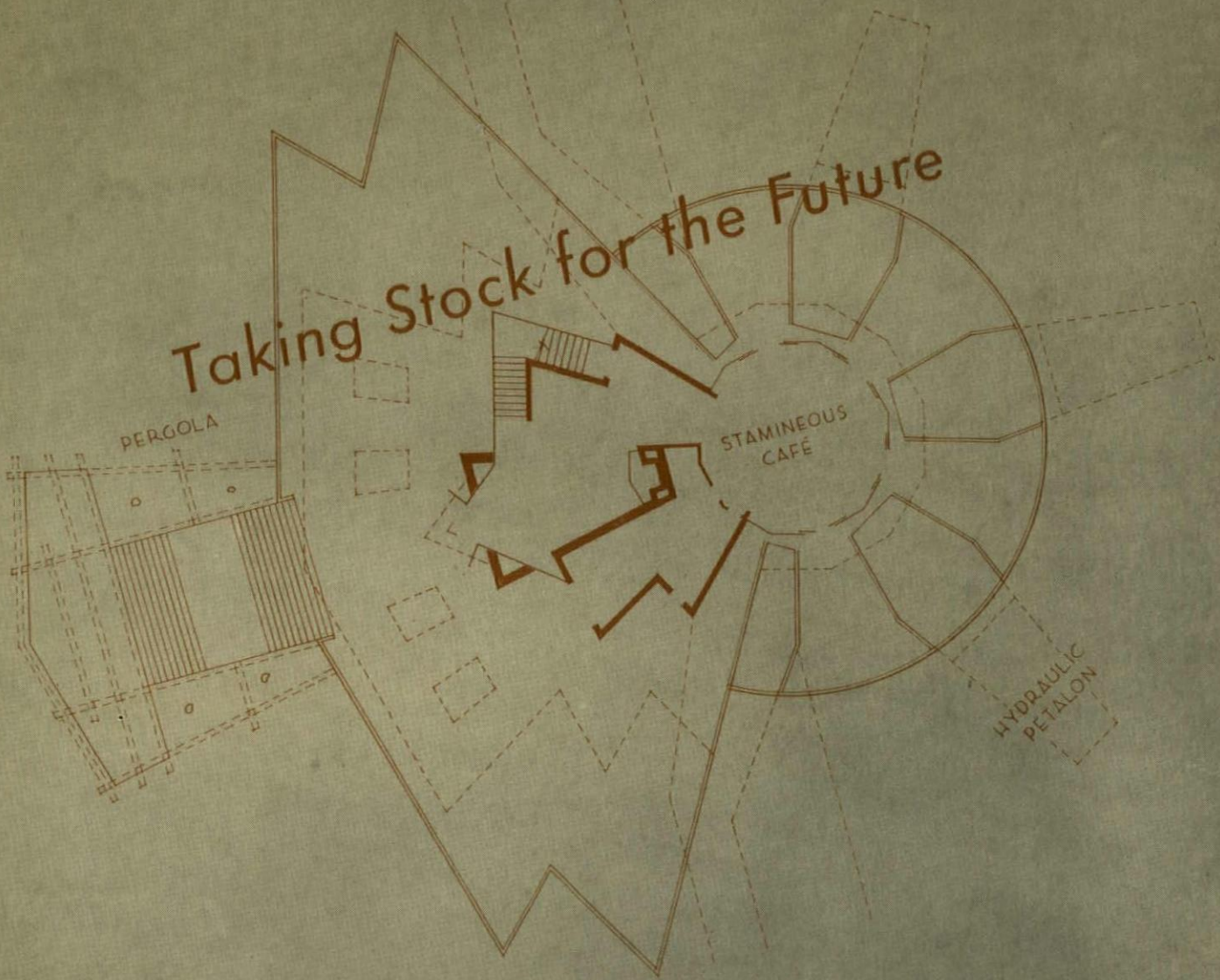
PENCIL POINTS

PROGRESSIVE ARCHITECTURE

Taking Stock for the Future



January 1945

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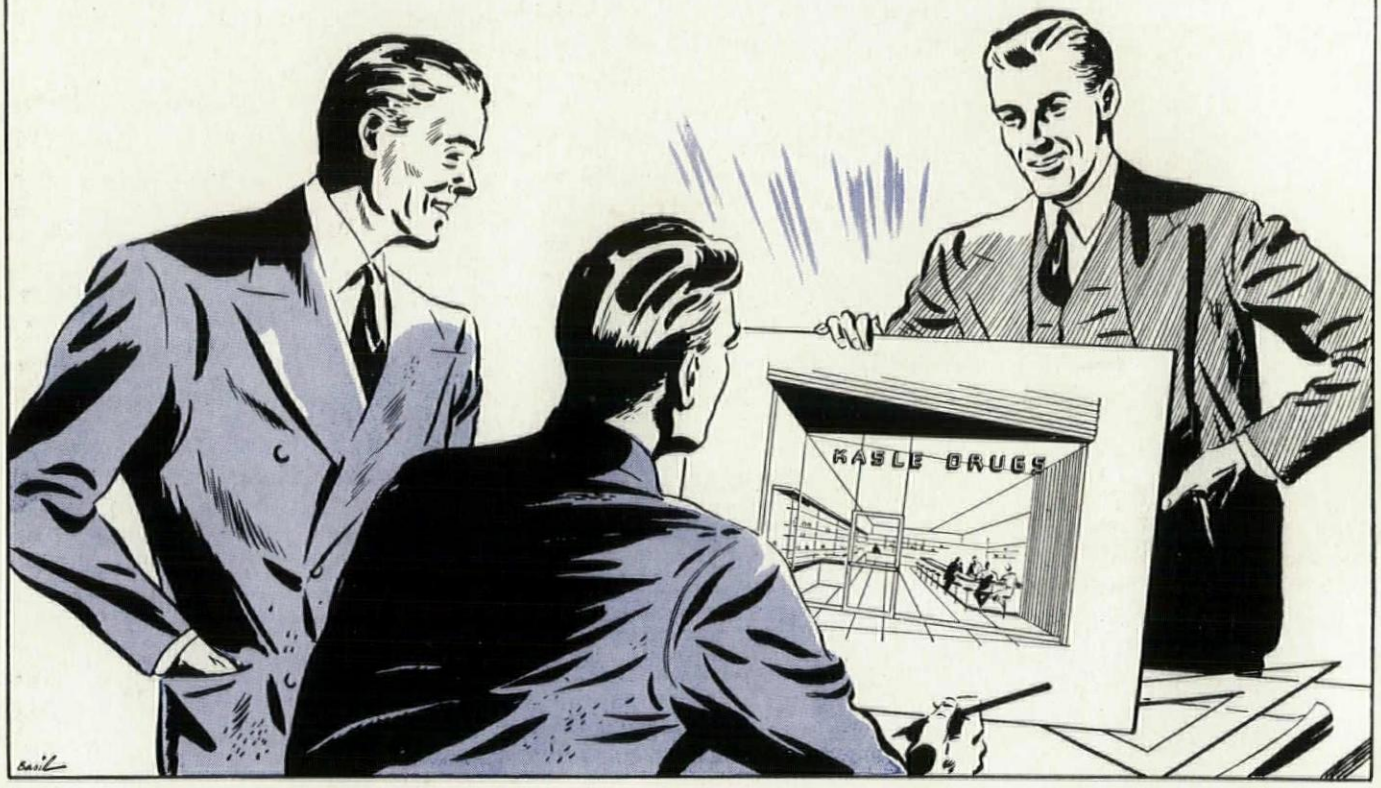
A PROFITABLE FIELD

for Architect and Builder!



— stimulated by the new Kawneer Program!

LEADING ARCHITECTS AND BUILDERS throughout the nation are becoming more and more interested in the store-front field, which is definitely due for tremendous activity in the years ahead.

The demand for architectural and design services with stores is growing every day. Retail merchants now recognize that proper planning and design create extra selling power. The new Kawneer program, reaching hundreds of thousands of retail merchants in every trade, is accelerating this national trend.

Kawneer Store-Fronts—"Machines For Selling"—are being promoted with special emphasis on the importance of the function of good design.

You can tie into this national campaign, obtain valuable help from Kawneer field men, create more effective fronts with new Kawneer products. *WRITE The Kawneer Company, 301 Front St., Niles, Michigan, for ADDITIONAL DATA ON THE KAWNEER PLAN.*

Kawneer

STORE-FRONTS

MACHINES FOR SELLING!

PENCIL POINTS
PROGRESSIVE
ARCHITECTURE

Don't Fence Us In

There has seemed to be lately an increasingly general disposition to sneer at the dreams of designers who have cast their thoughts beyond the rim of the immediate future and who have come up with more or less startling architectural proposals—which have ranged from plans for the reorganization of whole cities down to the transformation of the common dwelling into shelter of strange form but plausible convenience. These things have been semantically damned as "Visionary Utopias," "Miracle Homes," etc. Such quick judgments have often some justification and are popular, but they do not lead to clear thinking. Even the wildest of ideas deserves a fair examination.

Admittedly, many of the projects we have seen are bizarre, incautious, even reckless—yet they carry a healthy connotation that the human spirit is irrepressibly alive. It is well that the mind constantly outstrips its material expressions. Sooner or later the race catches up with the best of its dreams and we all benefit by the fact that someone had them.

Much of the scoffing comes from those who see rapid progress (or change, if you prefer to remain skeptical) as a threat to some personal interest. They therefore immediately attack any design that appears to them radical, apparently unaware that in doing so they are attempting to stifle the very essence of free enterprise. It matters not that it has been proven over and over again that if a radical new design constitutes a really radical improvement, it is good business in the long run to adopt it, even if it means an initial loss. Look at Henry Ford.

Fortunately for the future, the pressure for change exerted by both inventive minds and prospective customers usually adds up to more than the resistance, however stubborn—and nature takes its course, onward if not upward.

All of this is by way of preface to this month's issue in which we do a little stock-taking for the times that lie ahead. First, we make an effort to translate for future use what can be learned from buildings erected under war conditions. Second, we make a factual survey of the range of new building products out of which ingenious architects can compound the progressive postwar buildings they are already designing. Third, we present a gay and imaginative, though wholly logical and possible project for a small riverside café in which the mobility of parts adds a new dimension to architectural form.

In presenting these things we address ourselves particularly to the daring spirits among architectural men. We frankly hope that creative imagination will continue to thrive along with practicality as a part of the tradition of the craft, and that those who possess it will not let themselves be intimidated by the jeers of those who would, if it were left to them, condemn us all to eternal dullness. Even in the war-torn present, we can insist that there should be placed no limit on the architectural possibilities of the constructive peace to come.

Kenneth Reid

Photographs by P. A. Dearborn

The row-house units, arranged to conform to the terrain, were site prefabricated; a jig system being used for assembling such major elements as wall-frame sections and roof trusses

ORCHARD HEIGHTS, WASHINGTON

Housing Project Developed Under FPHA, Region 7

Jones, Bouillon, Thiry and Sylliaasen, Architects

THEATER: Adapted from design by PIETRO BELLUSCHI, A.I.A.

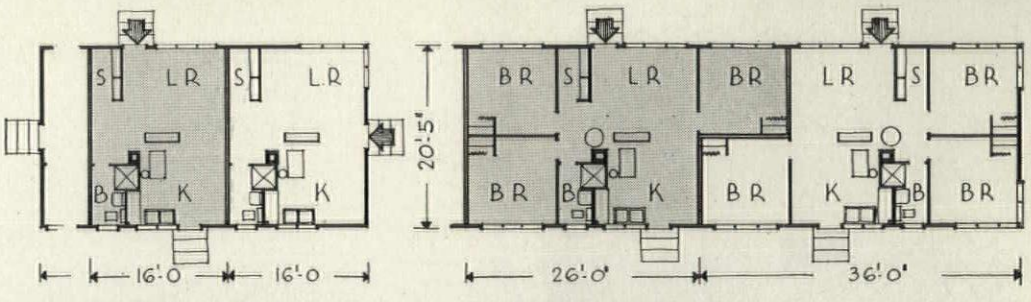
Orchard Heights is a self-contained, temporary community of 2,900 war-working families. Stylistic tradition was non-existent, since the project was literally developed from the wild; happily there were no facades or "better neighborhoods" to ape. Furthermore, available materials and equipment were typically few—of the simplest sort, but sufficient for good building. The sole criterion (within budgetary and materials limits) was to provide an efficient, rounded home community for the people brought here by the emergency. With this objective design approach, the architects worked out a community pattern and separate structures that work well rather than follow precedent, that let in air and light rather than baffle these desirable elements through screens of archaeological remnants, that look well rather than imposing. Dwelling units were developed from plans furnished by FPHA; public-use structures were developed from the needs of the people.

BUILDING UNDER WAR CONDITIONS

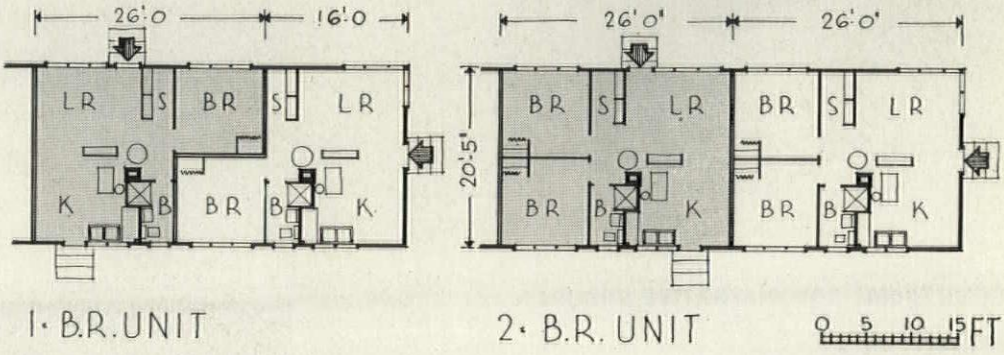
Temporary

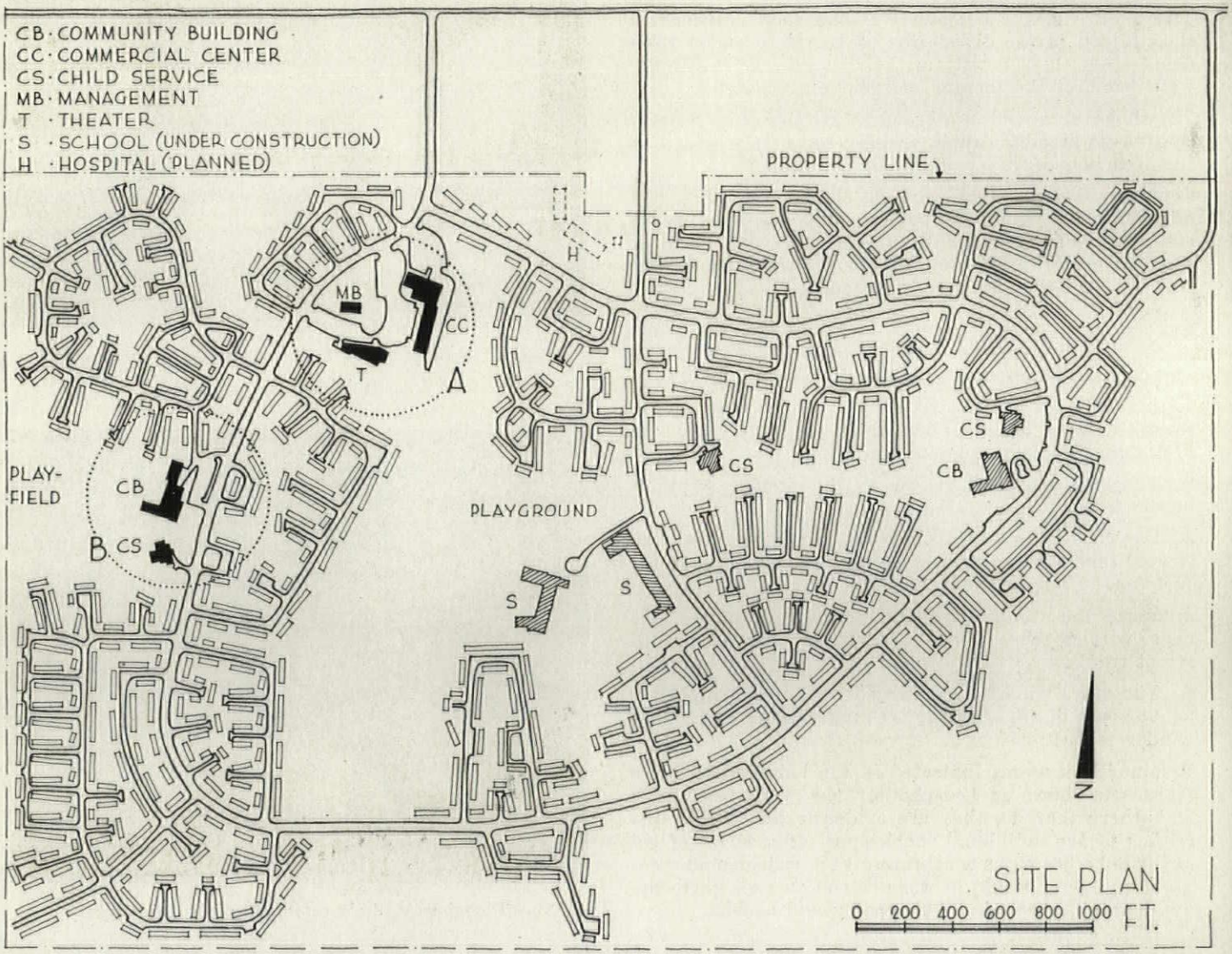
THE NEED TO PROVIDE ESSENTIAL BUILDINGS IN WARTIME. . .

The 4 dwelling-unit plans, adapted for Orchard Heights from RPHA standards. Of the total of 2,900 units, 10 percent have no separate bedroom; 30 percent have 1 bedroom; 40 percent, 2 bedrooms, and 20 percent are of the 3-bedroom type.

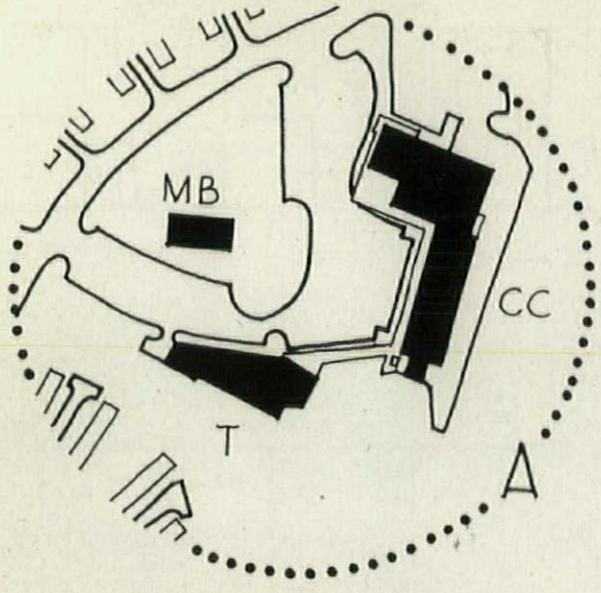


The community is schemed around a loop road with but one through and connecting arterial. In general, the larger units are within the loop, permitting children to reach school without crossing more than one street. Most public buildings are interconnected with park areas. Buildings within Circles "A" and "B" are detailed on succeeding pages.





. . . IN SPITE OF RESTRICTIONS ON STRUCTURAL MATERIALS . . .



JONES, BOUILLON, THIRY AND SYLLIAASEN, Architects

CC—Commercial Center MB—Management Building T—Theater

COMMERCIAL-ADMINISTRATIVE GROUPS

The Commercial Center, Management Building, and Theater are grouped together at the main entrance to the project, in the direct line of travel for most residents from their homes to their work. Covered sidewalks connect the theater and shopping center.

The shops, arranged in a broad U, are joined by a deep, continuous arcade. Ample parking space is provided in the area between the wings of the building.

Constructed on a 4-inch concrete slab, the building has exterior walls chiefly of brick; along the shopfronts, the walls are framed with 6-by-6 posts, with screen walls of windows and doors. Interior wall and ceiling surfaces are of wallboard, painted.

Taking stock for the future, it is well to consider a few of the specific ways in which this progressive design approach is an improvement over habitual practice:

1. Instead of a streetfront row of stores, each trying to shout down its neighbor. this correlated structure is designed as a harmonious unit.

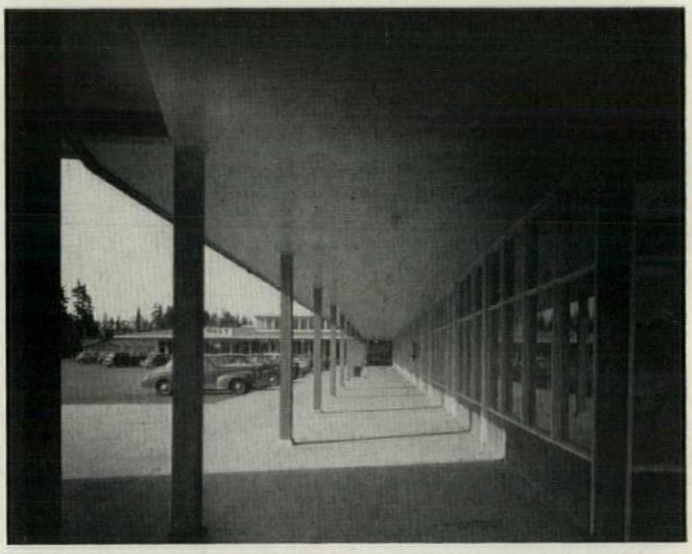
2. The continuous arcade allows the shopper to make purchases in comfort whatever the weather.

3. Car parking is an integral part of the design and so located that it reduces package-lugging and burdensome footsteps to a minimum.

4. Since the stores are a unit, all shopping may be done without the shopper becoming entangled with street traffic.

5. The store windows are placed back under a shelter which tones down, where it does not eliminate, dazzling window reflections.

A minor lack seems indicated in the handling of store signs. As shown in the photographs, very few exist; and where they do, they are evidently left to the discretion of the individual shopkeeper. If a series of coordinated store signs conforming to a basic design were used, no injury would be done to the over-all harmony, and both storekeeper and shopper would benefit.

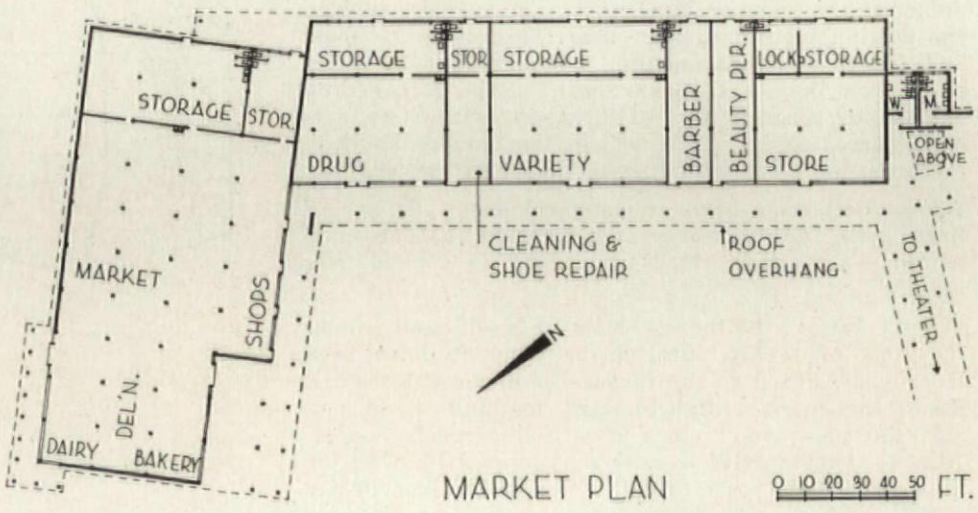


The continuous arcade facilitates all-weather shopping

Both wall windows and clerestory daylight the market

Sound principles for postwar planning—stores planned as a unit; car parking adjacent, shelter from sun and rain; simple materials, simply used

Some shopping centers with this general parti have treated the interior space (at Orchard Heights given over to car parking) as a landscaped courtyard, with car parking relegated to the rear of the buildings. One questions whether the Orchard Heights solution, while less pleasant in appearance, is not the more realistic where such facilities as everyday stores are involved. It would take a good deal to outweigh the advantage of maximum proximity between store entrance and parked car. Less package-lugging is but one advantage, though a considerable one for the daily shopper. In addition, the closer relation makes it possible for shopping parents to keep an eye on children left in the car, and it allows the shopper to drive directly to the specific store he wishes to patronize.



MARKET PLAN

. UNDER LESS URGENT AUSPICES MIGHT NEVER HAVE APPEARED.

Looking from the Commercial Center arcade across to the theater entrance, joined to the shops by a covered sidewalk

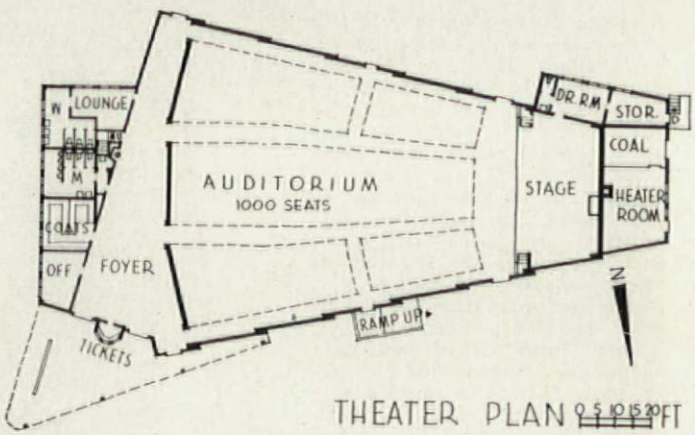
THE THEATER

Adapted from plans by PIETRO BELLUSCHI, A.I.A., Architect

Joined to the Commercial Center by a covered walkway, the moving picture theater clearly expresses its form and function—an auditorium, widening out as it recedes from the stage. Seats for 1,000 are arranged on the sloping concrete floor of the auditorium. The marquee, placed at an angle, brings the current show to the attention of all who visit the shopping center.

Above a concrete base, the stepped out walls are of brick, with the roof-truss area enclosed in board-and-batten construction. Built-up roofing is applied over sheathed rafters.

For the future, the theater designer might well ponder the tons of architectural garbage which have been laboriously affixed to the facades of movie palaces and ask if this more straightforward handling is not considerably pleasanter to look at as well as much cheaper. Also, it is instructive to note that by coordinating the theater with the store group, it is possible even in bad weather for patrons to park their cars and (if need be) wait in line without getting soaked. Good for the patrons; good for business.



THEATER PLAN 0 5 10 15 20 FT

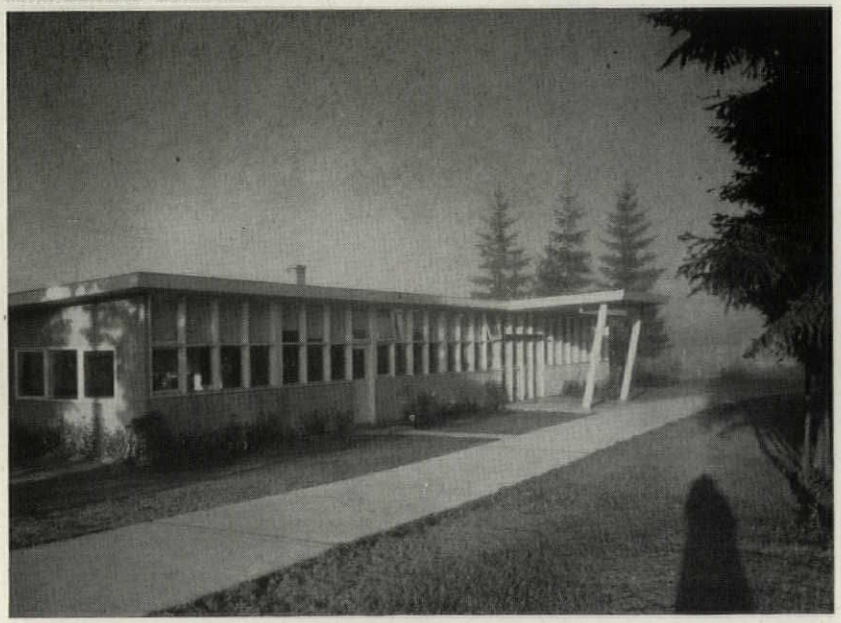
. . . NO LONGER COULD BUILDINGS AFFORD THE EXTRAVAGANCE . . .

JONES, BOUILLON, THIRY AND SYLLIAASEN, Architects

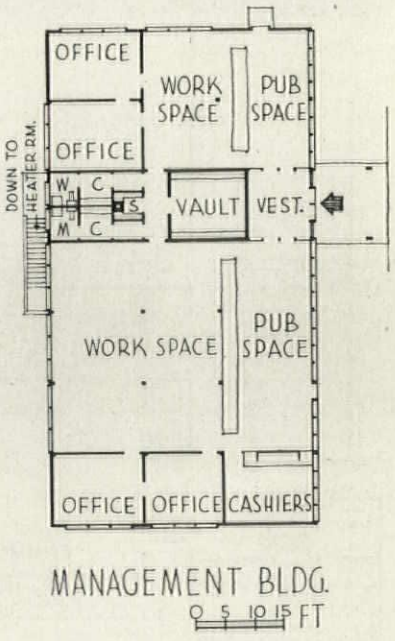
Insulating - acoustic material is used on ceiling and in-sloping wall of projection booth

Unornamented concrete and brick form interior as well as exterior walls. The proscenium is surfaced with vertical siding

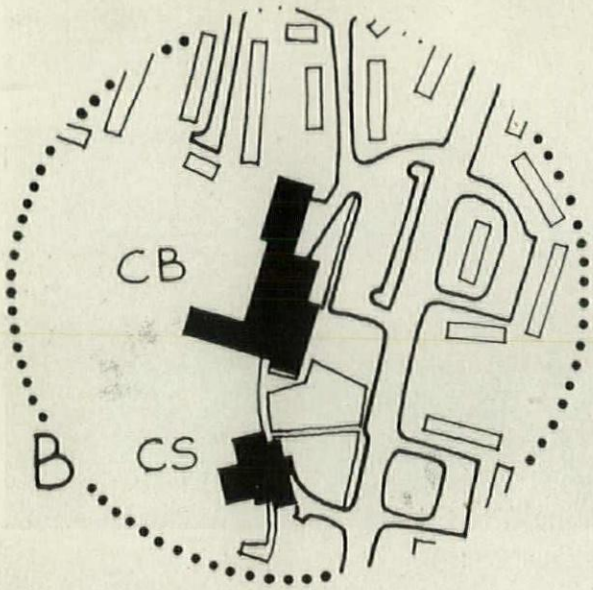
MANAGEMENT BUILDING



The Management Building contains the Port Orchard Housing Authority as well as project-administration offices



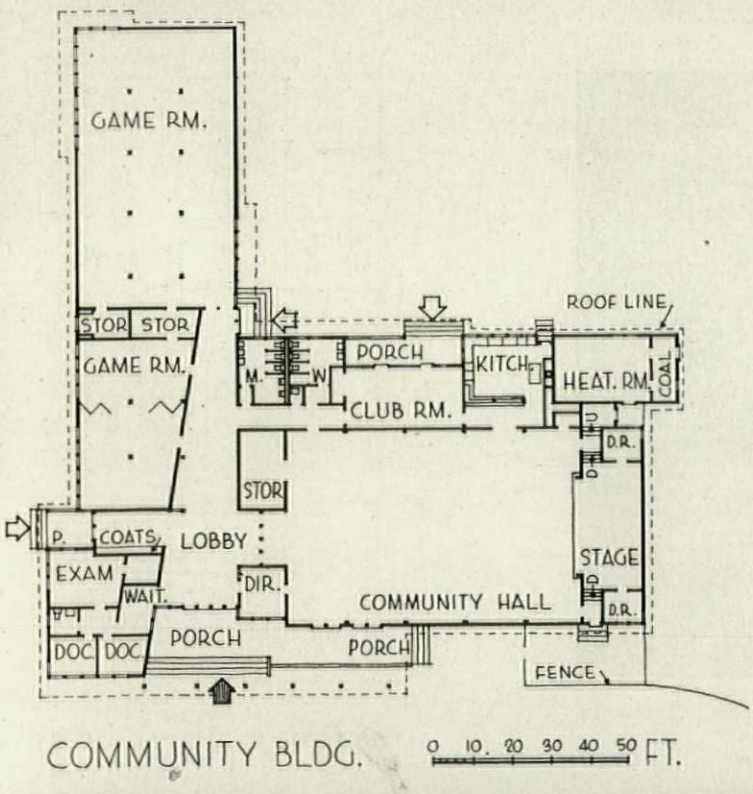
. . . OF ASSUMING THE GUISE OF HISTORIC PROTOTYPES. . . . .



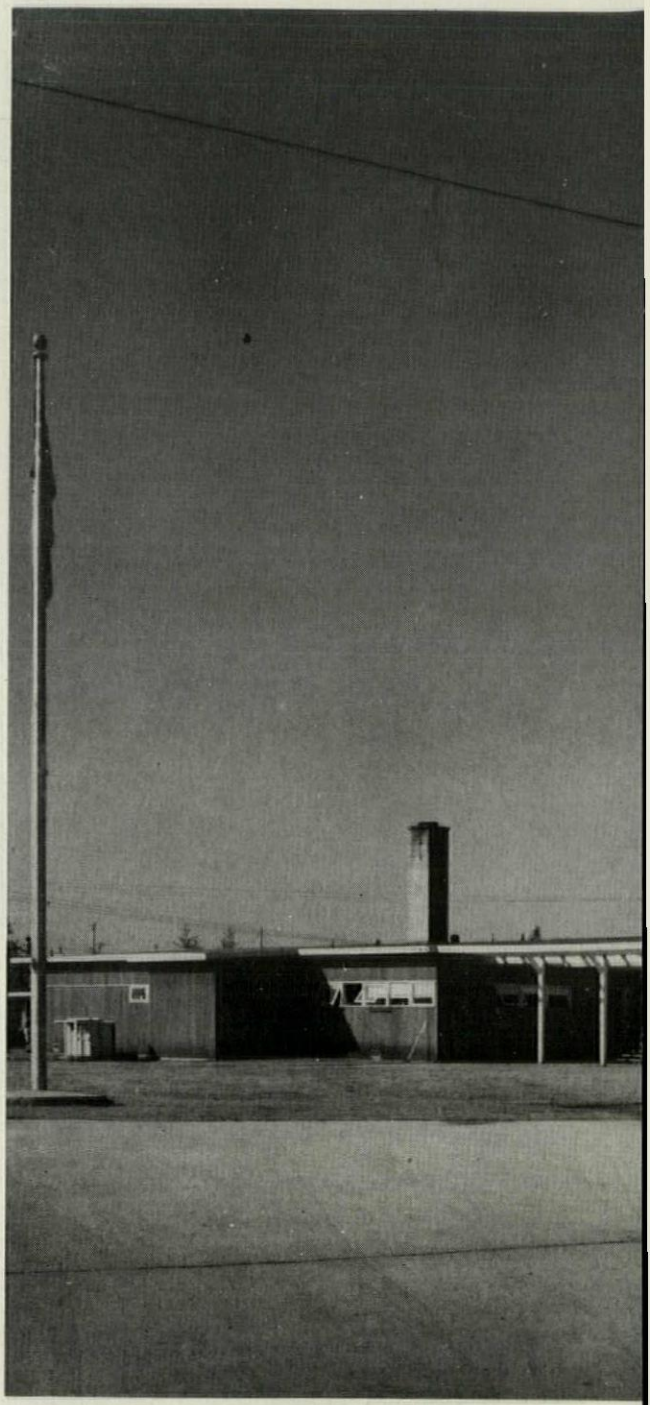
CB—Community Building CS—Child-Service

COMMUNITY BUILDING

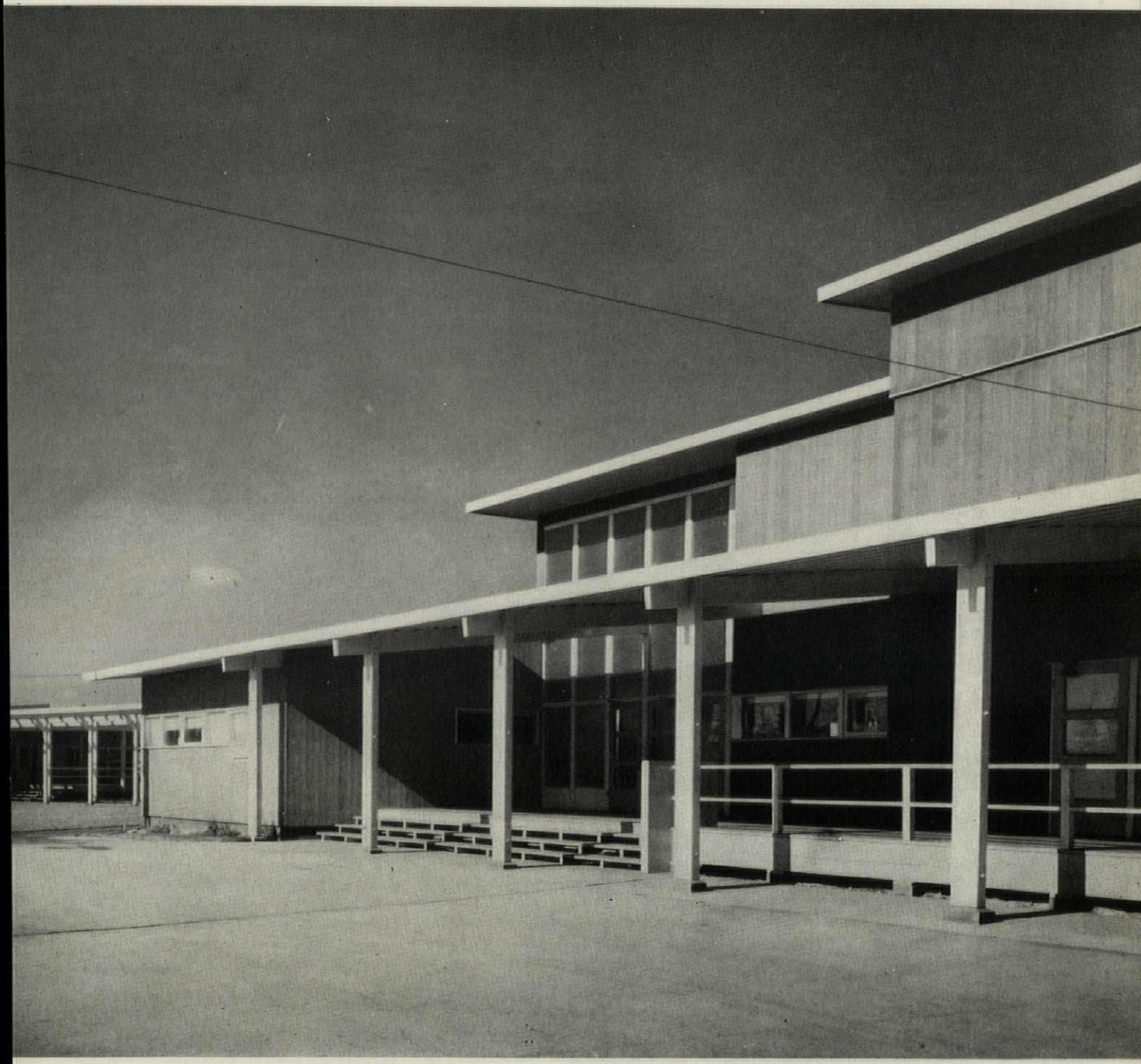
One of two identical all-wood structures located at opposite ends of the Orchard Heights project (see plot plan), the Community Building shown here is adjacent to an extensive athletic field. The building accommodates such various social facilities as the community hall with stage, meeting rooms, and game rooms. In addition, directly adjoining the entrance, are doctors' offices and examination room. A community kitchen is used for group suppers in the club room or to serve larger functions held in the community hall. The funnel-shape lobby and corridor, repeated in the foyer of the theater (Page 50) sensibly provide an increasing amount of circulation as the area approaches major entrances. Linoleum floors are used in all public rooms. Connected with the building by a sheltered walk is one of the child-service buildings, described on Page 54.



COMMUNITY BLDG. 0 10 20 30 40 50 FT.

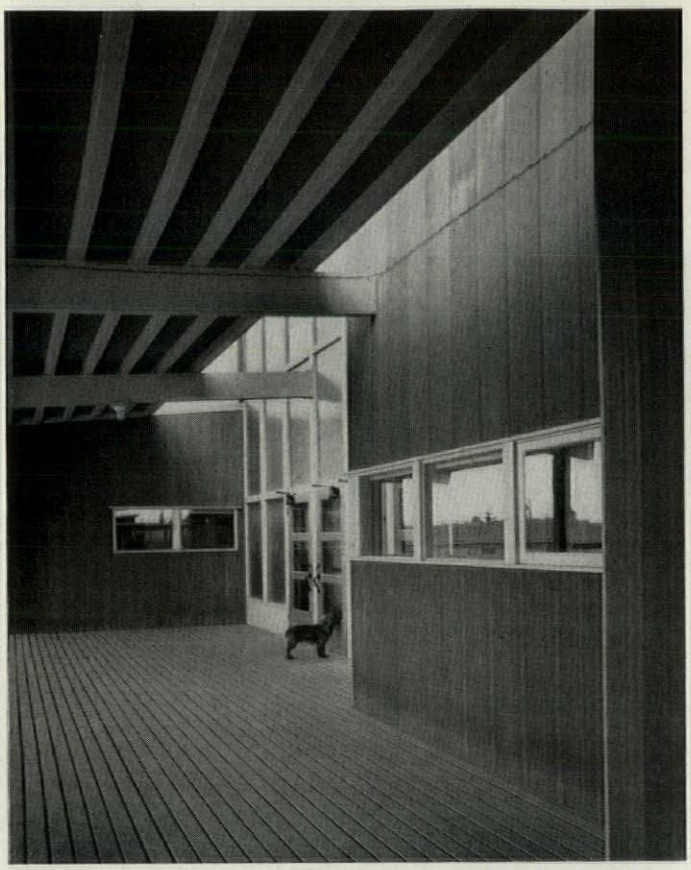


Child-Service Building



Community Building

. . FANCY-DRESS ARCHITECTURE OR GRANDIOSE SCHEMES. . . . . .



Entrance porch of the Community Building

The Community Building is a good instance of the pleasing architectural effect that can be attained by intelligent composition of the most modest of materials—in this case, the various forms of wood. Color, texture, and structural form have been imaginatively exploited and synthesized to achieve distinguished design at small expense. The device of breaking the porch shelter near the building wall is an ingenious way to handle the daylight problem, and it is to be doubted if this brief exposure to the elements seriously conflicts with the purpose of the shelter. Possibly a brief roofed area directly above the entrance doors would be a functional improvement.

Lobby, with doors to community hall and director's office at left

CHILD-SERVICE BUILDING

Three child-service buildings are included at Orchard Heights—one at either end of the project, the third close to the center. All of the buildings use the same floor plan, though play yard details vary. The buildings are planned to care for pre-school age children in cases where both parents are engaged in war work. The children not only play, exercise, and rest here, but are served their noonday meal.

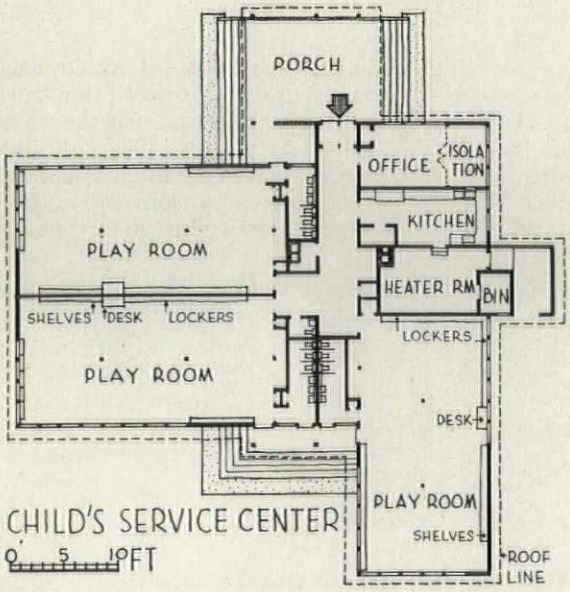
Each of the three play rooms is equipped with lockers for coats and sleeping blankets. Adjacent toilet rooms are equally accessible from play rooms or yard. As in all other Orchard Heights buildings, the Child-Service Building has its own heating plant and coalbin. Construction is all of wood, with floors surfaced with wood and linoleum except in the heater room, where concrete is used.

Interior wall surfaces are painted wallboard, and the finished millwork is stained.

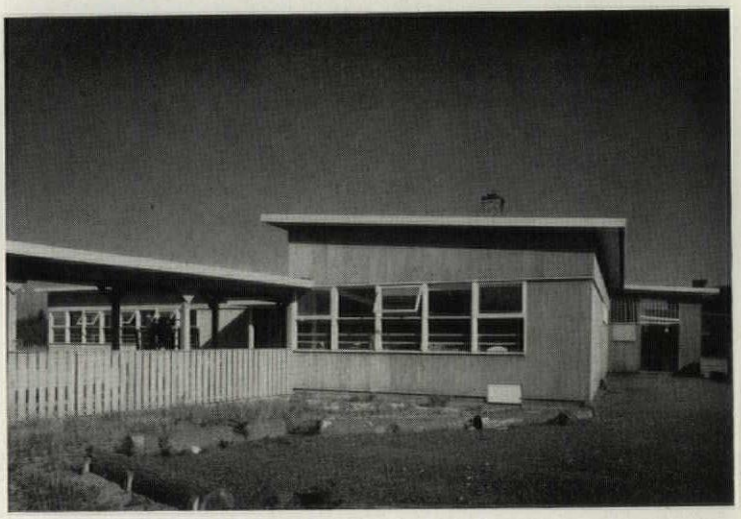
. . . YET ALL THE USUAL HUMAN FUNCTIONS HAD TO BE SERVED, .

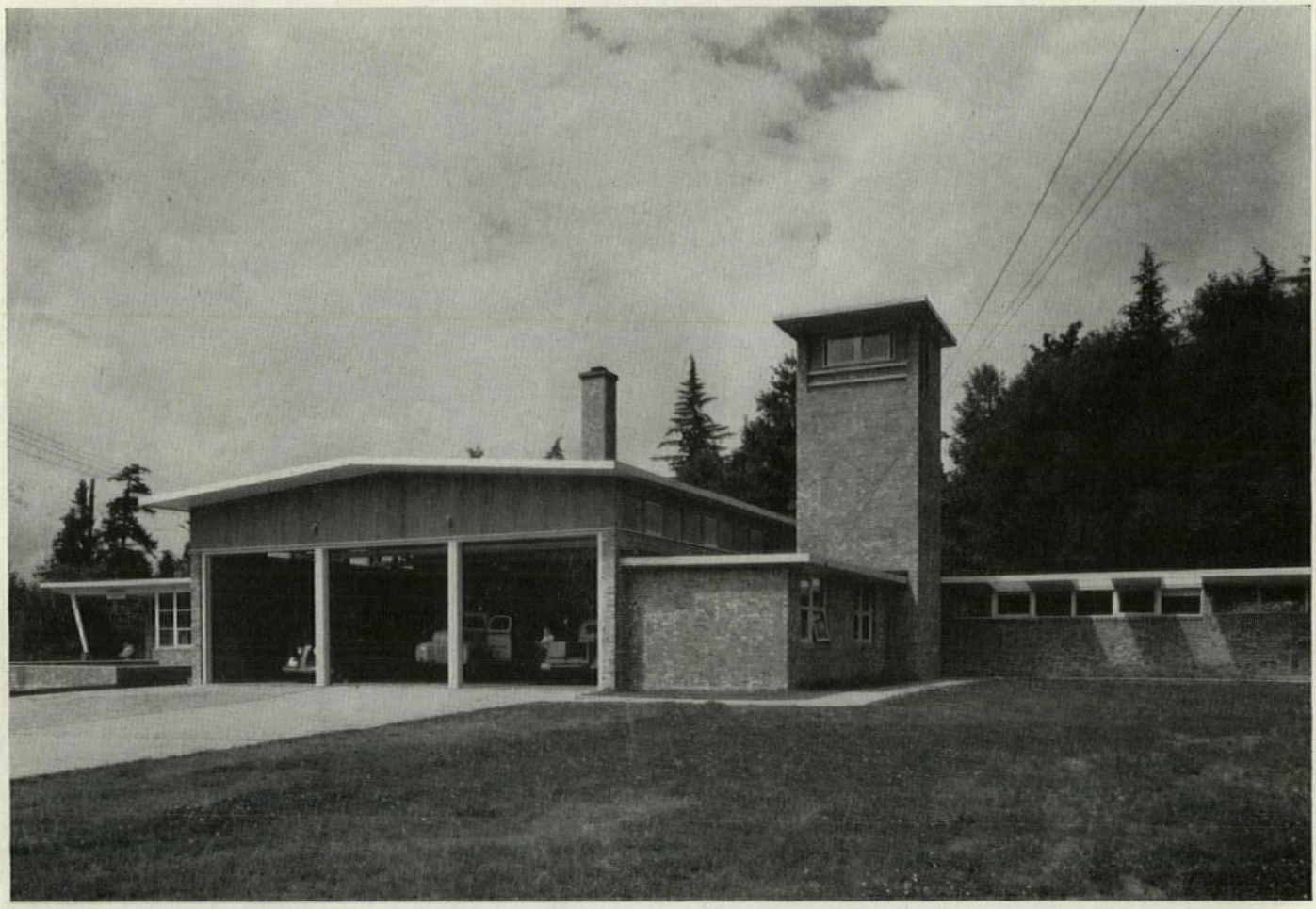
Fenced play yard adjoining one of the Child-Service Buildings. Sheltered area allows outdoor exercise even in bad weather

JONES, BOUILLON, THIRY AND SYLLIAASEN, Architects



End detail, showing vertical siding and white-painted trim





Fire Station, with Post Office porch at far left

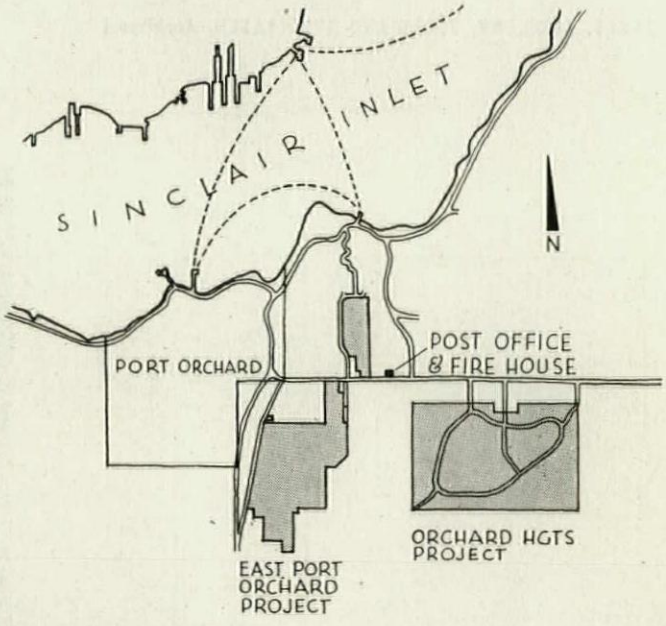
FIRE STATION AND POST OFFICE

Located on a nearby main highway, this joint-purpose structure serves two other adjacent housing projects as well as Orchard Heights (see plot diagram, right). Placed well back from the highway, the building is arranged on a lot sufficiently large to allow inclusion of a generous off-street parking area adjoining the post office entrance.

The floor plans of both units are uncomplicated by either stylistic tricks or personal idiosyncrasies—each is planned simply to do its work efficiently. Living quarters for the firemen are lined up away from the highway at the rear of the fire station, overlooking pleasant woods. In the post office, all of the windows facing the parking space are given over to public space; general work space is placed at the rear, with the truck dock at the far end of the building.

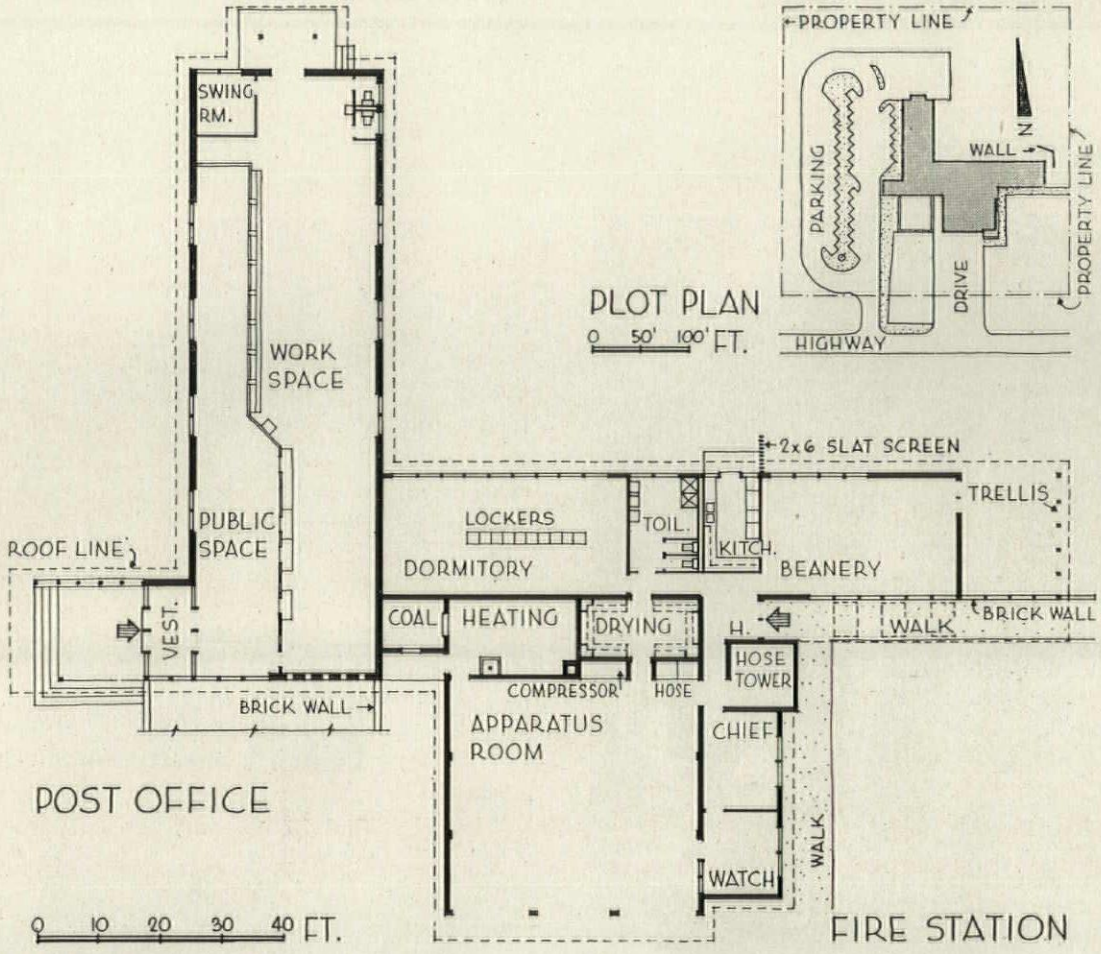
Of brick construction, the building has wood roof framing, with pre-built trusses spanning the apparatus room. The upper portion of the fire station (surrounding the trusses) is finished with vertical siding. All sash and trim are of wood painted white.

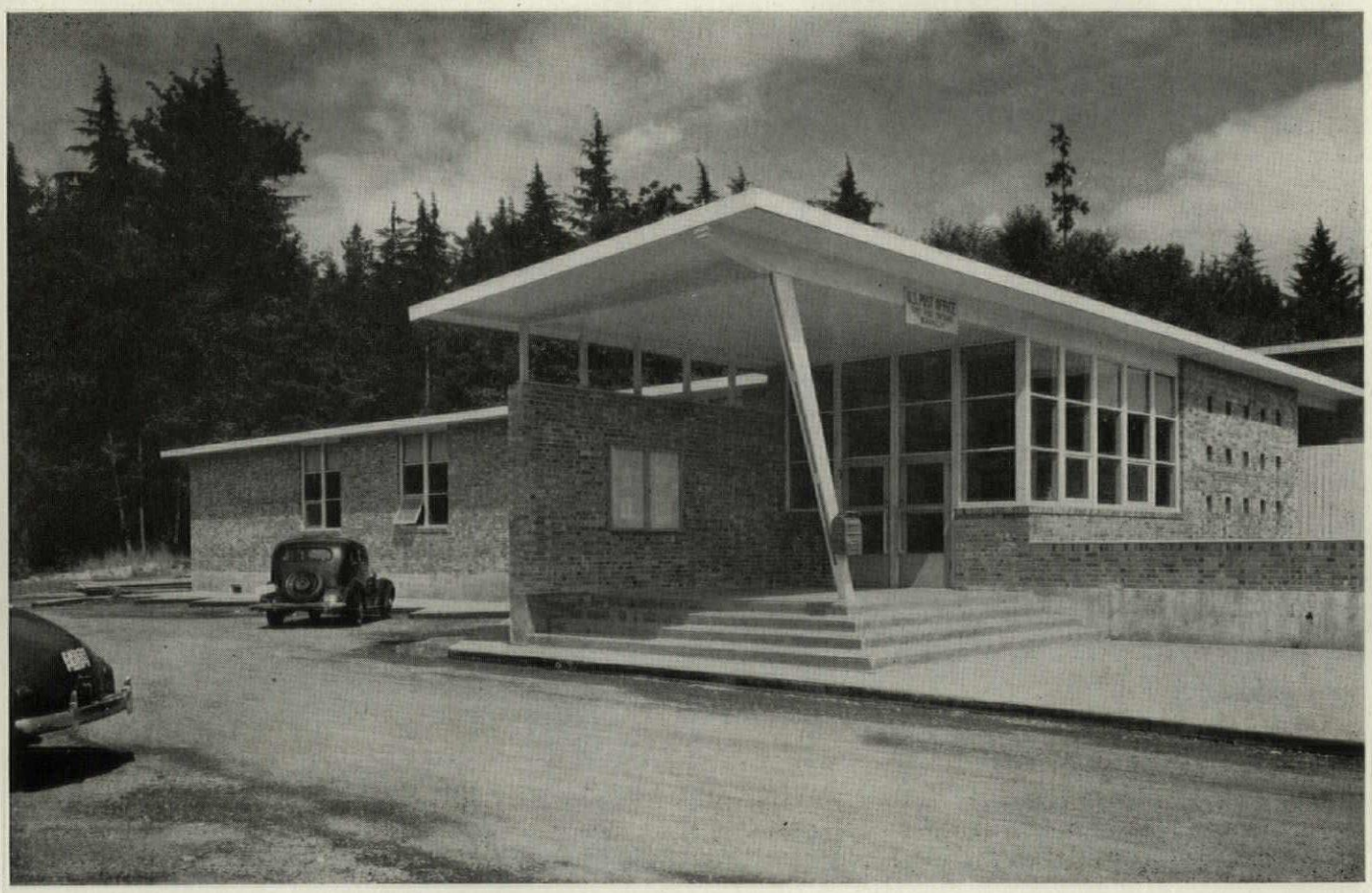
Here again are instances of wartime standards that exceed the custom of happier days, standards to maintain and improve when normal construction may be undertaken again. How few post offices, for instance, have been sited with recognition of the fact that many people come to them by car and would like a place to park. Nor should the obvious be overlooked: the stimulation of seeing new architectural forms that look like fire stations and post offices for today, rather than leftovers from a 1900 architectural church supper.



JONES, BOUILLON, THIRY AND SYLLIAASEN, Architects

. . . RESULT: IMAGINATIVE NEW ARCHITECTURE DESIGNED . . .



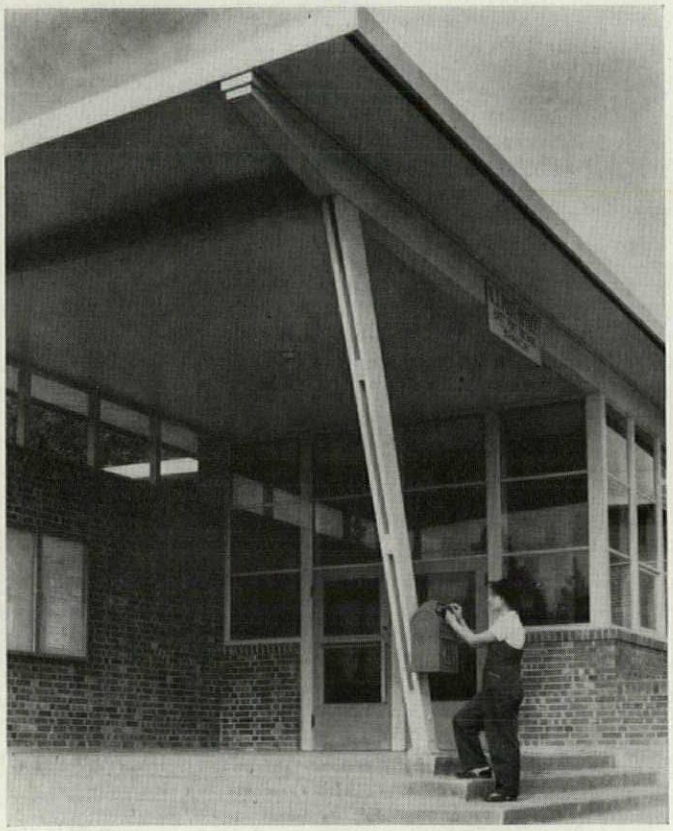


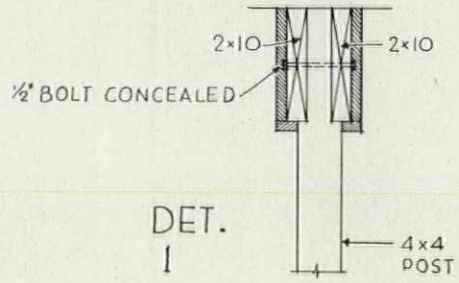
Post Office entrance and parking space. Details over page

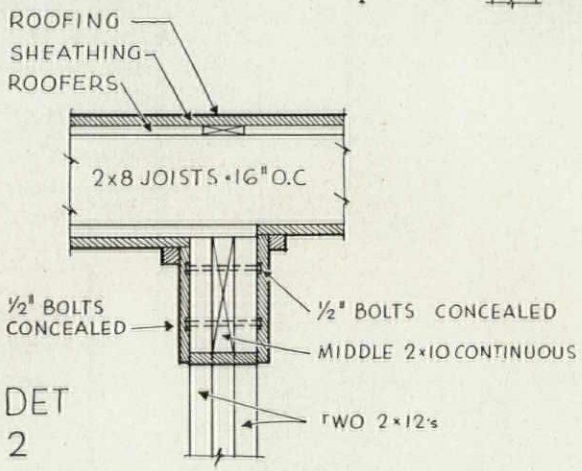
. . SOLELY TO PERFORM SPECIFIC CONTEMPORARY JOBS: . . . . .

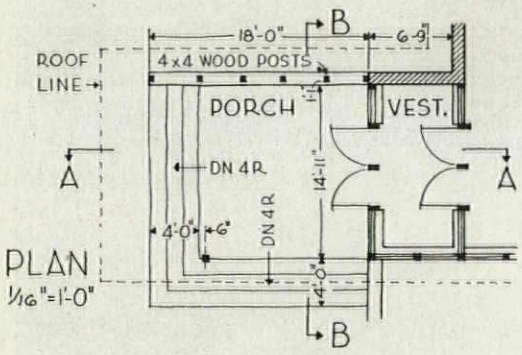
Sheltered Entrance;

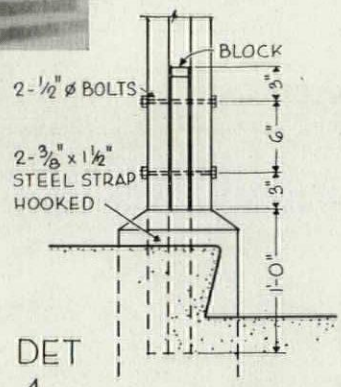
. . . . . Jones, Bouillon, Thiry & Sylliaasen, Architects

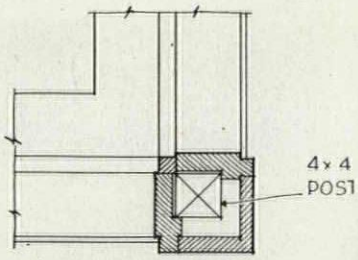


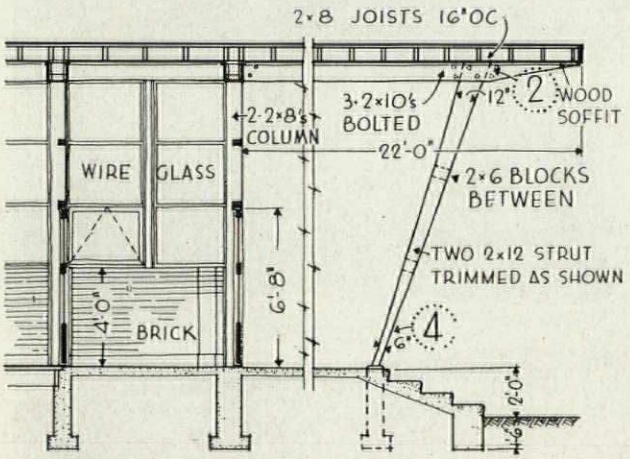


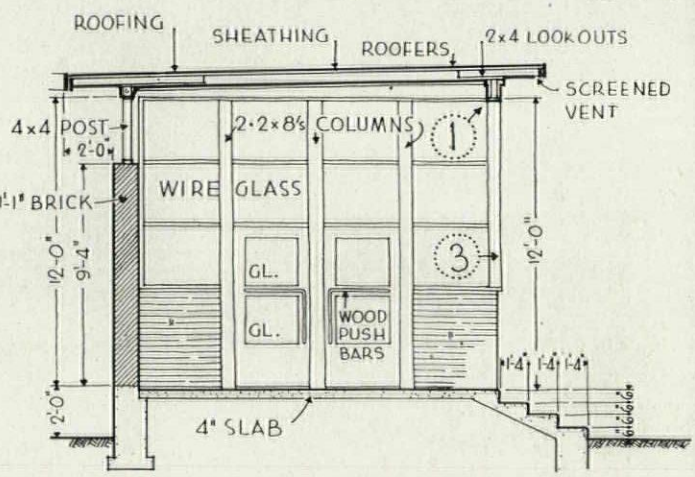






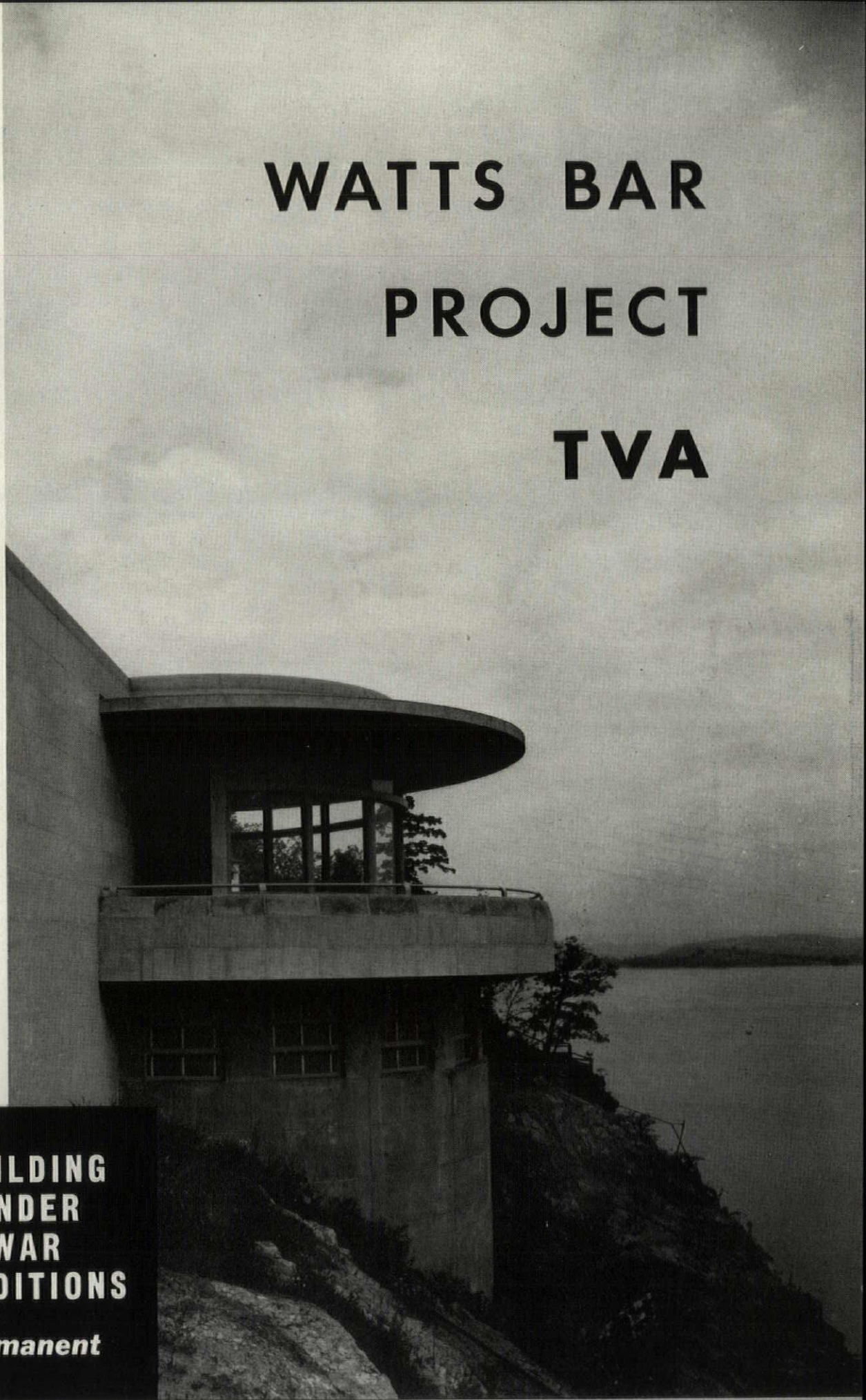






. . . . . PLANNED FOR THE USE AND ENJOYMENT OF ALL.

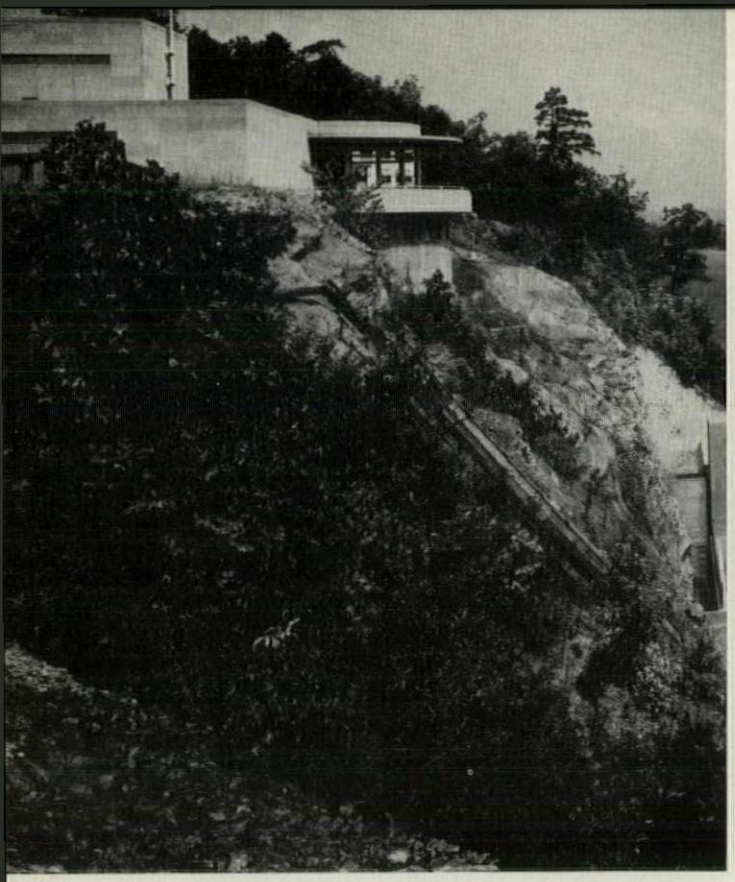
WATTS BAR PROJECT TVA



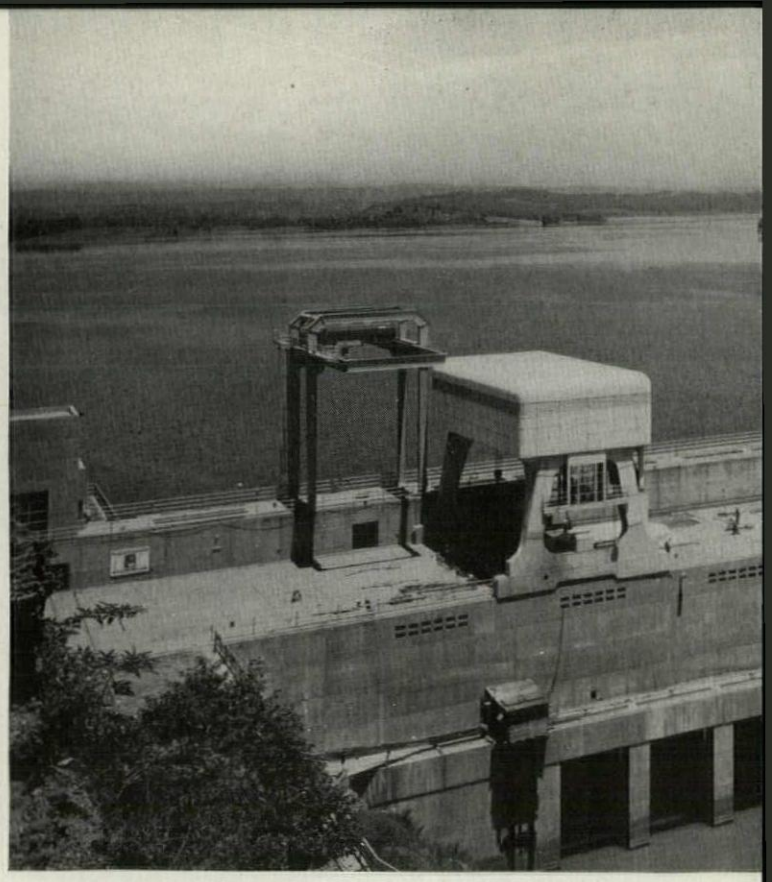
BUILDING UNDER WAR CONDITIONS

Permanent

CERTAIN VITAL STRUCTURES WERE BUILT TO ENDURE: . . . . .

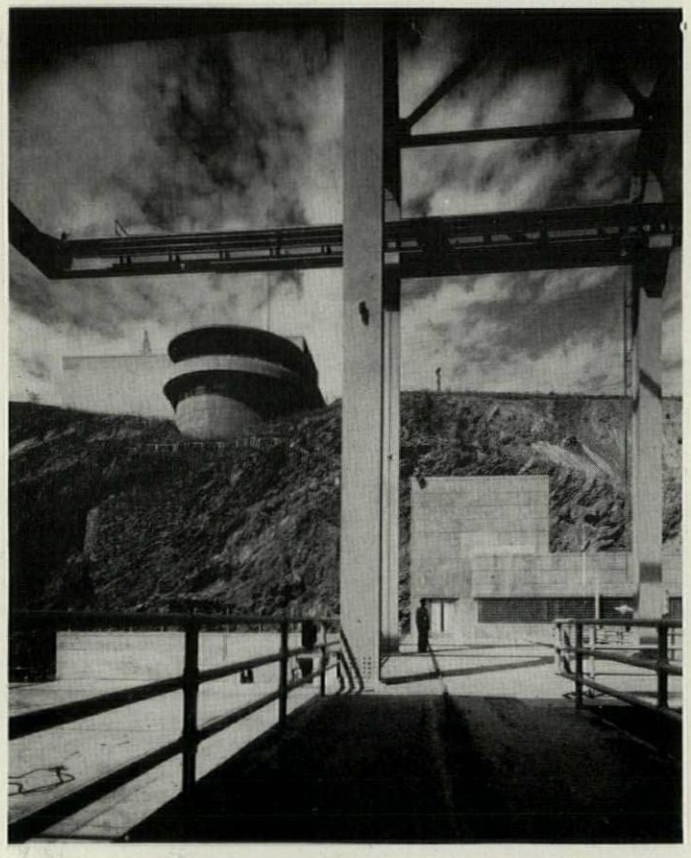


Control Building and Switchyard



Approach Railroad

Control Building seen from roof of Power House

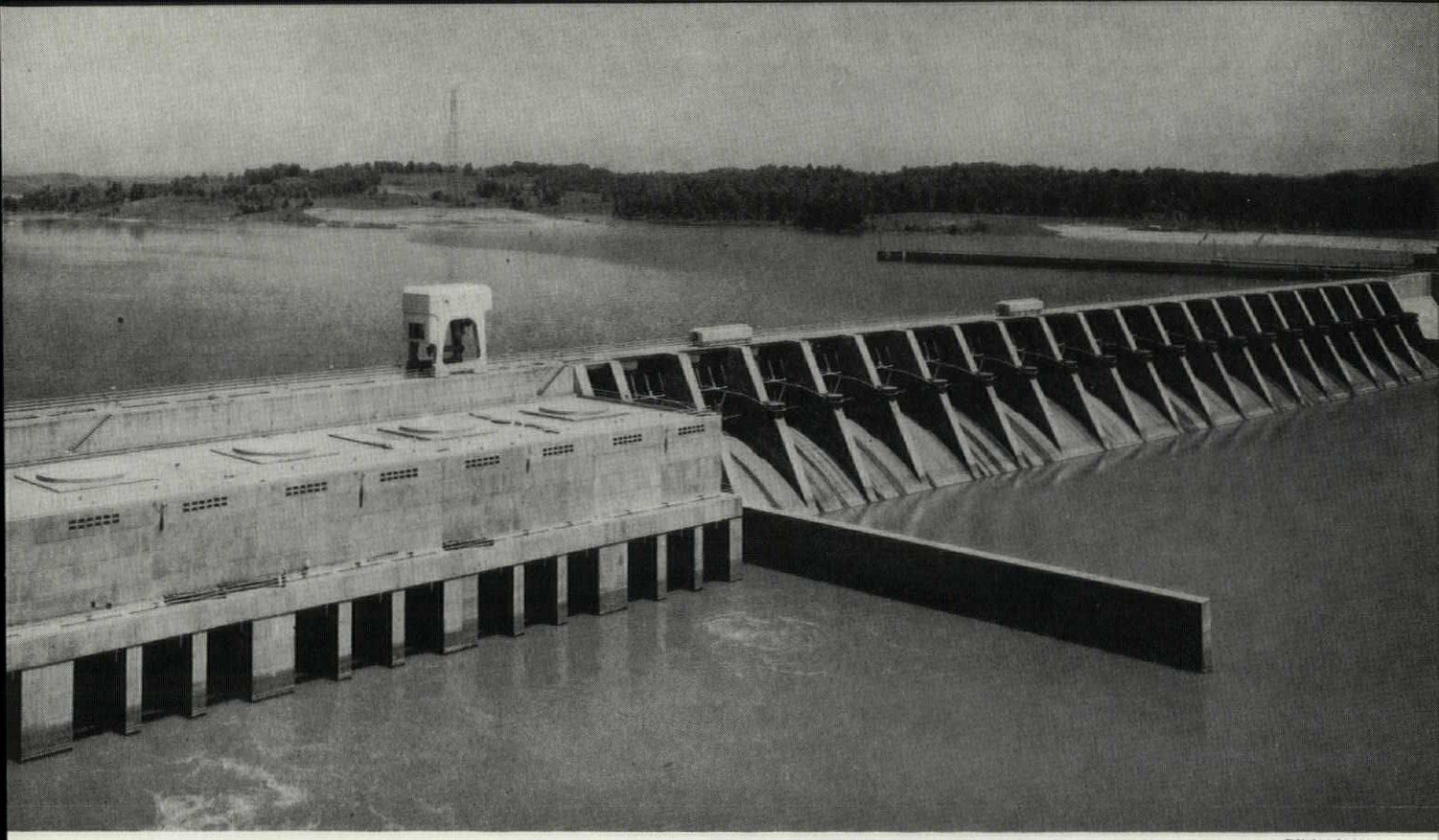


WATTS BAR PROJECT, TVA

Nowhere is there a more outstanding instance of design coordination and advance than in the flood-control, navigation, and power projects of the Tennessee Valley Authority. Not only is there a pooling of pertinent skills—architectural, civil, mechanical, electrical, heavy equipment, etc.—on all projects, but design standards are continually raised, as objective research reveals better ways of doing things. The Watts Bar Project shown on these pages includes controlled flood storage, power development, and navigation functions.

Not that TVA has achieved perfection (TVA would be the first to disclaim that); in the relatively superficial matter of appearance, for instance, many critics feel that there is a somewhat dour aspect to certain of the great projects that is not necessarily a concomitant of the design requirements. The point is rather the impeccability of the Authority's design approach—constantly criticizing past results, constantly striving for improvement.

At a time of taking stock for the future, as we attempt to learn what we can do toward winning the peace that may be in any way commensurate with the awful assignment of winning the war, the TVA offers a stimulating reference point. In drawing up our plans for the better world, we may find in the attitude that seeks excellence rather than "good enough" an example we dare not fail to emulate.



TVA photos

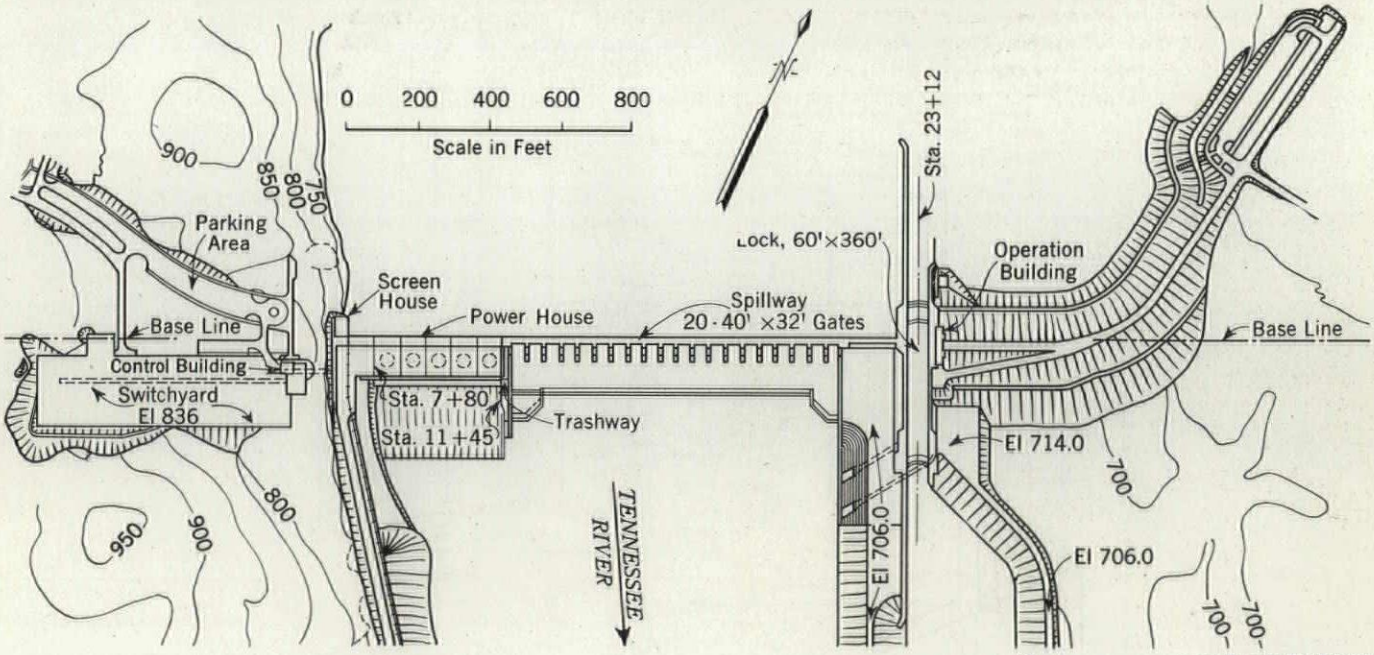
Hydroelectric Power House *Tennessee River (downstream)* *Spillway*

Basic Design Determinants

Control Building and Switchyard: *Control Building needs close relation to both switchyard and power house. Cramped space at base of 125-foot bluff necessitated placement at top. Generator leads from power house pass through tunnel and shaft in rock abutment.*

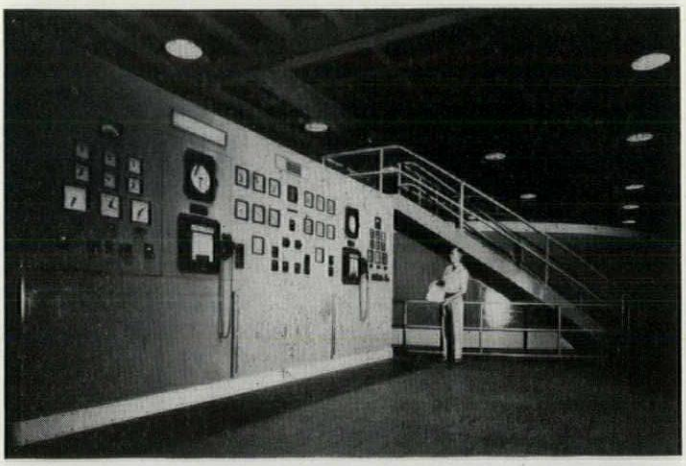
Hydroelectric Power House: *Power station must be adjacent to railroad access which occurred at Watts Bar on left bank; also, station imposes high load concentrations on foundation and needs freedom from unequal settlements; hence, location at west bed of river where hard sandstone occurred. Since separate agencies operate power plant and lock, it is desirable to locate these two elements on opposite banks of river.*

Spillway: *Located near center of river free from operating interference with either power or navigation functions.*
Lock: *Long straight entrances needed at each end; upper approach to be protected from spillway overflow by guard wall; on downstream side, protective dike is placed between spillway channel and lock to guarantee undisturbed hydraulic conditions for the traffic, which approaches lower lock at reduced speed.*

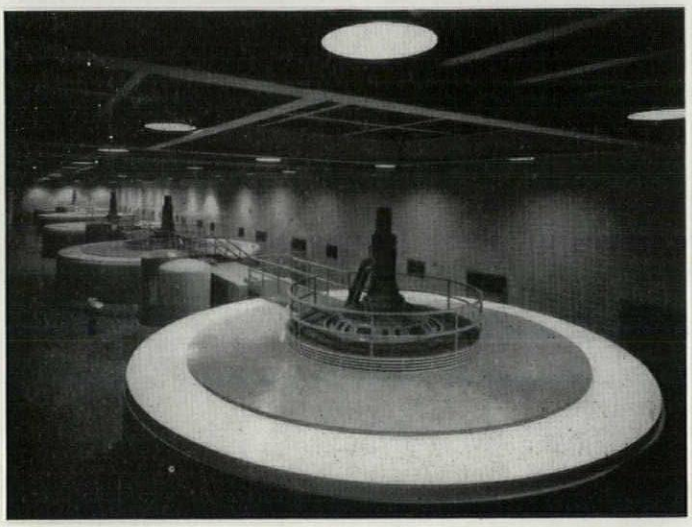


Drawing, courtesy of CIVIL ENGINEERING

. . AS TO THE MORE IMMEDIATE TASK OF WINNING THE WAR. . . .



Generator room from operating floor; governor cabinet at left



Generator room, seen from a visitors' observation gallery

POWER HOUSE

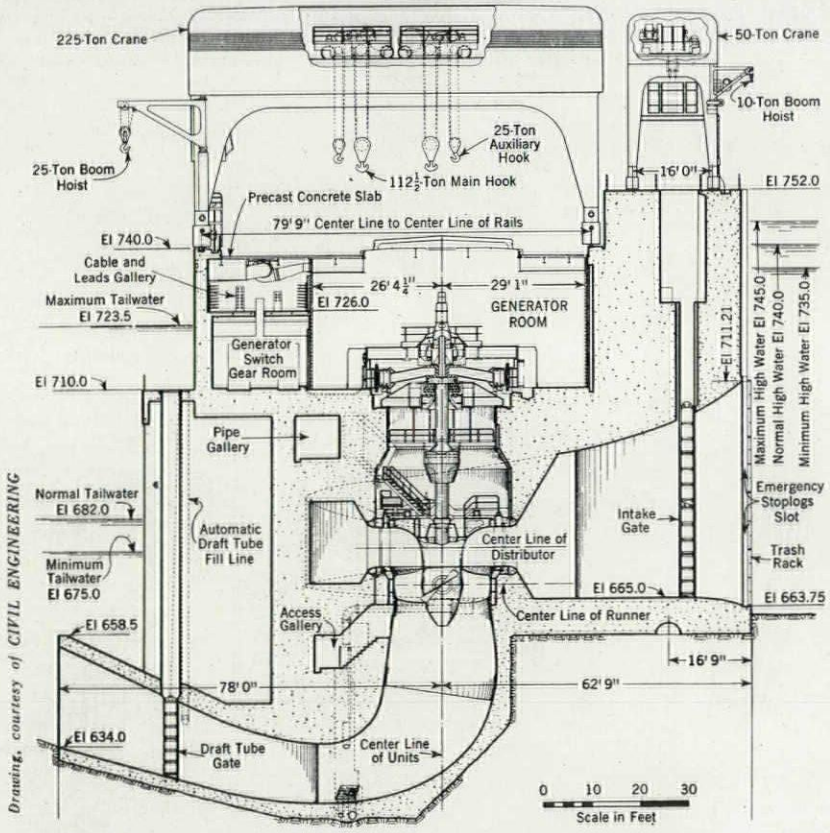
Built upon hard sandstone at the west bank of the river, adjacent to existing railway access, the hydroelectric power plant is connected with the Control Building, switchyard, and transformers (at top of bluff) by means of shafts (for elevators, control cables, and generator leads) which in turn join horizontal tunnels extending from the hydro plant into the cliff. The cross section (below) shows the basic organization of the structure.

Preliminary plans for a standard indoor type of power station were later discarded in favor of the semi-outdoor scheme. Because of high tailwater, the indoor type would have necessitated an extremely high and costly superstructure in order to provide direct access to the highway and railroad for a conventional-type crane. Instead, a 225-ton gantry crane and its runways are installed on the roof of the power house, and heavy equipment is handled between this level and the generators below through roof hatches located immediately above the turbines.

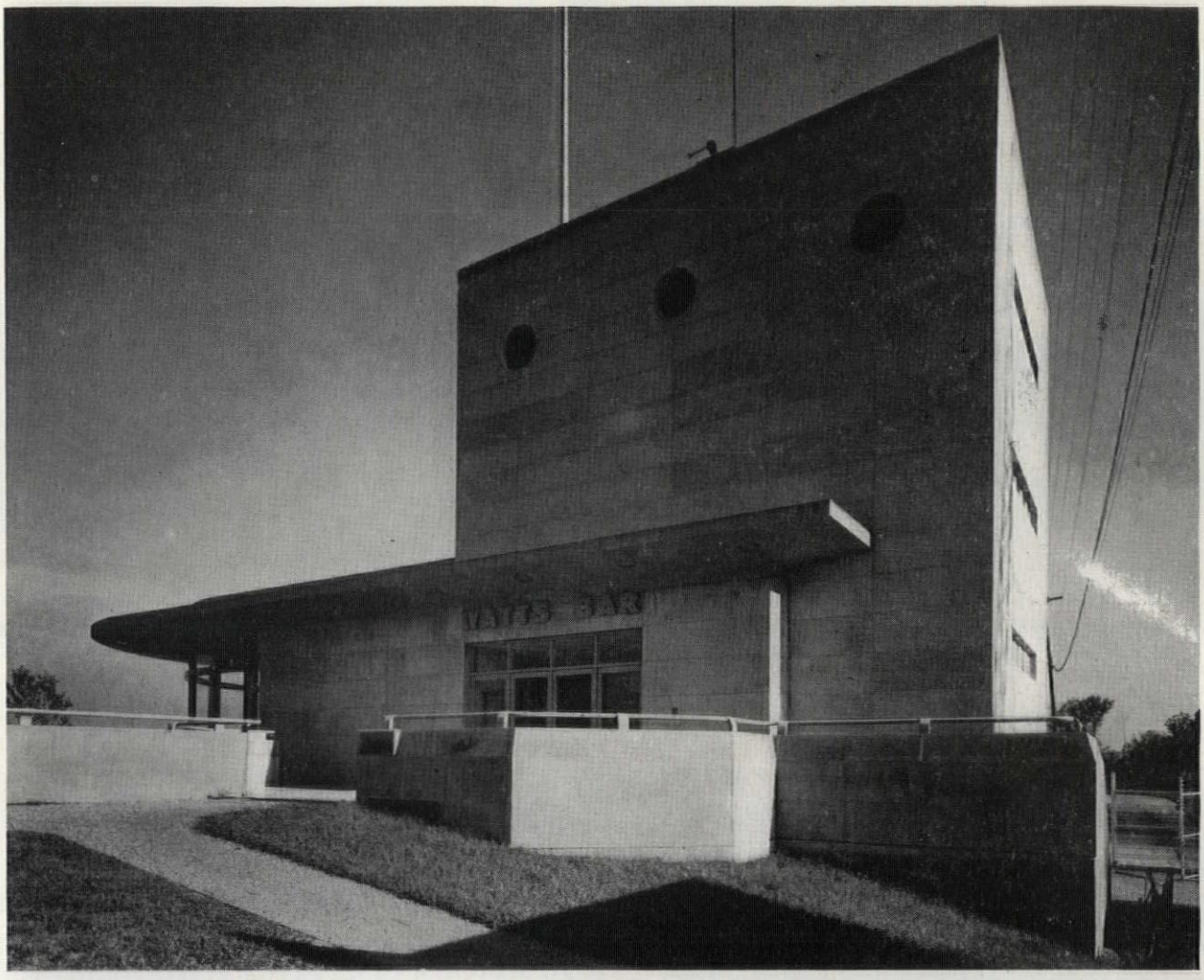
On the downstream side of the gantry crane, a jib is provided to service the draft-tube gates. Because of interference with columns of an overhead bridge that is contemplated on the upstream side, it was not possible to use a similar jib above the intake gates. To handle this, a separate 50-ton gantry that operates under the level of the deck of the proposed bridge was installed.

The generator room pictured at left is a large, unobstructed operating space. The floor of the room is gray tile; walls are warm tan 8" x 16" ceramic tile blocks; the generators are painted gray with bright yellow trim.

In construction of the substructure (intake-draft tube area) the main piers extend in direct upstream-downstream alignment to guarantee the most direct delivery of the load to the foundation rock.

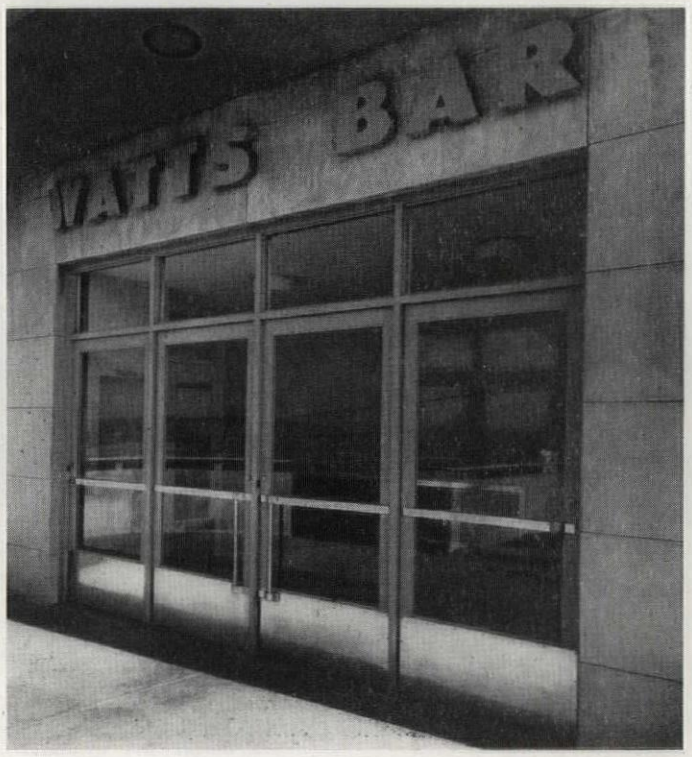


Cross section through Power House



Control Building: At left, semicircular observation end of reception room. Tower houses elevator machinery

Enameled-steel-framed doors have stainless steel kickplates. After the war, aluminum will replace the wood lettering



CONTROL BUILDING

Location of the Control Building and main switchyard at the top of the 125-foot bluff was chosen for several reasons: at the foot of the cliff adjoining the power plant, space was at a premium; at top, sufficient space was available for both immediate needs, and contemplated expansion of facilities. As it developed, construction of a new 240,000-kw steam plant, provided to bring the power generators up to speed, produced the expansion almost at once.

Initial generator-speed control is handled at the steam plant; all other control functions—dispatching, synchronizing, etc.—are served by equipment in the Control Building. In addition, the structure contains the elevators to the power-station level, air-conditioning equipment, toilets, and visitors' reception room. The latter at the view end of the building, surrounded by an outside terrace and parapet, makes the most of a dramatic view over the river and its installations and the country beyond. Offices for the operating staff occur beneath the reception-room area.

Exterior walls of the building are surfaced with limestone except below the balcony level, where the structural concrete of the building is left exposed.

Detail showing the door from the reception room (through glass at right) which is several risers above the balcony floor level

OBSERVATION BALCONY

Visitors to Watts Bar have a superb view of the river installations from the semicircular windowed end of the main reception room and the surrounding outside balcony. A wide overhang shades the windows of the reception room and protects the balcony. The window wall is made up of pipe structural supports that also act as mullions between the glass areas; the protective overhang above is cantilevered out from the ceiling structure and forms an up-sloping continuation of the reception room ceiling. Spandrel walls and parapet are of limestone; the balcony floor is concrete. The parapet railing, mounted inward of the parapet wall face for convenience, was designed in aluminum but executed in steel, due to wartime shortages.

The balcony floor level is several steps below the floor of the reception room proper, in order to provide an unhampered view from the room itself over the balcony railing.

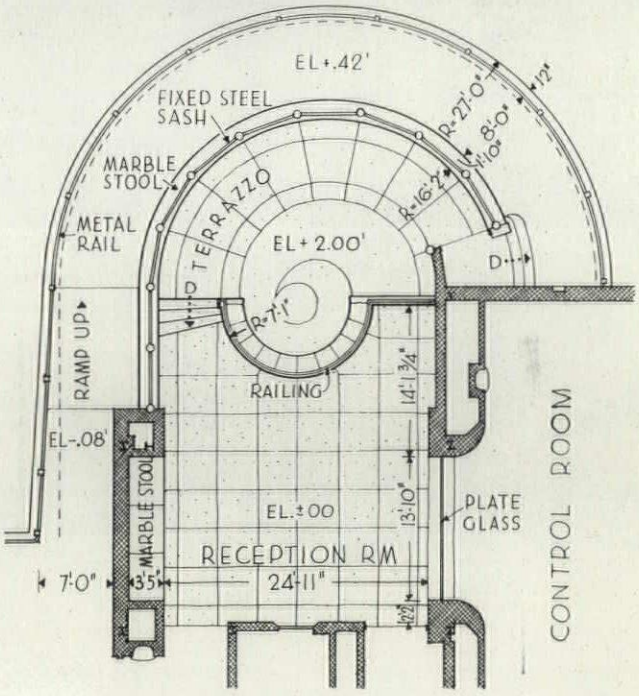
View of dam as it appears from the visitors' balcony; lake at left, navigation lock at far end of dam; hydro plant and spillway between

Reception Room: floor: dark brown terrazzo with white metal divider strips; walls: golden buff marble from local quarry; wall plaster from light trough to ceiling: lemon yellow; ceiling and light-trough soffit: powder blue; edge of light trough: steel, painted a rich tan

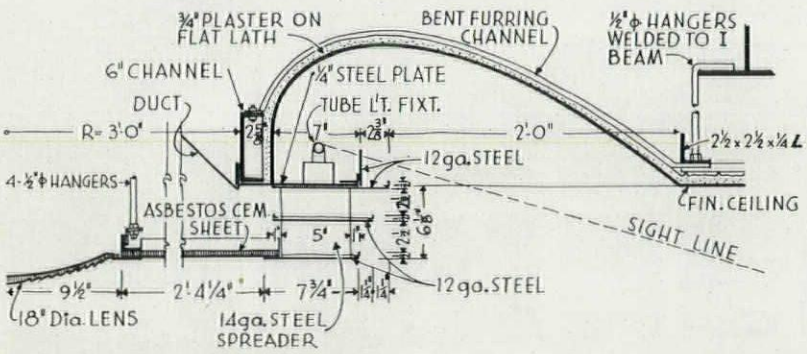
RECEPTION ROOM

The design of the Reception Room is worked out to dramatize the major elements of the project. Near the entrance to the room is a large, clear, plate glass window which frames the severely functional lines and mechanisms of the Control Room. The semicircular view end of the room, raised to overlook the dam above the railing of the outside balcony, is fitted out with specially designed lounge furniture. Under peacetime conditions visitors would be received at a guard's reception desk and wait in the lounge space until a group is collected for a tour through the plant. During wartime the building is not open to visitors.

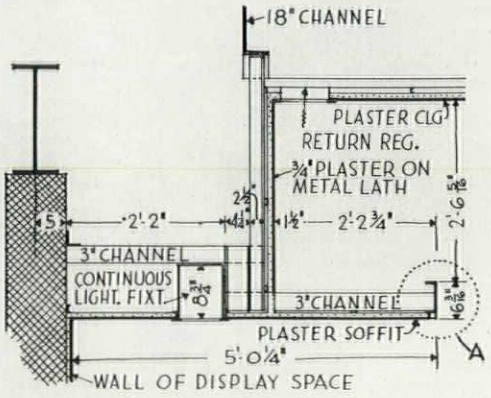
The room is a typical example of TVA's admirable concern with the factor of design integration. The line formed by the projecting edge of the indirect lighting trough continues as a transom bar in the view-window; the circular fixture over the lounging area combines indirect cove lighting with air-conditioning elements. The design of the semicircular lounge and surrounding parapet repeats the curved line found in the window and lighting fixtures. Details of this area are given on the next page.



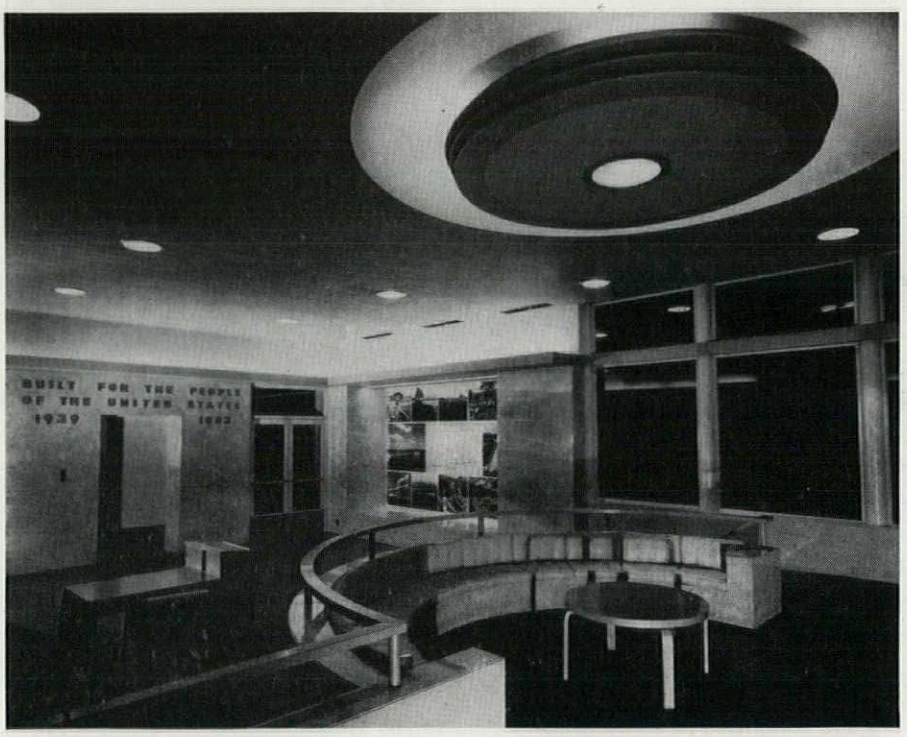
OBSERVATION LOUNGE PLAN 0 5 FT.

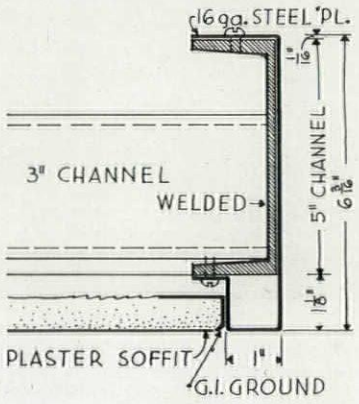


CEILING DETAIL ¾" = 1'-0"

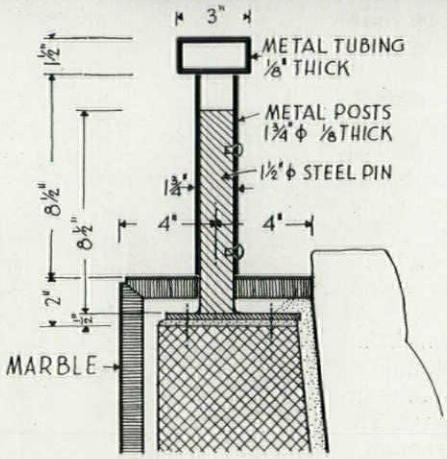


SOFFIT DETAIL ⅜" = 1'-0"

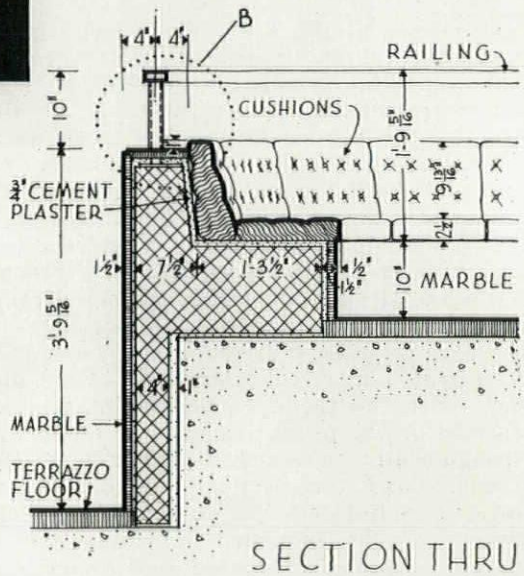




DETAIL A 3" = 1'-0"



DETAIL B 1½" = 1'-0"



SECTION THRU UPHOLSTERED SEAT ½" = 1'-0"

. . . BUT IS THE BEST WE HAVE DONE AS GOOD AS WE CAN DO? . . .

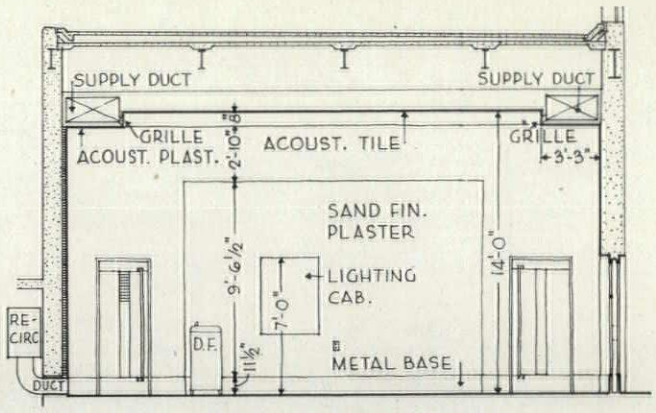
CONTROL ROOM

Immediately adjoining the reception room of the control Building is the Control Room, seen from the former through a large plate glass window. The highly refined design of this specialized room, specifically planned to handle a complex technical task, is the result of an evolutionary design process. The drawings on this page and the one following show the progressive steps in its development.

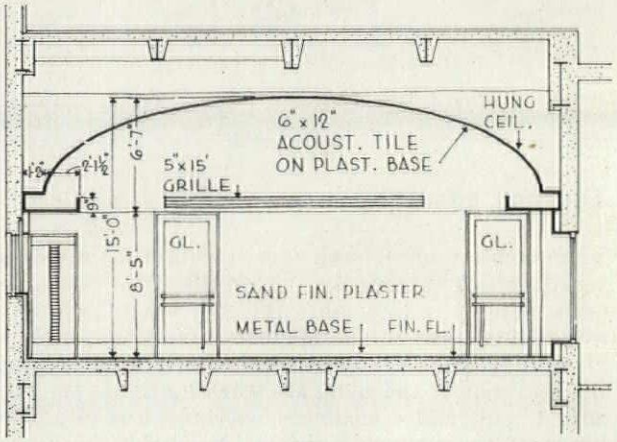
In the Control Room at Norris (1936), the section of the room was conventionally rectangular. All essential lighting, air conditioning, and other control elements were included but comparatively little effort was made either to integrate these or to develop an individual, precise form to achieve maximum efficiency. Although functioning of the room at Norris is satisfactory, careful review of the design clearly indicated that there were better ways to solve the problem.

A year later, in the design of the Pickwick Landing Control Room, numerous improvements over the Norris scheme were put into effect. An attempt was made toward integrating the required space with the elements of acoustical, lighting, and other systems. The result was the elliptical ceiling dome surfaced with acoustical material, with indirect lighting at either side.

This scheme, too, proved workable but further objective analysis revealed that the basic problem was still not solved in the most direct manner possible. In the design of the room at Watts Bar, optimum seeing conditions on the control-cabinet instruments was the master reference point. From synthesis of this criterion with the viewpoint of the head operator, the light source, space considerations, and the structural means for gaining the desired end, the parabolic form was finally worked out; the symmetrical treatment was discarded, and the light cove facing the operator was eliminated.

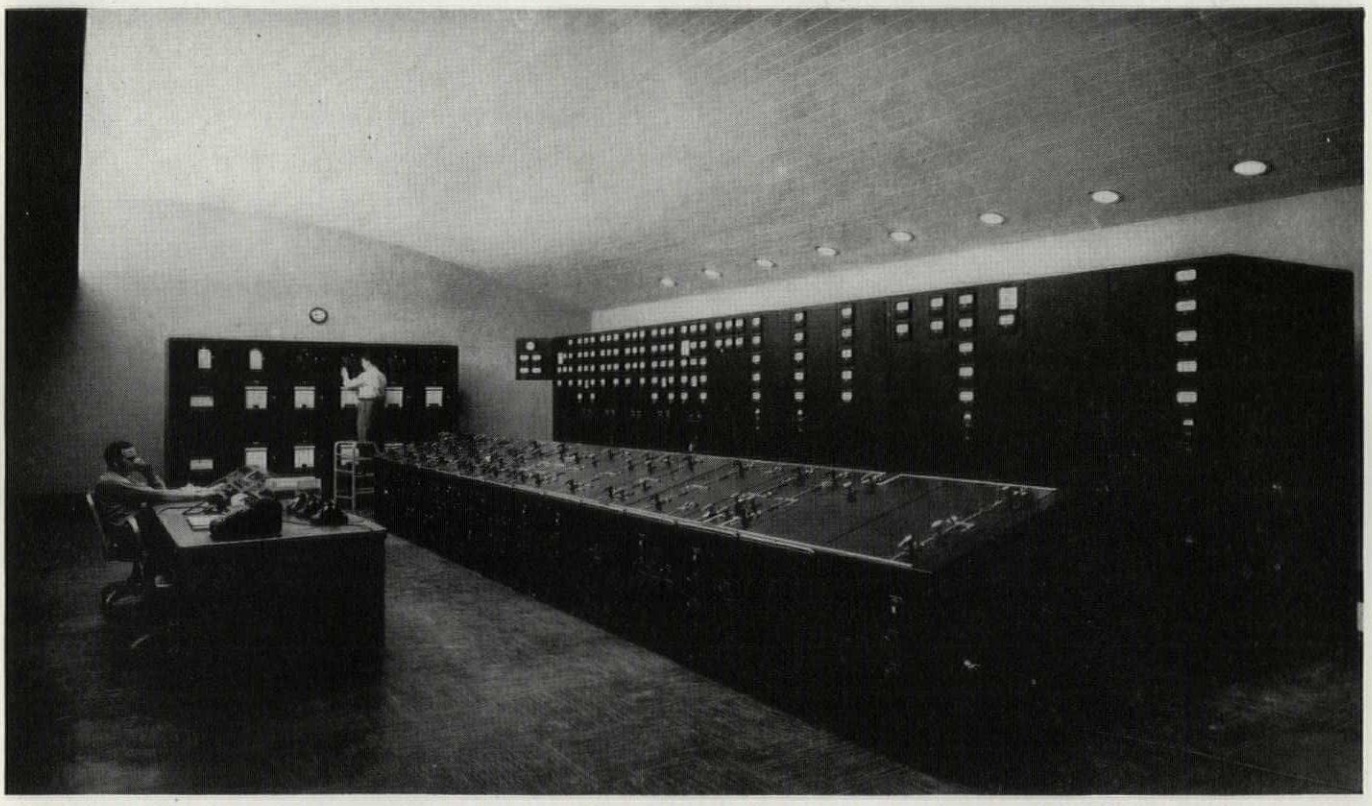


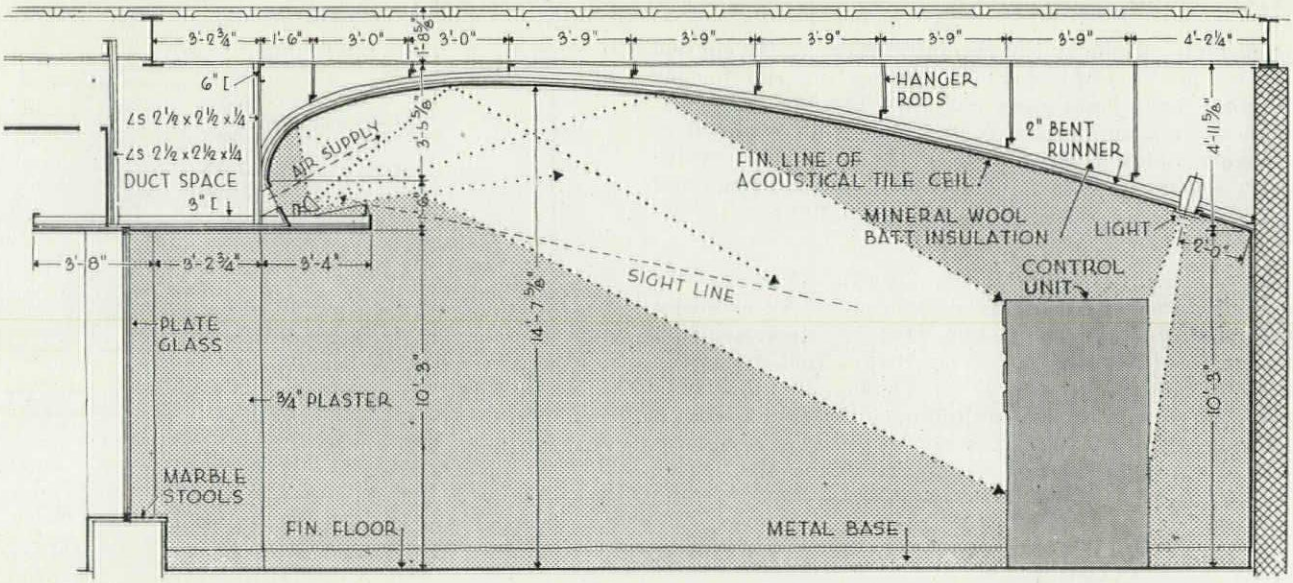
NORRIS CONTROL RM.-1936 0 1 2 3 4 5 FT.



PICKWICK CONTROL RM.-1937 0 1 2 3 4 5 FT.

The Control Room is precisely designed to provide the best possible light for instrument reading





WATTS BAR CONTROL RM.

0 5 FT

CONTROL ROOM (continued)

The eccentric arch, with indirect lighting above a flat trough which extends the full length of the room, directs even shadowless light onto the instrument cabinets and avoids any light in the opposite direction which would glare into the operator's eyes. The bull's-eye lights on the rear side of the room are working lights for repairs, adjustment, and occasional instrument reading on the backs of the control cabinets. Normally these are unlighted; but even when on, they are so placed and angled with respect to the control-cabinet height that the operator seated at his desk does not see them.

A particularly progressive instance of design integration is the area around the light cove. Here, lighting units, air-supply ducts, and acoustical control are inseparably fused into a unit which, unadorned, is also the finished room design—good architecture directly derived from intelligent solutions to problems set by the room's specialized function and the needs of those who use it. Walls of the room and light-cove soffit are plaster; the ceiling surface is acoustical tile, and the flooring is linoleum.

We devote this amount of space to the architectural design of this special-purpose room, not because we believe that many of the profession will be called on in postwar years to develop plans for a power-station control room, but rather to emphasize and encourage the TVA design approach which refuses to be satisfied with "second best."

If we seriously intend to make a respectable professional contribution to the gigantic task of building a better world, a better environment for all, we shall certainly contribute the most if in our plans, large or small, we recognize not only that there is a deadening weight of tradition to be overcome by hard thinking and creative imagination, but that new products and new techniques can assist us immeasurably if we are but willing to discover them, master them, and put them fully to work.

BUILDING MATERIALS AND EQUIPMENT: Has the accelerated application of technical progress due to war stimulated development of building products?

TAKING STOCK for the Future

by FRANK G. LOPEZ

Have developments in building materials and equipment kept pace with our American developments of war materiel? Have they kept pace with the sensational advertising campaigns in which a few manufacturers, a few short months ago, indulged? Above all, have they kept pace with the untutored longings of the consumer public?

To find the answers to these questions, the editors of PENCIL POINTS recently asked a great many manufacturers three simple questions:

1. Do you expect to continue after the war with your prewar products essentially unchanged?
2. Have you carried on research and development work during the war which will result in new or improved products in the postwar period?
3. If so, are your plans fully enough matured so that you can make definite announcements?

Of course, we could not hope to reach all manufacturers, nor to receive replies from all whom we did reach. The lists on the following fifteen pages, however, do indicate opinions from a substantial cross-section of the industry. The sum total of the replies leads to some astonishing conclusions. But before these are set forth, a certain background for them must be presented.

The Building Materials "Industry" Has Its Problems

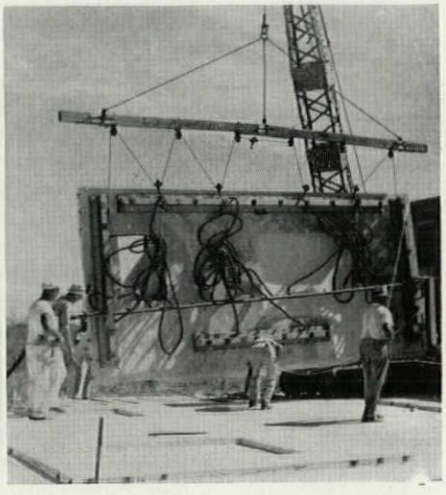
First, what we call the building "industry" is composed of many companies, small and large, all competing; and while trade associations, councils, etc., exist, only the Producers' Council combines in one large, national organization the interests of many manufacturers in such diverse fields as, for example, electrical products and bricks. The Producers' Council, broadly speaking, is not set up to develop new techniques for the construction and equipment of buildings. It has issued what it has called "data" sheets, in conjunction with the A.I.A., but these have in the past been little more informative than the average catalog. The Council's Technical Committee, we understand, is becoming more active; possibly from this source more and better information may proceed. Yet the Council's function remains rather in the realms of policy and promotion than in the development of *new* techniques.

In such a situation it falls to the individual manufacturer to initiate advances, and to those few forward-looking associations which are so outnumbered. Before the manufacturer announces something brand new he has to weigh his chances as to the success of this new thing; he must calculate the effect of competition; he must diagnose the public attitude, and the attitudes of labor, of building code enforcement officials, of building contractors to whom every new technique means changes which may inhibit profits until the new has become as routine as the old once was.

Competition

Because we are at war we have been restricted in our building and in much manufacturing for civilian purposes. Manufacturers have continued to advertise, usually on the basis of past performance. If a manufacturer publicizes something brand new, under the competitive system he must expect his rival to jump out with a similar

Above, navy hangar, a thin-shell arch in concrete, span 160 ft., shows effect of airplane development in helping to popularize this type of construction



Above, left, U. S. Gypsum's 2"-thick partition construction; right, thin precast concrete wall with prestressed reinforcing, lifted into place by vacuum beams, Vacuum Concrete, Inc. Below, 130-ft. span continuous reinforced concrete rigid frames, precast joists and slabs, roof a flight hangar

TAKING STOCK FOR THE FUTURE

THE STRUCTURE ITSELF

1. Mass Construction: Masonry, Concrete

Concrete: advances in design methods; Portland Cement Assn., Chicago

"Concreting, Selective": advances in design techniques to permit more effective use of familiar material; Lone Star Cement Corp., New York

"Hydron" Form Lining: absorptive lining faced with fabric, removes water and air bubbles from concrete surface, eliminates finishing, greatly increases resistance to weather and abrasion; U. S. Rubber Co., New York

Mason's Lime, Pressure-Hydrated: designed for use immediately after mixing, no presoaking; Ohio Hydrate & Supply Co., Woodville, O.

Reinforcing, Electrically Pre-Stressed: method of pre-stressing steel reinforcing after concrete has set; Vacuum Concrete, Inc., Philadelphia

2. Frame Construction: Metal, Reinforced Concrete, Wood

Concrete: see mass construction

Laminated Wood Structural Members: technical knowledge accumulated during war; Timber Engineering Co., Washington, D. C., and others

Light Metal Framing: potentialities of magnesium and alloys; no data or practical experience in building construction yet; Dow Chemical Co., Midland, Mich.; American Magnesium Corp., Pittsburgh

Redwood Lumber: improved seasoning and grading; California Redwood Assn., San Francisco

Reinforcing Steel: see mass construction

Steel Framing: improved light steel framing system; Stran-Steel Division, Great Lakes Steel Corp., Detroit

Welding: improved data, arc-welding; Lincoln Electric Co., Cleveland

3. Interior Construction, Partitions

Folding Partitions: "Modernfold," improved structural design aimed at reducing manufacturing costs and lowering prices; New Castle Products, New Castle, Ind.

Folding Partitions: improved materials due to war research, no other change; Horn Mfg. Co., Fort Dodge, Iowa

Gypsum Partitions: 2-inch-thick gypsum lath and plaster; Gypsum Assn., Chicago

Light Portable Construction: potentialities of magnesium and alloys; see frame construction

Office Partitions: movable "Transite" asbestos walls; Johns-Manville Corp., New York

PROTECTION OF THE STRUCTURE

Corrosion-Resistant Coating: for metal work: "Pliolite", a rubber derivative; Goodyear Tire & Rubber Co., Akron

Masonry Protection and Restoration: "Waterfoil" for maintenance and restoration work; A. C. Horn Co., Long Island City, New York

Moisture Content (of lumber): new equipment for determining; Colloid Equipment Co., Inc., New York

Paint: improved formulae, including those employing synthetic resins in various ways; Pratt & Lambert, Inc., Buffalo

Paint: new type, for basements, etc., designed to withstand hydrostatic pressure; The Reardon Co., St. Louis

Waterproofing: "Abesto" cold-application asphaltic compounds; Abesto Mfg. Co., Michigan City, Ind.

Wood Preservatives: improved chemicals, cleaner, more concentrated, lower in shipping cost; also new sap stain control chemical; A. D. Chapman & Co., Inc., Chicago

Wood Preservatives: improved materials; American Lumber & Treating Co., Chicago

RESEARCH UNDER WAY, BUT NO ANNOUNCEMENT NOW

Structure

Curtis Companies, Clinton, Iowa

Pittsburgh Steel Co., Pittsburgh

Sharon Steel Corp., Sharon, Pa.

Soulé Steel Co., Los Angeles

Trinity Portland Cement Co., Dallas

Truscon Steel Co., Youngstown

U. S. Steel Corp., New York

Wickwire Spencer Steel Co., New York

Protection, Preservation

Albi Firepel Corp., New York

Samuel Cabot, Inc., Boston

Devoe & Raynolds Co., Inc., New York

NO ANNOUNCEMENT NOW

Structure

Air Reduction Sales Co., New York (welding)

Cemenstone Co., Neville Island, Pa. (artificial stone)

Iron & Steel Division, Kaiser Co., Oakland, Calif.

Medusa Portland Cement Co., Cleveland

Timber Engineering Co., Washington, D. C. (timber connectors)

Protection, Preservation

American Brass Co., New York (copper flashing)

Chase Brass & Copper Co., Waterbury, Conn.

Sisalkraft Co., Chicago

Timber Engineering Co., Washington, D. C. (termite shields)

product, as good or better. The one who publicizes must be more than usually certain of his ground today, because the manufacturing holiday has put almost all producers on an even basis. He must control basic patents, or be so fully advanced that competitors cannot catch up with him; otherwise the profit will be insufficient to make the venture worth while. Lacking sure grounds such as these, or the certainty which comes with acknowledged, unqualified preeminence in his field, the manufacturer would, from a very justifiable point of view, be a fool to "shoot off his mouth" prematurely.

There are exceptions, of course: the manufacturer like Du Pont, for instance, whose products must become familiar to other manufacturers whose job it is to fabricate the basic material into usable products. Companies of this nature have to publicize in advance of what might be called the "utility" phase of development. Often, by advertisement to the general public, they have actually created markets for non-existent items.

The Public Attitude

Sometimes this public demand annoys the converter-manufacturer who must quite often bear development expense which he considers unwarranted. Wasn't the old product doing well enough? But before you condemn such an attitude, investigate the situation and try to imagine yourself in the manufacturer's position, to determine your attitude, given his dilemma: a substantial investment in plant, equipment, labor; taxation and regulation which, regardless of their merits, have tremendously increased during war years; and plain habit. Do you, yourself, live in a Cape Cod Cottage? Why, in this day and age?

Yet the public, too, has had a holiday from building, and many more people than usual have cash in their pockets. They want to spend it, and many are; but many are also laying up reserves for the things they've dreamed of having some day. A house, their own, bulks large in each of these dreams if we are to believe the multitudinous surveys, private and public, to which we've been subjected for months. What is more natural than for the aspirant to dream of the best possible house? Boiled down, that's one aspect of the American way: more than mere shelter, more than barren security or necessity demands; the utmost that can be afforded of comfort, convenience, even luxury.

Recently we have been assailed by reactions from manufacturers, associations, and publicists who are afraid of this dream house. These range all the way from ingenuous—and windy—assertions that the dream house idea is silly, even dangerous, nay, un-American, to the following ambiguous, standardized statement: *"Architects may specify any or all of our prewar products and new products such as shown in catalogs which they have with full assurance that they will be available in (the) early postwar period."*

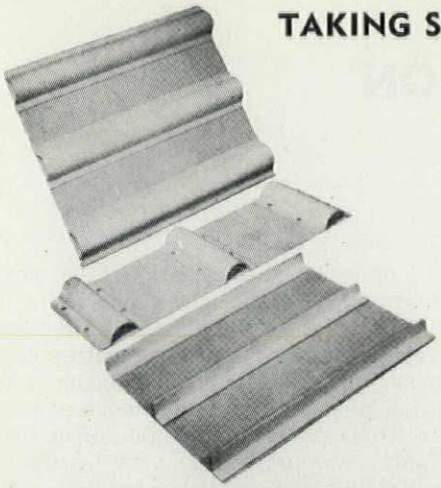
We believe this counter-publicity will not achieve its intended results, even at the same time that we grant that not all the houses which will be built postwar will embody the fullest measure available of technical advance. It is not just that such cries don't stop inexorable progress. Our belief is based upon several facts.

For one thing, several reputable manufacturers of building materials advertised dream houses widely, some months ago, in nationally circulated weekly consumer magazines—one of the most effective means of swaying the general public. Although such an advertising program may, in their later judgment, seem a mistake to the manufacturers, it would take a campaign many times stronger, and more expensive in money and goodwill, to undo the "damage." We have yet to see an advertisement reading: "Dear Public, we were wrong. You *can't* have a dream house in the postwar era."

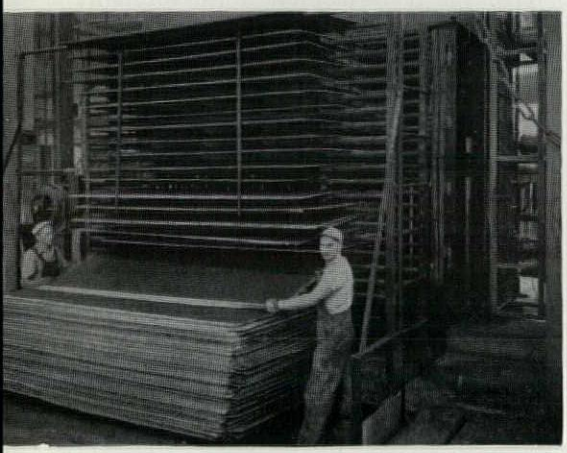
For another, several reputable manufacturers of both basic materials

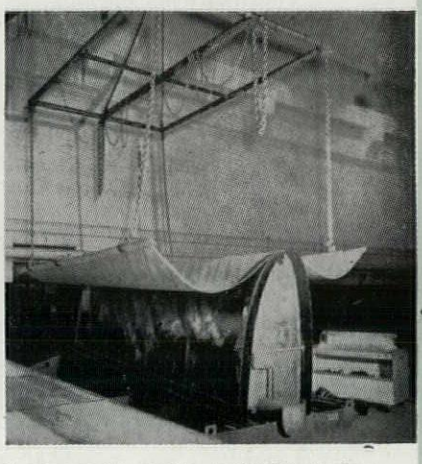
TAKING STOCK FOR THE FUTURE

SUPPLEMENTARY CONSTRUCTION,

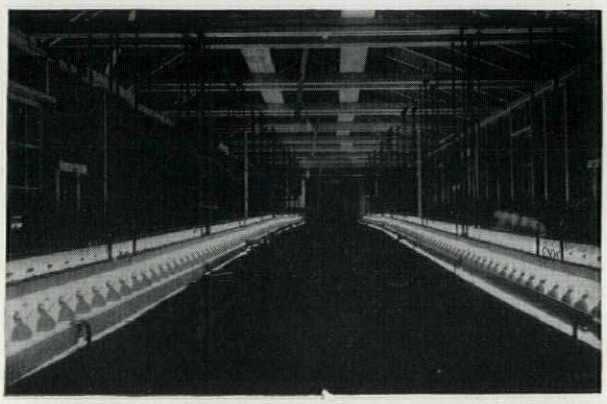


Left, "Marcolite," Continental Can Co., rigid sheet plastic of great potentialities, shown backed with structural stiffeners of same material

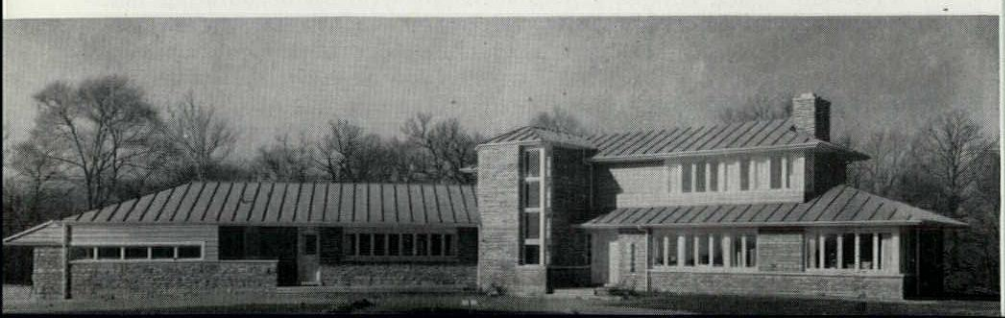




Above, left, manufacturing plastic-surfaced plywood; right, manufacturing part of a plane wing of wood plies, indicating the many structural possibilities of formed plywood



Above, testing sheet copper gutters (Revere Copper & Brass) revealed that normal temperature changes require such items to be designed as horizontal columns. Below, roof of G. I. "Paintgrip," Armco's product



Structural and Surfacing Materials

Flooring, Metal: expanded metal plus solid steel sheet, laminated, for lightweight, high-strength panels; U. S. Gypsum Co., Chicago; also heavy mesh for floor gratings

Flooring, Safety Finish: "Dektred", composed of ground-up garnets mixed with fireproof synthetic resin binder, for spraying on wood, concrete, metal; also "Griptred", a similar product; Goodyear Tire & Rubber Co., Akron

Flooring, Safety Finish: "R-Mir-Dek", anti-slip, grease-proof surfacing, wear-resistant, fire-resistant; available in several types according to service required; varying colors and finishes; for brush, spray, trowel application; Miracle Adhesives Corp., Newark, N. J.

Flooring, Safety Tread: "Jal-Tread" checkered steel floor plates, Jones & Laughlin Steel Corp., Pittsburgh

Flooring, Wood: improved finish on "Streamline" and other flooring, preassembled; E. L. Bruce Co., Memphis

Glass Block: sturdier, better light transmission and distribution characteristics; Owens-Illinois Glass Co., Toledo

Glass, Insulating: "Thermopane" assembled from "Blue Ridge" patterned glass plus "Aklo" heat-resisting glass; Blue Ridge Division, Libbey-Owens-Ford Glass Co., Toledo

Linoleum: new fire-retardant type; also new static-conductive type for hospital operating rooms; Congoleum-Nairn, Inc., Kearny, N. J.

Marble: new production methods designed to reduce cost; Vermont Marble Co., New York

Plaster, Finish Coat: autoclaved hydrated lime, to be used 30 min. after mixing; Ohio Hydrate & Supply Co., Woodville, O.

Plastics: "CR-39," new transparent plastic with great abrasion resistance, cheap to mold, suitable for laminations or use alone, thermosetting; Pittsburgh Plate Glass Co., Pittsburgh

Plastics, Laminated: "Marcolite," now supplied for war only in sheets, formed, or fabricated; colorless, takes on appearance of laminating materials such as glass fiber, fabrics, paper, etc.; can be colored; Continental Can Co., New York

Plastics, Sheet: "Tempreg," dense, great strength and dielectric properties; U. S. Plywood Corp., New York

Plywood, Fire-Resistant: new type, under prewar cost, high degree of fire resistance (not made of impregnated wood); U. S. Plywood Corp., New York

Plywood, Large Panels: up to 50 ft. long or longer, 8½ or 9 ft. wide; M & M Woodworking Co., Portland, Ore.; Harbor Plywood Corp., Hoquiam, Wash.; U. S. Plywood Corp., Seattle and New York

METHODS OF AFFIXING, FINISH

Plywood, Metal-Surfaced: "Plymetl," metal and plywood bonded together; Haskelite Mfg. Corp., Grand Rapids

Plywood, Metal-Surfaced: "Armorply," stainless steel bonded to plywood; U. S. Plywood Corp., New York

Plywood, Molded: certain standard shapes, such as tubing, etc.; also molded to order in large forms with or without additional materials (glass cloth, impregnated cloth, paper, etc.); this latter product expensive except in great volume; U. S. Plywood Corp., New York

Plywood, Plastic-Surfaced: stabilized plywood surfaced with waterproof sheet plastic; "Inderon" made by C-W Plywood Co., Chicago; Buffelen Lumber and Mfg. Co., also Wheeler, Osgood Co., both Tacoma; Olympic Plywood Co.; Washington Veneer Co., Olympia, Wash.; Simpson Industries, Inc., Seattle. "Super-Harborite," Harbor Plywood Corp., Hoquiam, Wash. Similar products from U. S. Plywood Corp., New York. "Inderon" surfacing is "Kimpreg," sheet plastic carried on paper base; Kimberly-Clark Corp., Neenah, Wis.

Plywood, Specialties: paper-bonded veneers; paper-faced plywood embossed to resemble brick, tile, etc.; prefinished plywood in pastel and other colors; these and other low-cost variations; U. S. Plywood Corp., New York; Douglas Fir Plywood Assn., Tacoma, etc.

Plywood, Structural Shapes: structural angles in various sizes; tubing, round and rectangular; corrugated, etc.; U. S. Plywood Corp., New York

Roofing, Asphalt: cold application asphaltic compounds; Abesto Mfg. Co., Michigan City, Ind.

Roofing, Metal: new alloy; American Smelting and Refining Co., New York

Roofing, Shingles: "Timbergrain" asphalt shingles; Ruberoid Co., New York

Siding: "Vitramic" asbestos-cement siding; Ruberoid Co., New York

Storefronts: old products thoroughly redesigned, also several new ones; Kawneer Co., Niles, Mich.

Storefronts: "Pittco Premier," new lightweight metal, simplified setting procedure; now alumilited; eventually in bronze, stainless steel; Pittsburgh Plate Glass Co., Pittsburgh

Sheet Metal: research in use of copper and copper-fabricated gutters, etc.; Revere Copper & Brass, Inc., New York

Tile: "Kraftile," now coordinated with American Standards Assn.—A.I.A.—Producers' Council program for modular standardization; Kraftile Co., Niles, Mich.

Tile, Asphalt: revised specifications; Asphalt Tile Institute, New York

and end products continue to advertise new wonders, to hint at great developments whose definite announcement the war prohibits.

For yet another, accurate inspection of the accompanying lists, fragmentary as they are, will convey the information that the dream house is here, awaiting in some instances only the assembly of its component parts, in others refinement or further development of usable products. It may be still a relatively expensive dream house, even beyond most war-swollen purses, but as time brings mass production and mass assembly of existing fragments, it will reach the moderate-price class.

Labor and the New

Upon this phase, frankly, any man's guess might be good. Miles Colean, writing in *Banking* magazine early in this war, predicted that changes in standards due to war conditions would lessen what has been called labor's former habitual resistance to new techniques; and that the drift of mechanics from many building trades to other occupations than construction, the practical halt in training apprentices to replace the abnormal losses of manpower in the building trades, and the tremendous demand for construction men when building is resumed, would all combine to break down custom and habit. Against this opinion, well informed yet nevertheless not established in fact, must be set another possible situation: With so few trained men available, will organized building labor try to attain greater security by penalizing unfamiliar techniques and materials? Various individuals and groups have done as much or more in the past, as any moderately informed reader knows. Speaking honestly, with all recognition of the benefits achieved for their own individual members and for construction in general by building labor organizations, we yet recognize that a man who has learned to do his job successfully one way finds it hard to change; and that, sometimes apparently due to such enforced changes, sometimes obviously to less honorable causes, there have been labor difficulties mild and severe. (Of course, there are obstructionists and scoundrels in business and professional life, too!)

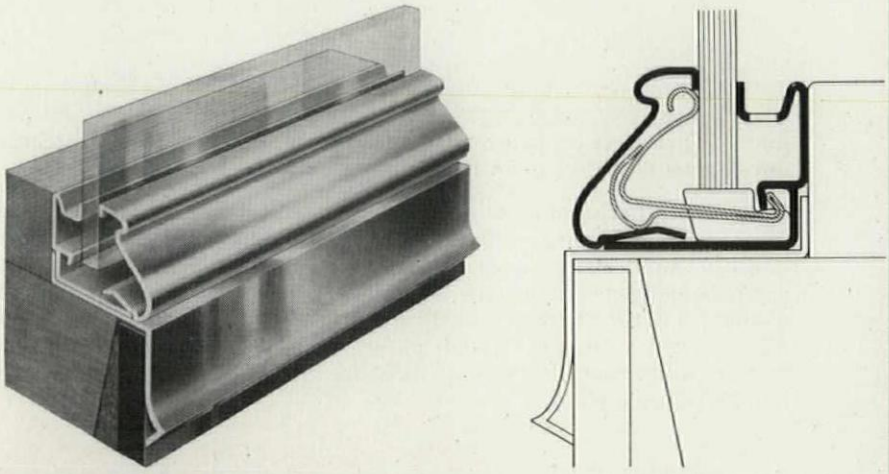
Only one thing seems certain. We will probably experience more thorough, more widespread labor organization in the building field after the war, not only because that seems to be the trend of the times but also because construction men along with others have been intermingled, shipped hither and yon, union and non-union alike, raw country jack-of-all-trades along with the experienced urban mechanic. Growth of more widespread unionism, probably healthier due to its size, success, and resultant conservatism, seems bound to result.

Building Codes—Restrictive or Inspiring?

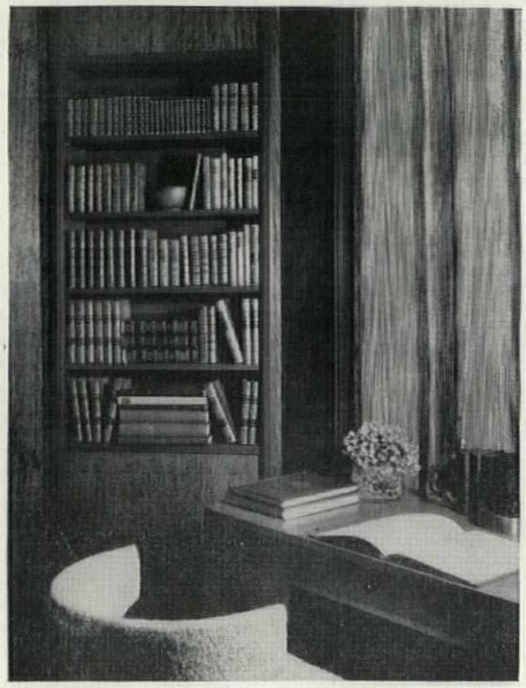
Here again the future is unclear, although certain indications exist. For example, allowable steel stresses have been increased in the past, but what about magnesium as a structural material? In the one case you have an orderly progression, liberalization starting from a known base rooted in a vast compilation of data, experience, and scientific analysis. The joker is "experience," which does not exist in a comparable fashion for the newer metal. The data can eventually be compiled, the experience will probably develop, the scientific approach exists. Today, even the most outspoken producer of mag-

SUPPLEMENTARY CONSTRUCTION, AFFIXING, FINISH

continued from page 73

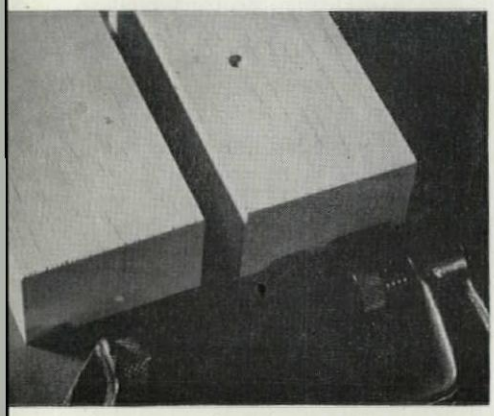


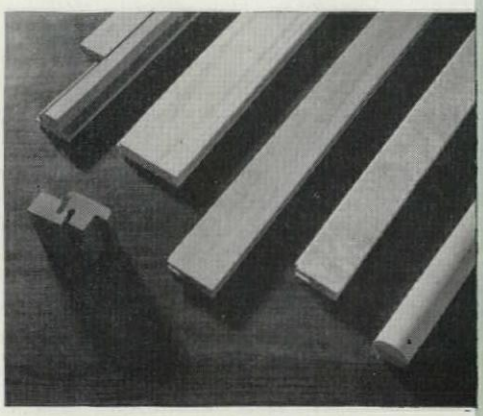
Above, Pittsburgh Plate Glass Co's. new storefront metal, greatly simplified in design



Left, U. S. Gypsum's "Sheetrock" with wood grain surfacing

Below, Du Pont's "transmuted wood"; extreme left, treated piece, next, untreated, showing difference in hardness; right, dimensionally stable prefinished lumber, including, at left of picture, meeting rails for sash





Wall Materials, Asbestos-Cement: new construction system for "Transite"; Johns-Manville Corp., New York (see "Construction; partitions")

Wall Materials, Gypsum: "Sheetrock" with aluminum foil backing, prefinished and unfinished; laminated gypsum boards in varying thicknesses, for walls, floors, roofs, etc.; "Triple Sealed" gypsum board, weatherproofed, for siding and sheathing; U. S. Gypsum Co., Chicago

Wood (see also "Plywood"): "Arboneeld," wood treated with dimethylolurea to attain great hardness, resistance to moisture, integral coloration, superior finish (publicized as transmuted wood); E. I. du Pont de Nemours & Co., Wilmington, Del.

Veneers: see "Plywood"

AFFIXING MATERIALS

Glue, Synthetic Resin: "Cascophen RS-216," new type, for wood, sets at room temperatures, requires only low pressure, bonds on uneven surfaces, heat and moisture resistance comparable to heat-set glues; Casein Co. of America, New York

Plastic Adhesives: "Miracle Adhesives," cold setting, waterproof, flexible, dielectric, non-toxic; bonds metal, glass, plastics, wood, ceramics, cork, etc.; Miracle Adhesives Corp., Newark, N. J.

Resin Adhesives: new types; Durez Plastics & Chemicals, Inc., North Tonawanda, N. Y.

Resins, Synthetic: new types for bonding together wood, metals, plastics; for laminating heavy timbers; for impregnating wood; Resinous Products & Chemical Co., Philadelphia

Rubber, Synthetic: "Pliobond," for bonding wood and metal with moderate pressure and heat; Goodyear Tire & Rubber Co., Akron

Surface Preparation: "Miracle Mix," for preparing rough surfaces to receive linoleum, cork tile, etc.; Miracle Mix Supply, Inc., Cleveland

INTERIOR FINISHES, PROTECTION

Floor Finish, Safety: "Safe-T-San," liquid floor polish, imparts luster and reduces slip hazard; can be buffed with polishing machine; Huntington Laboratories, Inc., Huntington, Ind.

Paints, Oil: new semi-gloss paint now being tested; U. S. Gypsum Co., Chicago

Paints, Water-Thinned: regular and "330 Texolite" for interior walls and ceilings, ready-mixed; also in deep colors for custom mixing; washable; U. S. Gypsum Co., Chicago

Resins, Oil-Soluble: paint ingredients, new; Durez Plastics & Chemicals, Inc., North Tonawanda, N. Y.

Waterproofing: cold-application asphaltic compounds; Abesto Mfg. Co., Michigan City, Ind.

RESEARCH UNDER WAY, BUT NO ANNOUNCEMENT NOW

Surfacing Materials

Blank, Inc., Frederick & Co., New York (fabric wall coverings)

Celotex Corp., Chicago

Cleveland Gypsum Co., Cleveland (acoustical plaster, stucco, etc.)

Columbus Coated Fabrics Corp., Columbus, O. (plastic and synthetic rubber fabric coatings)

Erie Enameling Co., Erie, Pa. (enameled metal products)

Formica Insulation Co., Cincinnati (laminated plastics)

Keasbey & Mattison Co., Ambler, Pa. (asbestos, magnesia)

Structural Clay Products Inst., Washington, D. C.

U. S. Gypsum Co., Chicago (improved gypsum products)

Wood Mosaic Co., Louisville ("Parkay" flooring)

U. S. Plywood Corp., New York ("Flexwood," "Flexglass")

Finishes

Eagle-Picher Sales Co., Cincinnati

New Jersey Zinc Co., New York

Du Pont de Nemours & Co., E. I., Wilmington, Del.

Sonneborn Sons, Inc., L., New York

NO ANNOUNCEMENT NOW

Surfacing Materials

Alberene Stone Corp., New York

American Rolling Mill Co., Middletown, O.

Armstrong Cork Co., Lancaster, Pa.

Barrett Division, Allied Chemical & Dye Corp., New York

Barrows Porcelain Enamel Co., W. A., Cincinnati

Bostwick Steel Lath Co., Niles, O.

Cambridge Tile Mfg. Co., Cincinnati

Ingraham-Richardson Mfg. Co., Beaver Falls, Pa. (porcelain enameled products)

Insulite Division, Minnesota & Ontario Paper Co., Minneapolis

Kennedy, Inc., David E., Brooklyn, N. Y. (resilient tile)

Koppers Co., Tar & Chemical Division, Pittsburgh

Masonite Corp., Chicago

Du Pont de Nemours & Co., E. I., New York (coated fabrics)

Porcelain Metal Products Co., Carnegie, Pa.

Rising & Nelson Slate Co., West Pawlet, Vt.

Robertson Co., H. H., Pittsburgh (structural metal panels, etc.)

Superior Sheet Steel Co., Canton, O.

Tile-Tex Co., Chicago Heights, Ill.

Youngstown Sheet & Tube Co., Youngstown

Affixing Materials

Richmond Screw Anchor Co., Brooklyn, N. Y.

nesium, Dow Chemical, projects the material only for situations where lightness of weight and portability are the criteria, and barely mentions construction.

Upon such bases building codes are today formulated. Many of them, including the most liberal, are antiquated in greater or lesser degree in the light of current knowledge. A code which states that wood-framed partitions must be supported by framing members not less than 2" by 4" in cross section, placed not more than 16" on centers, is not only antiquated—it is restrictive. Suppose stressed-skin construction makes the structural properties of the surfacing material available to the structure as a whole—as it does—why should this development be penalized in building construction? It is not in construction of airplanes, which are far more hazardous, inherently, than buildings. Imagine a Mosquito bomber made of laminated wood plies supported on mandatory 2" by 4" wood framing, 16" o.c.

During the war, the necessity for conserving materials enforced certain temporary standards. Admittedly some of these are faulty for permanent construction; yet their use may afford the body of experience necessary before permanent codes can be revised. In one Middle Western state, statewide building and sanitary codes have been revised to a certain degree; admirably, they are based as far as possible on *performance requirements.* That is, they specify what a given material in a given situation shall be required to accomplish, not what size it shall be. To certain classes of building, however, the codes do not apply. And certain manufacturers are concerned about code modernization precisely because use of their products is restricted by antiquated code clauses.

In other words, it seems at last as though some code revision might be expected, probably not much unless those who want it organize and become sufficiently vocal.

Taking Stock: New Building Products

On such factors as we have just enumerated the building materials or equipment manufacturer must base his decision to develop a new product, and with it developed, to announce it to what he hopes is an appreciative world. You cannot blame him for hesitating. In fact, as the difficulties mount, you can have nothing but awe for the individual here, the company there, the association over yonder, that dares to blazon on the public record even the smallest advance. True, circumstances often force the new developments, but that is not always the case.

Those things which are new fall into several general categories: **1, Improvements in design or fabrication** of individual items, often aimed at lowering manufacturing costs so that more of the item can be sold more cheaply. **2, Development or refinement** of existing products, usually intended to increase the efficiency of their use, or to make them available for additional uses. **3, Origination of new products** for purposes which were formerly served reasonably well by existing products. **4, Origination of new products for new purposes,** to serve needs which previously were unsatisfied, or were satisfied only imperfectly by relatively clumsy means.

All of these can contribute immeasurably to progress in architecture. Some overlap to a degree, but the distinction, we think, is clear.

Improvements in Design or Fabrication

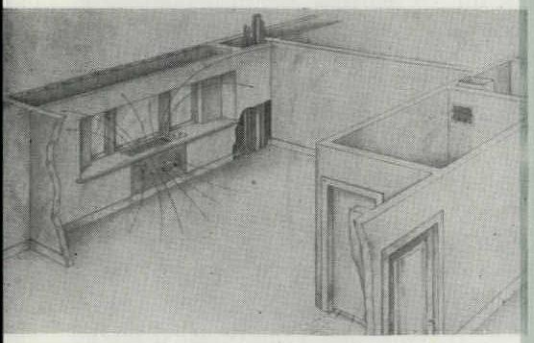
These, literally, are almost numberless. They range from improved fabrication methods in New Castle Products' "Modernfold" doors, which the company frankly says are aimed at lowering the retail price, to the theory of "Selective Concreting," which is the Lone Star Cement Corporation's contribution toward more effective, less costly, use of a familiar material. The paint companies, Pratt & Lambert and Du Pont among them, announce improved formulae. U. S. Plywood is prepared to produce a new low-cost type of fire-resistant plywood—not, they tantalizingly say, made of impregnated wood; just what it *is* made of we don't know at the moment. There are many others, some routine, some challenging.

Development or Refinement of Existing Products

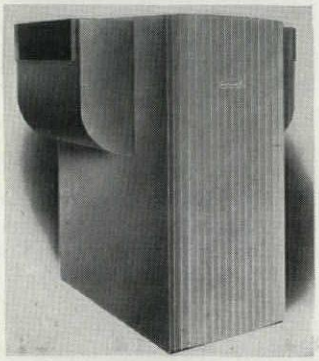
In this category falls U. S. Gypsum's familiar "Sheetrock," now backed with aluminum foil to act as insulation and vapor barrier.

ATMOSPHERIC CONTROL:

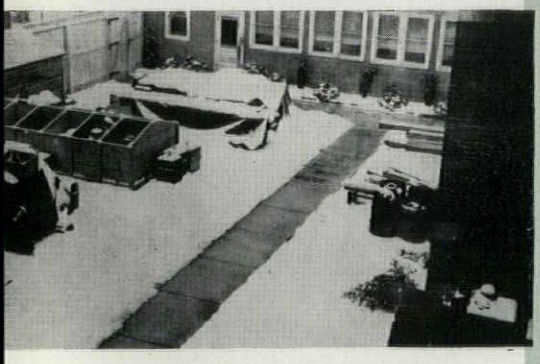
Above, heat lamp



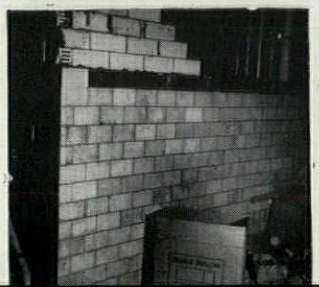
Above, Carrier "Conduit Weathermaster" system for tall buildings



Above, Servel's gas-fired summer-winter conditioner; below, radiant heating under sidewalks for snow removal; Byers Pipe



Below, Pittsburgh Plate Glass Co's "Foamglas"



Air Conditioning

"Airtemp": complete air conditioning units for moderate-priced houses, combining packaged summer cooling unit and forced warm air furnace; thermostatic controls, change-over control for winter-to-summer operation; Airtemp Division, Chrysler Corporation, Dayton, O.

"Conduit Weathermaster System": same system installed in Statler Hotel, Washington, D. C., with improvements; for multi-story, multiroom buildings; permits individual control of temperature in each room; air centrally treated, distributed to room units at high velocity through small ducts, brought to desired temperature at room unit, discharged at lower velocity; Carrier Corp., Syracuse, N. Y.

Room Cooler: plug-in, "packaged" type, for individual rooms; Norge Division, Borg-Warner Corp., Detroit

"Servel All-Year Gas Air Conditioner": complete all-year air conditioning, gas-fired, utilizing the familiar Servel gas refrigeration principle; for houses; provides heating, cooling, humidification, dehumidification, air filtration and circulation; usual controls plus simple manual change-over switch for winter-to-summer operation; Servel Inc., Evansville, Ind.

All-Year Heating and Cooling Unit: new unit for systems using any kind of fuel; may be combined with Dunham "Differential Vacuum Heating (steam) System" for modulating heat flow according to weather demands; C. A. Dunham Co., Chicago

Heaters and Heating Systems

Automatic Coal-Firing Equipment: complete line of automatic stokers, domestic, commercial, industrial; also self-contained stoker-fired central house heating unit; Rheem Mfg. Co., Inc., New York

"Fedders Series 15 Unit Heater": copper core industrial unit heater with streamlined tube construction designed to improve heat transfer, reduce resistance to air flow; Fedders Mfg. Co., Buffalo, N. Y.

"600 Series Majestic Steel Furnace": redesigned heavy-duty hot air furnace for gravity or forced-flow systems; Majestic Co., Huntington, Ind.

Gas-Fired House Heating Unit: central heat source, new burner and automatic combustion control, adaptable to air conditioning, hot water, radiant systems; simplified; designed to reduce fuel costs drastically; C. A. Dunham Co., Chicago

"Integral-Furnace Boiler": improvements on well-known industrial type; Babcock & Wilcox Co., New York

Floor Furnaces: available at present in 25,000, 35,000, 50,000 Btu sizes, manual or automatic; gas-fired; available postwar in de luxe models, slightly larger inputs, also for liquid petroleum gas and oil fuels; Rheem Mfg. Co., Inc., New York

Glass Heating Units: "Securit" tempered glass carrying electrical resistance composed of atomized aluminum; suggested as wall or ceiling panels; window ventilators; hot tables; pancake fryers; low-temperature controlled heating as in hatcheries, etc.; space heaters; Blue Ridge Glass Corp., Kingsport, Tenn.

Heat Lamps: Westinghouse infra-red lamps for supplemental local heating; Westinghouse Lamp Division, Bloomfield, N. J.

Hot Water Heating System: new type to be announced later; Hoffman Specialty Co., Indianapolis

Radiant Heating: improvements in hot water system design; A. M. Byers Co., Pittsburgh

Warm Air Heating: direct-fired, for any fuel, for large industrial developments; Dravo Corp., Pittsburgh

Valves, Equipment, Etc.: improvements on familiar equipment; Hoffman Specialty Co., Indianapolis

Insulation, Weatherstripping

"Foamglas": structural insulation composed of glass blown into cellular product increased in volume about 15 times; weighs 10.5 lb. per cu. ft.; great buoyancy, K-value (50° F) 0.45, low absorption; easily worked with hand or power tools; semi-structural in nature; Pittsburgh Plate Glass Co., Pittsburgh

"Lo-K": flame-proofed, lightweight, anti-vermin and anti-fungus treated cotton insulation; Lockport Cotton Batting Co., Lockport, N. Y.

"Plastic Foam": new synthetic derivative, extremely lightweight, fireproof, waterproof; sound and heat insulation; Goodyear Tire & Rubber Co., Akron

Weatherstrip: "Plioflex," synthetic rubber, highly weather-resistant; Goodyear Tire & Rubber Co., Akron

Refrigeration, Commercial

For deep-freeze equipment, etc., see "Furnishings: Refrigerators, Refrigeration"

RESEARCH UNDER WAY, BUT NO ANNOUNCEMENT NOW

Air-Maze Corp., Cleveland

American Radiator & Standard Sanitary Corp., New York

Anchor Post Fence Co., Baltimore (oil burners)

Anemostat Corp. of America, New York

Baldwin-Hill Co., Trenton, N. J. (insulation)

Barber-Colman Co., Rockford, Ill. (air distribution outlets)

Bennett-Ireland, Norwich, N. Y. (fireplace equipment)

Bryant Heater Co., Cleveland

Fitzgibbons Boiler Co., New York

Frick Co., Waynesboro, Pa. (refrigeration)

General Fittings Co. (heating accessories)

Gilbert & Barker Mfg. Co., Springfield, Mass. (oil burners)

Air Conditioning, Cooling, Heating, Insulation

Hartzell Propeller Fan Co., Piqua, O.

Harvey-Whipple, Inc., Springfield, Mass. (oil heating equipment)

Holland Furnace Co., Holland, Mich.

S. T. Johnson Co., Oakland, Calif. (oil burning equipment)

Lennox Furnace Co., Marshalltown, Iowa

McQuay, Inc., Minneapolis (air conditioning)

Modine Mfg. Co., Racine, Wis. (heating, air cond. equipment)

National Radiator Co., Johnstown, Pa.

Owens-Corning Fiberglas Corp., Toledo

Payne Furnace & Supply Co., Inc., Beverly Hills, Calif.

Ric-wil Co., Cleveland (insulated heat distribution systems)

Schaible Co., Cincinnati (heating equipment)

Sturtevant Co., B. F., Boston (heating, air cond. equipment)

Swartwout Co., Cleveland (ventilating equipment)

Trane Co., La Crosse, Wis. (convectors, unit heaters, air cond.)

Watts Regulator Co., Lawrence, Mass. (temp. and pressure controls)

Williamson Heater Co., Cincinnati

Wood Conversion Co., St. Paul (insulation)

NO ANNOUNCEMENT NOW

Burnham Boiler Corp., Irvington, N. J.

Chamberlin Metal Weather Strip Co., Inc., Detroit

Detroit Lubricator Co., Detroit (controls and accessories)

Emerson Electric Mfg. Co., St. Louis (ventilating equipment)

Frigidaire Division, General Motors Corp., Dayton, O.

Ilg Electric Ventilating Co., Chicago

Insulite Division, Minnesota & Ontario Paper Co., Minneapolis

Iron Fireman Mfg. Co., Cleveland (stokers)

Kewanee Boiler Corp., Kewanee, Ill.

Mueller Brass Co., Port Huron, Mich. (piping)

Petroleum Heat & Power Co., Stamford, Conn. (oil burners)

Propellair, Inc., Springfield, O. (ventilating equipment)

Smith Co., Inc., H. B., Westfield, Mass. (boilers)

Surface Combustion, Toledo (heating, air cond. equipment)

Todd Shipyards Corp., New York (combustion equipment)

U. S. Radiator Corp., Detroit

Wiegand Co., Edwin L., Pittsburgh (electrical heating units)

Williams Oil-O-Matic Heating Corp., Bloomington, Ill.

Also, a new fixture hanger (for fluorescent lighting fixtures) designed to simplify installation and maintenance, produced by Day-Brite Lighting, Inc.; a new model of water softener for residential use, by Permutit; a new Faraday plug-in outlet plate for annunciator or call units, the "Uni-Pact" dead-front plate; Roddis Lumber & Veneer Co's. new prefabricated door assembly, complete with frame and trim.

One development not mentioned in the lists is "Duraplastic," billed as the latest thing in Portland cement and concrete work. It is produced by the Universal Atlas Cement Co., and consists of true Portland cement in which there has been interground during manufacture a precise amount of air-entraining material. It was developed to make concrete paving which would satisfactorily resist freezing and thawing, which would not "scale" when de-icing salts were applied. These and other characteristics appear desirable for many types of concrete work. Experience indicates that "Duraplastic" requires less mixing water, makes more workable, uniform concrete, and spreads, screeds, and finishes more easily.

Indicative of many possibilities for reducing construction costs and simplifying procedures is a project of the American Standards Association, developed by a committee composed of architects and representative manufacturers, with the backing of A.I.A. and the Producers' Council. Known as "ASA Project A62," this aims to encourage the use of modular planning in postwar construction. A 4" module is the basis for coordination, and the project involves sizes of building materials and equipment, in order to permit their field assembly with a minimum of cutting and fitting; details showing such assemblies; and planning in which dimensions are determined in accordance with modular sizes and details.

The coordination of masonry sizes is fairly simple; but even more complicated materials are beginning to fall in line. Among others, the Metal Window Institute has agreed, and all metal sash—except residence casements—manufactured by its member companies are henceforth to be in modular sizes, with standard installation details. Similar action is reported by the Kraftile Company, ceramic tile manufacturers.

New Products for Old Uses

In this category we begin to find developments which stimulate the creative mind because they are unusual. To take but two examples, one a building material and the other a piece of equipment, we have new things in glass and in domestic laundry units.

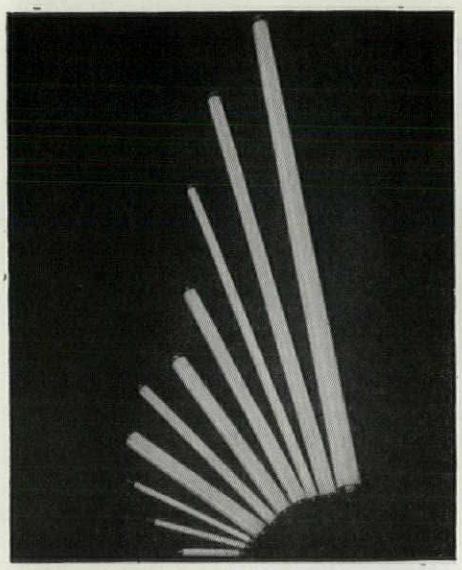
"Fiberglas," of course, is not a new material in itself (Owens-Corning Fiberglas Corp.) but its manufacturer is continually searching for ways to use the product. We have been apprised of its use as insulation and in fabrics; these are today only the mundane applications. Now, among its many uses, we hear of it being laminated between layers of clear plastic by the Continental Can Co. The result, "Marcolite," is a hard, strong plastic sheet, capable of taking on the appearance characteristics of the laminating material (which may also be fabric, metal mesh, etc.), or of being colored, etc.

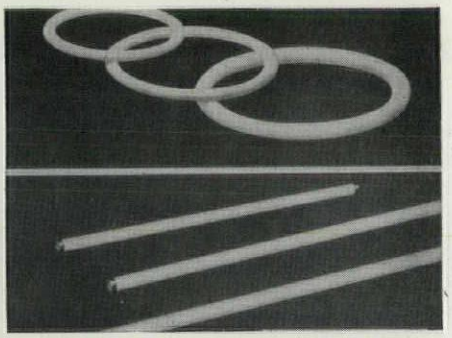
In an entirely different direction, we have a new heat-tempered glass, "Securit," produced by the Blue Ridge Glass Corp. (Libby-Owens-Ford), which is available in many types of clear and patterned glass. In addition to obvious uses for such a product, Blue Ridge is much interested in "Securit" coated with atomized aluminum, which becomes a face-insulated electrical resistance unit suitable for heating purposes. Now you can have a bathroom wall of strong, tough glass, which, when you turn a switch, becomes a radiant heating panel. Who said the dream home isn't here?

After such a brief scrutiny of glass developments we consider the

TAKING STOCK FOR THE FUTURE

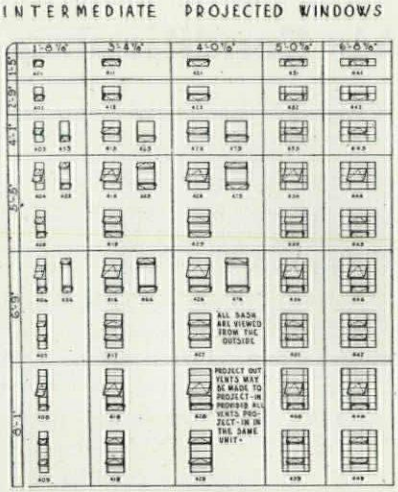
CONTROL OF LIGHT, Artificial, Natural





Above, "Circline" and "Slimline" fluorescent lamps

Left, fluorescent lamps in sizes from midgets to monsters



Mesker Bros. new sizes, for one type of metal window, determined in accord with modular planning

ARTIFICIAL LIGHTING

Fixtures

"Day-Brite": new types of fluorescent fixtures; new fixture hangers designed to simplify fixture installation, maintenance, repair; chiefly commercial, industrial applications; Day-Brite Lighting, Inc., St. Louis

"Disinfectaire" Units: newly designed fixtures for germicidal lamps, for industrial, commercial, institutional work (butcher shops, bakeries, hospitals, clinics, etc.); Art Metal Co., Cleveland

"Guth" Fixtures: new types of fluorescent, cold cathode, mercury vapor, incandescent lamps, chiefly industrial, commercial, institutional; also "Plastic Fluorescent Channels," colored plastic snap-on covers for fluorescent tubes, to diffuse light; also fixtures for germicidal lamps ("Air-Disinfecting Fixtures") for commercial, industrial, institutional uses; Edwin F. Guth Co., St. Louis

"Goodrich Stocklite": fixture designed especially to illuminate shelves and bins in narrow aisles, as in stockrooms, warehouses, libraries, etc.; Goodrich Electric Co., Chicago

"Hygeaire": ultraviolet germicidal unit; American Sterilizer Co., Erie, Pa.

"Miller Troffer": fluorescent fixture designed for integration with ceiling structure; a war development, in which lighting fixtures help support the suspended ceiling; to be offered for commercial, educational, etc., buildings; The Miller Co., Meriden, Conn.

"Mitchelite" Fixtures: all-steel industrial fluorescent fixtures, open or closed end, porcelain or baked enamel finish; Mitchell Mfg. Co., Chicago

Fixture Hanger: designed to save as much as 50% of mounting time; to be incorporated in all units; F. W. Wakefield Brass Co., Vermilion, O.

Lamps

Fluorescent: new developments include General Electric "Slimline" hot cathode, instant starting, in various lengths, two diameters (¾", 1"); G-E "Circline," circular fluorescent lamps intended primarily for portable fixtures; increased life ratings on standard fluorescent types. New Westinghouse developments are similar: increased life, reduced initial cost, instant starting; "Slimline" tubes ¾" and 1" diam.; "Circline" lamps 8½", 12¼", 16" outside diam., 20, 30, 40 watts; Sylvania will have comparable developments; General Electric, Lamp Dept., Nela Park, Cleveland; Westinghouse, Lamp Division, Bloomfield, N. J.; Sylvania Electric Products, Inc., Lighting Division, New York

Germicidal Lamps: ultra-violet lamps for sterilizing air in institutions, commercial enterprises where food is handled, etc.; available from most manufacturers

Incandescent Lamps: all types and sizes available from most manufacturers, including such developments as "Sealed Beam" flood lamps (reflector integral with lamp); miniature lamps; reflector (interior use) and projector (exterior use) flood and spot lamps for displays, etc.; incandescent lamps with bayonet bases (large wattages only); many other developments

Mercury Lamps: several types; conventional, sealed-in reflector, sun lamps, heat lamps, etc.; most manufacturers

"Verd-A-Ray" Lamps: new type, incandescent lamp, bulb of special glass, outside-coated, developed to reduce eyestrain due to excessively bright illumination required in many industrial, commercial, professional installations; light is faintly green; light emission 85 to 95% that of unpigmented bulb; this reduced efficiency in current consumption is apparently compensated for by fewer foot-candles required for comparable seeing tasks. Reduction of fatigue in industrial work, hence greater safety; anti-halation characteristics said to reduce specular reflections, making such operations as inspection of shiny metal more accurate. Verd-A-Ray Corp., Toledo

Vibration-Resistant Lamps: special design to resist high-frequency vibration; also lamps designed to resist rough handling; incandescent; most manufacturers

NATURAL LIGHTING

Glass, Glazing

Heat-Tempered Glass: "Securit," glass treated to attain 3 to 7 times strength of untempered glass, available in certain types of figured, rolled, heat absorbing glass only; not available in wire glass; for use where impact, torsional stress, or sudden and extreme temperature changes are anticipated; suitable for many purposes in addition to glazing, including floodlight lenses, furniture tops, structural uses, glass heating panels (see "Atmospheric Control: Heating"); Blue Ridge Glass Corp., Kingsport, Tenn.

Insulating Glazing: "Thermopane," double or triple glass layers, edges hermetically sealed with metal; must be ordered to size from manufacturer, cannot be cut in field; can be made up in any combination of glass: clear, safety, figured, heat-resisting, wire, clear plate, colored plate, etc. Libbey-Owens-Ford Glass Co., Toledo

Plastic Glazing: "CR-39," transparent plastic, thermosetting (cannot be remelted), non-soluble in common solvents, has 10 to 30 times the abrasion-resistance of other clear plastics; easily formed, laminated with other materials; Columbia Chemical Division, Pittsburgh Plate Glass Co., Pittsburgh

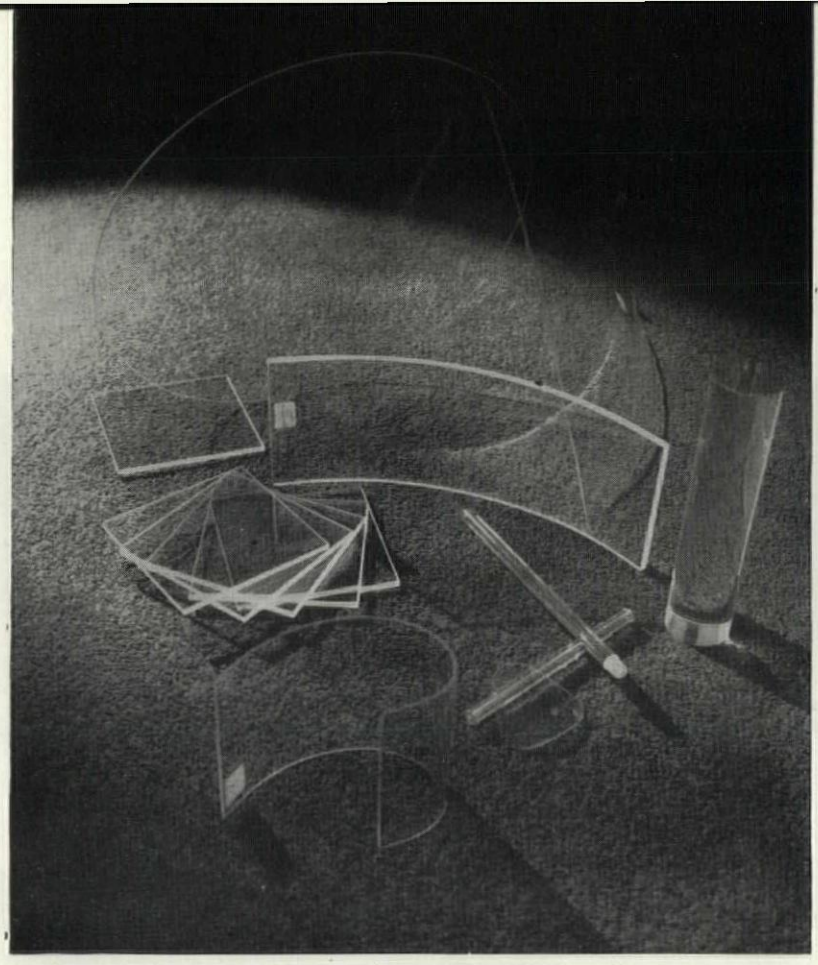
Windows

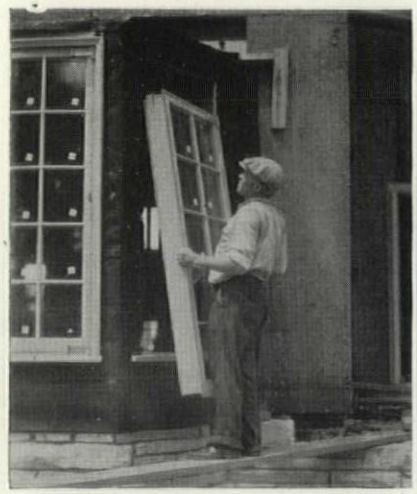
Andersen Windows: new double hung unit, no detailed information available; further standardization to conform to modular system; Andersen Corp., Bayport, Minn.

Detroit Steel Products; Hope's Windows; Mesker Windows; steel windows: see "Metal Window Institute"; Detroit Steel Products Co., Detroit; Hope's Windows, Inc., Jamestown, N. Y.; Mesker Brothers, St. Louis; all other manufacturers of metal sash who are members of Metal Window Institute

Metal Window Institute: all stock non-residential metal windows manufactured by members postwar are to be of certain standard sizes; dimensions determined to coordinate with masonry modules, based on

Right, the new transparent plastic, "CR-39" (Pittsburgh Plate Glass Co.) is harder than others of its type, will not soften under heat





"Pella" wood-and-metal sash, prefabricated units, prefitted, with extension hinges

4-inch increment; types affected include projected, combination, psychiatric, security, pivoted, housing, etc.; installation details also standardized and simplified; residence casements and basements sash not yet standardized; Metal Window Institute

"Pella Casements": (residence type) prefabricated wood-and-metal units, pre-fitted, double glazed, weather-stripped; Rolscreen Co., Pella, Iowa

Window Accessories

Screens: "AluminA," rust-resisting wire cloth; "Red Edge CrominA," electroplated, long-lived wire cloth; experiments now under way with plastic screening, but no announcement on this now; Rolscreen Co., Pella, Iowa

RESEARCH UNDER WAY, BUT NO ANNOUNCEMENT NOW

Benjamin Electric Mfg. Co., Des Plaines, Ill. (lighting equipment)

Columbia Mills, Inc., New York (shades, venetian blinds)

Curtis Lighting, Inc., Chicago (fixtures, etc.)

Ingersoll Steel & Disc Division, Borg-Warner Corp., Chicago ("Koolshade" screening)

Lightolier, New York (fixtures, etc.)

Samson Cordage Works, Boston (sash cord)

NO ANNOUNCEMENT NOW

American Brass Co., New York (shapes for fixtures)

Bayley Co., William, Springfield, O. (steel windows)

Du Pont de Nemours & Co., Inc., E. I., New York (shade cloth)

Owens-Illinois Glass Co., Toledo

Pullman Mfg. Corp., Rochester, N. Y. (sash balances)

Truscon Steel Co., Youngstown, O. (metal windows)

laundry unit—Blackstone Corporation's "Unit Laundry." Here are three separate elements—washer, dryer, ironer—designed as cabinets for building into the home. Resembling stock kitchen cabinets in appearance, they can be arranged in any sequence the laundry plan demands.

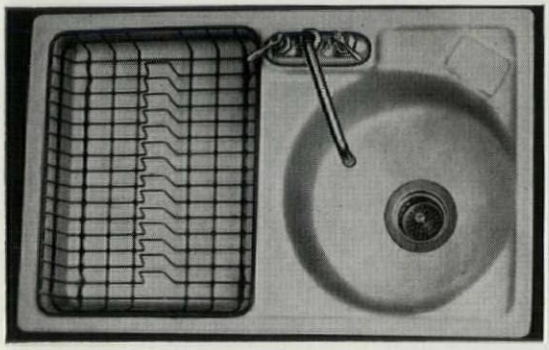
New Products for New Uses

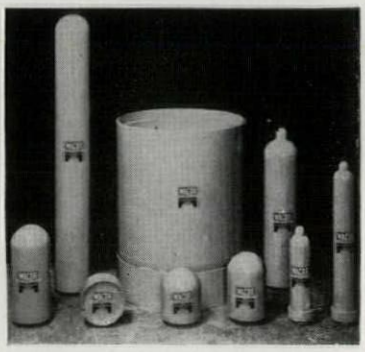
Into this classification fall such items as "Arboneeld" dimethylolurea, from E. I. du Pont de Nemours & Co., Inc., which, with urea, is used to treat woods—publicized last year as a process for "transmuting" wood. The process changes the nature of wood, imparting substantial hardness, great resistance to shrinking and swelling due to moisture, and ability to take integral color and a good polish; yet the grain, workability, etc., remain to a high degree unimpaired.

There are also "Safe-T-San," a non-slip floor polish (Huntington Laboratories, Inc.); "Hydron" form lining, designed to absorb water from concrete and thus reduce or eliminate finishing, increase resistance to weather and abrasion (U. S. Rubber Co.); a hydrostatic paint, designed to resist water pressure in sub-grade installations (The Reardon Co.).

Two very interesting developments are in the plastics field. One is "CR-39," a clear, transparent plastic produced by Columbia Chemicals Division of Pittsburgh Plate Glass Corp. This has great resistance to abrasion, compared to other plastics; can be molded easily; is suitable for laminating or independent use; and is thermosetting—that is, once shaped, it cannot be remelted. Much used in aviation, etc., it may prove valuable as a building material. The other, at the moment more practical for building construction, is plastic-surfaced plywood. This, manufactured by several companies (see page 73) under the trade names "Inderon" and "Super-Harborite," consists of a thin sheet of plastic carried on paper backing, hot-pressed to the outer surfaces of sheets of plywood. The result is a dimensionally stable building product, light, strong, with all

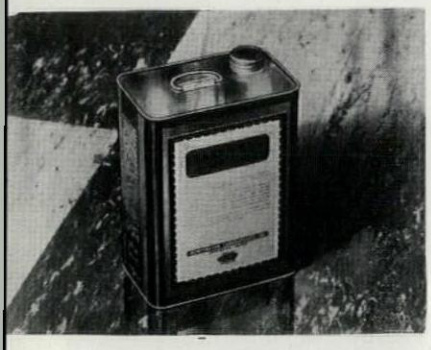
SANITATION; SAFETY; SOUND CONTROL; POWER, PROCESS TRANSMISSION



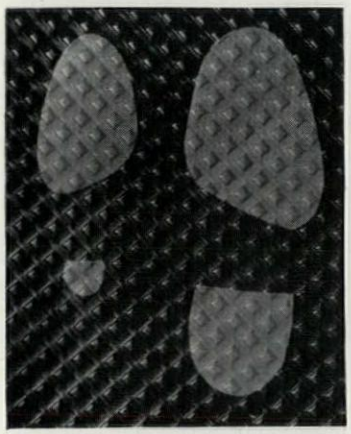


Left, two-compartment flat-rim dishwashing sink (Ebco Mfg. Co.); right, "Wacor" water hammer arresters (Wade Mfg. Co.)

"Hygeaire" ultraviolet germicidal unit (American Sterilizer Co.) for hospitals, sick rooms, etc.



Left, "Safe-T-San" (Huntington Laboratories), a non-slippery yet glossy floor polish; left below, "Jal-Tread" (Jones & Laughlin), a new metal safety flooring; right below, spraying on "Dek-Tred," safety flooring of garnet chips in fireproof synthetic resin binder



SANITATION

Bathroom and Toilet Equipment

"Bathe-Rite" Shower Cabinets: four new types of shower cabinets; Milwaukee Stamping Co., Milwaukee

"Fiat" Shower Doors & Cabinets: standardized into four groups according to cost; Fiat Metal Mfg. Co., Chicago

"Sanymetal" Toilet Compartments: ceiling-hung type; Sanymetal Products Co., Inc., Cleveland

"Weisart" Toilet Compartments: ceiling-hung type; Henry Weis Mfg. Co., Elkhart, Ind.

Domestic Water Heaters

Automatic Storage, Coal-Stoker-Fired: new line for residential, multifamily, commercial, etc., buildings; Rheem Mfg. Co., New York

Automatic Storage, Electric: improved models, increased quantity; Rheem Mfg. Co., New York

Automatic Storage, Gas-Fired: improved standard line; new de luxe models; booster type (capacities to 250 gal.); Rheem Mfg. Co., New York

Automatic Storage, Gas-Fired: "Servel" heater, 20-gal. (spherical tank); 30- and 45-gal. (elong. spherical tanks); heavily insulated; shorter and greater in diameter than most other models available; Servel Inc., Evansville, Ind.

Automatic Storage, Oil-Fired: new standard and de luxe models; Rheem Mfg. Co., New York

Fixtures and Equipment

Household Water Conditioner: new model for residential use; Permutit Co., New York

Septic Tanks: same type as prewar but in sizes up to 80 in. diameter; Rheem Mfg. Co., New York

Sinks, Dishwashing: "Ebco", two-compartment, specially designed for dishwashing; Ebco Mfg. Co., Columbus, O.

Sinks, Flat Rim: new line, Carillon Ceramics Corp., Metuchen, N. J.

Sterilizers: "Hygeaire" ultraviolet germicidal lighting fixture, new model, for industrial and office buildings; American Sterilizer Co., Erie, Pa.

"Wacor" Water Hammer Arrester: mechanical-pneumatic operation, in various sizes, for residential, commercial, industrial construction; Wade Mfg. Co., Elgin, Ill.

RESEARCH UNDER WAY, BUT NO ANNOUNCEMENT NOW

Abingdon Sanitary Mfg. Co., Abingdon, Ill. (plumbing fixtures)

Alliance Porcelain Products Co., Alliance, O. (plumbing fixtures)

American Chain & Cable Co., Inc., Reading-Pratt & Cady Division, Reading, Pa. (valves & fittings)

Church Mfg. Co., C. F., Holyoke, Mass. (toilet seats)

Crane Co., Chicago (plumbing fixtures)

Douglas Co., John, Cincinnati (plumbing fixtures)

Eljer Co., Ford City, Pa. (plumbing fixtures)

Scovill Mfg. Co., Waterville, Conn. (traps, drains)

Speakman Co., Wilmington, Del. (plumbing fixtures)

Taylor Co., Halsey W., Warren, O. (drinking fountains)

Walworth Co., Inc., New York (valves, fittings)

NO ANNOUNCEMENT NOW

American Radiator & Standard Sanitary Corp., New York

American Sanitary Mfg. Co., Abingdon Ill. (plumbers' brass goods)

Chase Brass & Copper Co., Waterbury, Conn.

Fairbanks, Morse & Co., Chicago (domestic water systems)

Flint & Walling Mfg. Co., Inc., Kendallville, Ind. (well pumps and domestic water systems)

General Electric Co., Appliance & Merchandise Division, Bridgeport, Conn. (garbage disposal units)

Hays Mfg. Co., Erie, Pa. (fittings, etc.)

Mueller Brass Co., Port Huron, Mich. (piping)

Nash-Kelvinator Corp., Detroit (electric water heaters)

National Tube Co., Pittsburgh (piping)

Schaible Co., Cincinnati (plumbing equipment)

SAFETY EQUIPMENT and FINISHES

Fire-Fighting Equipment

"Flamebuster": new portable "fog" nozzle; Grinnell Co., Providence

"Foamite": new foam chamber, designed particularly for oil storage tanks; American-La France-Foamite Corp., Elmira, N. Y.

"Akbar" Fire Doors: mechanical type, positively operated in case of fire; Kinnear Mfg. Co., Columbus, O.

"Zonolite" Fireproofing Plaster: for fireproofing steel construction; saves weight (on one job, reduced fireproofing dead load 74%, total structural steel required, 30%); Universal Zonolite Insulation Co., Chicago

Floor Finishes

"Dektred": sprayed surfacing for wood, concrete, metal; composed of garnet chips in fireproof synthetic resin binder; Goodyear Tire & Rubber Co., Akron

"Jal-Tread": (also "Junior Jal-Tread") new checker floor plate, steel; easily cleaned; can be formed, welded, etc., simply without distorting pattern; for safety floors, stairs, etc.; Jones & Laughlin Steel Corp., Pittsburgh

"R-Mir-Dek": brushed, sprayed, troweled surfacing; anti-slip, grease-proof; varying colors and finishes; Miracle Adhesives Corp., Newark, N. J.

"Safe-T-San": non-slip liquid floor polish, applied like water-emulsion polishes; gives floors luster but is not slippery; can be machine-buffed; Huntington Laboratories, Inc., Huntington, Ind.

Germicidal Lighting

Air-Disinfecting Fixtures: for germicidal ultraviolet lamps; Edwin F. Guth Co., St. Louis

"Disinfectaire": fixture for germicidal ultraviolet lamps; Art Metal Co., Cleveland

"Hygeaire": ultraviolet germicidal unit; American Sterilizer Co., Erie, Pa.

Lamps, Ultraviolet: manufactured by most lamp producers; fixture-and-lamp units manufactured by Lamp Department, Westinghouse Electric & Mfg. Co., Bloomfield, N. J.; Sylvania Electric Products, Inc., Lighting Division, New York

Lighting to Reduce Eyestrain

"Verd-A-Ray": vitreous-enamel-coated incandescent lamp, light green in color; designed to eliminate specular reflection (glare) from polished surfaces and to suppress infra-red and ultraviolet rays present in ordinary incandescent lighting; light emission 85 to 95% that of unpigmented bulb; however, it is said that fewer footcandles of "Verd-A-Ray" light are required for comparable results; suggested for industrial plants, operating rooms, etc.; Verd-A-Ray Corp., Toledo

Safety Glass

"Thermopane": insulating glazing (prefabricated double glazing unit) available with safety glass; Libbey-Owens-Ford Glass Co., Toledo

RESEARCH UNDER WAY, BUT NO ANNOUNCEMENT NOW

Cardox Corp., Chicago (fire-fighting equipment)

SOUND CONTROL

Acoustic Control

"Acoustone": tile, similar to prewar product, but now available "Motif'd" (patterns cut into surface); paintable; U. S. Gypsum Co., Chicago

"Auditone": low-cost wood-fiber tile; paintable; U. S. Gypsum Co., Chicago

"Plastic Foam": blown-up plastic material developed to replace "Airfoam" (blown-up rubber); possesses good acoustic control properties; Goodyear Tire & Rubber Co., Akron

"Zonolite" Plastic Acoustical Plaster: fireproof, lightweight (15 lb. per cu. ft.); sanitary; consists of vermiculite aggregate and fiberless gypsum plasters; Universal Zonolite Insulation Co., Chicago

Sound Transmission, Origination

"Faraday": all types of signals, annunciators, call systems, alarms, intercommunicating systems; many newly designed; "Uni-Pact" dead-front mounting plate permits certain types of signals, etc., to be plugged-in without disturbing current flow; Faraday Electric Corp., Adrian, Mich.

RCA Victor: many new residential developments based on war experience; combination AM-FM radios, television sets, both smaller in size than at present due to development of small tubes; sound motion picture equipment; built-in sound systems (for radio and phonograph music, etc., throughout the house); "sound-powered" (batteryless) intercommunicating telephone systems for estates, farms (building-to-building); and for commercial, institutional, or industrial projects; signal, safety, alarm, paging systems; public address and intercommunicating systems; sound motion pictures for instruction, etc.; RCA Victor Division, Radio Corp. of America, Camden, N. J.

"Teletalk": intercommunicating system; Webster Electric Co., Racine, Wis.

RESEARCH UNDER WAY, BUT NO ANNOUNCEMENT NOW

Cleveland Gypsum Co., Cleveland ("Hushkote" acoustic plaster)

Connecticut Telephone & Electric Division, Great American Industries, Inc., Meriden, Conn.

Edwards & Co., Norwalk, Conn. (signaling and other electrical sound devices)

Holtzer-Cabot Electric Co., Boston

Western Electric Co., New York

NO ANNOUNCEMENT NOW

Armstrong Cork Co. (acoustical surfacings, etc.)

POWER TRANSMISSION; PROCESS, TREATMENT FACILITIES

Wiring, Insulation

"Gencaseal": synthetic resin insulation, for building wire and many low-voltage applications, resistant to oils, greases, chemicals, ozone, flame, sunlight; General Cable Corp., New York

"Gencorone S": oil-base, ozone-resisting insulation; for cables, submarine, self-supporting aerial, etc.; General Cable Corp., New York

"GR-S": buna-S (synthetic) rubber insulation; available in "Performance" and "Heat Resisting" grades; underwriter's grades "R, RW, RH"; also "Ozone-Resistant"; heat-resistant grades for temperatures up to 75°C; General Cable Corp., New York

Jackets: for cables for all voltages; synthetic resin, GR-S, GR-M (neoprene); General Cable Corp., New York

"Nubun": buna-S (GR-S) synthetic rubber insulation; U. S. Rubber Co., New York

"Performite": heat-resisting wiring for heavy feeders, etc.; Okonite Co., Passaic, N. J.

"Type RW": braided building wire, moisture-resistant insulation; Okonite Co., Passaic, N. J.

"Type SN": small over-all diameter wire due to more efficient insulation; for new wiring and re-wiring; permits placing more wires or increased capacities in given size of conduit than other types; Okonite Co., Passaic, N. J.

Process, Treatment

Corrosion-Resistant Piping: "Ni-Resist" pipe, non-magnetic alloy cast iron; Walworth Co., New York

"Prefabricated Infra-Red Oven": for baked-on finishes; employs infra-red heat lamps; greatly reduces time required for finishing; Trumbull Electric Mfg. Co., Plainville, Conn.

Valves, Fittings, Accessories: for refrigeration; improved line, new products added; Mueller Brass Co., Port Huron, Mich.

RESEARCH UNDER WAY, BUT NO ANNOUNCEMENT NOW

Anaconda Wire & Cable Co., New York

Arrow-Hart & Hegeman Electric Co., Hartford, Conn. (wiring devices, switches, etc.)

Bryant Electric Co., Bridgeport, Conn. (wiring devices, etc.)

Bulldog Electric Products Co., Detroit (electrical distribution systems)

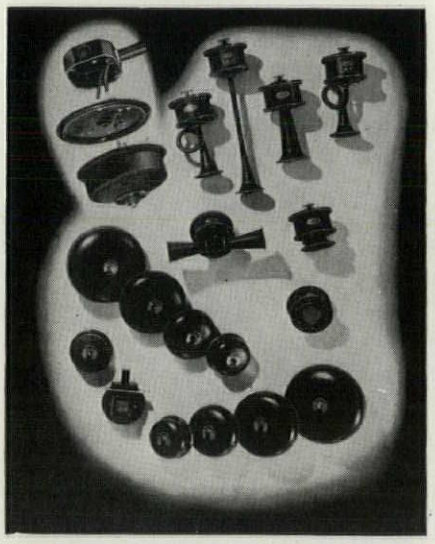
Gibson & Kirk Co., Baltimore (bearings, bushings, etc.)

Hart Mfg. Co., Hartford, Conn. (switches, range thermostats, etc.)

Hays Mfg. Co., Erie, Pa. (piping, etc.)

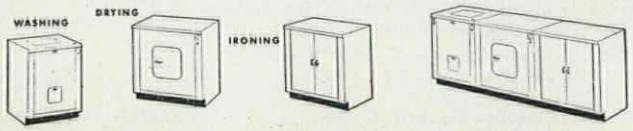
National Electric Products Corp., Pittsburgh (conduit cable, wiring, tubing)

CIRCULATION, COMMUNICATION,



Some of the many types of Faraday signalling equipment; at upper left is the "Uni-Pact" deadfront plug-in mounting plate

"Magic Chef" gas range — *"Norge" electric range* — *"Servel" gas refrigerator* — *"Norge" electric refrigerator*



Left, Westinghouse "Laundromat," washes and damp-dries automatically, is practically motionless. Above, Blackstone's "Unit Laundry," designed to be built-in

Right, Westinghouse "Precipitron," cabinet type for houses, collects dust from the atmosphere

CIRCULATION and COMMUNICATION EQUIPMENT

Doors

"Ellison Balanced Doors": product of Ellison Bronze Co., Inc., Jamestown, N. Y.

Flush Doors, "Rezo": new types, cellular cores, for "front" and "rear" house doors; designed for cutting light openings, circular heads, etc.; also for surface grooving or molding; also with 1 to 4 stock lights pre-inserted; Paine Lumber Co., Ltd., Oshkosh, Wis.

"Sag-Nott" Doors: product of Harbor Plywood Corp., Hoquiam, Wash.

Bulkhead Doors: "Bilco," improved design, steel bulkhead, scuttle, and sidewalk door assemblies; Bilco Co., New Haven, Conn.

Fire Doors: "Akbar"; door mechanically closed, automatically, in case of fire; Kinnear Mfg. Co., Columbus, O.

Garage Doors: new "overhead" type, eliminates necessity for any head room whatever; Phenix Mfg. Co., Inc., Milwaukee

Lightweight Flush Metal Doors: extruded, no exposed screws or other visual indications of construction; Moynahan Bronze Co., Detroit

Prefabricated Door Assembly: complete door unit, shop-assembled; "Roddiscraft Prefabricated Door Unit"; Roddis Lumber & Veneer Co., Marshfield, Wis.

Rolling Doors: industrial, commercial, residential purposes; improved steel roll-up doors and controls; Kinnear Mfg. Co., Columbus, O.

Communication

Annunciators, Door Chimes: improved design, "Rittenhouse Chimes," A. E. Rittenhouse Co., Inc., Honeoye Falls, N. Y.

Carillon, Electric: new console 26-note electric carillon for churches; cheaper, less space-consuming than bells; Radio Corp. of America, Camden, N. J.

Communication Equipment: normal research plus war experience indicates new, useful equipment postwar, but definite announcement can't be made now; Western Electric Co., New York

Electronic Devices, Industrial: for sorting materials, heating, welding, drying; giving safety warnings, time signals, fire and emergency alarms, paging, transmitting sound; intercommunication systems; projection of sound films for instruction, safety training; Radio Corp. of America, Camden, N. J.

Signaling Systems and Equipment: all types of electrical devices for signaling, annunciator, intercommunicating, alarm systems, etc.; many new devices; many items redesigned totally or in part; Faraday Electric Corp., Adrian, Mich.

FURNISHINGS, MISCELLANEOUS EQUIPMENT

RESEARCH UNDER WAY, BUT NO ANNOUNCEMENT NOW

Barber-Coleman Co., Rockford, Ill. ("Overdoors," operators)

Connecticut Telephone & Electric Division, Great American Industries, Inc., Meriden, Conn. (telephone and signaling equipment)

Edwards & Co., Norwalk, Conn. (signaling devices)

Horton Mfg. Division, Aviation Corp., Detroit (door operators)

Lamson Corp., Syracuse, N. Y. (conveyors)

Morgan Co., Oshkosh, Wis. (doors and door units)

Norton Door Closer Co., Chicago

Norton Lasier Co., Chicago (door closers)

Webster Electric Co., Racine, Wis. (intercom. systems)

Wilson Corp., J. G., New York (rolling doors, "overhead" doors)

NO ANNOUNCEMENT NOW

Crawford Door Co., Detroit

Dahlstrom Metallic Door Co., Jamestown, N. Y.

Richmond Fireproof Door Co., Richmond, Ind.

FURNISHINGS, MISCELLANEOUS EQUIPMENT

Food Freezers

Carrier: research actively under way on food freezers, all types; no data yet; Carrier Corp., Syracuse, N. Y.

"Hotpoint": new domestic freezer; Edison General Electric Appliance Co., Inc., Chicago

Kelvinator: new home freezer; no description yet; Nash-Kelvinator Corp., Detroit

Norge: new home freezer; also sizes for farms; no description yet; Norge Division, Borg-Warner Corp., Detroit

Tyler: "Deep Freeze" units for domestic and commercial use; commercial refrigerators; no descriptions yet; Tyler Fixture Corp., Niles, Mich.

Hardware

Cabinet Hardware: new line, no description yet; Stanley Works, New Britain, Conn.

Hinges: special hinges and butts of all types, extruded metal shapes which permit solid metal around pin hole rather than metal folded over; Moynahan Bronze Co., Detroit

Kitchen Equipment

Cabinets: new developments; Berger Manufacturing Division, Republic Steel Corp., Canton, O.

"Dishwasher," Gas: faucet assembly, used in conjunction with water heater, mixes detergent with dishwashing water; American Gas Association, New York

Ranges, Electric: new models, Norge Division, Borg-Warner Corp., Detroit; Nash-Kelvinator Corp., Detroit

Ranges, Gas: "CP" (certified performance) ranges; better ignition (including oven), automatic gas or electric spark ignition; new type of burner for greater heating speed, control, efficiency; inclusion of special types of top burners; improved utensil supports; improved oven design, insulation, heat control; improved broiler; flush-to-wall installation and "packaged" units for efficient assembly are possibilities; American Gas Association, New York

Refrigerators, Electric: new models, Norge Division, Borg-Warner Corp., Detroit; Nash-Kelvinator Corp., Detroit

Refrigerators, Gas: improved design; American Gas Assn., New York; Servel, Inc., Evansville, Ind.

Sinks, Dishwashing: "Ebco," specially designed to ease dishwashing; two-compartment type with spray rinser; flat rim for building in; Ebco Mfg. Co., Columbus, O.

Sinks, Flat Rim: "Perma-Gloss," vitreous china, several types and sizes; Carillon Ceramics Corp., Metuchen, N. J.

Laundry Equipment

Automatic Iron: new model; General Electric Co., Bridgeport, Conn.

Blackstone: "Unit Laundry" consists of 3 units for (1) washing, (2) drying, (3) ironing; all square in plan, base-cabinet height, for building in with counters, kitchen equipment, etc.; Blackstone Corp., Jamestown, N. Y.

Clothes Drier: gas operated; new type, rotary, space saving, "packaged" for assembling with other kitchen or laundry units; American Gas Association, New York

"Laundromat": automatically washes, rinses, damp-dries without attention; almost no vibration; Westinghouse Electric & Mfg. Co., Pittsburgh

Norge: new model, portable washer, circular; also automatic type; Norge Division, Borg-Warner Corp., Detroit

Trim and Mouldings

Aluminum: "Chromtrim" edgings of all types for linoleum, rubber tile, etc., on counters, treads, etc. (same company manufactures plastic edgings); R. D. Werner Co., Inc., New York

Plastics: "Celanese" plastics for hardware, fixtures, nosing, escutcheons, etc.; Celanese Celluloid Corp., New York

Miscellaneous

Bleachers, Partitions: improved materials; Horn Mfg. Co., Fort Dodge, Iowa

Clock, Electric Alarm: new models, General Electric Co., Bridgeport, Conn.

Fences: "Chain Link," new types now in experimental stage; lighter weight available for residential use; Wickwire Spencer Steel Co., New York

Fire Screens: "Moynahan," door type, hinged to rigid iron frame installed in fireplace opening with set screws; Moynahan Bronze Co., Detroit

Glass, Tempered: "Securit" heat-treated, patterned and rolled glass, for furniture tops; Blue Ridge Glass Corp., Kingsport, Tenn.

Paper Dispensers: for toweling, tissue; new models; Scott Paper Co., Chester, Pa.

"Precipitron": cabinet model electronic dust eliminator and air cleaner; Westinghouse Electric & Mfg. Co., Pittsburgh

Tanks, Boilers, Etc.: all purposes, up to 80-inch diameter, gauges up to 3/8-in.; Rheem Mfg. Co., Inc., New York

Time Clocks: "Standard" automatic electric program clock; cabinet type master clock and wall clocks, all types of mountings; bells, buzzers; Standard Electric Time Co., Springfield, Mass.

Wood and Woodworking: demountable shelving; also locking device for joining wood parts, as in furniture; Timber Engineering Co., Washington, D. C.

RESEARCH, BUT NO ANNOUNCEMENT NOW

American Stove Co., Cleveland

Anchor Post Fence Co., Baltimore

Bigelow-Sanford Carpet Co., Inc., New York

Edison General Electric Appliance Co., Inc., Chicago

Frick Co., Inc., Waynesboro, Pa.

Grand Rapids Hardware Co., Grand Rapids, Mich.

Ingram-Richardson Mfg. Co., Beaver Falls, Pa. (signs)

Knapp Brothers Mfg. Co., Chicago (metal mouldings)

Lockwood Hardware Mfg. Co., Fitchburg, Mass.

Michaels Art Bronze Co., Inc., Covington, Ky.

Morgan Co., Oshkosh, Wis. (woodwork)

Stanley Works, New Britain, Conn. (hardware)

John Van Range Co., Cincinnati (kitchen equipment)

Yale & Towne Mfg. Co., New York (hardware)

Westinghouse Electric & Mfg. Co., Mansfield, O. (kitchen & laundry equipment)

NO ANNOUNCEMENT NOW

American Laundry Machinery Co., Cincinnati

American Seating Co., Grand Rapids, Mich.

Frigidaire Division, General Motors Corp., Dayton, O.

General Electric Co., Bridgeport, Conn.

Gerity-Adrian Mfg. Corp., Adrian, Mich.

Hallenschield & McDonald, Los Angeles

Independent Register Co., Cleveland

Jamestown Metal Corp., Jamestown, N. Y.

Mutschler Brothers Co., Nappanee, Ind.

National Brass Co., Grand Rapids, Mich.

Owens-Corning Fiberglas Corp., Toledo

Rixson Co., Chicago

Sager Lock Works, N. Chicago

N. Stafford Co., Brooklyn, N. Y.

Tuttle & Bailey, New Britain, Conn.

Vonnegut Hardware Co., Von Duprin Division, Indianapolis

Warren Telechron Co., Ashland, Mass.

the virtues and few of the faults of conventional plywood. Finish can be matte or glossy, or it can be painted.

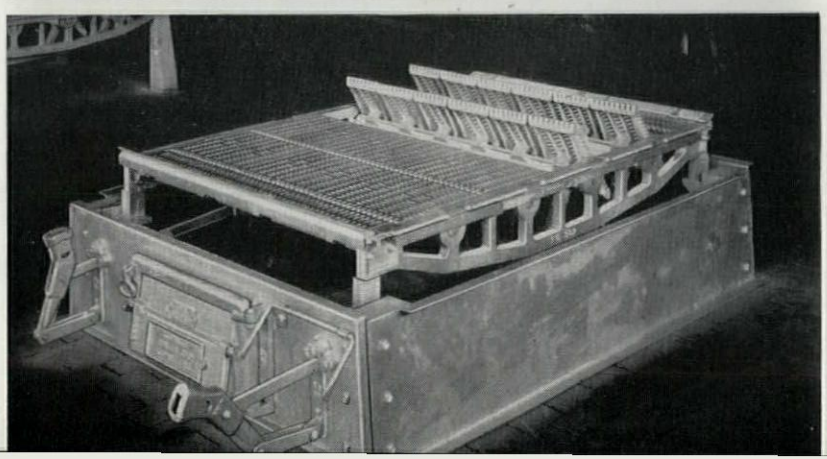
Space does not permit mention of all the developments in this and other types of products; and the editors know that many are not included in the accompanying lists.

Conclusions

The reader will notice that we have classified replies to our questions in three ways: *Announcements of New Developments; Announcements of Research Under Way,* but without commitment as to results; and *No Announcement Now.* It should be noticed that no manufacturer refused to say that his company was engaged in research, and while some indicated an intention to stand pat on prewar products, very few said pointedly that they would have nothing to do with the new.

Apparently the public's assumption that the dream house is here is justifiable; and also, it is apparent that most reputable manufacturers are going to produce better products if they can justify the advance.

One circumstance must be mentioned: At the time we asked our questions, the war in Europe and in the Pacific was proceeding at an amazing rate. Too, we were in the throes of a political campaign. There was an air of confidence abroad; perhaps—who knew?—the war might be over by Christmas. Now the New Year has come, and the war situation, though far from desperate, looks grimmer than many thought possible a few months ago. Over-optimistic as some of us were then, the average manufacturer was yet cautious about the replies he gave us; considering this, we probably have not begun to list all the new things which will be forthcoming. That is gratifying; it is one of the things for which the war is being fought.



Left above, expansible trailer-house, the Goodyear Tire & Rubber Co's "Wingfoot Home," a development something like TVA's trailer houses. Here, one portion slides in to reduce the house to legal highway-travel size. Below is a dumping grate assembly for burning small-sized anthracite, manufactured by Kewanee Boiler Corporation of a nickel-chromium cast iron to provide maximum economical service life under arduous conditions

The opinions of the author and his perhaps startling proposal in the article presented here are offered with the intention of stimulating adult thought about a decision that may confront some members of the profession sooner than they suspect. In this month's "stock-taking" such a discussion seems to us a pertinent contribution. Tender-minded readers (if there be any such among architects) are warned that Mr. Raskin's major suggestion is neither a fait accompli nor evidence of sinister intentions by him or by the editors.

C. M.

ARCHITECTURE FOR ALL

By Eugene Raskin

The term "reconversion" is misleading in that it suggests a turning back to something that existed before. Postwar America, I earnestly hope, will be a turning forward to new achievements rather than a turning back to old failures. Among these new achievements must be the provision to the American people of a living standard higher than any they have yet known. Housing, clothing, food, and the other commodities of an abundant life must be produced and distributed at a tremendously increased scale, if we are to solve the vital problems of employment and the satisfaction of human needs.

It is therefore urgent that architects examine themselves and their profession to see how best they can contribute to the development of this new and better America.

For one thing, architectural services must be furnished to an immensely greater degree than heretofore. It is unthinkable that 60% to 80% of our nation's buildings should continue to be built without the services of those best trained for the task. Yet in the past there were a large number of communities that couldn't afford to maintain an architect in practice, or at any rate thought they couldn't. Also there was a considerable category of work which architects could not undertake economically but had to leave to others who could cover their overheads through profit on the work rather than through fees. In the face of this competition, the architect's effort to convince the public that a substantial-looking fee really represents a saving has been an all but complete failure, with the result that much of the nation did without architects.

Service, Work, Gains for All

Item number one on our program, then, is to make architectural services physically and financially available to all.

There must, of course, be no man-power waste. Yet in the past, many architects were forced by the need for making a living to cluster in the big money centers, leaving vast portions of the nation relatively unserviced. In these centers they competed (in most gentlemanly fashion, to be sure) for whatever commissions were to be had. Competition is supposed to be stimulating, but in this case it is doubtful whether it stimulated anything but nervous indigestion. It was inevitable that many architects would be commissionless or working at less than their best levels of ability, while others, it must be admitted, sometimes executed work above or outside their capacities. In short, not only did we have too few architects, but those we had were poorly distributed and not used to best advantage—a situation

bad enough during a building slump, but quite intolerable in the better days ahead. The wastage was further aggravated by the fact that young architects often found it very difficult to get the necessary amount and type of experience needed in anything like a reasonable period of time, due to the haphazardness of the employment picture.

Item number two on our program, therefore, is to see that every architect has as much work as he can efficiently handle, of the type best suited to his individual talents.

Well designed and constructed buildings are assets not only to their owners, but also to surrounding property holders as well as to the community as a whole. Real estate values tend to stay steady or even increase, and so do tax returns, allowing the community to serve its citizens better in the way of education, fire protection, sanitation, etc. Thus when Client A engages Architect B, not only he but the whole community benefits. This fact is already completely accepted by everyone who has given it any thought. The trouble is that too few people have given it any thought at all.

Item number three on our program must be the arousing of a full realization on the part of architects and public alike that an architect serves the whole community even when he works for an individual client, and that the community therefore has a corresponding obligation to him.

These are resounding objectives, but perhaps their attainment is not as impractical or impossible as a bare statement of them might indicate. It is interesting to note that these three objectives and the problems which they seek to answer are almost exactly the same as those with which the medical profession is now so deeply concerned. Doctors, too, hope to make medical service physically and financially available to all, to end the wastage of medical man-power and talent, and to make both the profession and the public realize and accept the community obligations involved.

Domesticating the Lone Wolf

The medical profession (with some strong dissension!) is thinking and proceeding in terms of group activity, and it may be that the architectural profession will reach its goals along that path, too. Already we see a few spontaneous efforts along group lines in the rather large associations, some cooperative, which architects have formed in order to carry through certain commissions. Certainly ten men of diverse talents (as are any ten men) can execute work more efficiently together than they can separately, for no one of them will have to wrestle with a problem on which another is expert. It is of course necessary, as in any organization, that individual responsibility be clearly defined. But to question the general advantages of cooperation over lone-wolfism is to question the very basis of civilization.

I think it is possible to sketch out the outlines of a complete system of group architecture—call it cooperative architecture, community architecture, socialized architecture, if you like. It doesn't matter what it's called, as long as the problem, which is essentially social in nature, is solved on group rather than individualistic lines, as I am convinced it must be.

It can be done without changing the existing order. As I see it, the architectural profession will eventually function as a public service on a community, state, and national basis, pretty much as any other governmental public service functions under our present political and economic setup. Anyone needing architectural service may have it at a nominal fee, the cost of the service being shared, as is only equitable, by those who benefit from it—not merely the owner, but the community (town, state, nation) as well. The sole requirement will be that the project be checked by an Architectural Commission, of which more later on. By this check the client will be protected against his own bad judgment and the public will be protected against the more rapacious forms of private greed. It will also be a good deal easier to enforce standards of construction and equipment, and to obtain conformance to over-all town and regional plans.

His Choice: a Shingle or a Salary

Every qualified architect who so desires (there is nothing mandatory about it) will be an employee of the Architectural Commission, on something of a civil service basis. He will be on salary. Of course, he will never get rich, but what architect enters the profession with the main purpose of getting rich? If there are any such, we will be better off without them. Advancement in salary and responsibility will be made according to merit. True, personalities and organizational politics will enter, but these factors seem to be inevitable in human relations, and could hardly operate more strongly than they have in the past. In fact, they will probably operate less strongly, since there will at least be an accepted merit system. Young architects will automatically, upon graduation, enter the employ of the Commission and be shifted about from one job to another according to an established "internship" plan. The beginnings of specialization might be possible at this stage.

When the client, be he an individual, a corporation, or the city itself, has had his project approved, he is put in the hands of an architect whose talents lie especially in that field of work, and who has room on his calendar for the job. This selection can be made very readily from the record in the Commission's office of all work under way.

The architect thus assigned takes complete charge of the job. He designs for his client as he thinks best, being every bit as much the creative artist as he wishes, and is answerable to no one. Moreover, he can make use of the Commission's research staff, files, library, draftsmen, construction and mechanical experts, specification writers, legal staff, clerks, secretaries, and supervision men. If anyone thinks that under such an arrangement the architect loses his individual freedom, I can only say that it seems to me he would be much more free than he is under his present limitations and burdens. Besides, there is nothing that would prevent an architect from engaging in old-style private practice if enough clients desired, and were willing to pay for, his particular services. The genius need never feel bound to a salary.

Arbitrary Control is Out

The Commissions themselves would be non-political bodies created democratically from among, and by the architects, and would consist of men whose wisdom and administrative abilities had been recognized by their fellow professionals. At all times the Commissions would be subject to democratic controls wielded by the architects whom they head. Since there is no profit or patron-

age involved, it is unlikely that corruption will arise. Corruption is rarely unmotivated.

By close relations with other Commissions in the state and nation, they could work towards the unification of building codes, contractual arrangements with builders, standardization of building materials, etc., with perhaps more success than unofficial professional societies have had in the past, splendid though much of their work has been. In brief, they could achieve a degree of order in the past chaos of the building industry, a chaos that has made everyone concerned work much harder for a given result than was necessary, or even sane.

Society is for people, and buildings are for people. Yet too often in the past men behaved as though the reverse were true. Dictators thought of people as material for the state, while building promoters thought of people as rent-payers for space in buildings. Perhaps with a closer integration of the architectural profession with the society it serves we can approach the more fundamental verity and achieve at least an architecture of the people, supported by the people, and designed for the people.

To put such a program into effect will not be an easy task, as our friends of the medical fraternity have discovered. The first step, I would imagine, will have to be an effort to obtain general acceptance by a substantial portion of the profession of the program's major objectives. Next the public will have to be won over. There will be nothing revolutionary about this part of the job, since architects have always been trying to convince the public that architectural services are worth paying for. Perhaps with a positive program, they will do better than in the past. With both professional and public support, enabling legislation should not be too difficult to put through.

During this process the surface characteristics of the program will undoubtedly emerge very differently from what I have here indicated, as many minds wrestle with its problems and with other factors as they arise. Delays, discouragements, and outright failures will be many. Actual achievement will not come full-blown, but by uneasy stages, by piecemeal inadequacies, the failure of which will force us onward. But I believe that eventually the program will come into being, at least in its essentials. Those who work for it now may be ahead of their time, but they will have the satisfaction of going forward to the inevitable rather than the frustration of holding back against it.

FROZEN MUSIC, DEFROSTED

Cafe Borranical—A proposal for Melbourne, Australia

Activated Architecture Based on Hydraulic Principles

ARTHUR A. CARRARA,* A.I.A., Architect

Assisted by Perry Fielder, Allen Floyd, and Don Fulton

During war convalescence in Australia, the architect, fascinated by the architectural potentials of technical principles now widely used for weapons of war, focused on a local civic problem in his host city of Melbourne and produced the challenging project shown on these pages.

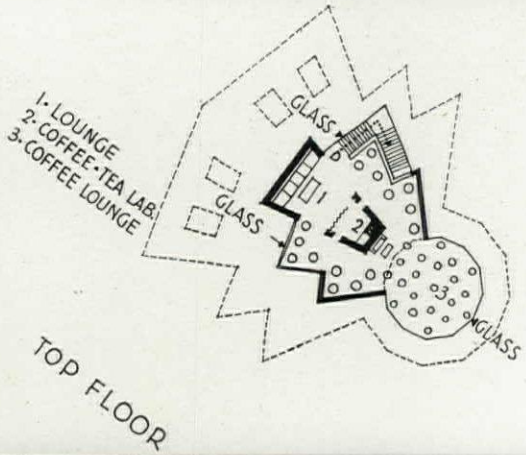
If "hydraulic muscles and nerves" and "finger-tip control" could be used to rotate and elevate the belly turret of a Liberator, open the mouth of an LSM, and train giant guns on a target, why, he reasoned, could they not also be given exciting and pleasant peacetime jobs to do? Why not, indeed?

The project to which he applied this thoughtful, curious approach was a riverside tea house and boat dock—something as far removed from the destructive mechanics of warfare as one could well imagine. Location selected was within Melbourne's Botanical Gardens, on the bank of the Yarra River. "The river is mostly used for crew racing, canoeing, and small excursion craft," the architect tells us, "but with the exception of the typical 'beaten up' tea rooms and shelters, these magnificent gardens have no appropriate meeting place, no shelter where one can sit in comfort and watch the river traffic, nor anything architectural remotely akin to the natural beauty of the gardens." Cafe Borranical was designed to supply these lacks.

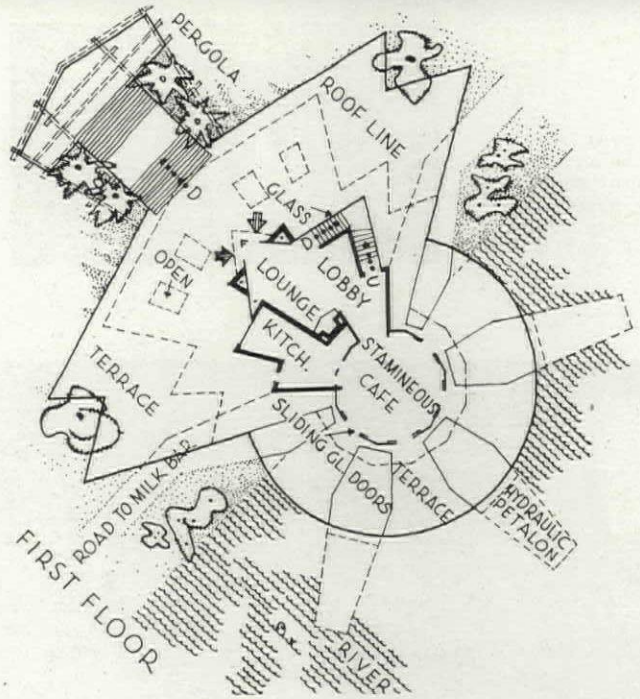
In addition, it was frankly schemed to demonstrate how modern technological progress might be applied to developing in architecture geometric principles found in nature—"organized geometry infolding and unfolding," as the architect puts it.

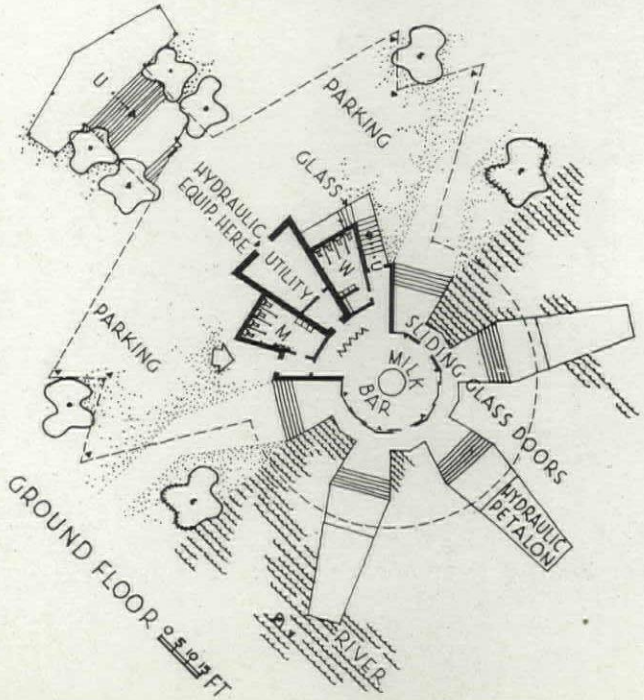
Hydraulic equipment, housed in the ground floor utility room, extends its sinews into sections of the circular terrace and into the boat-dock "petalons." In fair weather, the lowered terrace sections form a continuous outdoor sitting space, and the dock petals lie open wide, allowing maximum docking space and fullest light and sunshine to reach the airy, glass-enclosed "stamineous," wherein are contained the main cafe

Vertical view of model, Cafe Borranical



* Formerly of Chicago, at present a Captain, U. S. Army, Engineers

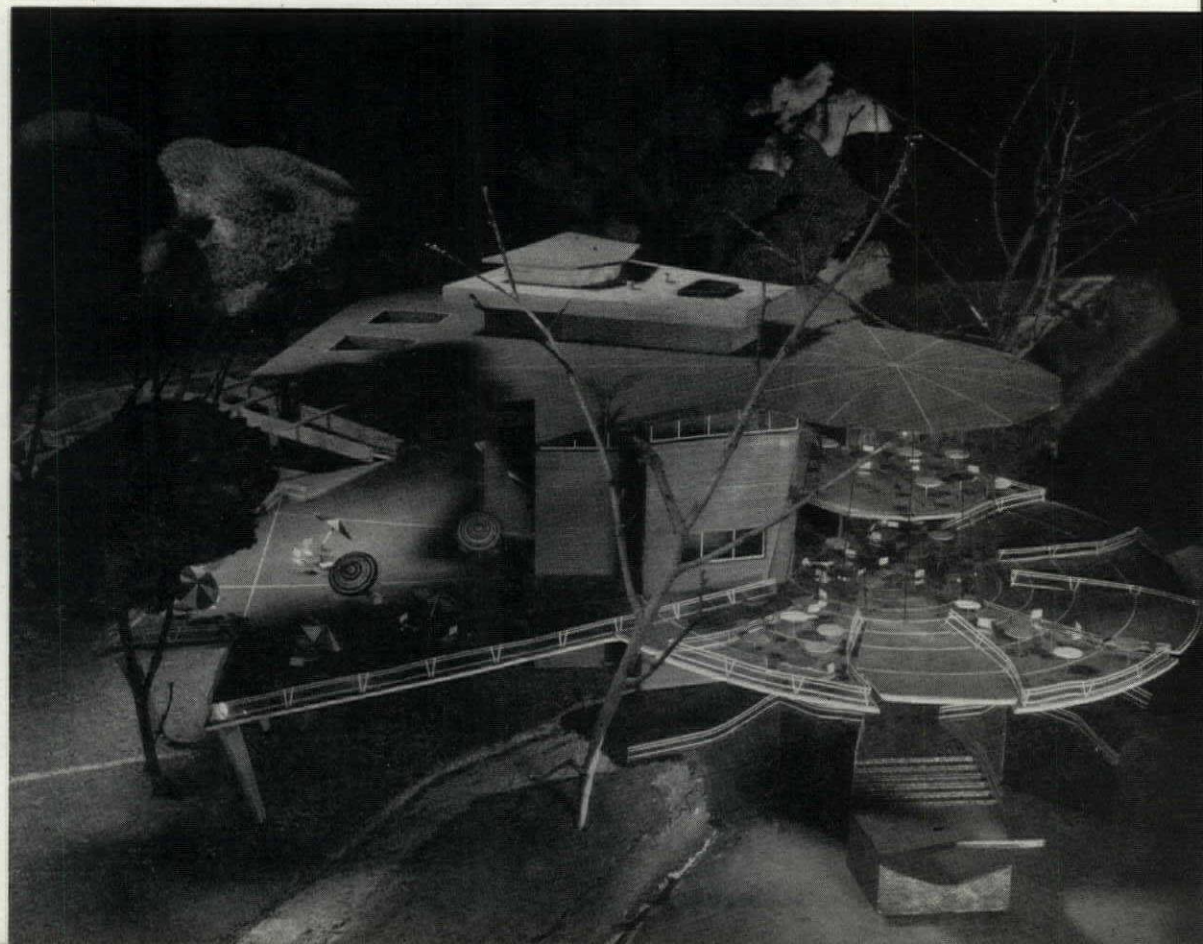


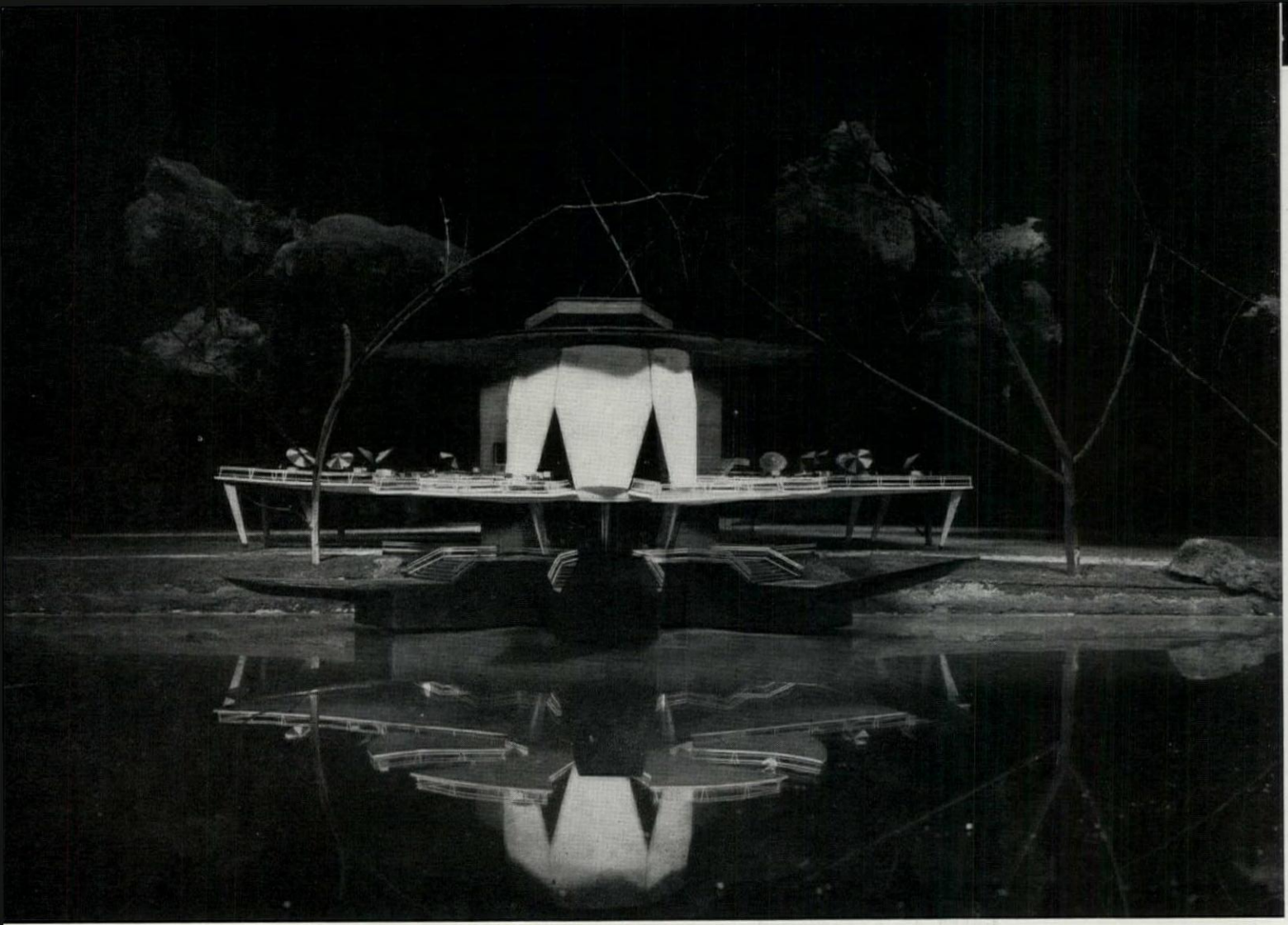


and coffee lounge and attendant service rooms. When nature glowers, the "muscles" go to work, lifting the strong outer petals of both terrace and docks to shield the delicate inner structure—just as certain flowers do. The terrace sections rise to form a bold screen around the fragile stamineous but leave triangular openings for sufficient natural light. Obviously single sections or groups of them may be operated independently to protect against too much sun—or even just because it's fun. The river petalons, similarly versatile, come up during high tides or near-flood periods; or they may be raised merely for the pleasure derived from esthetic variety.

The principles employed are offered by the architect in complete seriousness. As he comments: "Those who have followed the great developments in all fields of war equipment cannot but admire the straight thinking of its designers in creating effective tools which at this moment are winning the war . . . It must be noted that their efforts place at the disposal of architects a whole array of new techniques, principles, and methods, to say nothing of stimulating old ones to greater development.

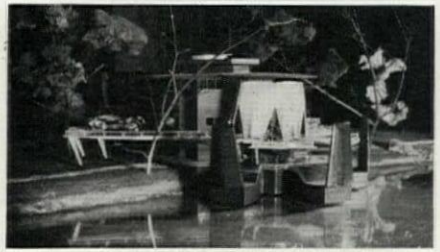
(Continued on page 92)





Proposed Structure: *Post and lintel construction, with terraces, river landing jetties, and roof, cantilevered. Glazing of central unit stops about 3 feet short of roof to allow clerestory lighting and ventilation.*

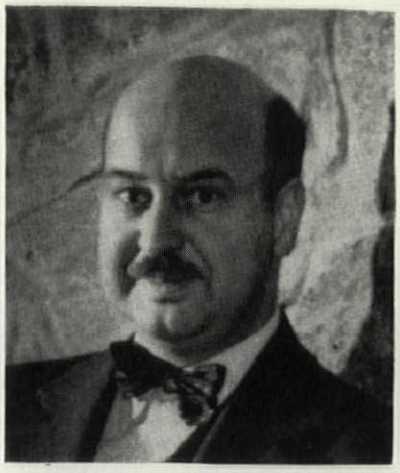
Triangular concrete columns support the terrace projections; base of central structure, also of concrete, rests on concrete footings or foundation walls. First floor, resin-bonded plywood over steel beams, with wood-surfaced moving sections—perhaps (to gain lightness) of molded plywood construction. Exterior walls, brick and glass, with roof construction again of plywood. The pergola toward the gardens, wood, with trees growing through the pergola to form a natural arch.



Riverfront petalons and terrace sections operate hydraulically, forming varying architectural forms to meet varying weather conditions.

We have reached the point in our civilization when parts of an architectural composition can take on life—not only solving many problems more satisfactorily than heretofore, but giving greater breadth to our work. At any rate, whatever the critics may say, this is an effort of one who loves architecture and who has been and still is an active participant in this war."

The superb model, made by the architect and his assistants, was widely shown in Melbourne and received excellent reviews in the local press. G.A.S.



Perspectives

To Boston, to Boston, to Win a Fat Prize: Walter Francis Bogner, A.I.A.

Many an old frontier Yankee in buckskin coat ploughing along abaft a thirty-point hibernal beard must have cracked the icicle off his nose and spoken memorably on the joys of pioneering. Forsooth, they are incomparable, as anyone will tell you who has discovered something pretty much by himself. Revive the second man to eat an oyster and listen as he affirms that it is one thing to hail the bandwagon, with your dime ready, and quite another to make the decision against a background of doubting, censorious compatriots.

In the Twenties, when we stacked our saucers at the *Magots*, sketched on its marble-topped tables or looked across at them from Lipp's, there were very few architectural skeptics among us. Rational iconoclasm is a disturbing impulse, for it is downright unpleasant to reduce your good old gods to shards. They are comfortable and kindly and their ritual never asks too much of you; why destroy one's props?

The innocent bystander in *Place St. Germain des Près* would have concluded that Walter Bogner was cut to that general pattern of acceptance which was our delight. He had won his spurs as a traveling fellow through superior dexterity in the design of *chateaux d'eaux* and national pantheons; his aptitude at decorative *poché* was to the manner born. And who could doubt the validity of these things in the very shadow of the temple? Bogner did, in part, and it hardly seemed decent, especially when the heretical kernel within him waxed enthusiastic over Le Corbusier's *Vers Une Architecture*, then a very new face in the Parisian bookstands. He traced the origin of those soul-saving doubts to early architectural training on the Continent.

Technically a New Englander, for he first saw daylight in Providence, Walter F. Bogner lived his childhood and got his earlier professional education in Austria, as World War I enveloped and destroyed the old order of things. But it was understandable that the Western prospect had a potent magnetic pull when the dust of interbellum peace had settled over the wasted land of Central Europe.

An architect brother in Milwaukee gave direction to the thought and a foothold for re-establishment in the United States. So back he came, with an extraneous set of metric scales and the priceless perspective of one who does not take the land of opportunity for granted and forget its possibilities. He cushioned the impact of Midwestern strangeness with enthusiasm, accepted the enormity of feet and inches without one recorded oath, and came to have a lively regard for the lusty vigor with which the citizenry elbowed their way towards self improvement.

Bogner worked in several offices as he jacked himself up the scale of experience and economics, and in a surprisingly short time he had caught an award in a small house competition. The aftermath involved preparation of working drawings for distribution at the usual nominal sum, and a sterner corollary necessity for architectural registration. Until then the austerity of this ordeal had been too much to contemplate, but facing the alternative of a lost opportunity he scrapped discretion and, more importantly, passed his examination—one of Wisconsin's youngest to receive the clear title of architect.

At this juncture it might have been excusable to feel that one was about to grasp the world by the tail, but the sounder Bognerian impulse plumped for more education. He put in at Harvard's Department of Architecture to do a postgraduate year, a year of colorful traditionalism under Jacques Haffner. Beyond the Charles lay Boston from whence, each spring, the Rotch Traveling Fellowship sent out a man for two blissful years of European study. Being one of the oldest and best in the country, it was worth a competitive twirl, a privilege for those who had done two years in a Massachusetts architectural office. The decision was made and Bogner did just that, keeping his *projet* touch at concert pitch by attending the Boston Architectural Club. When, during this period, subject and writer first met along the tortuous architectural byways of Beacon Hill, it did not take a very keen perception to see that young Bogner was more mature and had a broader intellectual acquisitiveness than most of his contemporaries. He won the Rotch, as planned, being the fortieth to carry its credentials.

All this time America looked her traditional part to him, as the land of freedom and opportunity. We were fluid and fearless in a thousand ways, and given to the most intrepid experimentation. Yet architecture proved the rule. Bogner had been bred to a belief in the virtue of original and imaginative design, though he quickly discovered that we ordered such things differently. The Colonial tradition lay heavily upon the Eastern shores and within scholastic cloisters he collided with the limitation of familiar decorations re-shuffled on a handful of *partis*. Some say there were only three, and that they had graphic and unprintable nicknames.

So he went to Paris and Rome as an accomplished performer on the bozar, but with an eye to something more satisfying, a brand of architecture which had less concern for the formalized pattern and more for the untrammeled approach. The road from North Africa to Scandinavia and from Spain to the Bosphorous presented its bewilderment of historic and gastronomic blandishments, but withheld the true answer. When it

came, the light was plainly visible from the *Deux Magots*, though most of us did not see it. There was the printed word and an enthusiastic young Swiss who had worked for Le Corbusier. Their combined alchemy finally had conjured the vision of an architectural credo which Bogner could wholly believe.

If a new fire graced his eye the lads would probably lay it to *Anise Deloso*, but there must have been the courage of six bulls within him or he would never have dared fetch his heresy back to Boston. There it constituted rebellion, with Bogner a rebel by definition. No light matter in our neck of the woods.

Like all men who budded round 1915, he has had the dubious privilege of adjusting himself to three periods of mighty confusion that offered war, depression, and more war. The second spasm of simmering stagnation found Bogner teaching at Harvard and proud of his active and choosy young office in Cambridge. Of course the latter succumbed for a year or two, but the teaching endured and grew apace, whilst the rest of us hawked apples and vacuum cleaners on commission.

In 1934 came a grant from Harvard University to travel throughout the United States and investigate reasons for success or failure in the operation of buildings. This was to be a complete dissection of all influences and controls connected with the placement, purpose, and design of commercial structures. He found that he was performing autopsies oftener than giving congratulations. Bogner's conclusions verified a long-held theory that architecture is a far bigger field than the mere preparation of sketches and contract documents. To paraphrase him, "I saw bank presidents who were sad, despite their pretentious temples. I observed clustered skyscrapers competing in height and spectacular form, but equally spectacular in the way their charts of earnings plunged down into the red. Gaping holes torn into our cities gave proof of the fatal illness in our business structures. Unhappily, one did not tear down old residences and obsolete apartments, and a hard-pressed population had been pushed into them. With present statistics, that seems like an old story, but at the time it was new and stirred me deeply. It was conclusive evidence that our approach to building and development of cities was wrong.

"What to do about it? Clearly there should be a way of predetermining whether a building venture will succeed or fail. I felt that the architect should learn how to prevent the disasters which had overtaken us. He as a professional would not be interested in speculative profits, in sweating the land, or in passing off lemons. His unbiased counsel would be of trusted value to society. The architect would have to add this equipment to his routine of planning, design, and construction, and always I came back to the belief that design for esthetic consideration is his personal prerogative. Admittedly, the fellow profession of engineering may know how to build for use, but only the architect can contribute the appearance to make that use pleasurable."

Thus Bogner was led to the complete analysis of building problems, to much study of housing and town planning, to attendance at many housing conferences, and to Paris in 1937 as a U. S. delegate to an international housing convention.

In recent months, what more natural than to join a Harvard group for competition in the Boston Contest, a Boston University-backed effort to get an expert diagnosis of our metropolitan ills and to draw general attention to their gravity. On December 6, at Faneuil Hall the tax collector watched narrowly as a $5,000 first prize fluttered coyly into the collective pocket of Bogner and company.

His progress as a creator of contemporary architecture reflects the benefit of advanced study made possible, in a measure, by many unusual opportunities. These were as oxygen to the spark which, praise be, cannot be bought or made synthetically. In charming Lincoln the Bogner family life centers ideally about a house whose design is as remote from the Bauhaus as from Beaux Arts, and even the visiting traditionalist gives it a reluctant but approving grunt. High praise indeed! He finds equal zest in urban life and the complementary open spaces. In point of fact his modern lares and penates are set up amidst a very superior countryside, in which is a woodpile where the red-shirted architect expiates his sins, if any, and makes provision for his great stone fireplace.

The other day, in conversation with a young townsman and with parables farthest from his mind, he asked, "Can you turn somersaults?" "Sure I can," said the boy, "but can you?" "No," replied Walter Bogner, "I just try to put one foot in front of the other." In truth this has been proven excellent, if you have his sense of direction.

LEON KEACH