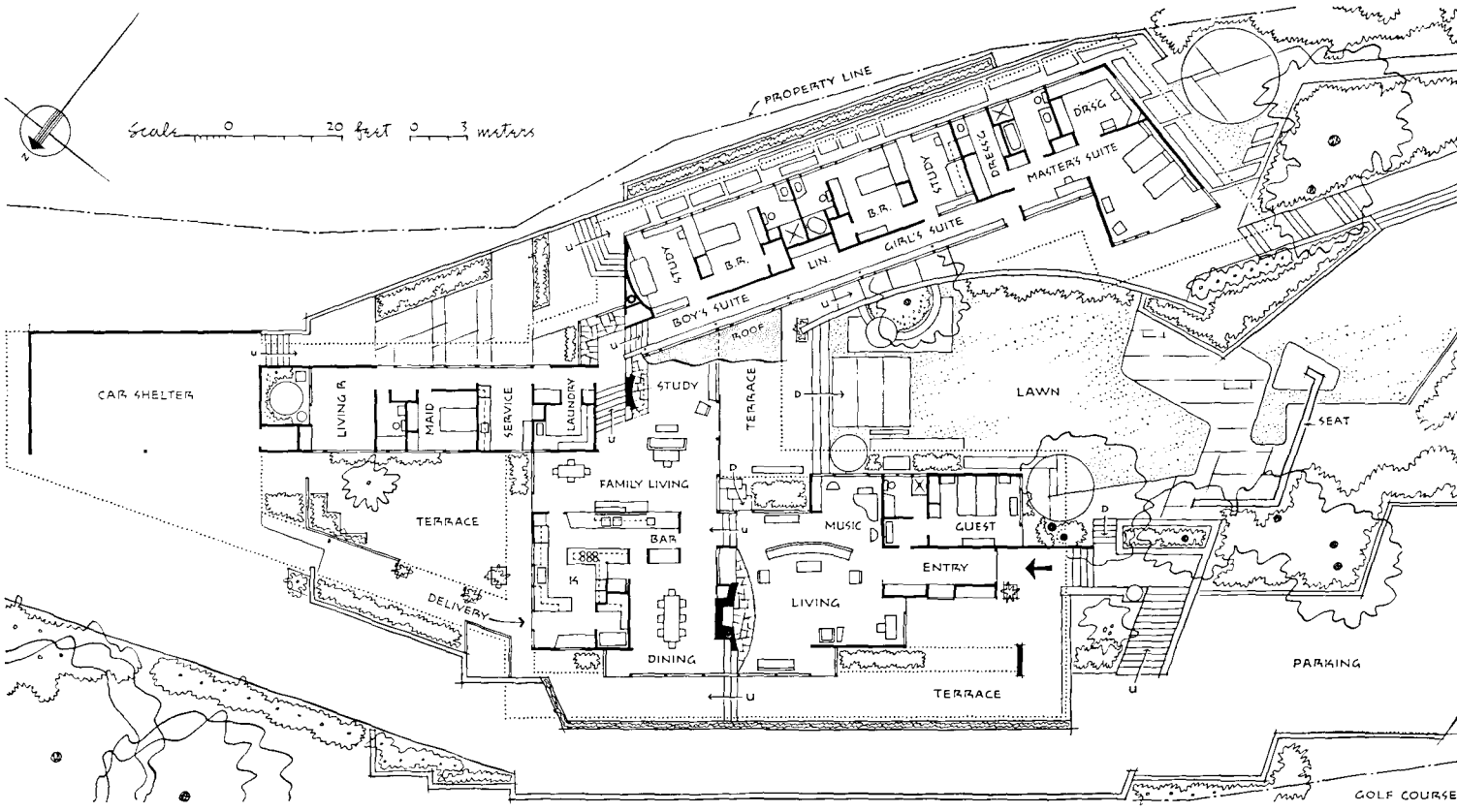
architect	Henry Hill
structural engineer	Isadore Thompson
landscape architects	Eckbo, Royston & Willia
interior decorator	Margery Hoffman Smith
general contractor	Henry Arian

This extraordinary house was planned to take full advantage of its beautifully wooded site—a very long, relatively narrow slope overlooking a golf course that borders it on the northwest. Organized on several levels, the spacious residence has exceptional provisions for living. Not only is there a series of formal rooms for entertaining—living and dining rooms adjoining the main entry and shielded from direct view of golfers by the 11′ x 90′ terrace cantilevered over the approach driveway; but there is also a more intimate area—a combined family living room, study, and dining area—for informal daily living.

The two main wings of the house—the entrance and formal living rooms and the bedroom wing—plus the joining element that houses the family rooms, define a secluded southern living terrace. Each of the children's suites combines a small sitting room or study, a bedroom with extra built-in wall bed for an overnight guest, a bath, and a small private terrace.

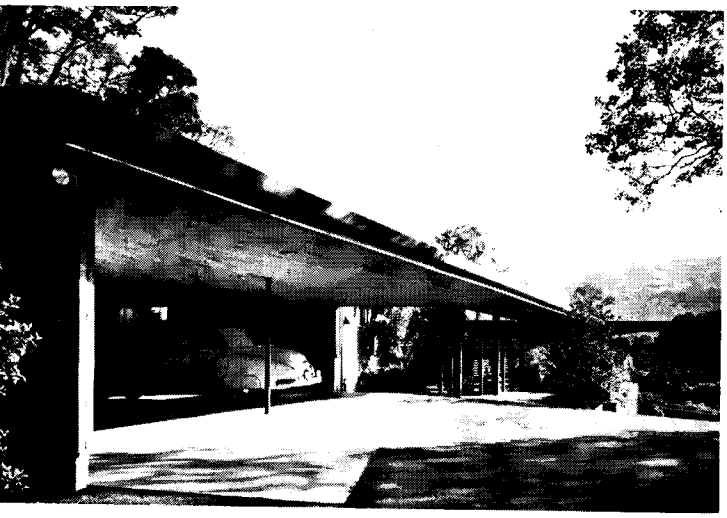
The front entry is used mainly for entertaining. Casual friends come right through the south terrace and directly into the family living room, or they park in the car shelter and enter through the north terrace. There is also a secondary family and service entrance, up five steps from the car shelter.

In the main, the house is of wood frame with wood studs and plywood sheathing. Roof framing is of either wood joists or steel beams. Upper exterior wall surfaces are redwood siding or board and batten; below floor lines, local stone. Plaster, siding, plywood, and tile are all used on inside walls. Floor surfaces are variously linoleum, rubber tile, cork, and ceramic tile. The heating system consists of radiant floor panels in the floor slabs, using copper coils; gas is the fuel. Electric unit heaters are used in bathrooms.

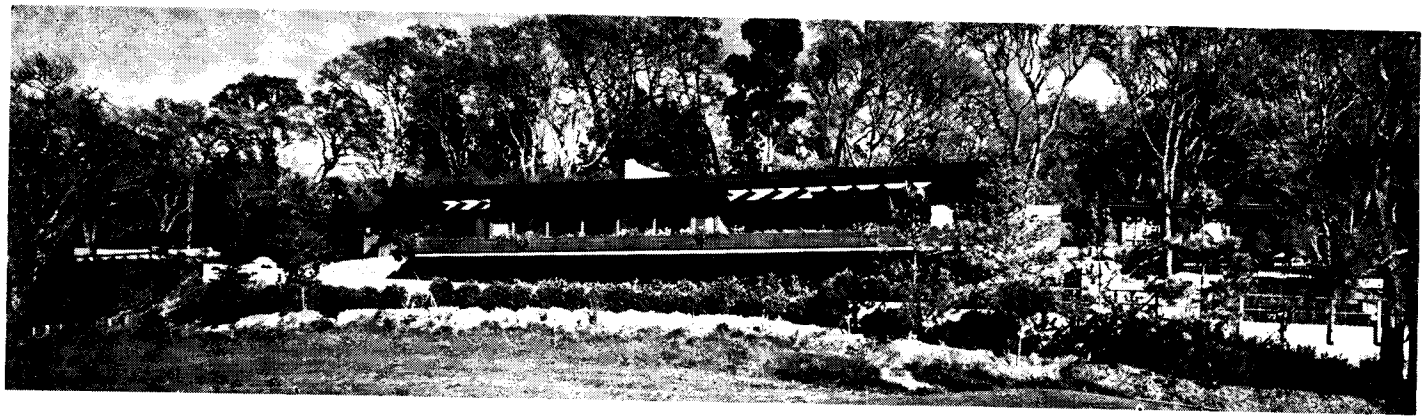


Plan elements not shown include a furnace room under the son's study and a potting room off the south living terrace (three photos, these pages), *at the foot of the ramp down from the bedroom level; maid's quarters and laundry occur at an intermediate level, in a wing extending north, back of the family living space.* Photos: Morley Baer

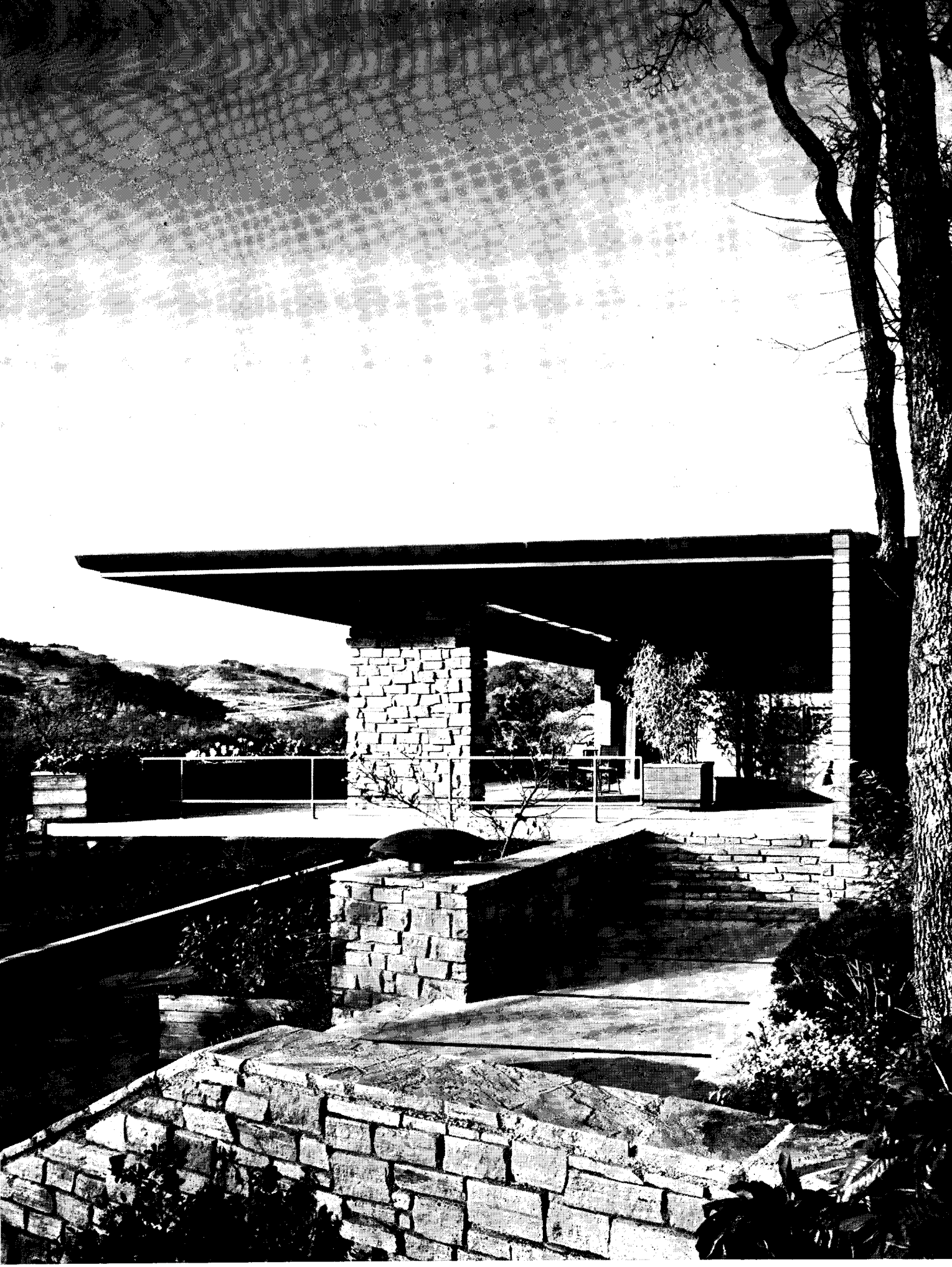
house: Orinda, California



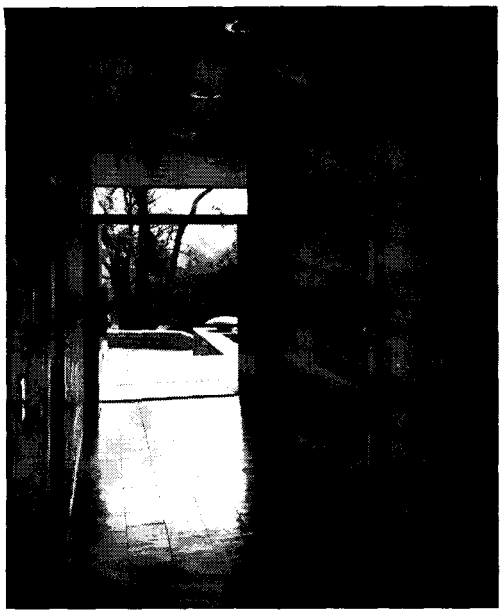
At the easternmost end of the scheme is the car shelter, from which the marvellous panorama that the site commands is viewed. The full extent of the house is seen from the putting green of the golf course, immediately below the living room and cantilevered terrace (below).



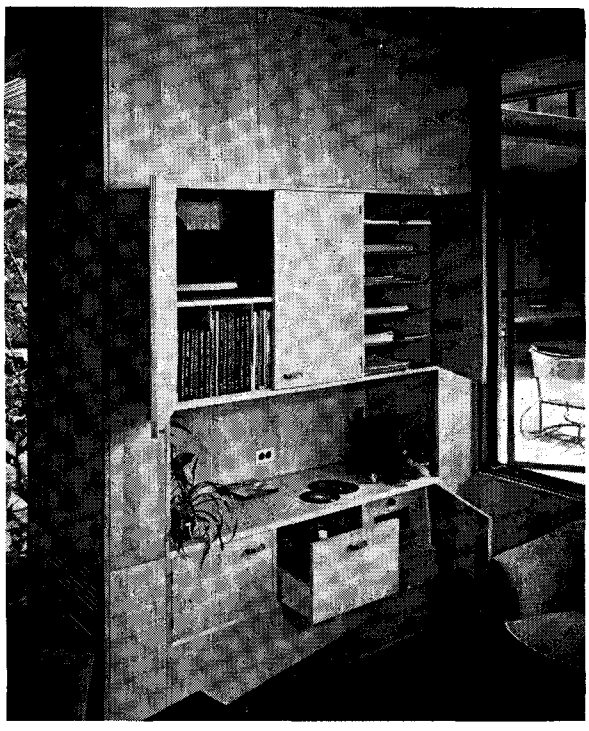
From the approach driveway (above) *stairs lead up to the main door* (acrosspage) *or onto the south living terrace. At the foot of the terrace ramp connecting this level with the bedroom level is a curved fountain pool, perched on the rim of a landscaped planting bay* (left). *Throughout, according to Hill, "closest co-operation was maintained with Eckbo, Royston & Williams, the landscape architects, and Margery Hoffman Smith, interior designer."*



house: Orinda, California

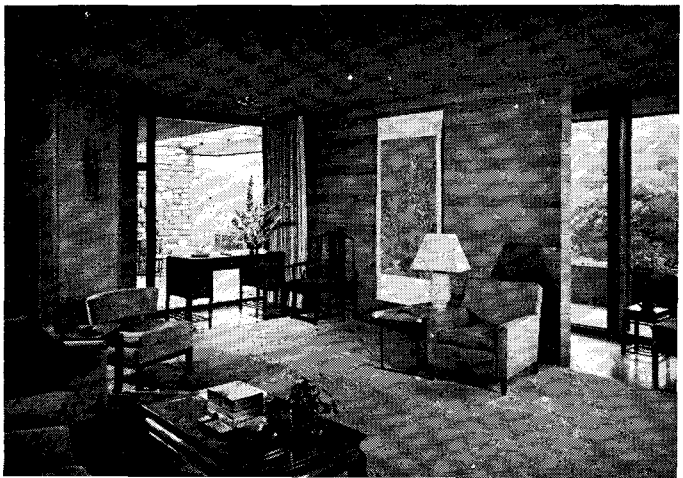


The entrance hall (left) *leads directly to the formal living room* (below and acrosspage). *Ceilings over all main areas (except children's bedrooms, which are plastered) are re-sawn pine, stained gray-gold. These carry through on the underside of overhangs. All window mullions, glazed doors, and sash (inside and out) are painted deep bronze-red.*



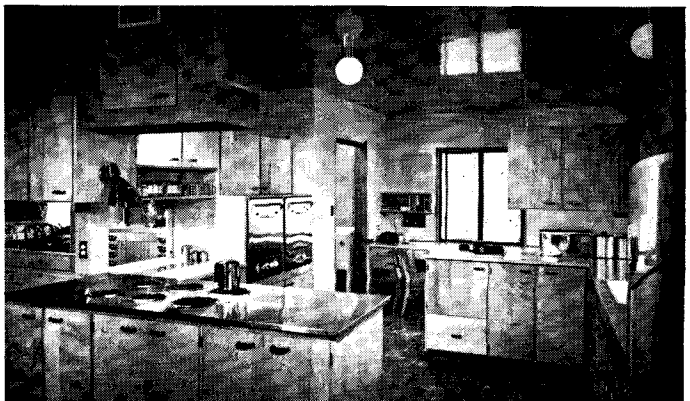
In an alcove off the formal living room is a music-enjoyment area (two photos above), *including piano, record player, and radio, plus appropriate built-in storage space.*

The everyday family-living area (above) *serves as a connecting link between the more formal rooms and the bedroom wing. Stair at left leads up to the intermediate level of service rooms (including laundry); and by a turn of the stairs, up to the family bedroom wing. Fireplace breast (like the house gutters and eaves) is faced with copper.*

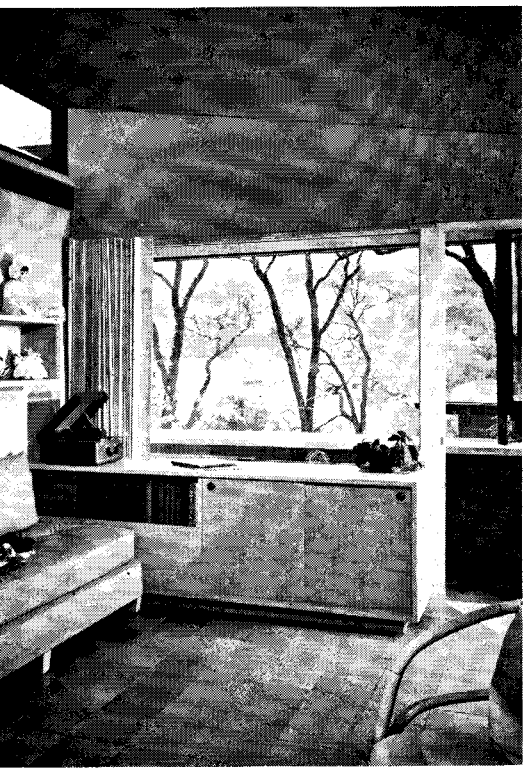


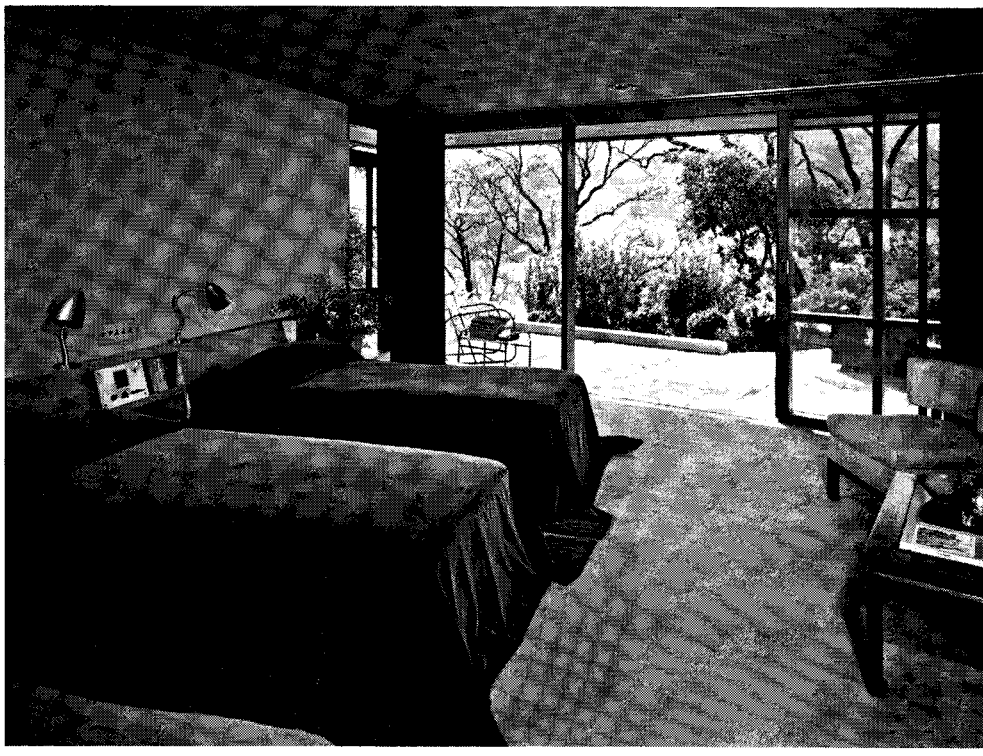
house: Orinda, California

The window wall of the main dining room (above) *overlooks the golf course and is protected from too much sun by the cantilevered terrace roof, an extension of the interior ceiling plane. On the opposite wall is a bar-pantry unit* (top) *that serves both living rooms directly. The alcove in the corner is a linen-and-silver closet, with pass-through windows to the pantry and kitchen, observable just beyond the stove* (photo at right). *At far end of kitchen, alongside the delivery entrance, is a built-in planning-desk area.*



The guest-bedroom suite (right) *occurs in the main entrance area, entirely separate from the family-bedroom wing. The window wall and door open to the south living terrace.*





Similar suites provided for the son and daughter (two photos, left) *consist of a study* (bottom) *opening off the hall; a storage-counter element* (top); *a bedroom in which a guest bed is concealed in the wall; a bathroom; and a private outside terrace (right of upper photo). The owners' bedroom* (above) *occurs at the end of the bedroom wing, and opens to its own lofty lounging terrace.*

Thonet 100th Anniversary

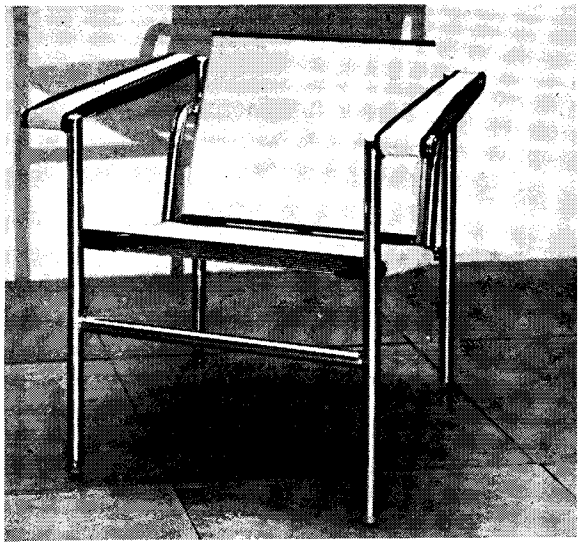
Contemporary furniture as well as contemporary architecture has benefited from the stimulus of the revolt 30 years ago by those architectural leaders who cast aside meaningless stylistic conventions. In many cases the same names, internationally renowned for architectural advances, have been signed to fresh new designs for furniture. And today almost all top-flight manufacturers are using architecturally-trained men to create their new pieces and new lines.

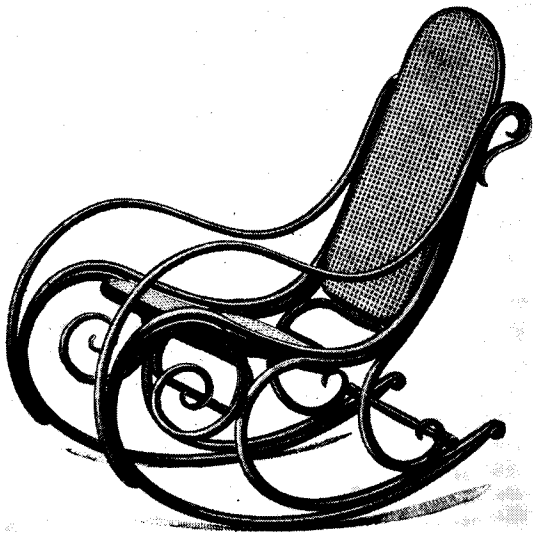
Thonet Industries, Inc., celebrating this year the centenary of the founding of its international business, first used designers with architectural background before the turn of the century and now continues its search for new structural principles, new forms, and new materials. The variety of Thonet chairs is displayed in the New York showrooms (*above*) designed by Felix Augenfeld, Architect, for Thonet, where muted backgrounds dramatize the forms and bright colors.

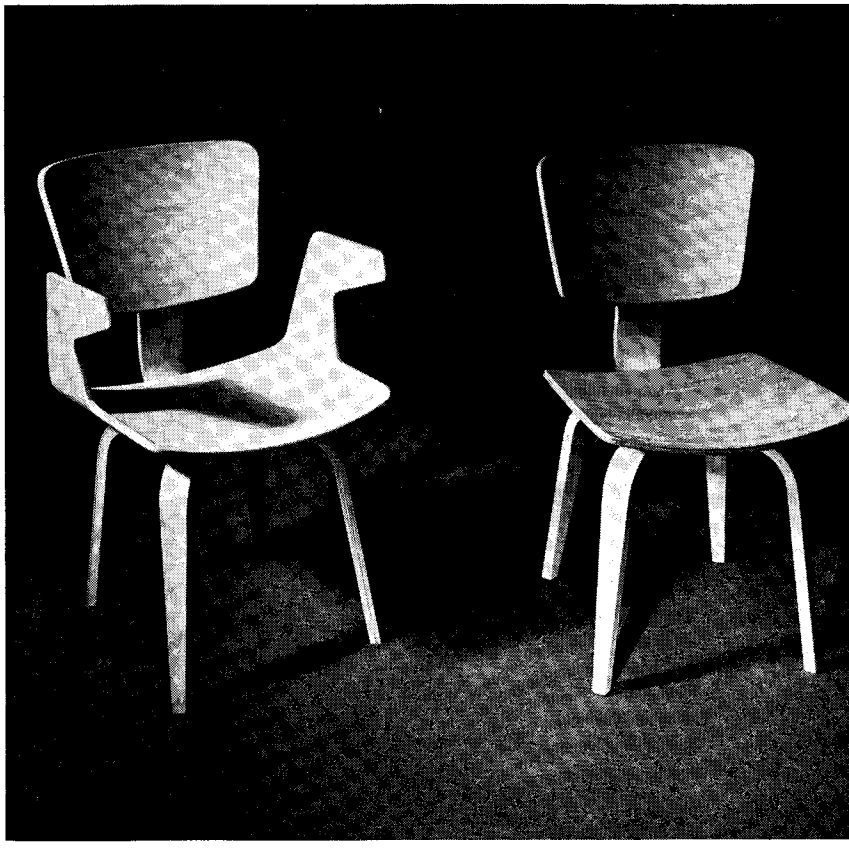
Notice, near the center of the photograph, the light-toned Vienna chair of today, direct descendant of the low-cost bentwood chair *(top of page)* that was introduced in Austrian cafes just after the Crystal Palace Exhibition in London. Thonet won there a coveted Award and a worldwide reputation for its bentwood furniture. The Vienna chair has been a "best seller" for a century—the estimate being 100 million made and installed in clubs, restaurants, hotels, hospitals, auditoriums, schools, colleges, and other public places.

Bending wood for chair manufacture was initiated in 1830 by Michael Thonet, a cabinetmaker from Boppard on the Rhine. He first used laminated veneers (forerunner of today's plywoods) but

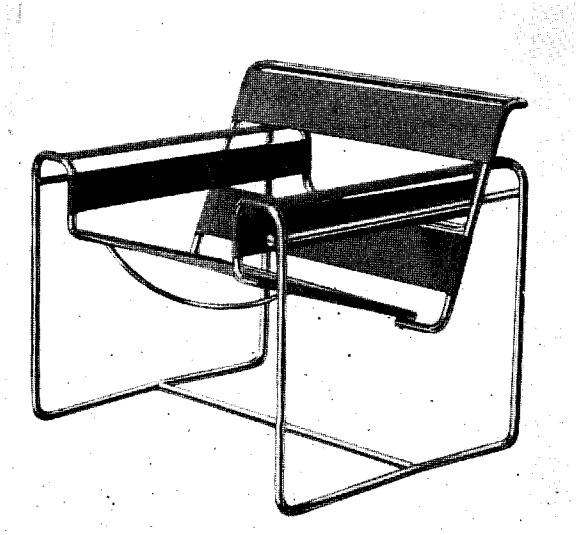
(Continued on page 178)

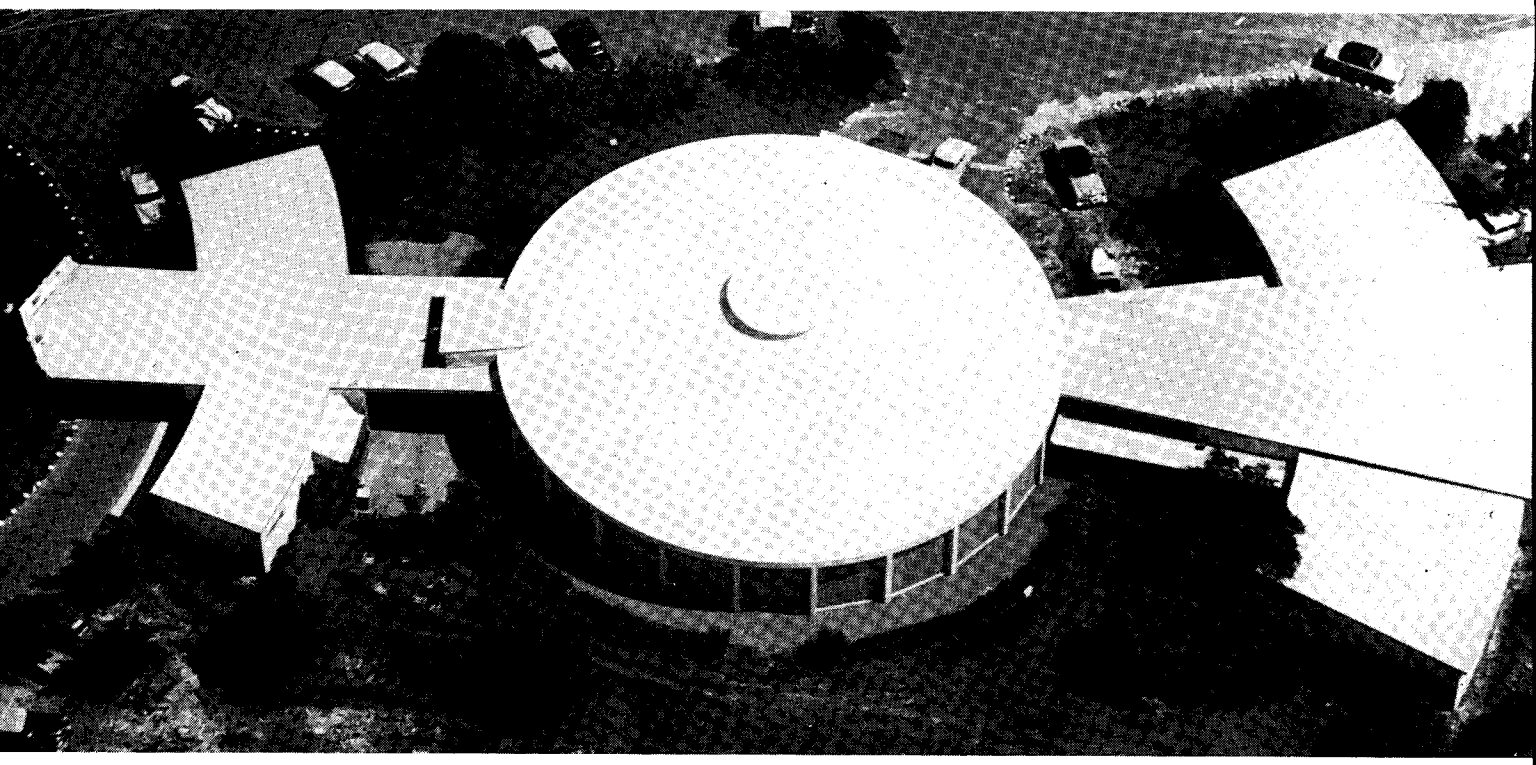






Bentwood pieces that Thonet had offered Victorian shoppers interested **Le Corbusier**, *who designed the chair at the top of this page. Marcel Breuer designed a line of bent tubular steel, including the chair below. Joe Adkinson's chairs at right are of molded plywood. The TAC chair* (lower right) *is fashioned of bent plywood and bentwood.*





ring theater

location	Miami, Florida
associated architects	Robert M. Little and Marion I. Manley
structural engineers	Jorgenson & Shreffler
general contractor	Gust K. Newberg Construction Company

This new kite-shaped theater-in-the-round is a composition of concrete. The concrete dome rests on concrete piers, and light-colored blocks form screens and partitions, resting on concrete slabs. With an appropriation comparing favorably to the rental fee for the tent it replaced, Architects Little and Manley have designed a theater featuring flexibility and low cost. Leaking canvas tents are often the meeting ground for sorcerers and jugglers. And within theirs, the University of Miami drama department had long practised a form of alchemy, performing production miracles on its midget budget.

What was needed was an experimental theater. What the architects provided, on the University's waterfront site, included an auditorium, roofed by a 4″ concrete dome, capable of five seating arrangements for 400 people, and two positions for a revolving stage. Every form of drama can be produced by regrouping the eight pie-shaped and four rectangular sections. This is the key to its flexibility. The key to cost lies in the structural system of concrete piers and slabs, concrete-block walls, and dome—all unsurfaced. No heating and air-conditioning equipment was included, resulting in a cost less than $10 per square foot. And funds were so lacking at one point that the only inhabitants were the Florida insects.

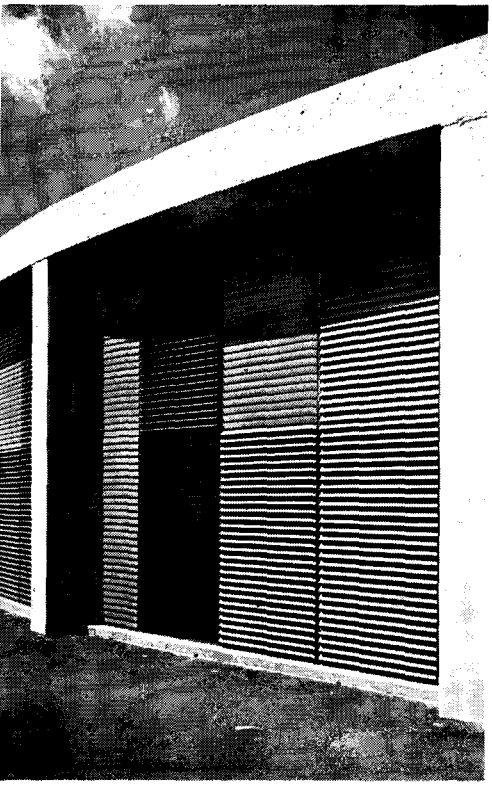
Under the 100′-diameter dome, there is a revolving stage with a specially designed curtain for proscenium and horseshoe productions. Changes can be effected in a matter of seconds. Props and flats are rolled on wagons through the large doors from the workshop area where related costume, storage, and dressing rooms are located. Screened-aluminum jalousies are set around the perimeter for the maximum ventilation in the subtropical climate. And in the center of the dome hangs a 20′ x 20′ egg-crate grid, the main lighting equipment, that also screens a cooling fan. Other spotlights and auxiliary mechanisms may be mounted on the circular catwalk around the edge of the dome or from the outer edge of the grid.

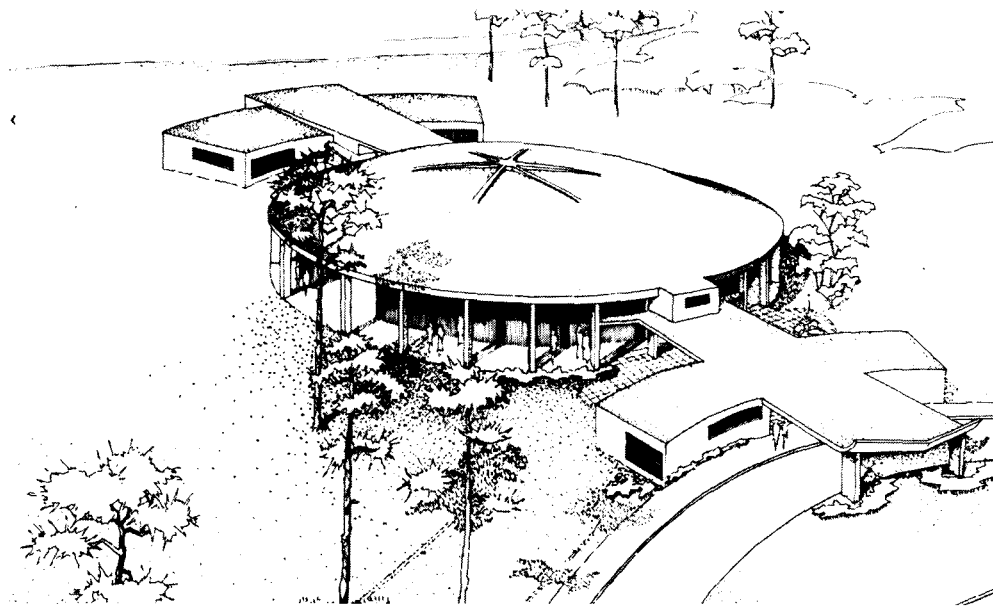
Although some consider it on the hair-shirt level, for its audiences the "Ring" has opened new and exciting horizons in the theater. For its players, it is the crystallization of a dream.

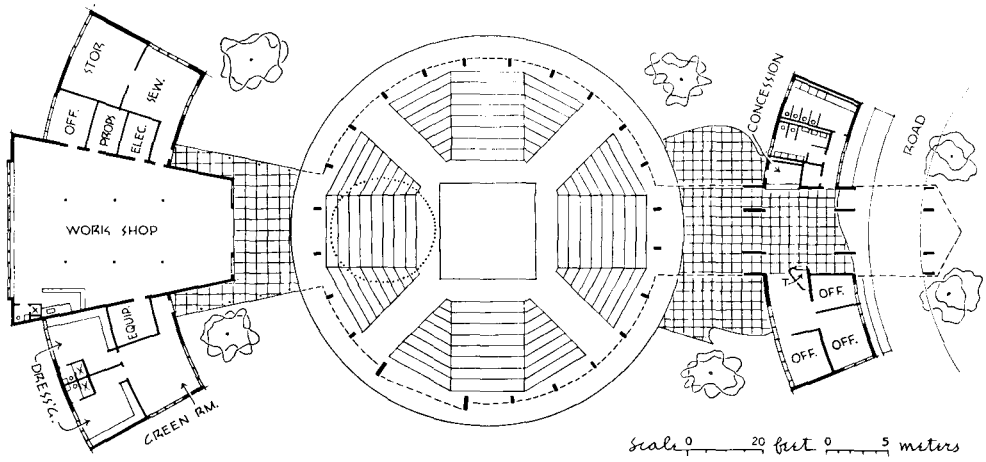
Domed auditorium with its related administration and work areas is shown in bird's eye sketch (right).

Screened-aluminum jalousies (below) *framed between concrete piers, around the entire auditorium, provide maximum ventilation in the subtropical climate.*

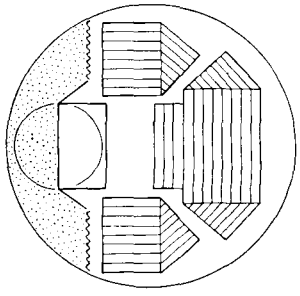
Photos: Julius Shulman

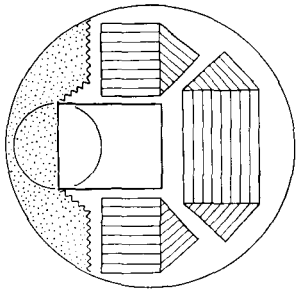


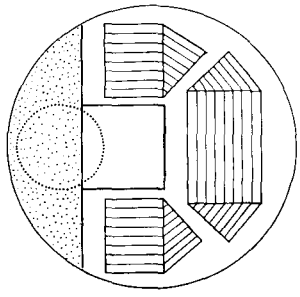


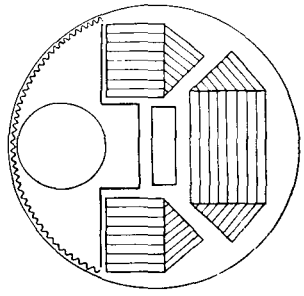


Stage and seating arrangements include: arena (above); *proscenium, horseshoe, Elizabethan stage, and musical comedy* (left to right, below).



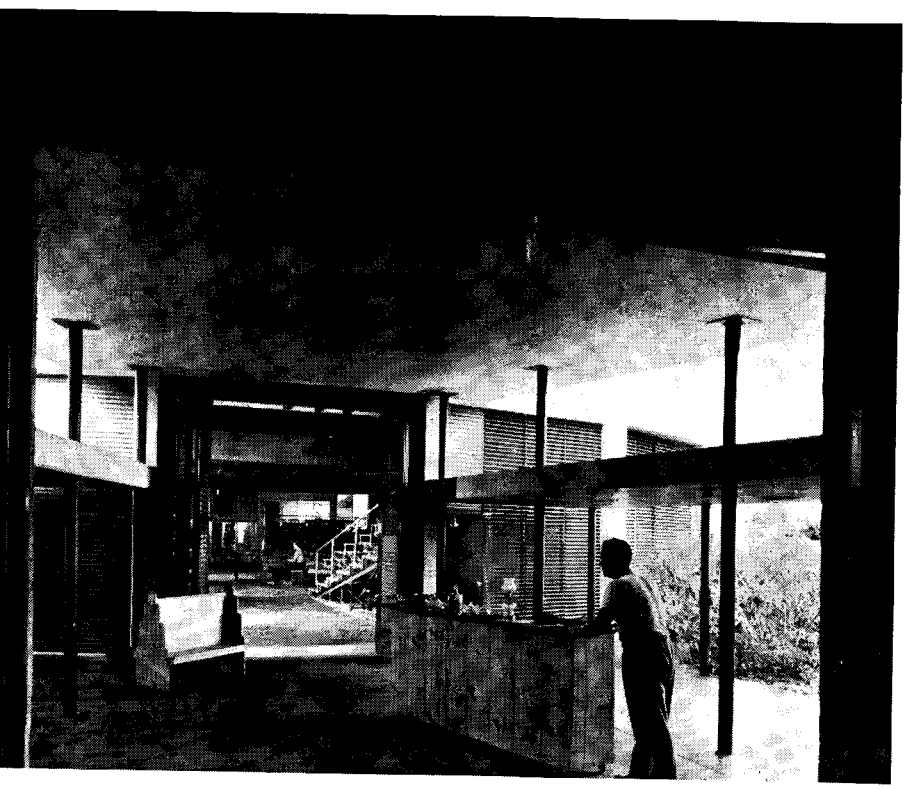




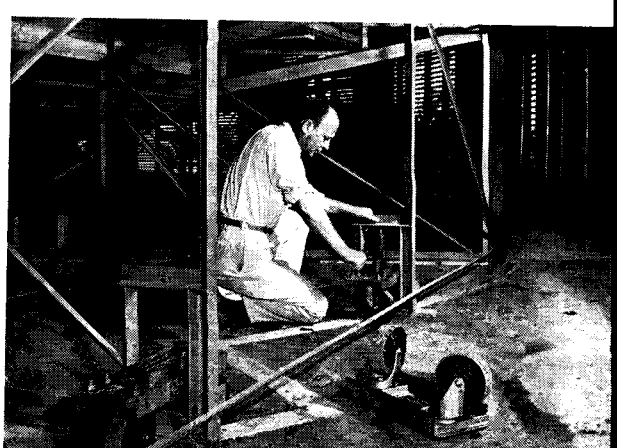


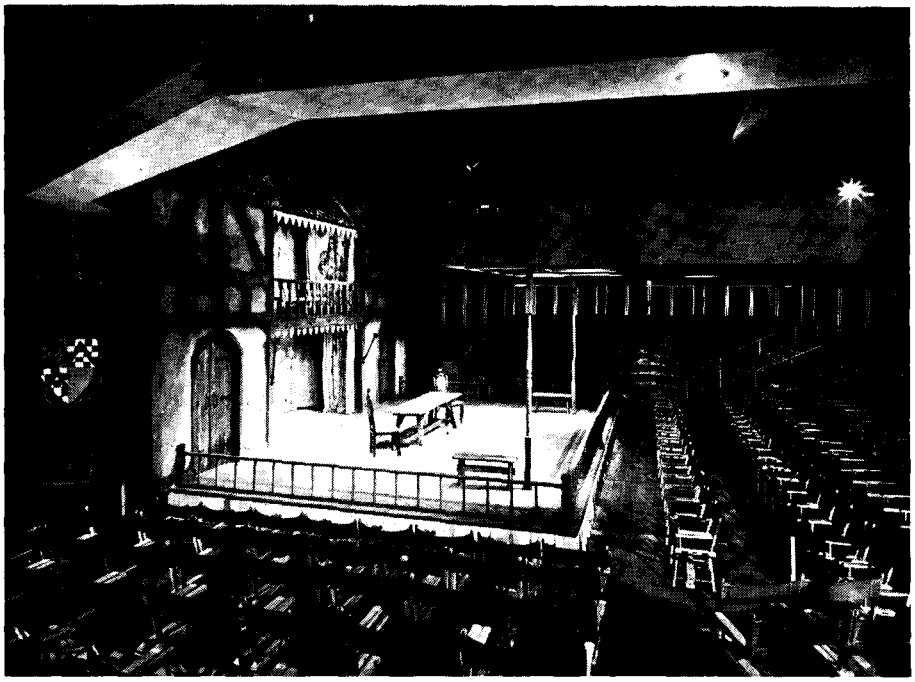
View from covered entranceway, toward the auditorium, shows concession stand and ticket offices flanking the lobby. Thin, vertical, concrete elements, acting structurally, double as program displays (left).

Actors and scenery pass from the work area, through loggia to stage. Lally columns support roof and its intermediate planes; soffit and floor are cement finishes applied to the concrete slabs; lighting is recessed (below left).

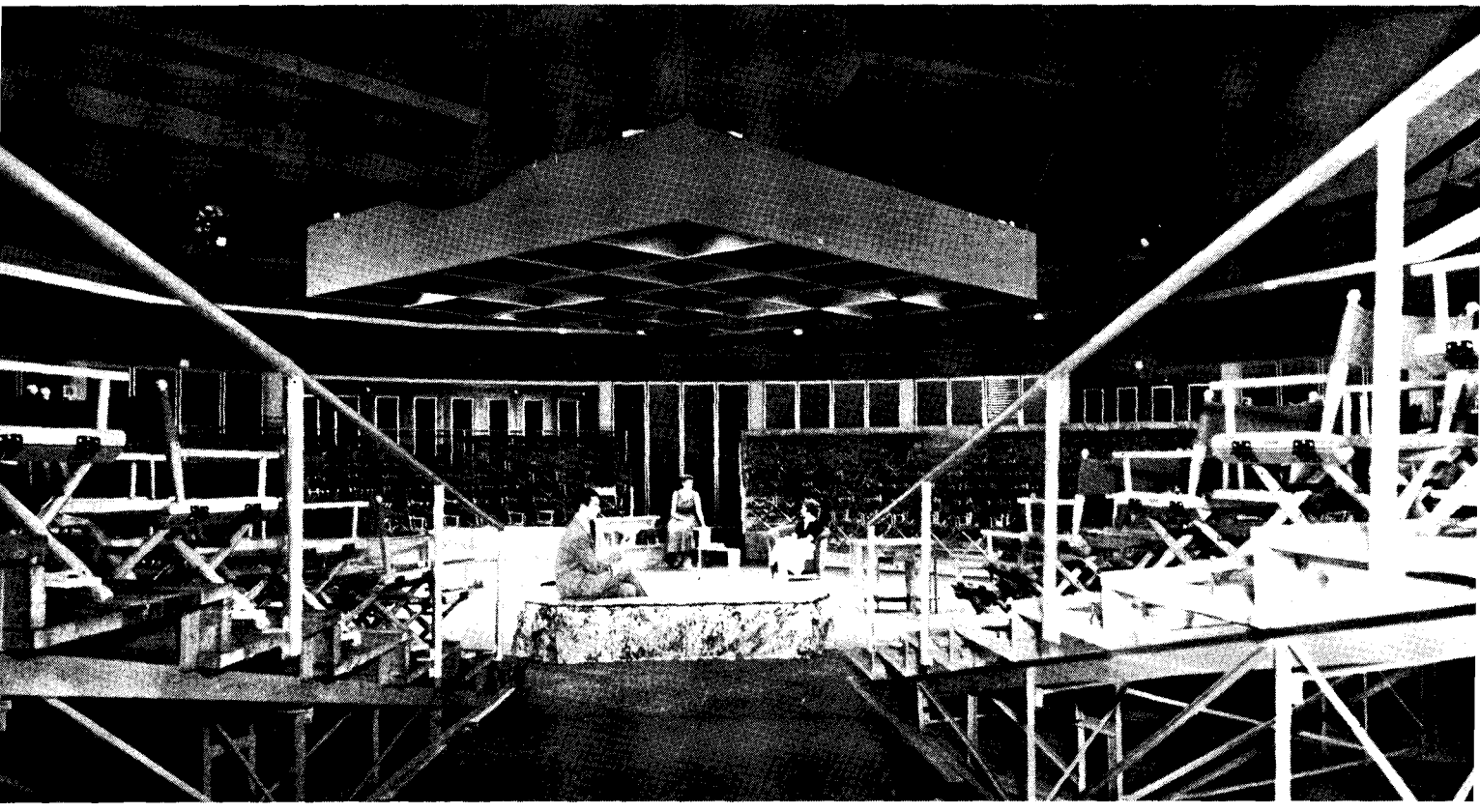


Seating elements are jacked up for removal or for relocation in different arrangements (right).

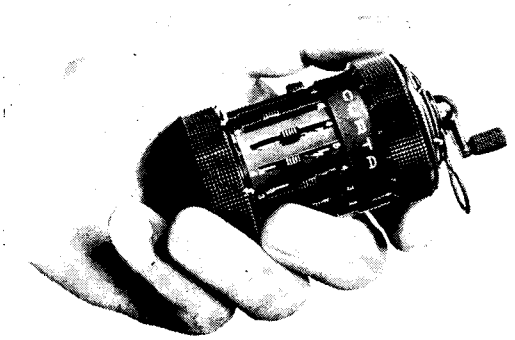




By moving the stage and regrouping the pie-shaped and rectangular sections, two of five possible arrangements—Elizabethan and arena (right and below)*—are readily made, indicating the flexibility of the theater. Canvas-backed yacht chairs are not fixed to the sections. Below the center of the dome is seen the egg-crate lighting grid and surrounding catwalk for auxiliary apparatus.*



p/a products



snap-on pipe insulation

G-B Ultrafine Pipe Insulation, a new molded pipe covering material composed of fine glass fibers bonded with a phenolic resin, combines flexibility, resilience, and durability with high thermal efficiency. Its weight varies between 1/10 and ¼ the weight of other types of pipe insulation. Suitable for all heated piping applications up to 350 F or for use as an outside layer of insulation in high-temperature applications, the cylindrical-shaped material is available in 6′ lengths, in any of 12 pipe sizes and four thicknesses. It will not break, bend out of shape, absorb moisture, or deteriorate in any way in transit, storage, or on the job. Gustin-Bacon Manufacturing Company, 210 W. 10 St., Kansas City, Mo.

eight-ounce calculator

Capable of performing the same mathematical computations as some machines 20 times its size, the small, lightweight Curta Calculator is equally suited to office or field use. Recommended for engineering computations as well as other work, this calculator adds, subtracts, multiplies, divides, cubes, and gives square roots. All parts of the instrument, made of rust- and tropic-proof metals, are precision engineered; number markings are engraved into the surface. The eight-ounce calculator is manufactured abroad by German and Swiss technicians and sells in the United States for $142. Curta Calculator Company, 3851 W. Madison Street, Chicago 24, Ill.

air and temperature control

Portable Electric Dehumidifier: improved room model has larger water container which is also emptying unit; measures 17¼″ x 11¼″ x 18½″, weighs 52 lb. Up to 3 gal of moisture removed from air every 24 hours in basements, attics, recreation rooms, storage closets, laundry rooms, libraries, photographic darkrooms, and other areas up to 10,000 cu ft. ⅛-hp condensing unit. Cory Corp., 211 N. La Salle St., Chicago 1, Ill.

Thrifti-Tower: small cooling tower, suitable for residential, commercial, and industrial air-conditioning systems, is designed to save up to 95% of normal water demand. Lightweight, adaptable to indoor or outdoor installation, ranges in capacity from 2 to 16 tons. Marlo Coil Co., 6135 Manchester Ave., St. Louis 10, Mo.

Condensate Cooler: steel-shell condensate cooler for preheating water, processing, heating radiation, and other heat exchange applications. Working pressure: 125 psi. Tubes are ¾″ copper assembled in removable u-bend tube bundles; cast-iron head. Available in shell diameters 4″ to 16″ in increments of 2″. Taco Heaters, Inc., 137 South St., Providence, R. I.

construction

Tapered Tile: semicircular-shaped tile, for use as roof hips and ridges, overlap each other and cover roof joints. Available in standard roofing colors. Tile is easily laid and nailed, resulting in minimum installation time. Ludowici-Celadon Co., 75 E. Wacker Dr., Chicago 1, Ill.

Tectum Roof Deck: new material for school, commercial, and industrial building roofs made of wood fibers bonded together with thermal-setting inorganic cement. Insulating "k" value: .50; noise reduction coefficient from .75 to .85. Material may be sawed, chopped, nailed, or drilled; has passed Underwriters' Laboratories tests for incombustibility. Tongue and grooved on 2 sides; factory-applied waterproof roofers' felt on top surface. The Tectum Corp., 105 S. 6 St., Newark, Ohio.

Tim-Deck: new roof decking made of Western red cedar combines sheathing, purlins, joists, insulation, and ceiling; may be applied directly on arches, beams, or trusses without special tools. Close-fitting tongue-and-groove side surfaces. Dimensions: 4⅜″ x 3½″; also available in beaded, grooved, or striated form to provide special decorative or acoustical effects. Timber Structures, Inc., 3400 N. W. Yeon Ave., Portland 8, Ore.

doors and windows

Imported Flush Doors: new line of hollow-core doors, manufactured in Holland, have patented fiber core throughout entire inside frame to give greater stability and resistance to warping. Also solid-core exterior doors available in blanks and cutout styles. Occume mahogany veneers, matching mahogany edge-strips or white pine styles. Distributors: J. Gerber & Co., Inc., 855 Ave. of the Americas, New York 1, N. Y.

electrical equipment, lighting

Circuit-Breaker Panelboard: new panelboards available in base assembly design in 10 sizes of enclosures, 5 with main lug connection and 5 with main circuit-breaker connection, 50 to 225 amp capacity. New circuit-breaker with thermal magnetic overload protection and manual or automatic quick-make and quick-break operation. Frank Adam Electric Co., 3650 Windsor Pl., St. Louis 13, Mo.

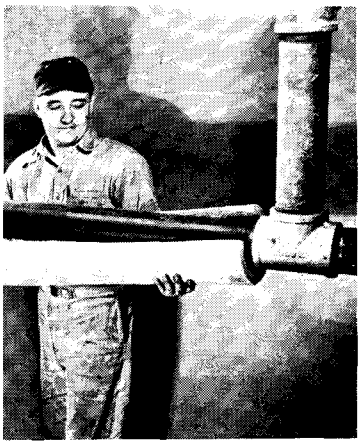
Holo-77: fluorescent fixture, wired in conventional rapid-start or slimline, has sectional beaded channel which carries installation whether mounted individually or in continuous run. Lighting unit prewired to terminal block connector. Integrated construction forms rigid unit that will not distort in normal usage, cleaning, or relamping. Available in 40, 62, and 75 w; side panels all-metal, metal and plastic, or metal and glass. Gibson Mfg. Co., 1919 Piedmont Circle, N. E., Atlanta, Ga.

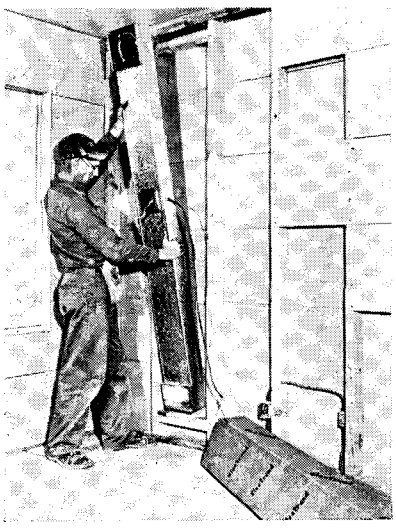
GrateLite Ceilings: new plastic louver-diffusers for illuminated ceilings in stores and office buildings has ⅜″ translucent cubical facets which provide 45° lamp shielding. Sections rest on inverted "T" rails suspended from overhead. The Edwin F. Guth Co., 2615 Washington Ave., St. Louis, Mo.

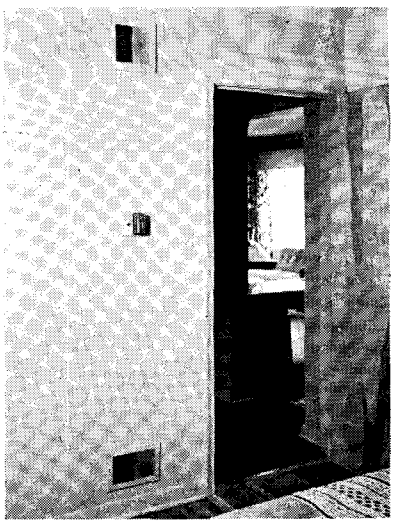
Levolier Switch: new 20-amp universal-lever operated pull switch for controlling heavy loads in industrial and commercial electrical services. Carries 2500 w at 125 v safely; meets all Underwriters' Laboratories requirements. Fits standard outlet boxes; available in brass, dark bronze, and burnished nickel finishes. McGill Mfg. Co., Inc., 259 Indiana Ave., Valparaiso, Ind.

finishers and protectors

Alodine No. 1200: new protective coating chemical forms amorphous mixed metallic-oxide coating of low dielectric resistance; provides high corrosion resistance for unpainted aluminum. In addition, forms paint







reheats and recirculates ceiling-level air

Designed for installation in new homes with four to seven rooms, the Electrend electric heating system reheats and recirculates warm ceiling-level air by means of metal ducts mounted between the studding of walls in each room. A fan unit mounted inside the upper grill of each duct draws off warm air and forces it down over a heating element which adds the required amount of heat. The hot air then leaves the duct through a floor-level grill, thus eliminating the problem of chilly floor temperatures. The duct itself remains at room temperature and the heating element never becomes red-hot. The use of this system results in more usable floor space since no chimney, furnace, or fuel tank is required. In addition, operating costs are reduced since less heat will escape through the ceiling and none will be lost through a chimney. The cost of an Electrend heating installation in an average new five-room house without a basement is estimated at approximately $776; the total connected (demand) load of the heating units in such a house would be about 7400 w—less than that of an electric range. Electrend Products, P. O. Box 110, St. Joseph, Mich.

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bond. May be applied with brush or portable spray equipment. American Chemical Paint Co., Ambler, Pa.

Insulcolor: plastic coating for use as both protection and color identification on insulated refrigerant, cold water, steam, and other pipes, and on insulated equipment. Coating will withstand temperatures to 160 F without cracking, shrinking, or crazing and may be used over heat insulations, cork pipe covering and lagging, and as finish over cork-insulated air-conditioning ducts. Brushed or sprayed on; available in white and 6 colors. Armstrong Cork Co., Lancaster, Pa.

Oncrete Asbestos Stucco Coating: moisture-repellent coating for exterior surfaces of concrete block, stucco, and asbestos-shingle buildings. Brushed, sprayed, or rolled on, coating expands and contracts with climatic changes, is immune to fungus growths, excessive sunshine, salt air, rain, snow, soot, acids, or industrial fumes. Lowebco, Inc., 1525 E. 53 St., Chicago 15, Ill.

Weather-Proof Seal: fabric-reinforced black synthetic-rubber sealer in ribbon form is adaptable for many gasketing applications. Because of cloth reinforcement, sealer ribbon does not stretch or sag during application. Available as packaged rolls in 1/32" and 1/16" thicknesses, in 7 widths ranging from ¼" to 2", and in lengths of 100 and 200 ft. Minnesota Mining and Mfg. Co., Adhesives and Coatings Div., 423 Piquette Ave., Detroit 2, Mich.

insulation (thermal, acoustical)

Fire-Guard Batt Blankets: batt blankets are encased with vapor barrier on one side and special flame-resistant paper on other side. Rock-wool fiber felted by new method to give greater resilience and more compressibility. Furnished 15" x 48", 10 pieces, 50 sq ft per tube bag; nailing flanges 1½" wide. The Philip Carey Mfg. Co., Cincinnati 15, Ohio.

Duramat: new insulating wool made from glass-fiber mat reinforced with parallel strands of glass yarn and coated with special waterproof asphaltic materials. Useful as vapor barrier under basementless buildings and in refrigerated rooms, also as covering for above-ground insulated pipe and exposed ducts. Two thicknesses: 51.8 lb and 23.5 lb per 108 sq ft. Glass Fibers, Inc., 1810 Madison Ave., Toledo, Ohio.

sanitation, plumbing, water supply

Water Cooler: redesigned line of water coolers range in capacity from 4 to 20 gal. New styling includes front apron of stainless steel at top and louvered front panel tapering in from top to bottom where full width pedal enables control of water from any point in front of cooler. Gray hammered finish; measures 41" x 14½" x 12⅞". Eight settings provide range of water temperatures. General Electric Co., Air Conditioning Div., 5 Lawrence St., Bloomfield, N. J.

Hot Water Boiler: new immersion hot-water boiler, combining heating element and water-storage tank in one unit, available for commercial and industrial application in capacities from 250 to 5000 GPH with either gas or oil firing or combination. Heating element completely immersed in water storage tank for increased heating efficiency and fuel economy. Mund Boilers, Inc., 1600 N. Indiana St., Los Angeles 63, Calif.

specialized equipment

Mayline Steel Plan File: new line of steel 5-drawer plan files finished with hammered gray enamel. Unit constructed to allow stacking in whatever number desired. Dust cover of plastic-coated cotton cloth attached to tilting arms which will remain in place when raised. Drawers operate on specially-designed ball-bearing rollers. Engineering Mfg. Co., 619 N. Commerce St., Sheboygan, Wisc.

Sand Urns: various models of sand urns have inner shell of steel, cylindrical aluminum shell over which are placed bands of brass or bronze in varying widths. Anodized aluminum bands in gold, bronze, cocoa, red, or blue are available; also steel urns in black, gray, green, or maroon stock colors in baked-enamel wrinkle finish. Lawrence Metal Products Co., 79 Walker St., New York, N. Y.

Decal: time-saving decal showing decimal equivalents in 64ths measures 6" x 1¼" and is designed for application to slide rules, T-squares, drawing boards, and other drawing equipment. Figures printed in sharp black and red type on white background. Available without charge from The Meyercord Co., 5323 W. Lake St., Chicago 44, Ill.

surfacing materials

Permalife Vinyl Flooring: new vinyl-plastic flooring material with color wearing surface through entire thickness. Material will be produced in 14 marbleized colors; future plans call for full range of tile sizes, as well as sheet form. American Biltrite Rubber Co., 155 Assunpink St., Trenton, N .J.

p/a manufacturers' literature

Editors's 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

1-26. Bush CR Remote Air-Conditioning Units (745), 6-p. bulletin describing new line of remote air-conditioning units available in two styles: vertical floor units and horizontal ceiling units. Cutaway drawings, dimension tables, specifications for both styles. Bush Mfg. Co., South St., West Hartford 10, Conn.

★ **1-27. Fedders Wall Radiation,** A.I.A. 30-C-4 (WR-C3), 12-p. catalog covering wall radiation with new features for commercial and public buildings. Basic layout; photos of heating element (steel fins bonded to welded seam black-steel pipe), enclosures, and hanger brackets; dimensions; conversion factors; typical specifications. Fedders-Quigan Corp., 57 Tonawanda St., Buffalo 7, N. Y.

1-28. Electric Blast Coil Heaters (E-97U), 12-p. booklet giving information on uses, construction, and installation of electric blast coil heaters. Dimensional drawings, ordering chart, photos, description of magnetic contractors. Industrial Engineering and Equipment Co., 711 S. Theresa Ave., St. Louis 3, Mo.

1-29. Balanced Industrial Ventilation (115), 4-p. bulletin discussing problems resulting from relationship of exhaust and make up air systems and bearing this has on heating load. Drawings of typical exhaust system and fan products for make up air systems. National Assn. of Fan Manufacturers, Inc., 2159 Guardian Bldg., Detroit 26, Mich.

1-30. Danger Spots in Your New Home. 12-p. brochure describing residential ventilating, lighting, and heating equipment. Specifications, installation data, and photos of 9-speed ceiling fan in 4 models, sidewall exhaust fans, and square, oblong, and round recessed lighting fixtures. Also infrared recessed wall heater. Pryne and Co., Inc., 140 N. Towne Ave., Pomona, Calif.

Two 4-p. brochures containing information on kitchen ventilator hoods. First shows two styles available and 300 F blower unit, gives specifications and roughing-in details. Second illustrates installation and maintenance procedures. Photos, drawings, venting instructions. Stanthony Corp., 6900 San Fernando Rd., Glendale 1, Calif.:

1-31. Stanthony Ventilating Hoods, A.I.A. 30-D-1

1-32. Stanthony Ventilating Hoods: Installation and Service Manual

construction

2-31. Granco Steel Roof Deck, A.I.A. 12-C (BDr 531), 4-p. booklet giving information on steel roof decking composed of rotary-press formed sheets, available in 18, 20, or 22 gage. Physical properties; total safe uniform loads for single-, two-, and three-span; suggested specification. Photos, dimensional drawing, charts. Granco Steel Products Co., Box 221, Granite City, Ill.

★ **2-32. Haven-Busch T-Chord Long Span Joists,** 40-p. booklet describing T-chord long-span joists available from 18″ to 60″ in depth and from 25′ to 125′ in length. Photos of fabrication and installation, details of joist ends, accessories and applications, specifications, maximum allowable loads. Haven-Busch Co., 501 Front Ave., N. W., Grand Rapids 4, Mich.

★ **2-33. Josam Roof Drainage Products,** A.I.A. 29-C (RK), 44-p. catalog covering line of roof, sill, scupper, parapet, and cornice drains, stack flashing fittings, expansion joints, stack and riser sleeves. Details, dimensions, and photos of equipment, standard and optional features. Josam Mfg. Co., Michigan City, Ind.

2-34. Specify Mississippi Glass, A.I.A. 26-A (53), 16-p. catalog describing types of glass for industrial, commercial, and residential building including translucent, figured, corrugated, structural, wired, and heat-absorbing. Photos of translucent glass installations, light distribution properties of figured glass, heat-transmission of heat-absorbing glass. Mississippi Glass Co., 88 Angelica St., St. Louis 7, Mo.

2-35. Rubora Expandable Concrete Form, 8-p. booklet illustrating application of latticed wood struts as concrete forms for floors, roofs, and walls. Drawings show support spacing for concrete forms, flexibility of forms for curved surfaces; photos. Kurt Orban Co., Inc., 205 E. 42 St., New York 17, N. Y.

2-36. Permalite: the Leading Perlite Aggregate, A.I.A. 21-A-5 (PA-27), 8-p. brochure describing plaster and concrete aggregates. Official fire ratings of plaster aggregate with typical details, plaster specifications, sound transmission data. Mix design data for concrete aggregate, short form specification for insulating concrete roof fill. Photos, drawings, and tables. Great Lakes Carbon Corp., 612 S. Flower St., Los Angeles 17, Calif.

2-37. Seaporcel Architectural Porcelain Metals, 12-p. booklet showing new and unusual applications of architectural porcelain. Photos of representative applications including store, restaurant, and school exteriors; hospital and bank interiors. Structural drawings and information on laminated sandwich-type curtain wall and ashlar material with porcelain faces and insulating cores. Construction details. Seaporcel Metals, Inc., 28-25 Borden Ave., Long Island City 1, N. Y.

★ **2-38. Open Web Steel Joist Construction,** A.I.A. 13-G (ST-52), 42-p. design manual awarded Certificate of Exceptional Merit in Annual Products Literature Competition sponsored by A.I.A. and Producers' Council. Description of open-web steel joist construction, standard loading tables, properties and dimensions of steel joists manufactured by member companies, standard specifications, code of standard practice. Steel Joist Institute, 1346 Connecticut Ave., Washington, D. C.

doors and windows

3-37. Ceco 1¼″ Intermediate Windows, A.I.A. 16-E (1055), 8-p. booklet covering line of projected, combination, and casement windows suitable for schools, hospitals, churches, and public buildings. Types and sizes, installation details, photos of hardware, specifications. Ceco Steel Products Corp., 5601 W. 26 St., Chicago 50, Ill.

3-38. Fenestra Residential Metal Doors, A.I.A. 16-A (DO-15), 8-p. catalog describing steel swing- and sliding-type doors for residential use. Uses, construction, advantages, stock sizes, and details of hardware and installation. Detroit Steel Products Co., 3209 Griffin St., Detroit 11, Mich.

3-39. Glazing the Air-Conditioned Home, A.I.A. 26-A-9 (M-23), 8-p. pamphlet presenting data on transmission of solar energy through different types of window glazing. Discussion of both winter and summer effectiveness of insulating glass and role of heat-absorbing glass in air-conditioned homes. Location of trees, trellises, service areas, and awnings in relation to window areas. Photos, charts, drawings. Libbey-Owens-Ford Glass Co., Nicholas Bldg., Toledo 3, Ohio.

3-40. Steel Windows, A.I.A. 16-E-1, 32-p. catalog giving specifications and full-size sections of semi-intermediate, intermediate, and heavy-section steel windows; types and sizes within each category. Construction details, drawings of typical hardware, typical screen details. Michel & Pfeffer Iron Works, Inc., 10 and Harrison Sts., San Francisco 3, Calif.

3-41. Twindow: the Window with Built-In Insulation (G21581), 8-p. brochure containing dimensions, specifications, and installation information for double-glazed window. Surface temperature chart, relative humidity and condensation protection chart, list of available standard sizes, glazing instructions. Photos, tables, drawings. Pittsburgh Plate Glass Co., 632 Duquesne Way, Pittsburgh, Pa.

electrical equipment, lighting

★ **4-22. Curtis Coronet Series,** A.I.A. 31-F-2 (2413), 8-p. catalog with data on series of fluorescent luminaires: 4-lamp parallel units *and 10′ units for four 60″*

lamps (two lamps parallel), low and normal brightness. Illumination and dimension information, drawings and charts. Curtis Lighting Inc., 6135 W. 65 St., Chicago 38, Ill.

4-23. Flexunit Plug-In Distribution Panelboards, 8-p. booklet describing distribution panelboard available for 30, 60, 100, and 200 amp 250-volt operation with 2 and 3 pole branches and for 30, 60, and 100 amp 575-volt operation with 2 and 3 pole branches. Application data, suggested specifications, list of enclosure sizes. Federal Electric Products Co., 50 Paris St., Newark 5, N. J.

4-24. Gruber Lighting: Exterior Lanterns, A.I.A. 31-F-2 (L-50), 16-p. brochure illustrating exterior incandescent lanterns for churches, hospitals, hotels, schools, and public and commercial buildings. Fixtures of cast bronze, cast aluminum, and heavy-gage copper. Gothic, Colonial, and other designs. Sketches, specifications. Gruber Bros., Inc., 125 S. 1 St., Brooklyn 11, N. Y.

finishers and protectors

5-9. Hydrocide S·X Colorless (BP-3062), 6-p. folder describing results of independent research test of a water repellent on brick and concrete surfaces in comparison with three other silicone products. Application data, suggested coverage, and features of finish. L. Sonneborn Sons Inc., Building Products Div., 404 4 Ave., New York 16, N. Y.

5-10 Walls Breathe?, 46-p. brochure discussing five types of construction and their individual waterproofing problems. Specifications for an ultimate method of protecting masonry from excessive water penetration, descriptions of cement-base surfacing material, tuckpointing mortar, and other protective products. Photos. Western Waterproofing Co., Syndicate Trust Bldg., St. Louis 1, Mo.

insulation (thermal, acoustic)

6-12. Johns-Manville Asbestos Transitop (FI.X-10A), 8-p. booklet describing moisture-proof insulating structural panel for exterior walls and interior walls and ceilings. Photos, details, chart of physical properties. Johns-Manville Corp., 22 E. 40 St., New York 16, N. Y.

★ **6-13. Fiberglas Duct Insulations,** A.I.A. 30-A (IN6.A1), 16-p. design data booklet with photos and drawings of various rigid and flexible glass-fiber insulating materials for exterior and interior of warm and cold air ducts. General properties, application methods, specifications for insulation of duct system. Owens-Corning Fiberglas Corp., Nicholas Bldg., Toledo 1, Ohio.

6-14. Witcote #820 Cork Insulation (53-4), 8-p. bulletin giving the composition, application, and uses of a cold-application type of spray-on insulation formulated for use on metal buildings. Data on proper thickness and coverage, qualifications for waterproofing and seam sealing, vibration dampening, sound deadening, insulating, etc. Witco Chemical Company, 75 E. Wacker Dr., Chicago 1, Ill.

sanitation, water supply, plumbing

7-9. Graver Equipment for Swimming Pools (WC-109), 12-p. brochure giving information on filtering and recirculating equipment and accessories for swimming pools. Typical drawings, dimensions, and capacity tables for standard pools. Photos of equipment and installations. Graver Water Conditioning Co., 216 W. 14 St., New York 11, N. Y.

7-10. Shone Pneumatic Ejectors: Engineering Data Manual (4000-CI), 32-p. manual covering line of mechanically- and electrically-controlled pneumatic ejectors. Curves, tables, and suggestions for determining head and capacity requirements; comparative advantages of two types of units; selection charts; detailed design drawing and suggested piping diagrams; air demand, compressor, and air storage information and diagrams. Yeomans Bros. Co., 1999 N. Ruby St., Melrose Park, Ill.

7-11. Grease Interception, A.I.A. 29-C-4 (6-52), 16-p. technical bulletin on the proper sizing and selection of grease interceptors. Illustrations, operating descriptions, and charts giving sizes, dimensions, capacities, and weights of various types of interceptors, including all-welded steel and vitreous glazed earthenware types. J. A. Zurn Mfg. Co., 1801 Pittsburgh Ave., Erie, Pa.

specialized equipment

8-20. Beatty Rollway Grandstand Bleachers, 12-p. booklet illustrating installations of wall-attached and portable mobile bleachers of heavy-duty I-beam construction with rigid bracing. Dimensions of single- and double-fold units; photos and drawings. Beatty Safway Scaffold, Inc., Tunnel Ave. & Beatty Rd., San Francisco 24, Calif.

8-21. Metalab Sectional Laboratory Furniture (4B), 176-p. catalog describing standard and specialized laboratory equipment of copper-bearing steel with lead coating. Sectional units, tables, storage cabinets, service fixtures, and many other types of equipment. Drawings of equipment, photos of installations, dimensions, and general specifications. Metalab Equipment Corp., 210 Duffy Ave., Hicksville, L. I., N. Y.

surfacing materials

9-10. Job-Proven Mastic Flooring, A.I.A. 23-D (205), 4-p. folder describing mastic asphalt flooring material for industrial and institutional use, either as new surfacing over old concrete or wood floors or as underlayment for leveling floors before application of tile, linoleum, etc. Compression and slip and friction tests, tensile strength, specifications and material estimates. United Laboratories, Inc., 16801 Euclid Ave., Cleveland 12, Ohio.

(To obtain literature, coupon must be used by 10/1/53.)

(We request students to send their inquiries directly to the manufacturers.)

PROGRESSIVE ARCHITECTURE, 330 West 42nd Street, New York 36, N. Y.
I should like a copy of each piece of Manufacturers' Literature circled below.

1-26	1-27	1-28	1-29	1-30	1-31	1-32	2-31
2-32	2-33	2-34	2-35	2-36	2-37	2-38	3-37
3-38	3-39	3-40	3-41	4-22	4-23	4-24	5-9
5-10	6-12	6-13	6-14	7-9	7-10	7-11	8-20
8-21	9-10						

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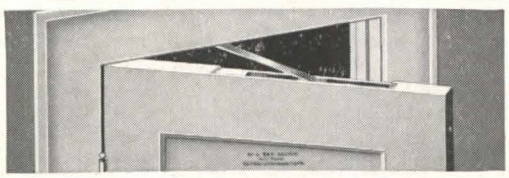
8/53

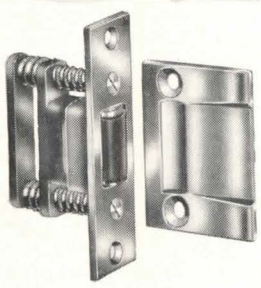
"... the patient must have absolute quiet."

GLYNN-JOHNSON

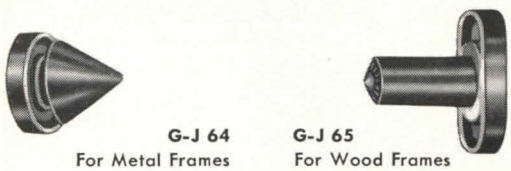
devices for HOSPITAL ROOM DOORS



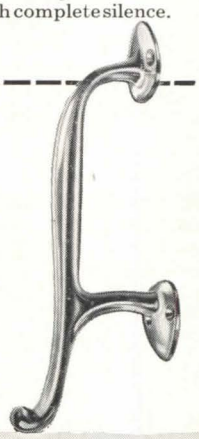
G-J 320
Concealed Door Holder—Friction Control
. . . keeps the door stationary, always under control. Prevents idle swinging and slamming. Gentle hand pressure moves the door to desired positions.



G-J 30
Roller Latch
. . . eliminates the annoying click of latch bolts. As the door is closed, the rubber roller contacts the strike and becomes engaged in the strike plate depression—with complete silence.



G-J 64 For Metal Frames
G-J 65 For Wood Frames
Pneumatic Rubber Door Silencers
. . . form pneumatic air pockets when compressed by closed door. This provides exceptional cushioning power to prevent both door noise and latch rattle.



G-J KH-1
Hospital Door Arm Pull
. . . helps nurses and attendants avoid waste motion and unnecessary noise by permitting them to open and close doors with their arms, when their hands are occupied with trays or other articles.

These and many other G-J door devices are today being used on every type of door in thousands of hospitals and institutions throughout the nation, where, in addition to providing complete, efficient, and economical service, they are answering the need for silent performance of duty, expressed by the doctor's caution, "*Above all, the patient must have absolute quiet.*"

4544

MERIT CHARACTER GJ CORPORATION DISTINCTION

Glynn-Johnson Corporation

Builders' Hardware Specialties for over 30 Years

4422 N. Ravenswood Ave. Chicago 40, Illinois

Refer to G-J Catalog for complete line of door holders, bumpers, and specialties . . . for all types of doors in public and commercial buildings.

by Ben John Small

spec small talk

andor vs. candor

It looks like streamlining or simplification has had to retreat to a previously prepared position. You may have seen where the Georgia Senate defeated and/or rejected an attempt by the House of Representatives to make "*andor*" a legal term in the State. The House had approved a bill to change "and/or" as used in legal documents to what is regarded as the simpler "*andor*." But the Senate, by unanimous vote, tabled the House bill. That means it will be pigeonholed and/or forgotten. Let this be a lesson to you and don't let me find a single solitary and, and/or, or andor in your specifications and, and/or, or andor on your drawings.

pop-out the second

I found it, I found it, I found it again! What's all the excitement about? Remember, back in May 1953 P/A, I described pop-outs in concrete cinder blocks? I was informed then that such a condition was a rare phenomenon—would run into it only once in a very great while. Apparently it is not as rare as many think. A friend of mine asked me to examine a house he was interested in purchasing and what do you think I found in the basement? That is correct: concrete-cinder block partitions popping their fool faces off. I gave the real estate agent a very learned dissertation on the progressive chemical deterioration of the house. It didn't help. The selling price remained unchanged.

index plug

Those of us who have to do with writing specifications for federal, state, city, and large projects of a public or private nature, will find Allen Rothermel's *Specification Index of Construction Items and Materials* a good buy. The revised (1953) edition is designed as Allen puts it "to ease the burden of specification writers, architects, and engineers. The *Index*, if properly used, will acquaint technical men with available specifications of national significance." No well-dressed specification writer's library should be without it.

3480 of them

I will probably get the very devil from the competition for praising Devoe's latest *Library of Colors for Architects' Specifications of Interior and Exterior Color*. Nevertheless this volume deserves a warm round of applause. Our color books, in a very short while, look like they have been attacked by mice. Everyone steals a piece here, a swatch there, until nothing remains but a vague recollection. Devoe has come to the rescue by giving the color snatchers 15 passes at each color. Each of the 232 sheets is perforated to provide 15 identical sample colors. In addition, each sample contains the color formula on the back as well as three suggested harmonizing colors. Now Mr. Devoe if you can only provide me with a chain maybe I can hoard my next copy a mite longer. The last one was stolen in its entirety—not one little sample but 15 times 232 sheets—the blooming 3480 of them.

Jamaica jaunt

Step up just a little closer if you will and harken to some observations generated under the Jamaican B.W.I. sun. If you recall, it was awfully wet last March and with Easter week coming up my wife, who teaches school, suggested that we "follow the sun" as the saying goes around P/A's travel bureau. Jamaica's architecture, both old and new, is quite undistinguished with the exception of several recently constructed hotels.

It occurred to me that some day I may be called upon to write a specification for a primitive hut so I set about immediately in search of a native who might be familiar with very old ones. The hotel chauffeur, a native, took me to the home of his 83-year-old father who, at the turn of the century, built the 10′ x 10′ hut in which he still resides. The property has a considerable overburden of limestone. Fortunately for me, an extension to the hut was under construction and several natives were busily engaged in breaking up the limestone by barring and wedging it free with crow bars. Rough stones formed the foundation of the hut, whose floor of rough planks was about 36″ above the ground the better to resist the drywood termites as well as occasional rising waters. (The drywood termite is the worst type, since it does not channel its way to water and thrives well on dry wood.) The broken limestone was piled high upon a large bed of tree trunks which were ignited and left burning for at least 24 hours, until a dry mixture of burned lime and wood ash was produced. The lime was then mixed in the proportion of one part lime to four or five parts river sand, to produce the lime mortar they used for setting foundation stones as well as nogging for the exterior walls and interior partitions. The natives prefer river sand to beach sand, because of its freedom from salt. The 53-year-old lime-plaster nogging, which was troweled over a mesh-like pattern of split bamboo and other wood saplings, was in superb condition despite repeated storms of hurricane velocity. (Sample on display on my desk—two showings daily.) The roof was thatched with coconut and sometimes "yeppa yappa" palm leaves over cedar shingles on light wood framing. Wood for flooring, doors, and louvres (no windows) comes from a wide variety of trees including golden satinwood, yacca, jackprint, yellow saunders, bullet wood, mahoe, mahogany, West Indian cedar, and the extremely hard lignum vitae. Cooking is usually done in a separate hut constructed in a similar fashion but more open to the elements.

After swimming in waters purported to be the most radioactive in the world I developed sufficient strength to visit bauxite mines operated by Reynolds Metal Company, Kaiser Aluminum and Chemicals Corporation, and the Aluminum Company of Canada. There is a cement plant which manufactures 100,000 tons of cement annually and a factory where gypsum panels are manufactured. The latter also exports gypsum rock and plaster of Paris to the West Indies and the United States. Multicolored cement tiles (in quarry-tile sizes) are also made in Jamaica. The tiles are used widely throughout homes, hotels, shops, and so on. Sugar cane, which is, I believe, the largest industry on the Island, gives us bagasse for our acoustical tiles. Another building material found here is the sisal fiber widely used for reinforced building papers.

While rum has nothing whatsoever to do with specifications and building materials, I know you will never rest until you are assured that it continues to be made by the old pot-still method. The processing begins when the cane is cut and brought to the mill for crushing and roller extraction of the juice. The remaining pulp (bagasse) is used as boiler fuel and you know what. The juice *(I tasted a glassful)* is then pumped into large tanks, heated, clarified, and allowed to settle. This permits the clear juice *(I tasted another glassful)* to be decanted to evaporators to remove the water and then to vacuum pans for crystallizing the sucrose content. *(I had still another.)* The chyshtals, however, were shwimming around in molashes. The mixture ish then brought to shpinning screensh where the molashes ish thrown off and the light brown sugar trapped by the screensh. There ish mush more, mush more to thish but I don't feel well enough to continue. *Hic!*

New beauty for interiors...

A DOOR THAT DECORATES WITH LIGHT!

Ever so subtly, it glows with the colors of the room decoration, while it transmits soft tones of brighter colors behind it. Here is glass in one of its most beautiful forms—translucent patterned glass. The door, rather than just something to open and close, is a strikingly decorative highlight of the room.

The Blue Ridge *Securit** Interior Glass Door is a single piece of Muralex patterned glass. It lets light come through to brighten rooms. Yet its pattern (on both sides) diffuses light to provide privacy.

The glass is ⅜" thick, tempered so it can stand hard usage.

The *Securit* Door is easy to hang. It requires no cutting, planing or painting. Everything comes to the job with the door—beautiful hardware and ball-bearing hinges. When specified, the door can be shipped with a Sargent closer or prepared for use with an LCN concealed closer.

The cost? It compares favorably with high-quality doors of other materials—and you make important savings in installation costs and maintenance.

Use *Securit* Doors to give interiors an extra touch of smartness. Your L·O·F Glass Distributor or Dealer can tell you more about them. He's listed in the yellow pages of phone books in principal cities. Or mail the coupon for further information.

*®

Architect: William Ames, Milwaukee

BRIEF DATA

Glass—⅜" thick. Muralex pattern on both surfaces

Tempered—3 to 5 times stronger than untempered glass of same thickness.

Reversible—can be used right or left hand.

Standard Sizes—2'6" x 6'8" 3'0" x 6'8"
2'8" x 6'8" 3'0" x 7'0"

—also 4 sizes for openings of these dimensions with proper allowance for clearances.

securit® L·O·F GLASS

INTERIOR GLASS DOORS

Libbey·Owens·Ford Glass Company
Patterned & Wire Glass Sales
B-2283 Nicholas Building, Toledo 3, Ohio

Please send me your folder, *Blue Ridge Securit Interior Glass Doors.*

NAME _____
(PLEASE PRINT)

ADDRESS _____

CITY _____ STATE _____

Page Beauchamp: living-dining spaces

With the acceptance of a more informal way of life, the disappearance of the faithful (underpaid) servant, the demand that a room serve more than one limited purpose, and the general desire for a feeling of space and no unnecessary walls, the living-dining room has emerged. One form frequently used is the L-shaped area, where the dining room is around the corner from the living room. Here each area gains extra space without either activity encroaching on the other. But with the trend toward informality and the lack of domestic help, there is less and less cause to keep hidden the activities involved in preparation for dining.

The really interesting arrangements, because of their variety, are those which rely on some sort of "room divider." This may be a piece of furniture, a storage wall, shelving, or a fireplace. Another device often used successfully is a mobile member—such as sliding panels, or screens, or draperies on ceiling tracts—particularly effective because such a variety of textures results. In all cases, where there is an attempt at a division, it is implied rather than actual—and may be used or not as occasion dictates.

The open plan. Dr. Saul Fischer house, "21-Acres," Ardsley, N. Y.: Roy S. Johnson, Architect.
Photo: Lionel Freedman

With room divider (television-radio-record player) designed by Pipsan S. Swanson. J. R. Adams house, Bloomfield Hills, Michigan: Swanson Associates, Architects.
Photos Richard Shirk

living-dining spaces

data

furnishings and fabrics

Armchair: #U390/ upholstered/ loose foam rubber cushion/ w.33", d.34", h.28"/ **retail:** $225, in muslin/ Jens Risom Design Inc., 49 E. 53 St., New York, N. Y.

Wooden Armchair: #C120/ spring seat and back/ w.23", d.25", h.32"/ **retail:** $120, in muslin/ Jens Risom Design Inc.

Sofa, Radio-Victrola End Table, Desk-Card Table, and Wing Chair: custom-made/ designed and executed by Jens Risom Design Inc.

Window Bench: #U620/ rubberized hair seat/ w.48", d.18", h.16"/ **retail:** $108, in muslin/ Jens Risom Design Inc.

Dining Chairs: #C106/ armchair/ rubberized-hair seat and back/ w.21", d.22", h.31"/ **retail:** $63, in muslin/ Jens Risom Design Inc.

Dining Table: #T160/ 1.50", w.34", h.29"/ with 22" leaf, 1.72", or optional 10" leaf with plant insert/ **retail:** $180, $27 for 10" leaf/ Jens Risom Design Inc.

lighting

Dining Room Ceiling Light: Ledlin Lighting Co., 49 Elizabeth St., New York, N. Y.

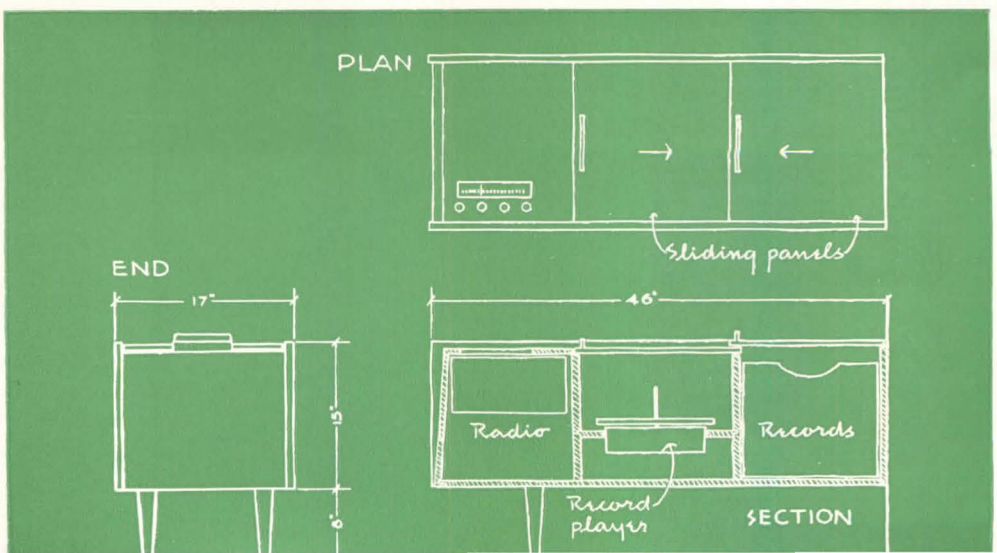
Floor Lamp: Kurt Versen Co., Englewood, N. J.

walls, ceiling, flooring

Walls: oak paneling/ U. S. Plywood Corp., 55 W. 44 St., New York, N. Y.

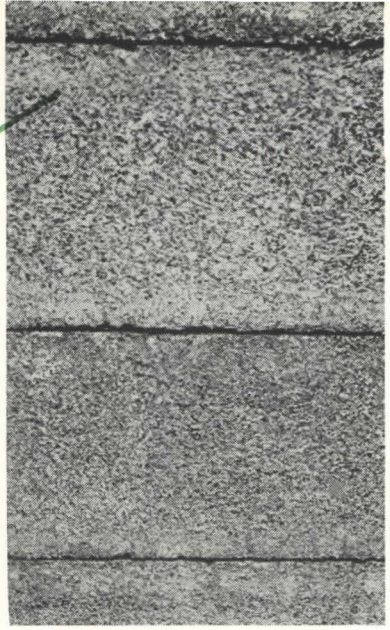
Ceiling: "Durisol" structural and acoustical material and exposed beams/ Durisol, Inc., 420 Lexington Ave., New York, N. Y.

Flooring: asphalt tile/ Armstrong Cork Company, 295 Fifth Ave., New York, N. Y.



radio-victrola end table

location	living-dining room, New Canaan, Connecticut
interior designer	Jens Risom
architects	Sherwood, Mills & Smith



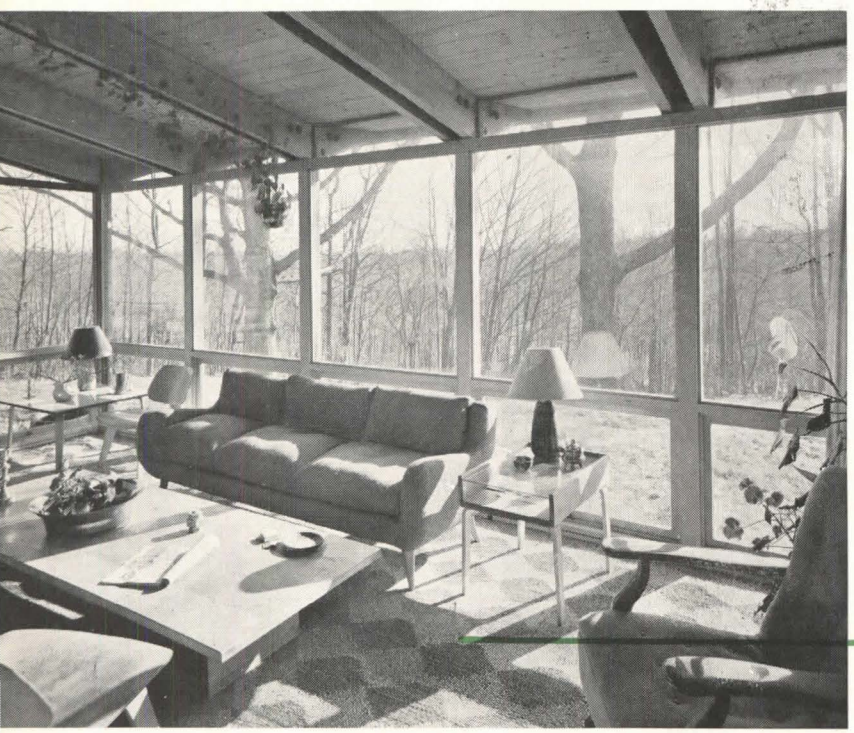
In this L-shaped arrangement, both living and dining rooms have the advantage of extra space without interfering or being visible to each other. Upon close observation, it is possible to see how well the designer has used the allotted space to greatest advantage. Multiple-purpose furniture—a combination radio-victrola end table, desk-card table, and sofa-guest bed contribute to extremely great livability. Particularly pleasant is the choice of arm chairs for dining chairs. Each person is seated comfortably, while at the table, and the chairs can double for extra seating in the living room, without seeming to be a temporary measure.

Color is pleasant and relaxed. The brick and the oak paneling are in natural colors and the upholstery fabrics are in earth and nature's colors—greens and browns. Completing the picture is the mustard wool-chenille carpeting.

Photos: Hans Van Nes

living-dining spaces

location | living-dining room, White Plains, New York
architects | Edward D. Stone Associates



"Chiavari" chair

hemp squares

cove lighting

data

furnishings and fabrics

Sofa: #120/ **retail:** $550, in muslin/ Ernst Schwadron, 754 Madison Ave., New York, N. Y.

Plywood Chairs: designed by Charles Eames/ Herman Miller Furniture Co., Zeeland, Mich.

Coffee Table, End Tables, Cabinets, and Dining Table: owner-designed and built.

Black Lacquer Chairs: "Chiavari"/ hemp seats/ **retail:** $19.50/ House of Italian Handicrafts, Inc., 217 E. 49 St., New York, N. Y.

Occasional Chairs: model discontinued/ Pascoe, Inc., Empire State Bldg., New York, N. Y.

lighting

Indirect cove lighting: fluorescent fixtures.

walls, ceiling, flooring

Walls: cedar and cedar plywood/ owner-selected from local dealers.

Ceiling: exposed plank and beam/ spruce and Douglas fir.

Flooring: integral-colored concrete.

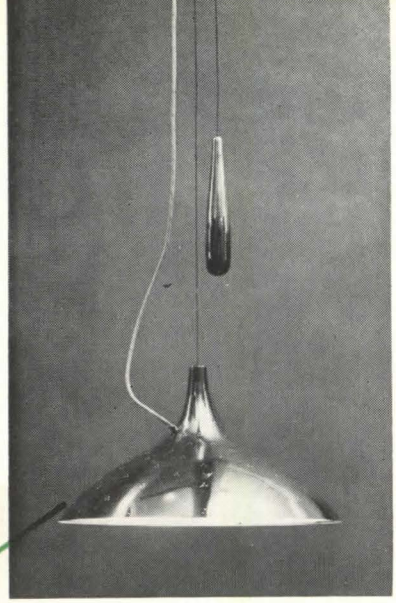
The fireplace serves as a room-divider in this living-dining room, a change in level, further accenting the division without making a definite separation. The owner has designed and built much of the furnishings—custom sizes for particular spaces. The cabinets beside the fireplace are exactly right for the space. Since so much of the natural wood is used, the owner also carefully selected the materials to be sure of a consistent color.

There is not an excess of furnishings, yet the rooms have a look of airiness and light—without coldness.

Photos: Lionel Freedman

living-dining spaces

location	living-dining room, "Leisure House," Scarsdale, N. Y.
interior designers	Lippincott & Margulies
architects	Roy S. Johnson and Julius Stein



adjustable pierced-brass ceiling light

dining chair

Relaxing and comfortable, this living-dining area has been designed to require minimum care with greatest ease (without servants). This is accomplished by the selection of colors which are natural, rather than contrived. Woods on the walls and ceiling have a permanent finish, to eliminate the necessity of freshening painted surfaces. Carpeting has been designed to camouflage spots and soil. The tile flooring, of course, is practical.

To really make this scheme work, air conditioning eliminates dust while the radiant heating maintains a constant temperature year-round.

It is hardly fair to show only the living-dining area of this home, because many of the other portions surrounding the rooms contribute to its properly being titled Leisure House. The garage is near to storage, which is near to kitchen, which is adjacent to both living and dining rooms—all in their logical, workable locations, so that service is possible with ease and, more important, grace.

Photos: Lionel Freedman

data

cabinetwork

Bookcases: cypress/ custom-made.

equipment

Fireplace Equipment: designed by Lippincott/ manufactured by Edwin Jackson, 159 E. 54 St., New York, N. Y.

Secondary Heating: designed and installed by York-Westchester, Westchester, N. Y.

Modulation Controls: Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.

Air Conditioning Equipment: York Distributors, Inc., Long Island City, N. Y.

Electrostatic Air Filter: Raytheon Mfg. Co., 90 Willow St., Waltham, Mass.

furnishings and fabrics

Carpet: Alexander Smith, Inc., White Plains, N. Y.

Armchair: #70/ designed by Eero Saarinen/ **retail:** $270, in muslin/ Knoll Associates, Inc., 575 Madison Ave., New York, N. Y.

Coffee Table, Dining Table, Cabinet: designed by Lippincott/ executed by Viking Woodcrafters, Inc., Poughquag, N. Y.

Sofas: #5087/ frame, natural birch/ dark green upholstery/ foam rubber construction/ Herman Miller Furniture Co., Zeeland, Mich.

Dining Chairs: walnut frame/ woven cellophane seat and back/ M. Singer & Sons, 38 E. 19 St., New York, N. Y.

Drapery Fabric: #111 841-8/ Wilson texture/ wood rose color/ 48" wide/ #111 904A/ Rajput/ light yellow color/ Greeff, 4 E. 53 St., New York, N. Y.

Lamp over Coffee Table: designed by Lippincott/ manufactured by General Lighting Co., 1527 Charlotte St., New York, N. Y.

Floor Lamp: Robsjohn-Gibbings, Ltd., 145 E. 72 St., New York, N. Y.

Dining Room Lamp: #A1965/ polished brass/ adjustable/ 17-½" diameter/ **retail:** $120/ Finland House, 41 E. 50 St., New York, N. Y.

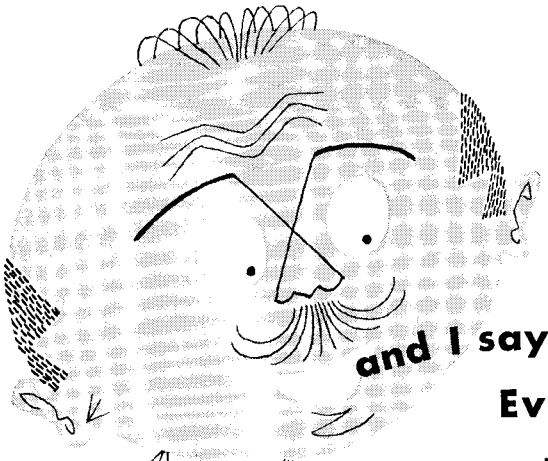
walls, ceiling, flooring

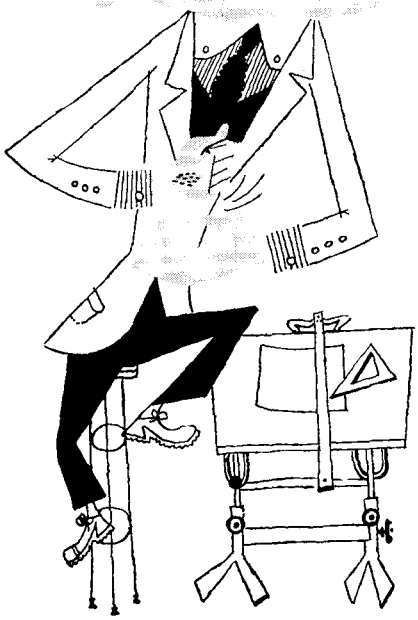
Walls: cypress/ dining room panels, woven hickory/ Viking Woodcrafters, Poughquag, N. Y.

Fireplace Face: native stone/ Robert Schmand, Scarsdale, N. Y.

Ceiling: exposed plank and beam

Dining Room Flooring: mosaic tile/ 9" sq./ Faience undulated surface/ color #1053/ Mosaic Tile Co., Zanesville, Ohio.





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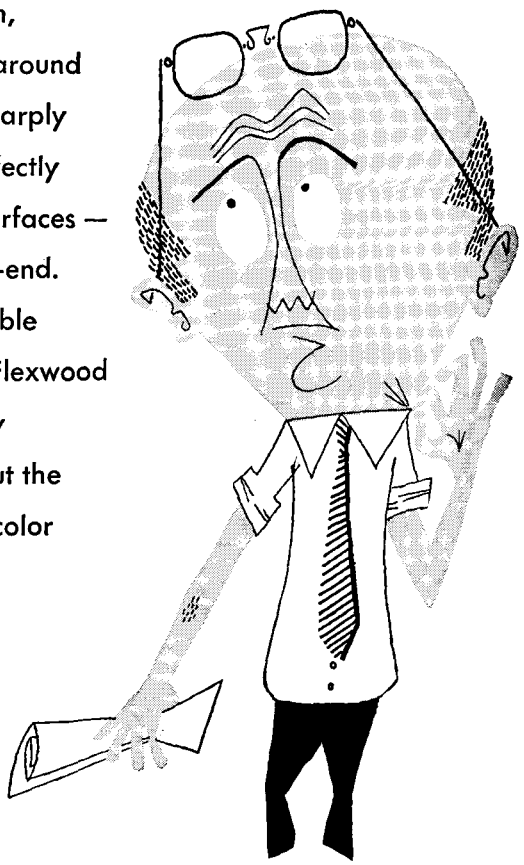

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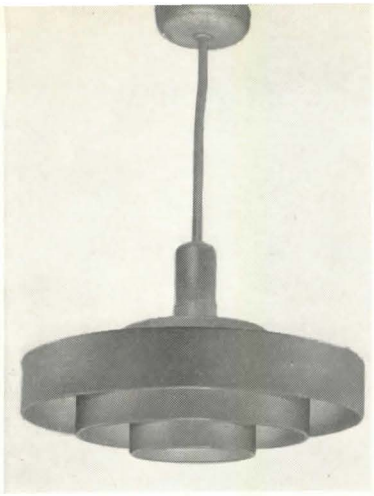
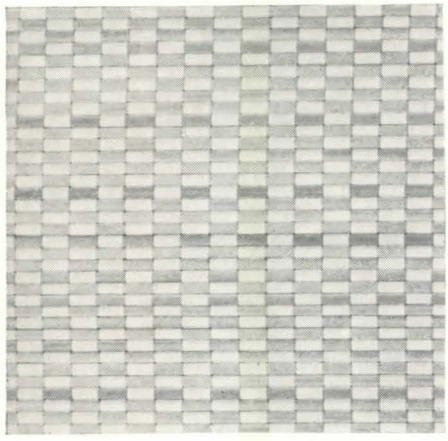
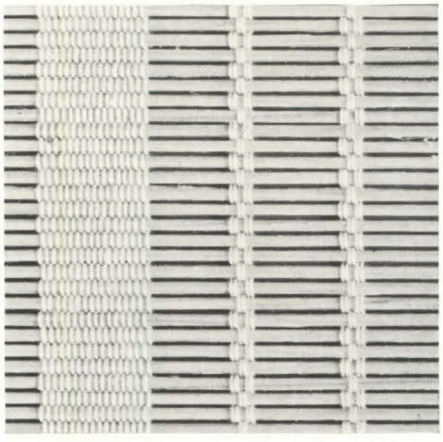
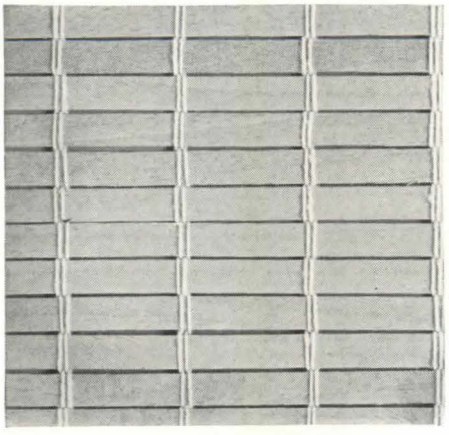


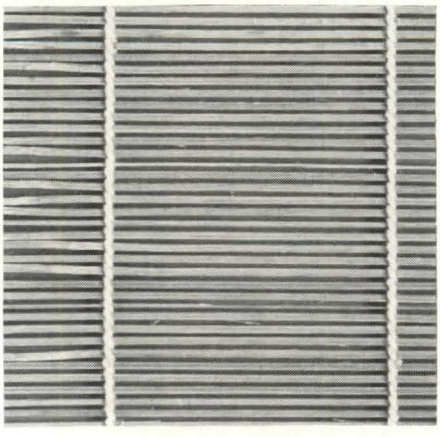
Lighting Unit: "C-575" Series/ concentric-ring, self-luminous/ designed to reduce brightness, facilitate installation, and simplify maintenance/ canopy finished in "silvertone" enamel/ ball aligner and stem, cadmium plated/ husk interior, black enamel/ exterior, matte white enamel/ conical reflector, gray enamel/ rings may be matte white or gray enamel/ available in pendant or ceiling mounting with 350-500 or 750-1000 wattages/ **Globe Lighting Products Inc., 2121 Main St., Los Angeles 7, Calif.**

Lift-Lid Desk: 20" x 24" top/ available in 21", 23", 25", 27", and 29" heights/ pencil tray in book box permits flat-level top/ rubber-mounted floor glides/ top available in 5/8" plywood with plastic facing or 3/4" solid wood/ multiple units may be used for larger work area/**The Brunswick-Balke-Collender Co., 623 S. Wabash St., Chicago, Ill.**

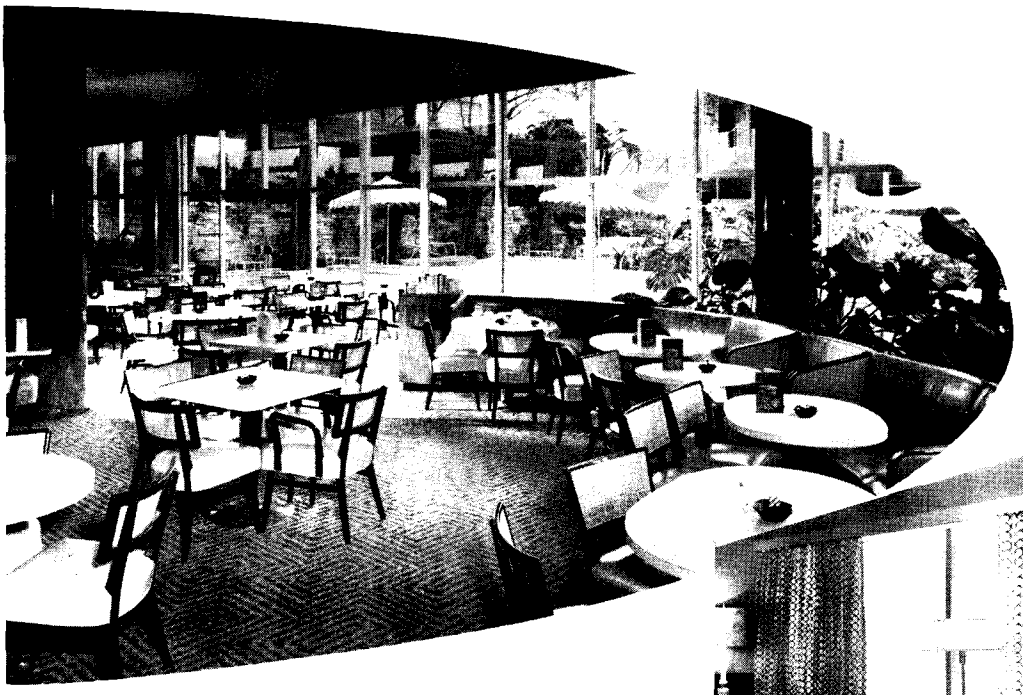








Woven Wood and Plastic Blinds: #140 Plastic Weave, #142 Rollo Weave, #132 Red Bark, #119 Extra-Fine Peel/ may be special ordered in extra-wide widths, variety of materials, and custom paint/ **Suncraft, Inc., 1315 W. Webster Ave., Chicago 14, Ill.**



Veranda Cafe tables topped with Parkwood *Decorative* in sparkling yellow.

Quartered Walnut Parkwood *Genuwood* bedroom window sills for beauty, for duty.

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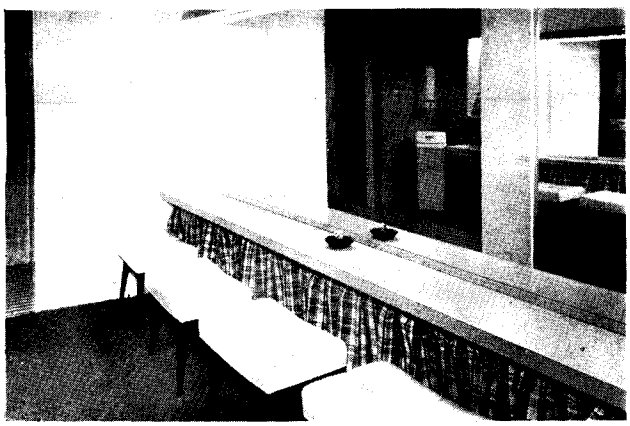
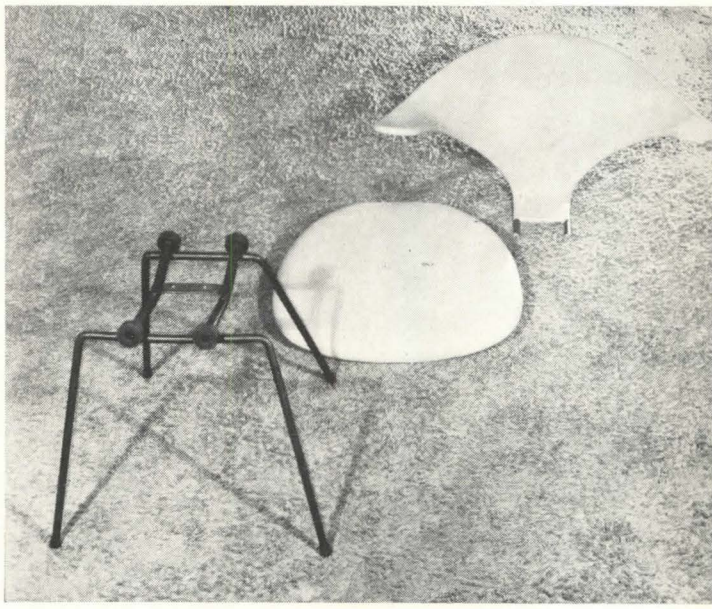
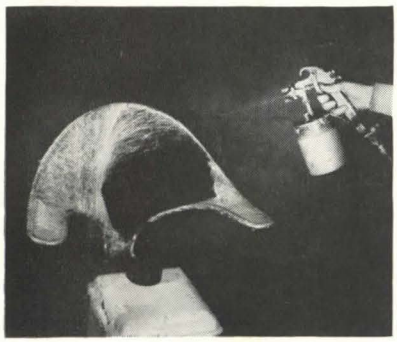


Counter in ladies room, beautiful and practical in pastel pink Parkwood *Decorative*.

Parkwood *Genuwood* in exotic Zebrawood in the Statler Center Bar.





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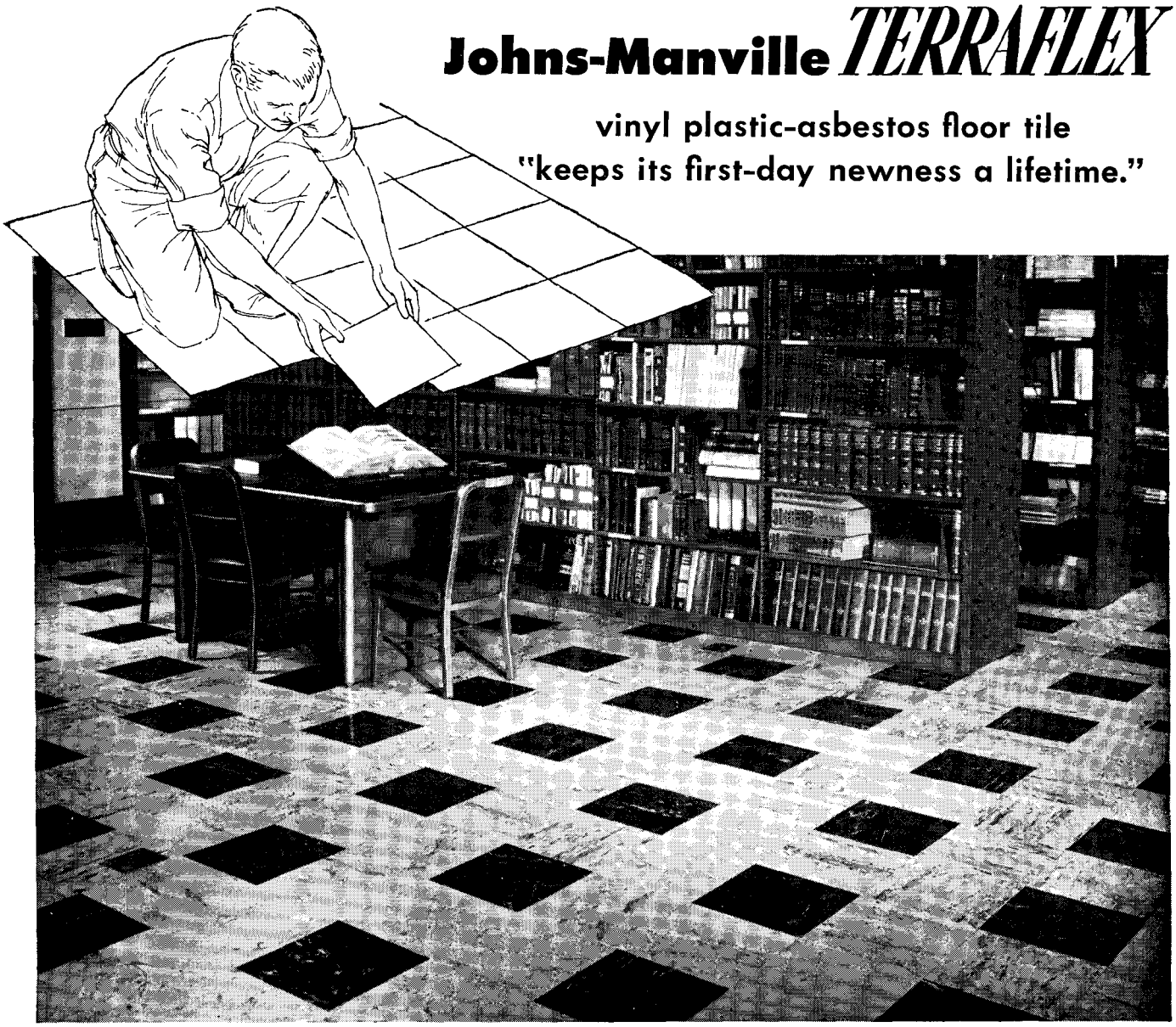

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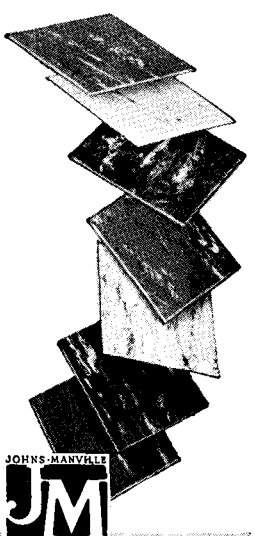

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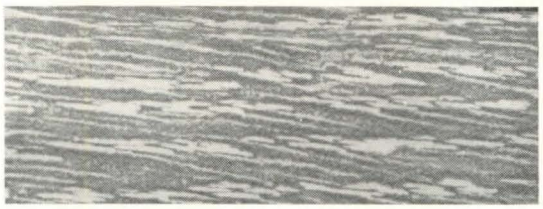
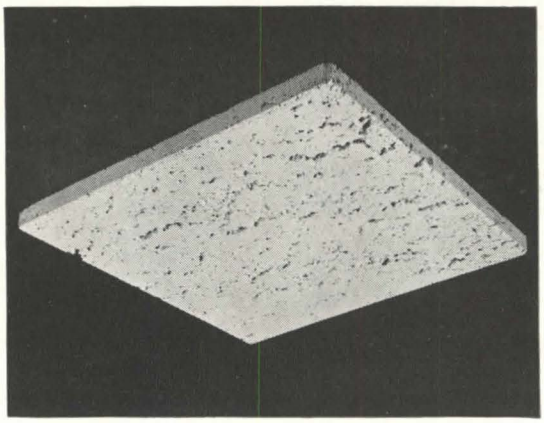
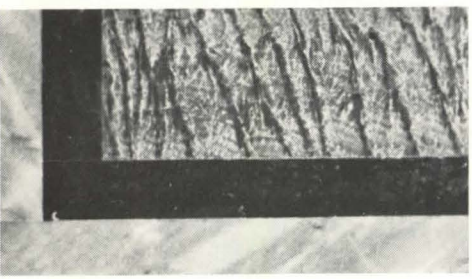




Marble Flooring: resembles wood blocks set into marble/ 2 ft sq blocks/ made in Italy/ **retail:** $6 a sq ft/ **Bartolucci Arts, Inc., 54 E. 53 St., New York 22, N. Y.**



Fissured Tile: manufactured from special type of rock that is melted into an absorbent rock wool/ incombustible/ finish is white, may be painted without loss of acoustical efficiency/ available in 11/16" and 13/16" thickness with either square or beveled edges/ **Simpson Logging Company, 1065 Stuart Bldg., Seattle 1, Wash.**

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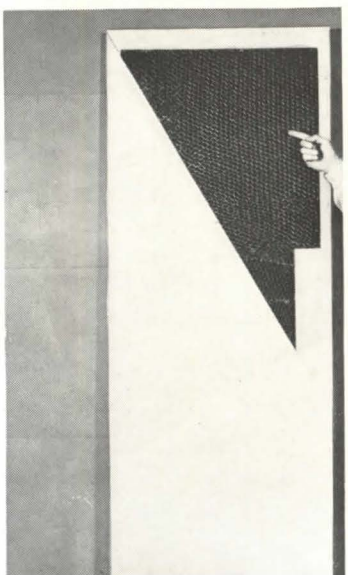
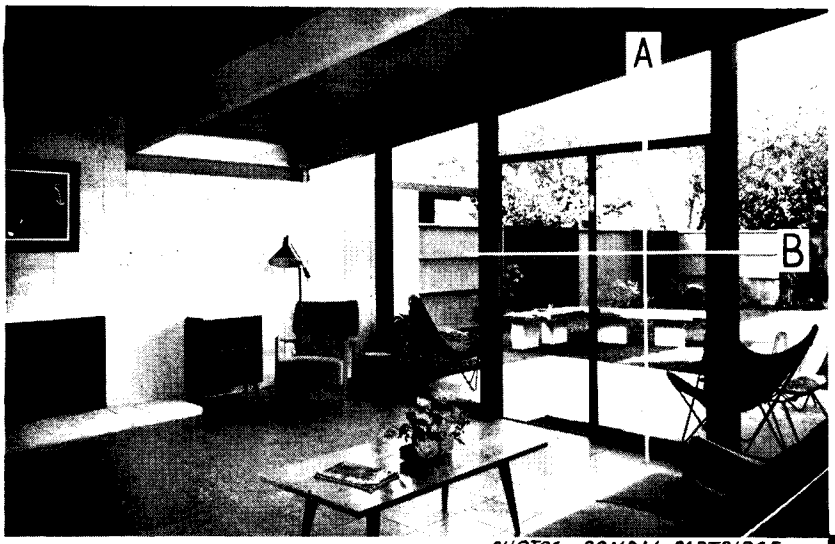


arcadia details no. 4 of a series



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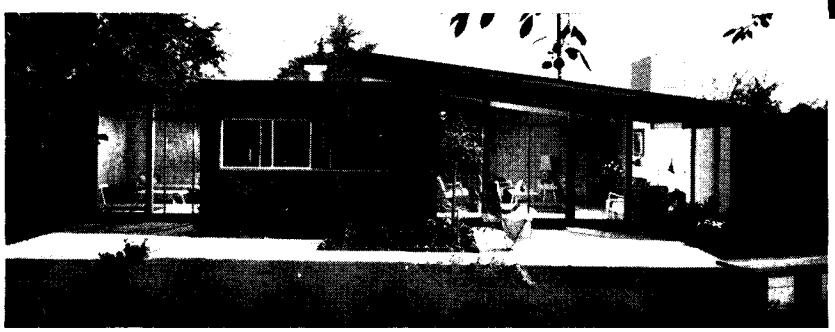

costs
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Mr. Joseph L. Eichler, nationally known builder, speaking at the recent A.I.A. convention in Seattle, stated that "the success of his developments was greatly due to the use of a competent architect team and the use of the best obtainable products such as "Arcadia Sliding Glass Doors".

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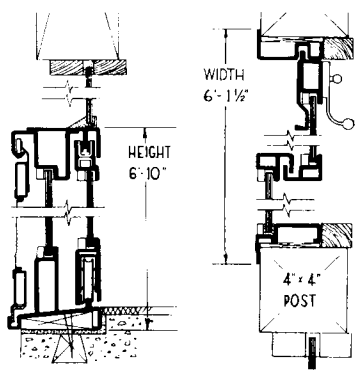
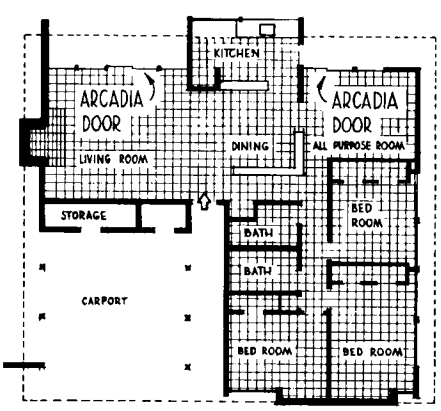


Section A

Section B



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A. Quincy Jones & Frederick E. Emmons, Architects

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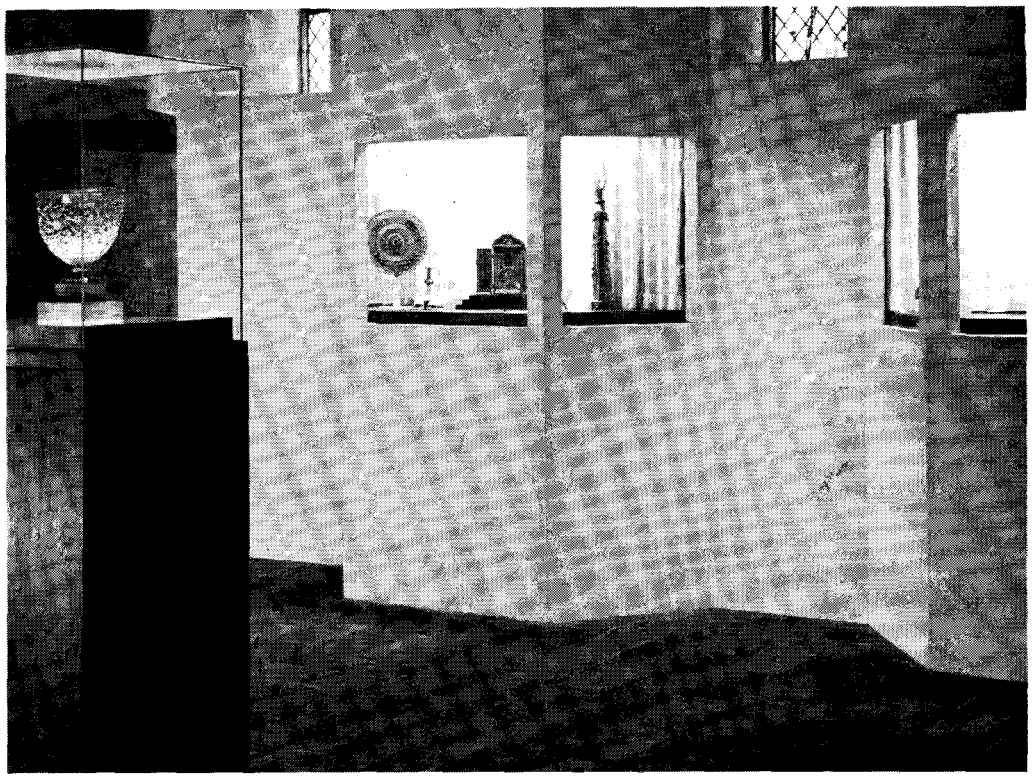
museum: display case



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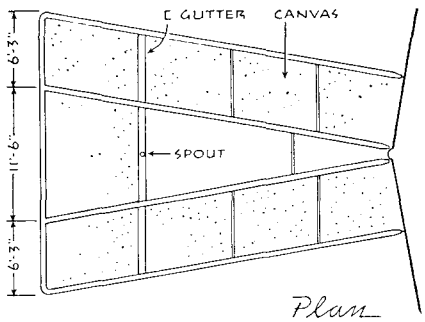
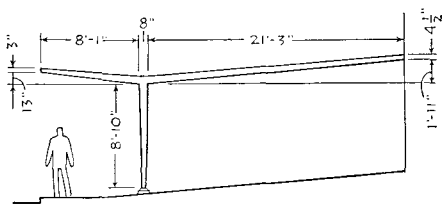
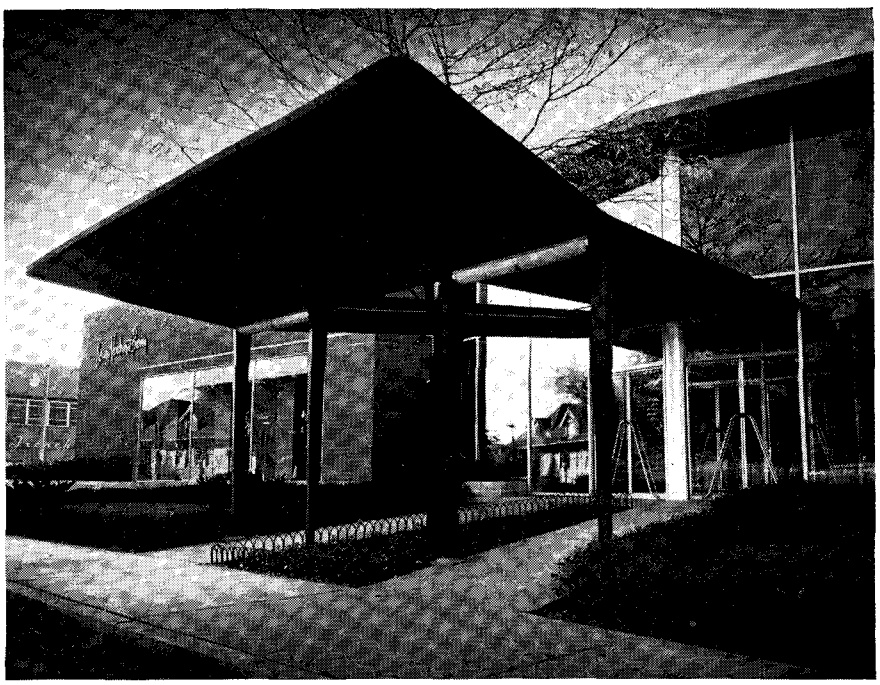
store: entrance canopy

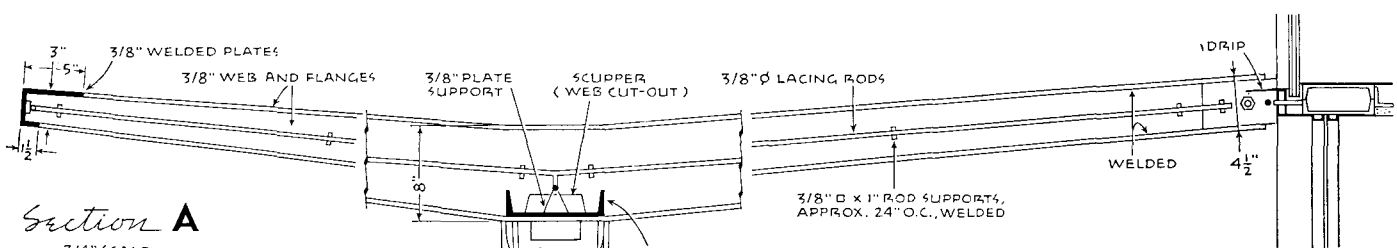




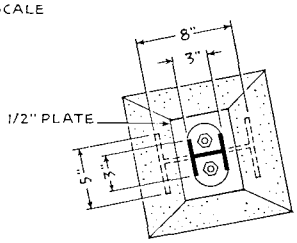
Elevation 1/16" SCALE



JULIUS SHULMAN



Section A
3/4" SCALE

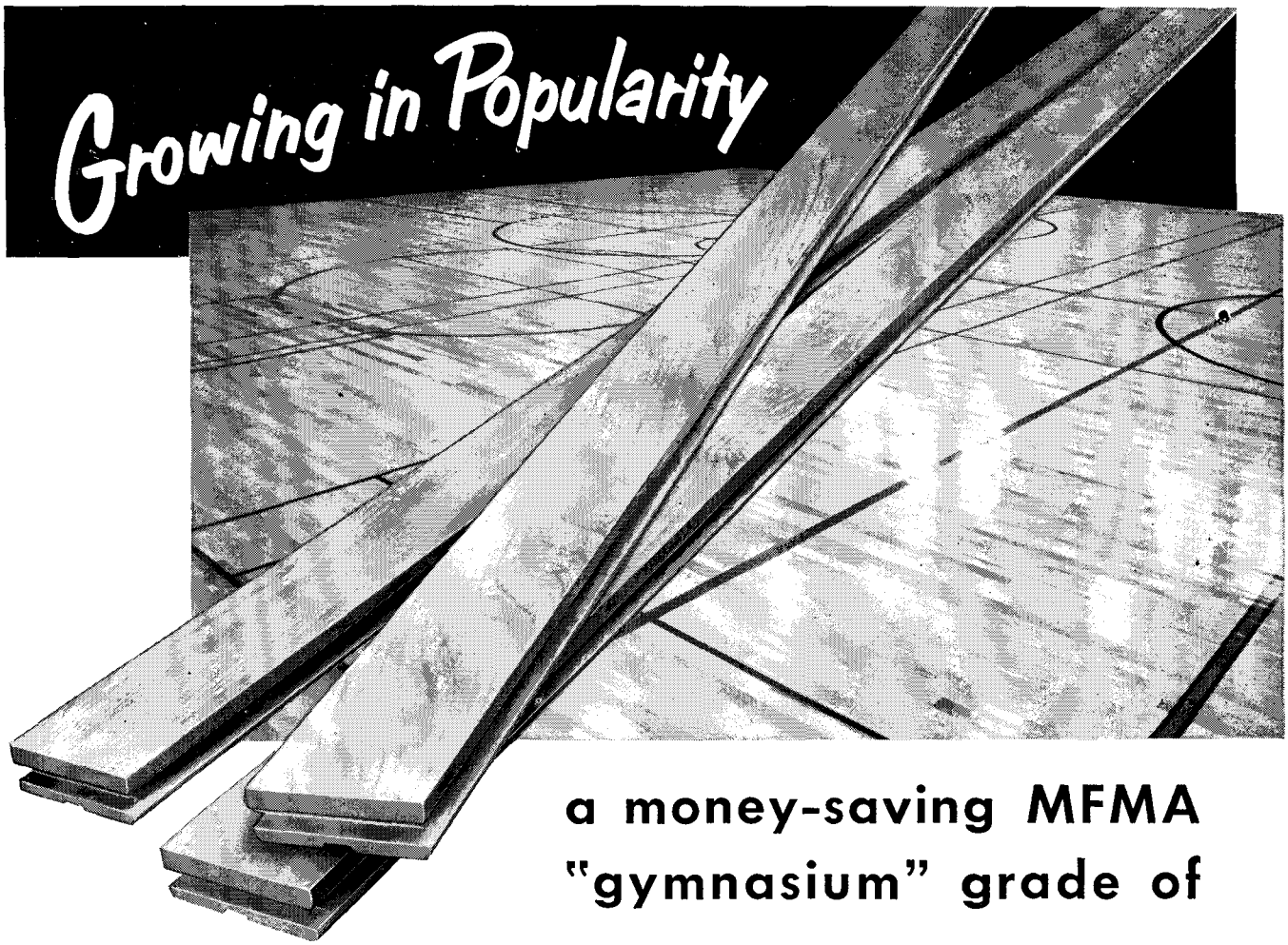


Plan

Plan 3/4" SCALE

Section

SUBURBAN BRANCH DEPARTMENT STORE FOR SCRUGGS, VANDERVOORT & BARNEY, Clayton, Mo.
Harris Armstrong, Architect



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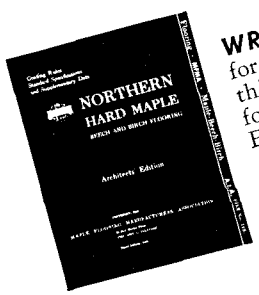

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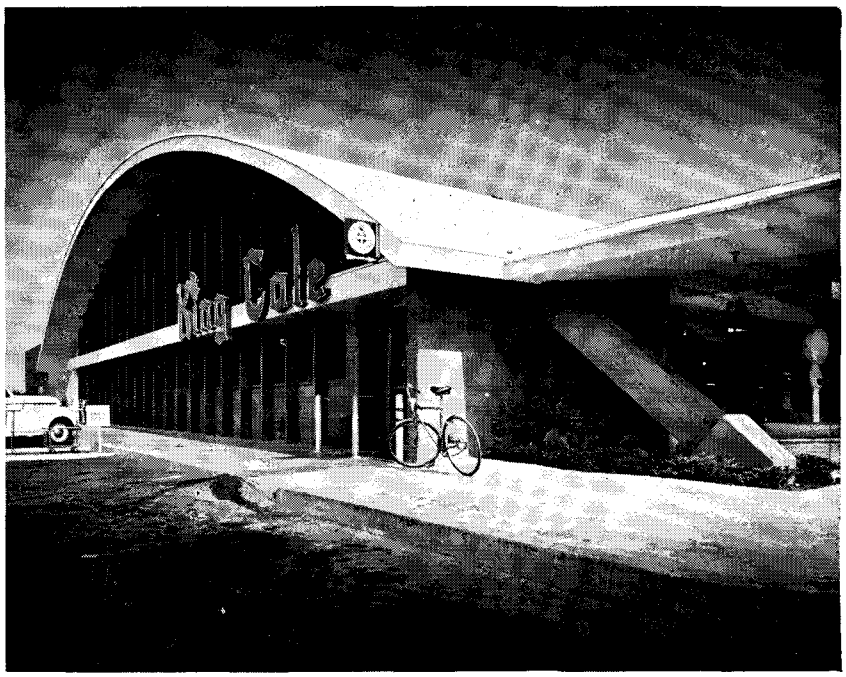

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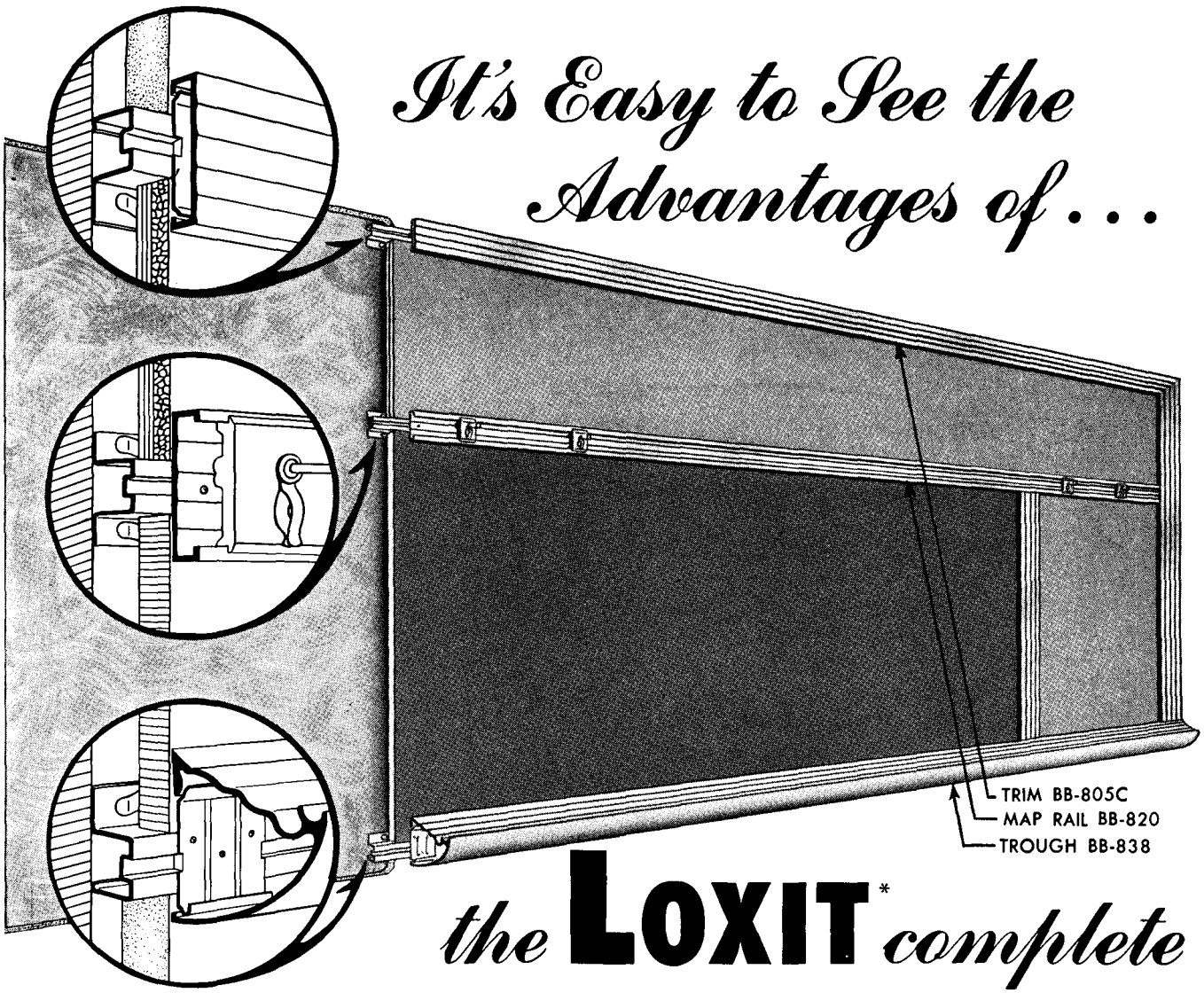

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This column supplements Tomson's *Architectural & Engineering Law* (Reinhold 1951). See also November 1949 P/A.

It is not unusual for a state statute to provide that a contract for public work shall be awarded to the "lowest responsible bidder."

The New York Appellate Division (*Kaelber* v. *Sahm*) recently considered the grievance of a low bidder who was not awarded a contract even though he was financially responsible, had previously done satisfactory work, had a substantial engineering and construction business, and had submitted a bid which was $30,000 less than the bid of the successful bidder.

The contract involved the construction and installation of incinerator equipment in an incinerator. Although the unsuccessful bidder had previously constructed and installed incinerator equipment at other times and places, he had never previously installed or constructed incinerator equipment involving a mechanical stoker. The successful bidder had patented one and installed many. The low bidder's plans for the mechanical stoker were rejected by the town board as "experimental."

In upholding the board's determination that the low bidder was not "responsible," the Court said:

> "The issue is not whether *the* determination of the town board is wise, but whether there was a reasonable and plausible basis for such determination. . .
>
> "The duty devolved upon the town board (*Town Law, Sec. 197*) to award contracts to the lowest responsible formal bidder requires consideration not only of the price bid, but also of the qualifications of the bidders to perform the work proposed. . .
>
> "In the absence of any finding of fraud on the part of the members of the town board, it is to be presumed that they honestly determined that there was risk in letting the contract to the petitioner. . .
>
> "It cannot be said as a matter of law that the board should have been satisfied that the apparatus proposed to be installed by the petitioner, which had never been put to actual test, could do that which was to be done in the incinerator. In the absence of any proof that fraud or other misconduct on the part of the board motivated the rejection of petitioner's bid, it cannot be said that the board acted arbitrarily. The findings that the mechanical stoker was an insignificant part of the equipment, that the board acted arbitrarily, and that the petitioner was the lowest responsible formal bidder are reversed and contrary findings made."

In an earlier case, the Court of Appeals in *Tuller Construction Co.* v. *Lyon*, 257 N.Y. 206, 177 N.E. 421, declared that the commissioners had been justified in finding that the bid of the petitioner was not a desirable one to accept because its financial statement "did not impress the commissioners favorably."

•

Subsequent decisions clearly indicated that "responsible" apparently meant more than financial responsiblity. In *Picone* v. *City of New York*, 176 Misc. 967, 29 N.Y.S. 2d 464 (1941), it was said to encompass moral worth as well. The Court upheld a finding that the plaintiffs who had submitted the lowest bid on a municipal contract constituted a "front" for a certain person and his corporations, whose activities in connection with public construction contracts were such as to bring them into frequent conflict with the criminal law. The Court stated that the phrase "lowest responsible bidder" implied "skill, judgment, and integrity as well as sufficient financial resources."

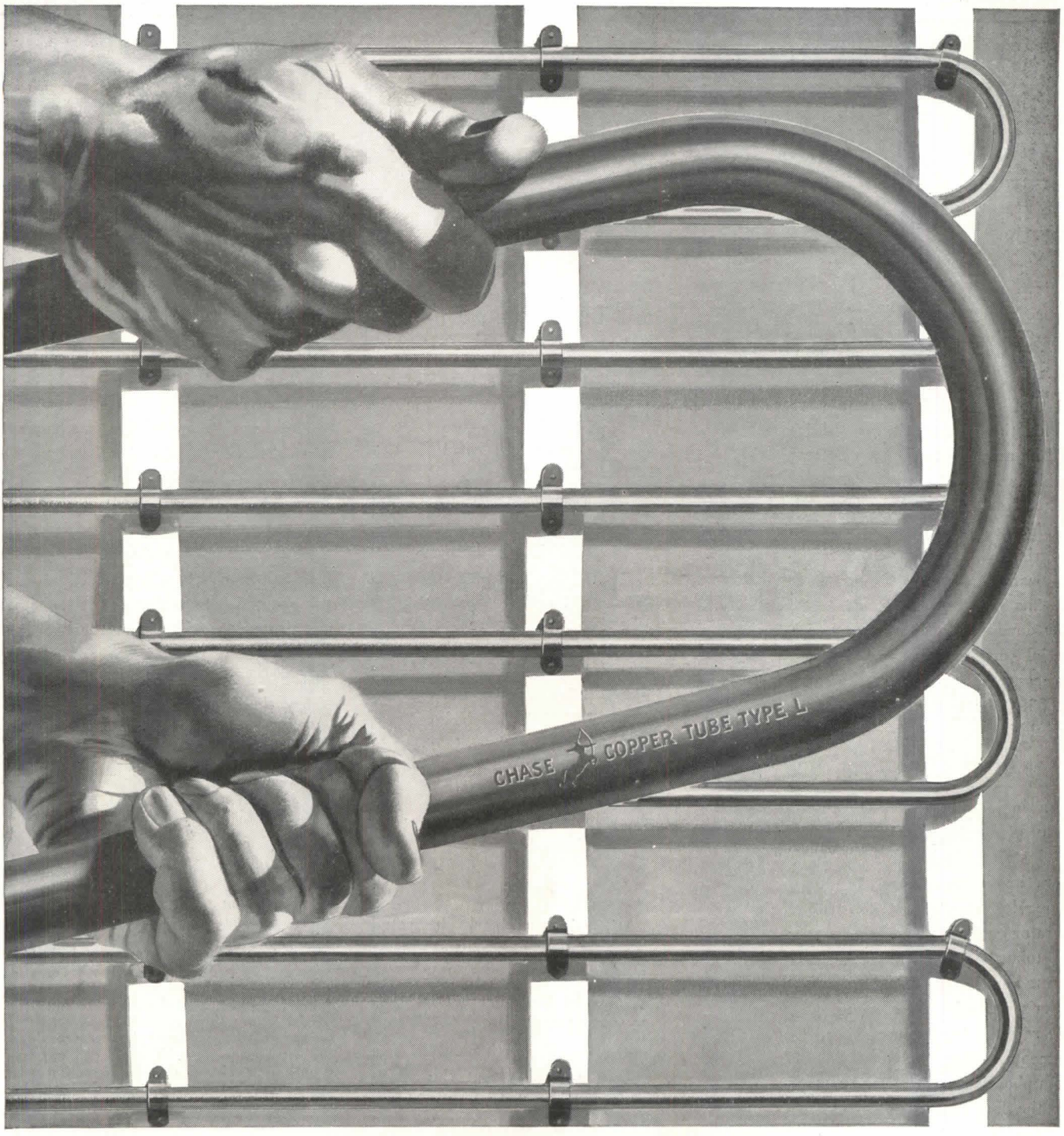
Similarly in the matter of *Knisha* v. *Splain*, 201 Misc. 729, 110 N.Y.S. 2d. 267 (1952), an administrative determination was upheld which stated that petitioner was "not qualified by equipment, working space, personnel, or standard of work product to meet the requirements of the said contract."

The term "responsible" has come to mean "ability to do the job," as was stated in *Nathan Epstein Co.* v. *City of New York*, 100 N.Y.S. 2d. 326 (1940), and unless the public authorities abuse their discretion by acting in an arbitrary fashion, the courts will not interfere with their selection even though the lowest bid is rejected, provided that the board determines that the lowest bidder is not such a responsible bidder so as to entitle him to the award of the contract.

Though the cases cited trace the development of the law in New York, the other states have adopted similar rules, as is clearly indicated in 63 C.J.S. 834-836:

> "A statute, charter, or ordinance requiring a municipal contract for a public improvement to be awarded to the lowest responsible bidder or to the lowest and best bidder does not mean that the award must be made to the lowest bidder. . . since price is not the only element to be considered. On the other hand, an award of the contract to a person who is not the lowest bidder is not justified unless supported by good and sufficient reasons. . . The proper municipal authorities have a wide discretion which will not be controlled by the courts except for arbitrary exercise, manifest abuse. . . "

When a board or other governmental body has determined that it will not award the bid to the lowest bidder, the architect should see to it that the reasons for the decision are clearly stated in writing in the minutes of the meeting. This would make it evident, in the event of suit, that the action taken was not capricious or arbitrary, but rather that the discretion of the governmental agency was properly exercised.



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