

THE JANUARY 1938

ARCHITECTURAL

FORUM

FRANK

LLOYD

WRIGHT

#187

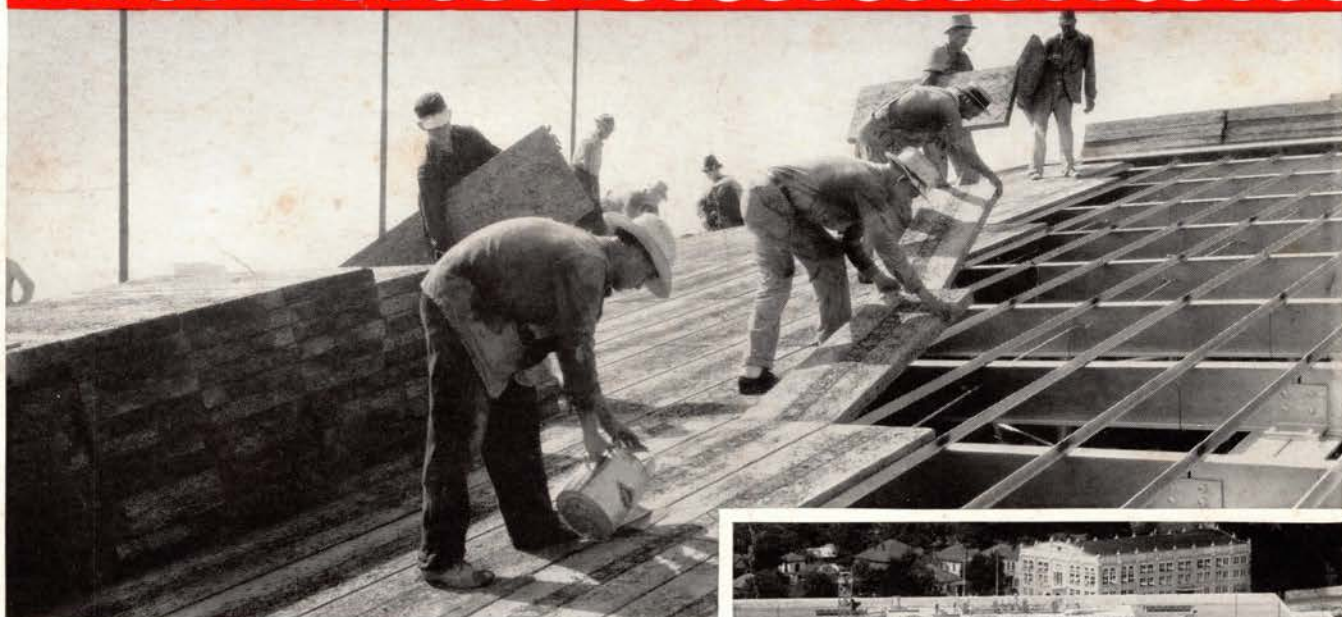
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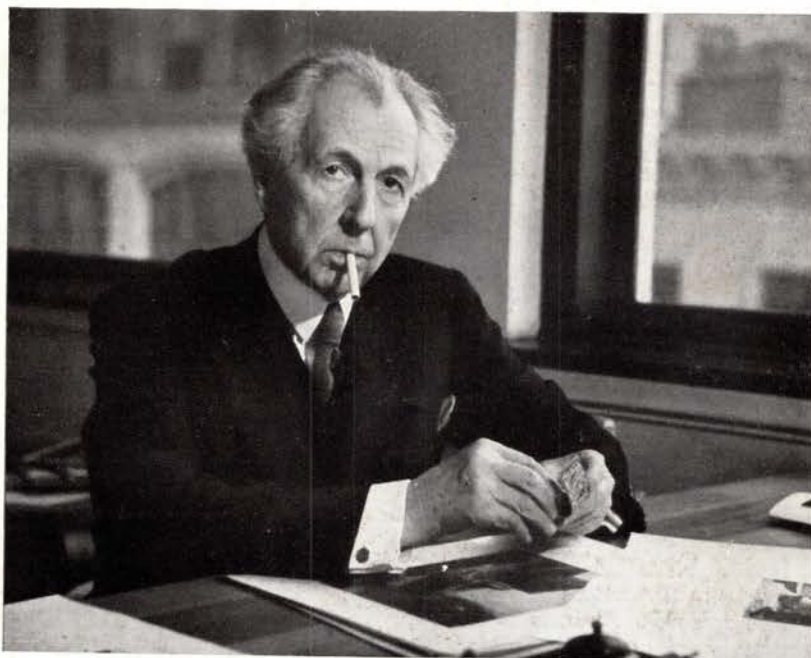
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County  State



THE ARCHITECTURAL FORUM HAS THE HONOR TO PRESENT  
FOR JANUARY 1938 AN ISSUE DEVOTED TO THE NEW AND  
UNPUBLISHED WORK OF

## FRANK LLOYD WRIGHT



*Peter Stackpole*

TO HAVE WORKED IN CLOSE ASSOCIATION WITH MR. WRIGHT IN THE DEVELOPMENT OF THIS ISSUE, WHICH WAS DESIGNED AND WRITTEN BY HIM, HAS BEEN A STIMULATING EXPERIENCE WHICH IN SOME MEASURE THE EDITORS BELIEVE WILL CARRY OVER TO EVERY ARCHITECTURAL FORUM READER WHO DEVOTES TO THESE PAGES THE STUDY THEY MERIT . . . ACKNOWLEDGMENT MUST ALSO BE MADE TO THE MEN AND WOMEN OF THE TALIESIN FELLOWSHIP FOR THEIR UNTIRING AND DEVOTED ASSISTANCE . . . AND TO THE PHOTOGRAPHERS, KENNETH HEDRICH (TALIESIN, KAUFMANN HOUSE, WILLEY HOUSE), ROY PETERSEN (JOHNSON BUILDING, JACOBS HOUSE, HILLSIDE), ROGER STURTEVANT (HANNA HOUSE), WHO CAPTURED IN TWO DIMENSIONS THE SPIRIT OF MR. WRIGHT'S ARCHITECTURE.

THE EDITORS

IN ADDITION THE FOLLOWING REGULAR FEATURES ARE INCLUDED: Building Money, 103; Month In Building, 2; Products & Practice, 8; Forum of Events, 14; Books, 20; Letters, 26.

*Editor, Howard Myers; Managing Editor, Ruth Goodhue; Associates, George Nelson, A. C. Shire, Cameron Mackenzie, Paul Grotz, Madelaine Kroll Thatcher, Peter Lyon, Henry N. Wright, John Belnert, G. H. V. Baker, Barbara Hunt, Nadia Williams.*

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VOLUME 68—NUMBER ONE



# THE MONTH IN BUILDING

## VOLUME

PERMITS (October) .....	\$ 123,646,053	CONTRACTS (November) .....	\$ 198,464,600
Residential .....	45,141,689	Residential .....	60,001,000
Non-residential .....	53,612,379	Non-residential .....	77,055,000
Additions .....	24,891,985	Public Works and Utilities .....	61,408,600
September, 1937 .....	128,405,446	October, 1937 .....	202,080,900
October, 1936 .....	133,884,965	November, 1936 .....	208,204,200
Permits from Dept. of Labor .....		Contracts from F. W. Dodge Corp. .....	

The relatively firm building market of spring and early summer last month took shape as the only factor that was going to push 1937 construction total above that for 1936. For the first eleven months of the year contracts added up to \$2,703,672,400, as compared with 1936's \$2,475,600,300—a gain of 9 per cent. Three categories of construction were up for the first eleven months: residential building increased 17 per cent, non-residential building 19 per cent, and public utilities 38 per cent. The government was the villain of the piece, public works totals sliding off 20 per cent over this period.

The category of public works construction, however, showed a reversal of form last month, with November's volume 20 per cent higher than in October and 4 per cent higher than in November, 1936. Privately financed construction tumbled 15 per cent from October, a slightly greater than seasonal slump.

**NHA REVAMPED.** Last month, caught at the bottom of a first-class business recession, Business took serious inventory of its problems. In Manhattan the National Association of Manufacturers called a "Congress of Industry" in the hope of establishing some sort of leadership for itself. In Washington CIO's John L. Lewis retrenched to the extent of laying off 200 field organizers. And the extraordinary session of Congress, called expressly to deal with the recession, managed after considerable huffing and puffing to get to a vote on exactly one piece of legislation. This was the so-called "President's Program" for reviving the building industry (see p. 103).

Its main points were the reduction of equity and finance charges on small houses, encouragement of large-scale building, and liberalization of existing mortgage discount facilities. In its final form it received the tempered approval of the building industry, only the mortgage bankers and the building and loansters offering any serious objections. Just how much good it would accomplish in terms of a genuine revival was doubtful. Certainly it promised little in the way of curbing the high costs which most observers believe to be the basic factor in the current construction doldrums. That remained last month, as it has for the last year, the immediate and joint responsibility of Labor and Industry, neither of which has as yet given any worthwhile indication of a disposition to cooperate.

**COSTS DOWN?** Last month in Detroit rough lumber was 15 per cent cheaper than the month before; plaster compound was off 20 cents a ton. In Hartford lumber was 8 to 10 per cent cheaper, but paint,

brick and cement were unchanged. In Milwaukee cost declines had not materialized except by price cutting through higher discounts for lumber and millwork. In Houston there was no change. In Portland, Ore., lumber was off 10 per cent. In San Francisco there was no evidence of a sharp drop in material costs save in lumber, where small companies were selling at less than cost. In Atlanta there were slight cuts in the cost of brick and shortleaf framing lumber. In Buffalo there was no evidence of decreasing costs. In Cleveland cement was down 15 cents a barrel, rough lumber down 10 to 15 per cent, millwork down 10 per cent.

Thus the rumored dip in the cost of building materials, as determined through a telegraphic survey conducted by THE FORUM. As far as labor was concerned last month, the cost declines were just as informal, just as local. Where drops occurred they were simply instances of undercutting the prevailing and contracted wage rate.

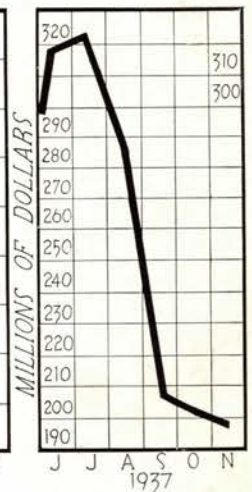
But there was distinct evidence of a concerted effort to get both labor and material prices substantially lowered. The President spoke once more, in his housing message (col. 1), of contract wages for labor. And there were also some administration statements about material monopolies, notably one by Marriner Eccles. And by last month this had meant, specifically: ¶ A Federal Trade Commission cease-and-desist order against manufacturers of metal windows, prohibiting them from entering into and maintaining a price-fixing combination.

¶ An FTC cease-and-desist order against window glass makers and distributors prohibiting them from classifying favored dealers as quantity buyers and making

## PERMITS



## CONTRACTS



those dealers who purchased less than the minimum prescribed pay up to 7½ per cent more than the quantity buyers.

¶ An FTC complaint against the Cement Institute and its 75 cement manufacturing member corporations for the use of the "multiple basing point system" of quoting prices. Under this system identical delivered prices are made by every quoting producer entering into the combination, to any given destination in the U.S.

Obviously these three cases, since they were completed or near completing by last month, were not part of the administration's recent move toward examination of alleged price-fixing. But last month Washington observers suspected that other building product industries were in for scrutiny, either by way of the FTC and the Robinson-Patman Act, or under the anti-trust laws.

**ADVICE FOR CHICAGO.** The Federal Home Loan Bank of Chicago, mindful of the shower of bond issues in the Twenties and the consequent tidal wave of reorganizations in the Thirties, last summer retained Dr. John Cover, Northwestern University economist, to look at Chicago's past building money record and draw from his survey a technique of operation for Chicago's building and loansters. Dr. Cover approached his problem from the aspect of causal relationships between building and interest rates, building and costs, building and wages, building and occupancy rates, building and rentals. His report, released last month, noted these relationships:

¶ Construction, particularly residential, is not responsive to movements in interest rates, but rather interest charges follow construction activity and home financing.



# MR. D. AND MRS. D. GO TO TOWN . . .

**THANKS TO GENUINE MASONITE!**

**MR. D.**—Why so glum? You used to like to go to the movies.

**MRS. D.**—You'd be glum and fagged out if you had to work all day in that gloomy kitchen of ours.



**MR. D.**—Say, this reminds me . . . I understand this movie set is made of MASONITE, the same grainless boards people use for modernizing their homes. I'll find out about that kitchen.



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**MRS. D.**—Fred, it's gorgeous! So neat and spotless—and so easy to keep that way. I'll have dinner ready in no time. Then let's go somewhere and dance.

**MR. D.**—With all the money MASONITE saved us we can afford the theater too. Come on, Mrs. D., we're going to town!



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THE ARCHITECTURAL FORUM

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Number 1

JANUARY · 1938



# THE MONTH IN BUILDING

If the Federal Home Loan Bank raised its rates materially so as to attract a substantial amount of capital, it would have only nominal effect on construction.

¶ The relationship between costs and construction is inconsequential in periods of low demand or excess supply. There will be, however, a close relation between costs and construction for a short period if there is considerable demand and a shortage of shelter.

¶ Occupancy, which is rising, was in late 1937 at 97 per cent for Chicago; in 1921, on the doorstep of the "frenzied decade," it was at 99 per cent. Therefore the Federal Home Loan Bank and its Chicago membership are again safe to lend funds extensively for residential construction.\*

Besides drawing conclusions, Dr. Cover laid down a few ruling principles for building and loansters to follow. Paramount among them:

¶ "Be relatively more liberal in financing the small, compact dwelling, even in the suburbs.

¶ "Reduce mortgage interest rates on new construction, raise rates on purchases, hold in middle position those on refinancing. In 1939, lower rates on purchases, increase rates on construction, reduce rates on refinancing.

¶ "Take the initiative in seeking charter changes permitting the financing of multiple unit dwellings and of large scale housing projects for renting purposes. This is a healthy development, sound upon an investment as contrasted with a speculative venture, and in need of a 'building and loan approach.'"

**POST OUT.** Last month Mayor Fiorello H. LaGuardia of New York indicated that he had tired of professional housers, wanted a practical builder. He reached out and tapped two shoulders, thereby selected two men to fill the two vacancies to the New York Housing Authority, second only to the USHA in the scope of its operations. To fill the shoes of Nathan Straus, new USH Administrator, and Langdon W. Post, the crusading chairman of the authority, the mayor picked Edward F. McGrady, one-time Assistant Secretary of Labor and at present labor relations adviser to RCA, and Alfred Rheinstein, a New York building contractor.

Builder Rheinstein has been a building contractor since 1914, is a member of the executive committee of the Building Con-



Wide World

**Commissioner Rheinstein.**

tractors and Mason Builders Assn., a member of the Board of Governors of the New York Building Congress, and a governor of the Metropolitan Builders Assn. He is understood to be the mayor's favorite for chairman of the Authority, and will also take over the \$10,000-a-year portfolio of Commissioner of Housing and Building.

**APPRAISAL FORUM.** Appraisal is neither an art nor a science. Any effort to standardize appraisal forms or methods meets with as many forms of resistance as there are appraisers—for the system of each is different and his loyalty to his own as fervid. For these reasons, and because no effort had ever been made to get appraisers together, much less make them think alike, it was expected that the first National Appraisal Forum would draw two or three hundred at best, with the bulk of delegates representatives from government agencies. But last month at Washington's Mayflower Hotel, the Appraisal Forum made double-barrelled news: more than 800 appraisers turned up; and the opening gun was fired in the first concerted drive for uniform appraisal.

It was a meeting of friends. Business was kept as much to the background as was practical, in order to maintain amicable relations and to insure a second forum next year. Resolutions passed did little more than thank those who had backed the forum and arranged its details. But there were a few appraisers there bent on serious business. The resolution they submitted read:

"BE IT RESOLVED that the National Appraisal Forum hereby sets as one of its objectives the accomplishment of standardized methods of recording appraisal results, which methods may be recommended to appraisers for the purpose of

furthering the principles of scientific appraisal practice.

"That such methods of recording appraisal results as may be developed include as fundamentals:

"1. The logical listing of major value factors generally recognized as specifically applicable to the several types of real property as now classified in practice.

When this offering came out of the mill of the resolutions committee, it was unrecognizable:

"BE IT RESOLVED . . . that the Joint Committee on Appraisal Analysis continue as its sole purpose the assembling, classifying, and dissemination of data and information . . ."

This was testimonial to a battle in the resolutions committee, and was besides the easiest way out of a potentially ticklish predicament. For the acceptance of this resolution would have in effect committed the nation's appraisers to FHAppraiser Frederick M. Babcock's system of "risk rating," an acute embarrassment to the fathers of all the other appraisal systems (ARCH. FORUM, Nov. 1936, p. 482).

The two who submitted the original resolution were George W. Gillies, president of the Long Island Society of Real Estate Appraisers, and Donald K. Vanneman, chairman of the society's Committee on Valuation Forms. It was fitting that these two should have submitted the proposal, for Appraiser Vanneman was the man who convinced the Long Island Society to adopt a uniform appraisal form, and Appraiser Gillies was his most important helper. And the uniform appraisal form now in use on Long Island is first cousin to Appraiser Babcock's risk rating, for Vanneman was once Babcock's prize pupil, still thinks along the same channels.

So the forum closed on the same amicable terms as those on which it began, to meet again next year. And the drive has already started to get the idea advanced in the Gillies-Vanneman resolution accepted by the second forum.

**EARNINGS.** For the third quarter earnings were severely down in many industries as compared to their 1936 positions. Last month's reports were traditionally crowded with those of steel companies, where the recession was particularly noteworthy, but could only be attributed in small part to Building's troubles.

	1937	1936
Acme Steel .....	\$ 305,863	\$ 538,847
American Cyanamid ..	1,391,632	1,095,263
Jones & Laughlin Steel	1,750,696	1,870,866
Lone Star Cement .....	1,206,189	836,049
Ludlum Steel .....	301,994	270,968
Midland Steel .....	351,249	262,188
National Gypsum .....	199,900	389,049
Otis Steel .....	948,285	495,110
U. S. Plywood .....	113,298	134,803
Wheeling Steel .....	1,230,192	1,186,660

\*Last month the management division of the Real Estate Board of New York issued an occupancy analysis of 67,816 elevator apartments in Manhattan, reported that in February of 1937 (the most recent month covered in the survey) occupancy in such units had reached 95 per cent. The same top was reached in 1926, with an all-time high of 96 per cent being attained in the summer of 1927. Since vacancies have been cut down considerably since February—chiefly by the October rental season—Manhattan building and loansters can, by Dr. Cover's formula, presumably regard loans on residential building in Manhattan as sterling propositions.



# ○ **FORMICA TOPS** and ○ **WALL COVERING** in the **Strand Palace Hotel,** **LONDON**



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• Old whalers will tell you that the "sperm" is one whale whose hunting grounds aren't restricted by climate or season. In the same month his domed head may batter a blow-hole thru the ice encrusted surface of the Polar Sea or breach the warm Southern waters. Whereas most of nature's creatures shed or thicken their coats according to season or climate, the same thickness of the sperm whale's blubber "insulates" his body against temperature variations in the waters he inhabits.

## USE KIMSUL

• Among man-made insulants KIMSUL provides similar year 'round efficiency. It is as effective in keeping heat from leaking out of a home in winter, as it is in preventing heat from seeping in during the summer. So, whether selecting insulation in cold zones where warmth and fuel economy are the chief considerations, or in temperate zones where both heat and cold must be considered, KIMSUL can be used with the utmost satisfaction . . . and the utmost in savings.

. . . To the economy of reduced heating plant requirements and reduced fuel

bills common to all good insulation, KIMSUL adds a further saving.

### A Most Important Development

*During the manufacturing process each blanket of KIMSUL is compressed or creped to one-fifth its normal length, then quickly and easily expanded to nearly 10 feet or stud height at time of installation. This exclusive feature reduces handling and shipping costs and speeds up the work of installing to such an extent that unusual economies are effected.*

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**AN EXPANDING  
BUILDING INSULATION**

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CHICAGO, 8 South Michigan Avenue

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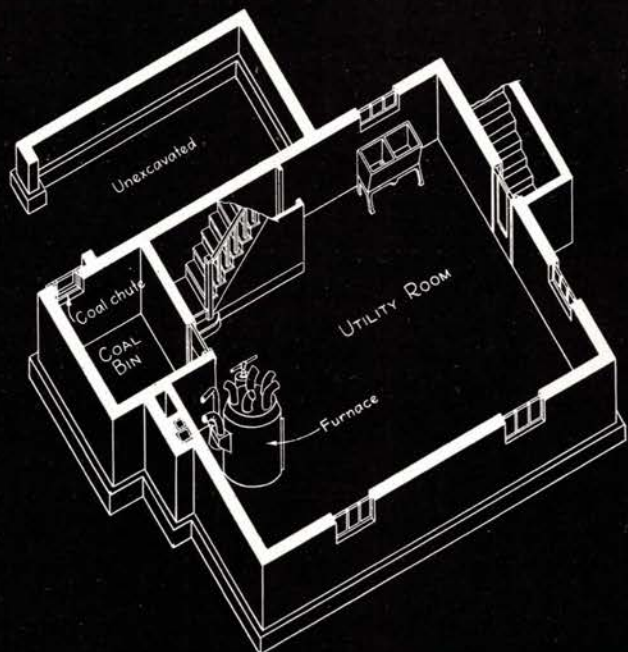
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## MODERN BASEMENT DESIGN FOR

*Clean heat*

**PLUS  
ECONOMY  
IN FUEL**



### BASEMENT PLANS FOR MODERN BITUMINOUS COAL HEATING

## *Five of the Reasons*

### FOR RECOMMENDING MODERN BITUMINOUS COAL HEATING



**1** Convenience: With modern *bituminous coal*, your clients can have the amount of convenience for which they wish to pay at the lowest cost of any fuel. Boilers, furnaces and bins for hand-firing can be so designed that labor is reduced to a minimum. Automatic firing is available either through hopper feed stokers requiring a few minutes' attention once a day, even in the coldest weather, to the fully automatic bin feed stokers.

**Economy:** Modern *bituminous coal* is the lowest fuel in first cost, the cheapest by far to burn. Tremendous unmined supplies scattered throughout the country insure plenty of fuel in the future, which means that your clients will not face rising prices due to imminent shortages of supply.



**3** Dependability: *bituminous coal* is a safe fuel, free from danger of explosion. It cannot leak and injure floors and floor coverings. Dealers always have ample supplies. Coal burners are the simplest, most dependable type of automatic heating equipment.

**Cleanliness:** Scientific washing, sizing and dustproofing treatment make today's *bituminous coal* clean to handle and clean to burn. No greasy soot on walls and furnishings. Modern enclosed storage bins insure spotless basements and living rooms.



**5** Health: Health authorities have long advised uniform home temperatures for health and comfort. Avoid unhealthy "Temperamental Temperatures" by using modern *bituminous coal*. Its sustained fire keeps the floors warm, prevents a cold layer of air at ankle height, insures health and comfort by maintaining uniform temperature in your home.

Your clients enjoy clean, constant, comfortable heat when their homes are designed for economical and convenient bituminous coal heating.

The fundamental principle of designing for modern bituminous coal heating is to keep driveway, coal storage and heating unit as close together as possible. How this can be done so as to provide abundant basement space for other utility or recreational purposes is shown in detail in our portfolio of "Six Typical Basement Designs for Modern Bituminous Coal Heating," A. I. A. file 30-G. A copy will be sent you, without obligation, if you will fill out the coupon and mail it to either of our offices.

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The National Organization of Bituminous Coal Operators

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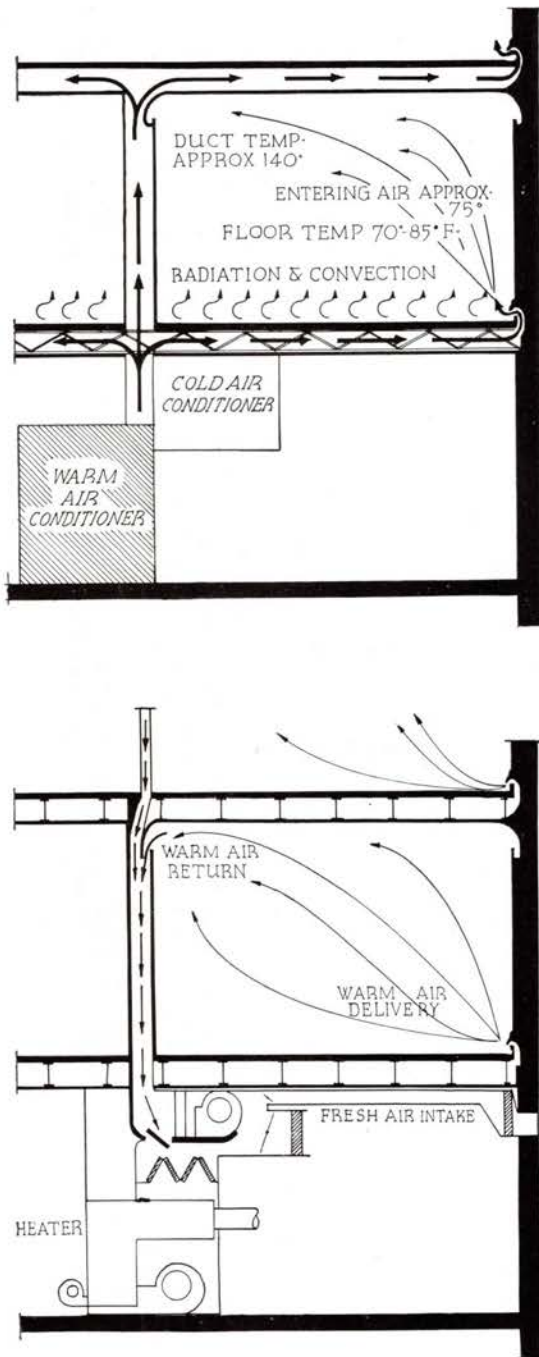
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AF-J



# PRODUCTS AND PRACTICE



DIAGRAMMATIC SECTIONS which explain the Persons system of forced air heating. Upper drawing shows how heated air is pumped into the floor cavities, where it gives up most of its heat to the floor slab, and permitted to escape into the rooms through slots in the exterior walls. Lower drawing shows how air is withdrawn from the rooms through openings in a cove near the ceiling, and recirculated through the conditioner. For cooling the system is reversed.

## AN EXPERIMENT IN DOMESTIC AIR CONDITIONING

Twenty-five years of experience in designing and installing temperature control devices has made L. M. Persons\* acutely aware of the deficiencies of conventional methods of heating and air conditioning. Designing thermostats which must compensate for all of the flaws inherent in conditioning systems as a whole has led Mr. Persons to examine regular air conditioning practice with a highly critical eye, led in turn to his developing a new and radically different method of heating and cooling of his own.

Experimental heating systems are no rarity: something of the sort appears every year or so, attracts a certain amount of attention, and is usually forgotten. Two things, however, distinguish Persons' experiment from most others. First is the fact, already noted, that his departures from conventional practice are made in an effort to correct certain specified faults actually encountered in ordinary work. Second, and equally important, is the fact that the equipment and materials of construction which he has employed are everywhere available, and the climatic conditions for which his system is designed typical of a large part of the United States.

In Persons' opinion, conventional automatic domestic heating systems are subject to three major defects: alternating hot and cold periods due to intermittent firing; air stratification, resulting in a considerable difference in temperature of the air near the floor and that near the ceiling which increases as the outside temperature falls; and discomfort caused by cold floors and walls.

The first of these problems—alternate hot and cold periods—has, he feels, been largely solved by the "anticipating" type thermostat now in common use. Efforts to correct the second defect—stratification—by the forced circulation of large quantities of air have, in his opinion, been less successful; while cold floors and walls remain a problem which most systems of heating make no attempt to solve.

The system of air conditioning which Persons has developed is an effort to solve all three problems. Based on an investigation of conventional heating equipment in the course of which a series of tests were made in typical homes to determine the effect of air stratification, it was first applied to an existing residence in Des Moines, Iowa. Encouraged by the results of this experimental installation, its inventor has since designed and built for his own occupancy a new house near St. Louis, Mo., in which the system has been in operation for more than a year and a half.

(Continued on page 10)

\* Chief Engineer, White-Rodgers Electric Co., St. Louis, Mo.



# Is rubber tile "practical" for offices?

IT IS-- WHEN YOU SPECIFY  
*Reinforced* RUBBER TILE



*Reinforced rubber tile has proved itself to be an attractive but thoroughly "practical" floor in these two offices in a busy advertising agency. Designed by D. Lorraine Yerkes, Chicago, Ill.*



ONCE upon a time, rubber tile was looked upon as a "luxury" flooring—suitable where rich coloring, extreme comfort, and quietness were more important than durability or ease of maintenance.

This idea is no longer valid. The development of *reinforced* rubber tile changes the picture completely. Here's why:

In Armstrong-Stedman Rubber Tile, the invisible fibre reinforcing makes the tile highly resistant to abrasion and denting. It prevents buckling and crazing due

to contraction and expansion of under-floors. It insures greater depth and beauty of coloring because it prevents the pigments from flowing during manufacture. This means that unsightly "patches" of color, due to uneven wear, are eliminated.

Armstrong-Stedman Rubber Tile is the *only* rubber tile made with this interwoven reinforcing. Although this exclusive feature means longer wear and permanent attractiveness, it adds nothing to the price.

Therefore, if you like the high finish, the

beautiful coloring, the quietness and comfort of rubber tile—you no longer need hesitate to specify it for offices, stores, and restaurants where traffic is heavy and where low-cost maintenance is essential.

In Sweet's Architectural File, you will find color plates of the forty colors in marble, paisley, and two-tone effects. Or write now for a file-sized copy of "New Beauty and Comfort in Floors." Armstrong Cork Products Company, 1204 State Street, Lancaster, Pa.

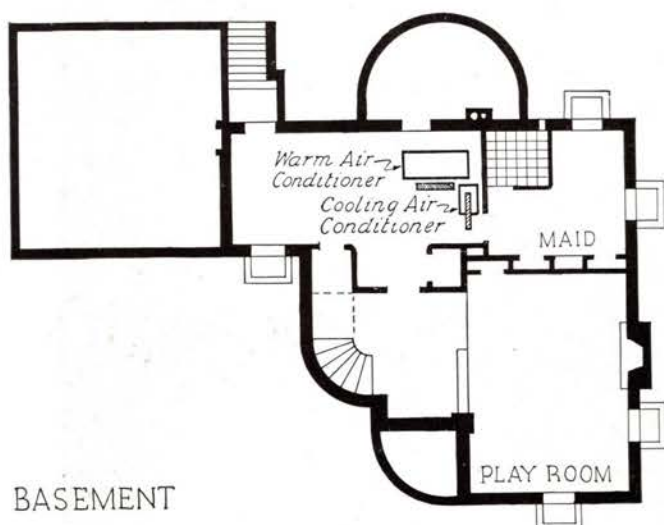


## ARMSTRONG'S *Linoleum* and RESILIENT TILE FLOORS

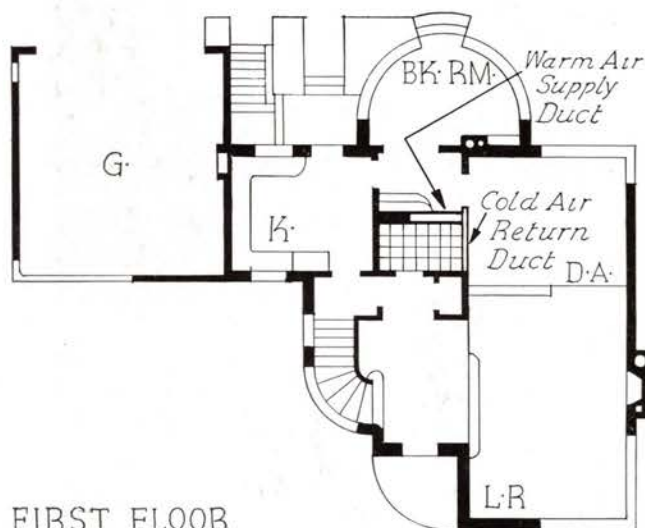
LINOTILE • ACCOTILE • CORK TILE • RUBBER TILE • LINOWALL • ACOUSTICAL CEILINGS



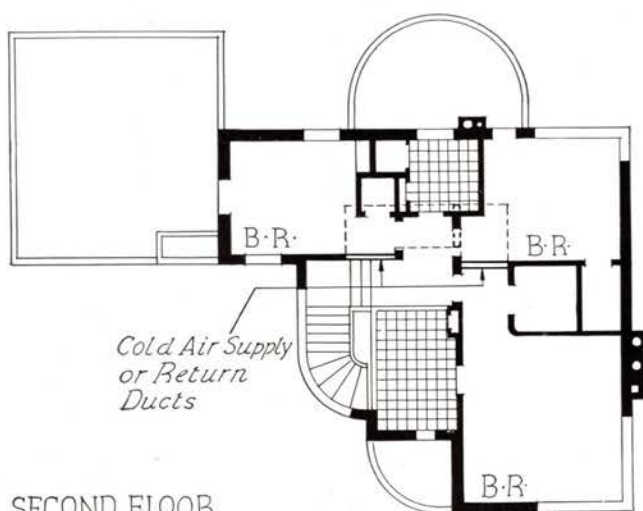
## PRODUCTS AND PRACTICE



BASEMENT



FIRST FLOOR



SECOND FLOOR

PLANS of the heating system in the Persons residence

Essentially, what Persons has developed is a new system of forced air heating. Heated air from a gas-fired conditioner is introduced into plenum chambers formed by the space between the floor joists and extending under the entire area of each floor, where most of its heat is absorbed by the floor slab. After giving up its heat to the floor slab the air is permitted to escape into the rooms through continuous slots located in the base-boards along the outside walls. Recirculation is effected by drawing room air into a continuous opening in a special cove along the interior side of the rooms through return ducts to the conditioner, which is also equipped with a regular fresh-air inlet. For summer cooling, the system is reversed, and cooled air introduced to the rooms through the opening in the ceiling cove and withdrawn through the slotted base and floor chambers.

This arrangement has several important advantages. Those claimed for the heating system include almost complete elimination of air stratification, thorough diffusion of heat and elimination of drafts, increased comfort due to the fact that the human body reacts quickly to temperature changes around the feet and ankles, elimination of hot and cold periods resulting from intermittent firing, and a tendency to warm the inside surfaces of exterior walls; while the cooling system is said to provide ideal air delivery, thorough diffusion, and to benefit from the tendency of the air returning through the floor chambers to pick up additional heat from the floors and especially the ceilings.

Application of the new heating system necessitates the use of an open floor construction which will not be adversely affected by considerable changes in temperature. The floor construction employed in the Persons residence consists of a  $2\frac{1}{2}$  in. concrete slab, placed on  $\frac{3}{8}$  in. 4 lb. rib lath, and supported by 10 in. open web steel joists spaced 20 in. and 24 in. on centers. Joists bear on the exterior concrete walls, but all floor slabs stop 4 in. clear of the inside of the walls, in order to provide space for the circulation of heated air and to prevent undue heat loss by conduction between the slab and the exterior masonry. Ceilings are plaster on metal lath and floor finish throughout  $\frac{1}{8}$  in. asphalt mastic tile cemented directly to the concrete floors. A plaster ceiling over the entire basement is provided in order to seal the plenum chamber in the first floor.

The heating unit, located in the basement, is a gas-fired conditioner of 125,000 Btu. capacity, equipped with a 1,300 c. f. m. blower. Heated air is discharged into the first floor plenum chamber through a large duct, much like that of a "pipeless" furnace, and conveyed to the plenum chamber in the second floor through a single vertical riser, 10 in. wide and 4 ft. long, equipped with a damper to regulate volume, and located near the bathroom.

After giving up most of its heat to the floor slab, the air in the floors escapes into the rooms through horizontal slots in the walls at only a few degrees above room temperature. These slots are located in the exterior side of all rooms 6 in. above the floor, and are 1 in. wide by 15 ft. long. Curved covers conceal the slot opening and direct air downward against the floor. Owing to the large area of the slots, air enters the rooms at a velocity so low as to be scarcely perceptible.

Return air outlets are provided in a cove, or gutter-like depression in the walls near the ceiling, which runs around the entire

(Continued on page 56)

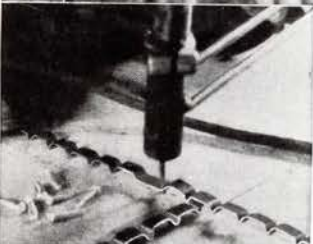


# Presenting to the building industry the new **MILCOR** solid partition and furring system★

... the most important development in years in fireproof construction



★ **Ceiling Angle Runner** — attached to ceiling with bolts, nails or Rawl Drives. Burr on holes prevents tipping of channels.



★ **Continuous Crimped Floor Runner** — with grooves for inserting channel studs at any point in the wall. Flat section every 12" for attachment to floor.



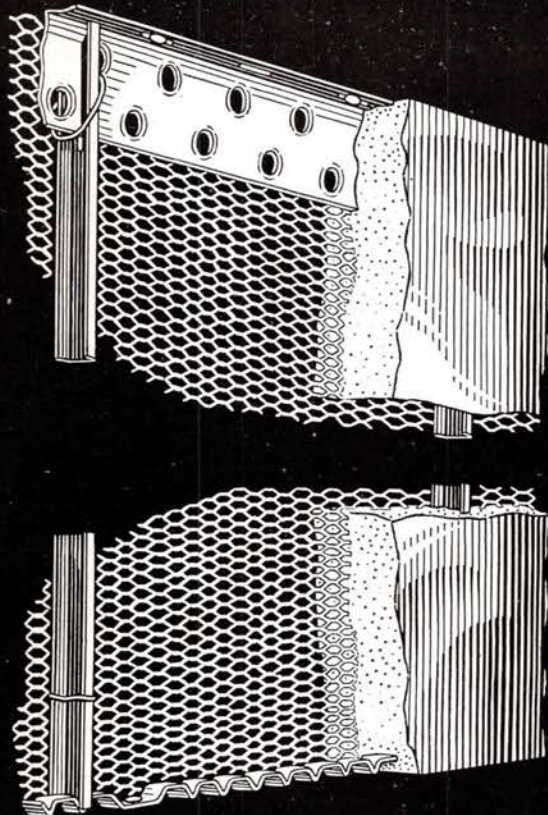
★ **Slotted Channel Studs** — notched at top for variations in ceiling heights. Slot slides over standing leg of Ceiling Angle Runner — bottom slips into place in grooves of Floor Runner. Metal lath tied to studs with tie wire.



★ **Standard Sheets of Metal Lath** — applied without any previous wiring of channels to either Ceiling or Floor Runner. Tying completely done in one operation with ordinary tie wire. Here is a real saving in time.

**Unit of the MILCOR System of fireproof construction**

Milcor here uses the word "system" in its true sense — not to signify a limited, inflexible set-up applicable only under certain conditions, but to represent so great a range of individual products, types, weights, metals, etc., that a complete, coordinated metal backbone can be designed to suit any condition of fireproof construction — all with Milcor products engineered to work together.



2" solid plaster partitions now erected with incredible speed with this exclusive Milcor system — bringing costs down sharply.

This major improvement now makes practical, from a cost standpoint, these obvious advantages of 2" solid plaster partitions: (1) A saving of floor space (4" saved per partition over usual types of construction), which may add up to an extra room per floor at no extra cost. (2) Increased strength, especially under impact. (3) Reduced dead floor load. (4) Reduced sound transmission. (5) Full two-hour fire rating has been granted.

This Milcor system is applicable to the erection of free-standing furring walls.

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Write today on your business letterhead for the Milcor Solid Partition and Furring System bulletin, just off the press — including complete detail drawings.

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If your plant conditions are severe, the ultimate in motor protection is essential to you—Allis-Chalmers Seal-Clad Motors offer the ultimate in motor protection. If your plant conditions are not so severe as to make this protection absolutely essential, Allis-Chalmers Seal-Clad Motors are still the soundest investment you can make, **BECAUSE YOU ARE GIVEN THIS GREAT ADDITIONAL PROTECTION AT NO ADDITIONAL COST.**

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*The Allis-Chalmers Mfg. Co. builds standard motors of every type from 1 hp. up—also motors for special application.*

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MOTOR DIVISION  
**ALLIS-CHALMERS**



M I L W A U K E E W I S C O N S I N



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*Leads Again in making the  
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**PROFITABLE TO THE PURCHASER**

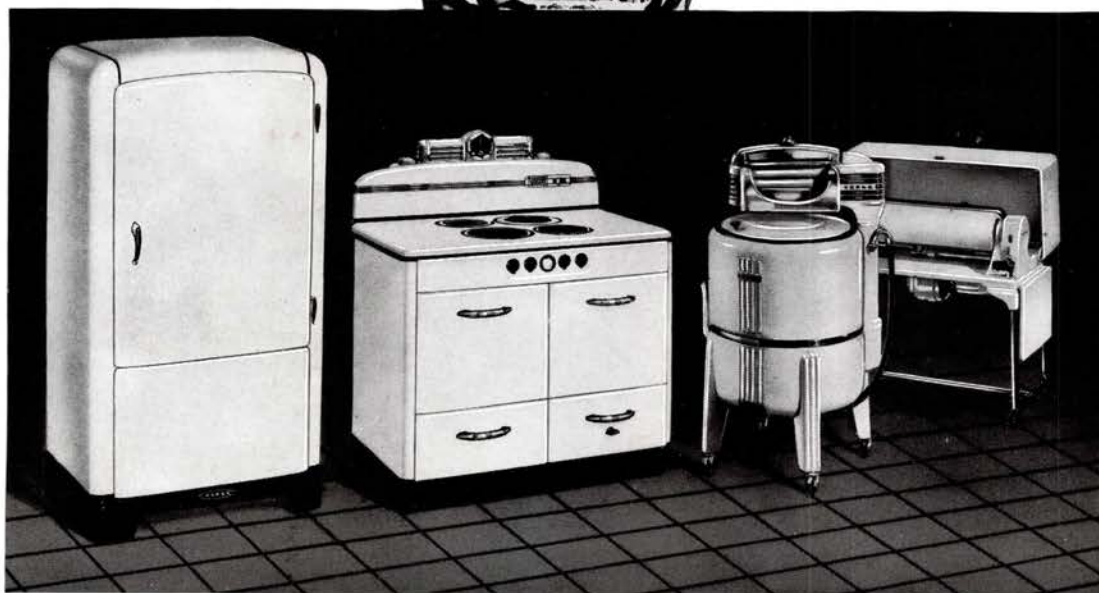
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GAS BURNERS • FINE-AIR FURNACES • COAL STOKERS • AIR CONDITIONING • CIRCULATOR ROOM HEATERS • HOT WATER HEATERS

TP-4



# FORUM OF EVENTS



Ewing Galloway

## TRAFFIC SNARL

THE normal city grid plan makes very little attempt to differentiate between through routes and service roads. So the first and most necessary step in cleaning up traffic snarls is the one just taken in New York, prohibition of parking on a certain number of crosstown streets in the central area. For at present these streets are made to serve as garages in addition to their other duties. Under the NYC Traffic Code which became law in February last, a motorist is not allowed to leave his car parked by the curb for more than one hour in the same place. But the law is not enforced.

**Garages.** Most car owners' primary objection to the use of a garage for parking is the 50 cent fee. But offers have been made by the owners to halve this, under threat of municipal competition and a police promise to strictly enforce the one hour street parking limit. Secondary objections center round the zoning laws which prohibit the building of garages in the most congested business areas, which is obviously the place where the motorist would like to find them.

One possibility is the vacant lot. Its main advantage will probably be a central location, its main disadvantage a comparatively uncertain birth date and length of life. Being born of Depression it is likely to die when returning prosperity, with its increased number of automobiles, makes its existence most desirable. The city might find it worth while to acquire some of these lots as permanent parking areas. Another of Depression's normal products are the schemes for vast underground garages set below the most congested areas of the city. Municipal authorities seldom pay such ambitious ideas more than polite attention, though Philadelphia is now considering the possibility of trying to recoup

**NEW YORK CITY** skyscraper owners are not legally bound to provide for the parking of their tenants' cars and trucks off the street. Parking space is an amenity. Rockefeller Center (pop. 20,000) handles all goods traffic in extensive underground loading areas, has space for 330 cars on one still-vacant lot (left). If and when a new building is built on this site . . . ? The Empire State Building (pop. 6,500), located at the center of the most congested midtown area, has a 4-bay loading area within the building, provides no car-parking space at all.

some of the \$800,000 spent on an abandoned and unfinished subway by using it as a garage.

All these methods of storing cars depend upon what may be termed "horizontal stacking," in which little serious attempt is made to combine quick accessibility with intensive use of space. The normal garage is just so many vacant lots set one above the other and connected by a ramp or elevators. More intensive use of space combined with quicker accessibility is found in the highly mechanized garage where the cars are handled by elevators for vertical movement and electrically operated skids for horizontal movement.

"Vertical stacking" in its most intensive form is found in the automatic garage invented by engineers of the Westinghouse Co. Built on the Ferris wheel principle, this machine saves the space usually wasted on vertical circulation by making the elevator itself the garage. Moreover it is able to get along without any attendants, and like the mechanized type allows the nervous motorist to lock his car and be assured that it will not be driven or even handled while he is away. All such highly mechanized garages imply a large capital investment and therefore can be justified economically only in congested areas where land values are high and capacity business is certain. Applied to New York this means those areas where garage building is at present barred by the zoning laws.

More attractive to penurious city officials, though providing no real cure for the basic disease, are parking meters. When these machines are used no attempt is made to clear the streets of parked cars. On the contrary, the curbside road surface in congested areas is divided by white lines into "stalls" each 20 feet long, (this ample space allowance wastes 20 per cent of the available curbside area but is claimed to be justified by increased accessibility) each presided over by a meter set atop a 4 foot high post on the sidewalk. Putting a nickel in one of these meters gives the motorist the right to park his car for a specified period (usually 60 minutes) in

(Continued on page 16)



Burton Holmes from Ewing Galloway

**ROME** now has a marble-faced automobile hotel. Its 1,000 rooms on seven floors are entered by way of a wide central ramp.



European

**LONDON** and Paris allow parking only in the center of less congested streets and squares.



**CHICAGO's** sagacious Field Estate found there was money in parking, built this two-story parking garage as a "taxpayer."



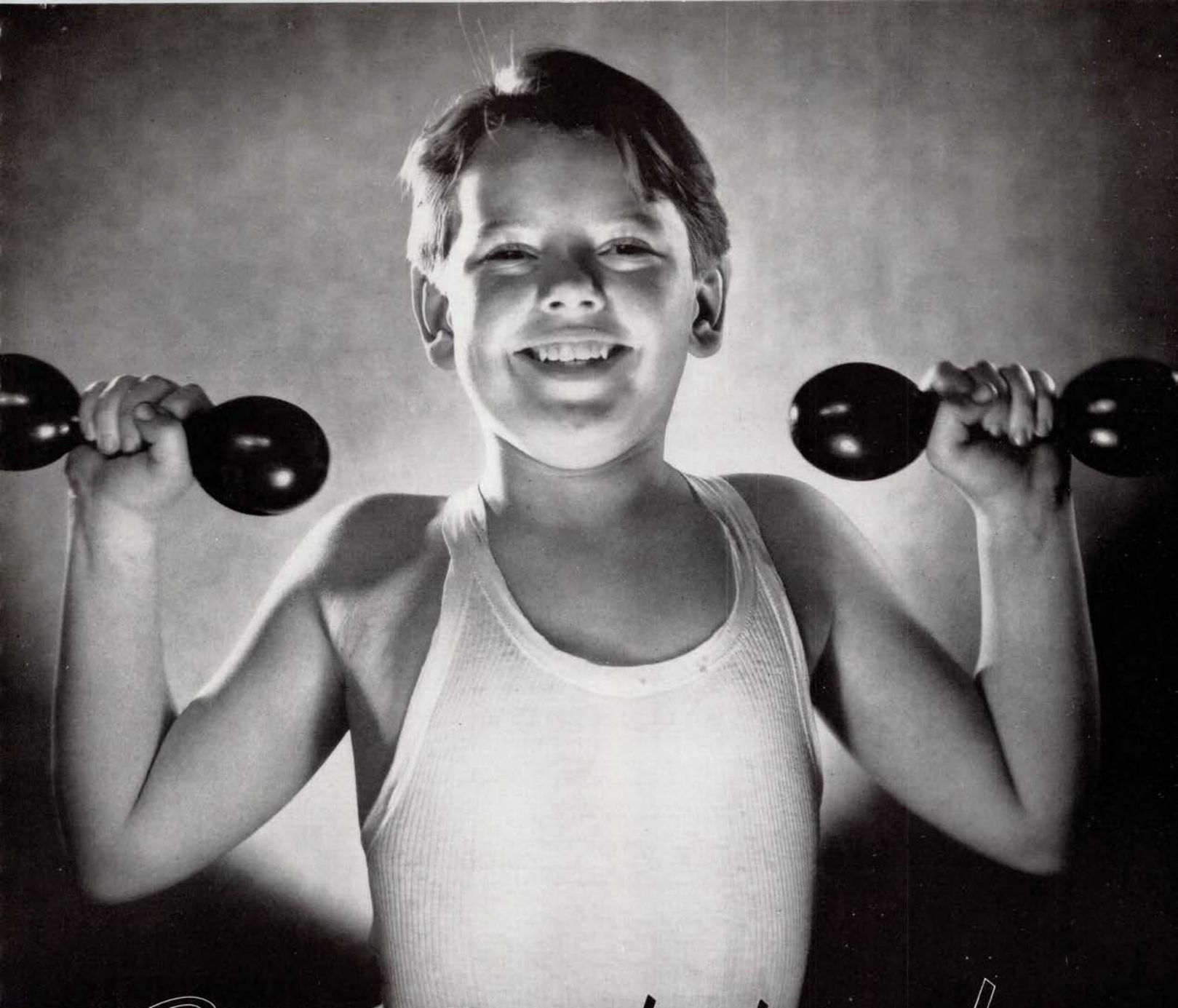
Associated Press

**SEATTLE** merchants, like those in other towns, found business improved when customers were able to park their cars on the roof.

**MANHATTAN's** traffic snarl shows its teeth.

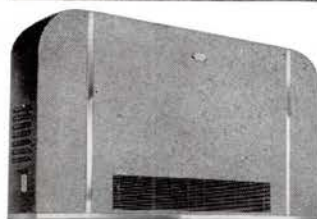
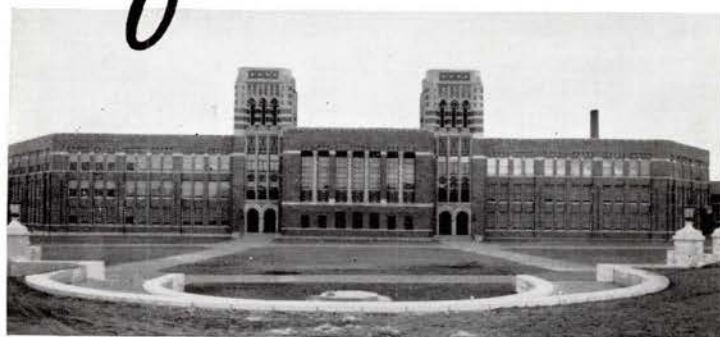
These are facts: for ideas turn to page 16. On a typical weekday between 9 a.m. and 5 p.m. there are approximately 122,250 vehicles parked on the street in Manhattan's congested midtown area. Of these only 60,000 failed to break the law by moving on within 60 minutes; 1,000 were left in the same spot on the street for the whole day. In the same area there are 168 garages with a maximum capacity of 17,655 cars. But only 5,526 thought it worth while to pay the garages' 50 cent fees rather than to take a free berth on the street at the very mild risk of a parking ticket and \$1 fine.





# Building for the future!

**M**ODERN schools are building for the future . . . building strong bodies for keen minds . . . We're building for the future, too, and our job's pretty closely akin to yours. For we have supplied the proper warmth and fresh air, so essential to good health, in thousands of schools by installing Nesbitt Heating and Ventilating Units. Nesbitt Units, today, are the last word in modern schoolroom heating and ventilating. By *syncretizing* room and air-stream temperatures, Nesbitt Units eliminate dangerous drafts, prevent overheating or chill, and supply adequate fresh air. Nesbitt Units are engineered for the future—built so adjustable and flexible that they will meet every State requirement, now and for generations to come. 'Phone or write your nearest American Blower Branch Office for complete information and data.



*The Wyandotte High School, Kansas City, Kansas—Hamilton, Fellows & Nedved and Joseph W. Radotinsky, Kansas City, Kansas, Associated Architects—and A. J. Dunn, Chicago, Ill., Consulting Engineer. This new school is equipped with Nesbitt Heating and Ventilating Units and American Blower Ventilating Fans.*

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*Division of American Radiator and Standard Sanitary Corp.*

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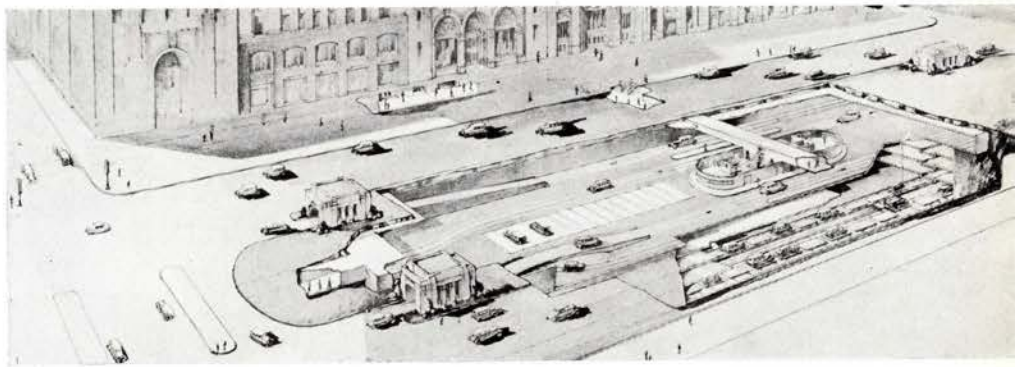


# FORUM OF EVENTS

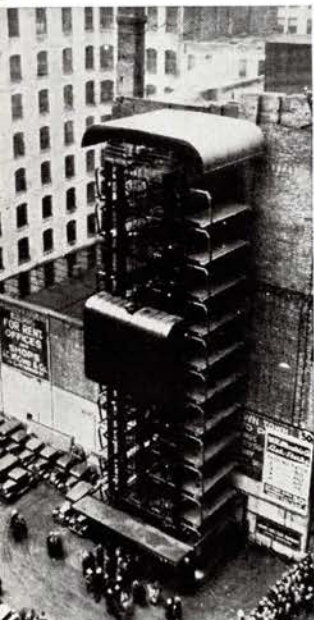
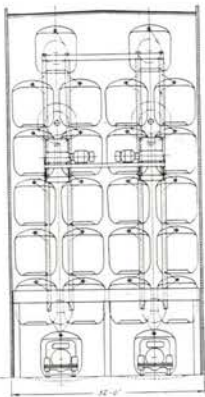
(Continued from page 14)



Photos by Acme



**PARKING SPACE**, as the motorist desires it, must always be available within 50 yards and ready to accept or disgorge his car within 50 seconds. To satisfy him it would be necessary to build garages in congested areas where they are usually discouraged by zoning laws and high land values. But they might be put underground, as suggested by Architects Smith, Hinchman & Grylls for downtown Detroit (above right). Above ground the highly mechanized garage, using electrically operated skids and elevators for handling by a minimum staff, gives speedy, bashless handling on a small ground area. Chicago's Palmer House garage (above left) holds 864 cars on 24 floors. But the ultimate efficiency so far in vertical stacking is the Ferris wheel type (left). The cross-section shows the principle applied to a double machine housing 24 cars on a plot 32 x 24 ft. Additional cradles may be added in pairs to double the parking space without any increase of ground area. The machine can be made entirely automatic.



But parking space, as the motorist desires it, must first of all be cheap, and expensive machinery on valuable land means high overhead.

the "stall." At the end of that period an indicator flicks up, gives the prowling cop all the necessary evidence for a ticket. Such apparatus does at least remove the all-day parker to a garage and increases the turnover amongst the rest.

This *ad hoc* congestion remedy was first installed in Oklahoma City two years ago. Now some 20,000 of these meters line the congested sidewalks of 45 cities. Their legality has been expensively disputed in the Supreme Courts, denied in Birmingham, Ala., confirmed in Miami, Fla. Inevitably unpopular with motoring associations, they are just as inevitably popular with City Treasurers. Costing less than \$60 each installed, they pay for themselves in almost all cases within six months, and then bring in a handsome revenue to the city for ever after. Dallas, for example, carries home about \$140,000 annually from its 1,500 meters, and it is claimed that if New York City were to install 200,000 the city treasury would be the richer by \$80,000 a day.

The Merchants' Association is quite convinced that they would be fine, Deputy Police Commissioner Fowler (who heads the Traffic Department) would like to experiment, and Corporation Counsel Paul Windels thinks they are illegal. Forward-looking planning experts are afraid that meters might persuade city officials to abandon the fundamental replanning necessary to straighten out Manhattan's snarls.

Not that there is any lack of competition in bright ideas. Mayor La Guardia's Traffic Committee has been bogged down under them for the past eleven months.

Store roof parking, street widening by putting sidewalks inside the buildings which line the street, taxation relief for central parking lots and for buildings with inside loading areas, compelling new places of amusement to provide parking space in proportion to their seating capacity (another idea is to convert the parking area into a movie theater, with the customers sitting in their own cars), parking spaces located at the suburban terminals of subway, bus and elevated lines, thus encouraging the use of public transport which is much more economical of street space, and often used below capacity, whereas private cars carry an average of only 1½ passengers each.

But no one idea applied in one small area can provide any complete cure. Parkways and parking are two elements in one great snarl. Question is what solution will the City Planning Commission propose?



WPA Federal Theater

## HOUSING IN LIGHTS ON BROADWAY

Filling the stage of Manhattan's Adelphi Theater, a web of steel tube scaffolding supports a disembowelled slum tenement. Within these carefully fumigated remnants of the NYC Demolition Bureau the Federal Theater's "Living Newspaper" unit is due to bring into the spotlight such unsavory truths as overcrowding, "hot beds"\* and backyard latrines. Housing will hit Broadway under the title of "... one third of a nation ..."

## HONEST

"Lazy, unpunctual, and generally incompetent Assistant, with five years' experience, would accept position with modern architect. Modernists only need apply. Box 110." Ad. in *Architects' Journal*.

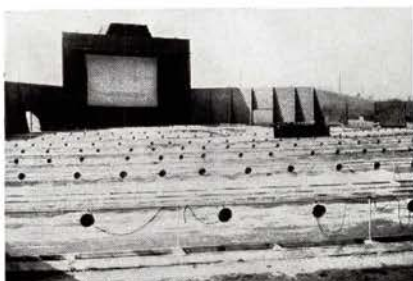
\*Beds used by lodgers in three eight-hour shifts.  
(Continued on page 44)

"American City"



**PARKING METERS**, on the other hand, are cheap to install, profitable to maintain, let out street space at 5 cents an hour. They regularize street parking congestion without curing it.

Wide World



**DRIVE-IN THEATERS** transform the parking lot into a movie theater, solve the parking problem by evading it.



for removing  
seepage water



**PENBERTHY AUTOMATIC  
ELECTRIC SUMP PUMP**  
Made in 6 sizes



**PENBERTHY AUTOMATIC  
CELLAR DRAINER**  
(Water or Steam operated)  
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DETROIT, MICHIGAN • Canadian Plant, Windsor, Ont.



## Architecture and social backgrounds . . . . A book

on garden design . . . . Illustrated handbook of art history.

**ARCHITECTURE AND MODERN LIFE**, by Baker Brownell and Frank Lloyd Wright. Harper and Brothers. 339 pp., 15 illustrations. 6½ x 9. \$4.00.

This impressive title, suggestive of the heavily documented erudition of "Technics and Civilization," covers what was presumably meant to be a collaborative effort. Actually the book consists of two parallel expositions, set out in alternate chapters which finally merge in a somewhat pretentious dialogue apparently inserted for the purpose of enabling the authors to discover to what extent they had strayed from each other during their meanderings through the book. The chief result of this curious literary mesalliance is merely to leave one wondering why Messrs. Brownell and Wright ever bothered to write a book together.

To examine the Brownell thesis first—it is not an unfamiliar one: modern life has a profoundly disintegrating effect on the individual. A cog in a mass-production civilization, his work has become a fragmentary experience: he neither begins a job nor finishes it, nor are his activities dignified by any appearance of significance. Propertyless, he is insecure or unemployed in the richest country on earth, and his tastes, habits, morals, and beliefs reflect the uncertainties of his shifting economic environment. By contrast with his early nineteenth-century ancestor he is indeed a pathetic mortal. Uncle Elisha, of Middlebury, Vermont, consumed what he produced; he lived on the soil; he was secure; he had a place in the scheme of things; life, to Uncle Elisha, made sense. This is the leit-motif of Professor Brownell's nostalgic pot-boiling. It all sounds like something we have heard before. And the story continues: income is unequally distributed; in our best year, 59 per cent of U.S. families had incomes under \$2,000; twenty-three millions on relief rolls; urban congestion is fabulously expensive; tenant farming is on the increase. Under such circumstances housing becomes slums; architecture becomes mere building; only silos, bridges, and battleships show any honest character. It is all very sad, this picture that is painted (Stuart Chase made a better job of it); what is the way out? Here we run into a masterpiece of academic fumbling. A family named Borsodi resolved to escape from the urban inferno, and with a small investment managed to set up a self-sufficient economic existence in the country; what would happen if everybody acted on this idea is not made quite clear. It is suggested, however, that the necessary modicum of mass-production industries would remain, decentralization to take place where feasible and efficient. How would this come about? Says the educator: "education." Obviously it is a writer's privilege to indulge in pretty word-pictures of a stable, well-integrated society. But it is also the reader's privilege, in face of the facts of daily existence—and the daily newspaper—to remain entirely unimpressed.

The modern world, says Professor Brownell, faces a dilemma: no longer may we expect freedom *and* security, but freedom *or* security. The basis for this unhappy conclusion is to be found in the definition of freedom: "control from within of the means of life rather than the extension of control over others." Which doesn't mean very much in modern

society—capitalist, socialist, or cooperative. Professor Brownell finds many other conflicts in modern life; there is the conflict between urbanism and agrarianism, between specialization and integrity, between relativism and absolutism. That these might be merely symbols for a far deeper conflict is not considered: such are the blessings of the academic life. After decrying the various utopias, from the Christian to the Marxist, Brownell presents his own: a balanced society, balanced in population, industry, property, politics, art, religion, education, human life. And how does this happen? "Though orderly development lies, I think, in the increasing relativism and plasticity in life and art in contrast to the obstruction by the resurgent absolutes and external powers, what I think or hope, or what orderly evolution may be, is not necessarily what the future will be." Whatever this may mean, Professor Brownell's craving for a loosely knit society of producer-consumers, each secure on God's little acre, is quite clear. But to arrive at this "balanced society" would require a preliminary period of regimentation that would make the Nazi set-up look like the Garden of Eden. And Professor Brownell does not like regimentation, so we come back to where we started. So much for two-thirds of the book.

Unlike his colleague, Mr. Wright has something to say, and he says it briefly. Much of it he has said before, but it bears repetition. In "Some Aspects of the Past and Present of Architecture" he gives what he considers the basic principles of architecture, and interprets what has been done in terms of these principles. By means of two specific examples—the Imperial Hotel in Tokyo and a small house in Wisconsin—he shows how the principles of organic architecture apply in his own work. The project entitled "Broadacre City" is an attempt to put his conception of the good life into three dimensions. Wright knows that Broadacre could not be built in the United States today: it implies an absence of speculation in land, a rationalized building industry, planned distribution of manufacturing centers, the imposition of a considerable degree of outside control on individuals who would otherwise deface the community with pseudo-Colonial houses, billboards, and badly placed gas stations. But having let his project point out the obstructions to its realization, he leaves their removal to others. Which is fair enough: this man is an architect whose business is creating architecture.

The chief criticism of this book might be Frank Lloyd Wright's own favorite: it is not "organic." It is a pity, because some of it, notably the chapter already referred to, is excellent. And as Wright is one of the most articulate individuals of his time, this is saying a good deal. But it takes more than this to make a book which deals adequately with the rather extensive subject announced by its title. What we have here is a bit of the history of the activities of an important artist, some brilliant and acute comments on the nature of architecture, and some indication of a philosophy of living—which is also a philosophy of building. And this is enough to entitle any book to importance. The remainder, and larger part of the book, consists of the verbose floundering of a muddled liberal whose chief difficulty is that he wants to eat his individualistic cake and have it too.

(Continued on page 64)



# Thinking of Air Conditioning? SEE WHAT THEY SAY ABOUT YORK

**WITH YORK  
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THE BUGABOO OF  
WATER USE AND  
DISPOSAL "IS OUT"**



Long before the popularly headlined, PRESENT-DAY PROBLEM OF EXCESSIVE WATER USE AND DISPOSAL was raised, York had the answer. It's the York Economizer. A complete self-contained, combined forced-draft cooling tower and refrigerant condenser, it uses *and re-uses*, the original gallonage of water needed for its operation and *doesn't empty a single gallon of it down the sewer.*

There is, of course, a 1% depletion of the water caused by normal evaporation. This is automatically replaced. In addition, the York Economizer also saves about 97% of the normal amount of power used for pumping. Just another reason why York has been recognized as "Headquarters for Mechanical Cooling since 1885."

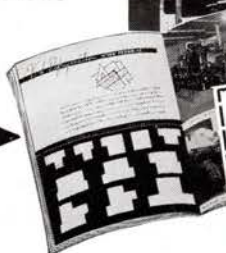
## TRUST A FAR-SIGHTED NEW ENGLANDER TO CHOOSE AND APPROVE THE PLANS FOR THE MOST ECONOMICAL AIR CONDITIONING

"The Rice Building, in Boston," said Mr. Rice, "is one of the largest buildings devoted to public offices. It is a splendid example of the 3 basic ways in which York air conditioning can be adapted to existing buildings. The installation did not disturb the original architectural features of the building. Only a minimum of rental space was needed for the York equipment and the fact that the condensing water is used and re-used about 99 times means maximum economy of operation. *Almost immediately after our installation was completed, occupancy increased to between 80 to 85%.*"



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Charts in this York book will tell you. The book also shows blue print diagrams of various suggested York equipment layouts. You'll find it helpful. The coupon will bring it. Or look in the classified section of your phone book and ask the nearest York Headquarters Branch or Distributor for it. York Ice Machinery Corporation, York, Pennsylvania. Headquarters Branches throughout the World.



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Please send me a copy of "Air Conditioning by York"

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# YORK

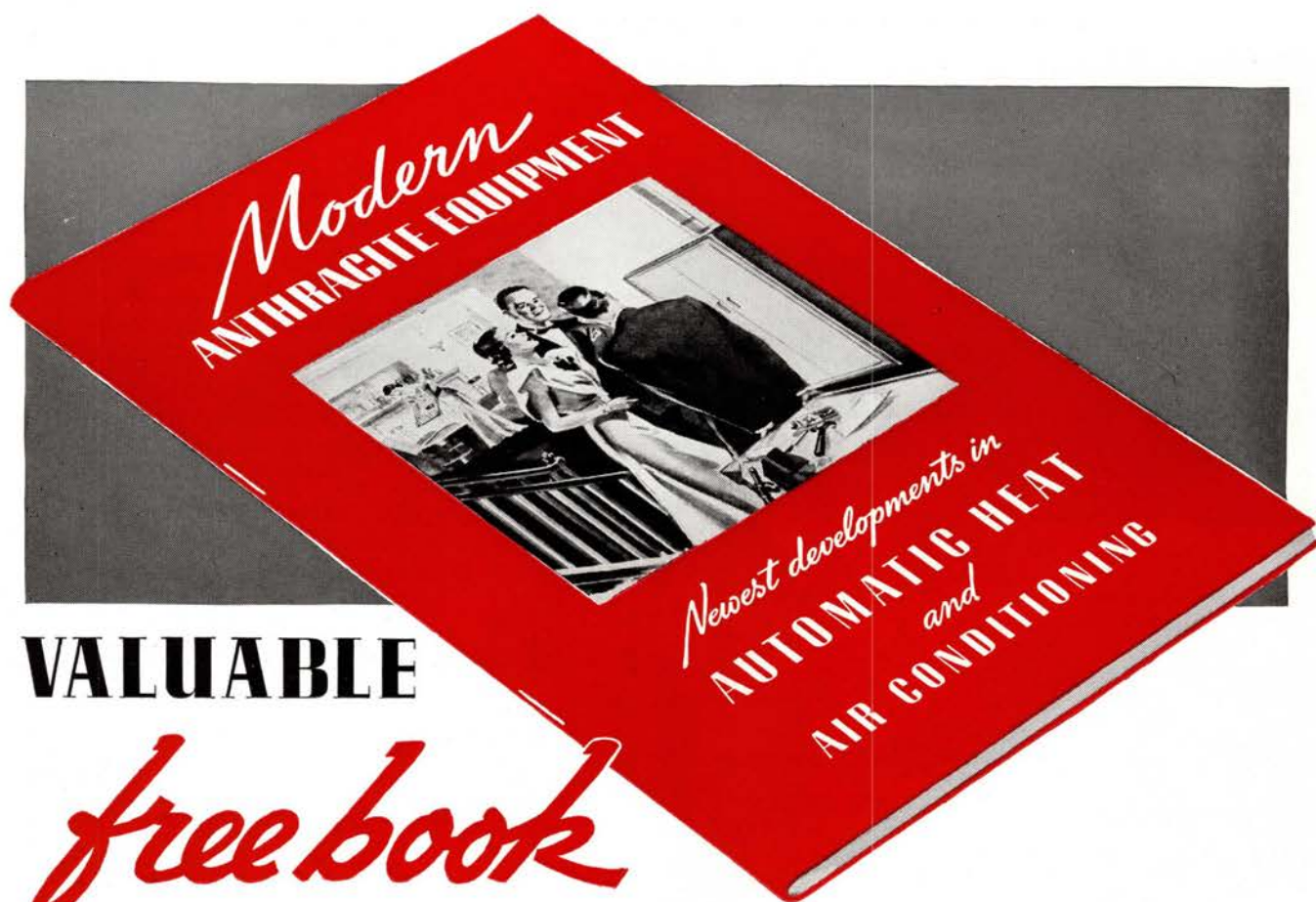
## AIR CONDITIONING



*Headquarters for Mechanical Cooling since 1885*

## REFRIGERATION





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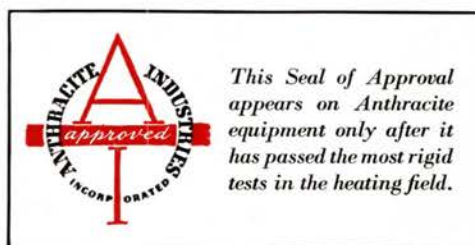
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*Frank Lloyd Wright, Architect*

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# LETTERS

## "SPACE WITHIN"

Forum:

... What Wright did after the turn of the century was well above that which the Bauhaus purported to strive for almost a generation after. In fact, whatever traces of "art" values there were in this technicistic naturalism were, more or less, derived from original Wright ideas which had broadened out to worldwide use. When Frank Lloyd Wright in 1931 had an exhibition of his work in Berlin, Germany, his later ideas had progressed so far beyond the understanding of the Sachlichkeit disciples that one of them, in a naïve courage born of total ignorance, proclaimed that, from 1910 on "he (Wright) had survived his own fame." While in reality, Wright, after his return from Japan, toward the end of the second decade, had not only singlehandedly revolutionized building technique with his bloc system, but had—which is much more important—found a truer integration of tectonic expression than any possible before. But the advocates of "Sachlichkeit" were so preoccupied with their sectarian iconoclasm that they failed to realize these essentials, focusing their attention instead, with a shortsighted dogmatic dislike, on Wright's incidental experiment to articulate the plasticity of concrete in the unit mold—which he did true to his style as a creator: exploring every means of integration, contrasting the timidity of sterile minds who are overawed and fettered by the mere precept of a theory or manifest.

Wright, by this time, had accomplished more in architecture than any man before him. But genius can never dwell in any realm attained, however lofty. He strove further, climaxed himself again, reached new unprecedented grandeur of conception and realized still more profundity of integration. (San Marcos in the Desert and St. Marks in the Bowery, 1928-1930.)

True favorite of destiny, abounding with inexhaustible power of creation and irresistible urge to expand man's horizon into the vastness of the unknown, he did not rest on his attainments yet. New and still higher summits are not only visioned, but already conquered!

Architecture had progressed through the millenniums from "space without" to "space within," reaching the highest perfection in the ancient cathedrals. The West

never surmounted this feat, despite the great advance in the science of engineering with its concomitant novel forms and effects. Architecture to Wright has never been an outside form that contained space, it was always the "space within" that enlivened his buildings. Space, the three dimensional quality, not the product by two-dimensional planes, appears already as entity in his earlier work where he played it as all of his contemporaries were wont to play the planes and their derivations. Later, by overlapping, intersecting and by adding continuity, he endowed his space with that dynamic force which breathes in the great cathedrals like the presage of a fourth dimension. Not only did he project this profoundest conception of space that the West was capable of—and which was but rarely realized—consistently into the very life of the individual, that is: the everyday abode, but he surpassed it. (Paralleling the evolution of the individual from feudal collectivism to the self-rule under a social conscience.) Wright gave space a decisively new significance and contents by investing it with continuity in three dimensions, potentiating the dynamic qualities to a hitherto unknown strength, almost lifting it to the threshold of an action. (Johnson residence, 1937.)

It is impossible to separate Wright's work from America, while in turn, America, through him, received the patent of leadership in cultural endeavor. At Taliesin is the wellspring of America's hope for a great future ...

GEORGE KASTNER

*Milwaukee, Wis.*

## 10% DOWN

Forum:

Referring to article in your November issue, page 58, titled "4,000 Detroiters"... Now that the Administration is considering mortgage insurance up to 90 per cent of the appraised value of residences \$6,000 in value and under, these remarks may not be quite as pertinent as they would have been had this letter been written sooner ...

During the last few years since the passing of the Title 2 Act, the writer believes that fully 75 per cent of those with whom we have been in touch in this city during that time, and it has been many, did not have the means to put up the necessary

20 per cent required. The majority seemed to have in the vicinity of \$500 and really wished a home but it has seemed impossible for them to obtain it. The writer is satisfied from our knowledge of this locality, if it is a fair sample, and we believe it to be so, of the small city conditions throughout the United States, that the change in this act to enable mortgage insurance up to 90 per cent would enable nearly all of these people to qualify and would start a very large volume of new building in cities of this size.

The writer does not agree, however, that many could pay, in addition to the regular mortgage payments, an additional amount of \$500 in 1½ to 2 years ...

E. A. DUKE

*Corning, N. Y.*

## ARCHITECTURAL TRAFFIC

Forum:

Your exhibit accompanying the question, Is architecture a two-way or a one-way street? in the November FORUM, suggests the answer that architecture is a one-way street, but that some people are disregarding the traffic laws—in fact, seem not to realize that they are in traffic.

IRVING F. MORROW

*San Francisco, Cal.*

## MELLOWED EAST

Forum:

... I have recently crossed the country for the ninth time ... was surprised to find how little modern work was to be seen east of, say, Arizona. One of the prime factors retarding the development of a contemporary architectural trend lies in the fact that in the East, particularly east of the Mississippi, there is more of an architectural precedent to fall back on, and consequently there has been a hesitation to erect what would amount to blatantly different structures against a background of mellowed Georgian architecture.

The West Coast, on the other hand, is a new country. Only a very few buildings such as the Missions, etc., antedate the Victorian era, and therefore there is a freedom from eclecticism that is permitting a considerable breadth of vision ...

MORGAN STEDMAN

*Colchester, Conn.*





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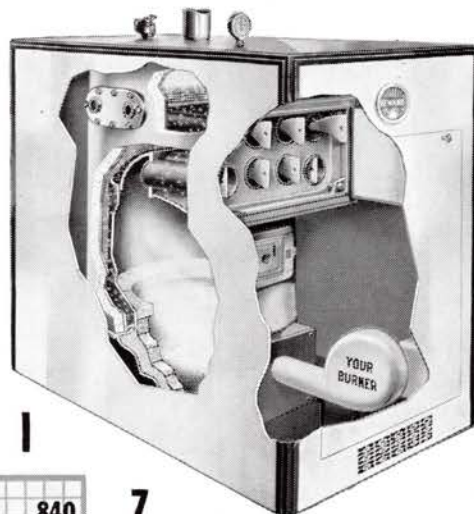
HEAT AND  
YEAR 'ROUND  
HOT WATER



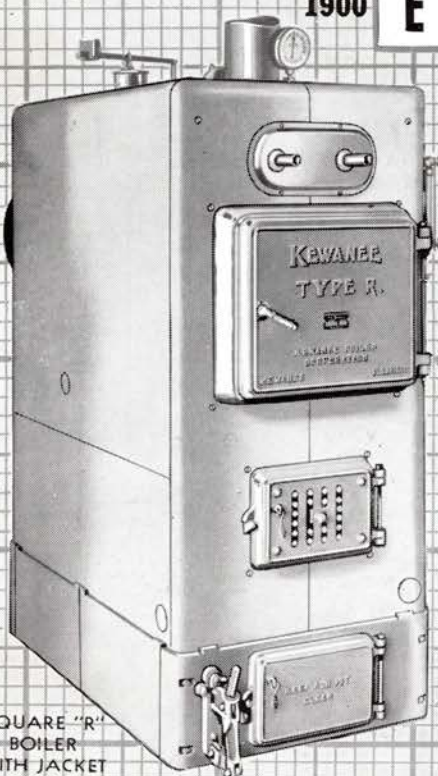
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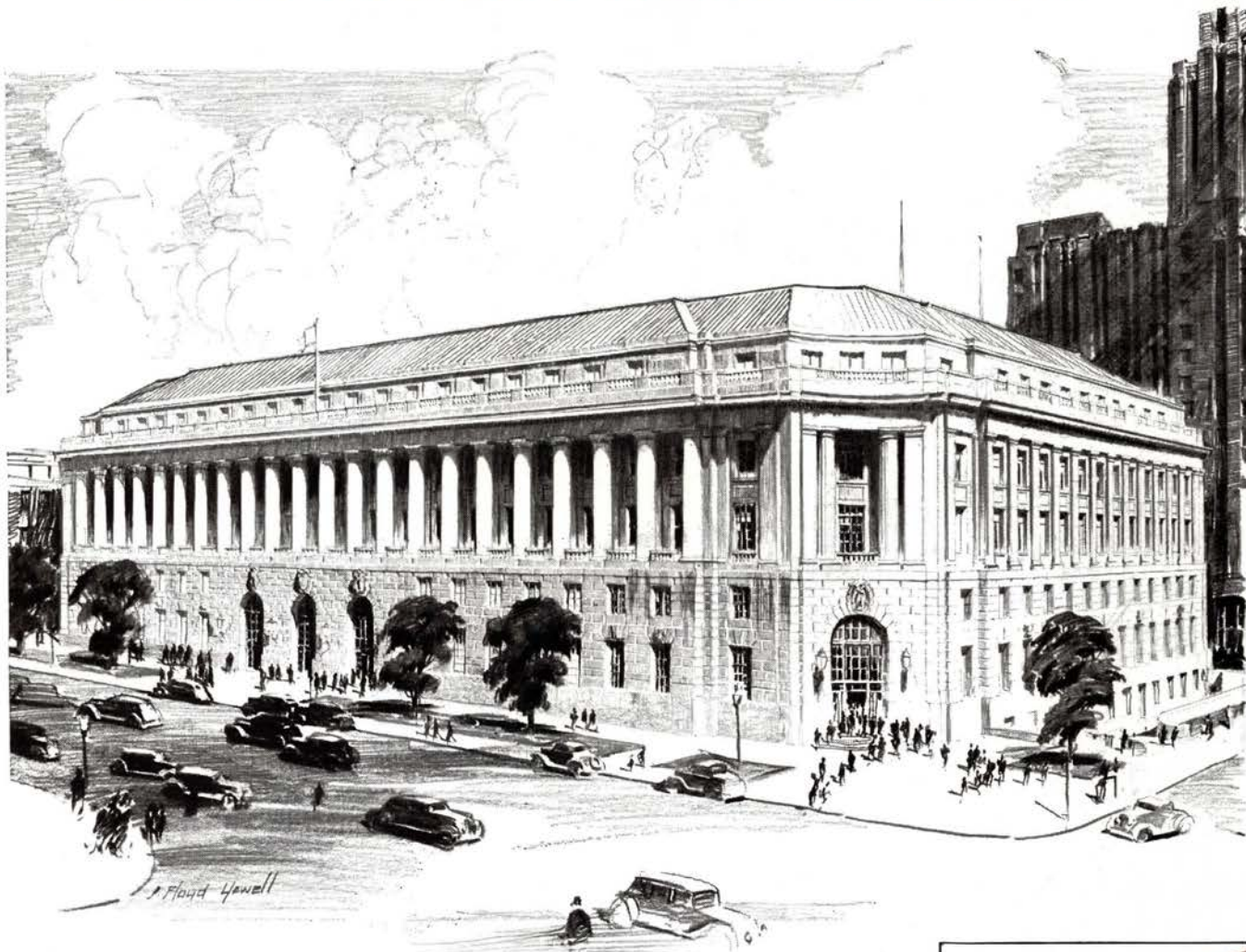
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320



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EXAMPLES OF GLASS IN ARCHITECTURE,  
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CASH PRIZES TOTALING \$3,600 .  
\$1,000 GRAND PRIZE • \$100 FIRST PRIZE  
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*FORTY AWARDS TOTALING \$3,600 AND THIRTY-NINE  
MEDAL AWARDS...SEVENTY-NINE AWARDS IN ALL*

OPEN TO ARCHITECTS, DECORATORS, AND DESIGNERS  
COMPETITION CLOSES MIDNIGHT, NOVEMBER 1, 1938  
SPONSORED BY THE PITTSBURGH GLASS INSTITUTE  
CONDUCTED BY THE ARCHITECTURAL FORUM

## JURY OF AWARD

GARDNER A. DAILEY, Architect, San Francisco; ALBERT KAHN, Architect, Detroit; WILLIAM A. KIMBEL, Interior Decorator, New York; WILLIAM LESCAZE, Architect, New York; RAYMOND LOEWY, Industrial Designer, New York; PAUL R. MACALISTER, Interior Decorator, New York; ALFRED SHAW, Architect, Chicago; Competition Adviser: HOWARD MYERS, Editor, THE ARCHITECTURAL FORUM.



## PURPOSE OF THE COMPETITION

Last year the first competition for photographs of executed examples of glass in architecture, decoration, and related subjects was held by the Pittsburgh Glass Institute. Then, as now, its purpose was to examine new solutions of contemporary problems in architecture and related fields which present distinguished uses of glass. So large was the number of excellent entries submitted, and so widespread was the interest created by publication of the winning designs in the August issue of THE ARCHITECTURAL FORUM, that this second competition is announced.

## COMPETITORS

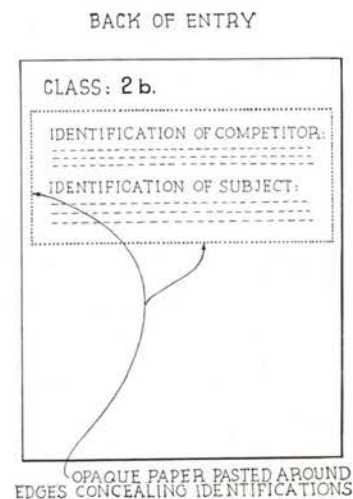
The competition is open to all architects, designers, and interior decorators except employees of the Pittsburgh Glass Institute and its affiliates and employees of THE ARCHITECTURAL FORUM.

## AWARDS

\$1,000 in cash to the entry judged as the most effective example of glass use. \$100 first prize in each of 13 classes. Two mentions of \$50 each in each of 13 classes. In addition the designers of works receiving first or mention awards in any of the thirteen classifications will be presented with a glass medallion designed by the eminent sculptor, Sidney Waugh. To the owners of premiated subjects will be presented a suitably inscribed certificate. Thus, the winner of the grand award will receive, in addition to the medallion, \$1,100 in cash.

## CONDITIONS

This competition calls for *photographs of completed work* and not for projected designs. While it is desired to secure the best possible photographs, the basis of the competition





is glass design and not photography. Competitors may submit as many entries as they desire in each of the classifications noted below. Each entry will be judged individually. Photographs *must* conform to these standards; no exceptions will be permitted:

Each print must be mounted flat, and must be of a size to be accommodated by a 16 x 20 in. stiff WHITE cardboard mount, which shall in turn be treated vertically, as shown in diagram on the opposite page.

Because prints are intended for reproductions as well as exhibition, they must be glossy black and white prints.

Each individual print must have its individual mount.

There is no limit to the number of prints which may be submitted but it is suggested that this be held to the minimum number which adequately illustrates the subject.

At the bottom of each mount a printed strip reading "Pittsburgh Glass Institute Competition 1938" is to be affixed as indicated on the diagram to the left. These strips, ready for pasting, will be supplied without charge in any desired quantity on application to the Competition Adviser, Pittsburgh Glass Institute Competition, Care of THE ARCHITECTURAL FORUM, Chrysler Building, New York, New York.

Entries not awarded prizes, if selected for publication by the Pittsburgh Glass Institute, will be paid for at the rate of ten dollars for each photograph. No photographs entered in the Competition will be returned and the Pittsburgh Glass Institute and THE ARCHITECTURAL FORUM reserve the right to exhibit and/or publish each and any such photograph. In all such cases, the name of the competitor will be appropriately displayed. Competitors may submit as many entries as desired in each of the divisions listed below under "Classification of Entries" but in all cases, on the *back* of the mount, the classification in which the entry is to be judged must be clearly marked, such as 2b. There are no restrictions regarding the manner in which glass has been used in any of the subjects entered in the competition, nor are there any restrictions whatsoever with respect to the manufacturer of glass. The only limitations are that examples must have been completed at some time during the period April 30, 1937, through November 1, 1938, and somewhere within the United States or its possessions. In any example where glass contributes importantly to the appearance of the subject by night as well as by day, it is recommended, although not required, that at least one night view be included. Working details may accompany any entry at the competitor's option; such details are not required.

## CLASSIFICATION OF ENTRIES

### 1 RESIDENTIAL

- 1a HOUSES costing under \$12,000 exclusive of land and architect's fee.
- 1b HOUSES not eligible for Class 1a.
- 1c DOMESTIC INTERIORS, not submitted with a complete house, or in apartment buildings.

### 2 COMMERCIAL

- 2a SHOPS not more than two stories in height. This class is open to buildings of any height in which the shop portion does not exceed two stories, the judging to be on the basis of the shops only.



- 2b STORES—in which the store section is three or more stories in height.
- 2c THEATERS—motion picture and legitimate theaters and any other structures devoted primarily to entertainment.
- 2d HOTELS, apartment hotels, and apartment buildings. In this class the entire building may be entered or any part or parts of the building in which glass has been used effectively, such as bars, restaurants, lobbies, etc.
- 2e COMMERCIAL INTERIORS—any type of commercial interior not specifically provided for under the above headings.

### 3 INDUSTRIAL

- 3a MANUFACTURING PLANTS, warehouses, laboratories, etc.

### 4 PUBLIC

- 4a EDUCATIONAL BUILDINGS—schools, colleges, etc.
- 4b INSTITUTIONAL BUILDINGS—hospitals, asylums, etc.
- 4c PUBLIC BUILDINGS—city, county, State, or Federal buildings not eligible for classes 4a or 4 b.

### 5 GENERAL

This class is open to examples showing flat glass or glass block when not used as an integral part of a building, as, for example, furniture, mirrors, accessories, screens, etc. In other words, objects made completely or partially of glass and suitable for use in buildings but not in themselves part of a building.

## RECEIPT OF COMPETITION ENTRIES

All entries must be postmarked before midnight November 1, 1938, or must be delivered before that time to Competition Adviser, Pittsburgh Glass Institute Competition, Care of THE ARCHITECTURAL FORUM, Room 427, Chrysler Building, New York, New York. More than one entry may be included in the same package. Packages should be carefully protected against damage in shipment. Neither the Pittsburgh Glass Institute nor THE ARCHITECTURAL FORUM assumes any responsibility for the safekeeping of entries, but every reasonable care will be taken to safeguard them.

## ANONYMITY OF DESIGNERS

The name of competitors shall not appear on the photographs or front of mounts. The full name and complete address of the competitor shall be clearly printed on the back of *each* mount, and printed immediately below this must be the name, street, city, and state which identify the subject. All of this information must be completely covered by a piece of opaque paper securely pasted around the edges so as to conceal the information but in such a manner that it can be torn off without destroying its legibility.

## ANNOUNCEMENT OF AWARDS

Announcement of awards will be made immediately following the meeting of the jury. Winners will be notified by telegram. Publication of the winning entries will be made in THE ARCHITECTURAL FORUM.





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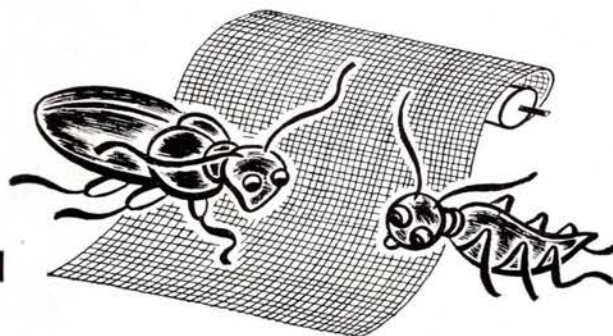
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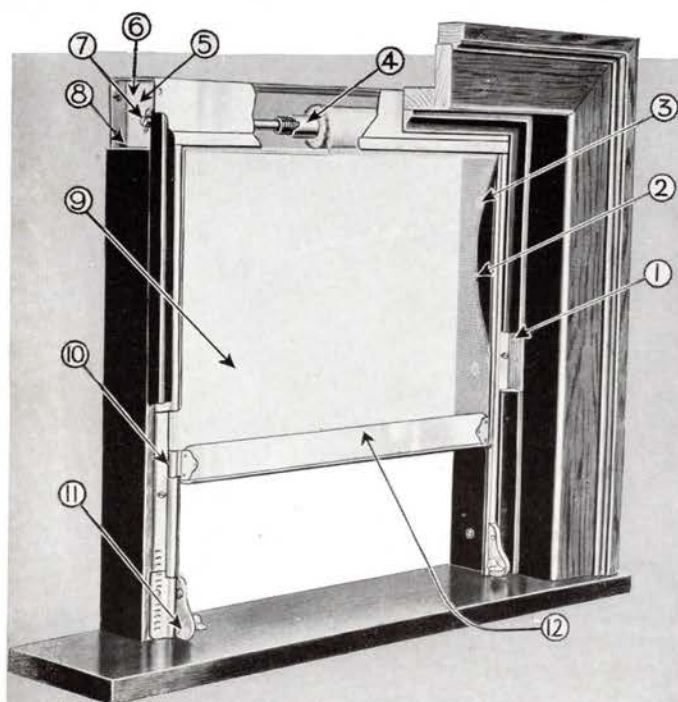
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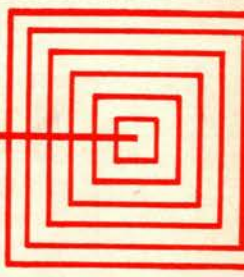
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JANUARY 1938  
THE ARCHITECTURAL FORUM



FRANK LLOYD WRIGHT





**W/ A  
ACTS THAT BECOMETH THE MAN**

**I'LL ACT  
AS I'LL DIE  
AS I AM!  
NO SLAVE OF FASHION OR SHAM  
OF MY FREEDOM PROUD  
HERS TO SHRIVE GUARD OR SHROUD  
MY LIFE AS BETIDETH THE MAN  
MY LIFE  
AYE! WHATEVER BETIDETH THE MAN**

DECLARATION OF INDEPENDENCE. T-SQUARE AND TRIANGLE VERSES. OAK PARK WORKSHOP 1896



**WORK SONG    FRANK LLOYD WRIGHT**

**I'LL LIVE**

**AS I'LL WORK**

**AS I AM!**

**NO WORK IN FASHION FOR SHAM**

**NOR TO FAVOUR FORSWORN**

**WEAR MASK (REST OR THORN**

**MY WORK AS BEFITTEH A MAN**

**MY WORK**

**WORK THAT BEFITTEH THE MAN**

**I'LL WORK**

**AS I'LL THINK**

**AS I AM!**

**NO THOUGHT OF FASHION OR SHAM**

**NOR FOR FORTUNE THE JADE**

**SERVE VILE GODS-OF-TRADE**

**MY THOUGHT AS BESEEMETH A MAN**

**MY THOUGHT**

**THOUGHT THAT BESEEMETH THE MAN**

**I'LL THINK**

**AS I'LL ACT**

**AS I AM!**

**NO DEED IN FASHION FOR SHAM**

**NOR FOR FAME EER MAN MADE**

**SHEATH THE NAKED WHITE BLADE**

**MY ACT AS BECOMETH A MAN**



DEDICATED  
TO MY BELOVED MASTER LOUIS HENRY SULLIVAN  
AND GRAND OLD CHIEF DANKMAR ADLER

FROM GENERATION TO GENERATION

TRUE—THERE ARE ARCHITECTS—SO CALLED—IN THIS COUNTRY AND I HAVE HEARD OF ONE, AT LEAST, POSSESSED WITH THE IDEA OF MAKING ARCHITECTURAL ORNAMENTS HAVE A CORE OF TRUTH, A NECESSITY, AND HENCE A BEAUTY, AS IF IT WERE A REVELATION TO HIM. A SENTIMENTAL REFORMER IN ARCHITECTURE HE BEGAN AT THE CORNICE, NOT AT THE FOUNDATION. WHAT REASONABLE MAN EVER SUPPOSED THAT ORNAMENT WAS SOMETHING OUTWARD AND IN THE SKIN MERELY —THAT THE TORTOISE GOT ITS SPOTTED SHELL, OR THE SHELL-FISH ITS MOTHER-OF-PEARL TINTS BY SUCH A CONTRAST AS THE INHABITANTS OF BROADWAY GOT THEIR TRINITY CHURCH ... THE MAN SEEMED TO ME TO LEAN OVER THE CORNICE AND WHISPER HIS HALF-TRUTHS TO THE RUDE OCCUPANTS WHO REALLY KNEW IT BETTER THAN HE. WHAT ARCHITECTURAL BEAUTY I SEE I KNOW HAS GROWN FROM WITHIN OUTWARD—OUT OF THE NECESSITIES AND CHARACTER OF THE INDWELLER AND WHATEVER ADDITIONAL BEAUTY OF THIS KIND IS DESTINED TO BE PRODUCED WILL BE PRECEDED BY A LIKE UNCONSCIOUS BEAUTY OF LIFE.

THOREAU



TO take this matter of an organic architecture a little deeper into the place where it belongs—the human heart—the design matter in this issue falls readily into the following sensuous expressions of principle at work. It is a sense of the whole that is lacking in the “modern” buildings I have seen, and we are here concerned with that sense of the whole which alone is radical.

1. The sense of the ground. (Topography, organic features. Growth.)
2. The sense of shelter.
3. The sense of materials. (Illustrated by characteristic early plans—showing interior living space becoming exterior architecture. Characteristic plans—early and late—abolishing walls, interior partitions, etc., and grouping or placing utilitarian features in such manner as to allow space to be either magnified or uninterrupted so

far as possible.)

4. The sense of space.
5. The sense of proportion. (With this you must be born. An instinct.)
6. The sense of order. (Related by cultivation to the sense of proportion.)
7. Ways and means, that is to say, technique. Last and least. Each man his own.

Characterizing these expressions in various forms—each an actual experience—plot-plans, plans, perspectives and photographs, some reminders of early buildings alongside later buildings. I have always considered plans most essential in the presentation or consideration of any building. There is more beauty in a fine ground plan itself than in almost any of its consequences. So plot-plans and structural plans have been given due place in this issue as of first importance. Furniture and planting are indicated



on them. Next—the perspective study of the original concept. Then, photographs of finished structures and those in course of construction. Finally—certain details of these Usonian\* buildings.

\*Usonia was Samuel Butler's name for these United States.

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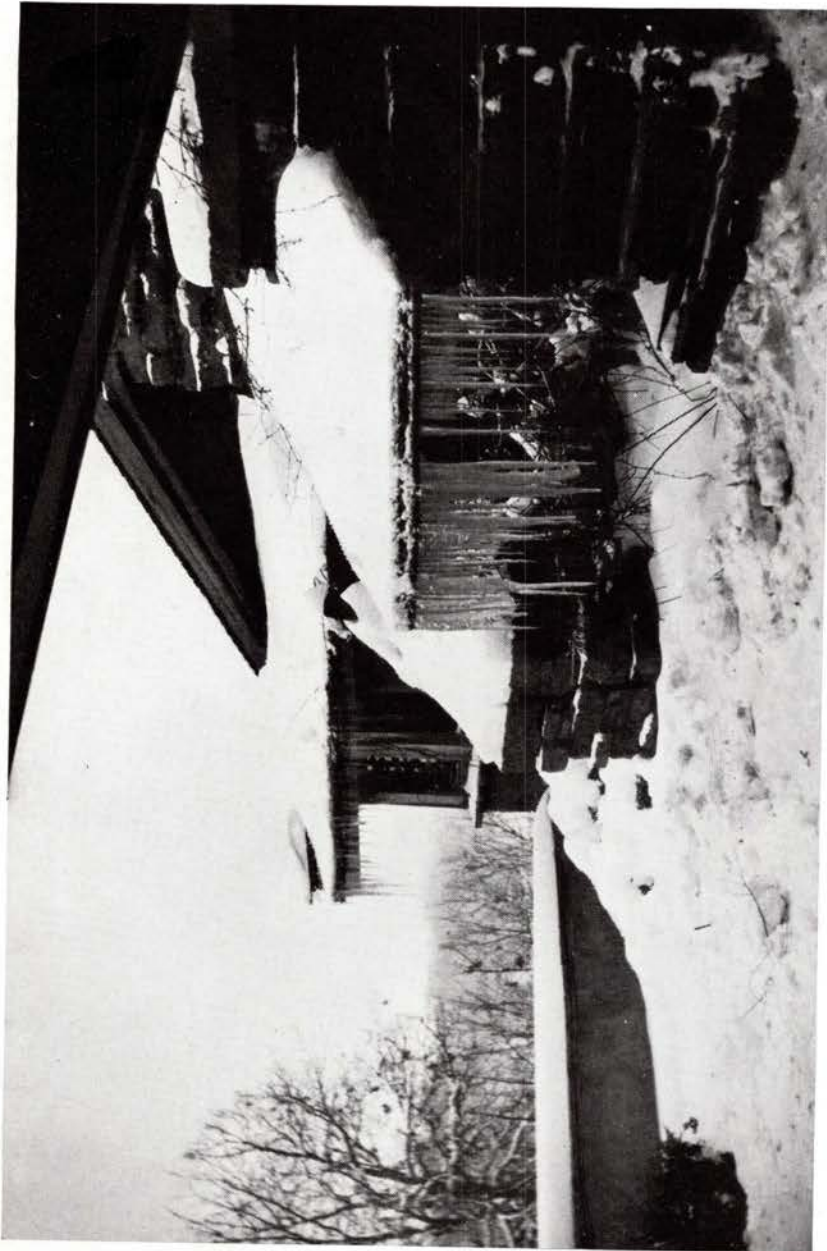
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77	ROBERT LUSK HOUSE: HURON, S. D.
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84	BRAMSON SHOP . PARKER GARAGE
85	CAPITOL-JOURNAL BUILDING
86	METAL FURNITURE: MIDWAY-GARDENS
87	METAL FURNITURE: S. C. JOHNSON CO.
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Hedrich-Blessing







**T**ALIESIN, a house of the north, is best seen under its blanket of snow, long icicles pendent from the eaves.

Twice destroyed by fire, it now stands on its 200 acres as rebuilt in 1925-26. The native product is the work of farmer masons, farmer carpenters, and farmer plasterers—and a farmer architect. Apprentices have added many features, completing and extending it to house—temporarily—in addition to the architect and family, some twenty-five young people, working alongside in architecture. Taliesin is a natural building, in love with the ground, built of native limestone quarried nearby. Sand from the river below was

the body of its plastered surfaces, plain wood slabs and marking strips of red cypress finish the edges, mark the ceilings, and make the doors and sash.

Located four miles from the nearest village, forty from the nearest city, Taliesin must have its own water, sewer, heat, light and power systems and its own transportation system. What life and entertainment it knows are found pretty much within itself.

Such remnants (twice escaped destruction when the building burned) of the considerable collection of ancient works of art acquired during the building of the Imperial Hotel in Tokyo still

stand on the piers and walls. Some of those that fell in the fire of '25 are built into its stone walls. In the vault is a fine collection, still, of Japanese prints.

Any modern building really out of the ground is timeless (fashion cannot harm it in the long run). The mother art—Architecture—may well associate with the timeless in sculpture, painting, and music wherever found without loss of significance or beauty to itself or to those arts. That is as far as "creed" at Taliesin goes.

The blacksmith's horses, the shoemaker's children, the architect's home all know a certain habitual "lag." Taliesin knows it, too. But its architect has here taken his own medicine in doses all but fatal.

The buildings of the Taliesin Fellowship, old and new, are a quarter of a mile away, just over the hill to the south.

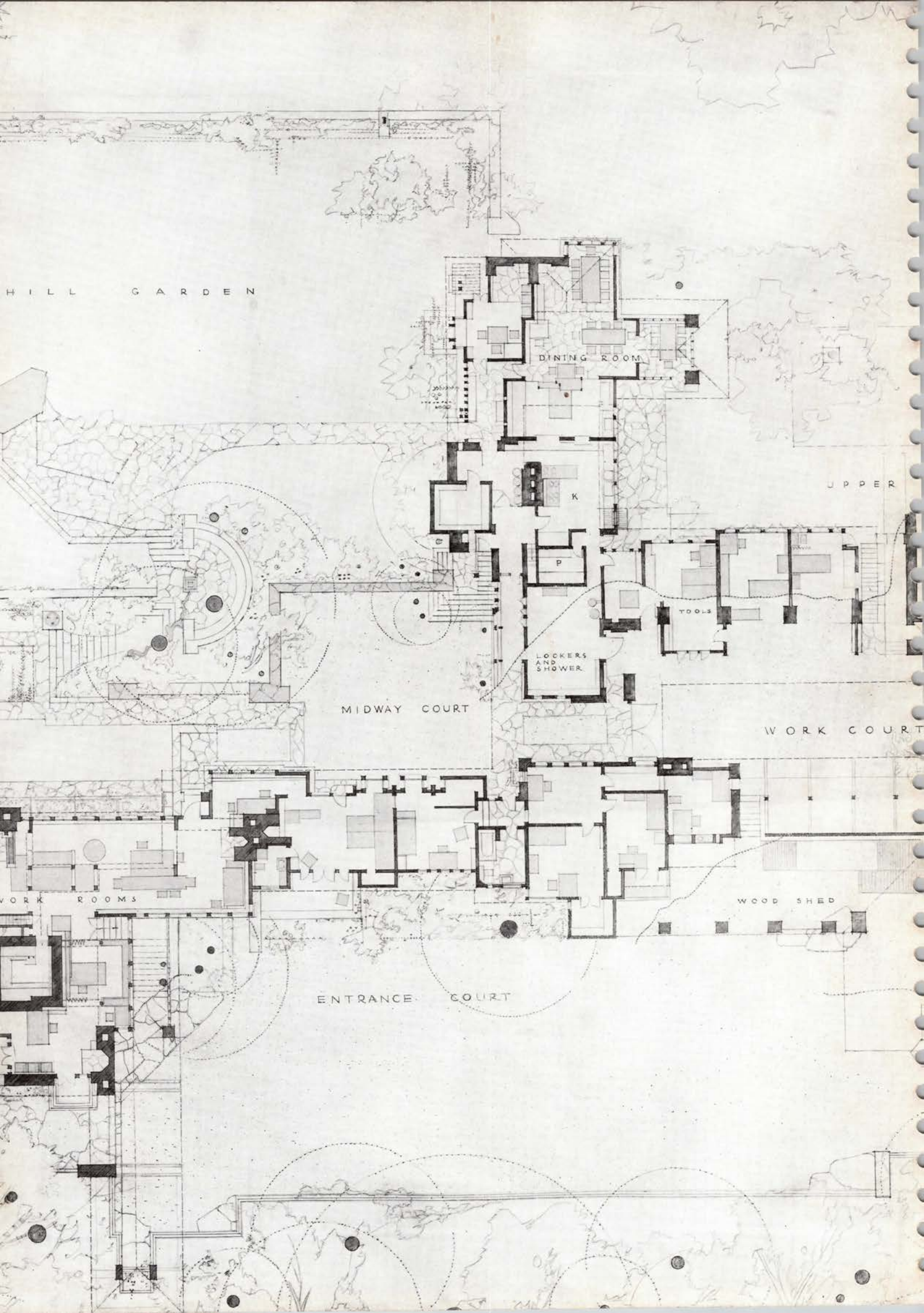
Perhaps this house should stand as proper example of the sense of the ground in the category of sensitiveness mentioned in the foreword.

It is also a good example of use of materials and the play of space relations, the long stretches of low ceilings extending outside over and beyond the windows, related in direction to some feature of the landscape.

These low stretches are frequently relieved by high ceilings following the roof pitches—marked by wood strip: to emphasize contrasting planes with an eye to the repose of the whole. Landscape seen through the openings of the building thus placed and proportioned has greater charm than when seen independent of the architecture. Architecture properly studied in relation to the natural features surrounding it is a great clarifier and developer of the beauty of landscape. . . .

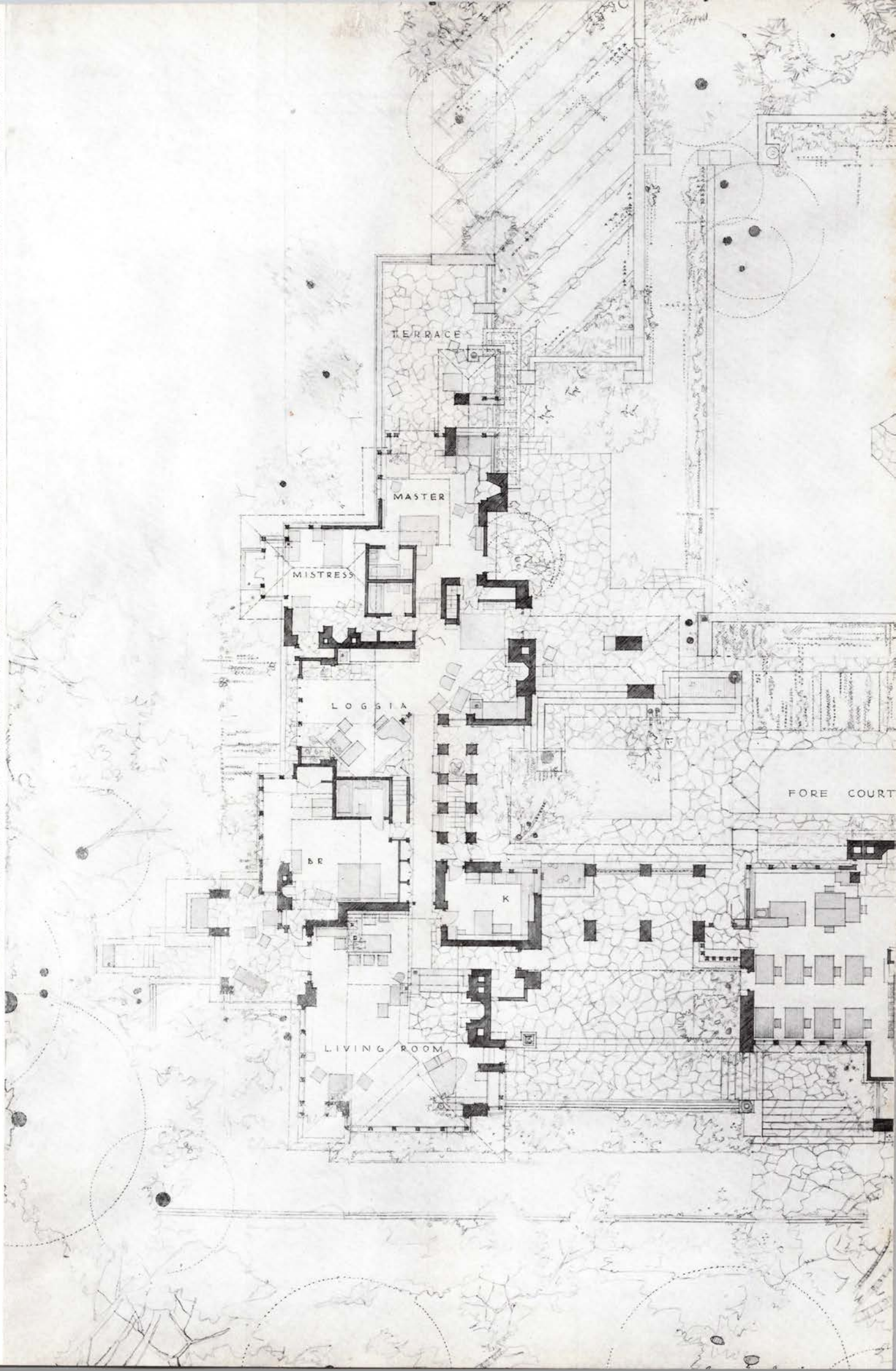


HILL GARDEN





GROUND PLAN OF TALIESIN . HOME AND WORKSHOP OF FRANK LLOYD WRIGHT AS IT STANDS . WATER SUPPLY ON HILL AND LIGHT PLANT BELOW NOT IN BOUNDS



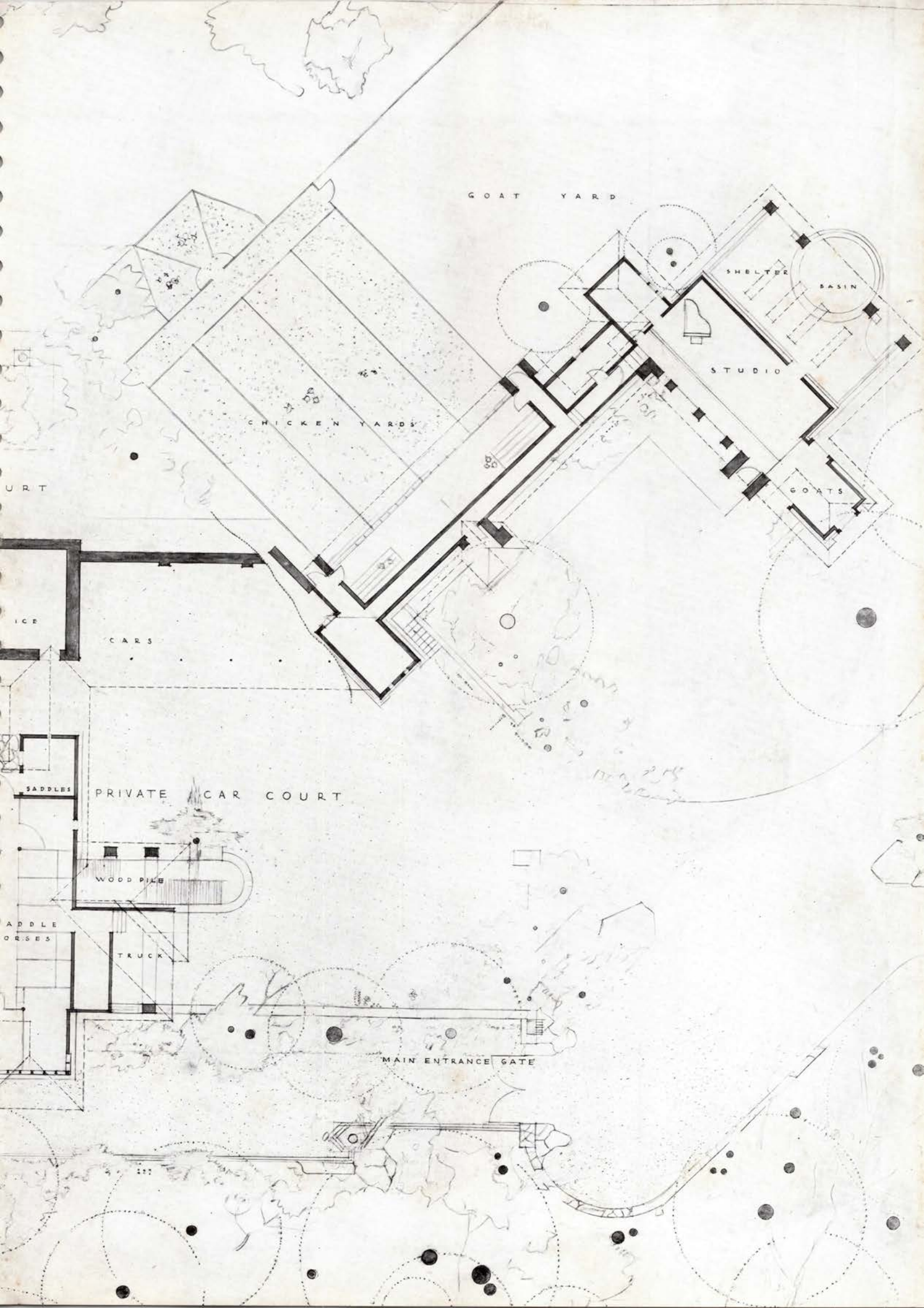


*Roy E. Petersen*



AIR VIEW OF TALIESIN IN NOVEMBER . . . HILLSIDE GROUP OF FELLOWSHIP BUILDINGS OLD AND NEW ARE A QUARTER OF A MILE OVER THE HILL TO THE SOUTH





GOAT YARD

CHICKEN YARDS

SHELTER

BASIN

STUDIO

GOATS

CARS

PRIVATE CAR COURT

SADDLES

WOOD PILE

TRUCK

ADDLE HORSES

MAIN ENTRANCE GATE



Edmund Tease



TO ENTRANCE LOGGIA . . . MING TEA JAR AND CAST IRON FIGURE . . . EIGHTH CENTURY . . . ON STONE WALLS . . . A CHARACTERISTIC WINTER SCENE AT TALIESIN





*Edmund Teske*



*Hebrich-Blessing Photos*









Hedrich-Blessing Photos



SOUTH WALL OF LIVING ROOM . NATIVE STONE WALLS . WAXED CYPRESS FLOORS, MEMBERS AND MARKING STRIPS . SAND FINISHED PLASTER, COLOR INTEGRAL





WHAT IS THIS YOU BRING TO AMERICA? IS IT UNIFORM WITH MY COUNTRY? IS IT NOT SOMETHING THAT HAS BEEN BETTER TOLD OR DONE BEFORE? HAVE YOU NOT IMPORTED THIS, OR THE SPIRIT OF IT IN SOME SHIP? IS IT NOT A MERE TALE? A RHYME? A PRETTYNESS? IS THE GOOD OLD CAUSE IN IT? HAS IT NOT DANGLED LONG AT THE HEELS OF THE POETS, POLITICIANS—LITERATS OF ENEMIES' LANDS? DOES IT NOT ASSUME THAT WHAT IS NOTORIOUSLY GONE IS STILL HERE? CAN YOUR PERFORMANCE COMPANION THE OPEN FIELDS AND THE SEA SIDE? WILL IT ABSORB INTO ME AS I ABSORB FOOD, AIR TO APPEAR AGAIN IN MY STRENGTH, GAIT, FACE? HAVE REAL EMPLOYMENTS CONTRIBUTED TO IT? ORIGINAL MAKERS—NOT MERE AMANUENSES? DOES IT MEET MODERN DISCOVERIES, CALIBERS, NATURE FACE TO FACE? WHAT DOES IT MEAN TO ME? TO AMERICA— DOES IT SEE BEHIND THE APPARENT CUSTODIANS? DOES IT SEE WHAT FINALLY BEFALLS AND HAS ALWAYS BEFALLEN EACH TEMPORIZER, PATCHER, OUTSIDER, PARTIALIST, ALARMIST, INFIDEL WHO HAS EVER ASKED ANYTHING OF AMERICA? WHO ARE YOU, INDEED, WHO WOULD TALK OR SING TO AMERICA? HAVE YOU STUDIED OUT THE LAND, ITS IDIOMS, AND MEN? HAVE YOU LEARNED THE PHYSIOLOGY, PHRENOLOGY, POLITICS, GEOGRAPHY, PRIDE, FREEDOM, FRIENDSHIP OF THE LAND? ITS SUBSTRATUMS AND OBJECTS? DO YOU SEE THOSE WHO WOULD LEAVE ALL FEUDAL PROCESS AND POEMS BEHIND THEM—AND ASSUME THE POEMS AND PROCESS OF DEMOCRACY? ARE YOU REALLY VERY STRONG? ARE YOU REALLY OF THE WHOLE PEOPLE? ARE YOU NOT SOME COTERIE? SOME SCHOOL OR MERE RELIGION? ARE YOU DONE WITH REVIEWS AND CRITICISMS OF LIFE, ANIMATING NOW TO LIFE—ITSELF?

WALT WHITMAN



Hedrich-Blessing Photos



SOUTH WALL OF LOGGIA TAKEN FROM UNDER THE BALCONY LOOKING AWAY FROM STONE FIREPLACE ON NORTH WALL, ACROSS TALIESIN FARMLANDS TO THE SOUTH



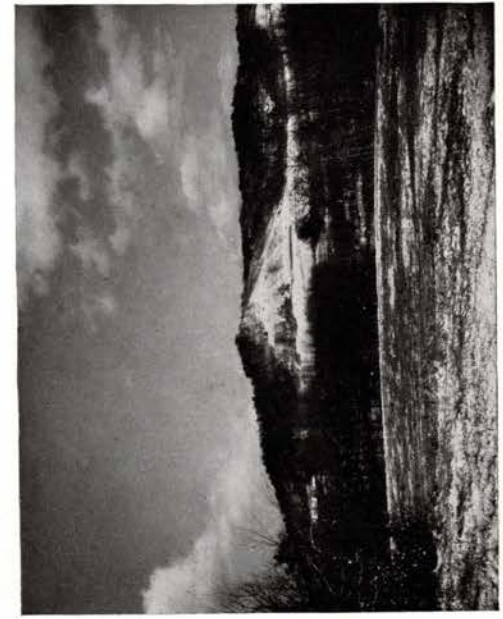
AGES, PRECEDENTS HAVE LONG BEEN ACCUMULATING UNDIRECTED MATERIALS, AMERICA BRINGS BUILDERS—BRINGS ITS OWN STYLES. STANDS REMOVED, SPACIOUS, COMPOSITE, SOUND, INITIATES THE TRUE USE OF PRECEDENTS—TAKES THE LESSON WITH CALMNESS, PERCEIVES THE CORPSE SLOWLY BORNE FROM THE HOUSE. PERCEIVES THAT ITS LIFE HAS DESCENDED TO THE STALWART AND WELL SHAPED WHO APPROACHES. AND THAT HE SHALL BE FITTED FOR HIS DAYS.

WALT WHITMAN

MISTRESS BEDROOM, LOOKING TO THE SOUTH . GUEST ROOM FIREPLACE IN LIMESTONE . BUILT-IN RELIC OF TANG FIGURE PICKED FROM ASHES OF TALIESIN II







Alcott, Hedrich-  
Blessing Photos

MASTER BEDROOM LOOKING SOUTHWEST OVER FARM . . . BENEATH . . . CHARACTERISTIC HILL . . . TALIESIN SEEN FROM THE SOUTH . . . SILHOUETTE AT SUNDOWN





*Hedrich-Blessing*



"HILLSIDE," home and workshop of the Taliesin Fellowship is a reconditioning and extension of the Hillside Home School built for the Lloyd Jones sisters in 1902. The original buildings, "Romeo and Juliet" one of them, were built of native brick sandstone quarried a mile away and of oak timbers felled and sawed on the timber lands of surrounding farms. The labor of digging, quarrying, and hauling was done by "the family." The then "assembly room" (now the living room of the Taliesin Fellowship) was intended as memorial to grandfather and grandmother. These Welsh pioneers settled on the site of the school some eighty years ago. Quotations from Isaiah (grandfather insisted on his sons and daughters learning the chapter from which they were taken) are carved in the oak beams of the room. The pioneer verses from Gray's "Elegy" are carved in the sandstone slabs over the fireplace. The andirons "straight-line" pattern were made because they resembled Welsh hats, from cones the village blacksmith used in making iron rings. But there was a better reason. The old gymnasium the apprentices converted into the Taliesin Playhouse. A new drafting room 85' x 100' is ready to work in all but the finished floors. The other buildings are commenced or roofed over but the shops and guest inn are not yet begun. The original buildings were salvaged and extended when, as fate would have it, (early in 1932) I had recourse only to the materials and in similar circumstances to those in which the early buildings were originally built.

We bought trees standing—logged them to the site, and from the sawn trunks dripping sap made the abstract forest we now call the drafting room, a photograph of which you see here. Forced to postpone construction when "relief" came in for our workmen in 1934, we have begun again to carry out the plan for the whole as a meanwhile steady job for the Fellowship itself—going ahead as materials are available. Within two years we hope to have the whole as you see it herewith.

The type of Architecture—Usonian type—is suited to the modeling of the surrounding hills, bespeaks the materials and methods under which and by way of which the buildings themselves were necessarily born. That they are not "modern" as use of steel, concrete, and glass would have made them is—I think—beside the mark.

HOW COULD YOUTHS BETTER LEARN TO LIVE THAN BY AT ONCE TRYING THE EXPERIMENT OF LIVING? IF I WISHED A BOY TO KNOW SOMETHING OF THE ARTS AND SCIENCES I WOULD NOT PURSUE THE COMMON COURSE WHICH IS MERELY TO SEND HIM INTO THE NEIGHBORHOOD OF SOME PROFESSOR WHERE ANYTHING IS PREFERRED AND PRACTICED BUT THE ART OF LIFE. AS WITH OUR COLLEGES SO WITH A HUNDRED "MODERN IMPROVEMENTS" THERE IS AN ILLUSION ABOUT THEM, THERE IS NOT ALWAYS A POSITIVE ADVANCE. THE DEVIL GOES ON EXACTING COMPOUND INTEREST TO THE LAST FOR HIS EARLY SHARE AND NUMEROUS SUCCEEDING INVESTMENTS IN THEM.

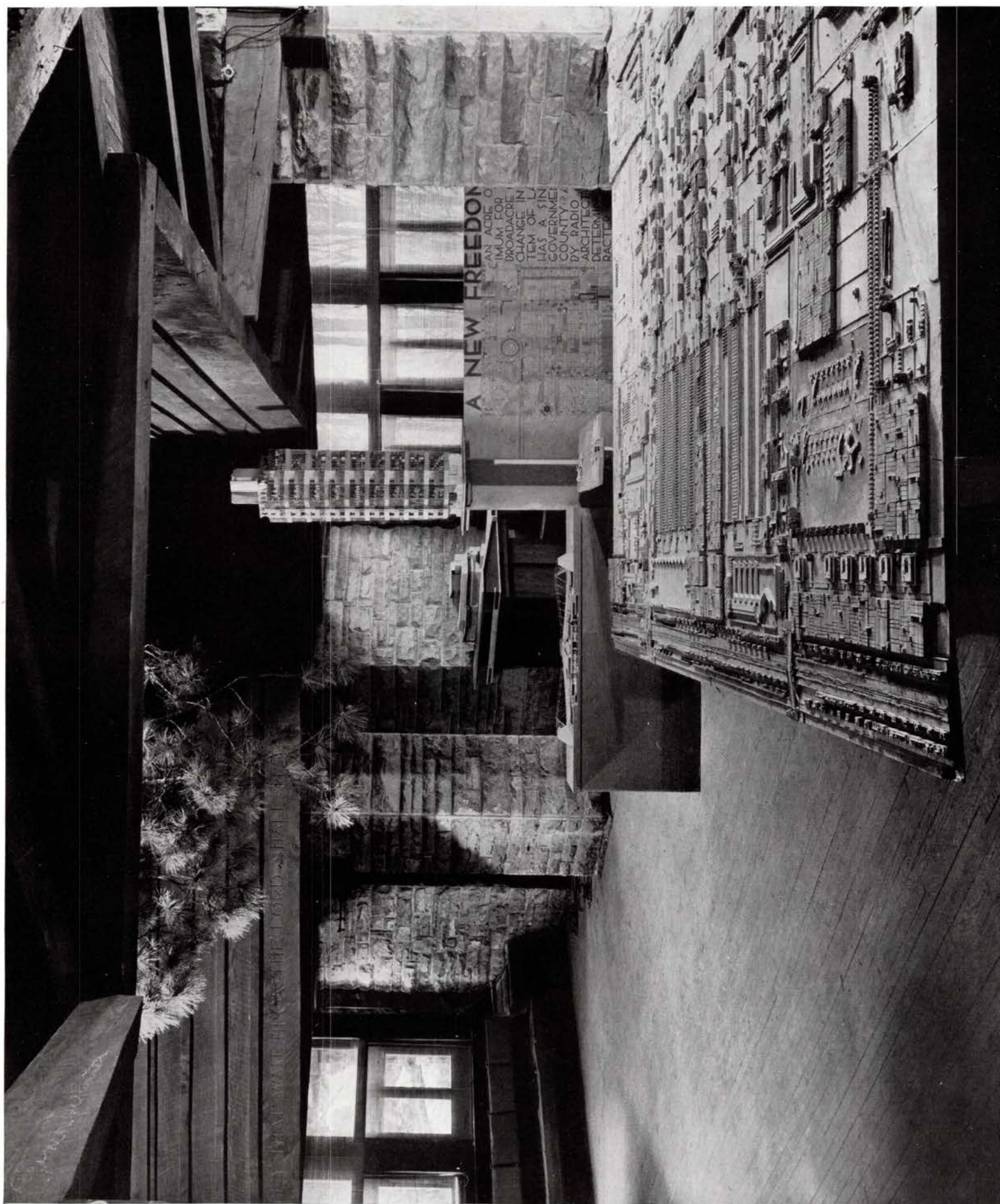
HENRY THOREAU

MEMORIAL FIREPLACE · GREEN OAK TRUSSES OF THE NEW DRAFTING ROOM · ABSTRACT FOREST · ABOVE ENTRANCE "WHAT A MAN DOES THAT HE HAS"

Roy C. Petersen

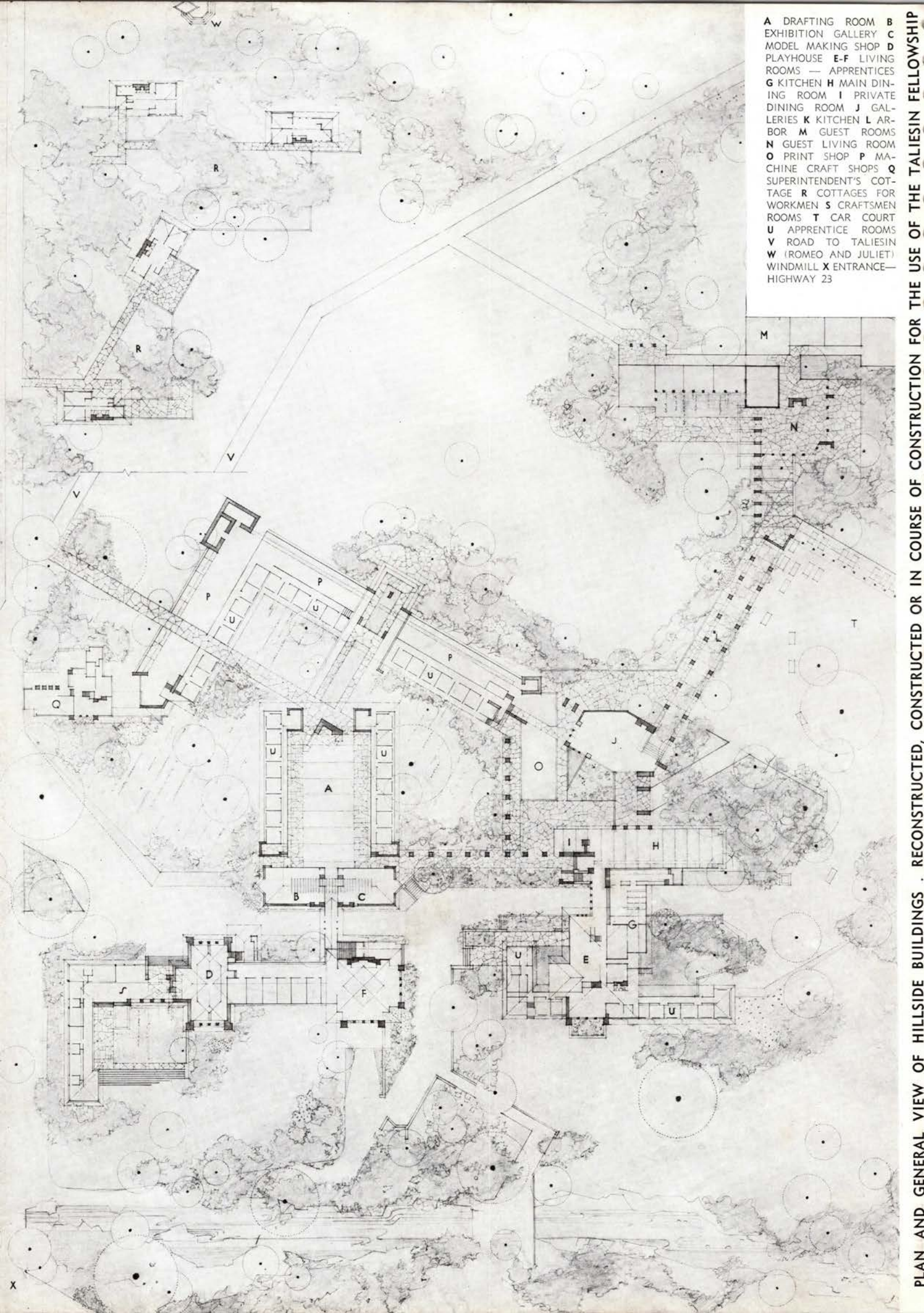








- A DRAFTING ROOM B EXHIBITION GALLERY C  
 MODEL MAKING SHOP D PLAYHOUSE E-F LIVING  
 ROOMS — APPRENTICES G KITCHEN H MAIN DIN-  
 ING ROOM I PRIVATE DINING ROOM J GAL-  
 LERIES K KITCHEN L AR- BOR M GUEST ROOMS  
 N GUEST LIVING ROOM O PRINT SHOP P MA-  
 CHINE CRAFT SHOPS Q SUPERINTENDENT'S COT-  
 TAGE R COTTAGES FOR WORKMEN S CRAFTSMEN  
 ROOMS T CAR COURT U APPRENTICE ROOMS  
 V ROAD TO TALIESIN W (ROMEO AND JULIET)  
 WINDMILL X ENTRANCE— HIGHWAY 23

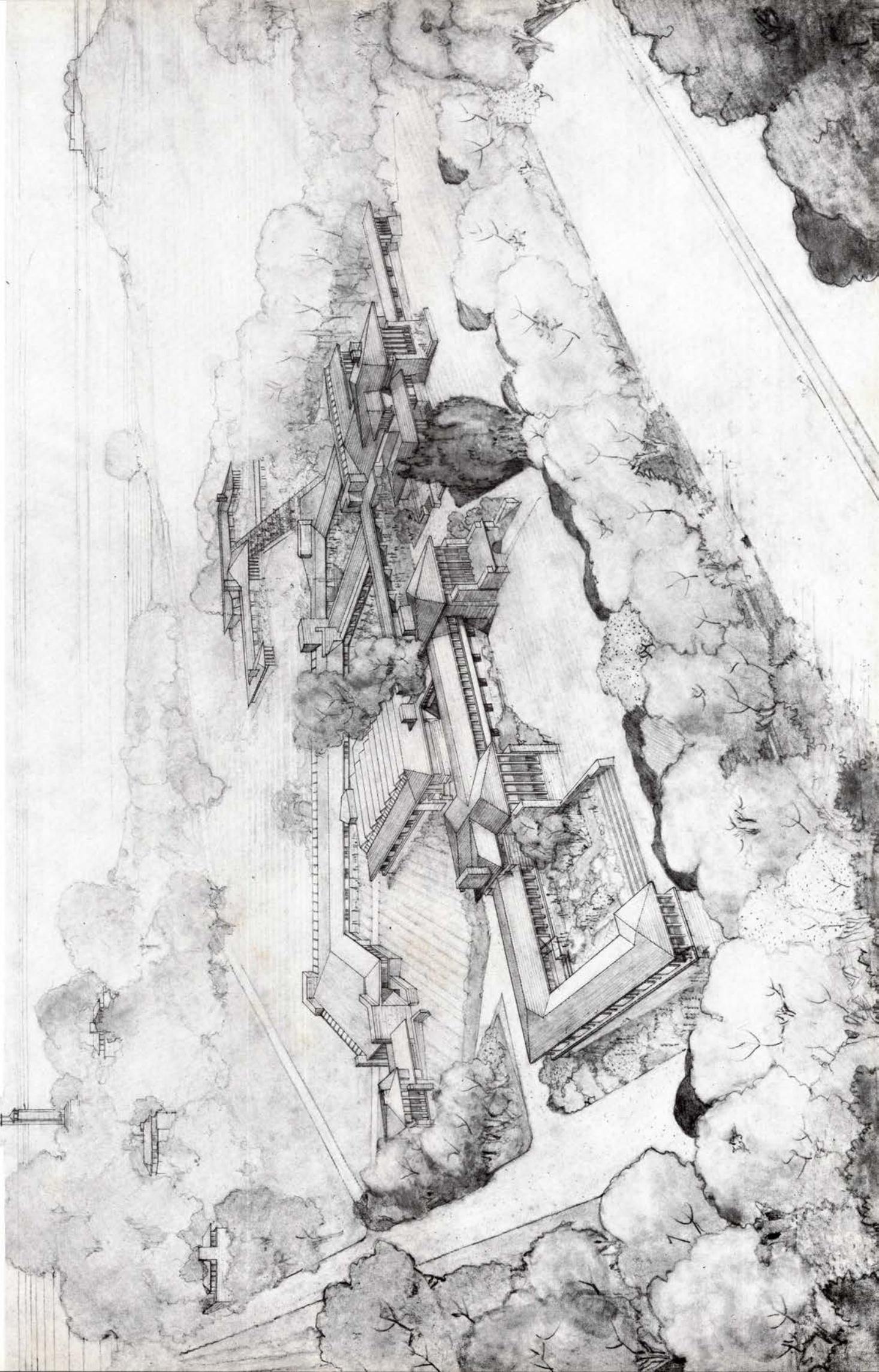


PLAN AND GENERAL VIEW OF HILLSIDE BUILDINGS : RECONSTRUCTED, CONSTRUCTED OR IN COURSE OF CONSTRUCTION FOR THE USE OF THE TALIESIN FELLOWSHIP



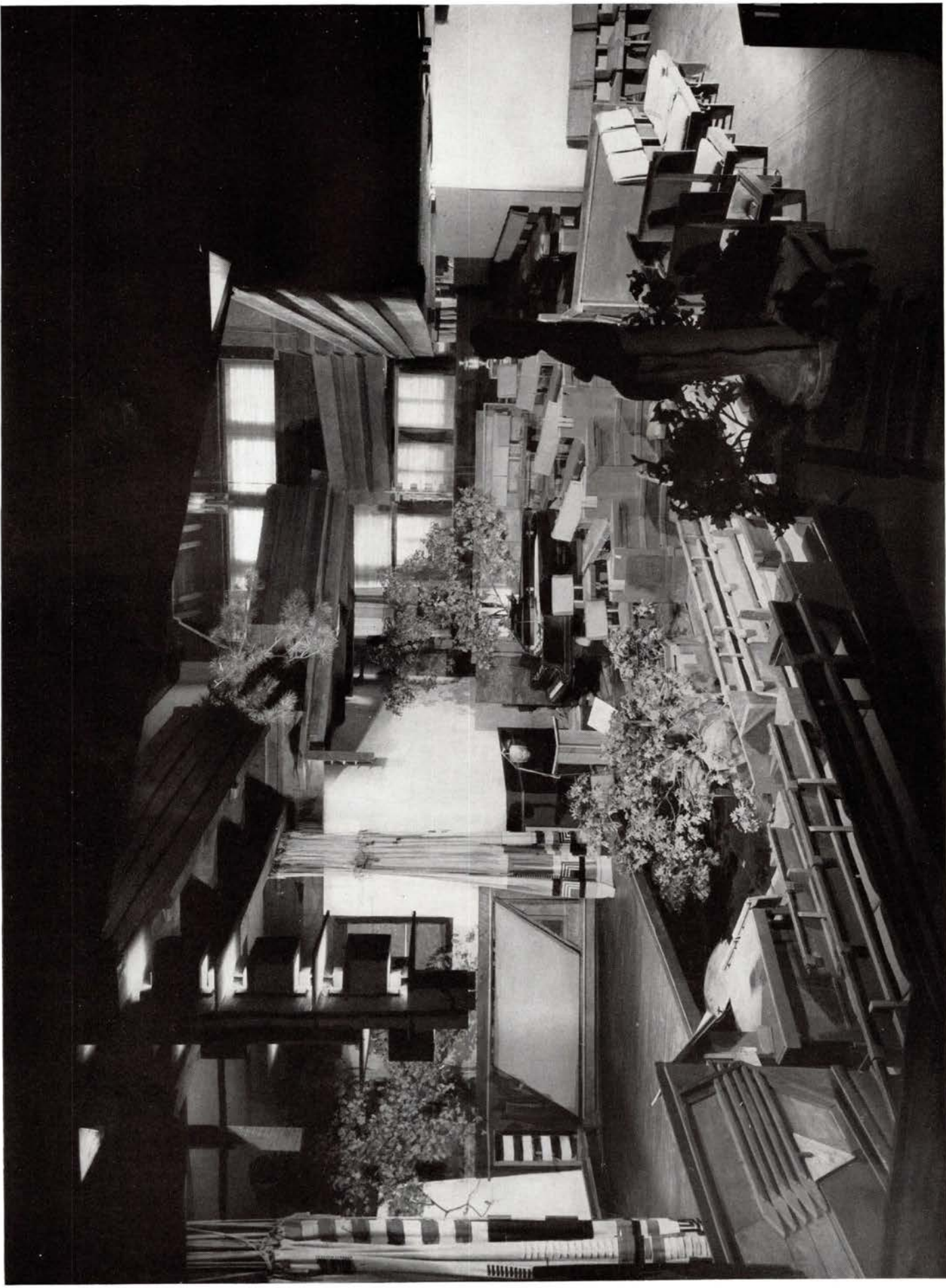
HAVE YOU THOUGHT THERE COULD BE A SINGLE SUPREME? THERE CAN BE ANY NUMBER OF SUPREMES. ONE DOES NOT COUNTERVAIL ANOTHER ANY MORE THAN ONE EYESIGHT COUNTERVAILS ANOTHER OR ONE LIFE COUNTERVAILS ANOTHER. ALL IS ELIGIBLE TO ALL, ALL IS FOR INDIVIDUALS—ALL IS FOR YOU—PRODUCE GREAT PERSONS — THE REST FOLLOWS

WALT WHITMAN





Roy E. Petersen



TALIESIN PLAYHOUSE . . . RECONSTRUCTION BY APPRENTICES IN ROUGH GREEN OAK BOARDS . EDGES AND ENDS ENAMELED RED . . . WINTER DECORATION OF OAK LEAVES





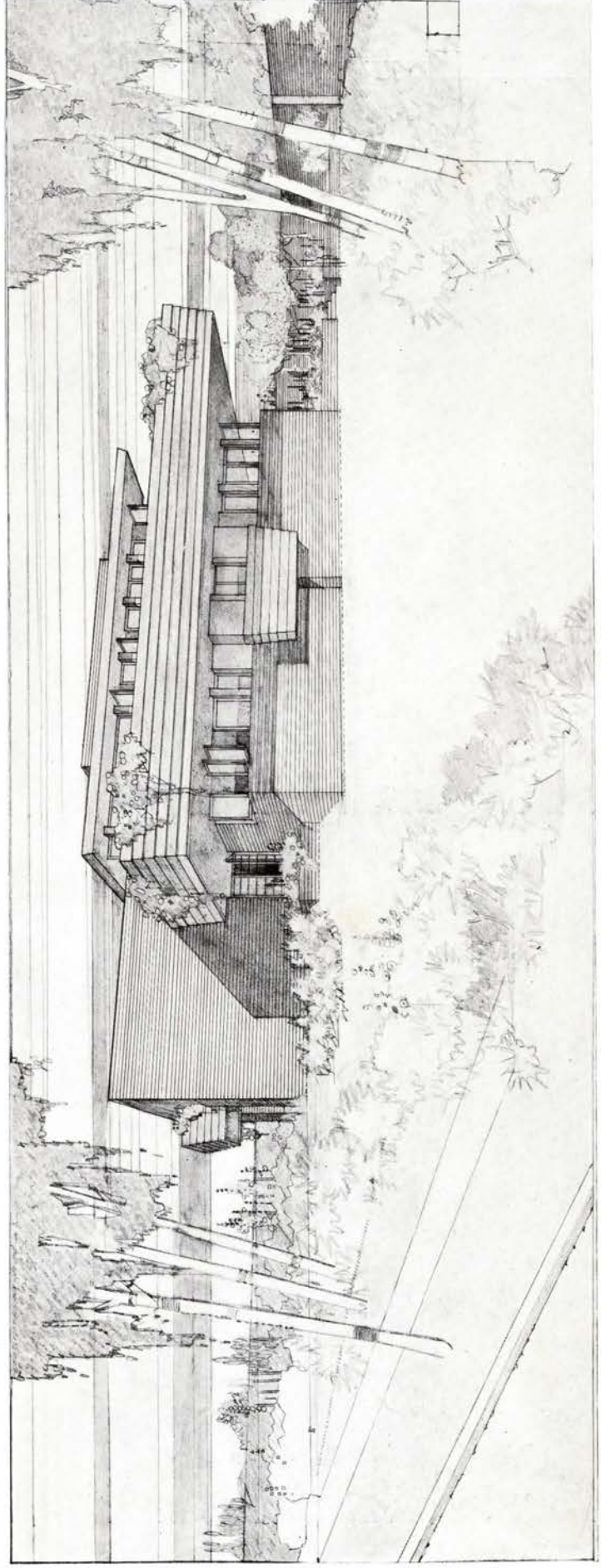
Roy E. Petersen Photos



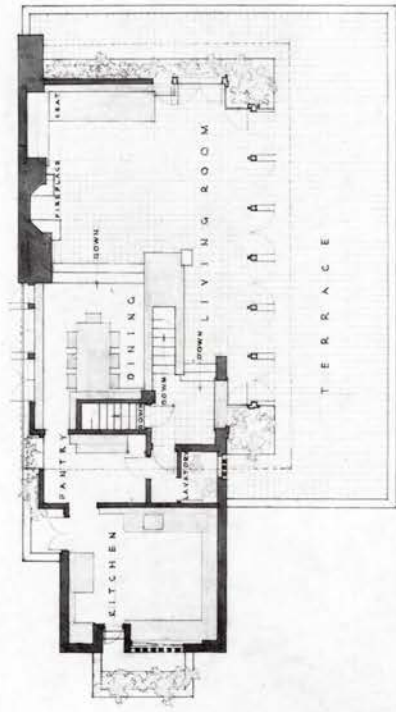
**"THE GARDEN WALL":** House built for Dean Malcolm Willey—Nancy Willey, Superintendent. Cost \$10,000. A well-protected brick house built upon a brick paved 3 in. concrete mat laid down over well drained bed of cinders and sand—the concrete mat jointed at partitions. To develop the nature of the materials a sand mold brick course alternates with a course of paving brick, the exterior cypress is left to weather and the interior cypress is only waxed.

The house wraps around the northwest corner of a lot sloping to the south—a fine vista in that direction. The plan protects the Willeys from the neighbors, sequesters a small garden and realizes the view to the utmost under good substantial shelter. Notwithstanding the protests of the builder and unusually many kind friends, the fireplace draws perfectly and the mat is perfectly comfortable in 30° below zero weather. Nor does the frost show upon the inside of the outside walls. The house emphasizes the modern sense of space by vista inside and outside, without getting at all "modernistic." There is a well balanced interpenetration (that is to say sense of proportion), of the sense of shelter with this sense of space, the sense of materials and the purpose of the whole structure in this dwelling. It is well constructed for a life of several centuries if the shingle roof is renewed in twenty-five years or tile is substituted. Perhaps this northern house comes as near to being permanent human shelter as any family of this transitory period is entitled to expect. The furniture is of a like substantial character, missing items still being built and moved in from time to time as designs arrive and ways and means appear.

W. Albert Martin







UPPER FLOOR PLAN

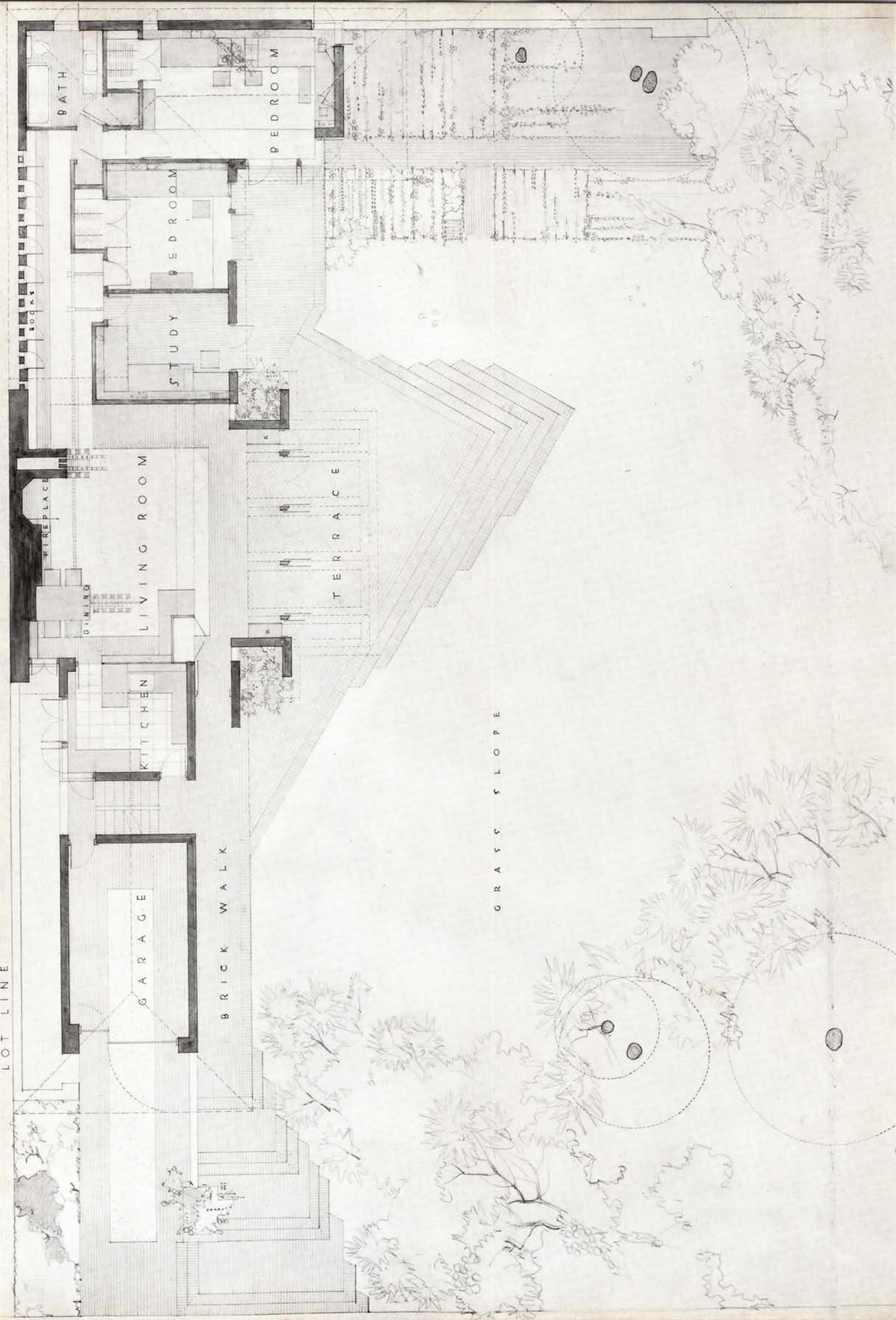


GROUND FLOOR PLAN





LOT LINE



EXECUTED PLAN OF HOUSE FOR DEAN MALCOLM WILLEY, MINNEAPOLIS . COST OF HOUSE TEN THOUSAND DOLLARS . . RED BRICK WALLS . BRICK FIREPLACE AND BRICK FLOOR MAT



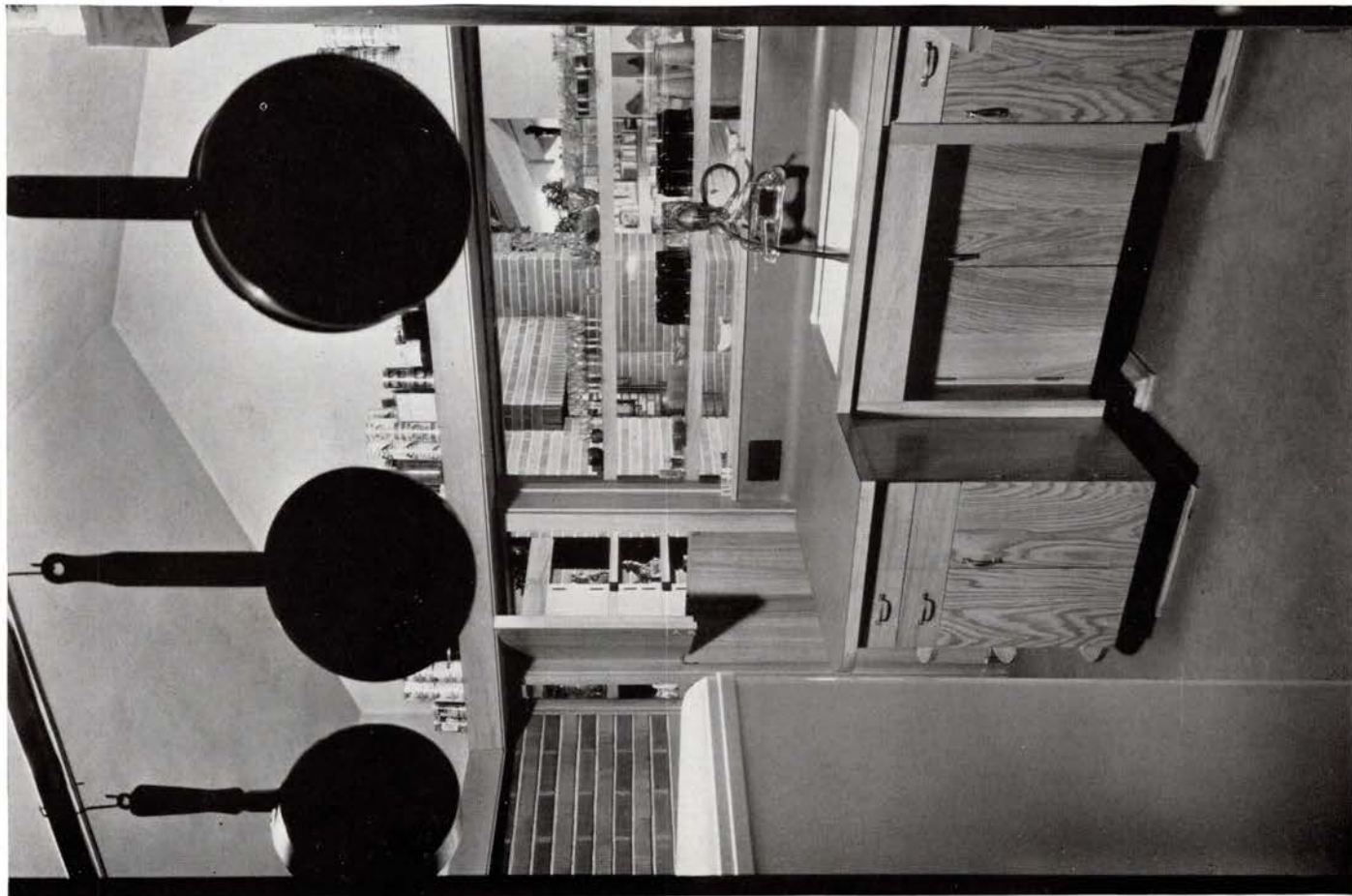
MALCOLM WILLEY HOUSE . . . VIEW FROM THE SOUTH . . . ALTERNATING LAYERS OF DARK RED SAND MOLD AND PAVING BRICK IN PAVEMENTS, WALLS AND FIREPLACE

*Hedrich-Blessing*





Hedrich-Blessing Photos



GLASS WALLED WORK-UNIT ... WILLEY HOUSE ... GLIMPSE OF BOOK LINED CORRIDOR BEYOND ... FLOOR MAT BRICK-PAVED ... WAXED CYPRESS MEMBERS SASH AND DOORS



DINING TABLE ARRANGEMENT NEAR FIREPLACE NEXT TO HOUSEHOLD WORK-UNIT AND BESIDE GLASS SCREEN TO KITCHEN . . . ABOVE MOVABLE WINDOWS TO THE OUTSIDE







RED BRICK FIREPLACE IN LIVING ROOM OF MALCOLM WILLEY HOUSE . . . SAME ALTERNATING BRICK COURSES IN FLOORS AND WALLS . . . IRON CRANE AND INSERTED RED TILE

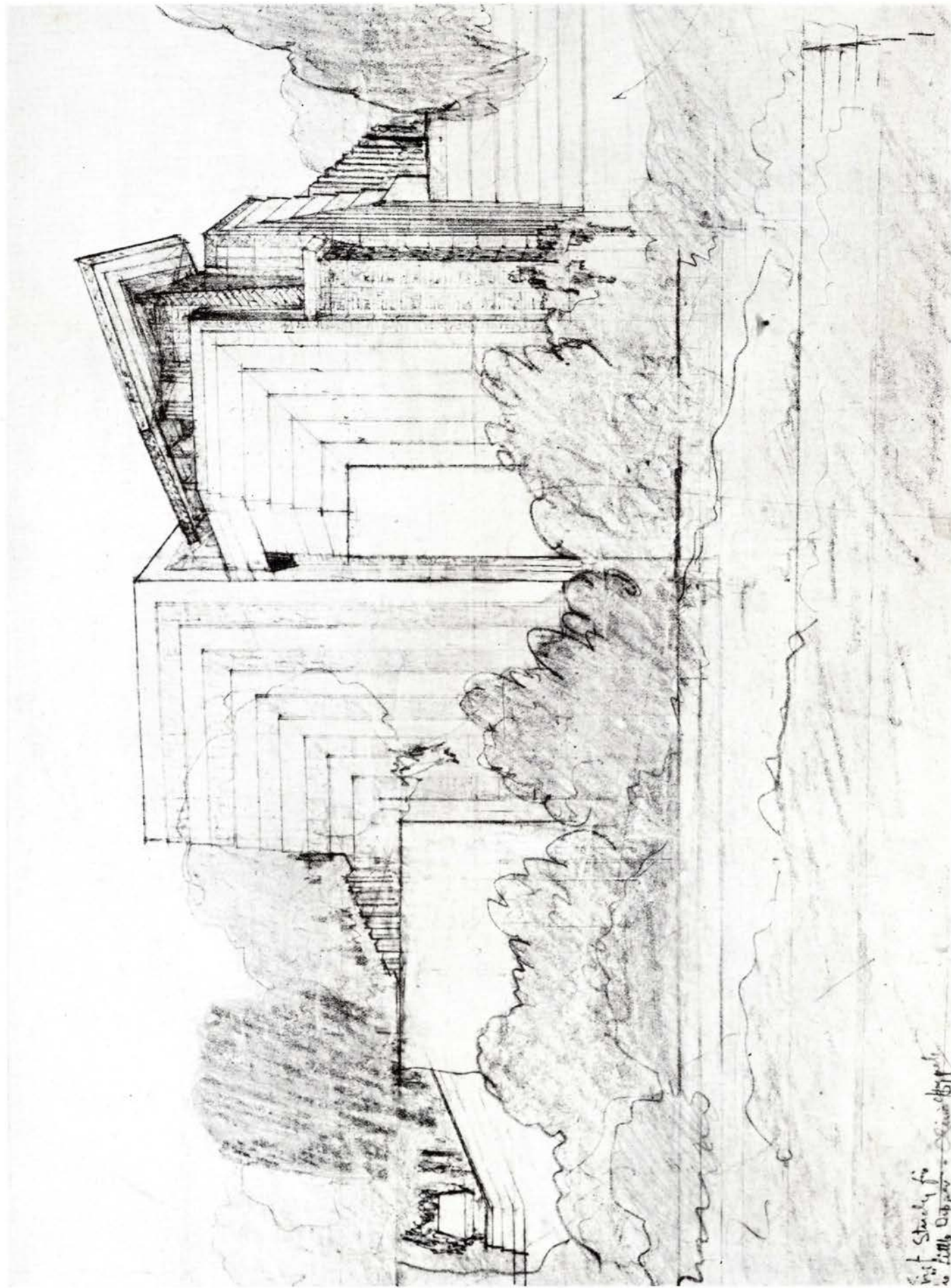
*Hedrich-Blessing*





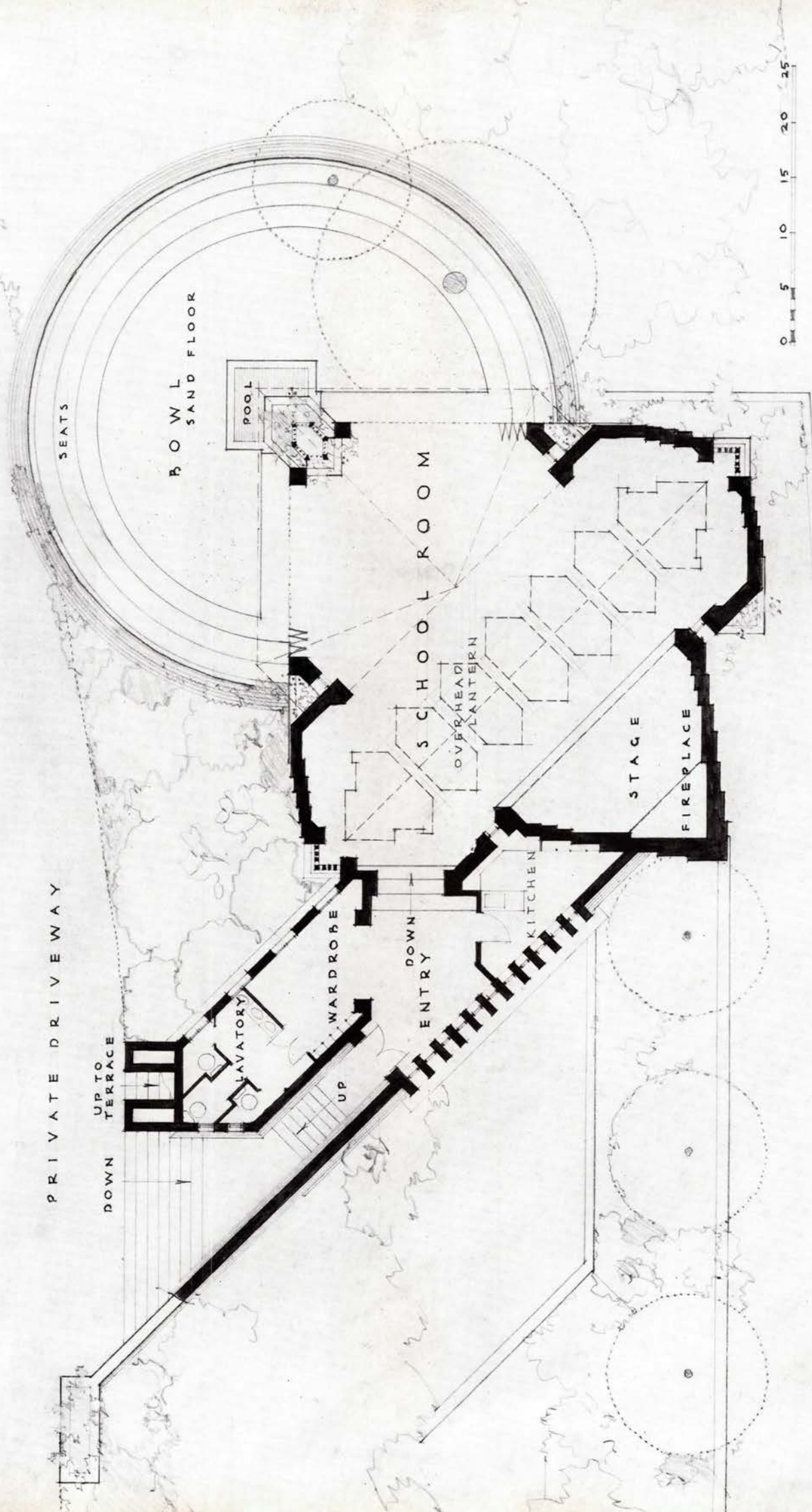
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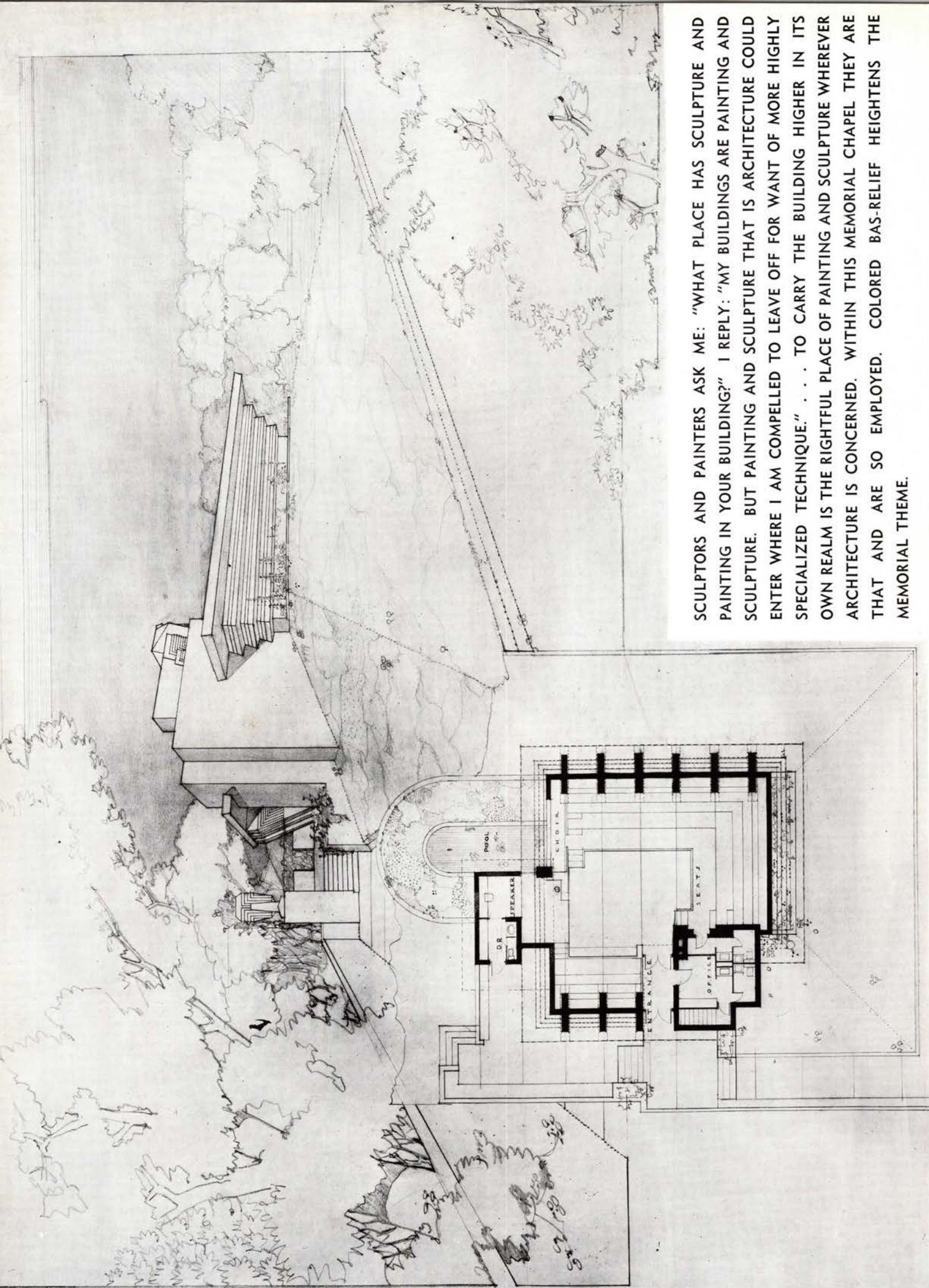




GROUND PLAN . OVERHEAD LIGHTING BY ROOF LANTERN IS SHOWN ON PLAN BY DOTTED LINES . . . MAIN ROOM MAY BE THROWN OPEN TO BOWL WHEN STAGE IS USED







SCULPTORS AND PAINTERS ASK ME: "WHAT PLACE HAS SCULPTURE AND PAINTING IN YOUR BUILDING?" I REPLY: "MY BUILDINGS ARE PAINTING AND SCULPTURE. BUT PAINTING AND SCULPTURE THAT IS ARCHITECTURE COULD ENTER WHERE I AM COMPELLED TO LEAVE OFF FOR WANT OF MORE HIGHLY SPECIALIZED TECHNIQUE." . . . TO CARRY THE BUILDING HIGHER IN ITS OWN REALM IS THE RIGHTFUL PLACE OF PAINTING AND SCULPTURE WHEREVER ARCHITECTURE IS CONCERNED. WITHIN THIS MEMORIAL CHAPEL THEY ARE THAT AND ARE SO EMPLOYED. COLORED BAS-RELIEF HEIGHTENS THE MEMORIAL THEME.

PERSPECTIVE AND PLAN OF CHAPEL MEMORIAL "TO THE PIONEER" . . . CONCRETE AND GLASS . . . WITHIN AN EARTH MOUND . . . SLAB BEAM CONSTRUCTION OVERHEAD EXPOSED



LET US GO BACK, HERE, TO THE FIRST SELF-CONSCIOUS ASSERTION IN BUILDING OF THE "THIRD DIMENSION"—AS IT CAME TO BE CALLED. THE REALITY OF THE BUILDING IS NOT IN THE FOUR WALLS AND ROOF BUT IN THE SPACE ENCLOSED BY THEM TO BE LIVED IN. EARLIER THAN THIS I HAD BEEN TRYING TO BRING THE ROOM THROUGH. BUT IN UNITY TEMPLE 1904-5 TO BRING THE ROOM THROUGH WAS CONSCIOUSLY A MAIN OBJECTIVE. SO UNITY TEMPLE HAS NO WALLS. UTILITARIAN FEATURES, THE STAIR ENCLOSURES AT THE CORNERS; LOW MASONRY SCREENS CARRYING ROOF SUPPORTS; THE UPPER PART OF THE STRUCTURE ON FOUR SIDES A CONTINUOUS WINDOW BENEATH THE CEILING OF THE BIG ROOM THE CEILING EXTENDING OUT OVER THEM TO SHELTER THEM; THE OPENING OF THIS SLAB WHERE IT PASSED OVER THE BIG ROOM TO LET SUNLIGHT FALL WHERE DEEP SHADOW HAD BEEN DEEMED "RELIGIOUS." THESE WERE TO A GREAT EXTENT THE MEANS EMPLOYED TO ACHIEVE THE PURPOSE. SINCE THEN THE "NEW" CONCEPT OF BUILDING (LAOTSE 500 B. C.) HAS NEVER SLEPT. YOU WILL FIND IT WORKING IN MANY DIFFERENT WAYS IN ALL THE STRUCTURES SHOWN IN THIS COLLECTION—OFTEN SEEMING CONTRADICTORY.





**F**ALLINGWATER. The country lodge of Edgar Kaufmann built at Bear Run, Pennsylvania, is pretty clearly what it is shown to be in the photographs herewith. For the first time in my practice, where residence work is concerned in recent years, reenforced concrete was actually needed to construct the cantilever system of this extension of the cliff beside a mountain stream, making living space over and above the stream upon several terraces upon which a man who loved the place sincerely, one who liked to listen to the waterfall, might well live. Steel sash came within reach also for the first time. In this design for living down in a glen in a deep forest, shelter took on definite masonry form while still preserving protection overhead for extensive glass surface. These deep overhangs provide the interior, as usual, with the softened diffused lighting for which the indweller is invariably grateful, I have found.

The interiors would tell this story better than words but though they soon will be, they were not furnished at the time these pictures were made. Inasmuch as this furnishing is intimately part of the building, the interiors will appear at some later time.

This building is a late example of the inspiration of a site, the cooperation of an intelligent, appreciative client and the use of entirely masonry materials except for an interlining of redwood and asphalt beneath all flooring. Again, by way of steel in tension this building takes its place and achieves its form. The grammar of the slabs at their eaves is best shown by a detail. But the roof water is caught by a lead strip built into the concrete above near the beginning of the curve so what water dripping by gravity at the bottom of the curve—as it does—does not very much stain the curves. It is not the deluge of water in a storm that hurts any building: it is ooze and drip of dirty water in thawing and freezing, increased by slight showers. The cantilever slabs here carry parapets and the beams. They may be seen clutching big boulders. But next time, I believe, parapets will carry the floors—or better still we will know enough to make the two work together as one, as I originally intended.

This structure might serve to indicate that the sense of shelter—the sense of space where used with sound structural sense—has no limitations as to form except the materials used and the methods by which they are employed for what purpose. The ideas involved here are in no wise changed from those of early work. The materials and methods of construction come through them, here, as they may and will always come through everywhere. That is all. The effects you see in this house are not superficial effects.

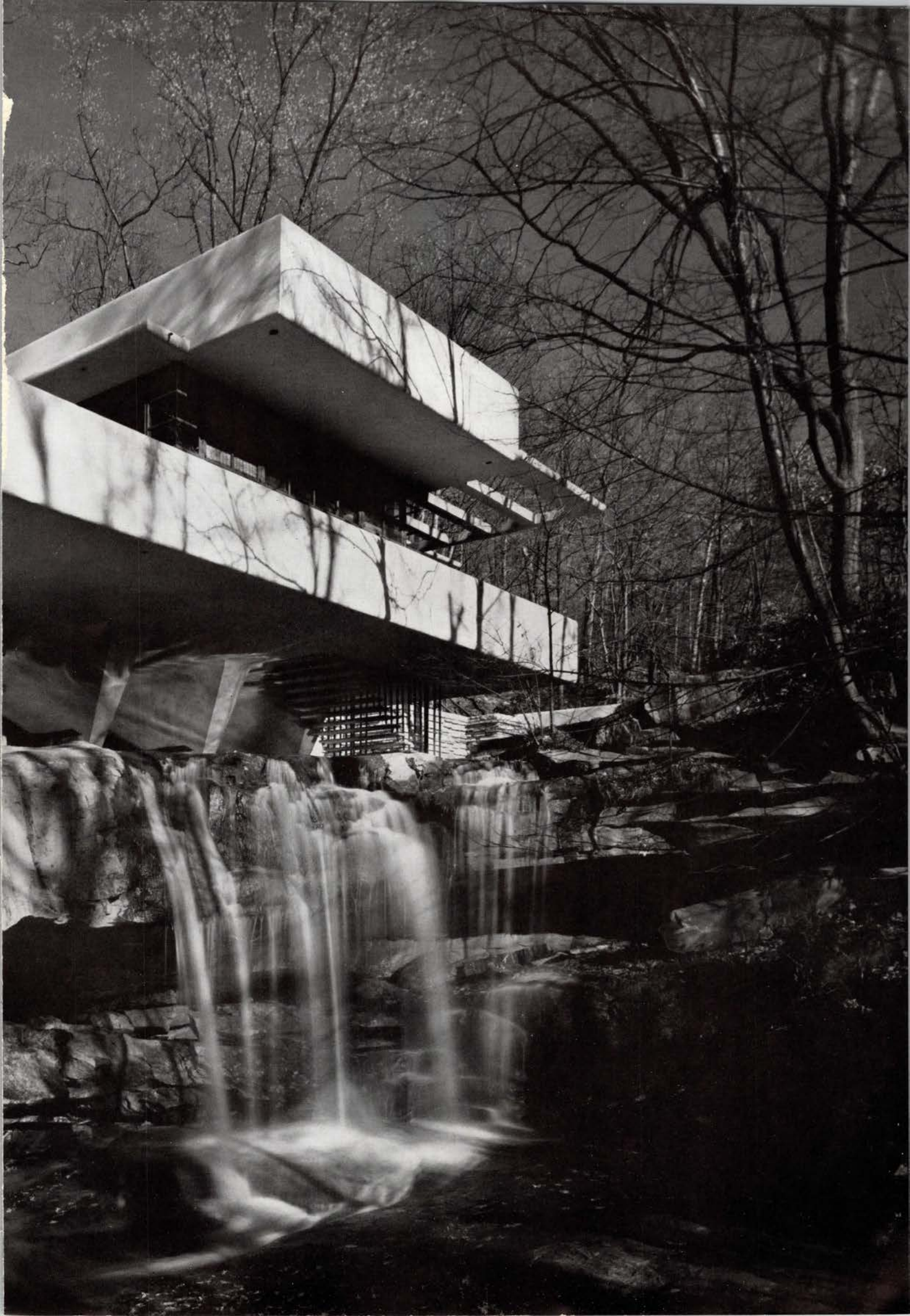


"FALLINGWATER" FOREST LODGE FOR EDGAR KAUFMANN, BEAR RUN, PENNSYLVANIA . . . OUT OF THE STONE LEDGES OVER THE STREAM . . . DETAIL OF STEEL FENESTRATION











GOING WHERE I LIST, MY OWN MASTER, TOTAL ABSOLUTE, LISTENING TO OTHERS, CONSIDERING WELL WHAT THEY SAY, PAUSING, SEARCHING, RECEIVING, CONTEMP-  
PLATING, GENTLY, BUT WITH UNDENIABLE WILL, DIVESTING MYSELF OF THE HOLDS THAT WOULD HOLD ME. I INHALE GREAT DRAUGHTS OF SPACE. THE EAST AND  
THE WEST ARE MINE, AND THE NORTH AND THE SOUTH ARE MINE . . . BEWARE THE ADVANCING MORTAL RIPENING OF NATURE. BEWARE WHAT PRECEDES THE DECAY  
OF THE RUGGEDNESS OF STATES AND MEN. BEWARE OF CIVILIZATION.

WALT WHITMAN

"FALLINGWATER" E. KAUFMANN HOUSE FROM BELOW THE WATERFALL OF BEAR RUN . . . NATIVE STONE RISING FROM BOULDERS OF THE SAME STONE CAST REINFORCED CONCRETE

*Hedrich-Blessing*







OVERPAGE ... LOOKING DOWN FROM SENIOR KAUFMANN'S BEDROOM ... THIS PAGE . LOWER TERRACE AND ARBOR ... HANGING STEPS FROM LIVING ROOM INTO POOL IN STREAM





*Hedrich-Blessing*



*Hedrich-Blessing*



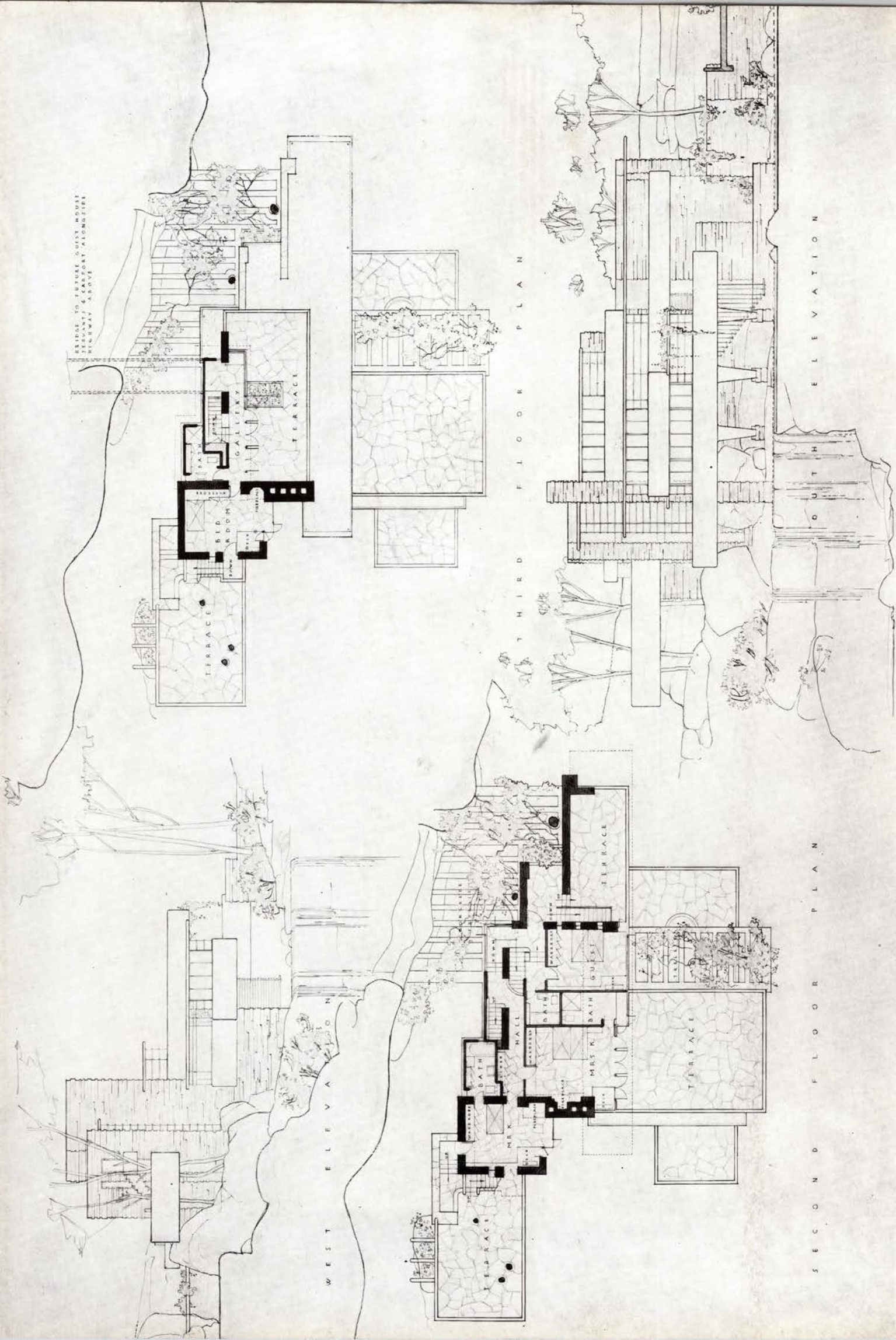
CORNER OF LIVING ROOM LOOKING DOWN HANGING STEPS TO STREAM AND OUT OVER LOWER TERRACE INTO THE WOOD . . . CANTILEVER SLAB BELOW AND OVERHEAD





Hedrich-Blessing

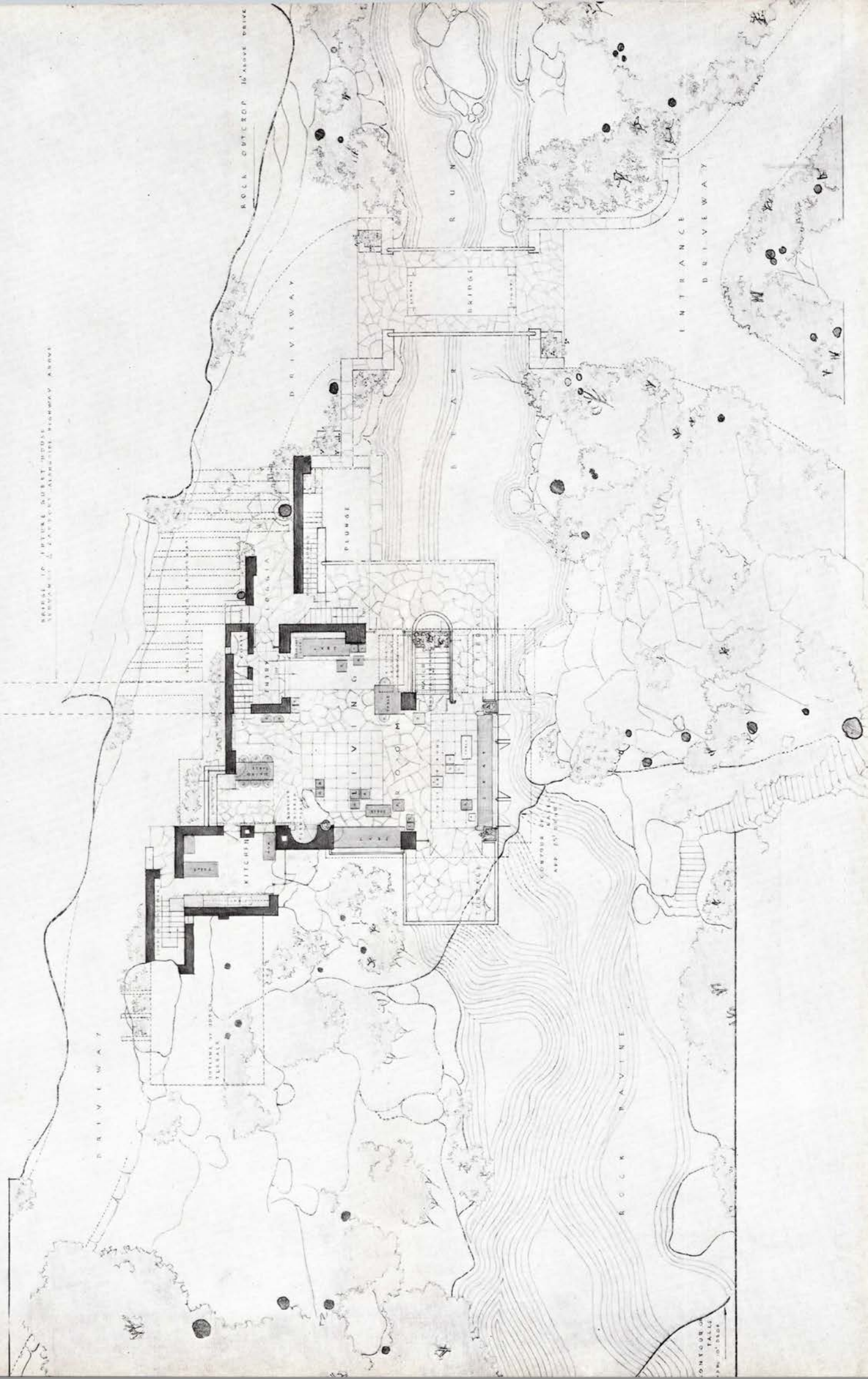




SECOND AND THIRD FLOOR PLANS OF THE EDGAR KALLMANN HOUSE SHOWN IN RELATION TO THE SITE ... BEAR RUN PENNSYLVANIA 1935 ... SOUTH AND WEST ELEVATIONS



"FALLINGWATER" . . . GROUND FLOOR PLAN SHOWING RELATION OF BUILDING TO BANK . BRIDGE AND STREAM . . . NOTE ARBOR OVER ROADWAY TIED INTO ROCK LEDGE





Hedrich-Blessing



CHARACTERISTIC TYPE OF INTERIOR FURNITURE . . . NEXT PAGE . THE GLEN IN WHICH THE HOUSE DWELLS . . . ROCKS, OAKS, MAPLES AND RHODODENDRON



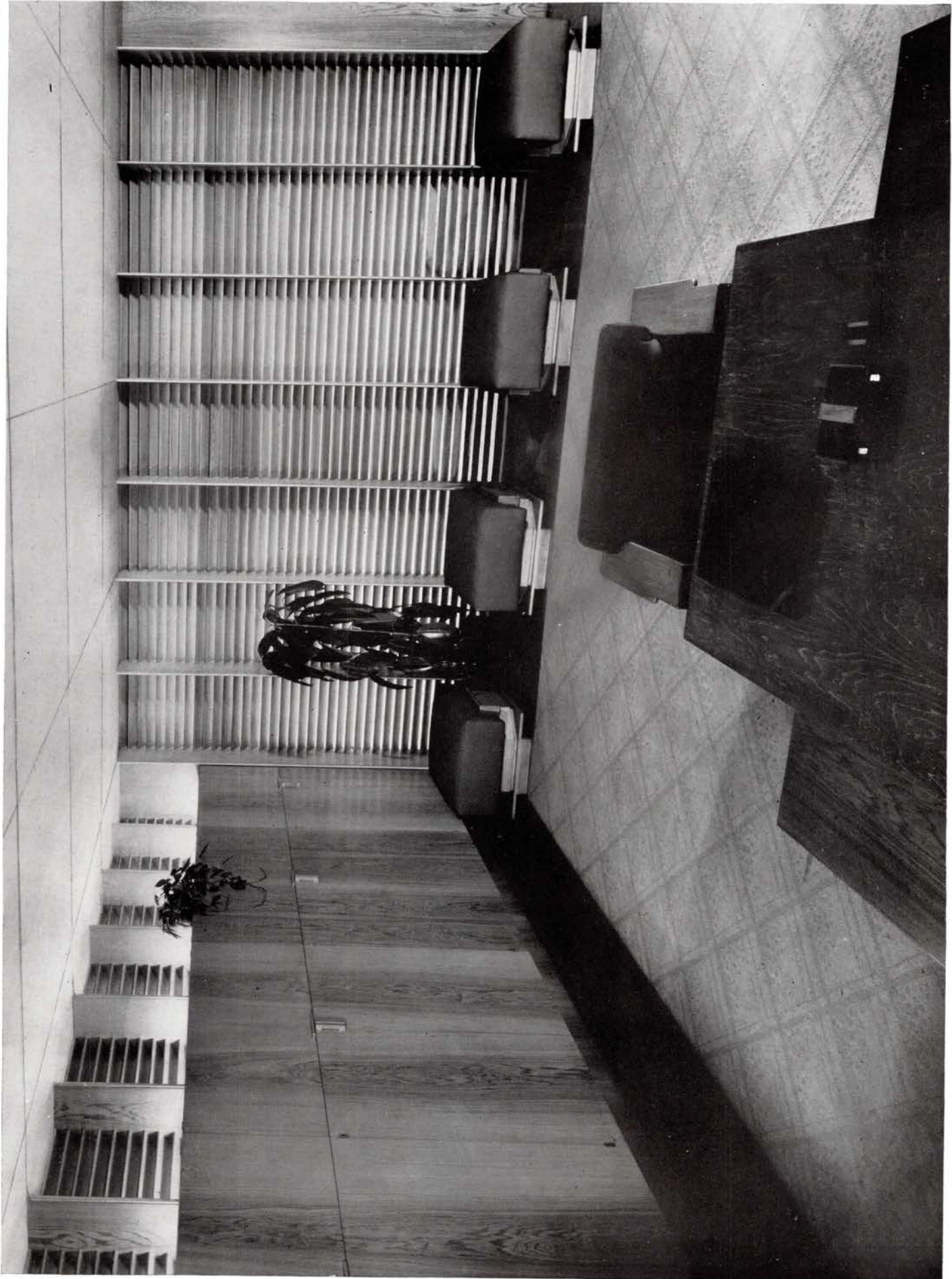






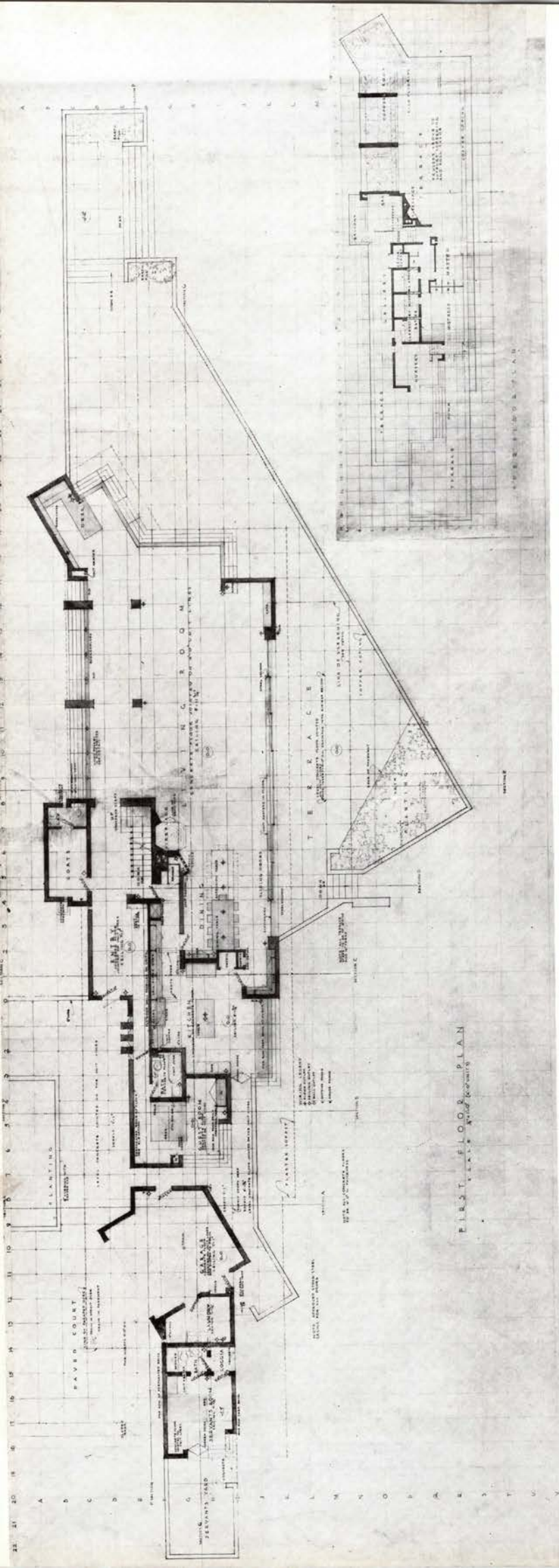
PLYWOOD MURAL IN PRIVATE OFFICE KAUFMANN SENIOR . . . FLOOR, WALLS AND CEILING OF CYPRESS PLYWOOD SLABS . . . TEMPORARY RUGS AND UPHOLSTERY





Hedrich-Blessing





**T**EXAS rolling prairie needs a house—a house with modern sense and idea of space—above all airy, naturally air conditioned. The breadths of vista down there are inspiring.

This house is so inspired. An extended central chimney stack exhausts hot air from all the rooms especially the sleeping rooms. Except for these upper rooms the roof over the house is a screened-in deck like that of a ship. The floor areas below, exterior and interior, are unbroken except for gratings inserted at the wall lines under the door screens to intercept the sweeping water of sudden downpours.

When the house is open it may be wide open. When it is closed it may be completely closed except the roof deck. All top surfaces are insulated against a merciless sun and the roof deck

is screened against it by shutters rolling back and forth on extended cantilever arms which also carry insect screens, the screening extending downward to include the lower terrace area in front of the living room.

The walls are of slender flesh-colored roman bricks—coped with copper to match the copper roofs.

All glass surfaces are continuous under wide thin projecting eaves—glass used more for vista than for light. These sheltering planes not only marry the house to the ground but afford a pleasant diffusion of light in the interiors. The copper itself is turquoise blue.

If Texas ever realizes that it needs a Texas house it will have a sheltering wing-spread over the ground similar to this one; an openness to rolling prairie vistas—like this one; a house protected

from stagnation of summer air and sudden cold as this one—as clean and swift of line. Texas is yet young and architecturally Texas is yet untouched. But perhaps construction as permanent as contemplated here is unnecessary for the climate.

I believe—making provision against violent winds—a lighter more transient construction would serve well enough, something between Ocatilla, the architect's camp in the desert, and the San Marcos block building itself. The experiment would be worth making, local architects to the contrary notwithstanding.

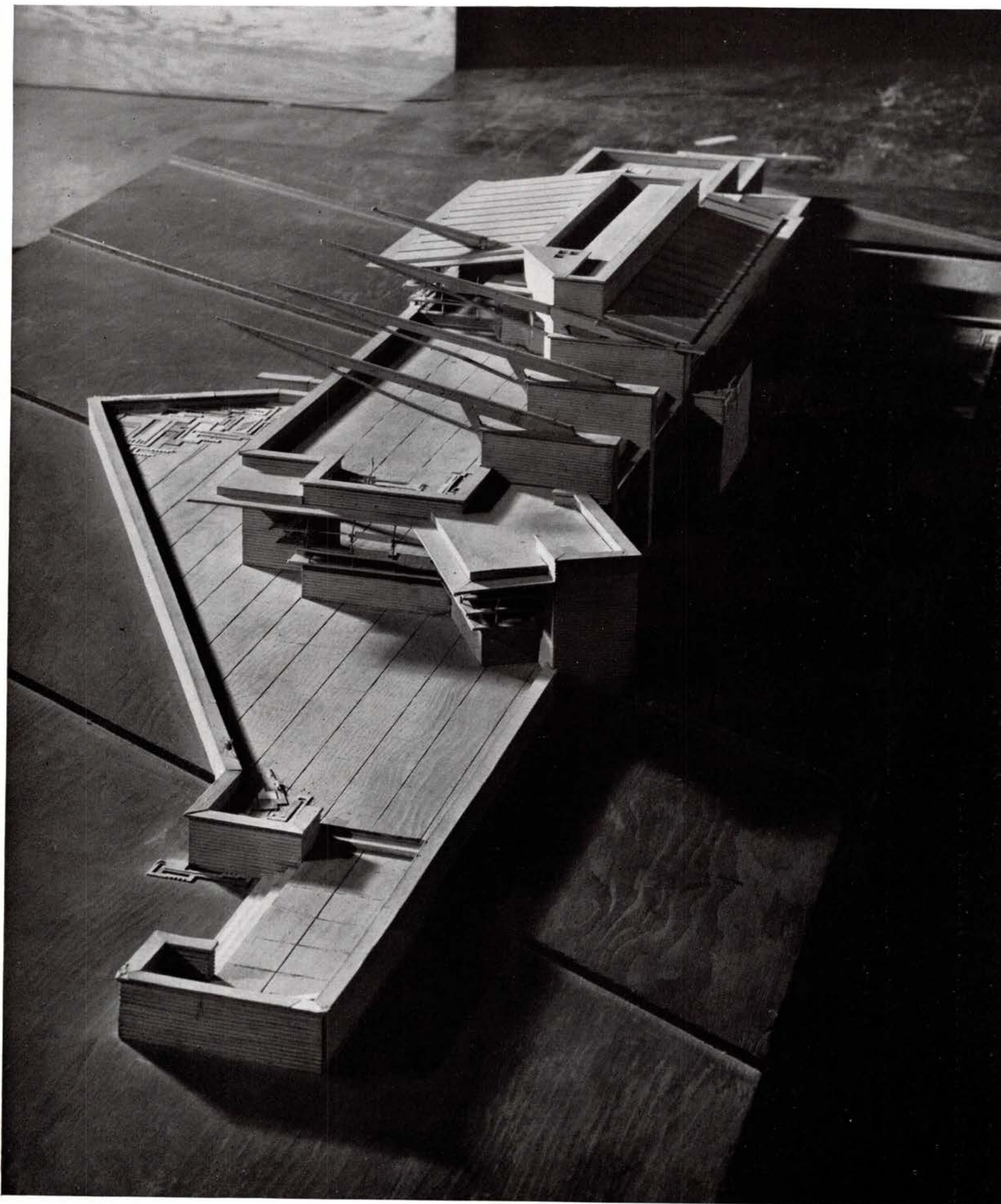
Estimates on this house ran between 30 and 35 thousand dollars. Inasmuch as 20 to 25 thousand dollars was the cost limit fixed we reluctantly laid the plans aside and the job went local.

ARE WE TO HAVE WEALTHY AND IMMENSE CITIES—BUT STILL THROUGH AND OF THEM NOT A SINGLE POET, SAVIOR, KNOWER—LOVER? ARE THE INFIDELS OF THESE STATES TO LAUGH ALL FAITH AWAY? IF ONE MAN BE FOUND WITH FAITH IN HIM ARE THE REST FREE ONLY TO SET UPON HIM? IS THIS THE PRICE OF MONEY, BUSINESS, IMPORTS, EXPORTS, CUSTOM, AUTHORITY, PRECEDENTS, PALLOR, DYSPEPSIA, SMUT, IGNORANCE, UNBELIEF? FRIGHTEN FAITH AND YOU DESTROY THE POWER OF BREEDING FAITH

WALT WHITMAN

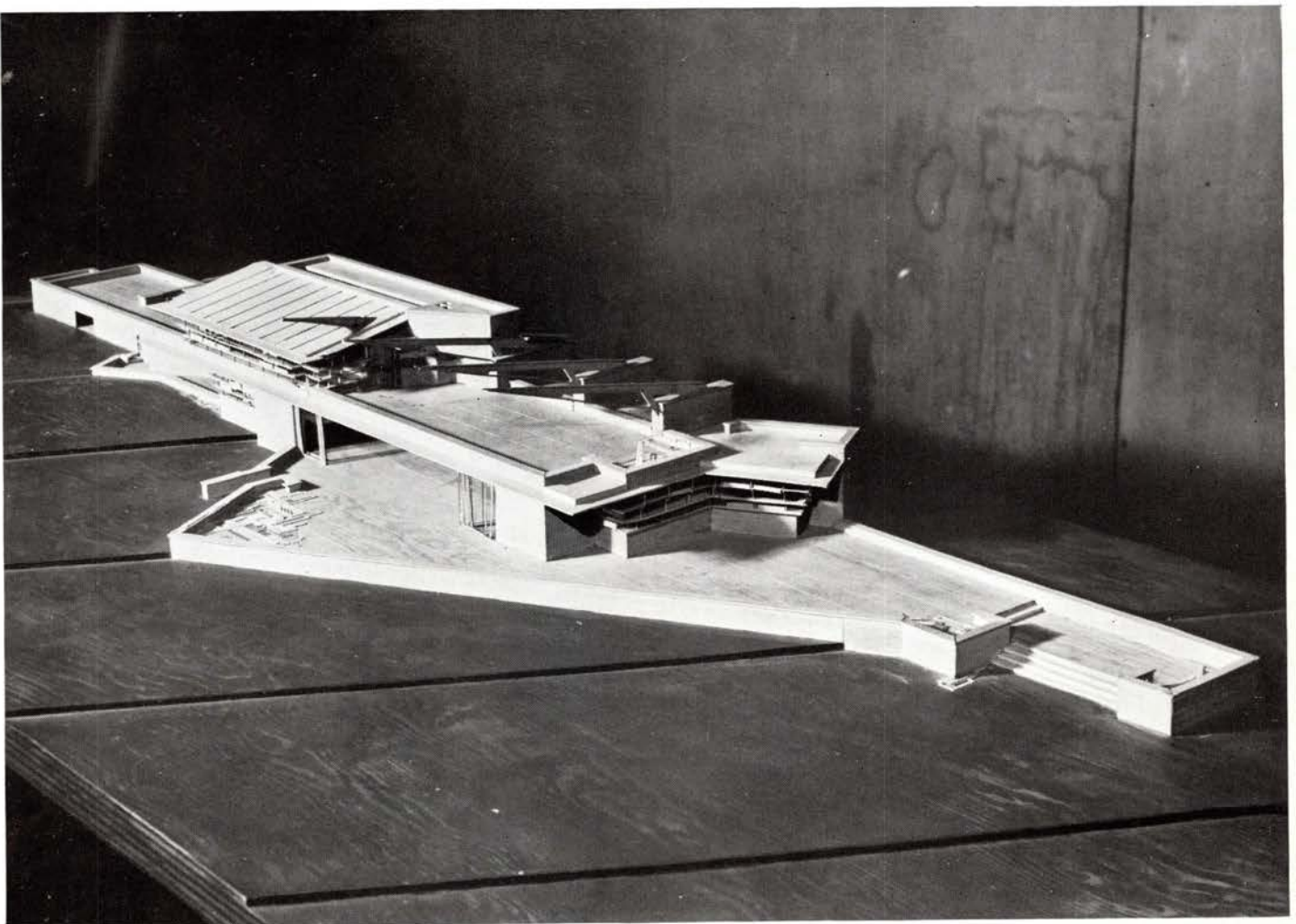
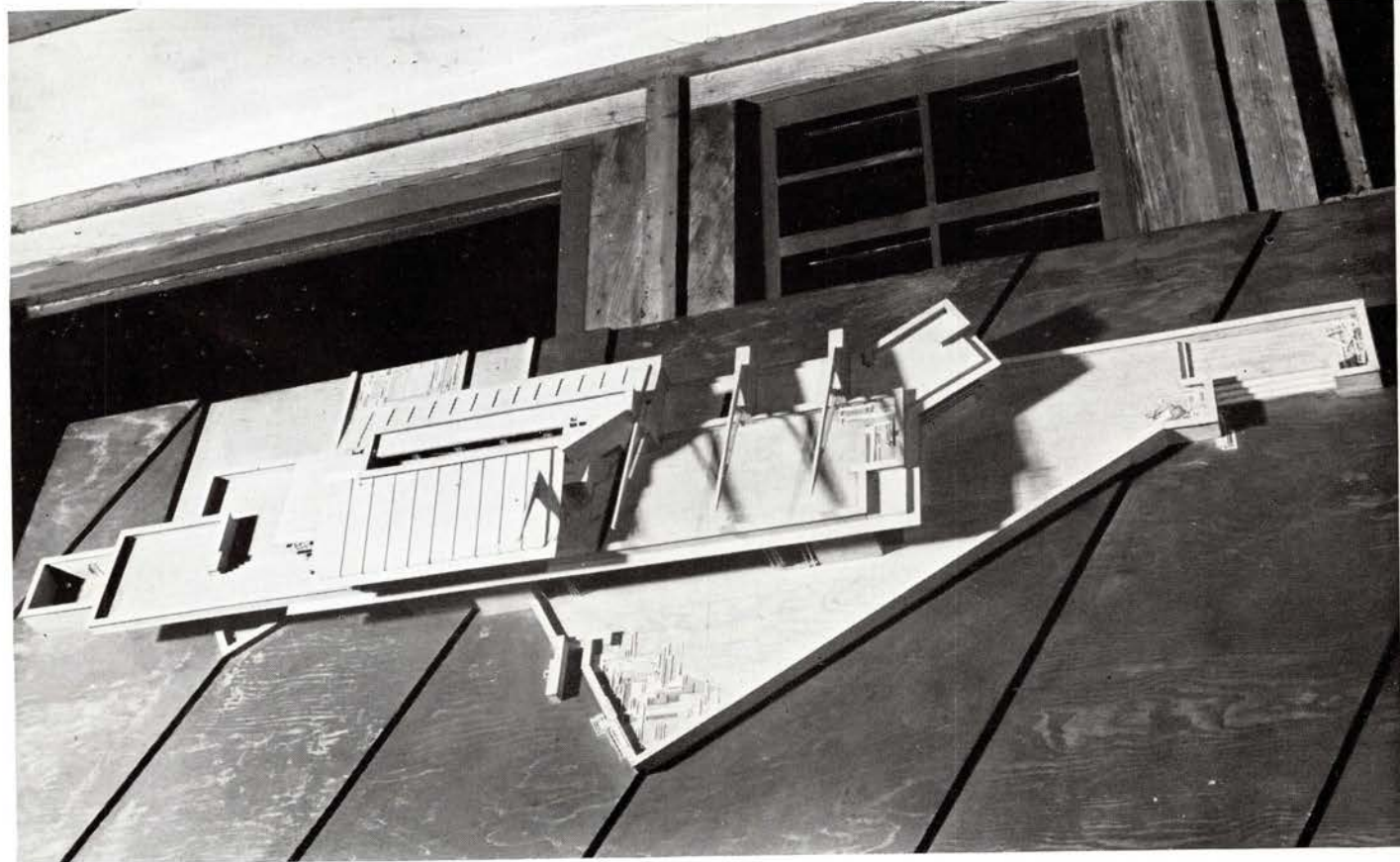


AIR VIEW OF MODEL SHOWING EXTENDED CHIMNEY STACK AS VENTILATOR . . . ROOF DECK AND TERRACE, SAME SHOWING CANTILEVER SUPPORTS FOR ROLLING SCREENS





Roy B. Petersen



BELOW: A PERSPECTIVE VIEW OF HOUSE FROM SOUTHWEST ABOVE: VIEW SHOWING SOUTH WINDOWS OF LIVING ROOM OPENED SO THAT TERRACE AND LIVING ROOM BECOME ONE





*Roy E. Petersen*



THIS plan for a skyscraper (page below) standing parkfree in the city, the only urban skyscraper fit for human occupancy, is as nearly organic as steel in tension can make it, here doing for a tall building what Lidgerwood made it do for the long ship. The ship had its keel. This building has its concrete core. A shaft of concrete rises through the floors engaging each floor slab as one passes through the shaft at eighteen levels. Each floor proceeds outward as a cantilever slab extended from the shaft. The slab, thick at the shaft, grows thinner by way of an overlapping scale pattern as it goes outward until at the final leap to the rectangle it is no more than 3 in. thick. The outer enclosing shell of glass and copper is pendent from these cantilever slabs. The inner partitions nest upon the slab.

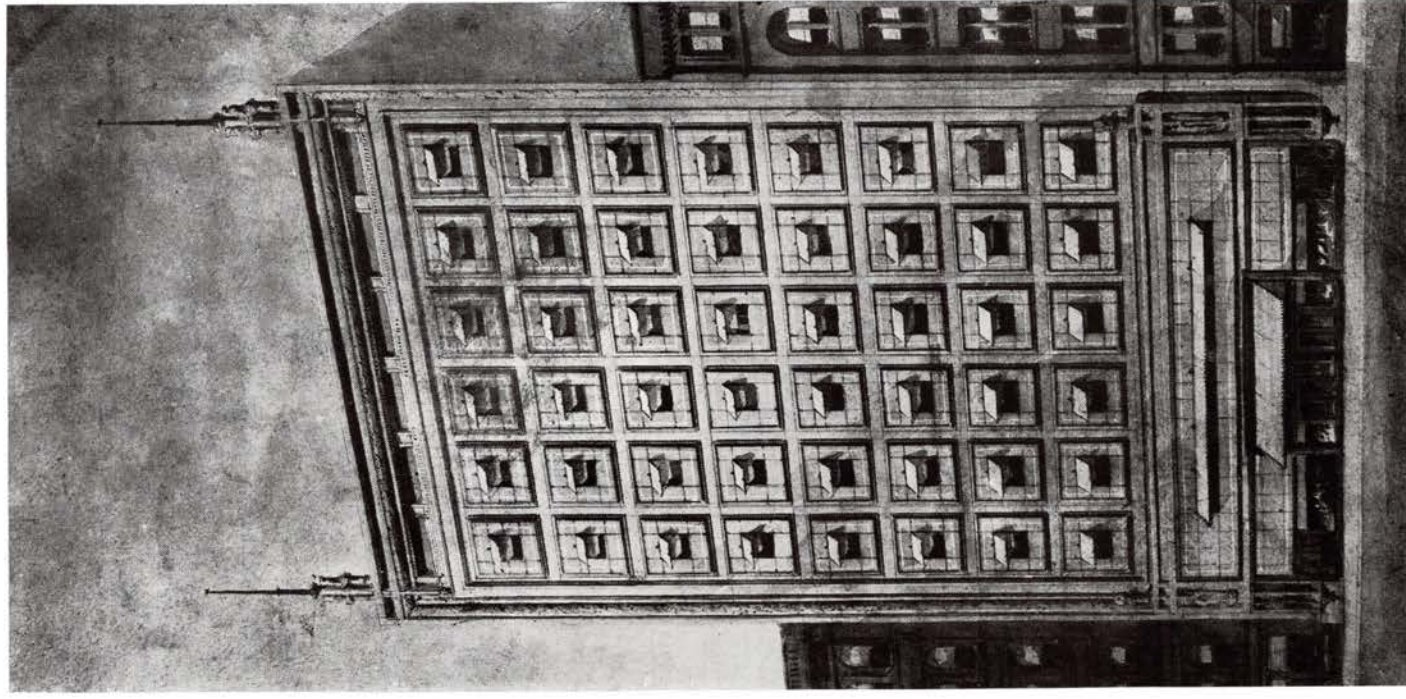
Quadruple in plan (four double decked apartments to each floor, each apartment unaware of the other as all are looking outward), the structure eliminates entirely the weight and waste space of masonry walls. The central shaft, standing inside away from lighted space, carries the elevators and entrance hallway well within itself. Two of the exterior walls of every apartment are entirely of glass set into sheet copper framing. But the building is so placed that the sun shines on only one wall at a time and the narrow upright blades, or mullions, project nine inches so that as the sun moves, shadows fall on the glass surfaces.

The building increases substantially in area from floor to floor as the structure rises—in order that the glass frontage of each story may drip clear of the one below, the building, thus, cleaning itself, and, also because areas become more valuable the higher (within limits) the structure goes. The central shaft extending well into the ground may carry with safety a greatly extended top mass. This building, earthquake, fire and sound proof from within by structural economics inherent in its nature weighs less than one half the usual structure besides increasing available area for living purposes more than twenty per cent.

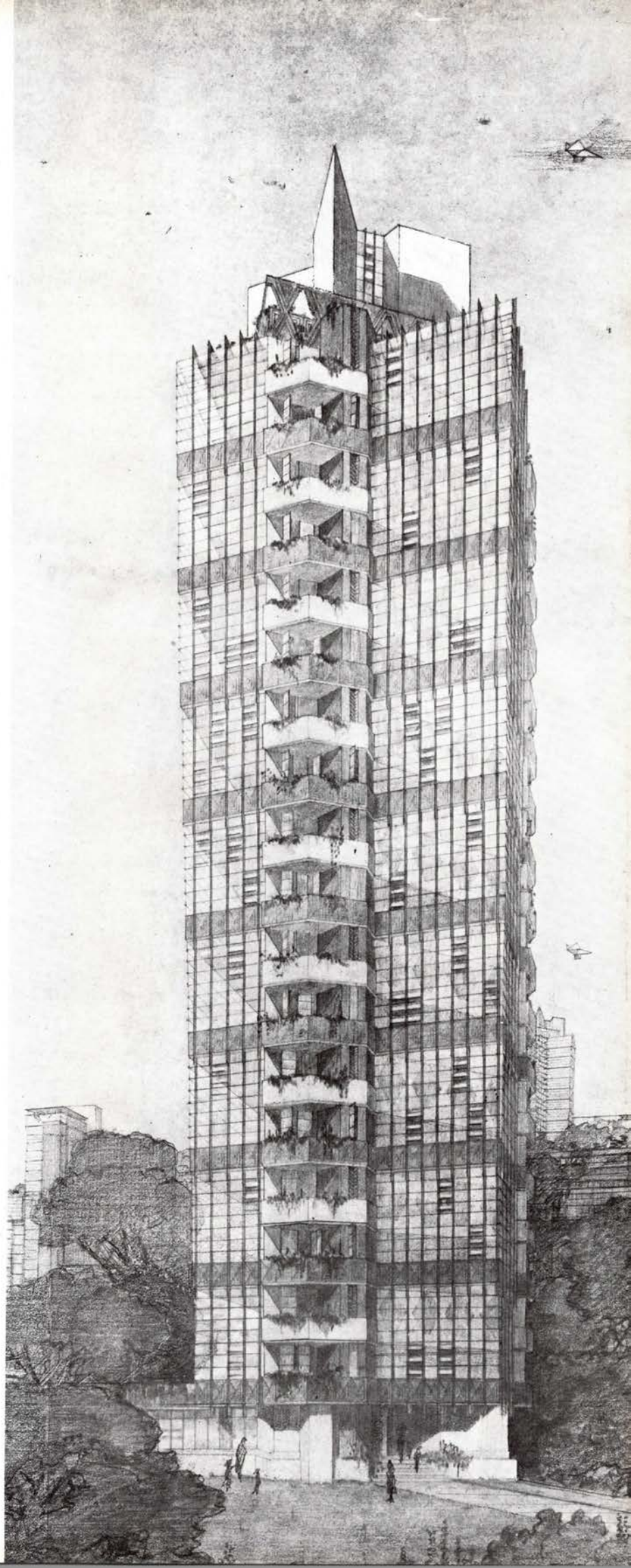
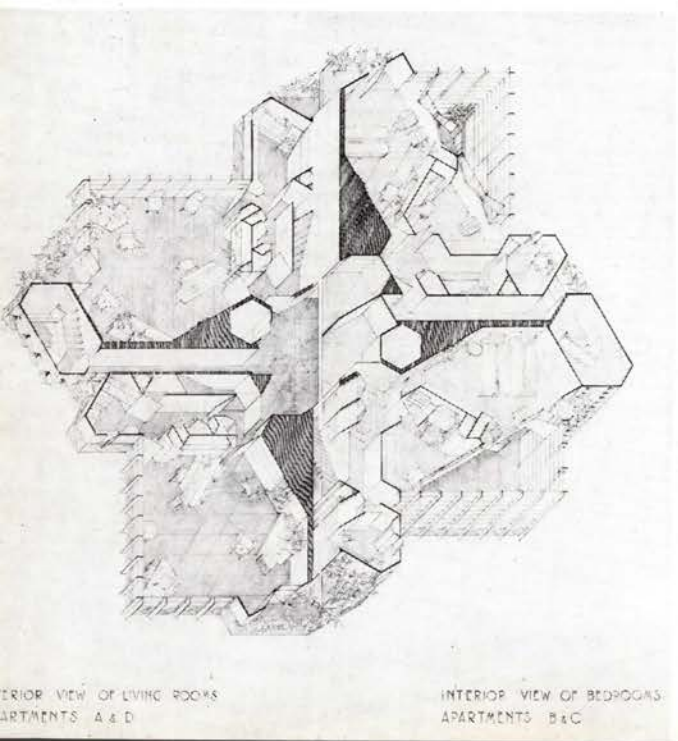
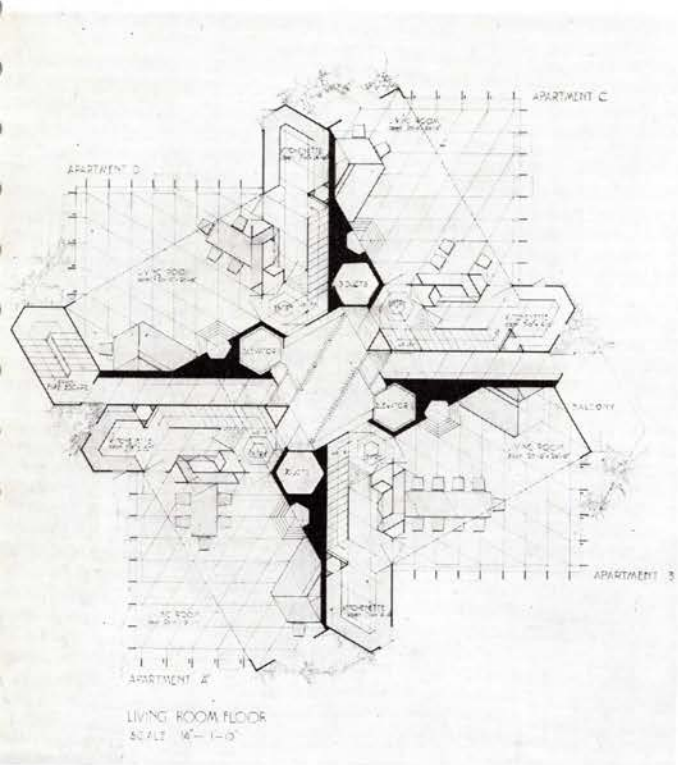
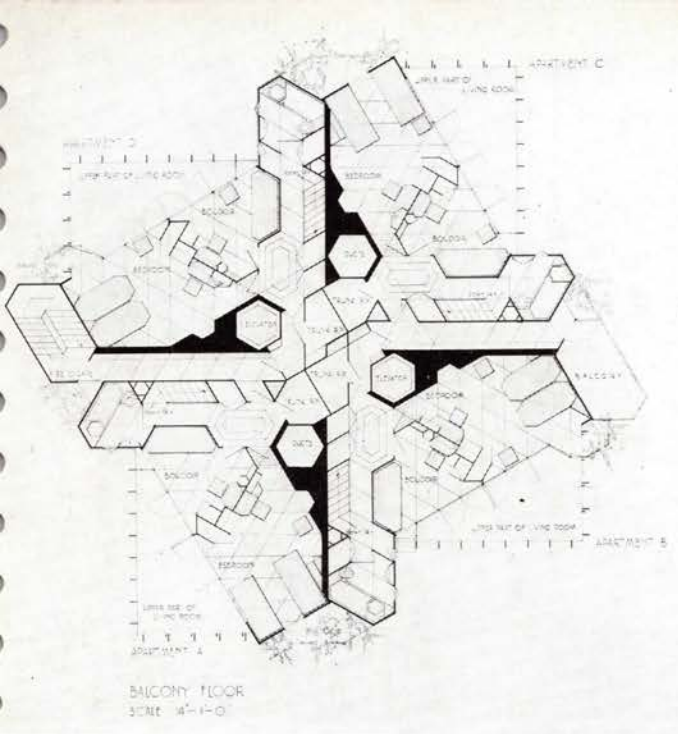
It is a logical development of the idea of a tall building in the age of glass and steel—as logical engineering as the Brooklyn Bridge or the ocean liner. But the benefits of modernity such as this are not merely economic. There is greater privacy, safety, and beauty for human lives within it than is possible in any other type of apartment building.

Again the 1-2 triangle is employed—this time because in itself it has a flexibility in arrangement for human movement not afforded by the rectangle. The apparently irregular shapes of the rooms would not appear as "irregular" in reality—all would have great repose because all are not only properly in proportion to the human figure but to the figure made by the whole.

The building is a complete standardization for prefabrication. Only the concrete core and slabs need be made in the field. Our shop fabricating industrial system could here function at its best with substantial benefits to humanity. Owing to the unusual conformations the metal (copper) furniture would have to be a part of the building, as the furniture is designed to be. Here again is the poise, balance, lightness and strength that may characterize the creations of this age instead of masonry mass which is an unsuitable, extravagant and unsafe hangover from feudal times.









"WINGSREAD" the Herbert Johnson prairie house, now being built, is another experiment in the articulation which began with the Coonley House at Riverside, built 1909, wherein Living Room, Dining Room, Kitchen, Family sleeping rooms, Guest Rooms were each separate units grouped together and connected by corridor.

Notwithstanding the unprepossessing state of the building and the weather, several construction photographs are included here. The plan is oriented so that sunlight falls in all of the rooms and shows a logical expression of the zoned house. (The first design for such a house was printed in the Taliesin monograph 1936).

At the center of the four zones the spacious Living Room stands. A tall central chimney-stack with five fireplaces divides this vertical space into spaces for the various domestic functions: Entrance Hall, Family Living Room, Library Living Room, and Dining Room. Extending from this lofty central room are four wings—three low and one with mezzanine. The one with mezzanine floor and galleries is for the master, mistress and young daughter. Another wing extends from the central space for their several boys; a playroom at the end, a graduated deep-pool in conjunction—another wing for service and utilities—another for guests and five motor cars. Each wing has independent views on two sides, each has perfect privacy—the whole being united by a complete house telephone system. Lighting is integral. Heating is integral, in the floor slab as in the S. C. Johnson Co. Administration Building and the Jacobs House at Madison.

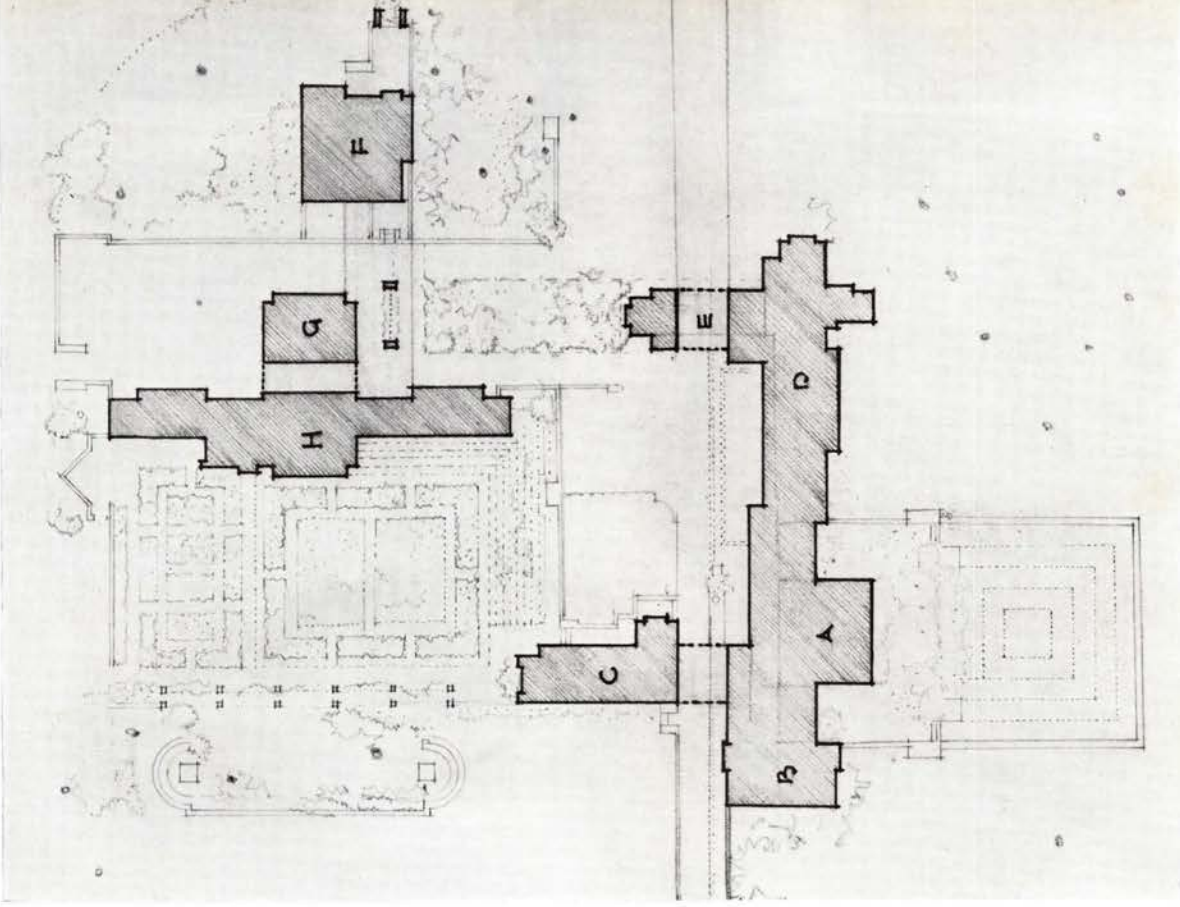
This extended wing plan lies, very much at home, integral with the prairie landscape which is, through it, made more significant and beautiful. In this case, especially, growth will claim its own; wild-grape vines pendent from trellises; extensive collateral gardens in bloom; a great mass of evergreens in the entrance court; single tall associate of the building. Lake Michigan lies off to the middle distance seen over a wild-fowl-pool stretching away in that direction from just below the main terrace of the house.

The farm unit, illustrated on page 63, is just opposite and in view. A gate lodge mounted on a street wall at the main highway is not in view. This structure is of the common type, proving itself to be a good one for a home in the climate around the Great Lakes. It is popularly known as brick veneer. Outside members are cypress plank, roofs tiled, floors of concrete, 4'0 square concrete-slab-tiles.

This house, while resembling the Coonley House, is much more bold, masculine and direct in form and treatment—executed in more permanent materials. The house has a heavy footing course of Kasota sandstone, the best brickwork I have seen in my life—and the materials of construction throughout are everywhere substantial. The house will be architecturally furnished in keeping with the character established by the building.

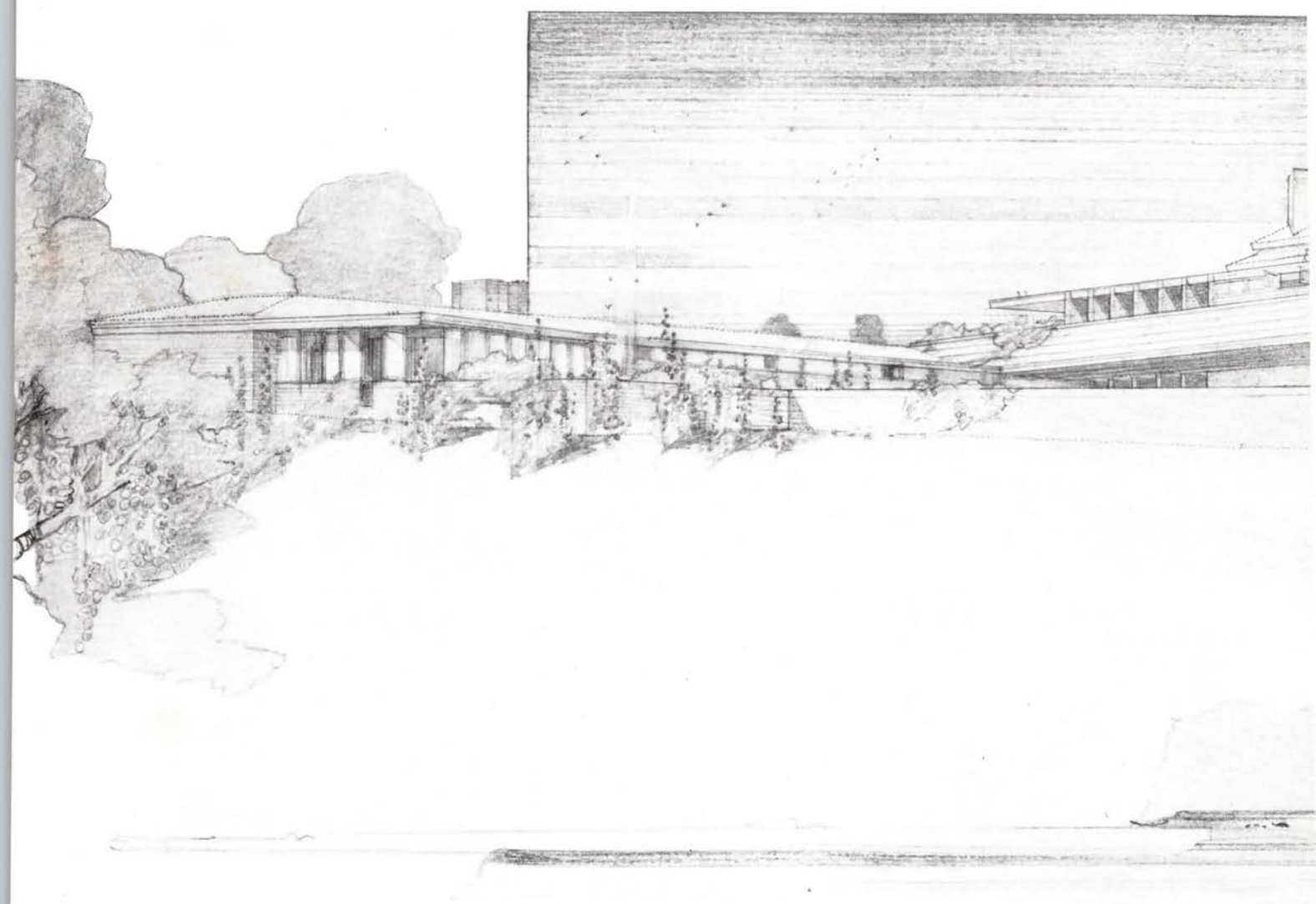
Construction is under a cost-plus system, in the architect's hands like the Administration Building for the S. C. Johnson Co. Construction being managed by Ben Wiltcheck, supervised by the Taliesin Fellowship.

Another prairie house in 1938 here joins the early ones of 1901—1910.



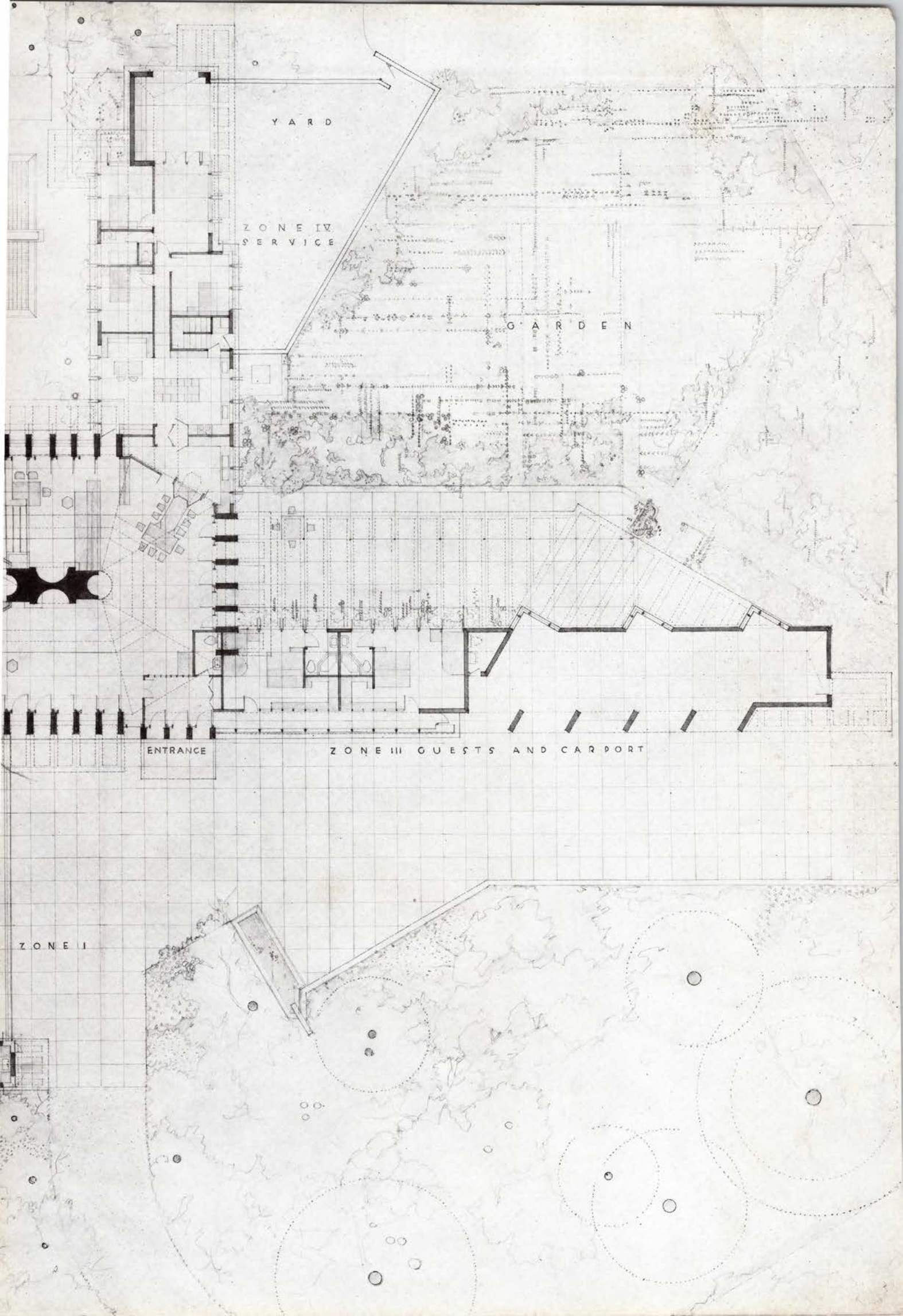
A LIVING ROOM B DINING ROOM C SERVICE WING D MASTER BEDROOM E GUEST-WING F GARDENERS' COTTAGE G GARAGE H STABLES





A COUNTRY DWELLING





YARD

ZONE IV  
SERVICE

GARDEN

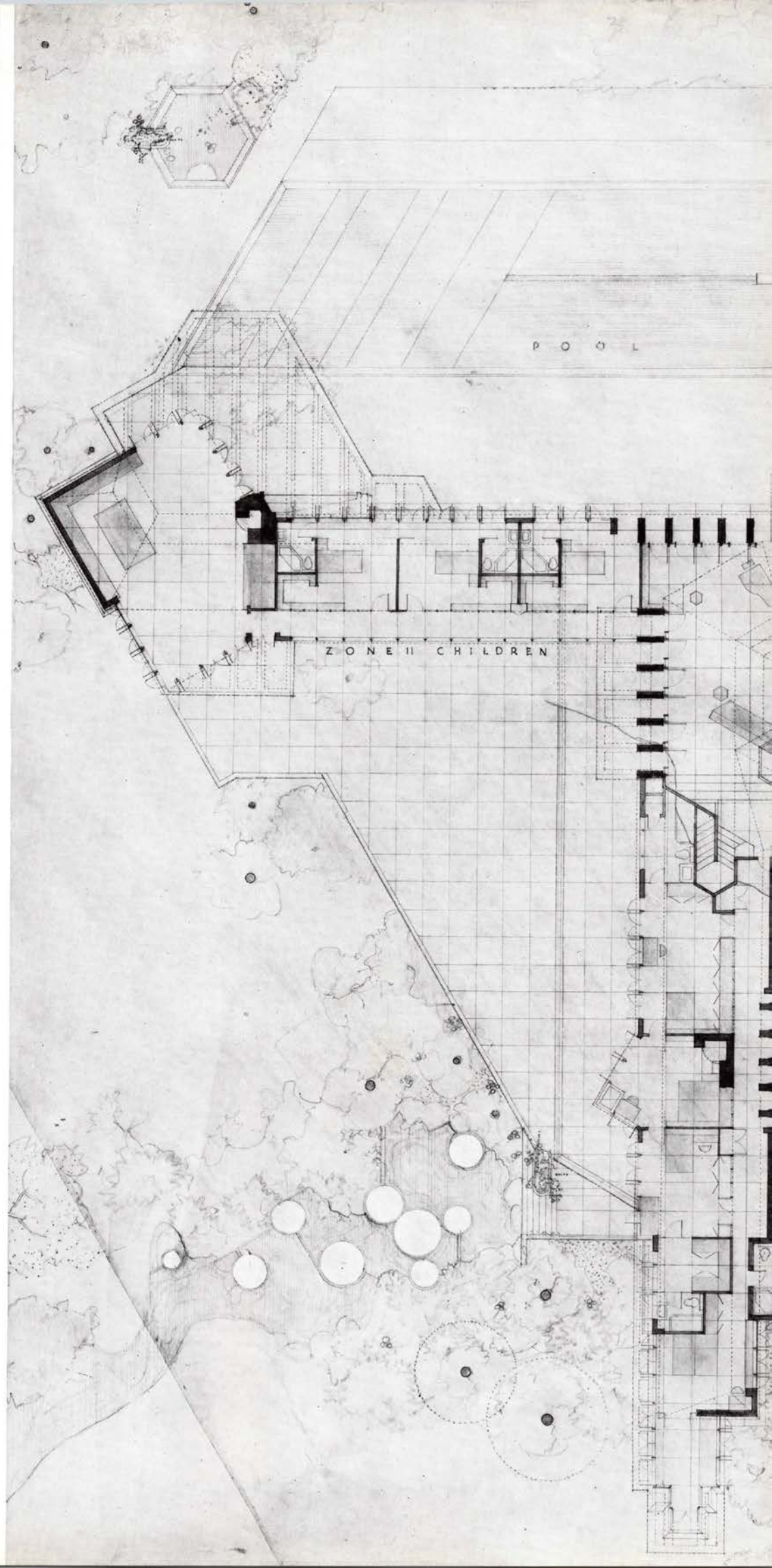
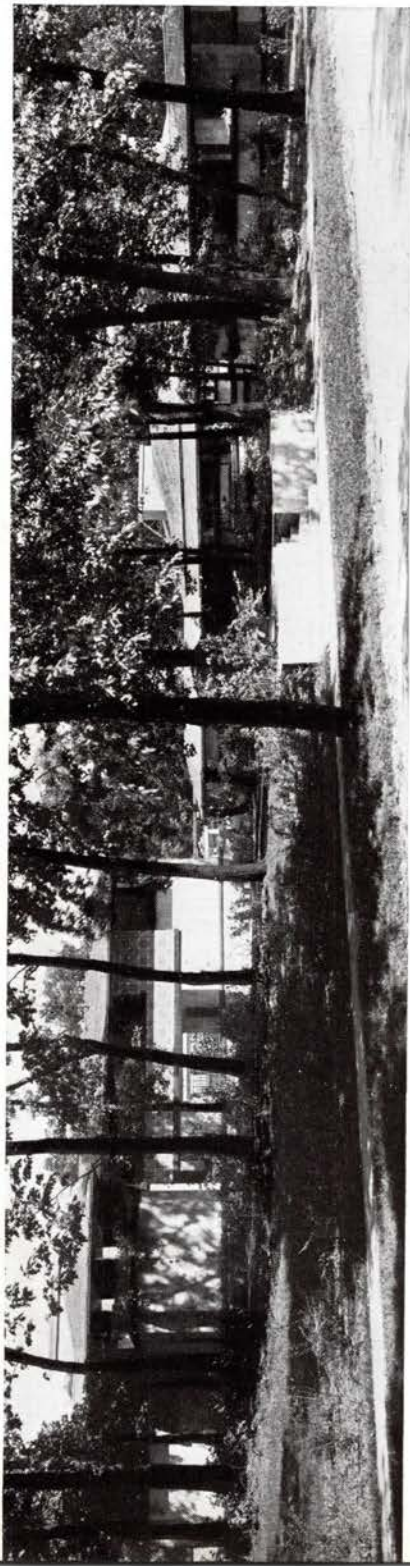
ENTRANCE

ZONE II GUESTS AND CARPORT

ZONE I



GENERAL FLOOR PLAN OF "WINGSPREAD" THE JOHNSON COTTAGE . RACINE . . . ABOVE . TWO VIEWS OF THE COONLEY HOUSE . RIVERSIDE, BY WAY OF CONTRAST

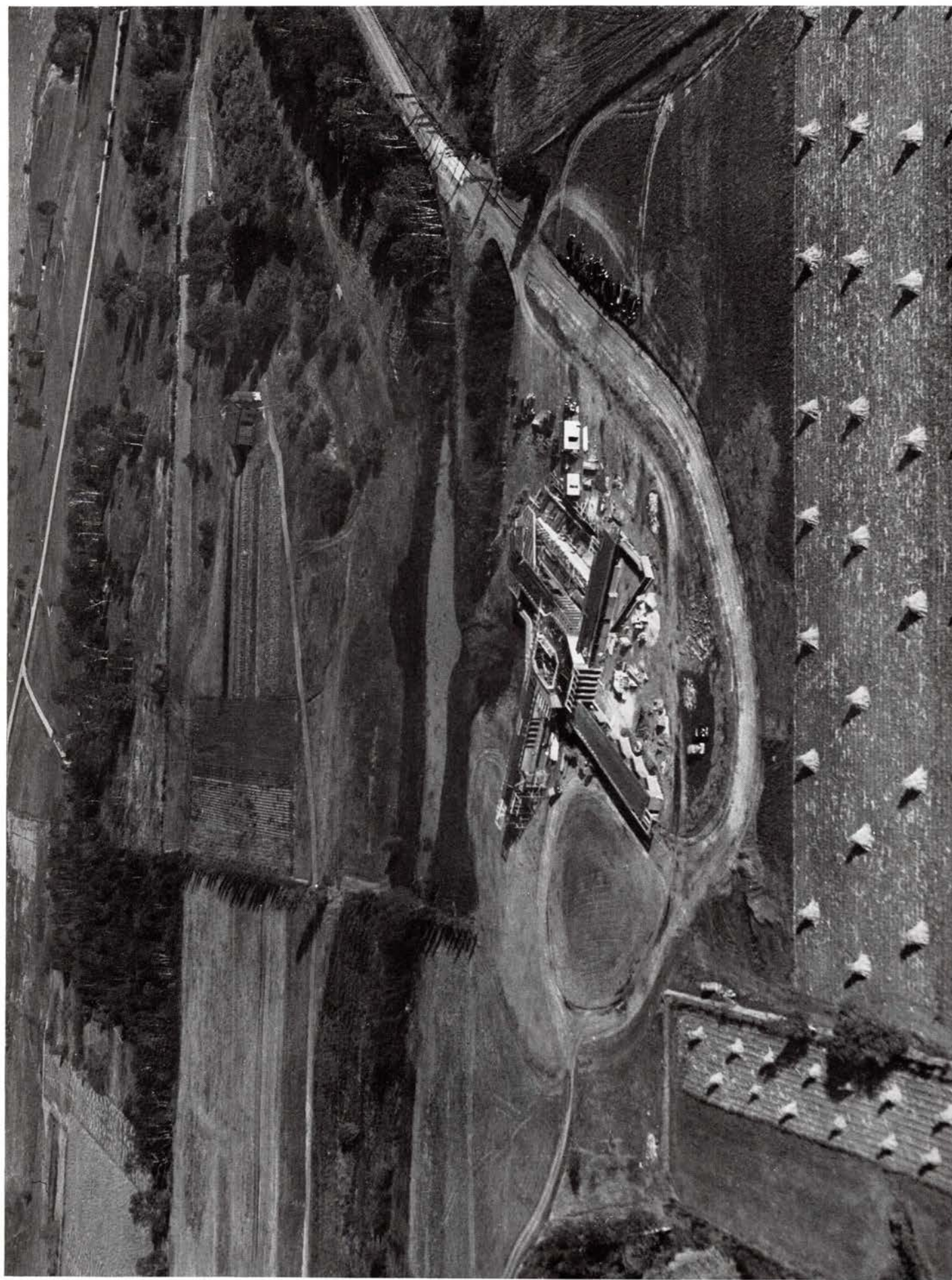






JR.  
OR MR AND MRS HERBERT F JOHNSON  
WINDY POINT RACINE WISCONSIN  
FRANK LLOYD WRIGHT ARCHITECT

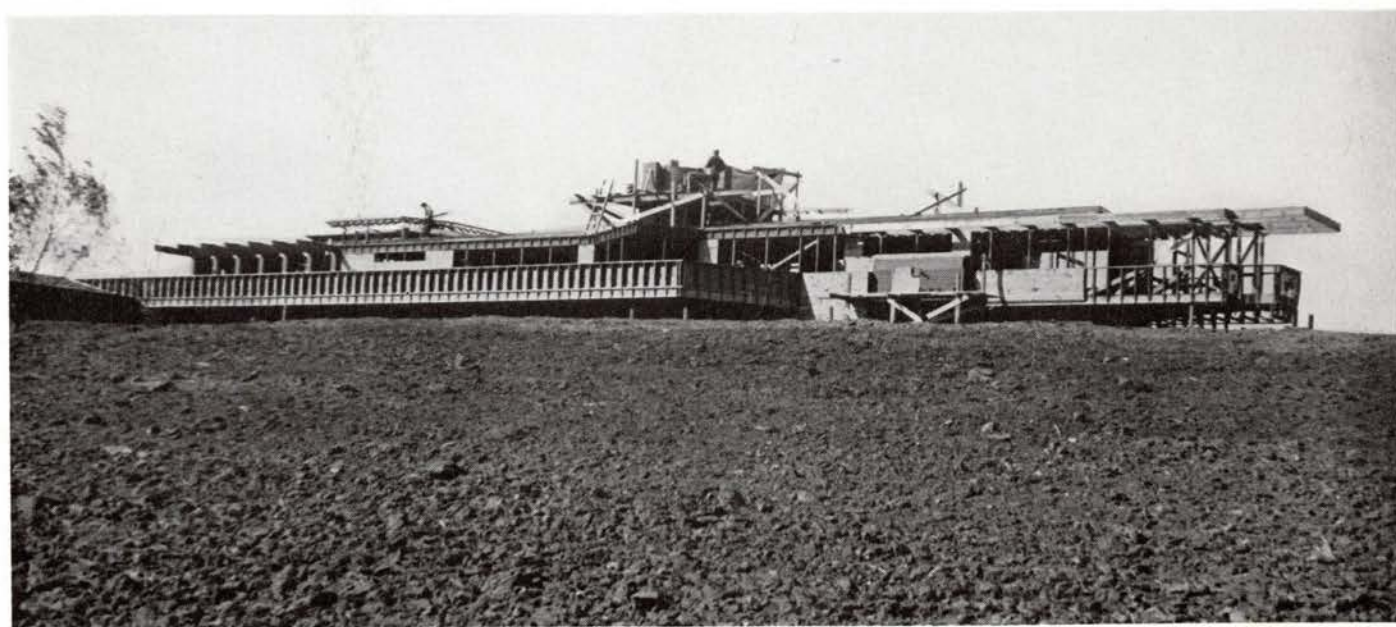
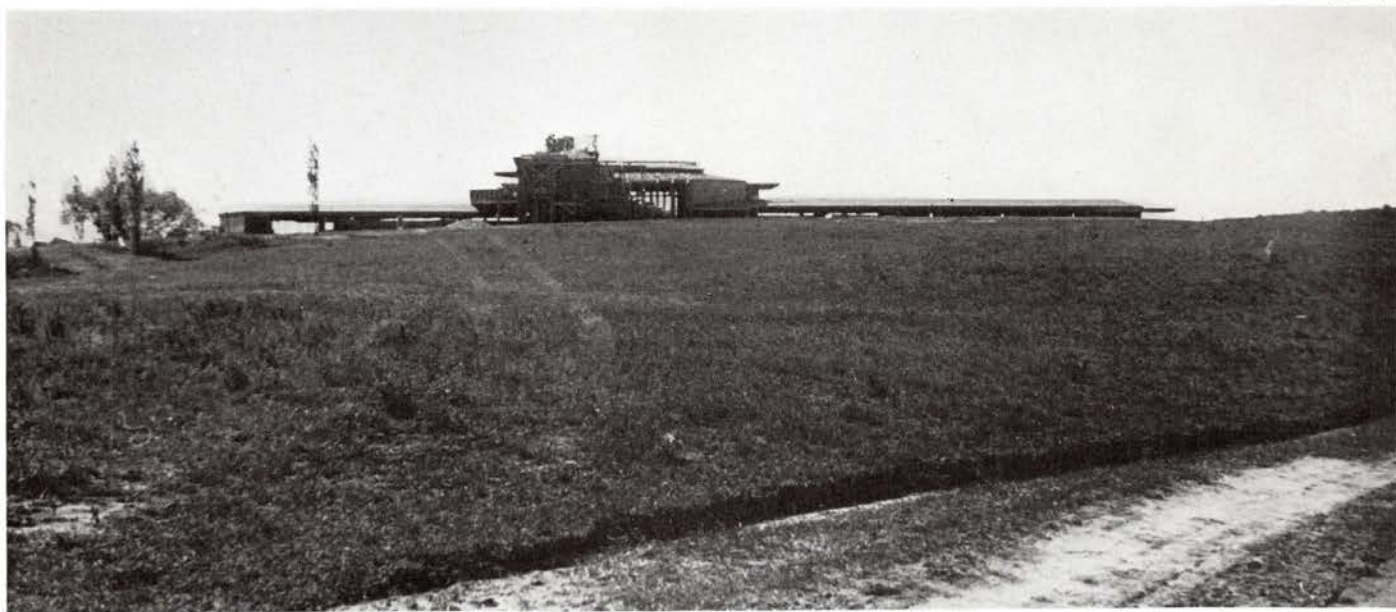




Capitol Journal Times-Sieger



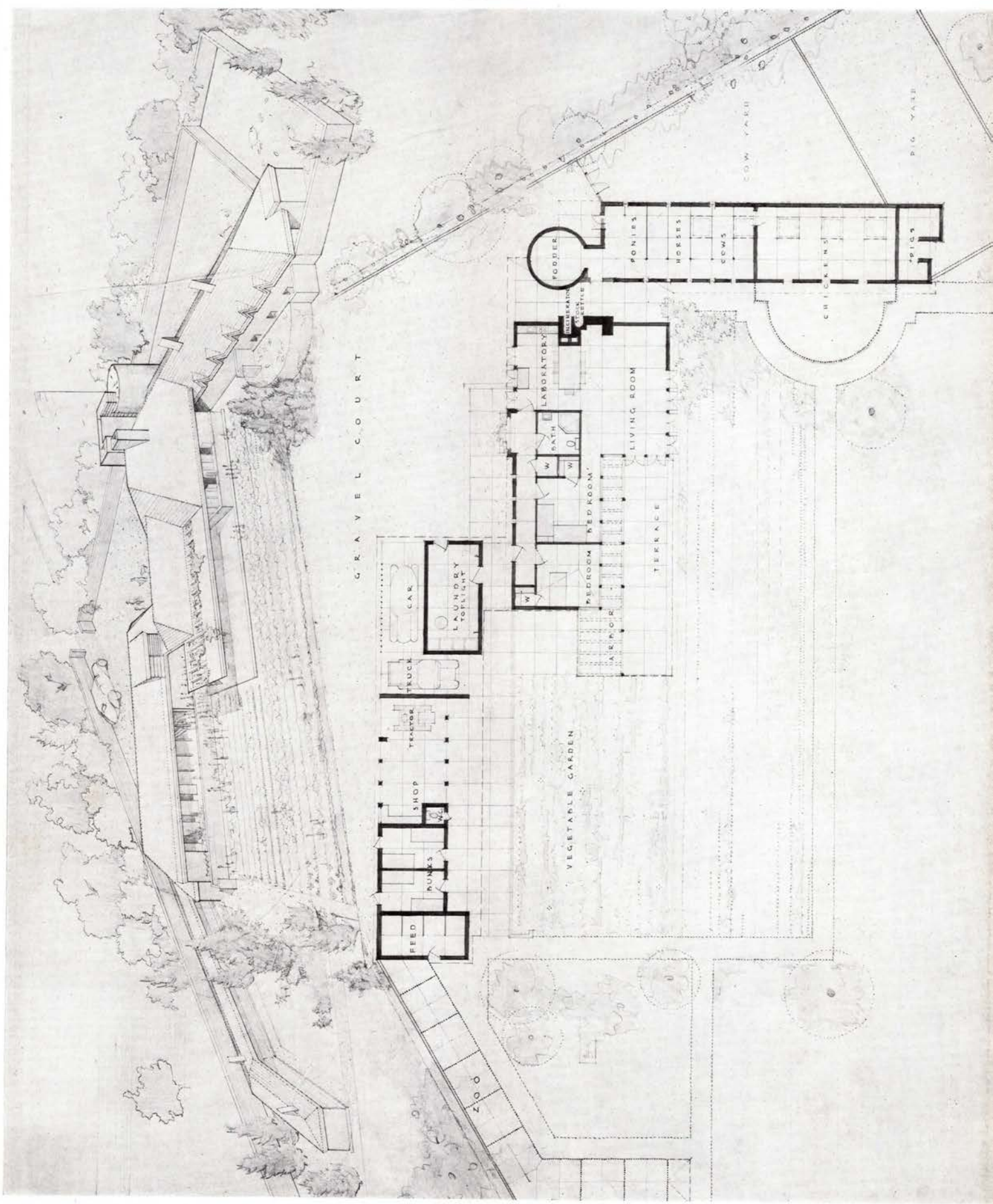
Edgar Tafel



THREE VIEWS OF "WINGSPREAD" . . . NOW UNDER CONSTRUCTION . . . TOP . VIEW FROM POOL . . . MIDDLE . VIEW ON BALCONY SIDE . . . BELOW . CONSTRUCTION DETAIL



PLAN AND PERSPECTIVE OF THE FARM UNIT OF "WINGSPREAD" THE JOHNSON COTTAGE . . . GROUP TO BE BUILT ON FLAT GROUND IN VIEW JUST ACROSS WILD-FOWL POOL





SINCE our favorite depression rendered the complete plans, specifications, and estimates for this winter resort a project merely—although the contract was ready for signature—the economical sum for completion was \$480,000. I record it here so that ideas involved in that work may not be wholly lost.

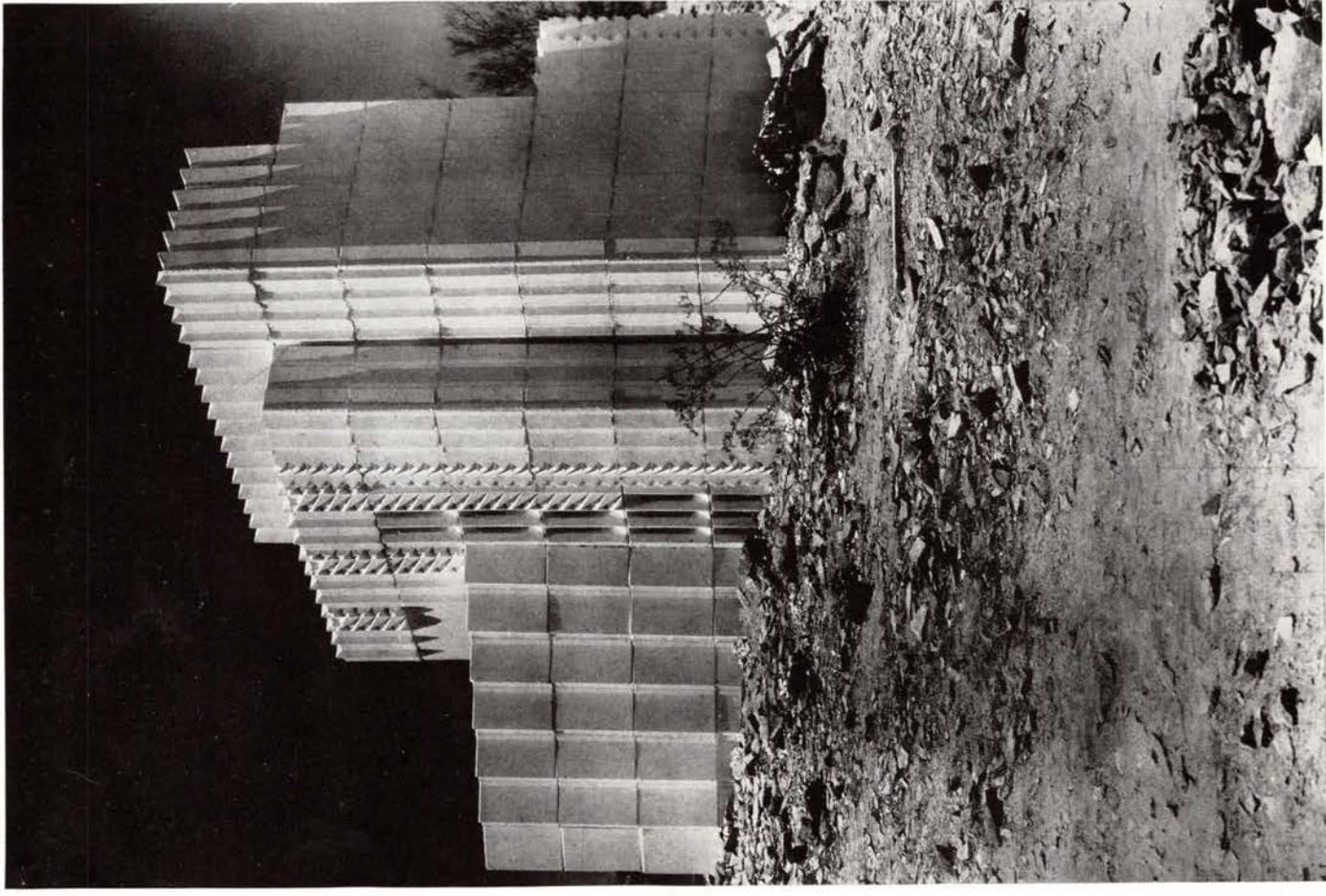
I wanted to experience living in the desert so I might better make the plans. With my family and nine draftsmen I went into camp nearby the site to prepare the plans for this structure. The camp was actually built there by ourselves but as soon as we left, it was carried away by the Indians—so herewith also photographs of Ocatilla—the architect's camp.

San Marcos in the Desert was worked out upon a unit system adapted to the 1-2 or 60-30 triangle because, as you may have noticed, mountain ranges are all 60-30 triangles unless your eye is arrested by an effect produced by one that is equilateral. A cross-section of the talus at the base of the mountains is the hypotenuse of a 30-60 triangle. The camp itself first took the 60-30 form. Compounded, boarded up waist high, canvased on wood framing above that level and overhead, the openings were canvas on wood frames rigged with ship cord to open and shut. Open in the sunlight the camp resembled a fleet of ships sailing down the bay.

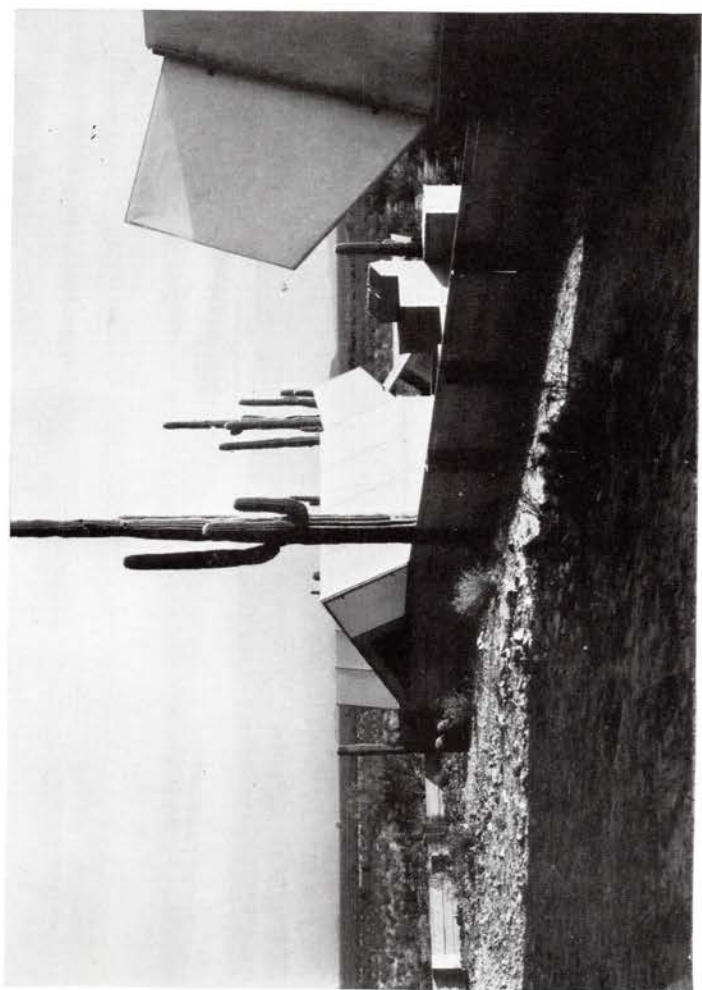
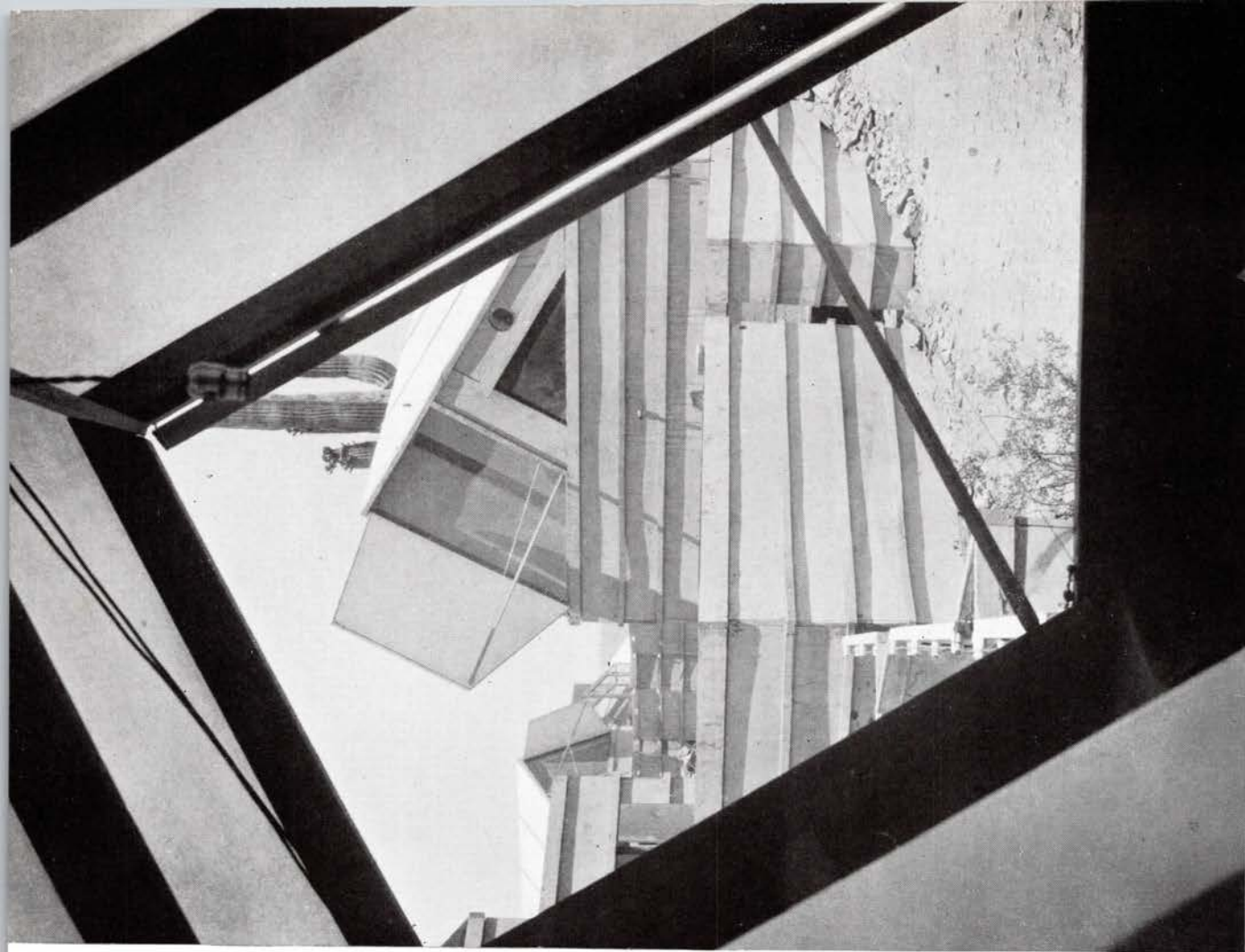
Concrete block construction was on my mind at the time having just seen it through with Albert McArthur in the Arizona Biltmore. I used the surrounding giant growth, Sahuaro, as motive for the building (see texture model erected in the compound of the camp) thus getting dotted lines throughout the construction. Here is another secret—the dotted line is outline in all desert creations. The building was laid out as a system of sunlit terraces conforming to the terrain and the Sahuaro entered into architecture. Dr. Alexander Chandler wanted echo-organ concerts as a feature. This accounts for the tower seen beside the center of the whole: really a cluster of great organ pipes. Echo organs were planted on adjoining hills.

Sunlight poured into every room, bathroom, corridor and closet in the building. For once space concepts became a revel. The building was economical nevertheless—but too good to be true. I have found that when a scheme develops beyond a normal pitch of excellence the hand of fate strikes it down. The Japanese made a superstition of the circumstance. Purposely they leave some imperfection somewhere to appease the jealousy of the gods. I neglected the precaution. San Marcos was not built.

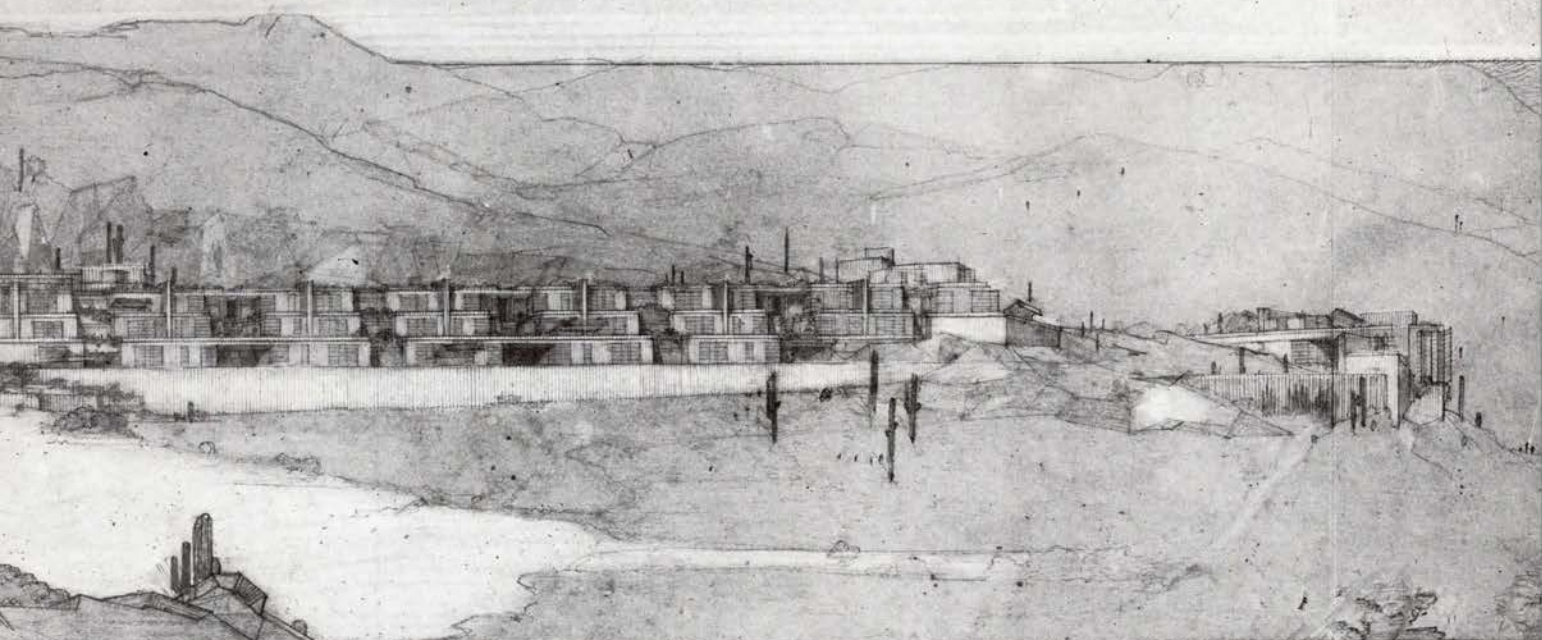
In the vault at Taliesin is this completely developed set of plans, every block scheduled as to quantity and place. These plans are one of our prize possessions.



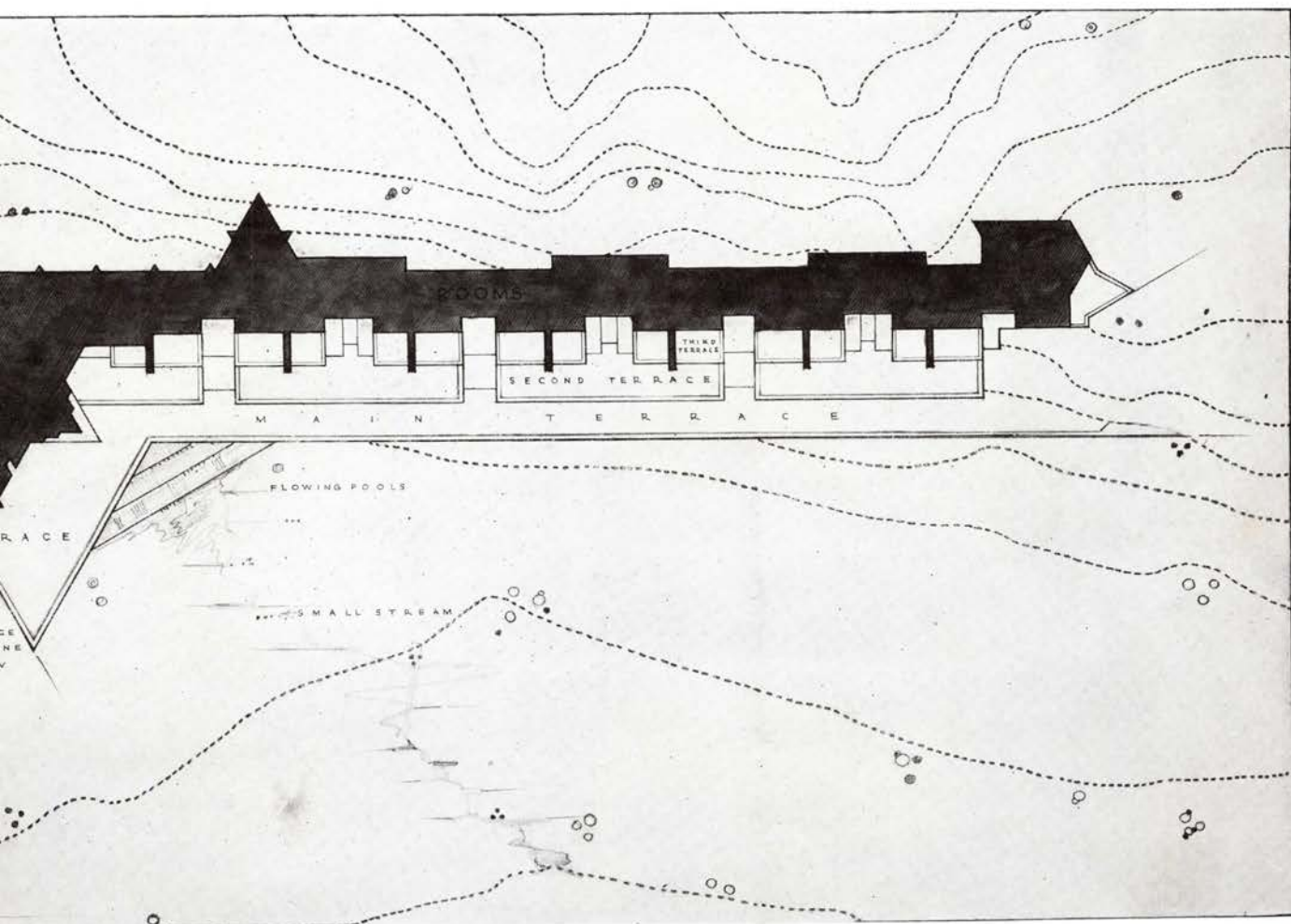




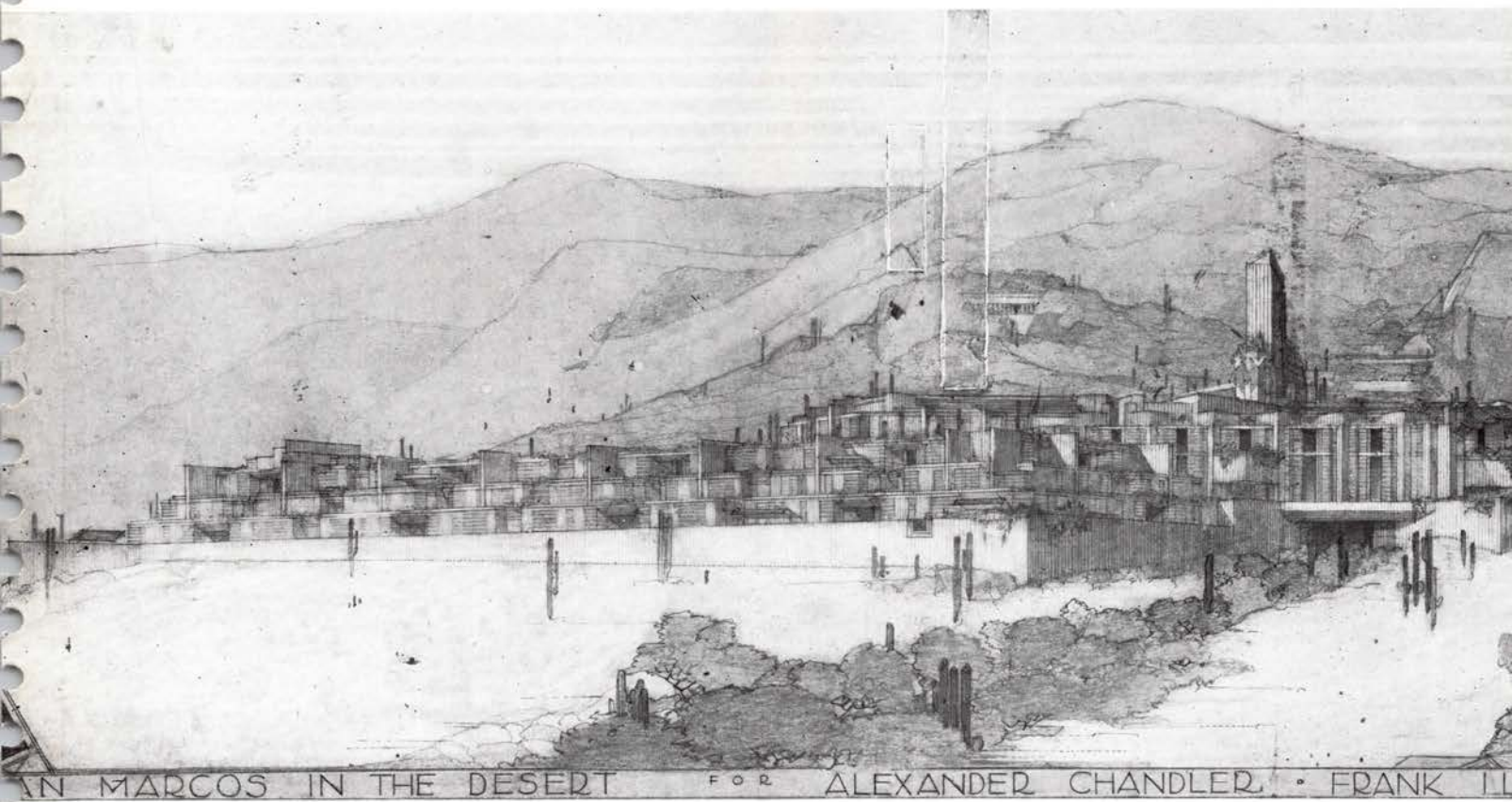




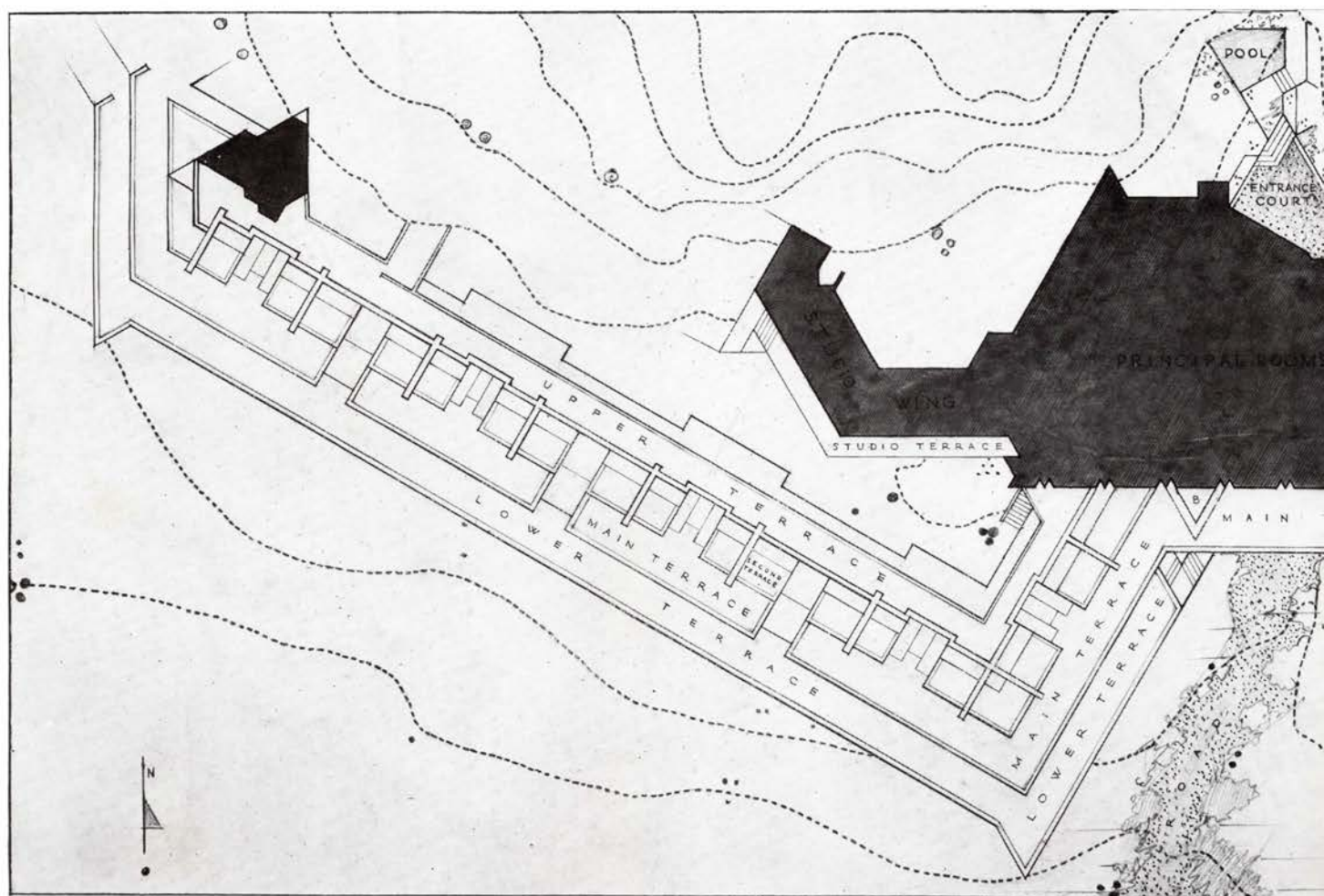
D WRIGHT • ARCHITECT • PERSPECTIVE FROM GATE LODGE







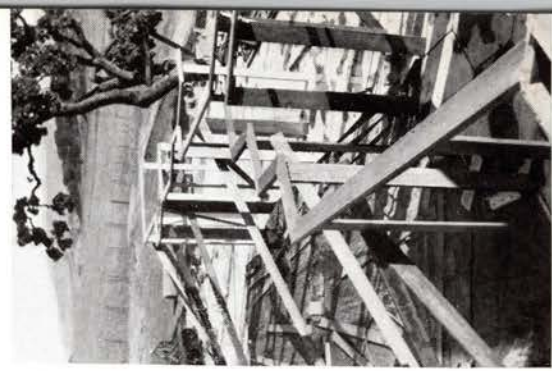
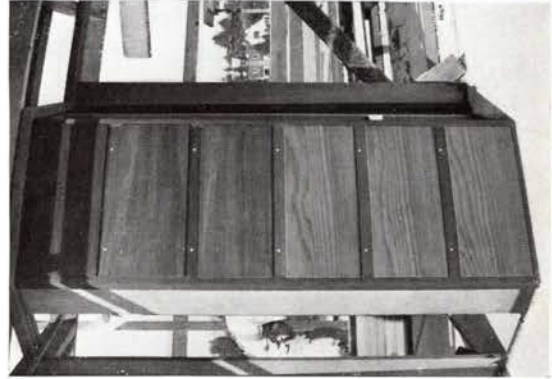
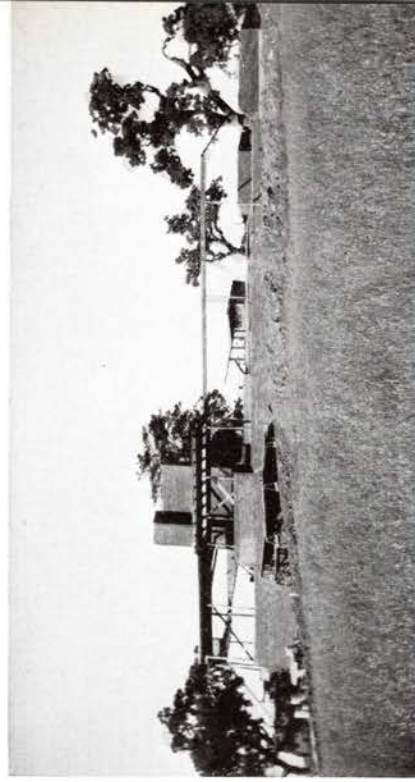
AN MARCOS IN THE DESERT FOR ALEXANDER CHANDLER • FRANK L.



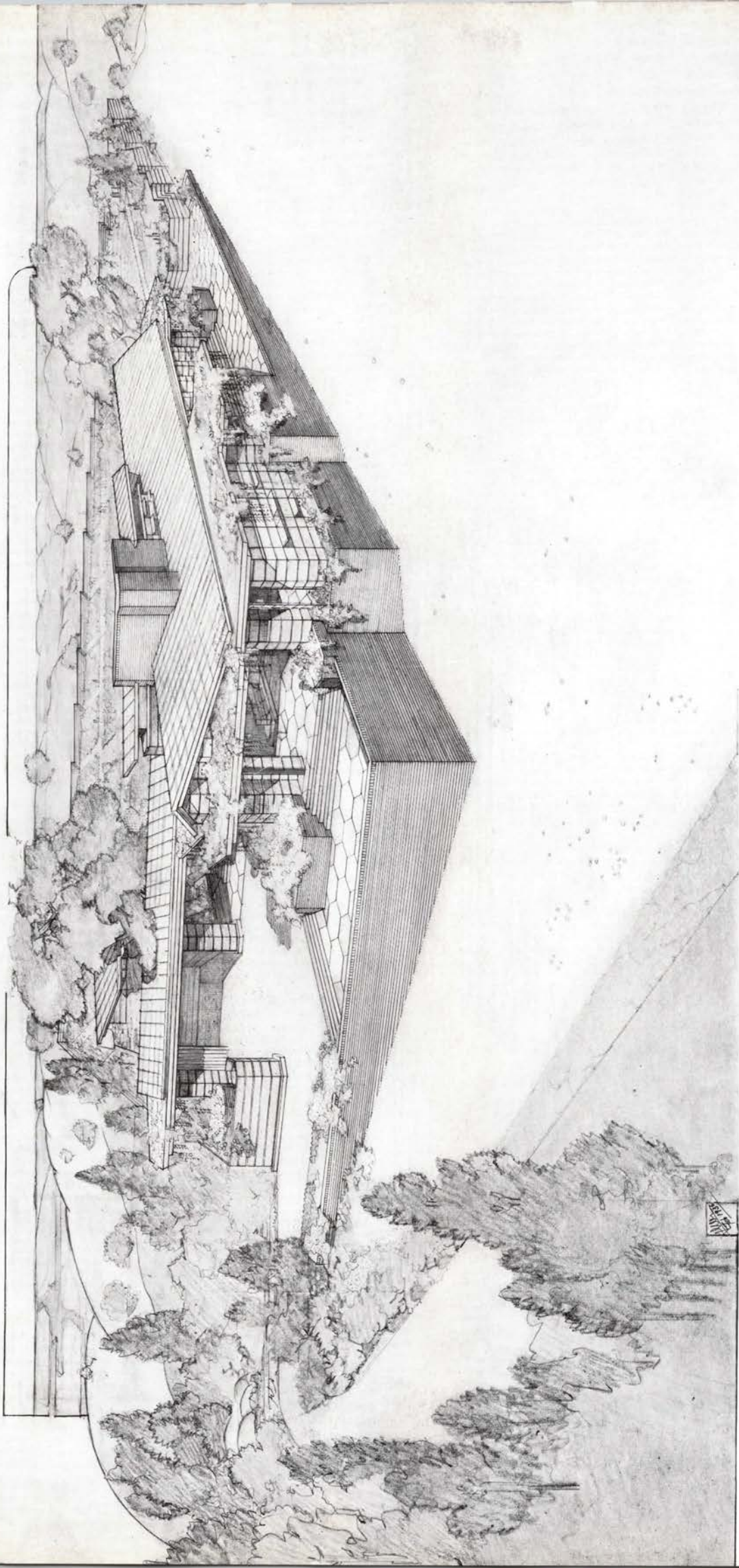


DR. PAUL HANNA of Stanford University has just moved into this house. We shall be able to complete the design only with the furniture and growth of the planting. Here the thesis changes, not in content but in expression. Again we have a preliminary study for prefabrication—also made in humble native materials—principally redwood board-partitions erected on a concrete mat cut into hexagonal tiles. Another experiment because I am convinced that a cross-section of honeycomb has more fertility and flexibility where human movement is concerned than the square. The obtuse angle is more suited to human "to and fro" than the right angle. That flow and movement is, in this design, a characteristic lending itself admirably to life, as life is to be lived in it. The hexagon has been conservatively treated—however, it is allowed to appear in plan only and in the furniture which literally rises from and befits the floor pattern of the concrete slab upon which the whole stands. Heating being no serious matter on the Coast, we have allowed it to go "as is." This model for prefabrication was built by hand, not employing shop methods for which the work was primarily designed. The result is necessarily more expensive than need be were construction to have that advantage.

But the thesis goes far enough to demonstrate the folly of imagining that a true and beautiful house must employ synthetics or steel to be "modern," or go to the factory to be economical. Glass? Yes, the modern house must use glass liberally. Otherwise this house is a simple wood house under a sheet of copper—thin as paper, enough material in the whole construction only to make it substantial. Not a pound to waste. It might be said of this building that it is a plywood house, plywood furnished. To me here is a new lead into a fascinating realm of form, although somewhat repressed on the side of dignity and repose, in this first expression of the idea. I find it easy to take a definite unit of any simple geometric pattern and by modern technologies suited to the purpose, adjusted to human scale, evolve not only fresh appearances but vital contributions to a livelier domesticity. This house goes very far in conservation of space. I hope to demonstrate that no factory can take the house to itself but may itself go to the house. In the hands of one well-versed in the design of patterns for living it may come out continually refreshed by imagination—from within. You prefer what character, what atmosphere, Mrs. Gablemore, Mrs. Plasterbuilt, Miss Flattop? Very well, you shall have it. Only make up your mind as to qualities and character—forgetting that you have "been abroad"—asking only that you get desired character in the qualities you specify. Then you shall have all, with greater convenience and comfort than in the escapist architecture of your escapist lives, today. And have it so much better with so much less waste of money. I am speaking of modern architecture, Usonian, instead of Florentine Mission or Colonial. Or even the Museum style to which the "modern" seems converting the "classics." The new Reality of which I bespeak is in this house, with certain reservations needful at the moment. Appreciative clients not afraid they are going to be made ridiculous were essential to this experiment. Without such help as Paul Hanna and his wife Jean gave to this experiment with their lives, nothing could ever have really happened in that direction. University City would have had just another one of those things—nice things but nevertheless just "things." And we should mention Harold Turner the builder who "took" to these ideas and did well with them considering the difficulties of this new venture into space-concepts erected in slight materials by new methods entirely.









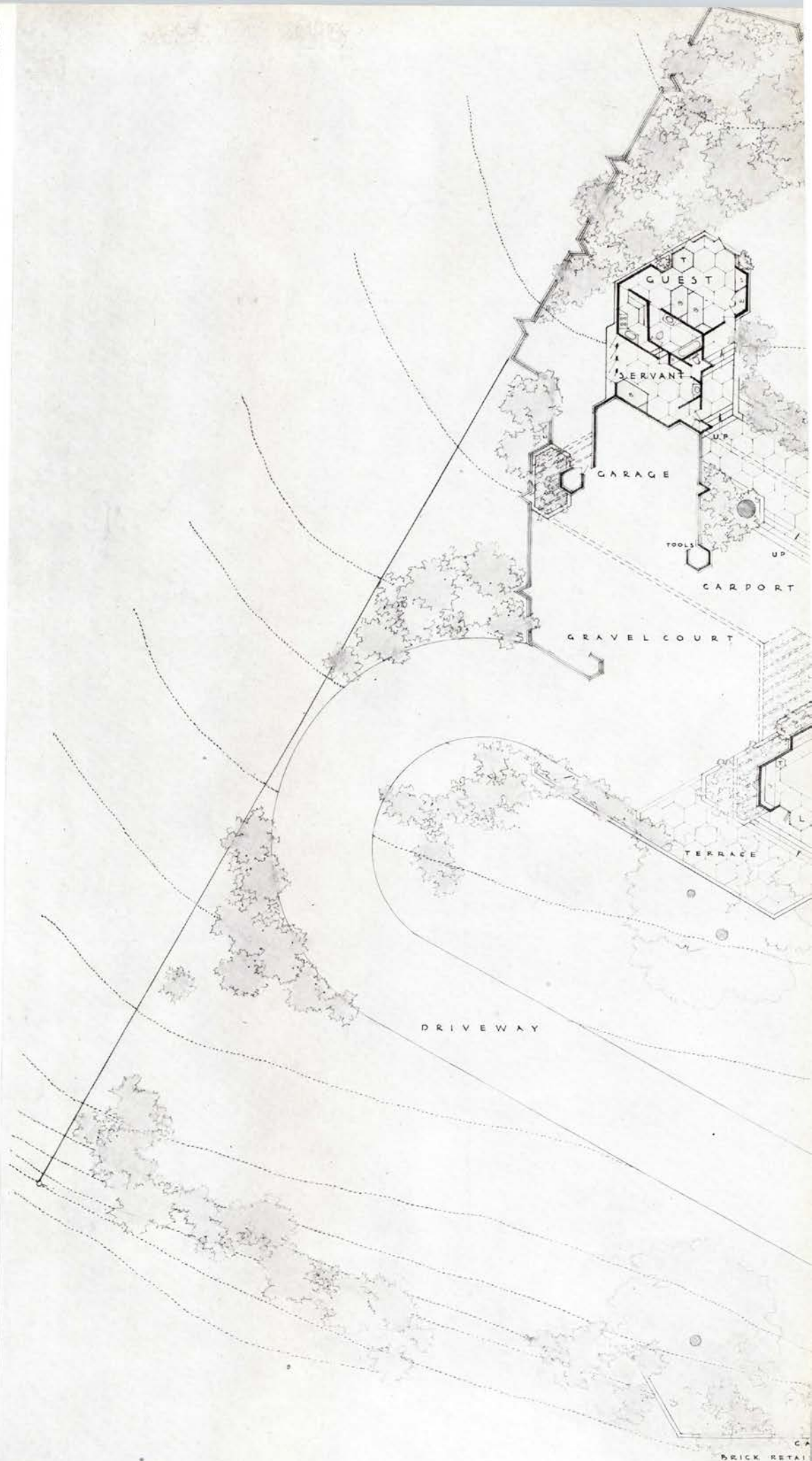




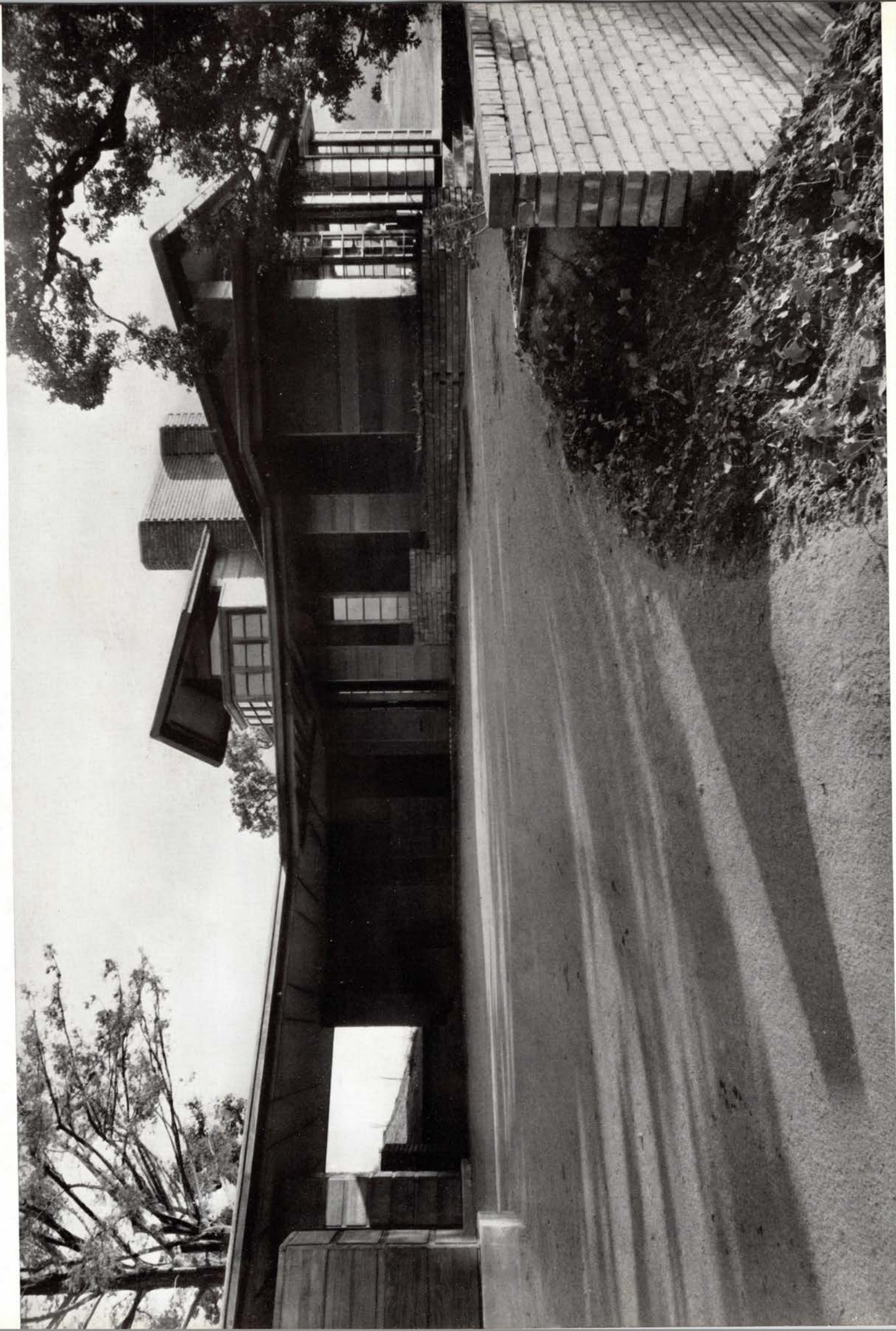
WISDOM IS NOT FINALLY TESTED IN SCHOOLS, WISDOM CANNOT BE PASSED FROM ONE HAVING IT TO ANOTHER NOT HAVING IT, WISDOM IS OF THE SOUL, IS NOT SUSCEPTIBLE OF PROOF, IS ITS OWN PROOF . . . SOMETHING THERE IS IN THE FLOAT OF THE SIGHT OF THINGS THAT PROVOKES IT OUT OF THE SOUL. NOW I RE-EXAMINE PHILOSOPHIES AND RELIGIONS, THEY MAY PROVE WELL IN LECTURE-ROOMS, YET NOT PROVE AT ALL UNDER THE SPACIOUS CLOUDS AND ALONG THE LANDSCAPE AND FLOWING CURRENTS.

WALT WHITMAN

GENERAL GROUND PLAN OF "HONEYCOMB" HOME OF DR. PAUL HANNA, STANFORD UNIVERSITY, CALIFORNIA . . . THE HEXAGONAL HONEYCOMB UNIT-SYSTEM IN FULL FLOWER







DRIVEWAY ENTRANCE TO THE HANNA HOUSE SHOWING CARPORT... CHARACTERISTIC SILHOUETTE OF THIS MODERN WOOD HOUSE... PHOTOGRAPHED DURING CONSTRUCTION



INTERIOR OF LIVING ROOM IN HANNA HOUSE . FEATURES AND FURNITURE ARE DESIGNED WITH THE HEXAGON AS BASIC PATTERN . RUGS AND UPHOLSTERY STILL ABSENT



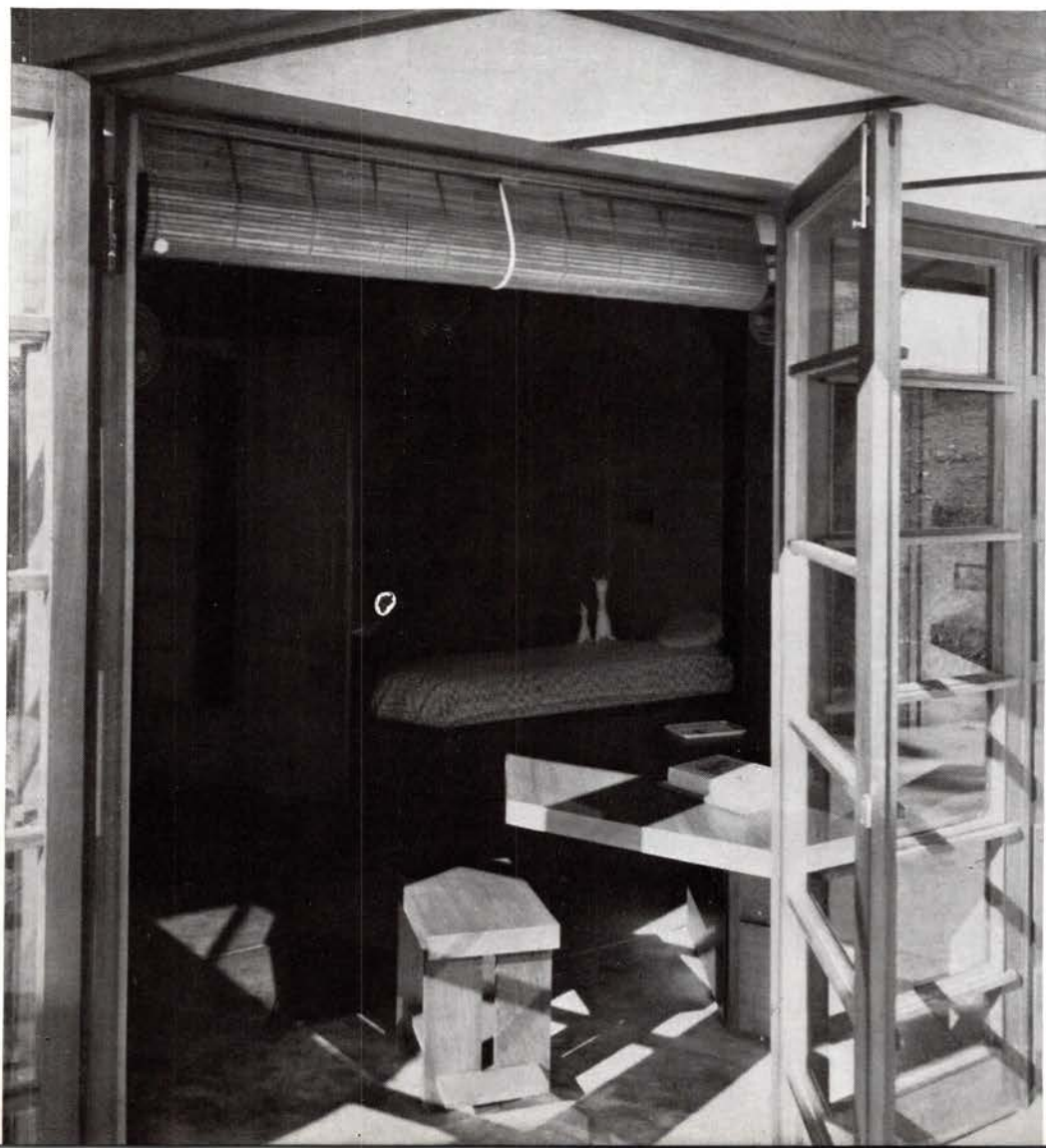




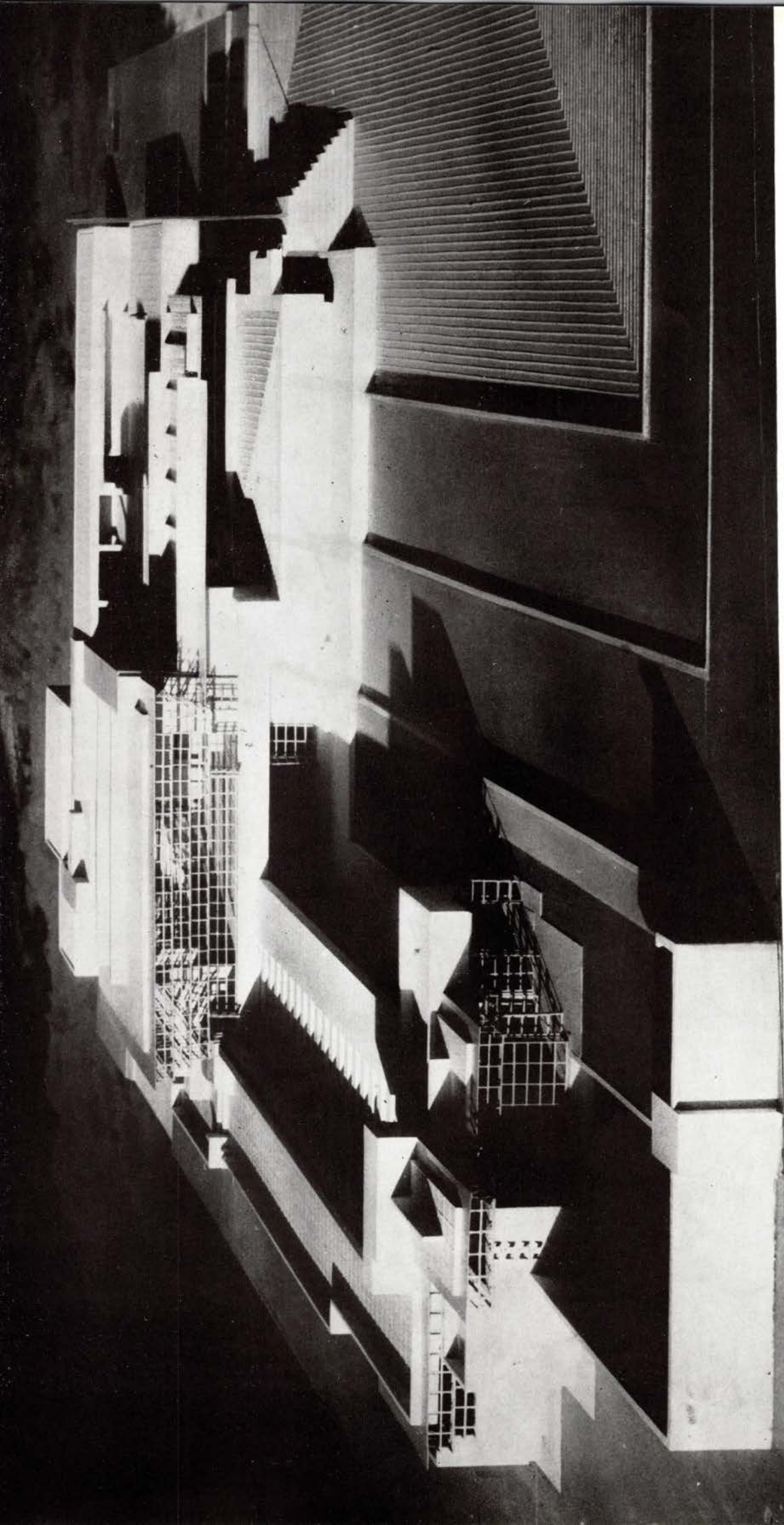
EXTERIOR VIEW OF THE LIVING ROOM TAKEN DURING CONSTRUCTION . . . INTERIOR VIEW OF THE LIVING ROOM IN SUNLIGHT LOOKING FROM INTERIOR TO INTERIOR



INTERIOR OF LIVING ROOM - LOOKING FROM "OUTSIDE" INTO ONE OF THE CHILDREN'S BEDROOMS - DETAIL OF KITCHEN-LABORATORY SCREEN AND LIVING ROOM

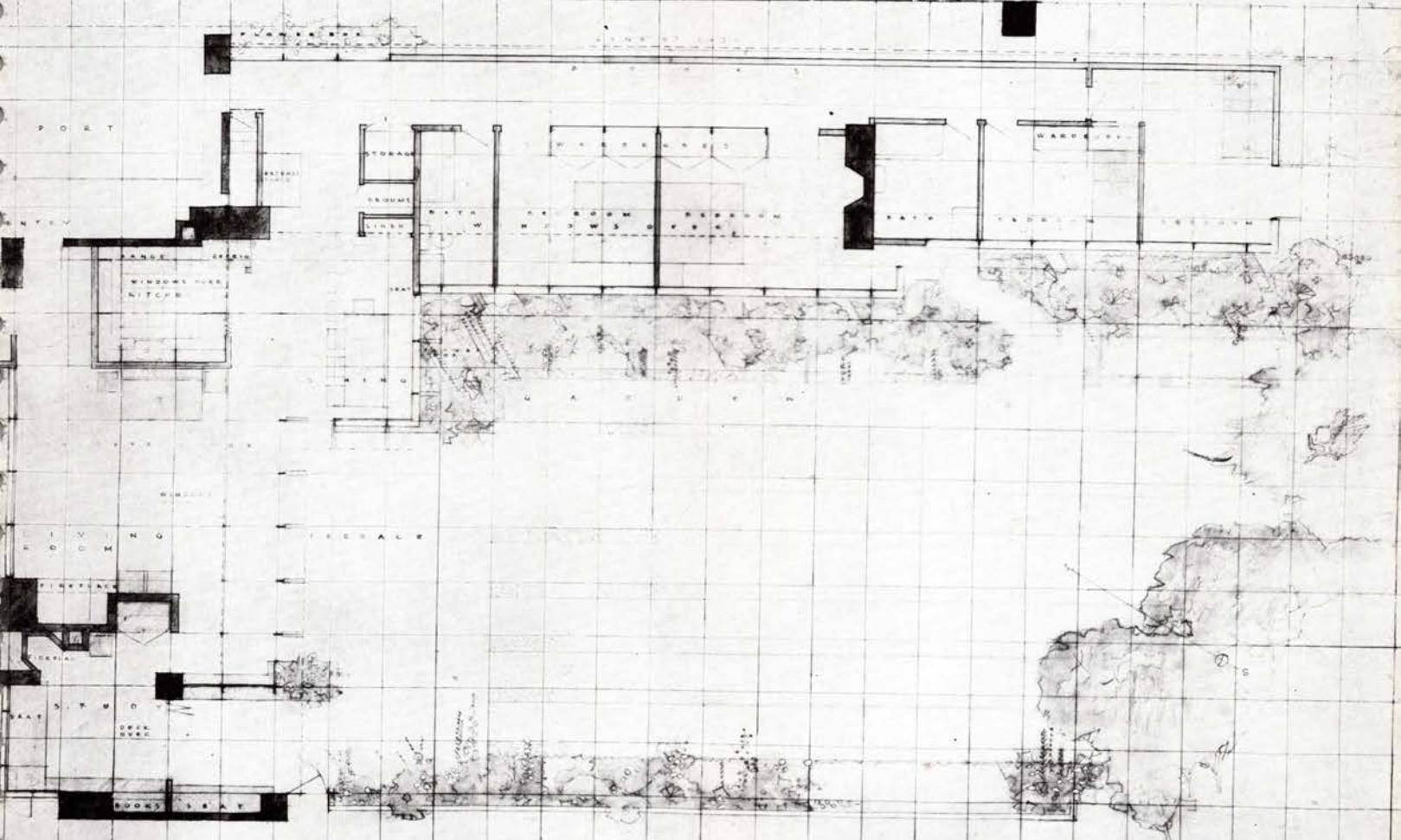
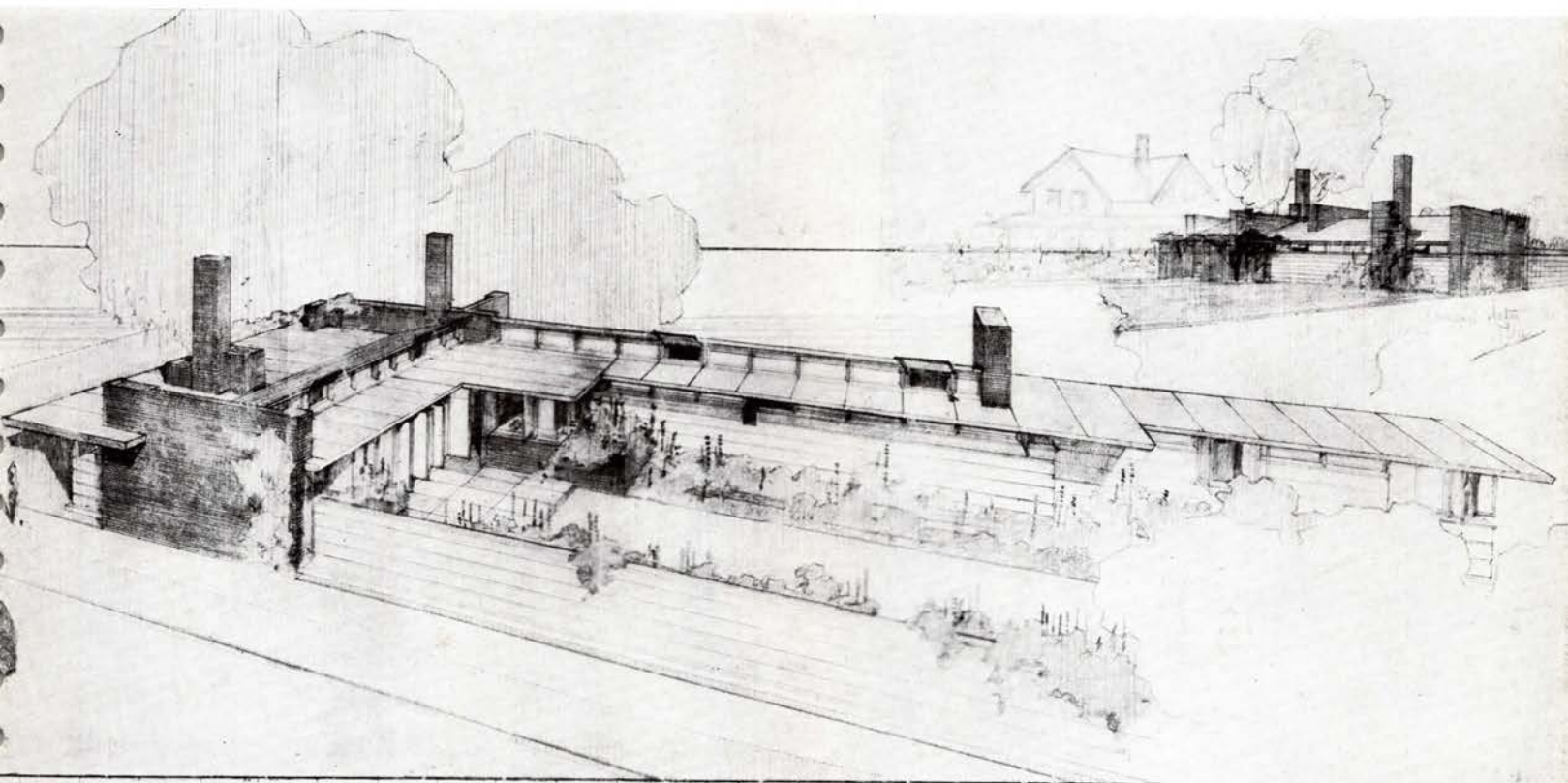






THE HOUSE ON THE MESA, THE FIVE-CAR HOUSE OF THE BROADACRE CITY MODELS, IS INTENDED TO SHOW MACHINE AGE LUXURY AT ITS BEST—AS IT MIGHT WELL COMPARE TO ITS GREAT ADVANTAGE WITH ANY LUXURY WHATSOEVER OF THE PAST. CONTRASTED WITH THIS LUXURY THERE ARE SO MANY OTHER UNITS, RANGING IN CHARACTER FROM A ONE-CAR WORKMAN'S COTTAGE TO THIS FIVE-CAR HOUSE, THE NEW THEATER, THE LITTLE FARMS UNIT—IN SHORT, EVERY BUILDING PROBLEM OF OUR USONIA OF TODAY, THAT NO ATTEMPT IS MADE TO INCLUDE IT HERE. IT WILL BE ADEQUATELY TREATED AT LENGTH IN A SUBSEQUENT PRESENTATION IN SCALE WITH ITS IMPORTANT CHARACTER. A PATTERN FOR LIFE IN OUR COUNTRY MORE IN KEEPING WITH OUR MACHINE AGE ADVANTAGES IMPLIES AGRARIAN AS WELL AS INDUSTRIAL DEVELOPMENT. BROADACRE CITY IS A FREE PATTERN FOR THE CITY WHICH IS NOW READY TO APPEAR AS EVERYWHERE.





FOR MR ROBERT D LUSK AT HURON SOUTH DAKOTA  
FRANK LLOYD WRIGHT ARCHITECT

USONIAN TYPE



THE house of moderate cost is not only America's major architectural problem but the problem most difficult for her major architects. As for me, I would rather solve it with satisfaction to myself and Usonia, than build anything I can think of at the moment except the modern theater now needed by the legitimate drama unless "the stage" is to be done to death by "the movies."

In our country the chief obstacle to any real solution of the moderate-cost house-problem is the fact that our people do not really know how to live, imagining their idiosyncrasies to be their "tastes," their prejudices to be their predilections and their ignorance to be virtue where any beauty of living is concerned.

To be more specific, a small house on the side street might have charm if it didn't ape the big house on the avenue, just as the Usonian village itself might have great charm if it didn't ape the big town. Likewise, Marybud on the old farm might be charming in clothes befitting her state and her work, but is only silly in the Sears-Roebuck finery that imitates the clothes of her city sisters who imitate Hollywood stars with their lipstick, rouge, high heels, silk-stockings, bell skirt and cock-eyed hat. Exactly that sort of "monkeyfied" business is the obstacle to architectural achievement in our U. S. A. This provincial "culture-lag" does not allow the person, thing or thought to be simply and naturally itself: the true basis of genuine culture.

I am certain that any approach to the new house needed by indigenous culture—why worry about the house wanted by provincial ignorance—is fundamentally different. That house must be a pattern for more simple and, at the same time, more gracious living: new, but suitable to living conditions as they might so well be in the country

we live in today.

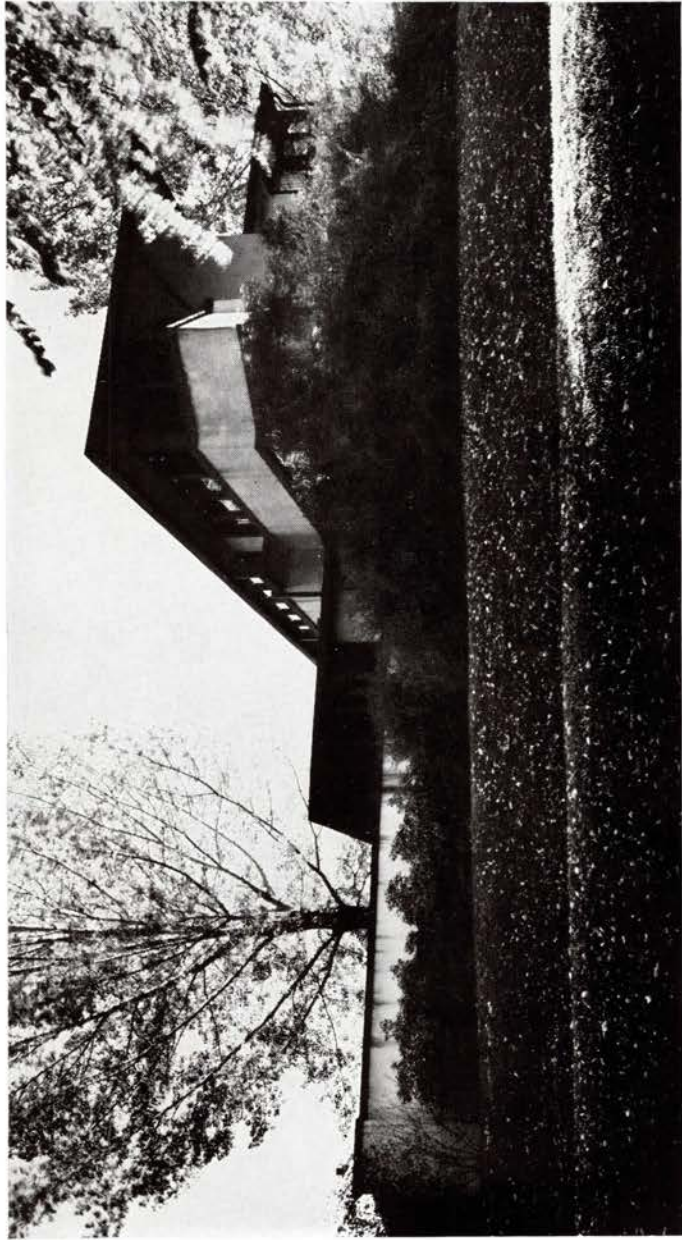
This needed house of moderate cost must sometime face reality. Why not now? The houses built by the million, which journals propagate, do no such thing. To me such houses are "escapist" houses, putting on some style or other, really having none. Style **is** important. A style is not. There is all the difference when we work **with** style and not for a style. But so little honest thought has been allowed to penetrate to living conditions among us that to write about them and even to build for them seems foolish enough although seen to be necessary.

A pressing, needy, hungry, confused issue is the American "small house" problem. But where is a better thing to come from while government housing itself is only perpetuating the old stupidities? I do not believe the needed house can come from current education, from big business, or by

way of smart advertising experts. I do not think it will be a matter of expert salesmanship at all unless common sense has dropped to that level in America. It is, first, common sense that might take us along the road to the better thing.

What would be really sensible in this matter? Let's see how far the Herbert Jacobs house at Madison, Wisconsin, is a sensible house. This house for a young journalist, his wife, and small daughter, is now under roof: cost \$5,500, including architect's fee of \$450. Contract let to Bert Groves.

To give the little Jacobs family the benefit of industrial advantages of the era in which they live, something else must be done for them than to plant another little imitation of a mansion. Simplifications must take place. Mr. and Mrs. Jacobs must themselves see life in somewhat simplified terms. What are essentials in their case,



Herbert Jacobs



a typical case? It is necessary to get rid of all unnecessary materials in construction, necessary to use the mill to good advantage, necessary to eliminate, so far as possible, field labor which is always expensive. It is necessary to consolidate and simplify the three appurtenance systems—heating, lighting, and sanitation. At least this must be done if we are to achieve the sense of spaciousness and vista already necessary. And it would be ideal to complete the building in one operation as it goes along, inside and outside. One operation and the house is finished inside as it is completed outside. There should be no complicated roofs. Every time a hip or valley or a dormer window is allowed to ruffle a roof the life of the building is threatened. The way windows are used is naturally the most useful resource to achieve the new characteristic sense

of space. All of this fenestration can be made ready at the factory and set up as the walls. But there is no longer any sense in speaking of doors and windows. These walls are largely a system of fenestration having its own part in the building scheme—the system being as much a part of the design as eyes are a part of the face. Now what can be eliminated?

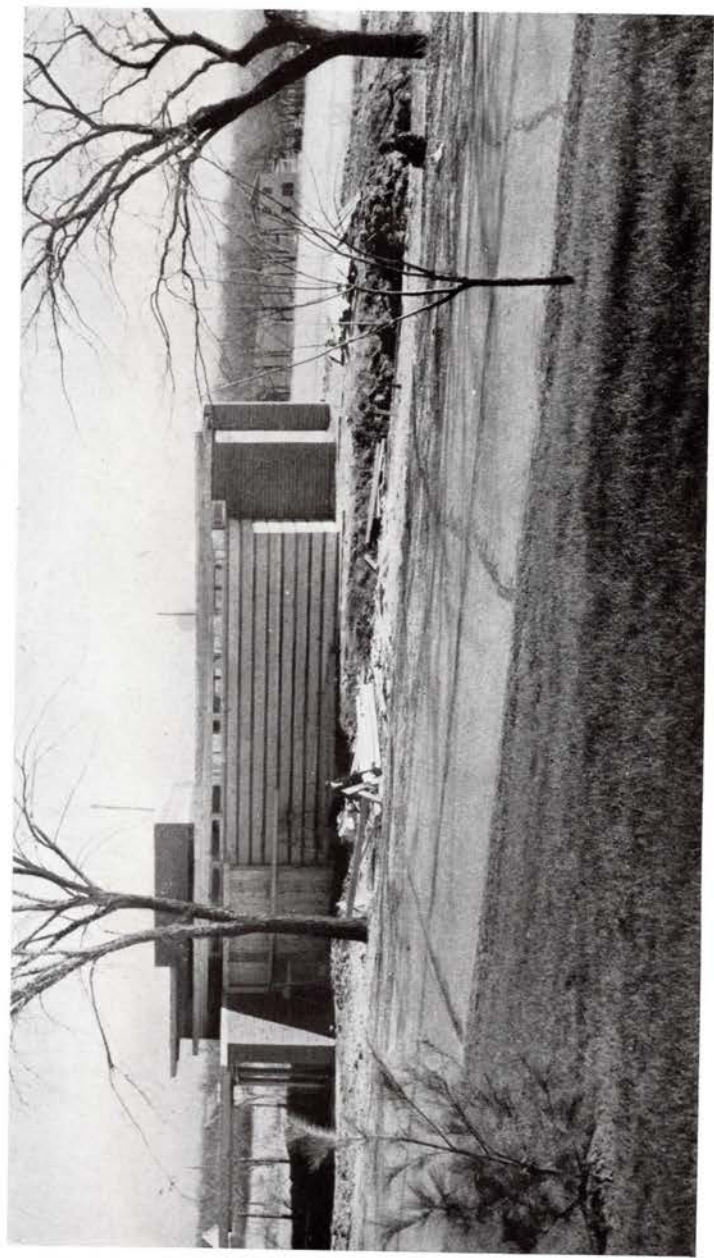
1. Visible roofs are expensive and unnecessary.
2. A garage is no longer necessary as cars are made. A carport will do, with liberal overhead shelter and walls on two sides.
3. The old-fashioned basement, except for a fuel and heater space was always a plague spot. A steam-warmed concrete mat four inches thick laid directly on the ground over gravel filling, the walls set upon that, is better.
4. Interior "trim" is no longer necessary.

5. We need no radiators, no light fixtures. We will heat the house the Roman way—that is to say—in or beneath the floors, and make the wiring system itself be the light fixtures, throwing light upon the ceiling. Light will thus be indirect except for a few outlets for floor lamps.
6. Furniture, pictures and bric-a-brac are unnecessary except as the walls can be made to include them or be them.
7. No painting at all. Wood best preserves itself. Only the floor mat need be waxed.
8. No plastering in the building.
9. No gutters, no down spouts.

Now to assist in general planning, what must or may we use in our new construction? In this case five materials: wood, brick, cement, paper, glass. To simplify fabrication we must use the horizontal unit system in construction. (See lines crossing plans both ways making rectangles 2 x 4 ft.) We must also use a vertical unit system which will be the boards and batten-bands themselves, interlocking with the brick courses.

The walls will be wood board-walls the same inside as outside—three thicknesses of boards with paper placed between them, the boards fastened together with screws. These slab-walls of boards will be high in insulating value, be vermin proof, and practically fireproof. These walls like the fenestration may be prefabricated on the floor and raised up into place, or they may be made at the mill.

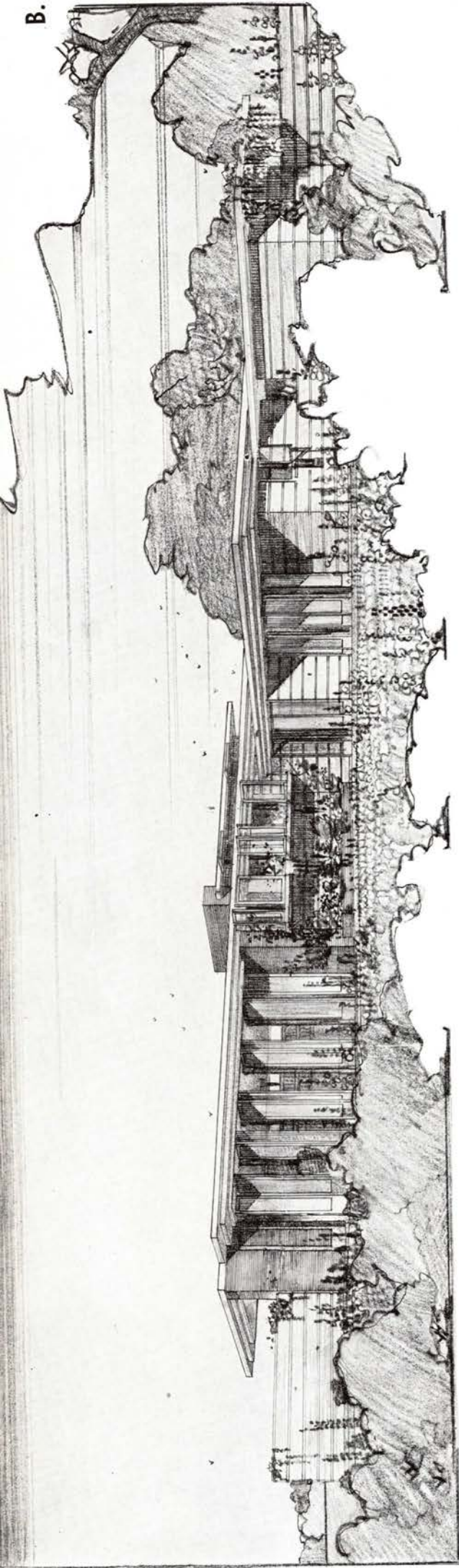
The appurtenance systems to avoid cutting and complications, must be an organic part of construction. Yes, we must have polished plate glass. It is one of the things we have at hand to gratify the designer of the truly modern house and bless its occupants.



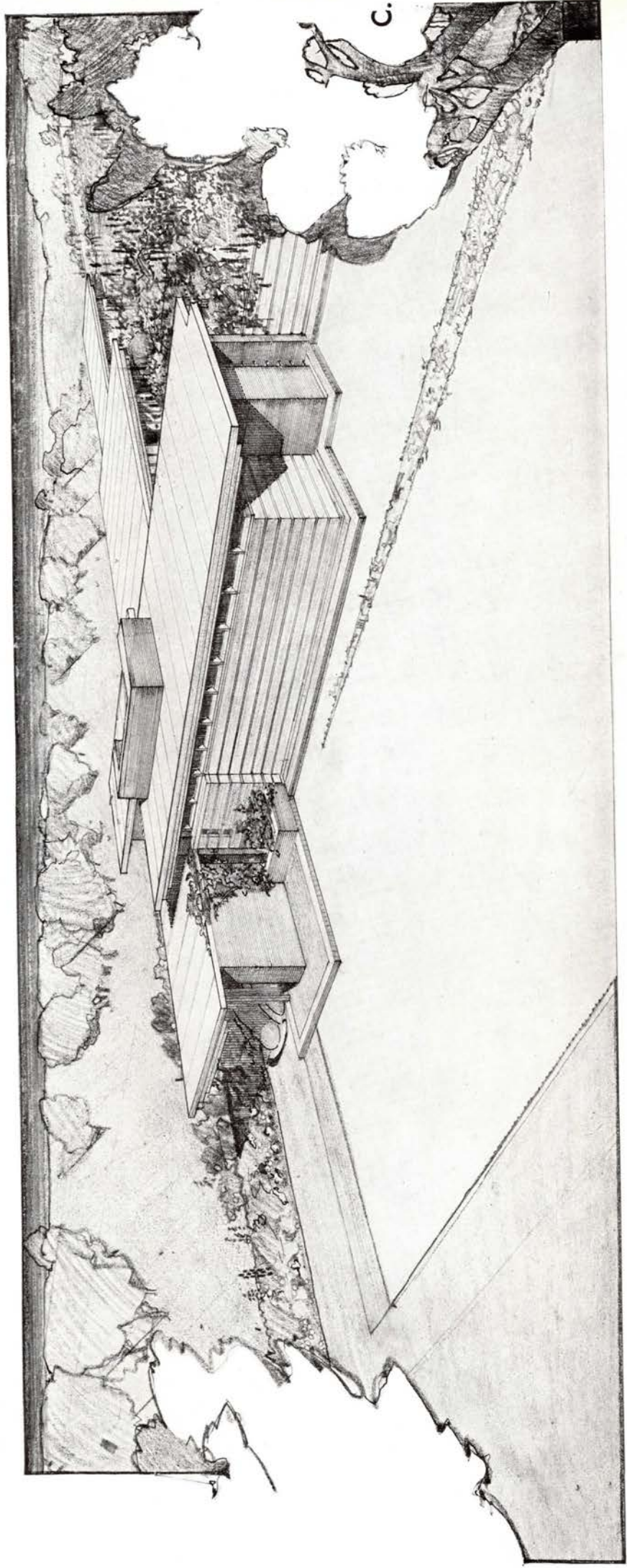
Roy E. Peterson



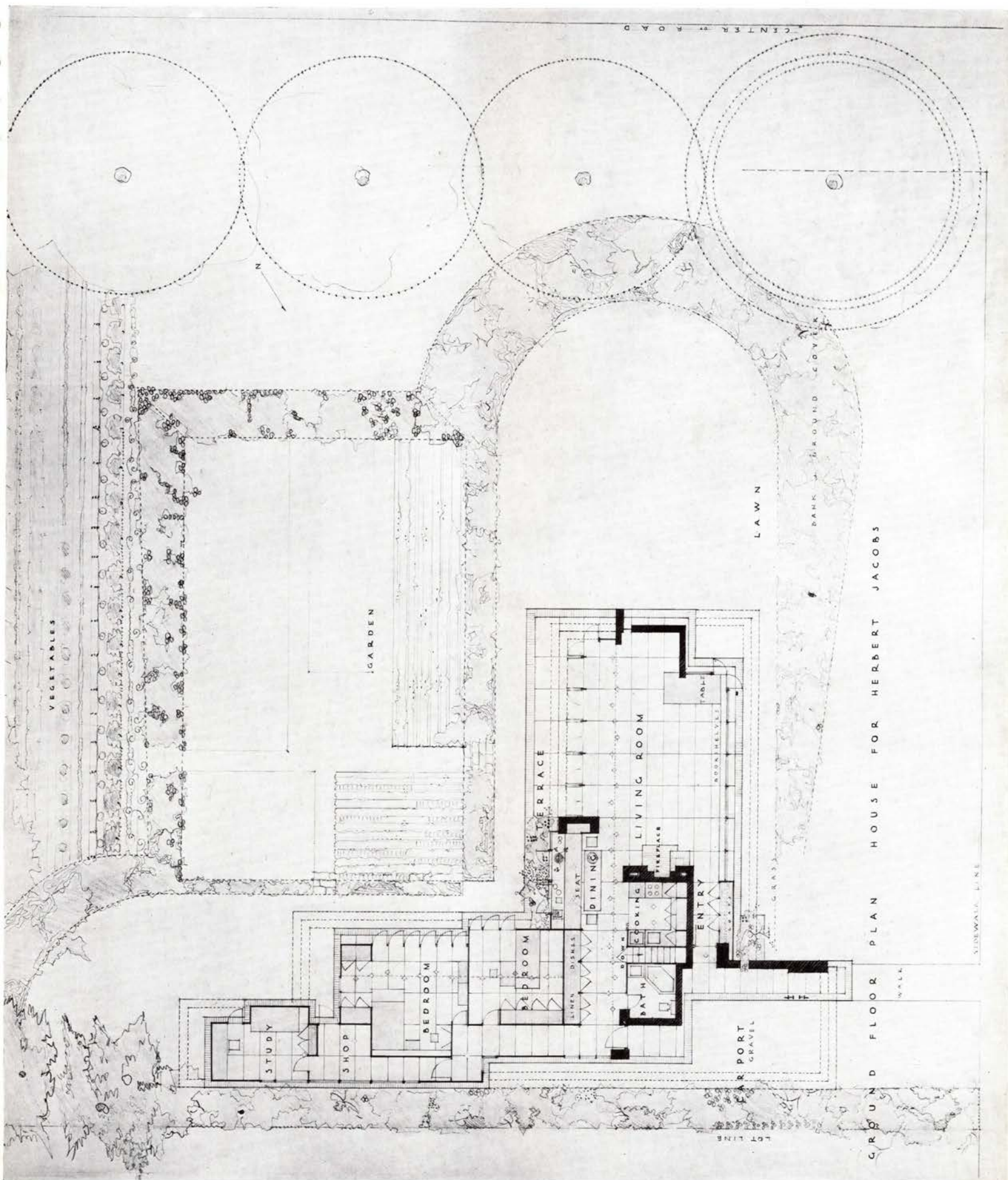
B.



C.









The roof framing in this instance is laminated of 2 x 4's making the three offsets seen outside in the eaves of the roof and enabling the roof to be sufficiently pitched without the expense of "building up" the pitches. The middle offset may be used to ventilate the roof spaces in summer. These 2 x 4's sheathed and covered with a good asphalt roof are the top of the house, its shelter gratifying to the sense of shelter.

All this is in hand—no, it is in mind—as we will plan the disposition of the rooms.

What must we consider essential now? We have our corner lot—an acre—with a south and west exposure. We have a garden. The house is

wrapped about two sides of this garden.

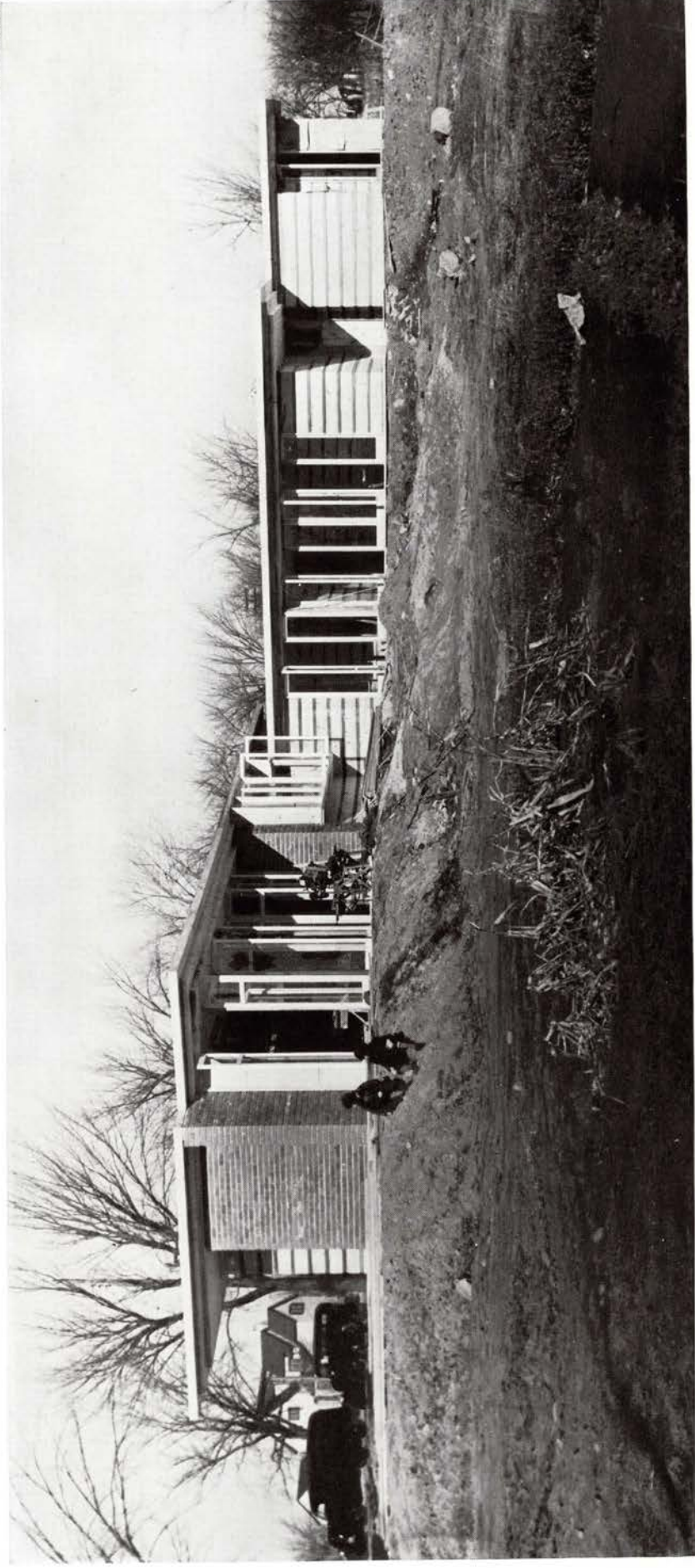
1. We must have as big a living room with as much garden coming into it as we can afford, with a fireplace in it, and book shelves, dining table, benches, and living room tables built in.

2. Convenient cooking and dining space adjacent to if not a part of the living room. This space may be set away from outside walls within the living area to make work easy. This is a new thought concerning a kitchen—taking it away from outside walls and letting it run up into overhead space with the chimney, thus connection to dining space is made immediate without unpleasant features and no outside wall space

lost to the principal rooms. There are steps leading down from this space to a small cellar below for heater, fuel, and laundry. The bathroom is next so that plumbing features of both kitchen and bath may be combined.

3. Two bedrooms and, in this case, a workshop which may be a future bedroom. The single bathroom is not immediately connected to any single bedroom, for the sake of privacy. Bathrooms opening directly into a bedroom occupied by more than one person or two bedrooms opening into a single bathroom have been badly overdone. We will have as much garden and space in all these space appropriations as our money allows after

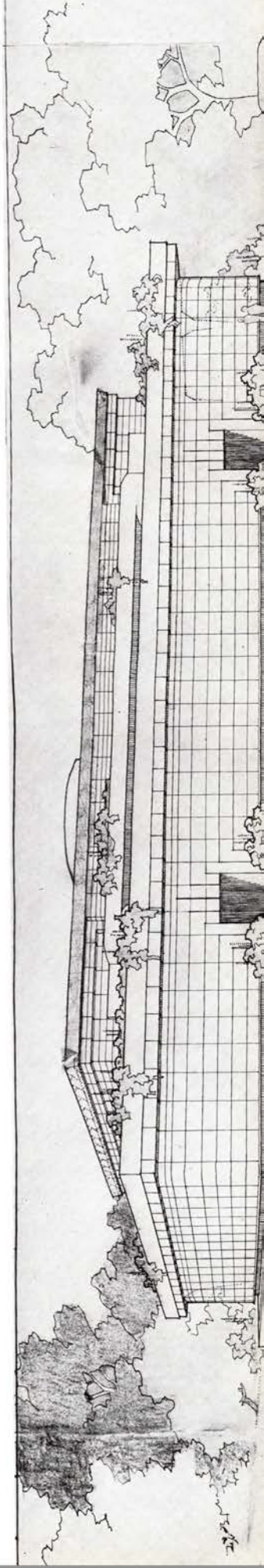
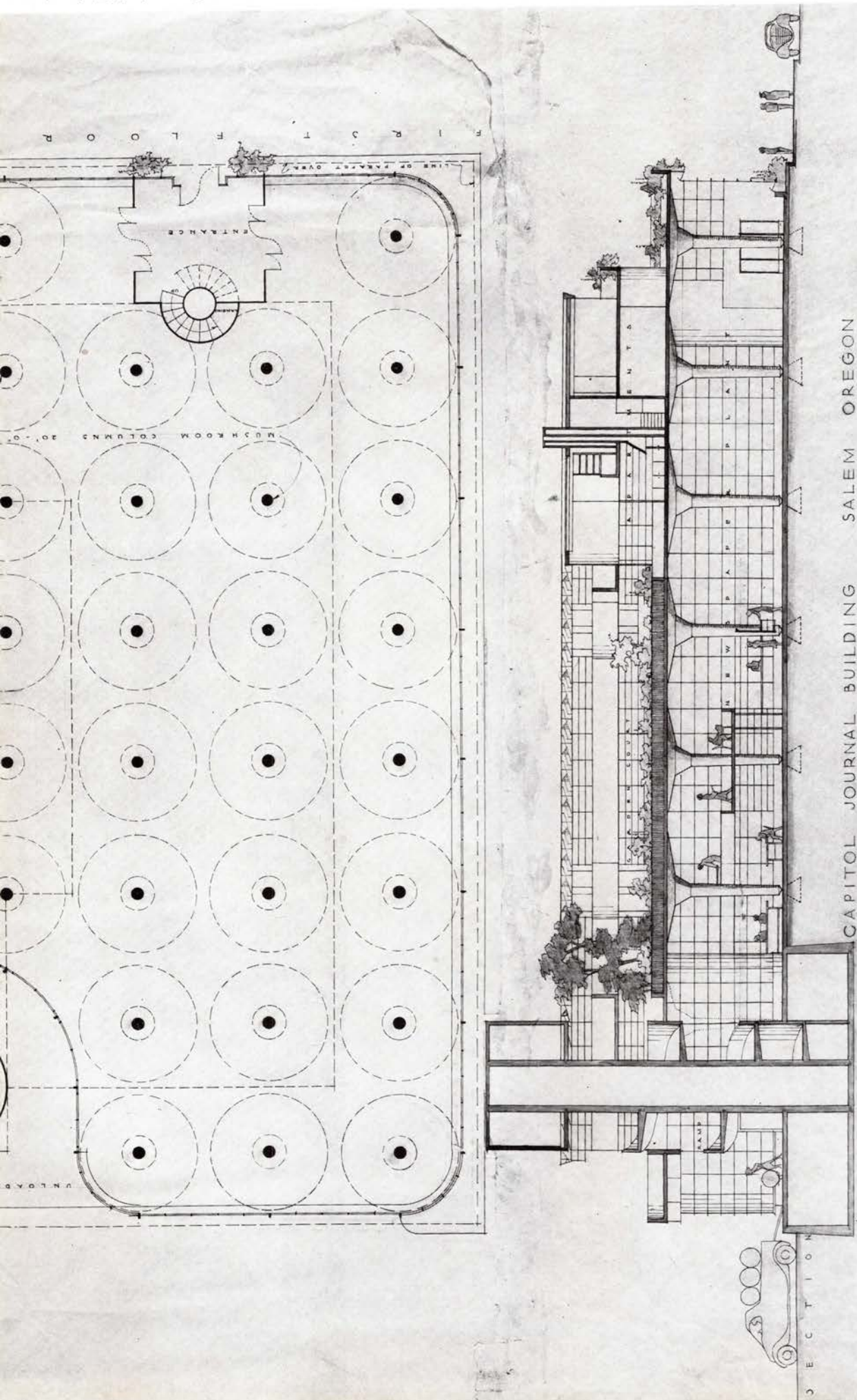
*Roy E. Peterson*



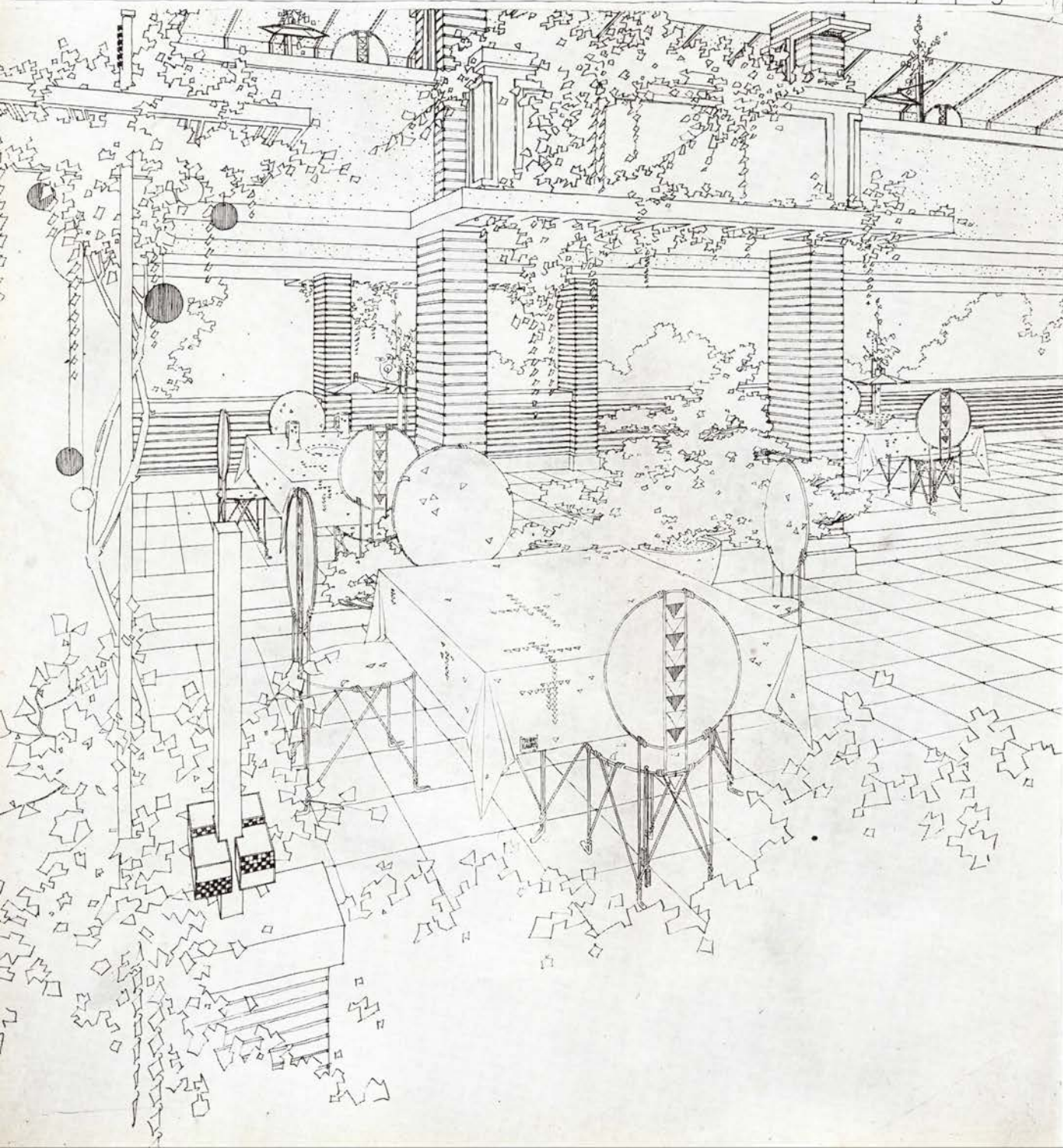
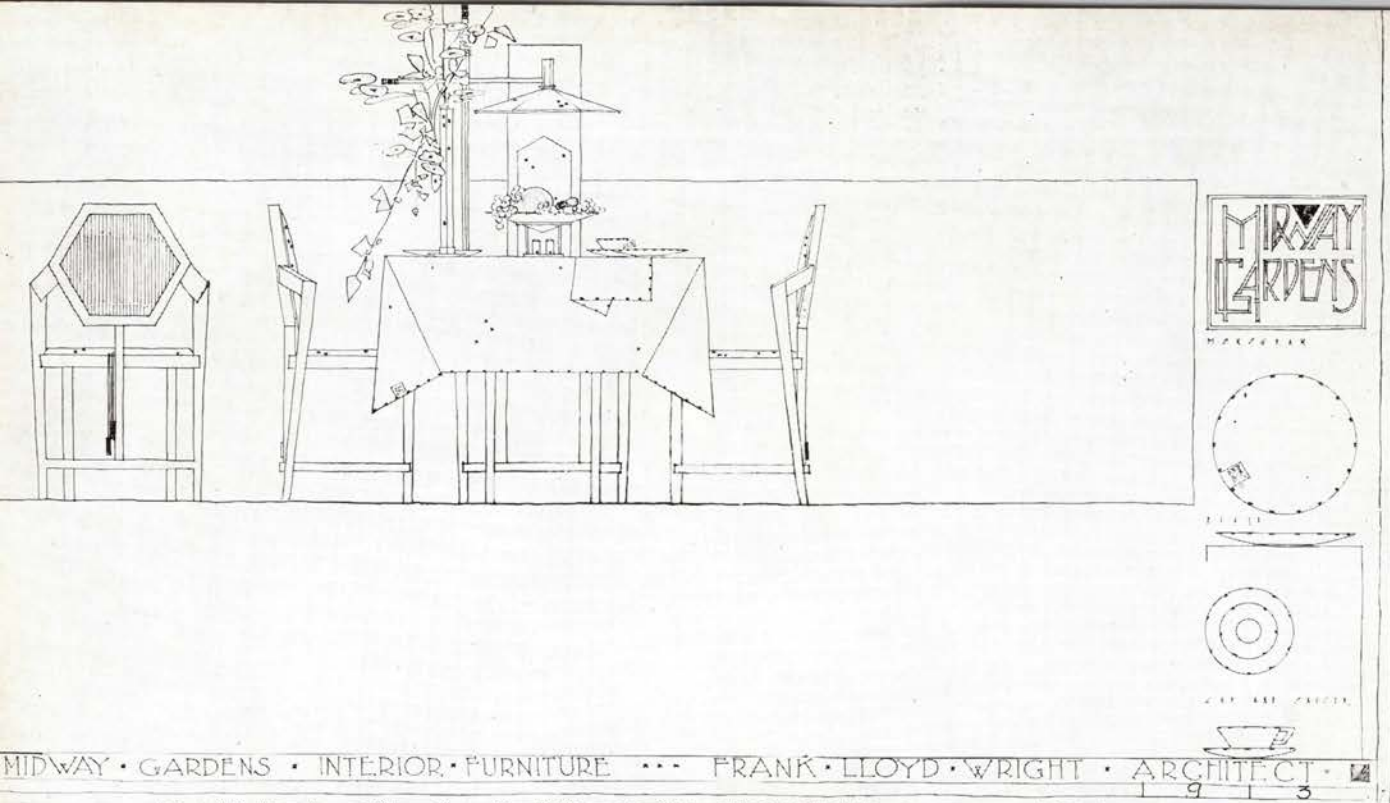
HOUSE FROM THE SOUTH . . . LIVING ROOM AND BEDROOM WINDOWS OPEN OUT . . . FROM FLOOR SLAB TO CEILING . . . THE PLAN SHAPE CREATES A PRIVATE INTERIOR GARDEN



THE CAPITOL JOURNAL NEWS-PAPER PLANT WAS TO A GREAT EXTENT AN APPROACH TO THE S. C. JOHNSON BUILDING: THE REPETITION OF A SINGLE STRUCTURAL UNIT TO MAKE A BIG ROOM FOR MANUFACTURE. THE OFFICES AND CLERICAL FUNCTIONS WERE SCREENED WITHIN IT OR PLACED ON A MEZZANINE. ON THE ROOF WERE APARTMENTS AND A CENTRAL GARDEN COURT FOR THE EDITOR, AND THE EMPLOYEES. THE EXTERIOR WALLS WERE GLASS SET IN COPPER SCREENS, SUSPENDED FROM THE ROOF SLAB.

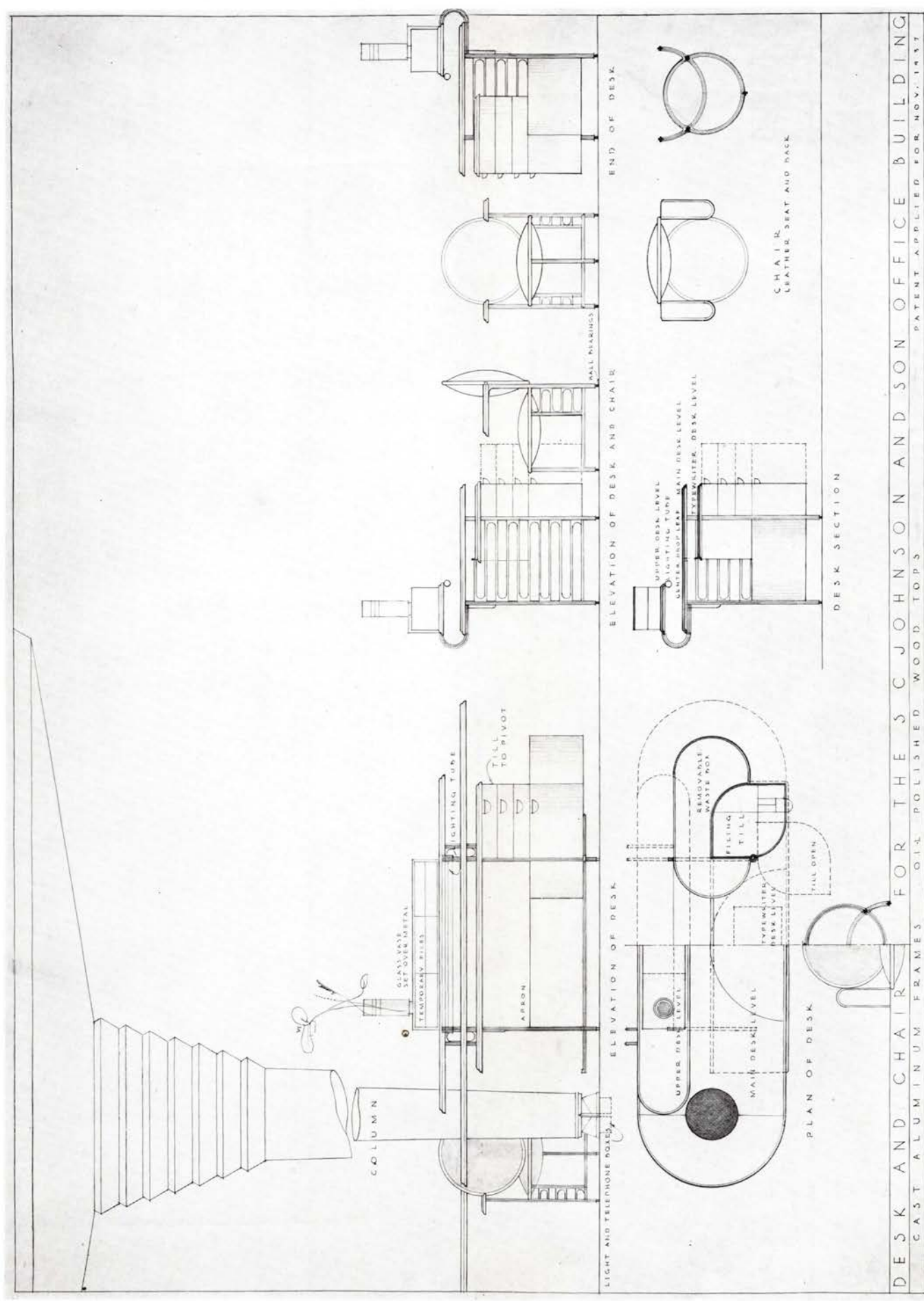






METAL FURNITURE AND LIGHT STANDARD DESIGNED FOR THE MIDWAY GARDENS 1913 . . . THESE DESIGNS WERE INTENDED FOR THE OUTDOOR FURNISHING OF THE GARDENS WHICH WERE ERRECTED ON THE CHICAGO MIDWAY 1913 . AFTER THE ADVENT OF PROHIBITION THEY WERE PULLED DOWN . AN AUTOMOBILE LAUNDRY WAS ERRECTED ON THE SITE INSTEAD . THESE DESIGNS—EXCEPT TABLE LAMP AND DISHES—WERE NOT EXECUTED . . . NO CONCERN MAKING METAL FURNITURE OF TWISTED RODS COULD BE FOUND AT THAT TIME.



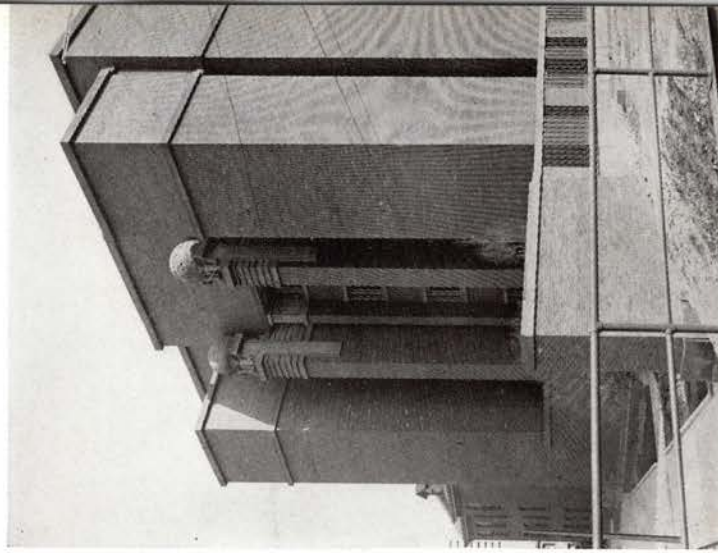
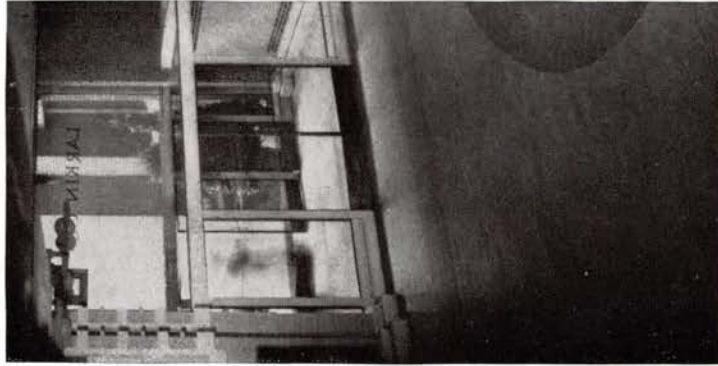
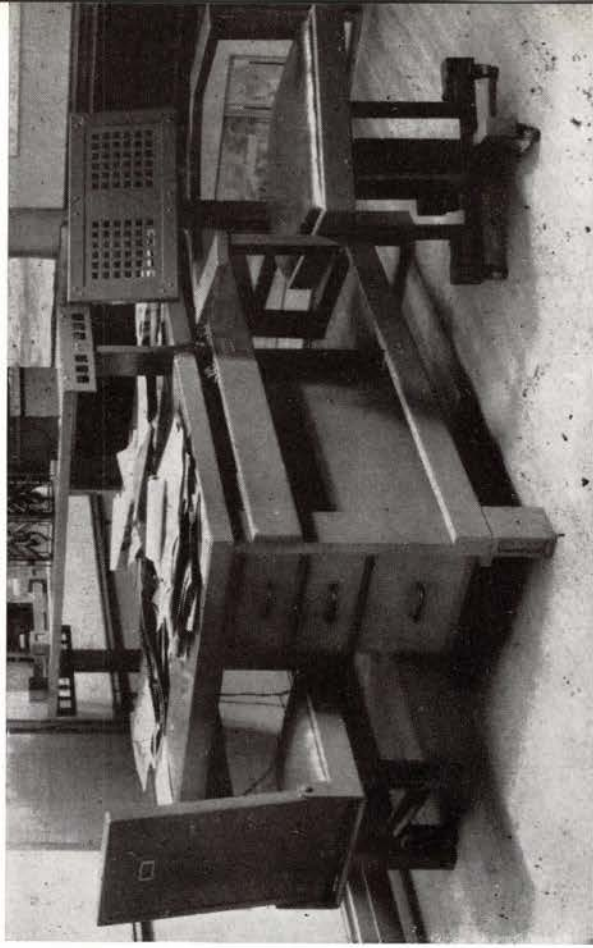


DESK AND CHAIR  
CAST ALUMINUM FRAMES OIL POLISHED WOOD TOPS  
FOR THE S C JOHNSON AND SON OFFICE BUILDING  
PATENT APPLIED FOR NOV. 1937

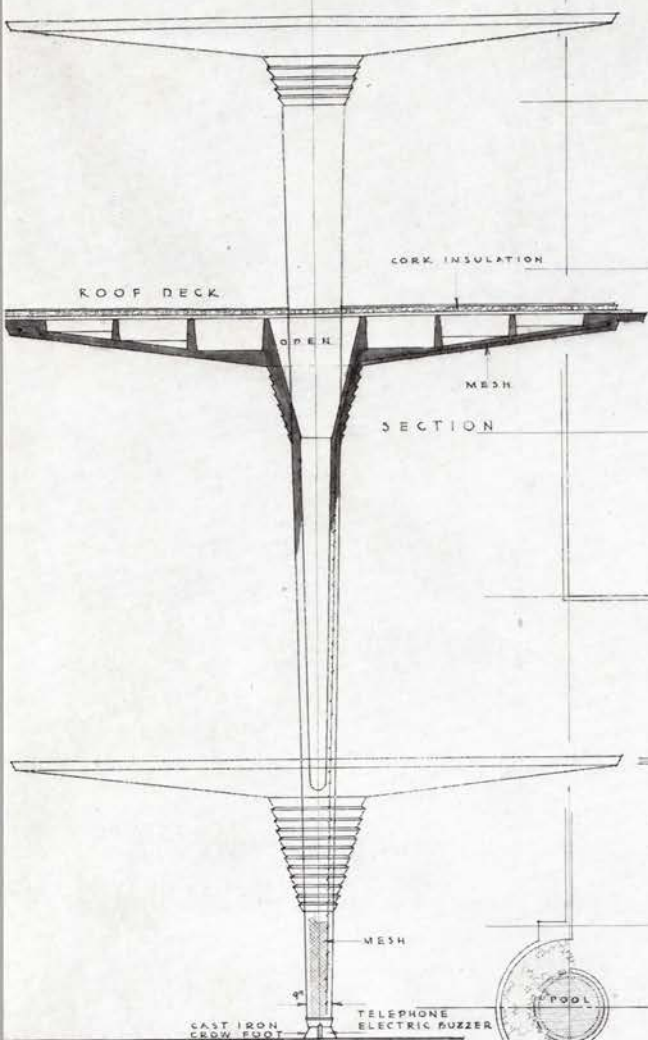


**A**RCHITECTURAL interpretation of modern business at its best, this building is designed to be as inspiring a place to work in as any cathedral ever was in which to worship. The building is laid out upon a horizontal unit system 20 ft. O. C. both ways and a vertical unit of one brick course, 3½ in. Glass is not used as bricks in this structure; the building becomes by way of long glass tubing crystal where crystal, either transparent or translucent, is most appropriate. In order to make the structure monolithic as possible, the exterior enclosing wall-material appears inside wherever it is sensible for it to do so. Main feature of construction is the simple repetition of hollow slender monolithic dendriform shafts or stems—stems standing on metal tips bedded at the floor level. The structure is light and plastic—reinforcing being mostly steel mesh—welded. The structure is earthquake proof and fireproof, cold and sound proof. Weight, here by way of steel in tension, appears to float in light and air, the "column" taking on integral character as a plastic unit of a plastic building-construction instead of being a mere insert for support. Clerical work is correlated in one vast room, 128 x 228 ft. The great room, air conditioned, is day-lit by rifts in the walls. The heating system of the main building is entirely in the floor slab. This building stands in unimpressive surroundings bounded by three streets, so main entrance is made interior to the lot; the motor car provided for as a modern indispensable. Ample parking facilities are under cover of this carport. The main building is set back from the streets on three sides; a colorful band of growth divides the main walls from the side-walks, enlivening a dreary environment. Above, the carport becomes a playground for workers. A cinema seating 250 for daytime lectures or entertainment is placed at mezzanine level in the middle of the arrangement. An enclosed bridge connects the officers' quarters in the pent-house with a squash court rising above the garage. Herbert Johnson's office, stenographer and laboratory are at the apex of the pent-house; the other officers are in the wings extending from it. Below this arrangement of officers are the several hundred office workers. Sub-heads of various departments there function in a low gallery, mezzanine to the big room, where direct vision and prompt connection with the workers in the big room is had directly at convenient points by spiral iron stairways. The few enclosures within the big workroom are low glass walls, screened by Aeroshades. Thus the sense of the whole most stimulating to various parts is preserved. The officers' house at the center is wide open to this big workroom below. The entire building construction, generally by way of cost-plus arrangements, is in the architect's hands—ably managed by Ben Wiltscheck, supervised by the Taliesin Fellowship.

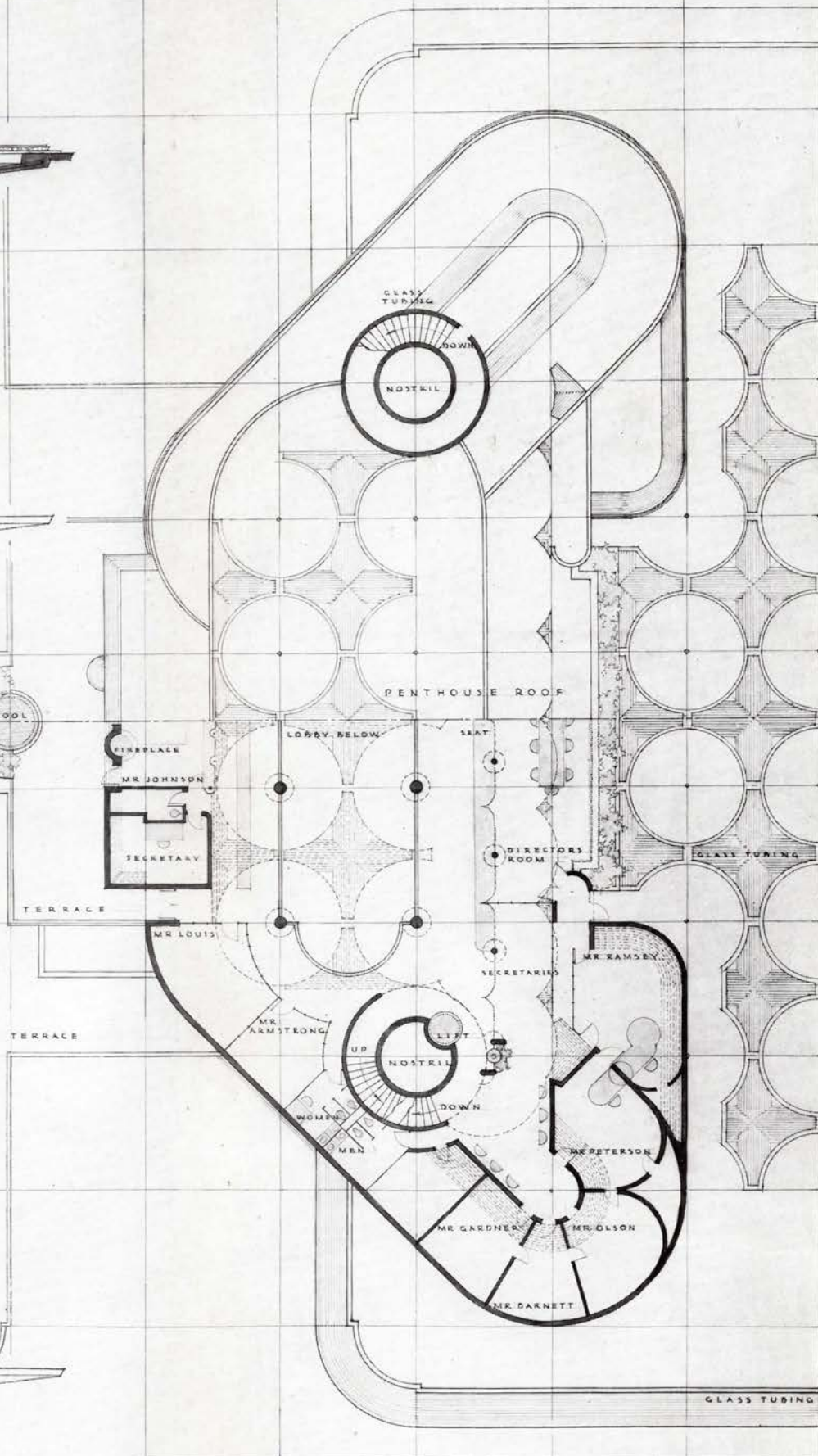
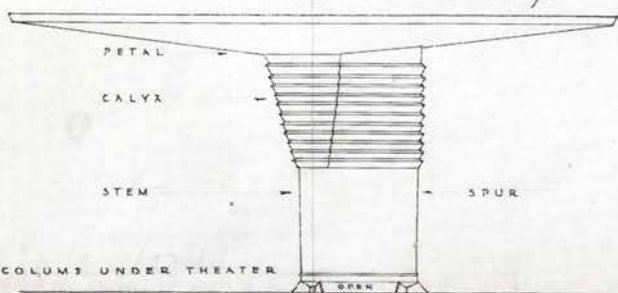
THE LARKIN BUILDING, BUFFALO, CONTEMPORARY OF FLAT IRON BUILDING NEW YORK . NEGA-TION OF THE ORNAMENTALITY OF THE NINETEENTH CENTURY . . . BUILDING SEALED . NATURAL LIGHT . COMPLETELY FIREPROOF . FURNISHING AND FILING SYSTEMS BUILT-IN OF STEEL . FIRST METAL FURNITURE MADE IN THE U.S.A. FIRST AIR CONDITIONED OFFICE BUILDING . FIRST USE OF MAGNESITE AS ARCHITECTURAL MATERIAL . FIRST METAL BOUND PLATE GLASS DOORS AND WINDOWS . QUOTATION F. LL. W. THE ARCHITECTURAL RECORD MARCH 1908 . . . "HERE AGAIN MOST OF THE CRITIC'S 'ARCHITECTURE' HAS BEEN LEFT OFF. THEREFORE THE WORK MAY HAVE THE SAME CLAIM TO CONSIDERATION AS 'A WORK OF ART' AS AN OCEAN LINER, A LOCOMOTIVE OR A BATTLESHIP."





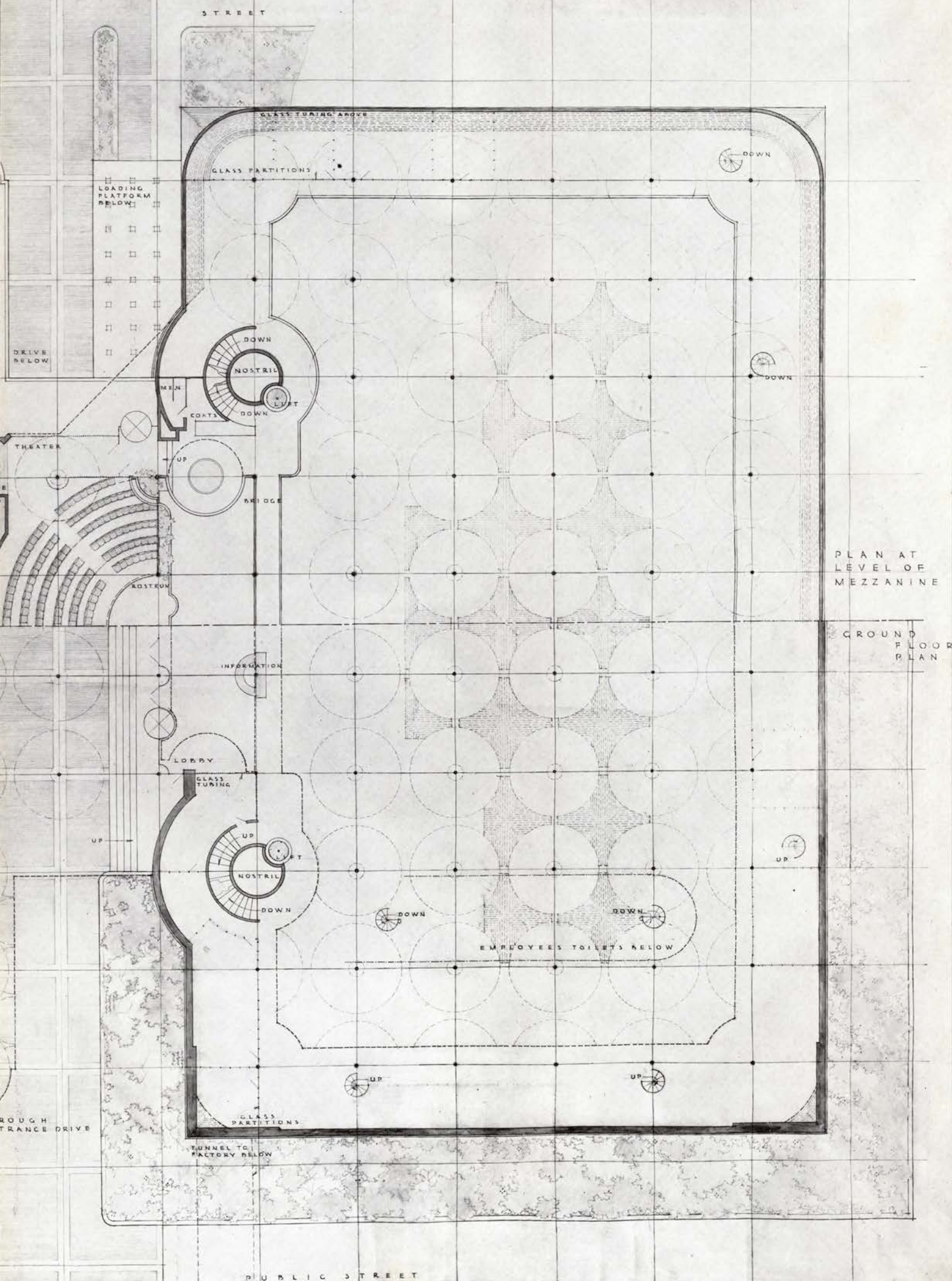


DETAIL OF COLUMN AT THREE DIFFERENT LEVELS USING SAME MOLD

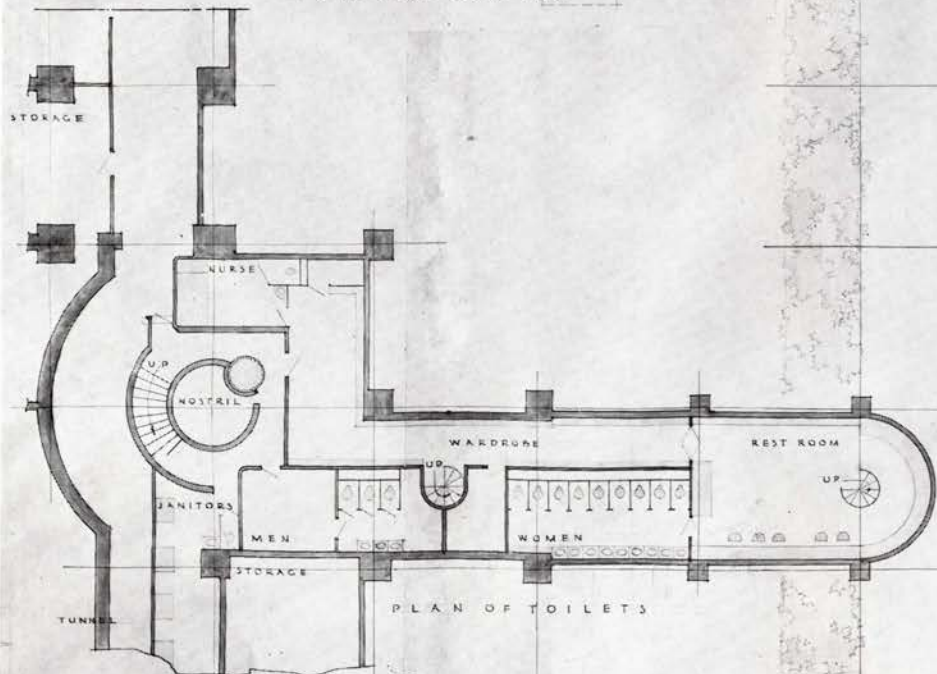


PLAN OF PENTHOUSE

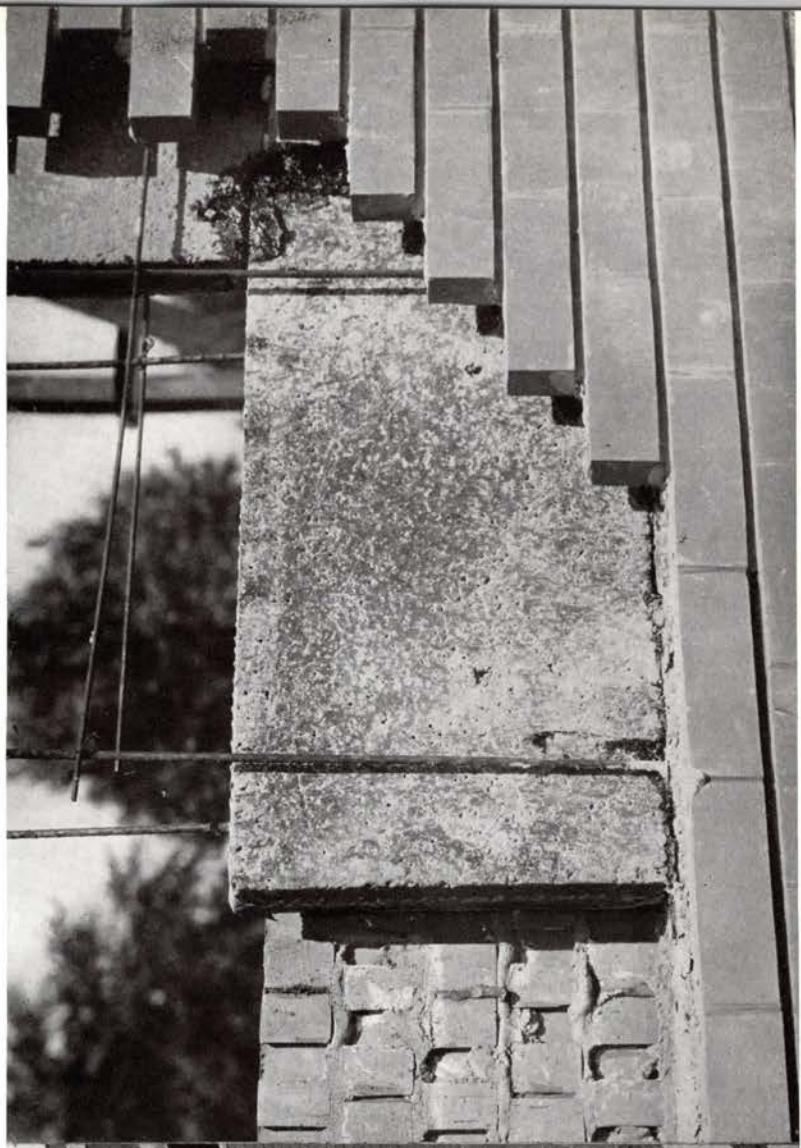
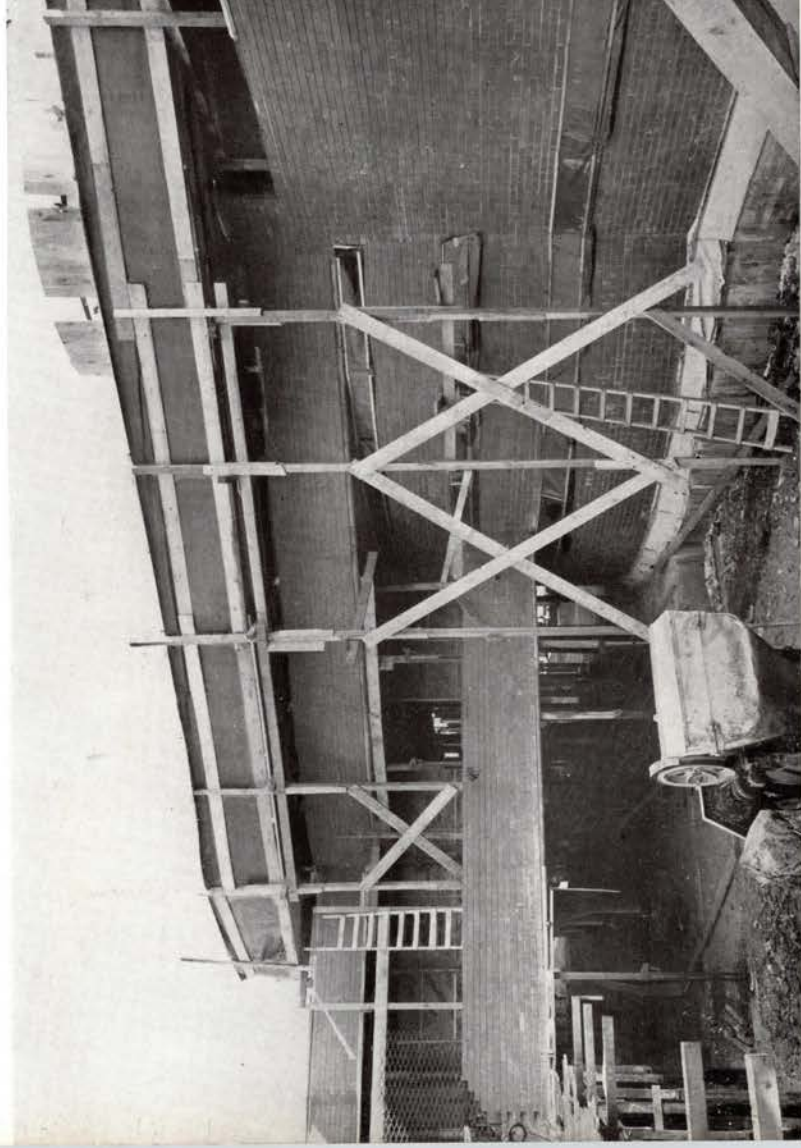
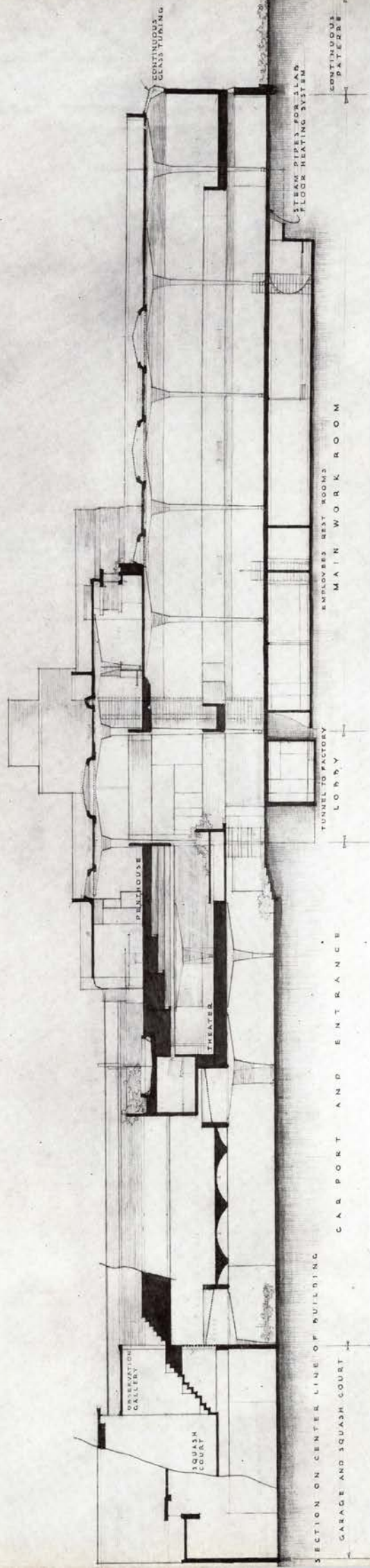








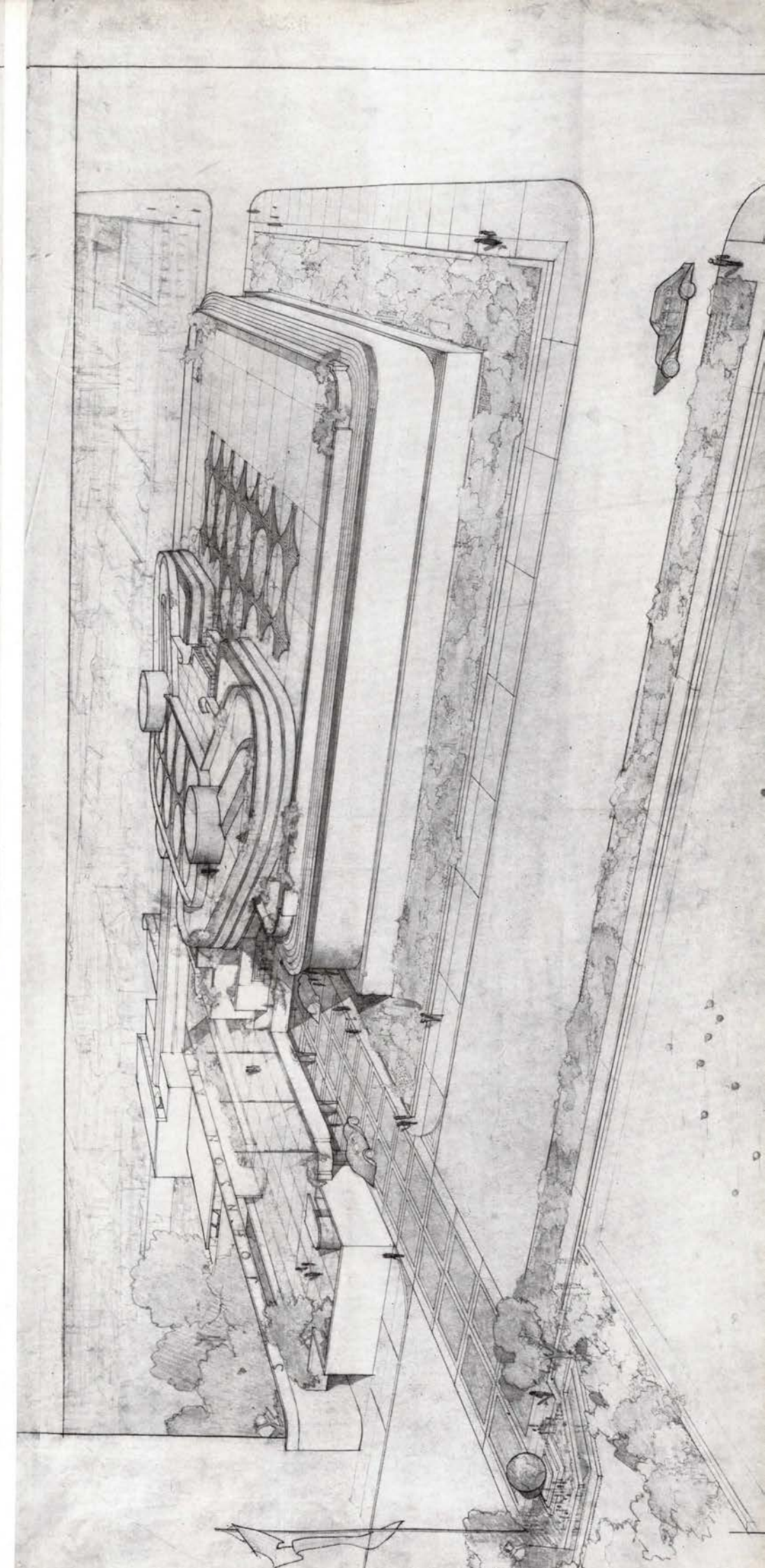
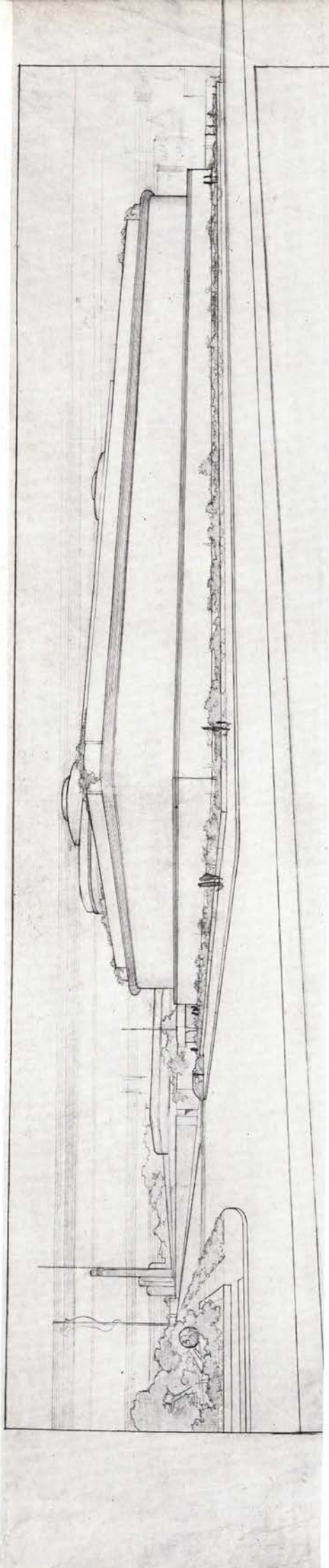




DRAWING SHOWING SECTION THROUGH THE S. C. JOHNSON COMPANY BUILDING . . . DETAILS OF CONSTRUCTION . . . OUTER BRICK WALLSHELLS WITH CORK INSERT



TWO PRELIMINARY DRAWINGS FOR THE S. C. JOHNSON COMPANY BUILDING, RACINE, WISCONSIN . . . TOP . VIEWED FROM THE STREET . BOTTOM . AS SEEN FROM THE AIR







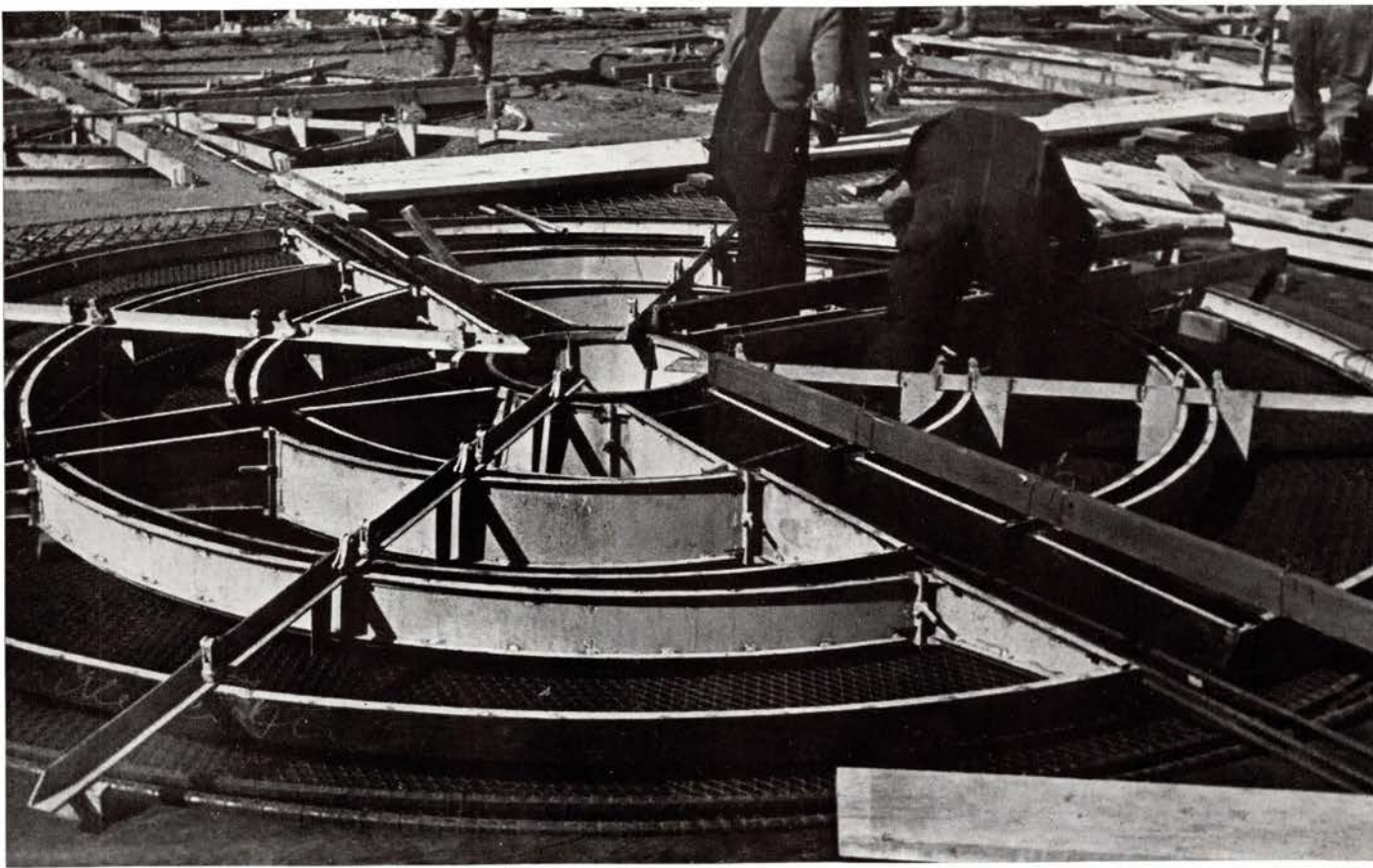
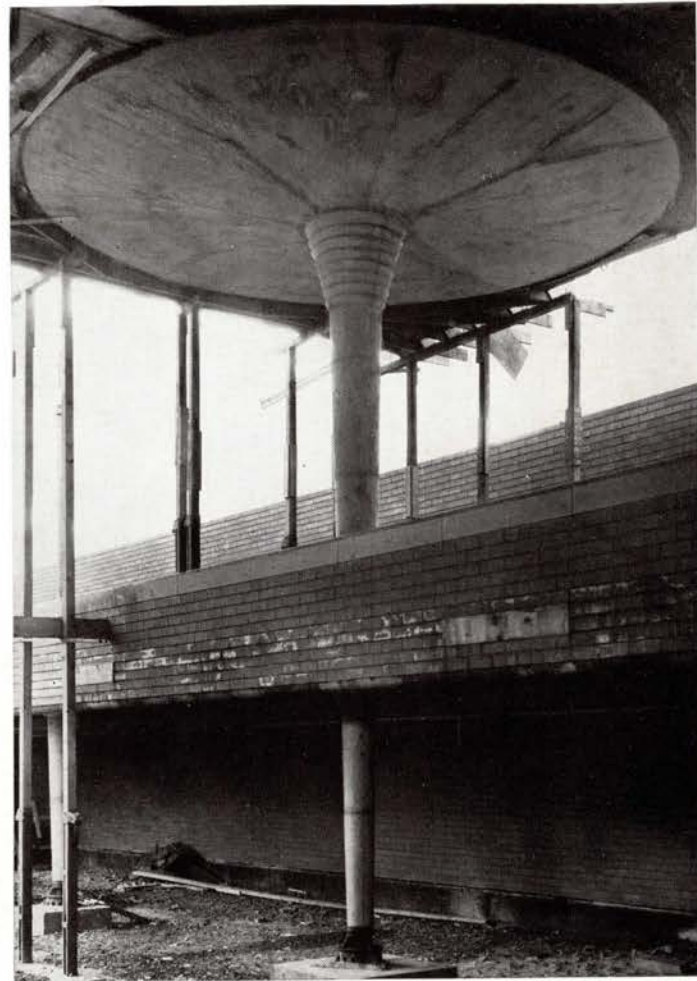
THE INTERIOR OF THE S. C. JOHNSON CO. BUILDING IN RACINE . . . INTERIOR VIEW SHOWING DENDRIFORM COLONNADE IN PROCESS OF CONSTRUCTION



THE BUILDING IN CONSTRUCTION . ANOTHER INTERIOR VIEW OF THE BIG ROOM SHOWING DENDRIFORM COLONNADE . THE SENSE OF PHYSICAL WEIGHT DISSOLVED IN SPACE

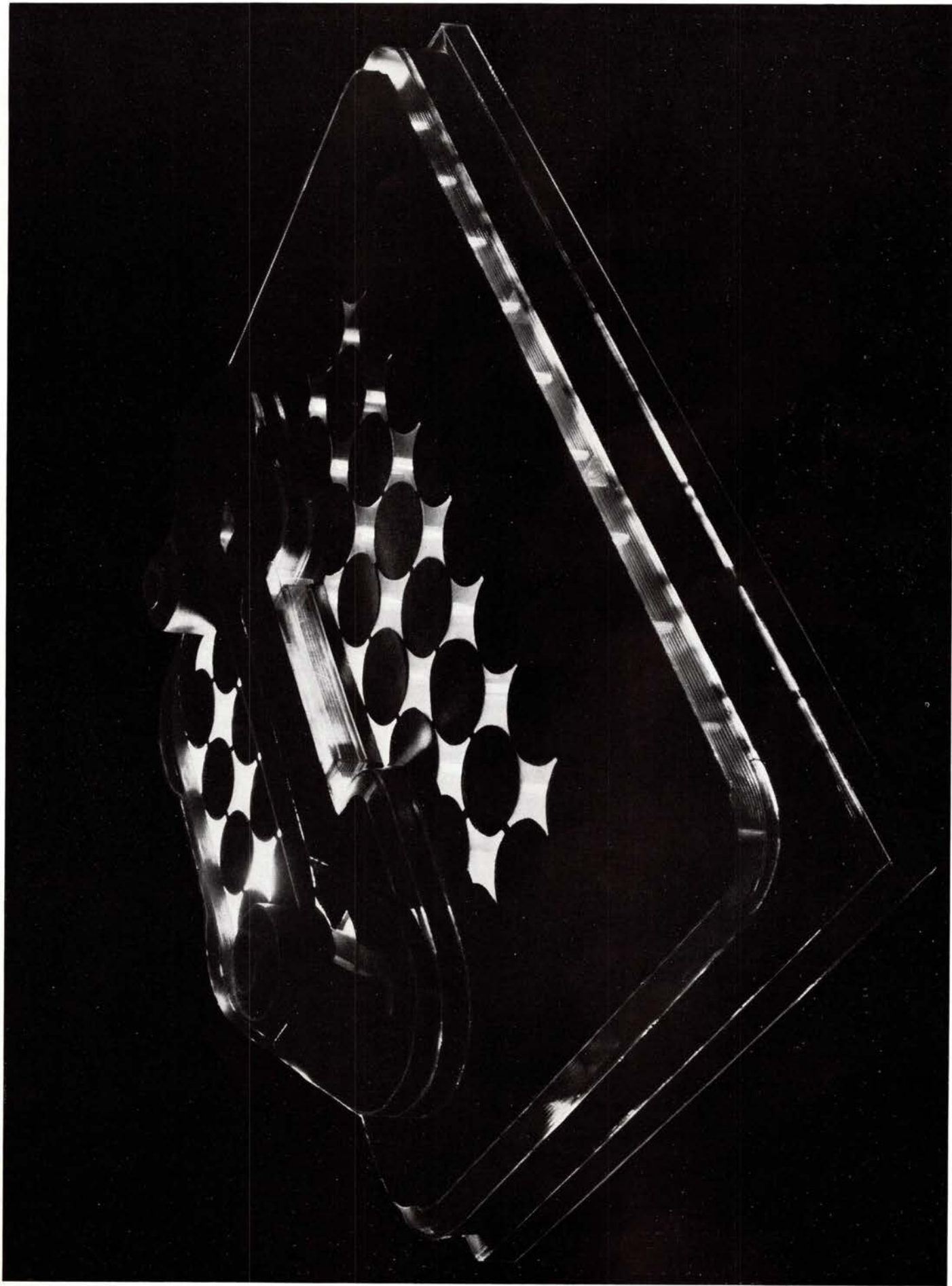




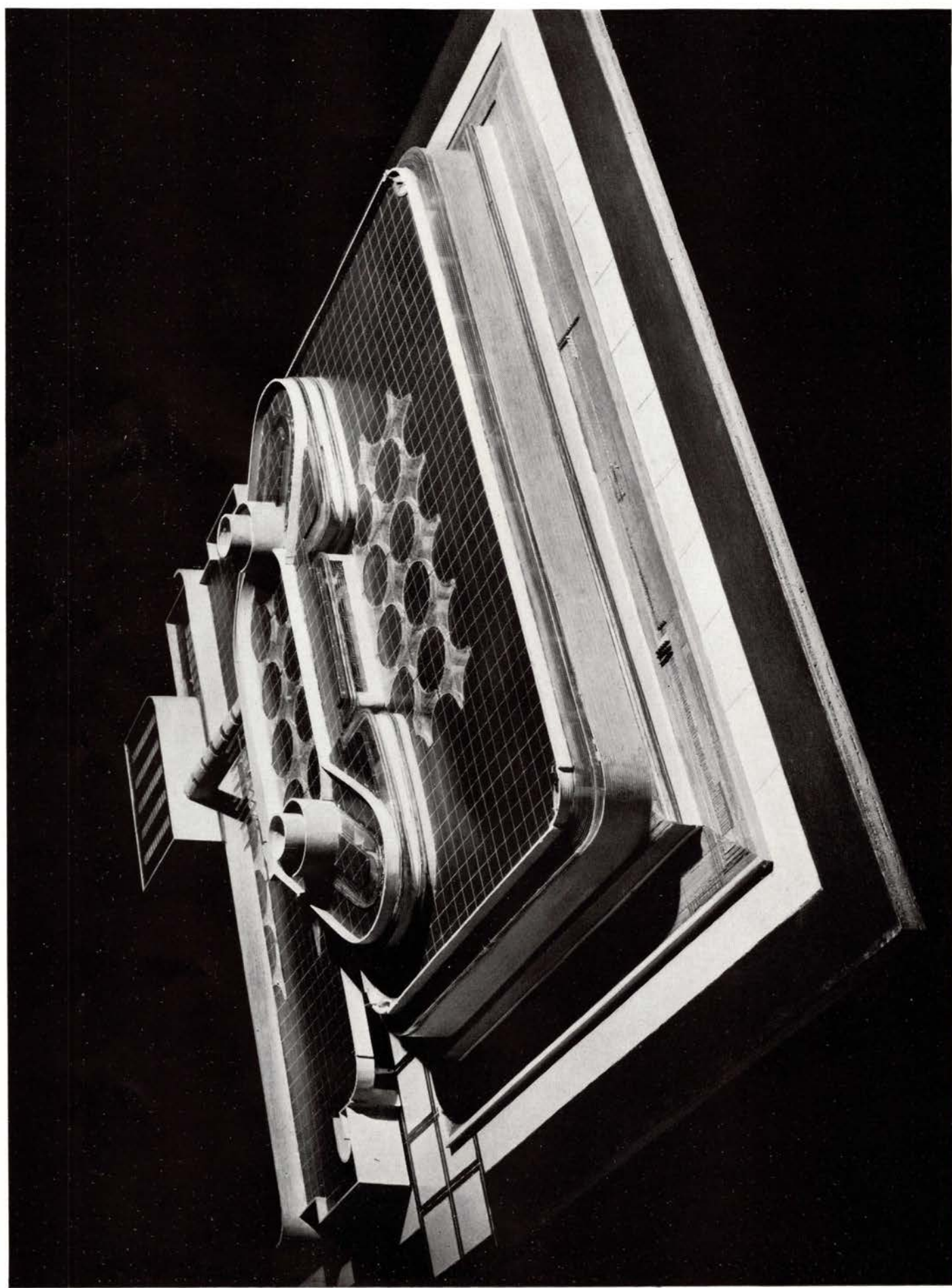


SHEET-METAL FORMS FOR CONSTRUCTION OF DENDRIFORM COLUMN . COLUMN TEST . COLUMN EXTENDED TO FULL HEIGHT . SAME FORMS AS FOR SMALLER SIZES







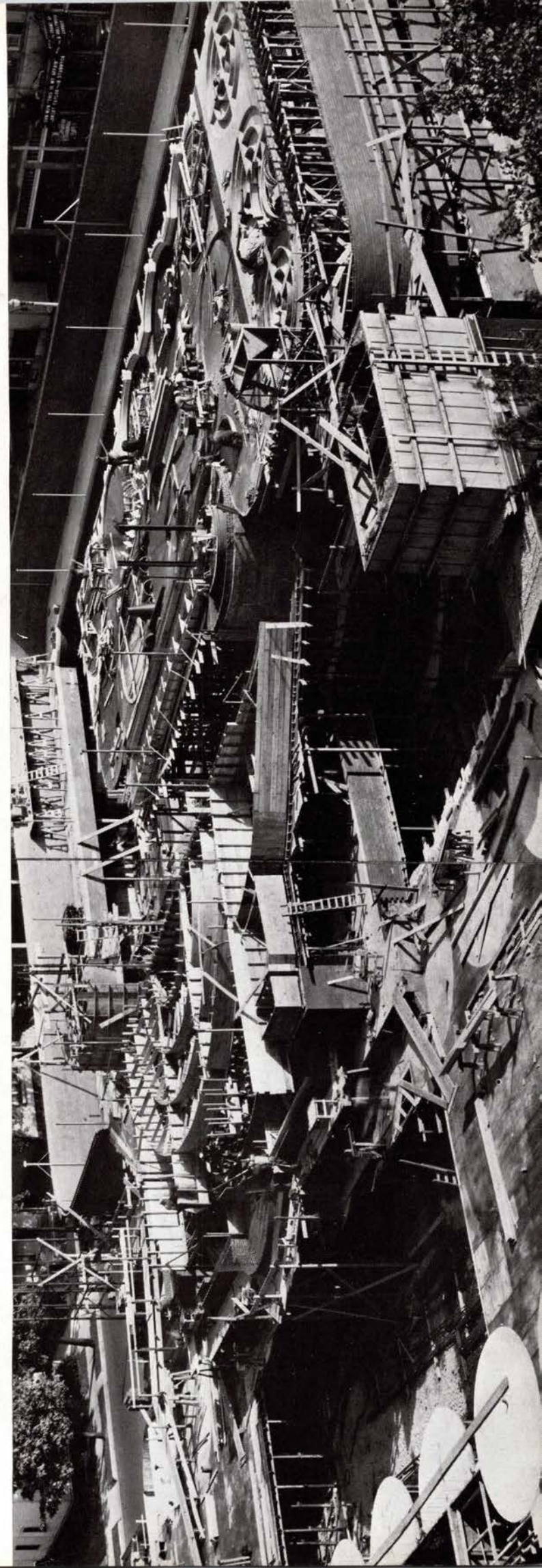
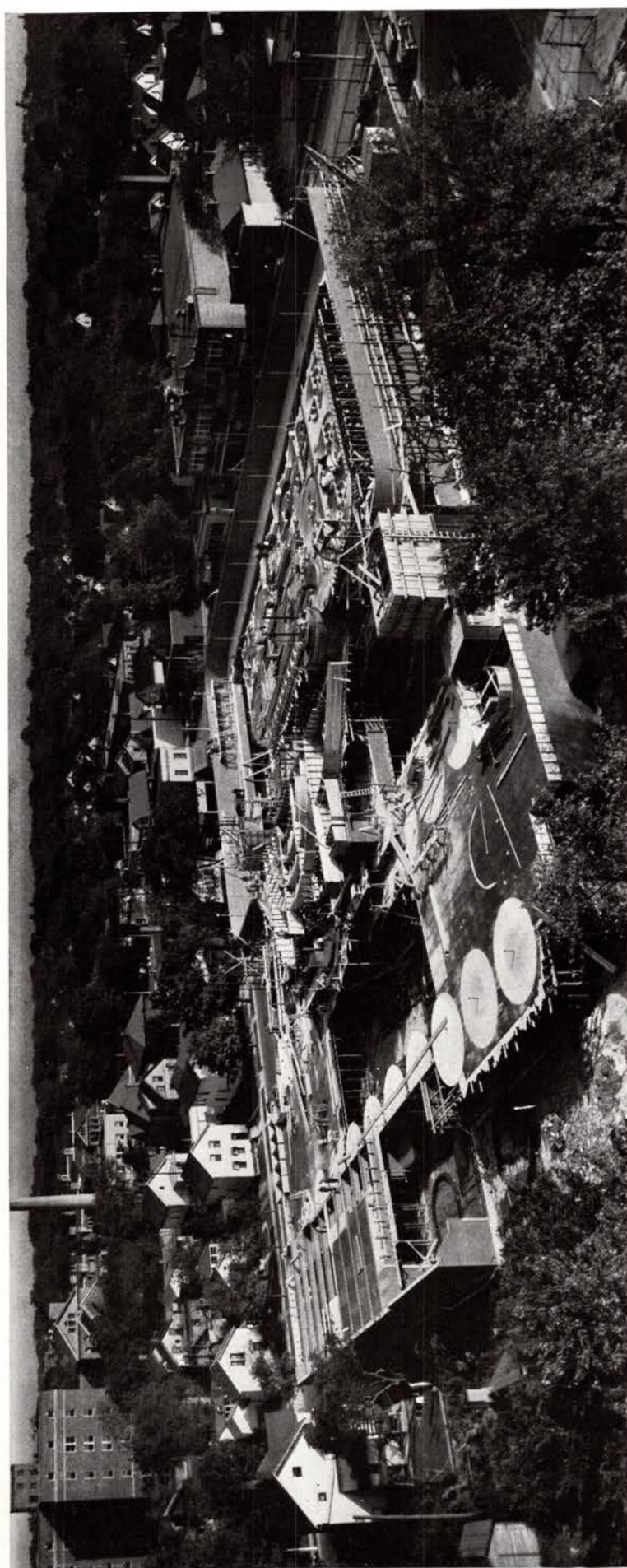


DAY VIEW OF THE SAME MODEL FROM ABOVE

SHOWING GENERAL CONFORMATION OF STRUCTURE. PAVED ROOF DECKS. NOSTRILS. BRIDGE TO SQUASH COURT. GARAGE



TOP . GENERAL VIEW FROM THE SIDE STREET OF THE BUILDING IN CONSTRUCTION . . . BOTTOM . GENERAL VIEW OF CONSTRUCTION TAKEN OCTOBER 1937





## FOREWORD CONCLUDED

COMING back from numerous meetings with young people in the colleges of most of our States, it seems to me that some kind of snubbing post for Usonian youth is urgently needed where reality is concerned in this "functionalistic" drift toward realism and realistic. Neither realism nor realistic is the stuff of which the universal is made. As a matter of fact, the universal is made of intense and lively personal matter asking only that the matter have individuality. For a moment, risking offense, let me be personal, as an individual.

Already the architectural matter of this issue of THE FORUM will look out upon a modern-fashioning more in the likeness of the buildings, their interiors, building, and ways of furnishing them—originally designed by myself as early as 1895, getting into their modern stride by 1901 and continuing to this hour.

The ideas taking fresh form then have gone into a twentieth century designer's world, worldwide.

With a change of labels from a bewildering variety of sources, the forms and features of these original designs are now—with certain sterilizations to make them safe for academic consumption — become modern architecture, modern industrial design, "streamlining" in general: mostly administered by minions "joined up" with our great American advertising order. It never sleeps.

At least enough success is prematurely result to make it apparent that the new simplicity un-

pretentiously making appearance as early as 1896 may be **the** fashionable eclectisms of 1938-40. Then God help us all. We shall have sunk beneath the surface of an eclectic's world. Perhaps it is the only possible world. But to this possibility the matter of this issue still says NO.

What disconcerts me is simply this: the early ideas and ways of planning buildings and building-ways of furnishing them do not seem so much changed for the better. "Effects" have been slenderized and hardened; they have been cleaned up a little, now and then, by unwisely leaving off protective copings, abolishing the sense of shelter by concealing it behind parapets; interiors and exteriors have changed superficially (they should have changed fundamentally) with the use of steel, glass, and synthetics; surfaces in general are smoothed out a little by omission of the articulation of materials and their logical protection from the elements. A severe negation of ornament is evident, not a bad negation when ignorance of the nature of ornament generally prevails, as it does. Reaction against that negation, however, is already visible. Sterilized, then, as the order that clings to standardization for life deems suitable, the work, internationally, has been counted sufficient for "new schools." Nothing radical has been done to carry it further afield.

Thus history repeats itself?

**N**EGATION is easy. Affirmation difficult.

The negation dubbed—by the Museum of Modern Art—"International Architecture" could

make no headway unless there were truth in my accusation: "more reflection of surface than substance." How pernicious the notion of "functionalism" as a style! Why turn superficially to a style instead of being deeply concerned with style? The words "integral," "organic," "principle"—basic words concerning our ideal seem never to have occurred as necessary to such language as I have read trademarking that device. Yes, "device"—academic device at that—seeking to make a style when only style is needed. "No ornament?" That collateral fetish is the bastard begotten by intellectualists out of the dogma "Form follows function"; begotten because the abuse of a noble thing was mistaken for the thing itself.

"Form follows function" is but a statement of fact. When we say "Form and function are one"—only then do we take mere fact into the realm of creative thought. I should say that in that difference of statement lies the real difference between organic work, and that of the professed functionalists.

Melodic structure is absent in modern music for the same reason that genuine ornament is absent in "functionalism." True ornament is the inherent melody of structure and functionalism to date is a bad builder.

Russia trying out "functionalism" proceeded to kick it out. That she should have mistaken it for modern architecture was tragedy for the Soviets.



I have at least ten years more (unless I get a Ford up my back, or something) in which to practice the basic principles of an organic architecture. Slowly but surely, often through closed doors, these principles are making way against baldly ballyhooed, badly oversold practices of the unfunctional "functionalist" wing of our cause. For you who sympathize with this ideal of an organic architecture there is not only urgent need for real thought on our part to account for the deeper feeling behind it, but need also for the kind of technical knowledge in hand which only the application of actual principles by way of experience can give. Neither academic formulae nor sloganized dicta can really serve the cause at this time.

Organic architecture is profound architecture. Premature publicizing in this circus-era has some passing value but the fact appears that the deeper the matter, the more undesirable is premature publicity. Notwithstanding rescripts of university education every future architect must develop, in his own grasp, a technology of his own, his hands in work, however limited (the

limitations will be his best friends) if technologies he employs are not to defeat the main purpose—a living architecture for our country as a free country.

We speak of genius as though it were the extrusion of some specialty or other. No, the quality is not there. Find genius, and you will find a poet. What is a poet?—

**"IF HE IS A POET HE BESTOWS ON EVERY OBJECT OR QUALITY ITS FIT PROPORTION—NEITHER MORE NOR LESS.**

**"HE IS THE ARBITER OF THE DIVERSE—THE EQUALIZER OF HIS AGE AND LAND.**

**"HE JUDGES NOT AS A JUDGE JUDGES, BUT AS THE SUN FALLING ROUND A HELPLESS THING."**

How America needs poets! God knows—she has enough profit takers, enough garage mechanics, enough journalists, enough teachers of only what has been taught, enough wage slaves. Without the poet—man of vision wherever he stands—the Soul of this people is a dead Soul. One must be insensible not to feel the chill creeping over ours.

We have technology and technologies to throw away, technicians to burn, but still have no archi-

ture. To show, for them all, we have only a multiplicity of buildings imitating many insignificant countenances or making caricature of the countenance of principle. We need an architecture so rich in the life of today that just because of it life will be better worth living—even though a reeling capitalistic "system" fall flat of its own idiotic excess. Antiseptics are not enough to grow an architecture. Profit-taking as a motive for a civilization does not seem to be the ennobling basis for one.

But I believe, were the "system" aware of it, the capitalists especially would fortify themselves in Architecture that is Organic Architecture.

Having myself had the best and the worst of everything as preliminary to the ten years next to come, I hope none of the years will be wasted or thwarted where architecture, in what remains to us all of life, is concerned.

FRANK LLOYD WRIGHT—TALIESIN—JANUARY 1938.

I DO NOT DOUBT BUT THE MAJORITY AND BEAUTY OF THE WORLD ARE LATENT IN ANY IOTA OF THE WORLD. I DO NOT DOUBT THAT TEMPORARY AFFAIRS KEEP ON AND ON MILLIONS OF YEARS. I DO NOT DOUBT I AM LIMITLESS AND THAT THE UNIVERSES ARE LIMITLESS—IN VAIN I TRY TO THINK HOW LIMITLESS. I DO NOT DOUBT THAT THE ORBS AND SYSTEMS OF ORBS PLAY THEIR SWIFT SPORTS IN THE AIR ON PURPOSE AND THAT I SHALL ONE DAY BE ELIGIBLE TO DO AS MUCH AS THEY, AND MORE THAN THEY; I DO NOT DOUBT THAT INTERIORS HAVE THEIR INTERIORS AND EXTERIORS HAVE THEIR EXTERIORS—AND THAT THE EYESIGHT HAS ANOTHER EYESIGHT—AND THE HEARING ANOTHER HEARING, AND THE VOICE ANOTHER VOICE. . . . I NEED NO ASSURANCES.

WALT WHITMAN



Valentino Sarra



THE TALIESIN FELLOWSHIP AT PLAY . . . CUSTOMARY WEEKLY EVENT . SUNDAY EVENING MUSIC AND DISCUSSION IN THE MAIN LIVING ROOM . . . NOVEMBER 1937



**BIBLIOGRAPHY** . . . ART AND CRAFT OF THE MACHINE 1897 . . . INTERPRETATION OF THE JAPANESE PRINT 1912 . . . IN THE CAUSE OF ARCHITECTURE. ARCHITECTURAL RECORD MARCH 1908 . . . AUSGEFUEHRTE BAUTEN UND ENTWUERFE. WASMUTH BERLIN 1910 . . . FRANK LLOYD WRIGHT EINE STUDIE ZU SEINER WURDIGUNG. By C. ASHBEE. WASMUTH 1911 . . . THE LIFE WORK OF THE AMERICAN ARCHITECT, FRANK LLOYD WRIGHT. By H. T. H. WIJDEVELD. C. A. MEES. HOLLAND 1925 . . . AUS DEM LEBENSWERKE EINES ARCHITEKTEN. By H. DE FRIES. E. POLLAK. BERLIN 1926 . . . MONOGRAPH. ARCHITECTURE VIVANT. PARIS 1930 . . . MONOGRAPH. By H. R. HITCHCOCK. CAHIERS D'ART. PARIS 1928 . . . MONOGRAPH. IMPERIAL HOTEL. TOKYO 1923 . . . MONOGRAPH. AUSGEFUEHRTE BAUTEN. (SMALL SIZE) TOKYO 1919 . . . MONOGRAPH. AUSGEFUEHRTE BAUTEN. (SECOND EDITION). BERLIN 1924 . . . THE CAUSE OF ARCHITECTURE. THE MEANING OF MATERIALS—THE KILN. ARCHITECTURAL RECORD 1928 . . . TWO LECTURES ON ARCHITECTURE. CHICAGO ART INSTITUTE 1931 . . . MODERN ARCHITECTURE. THE PRINCETON LECTURES 1931 . . . AN AUTOBIOGRAPHY. LONGMANS GREEN 1932 . . . THE DISAPPEARING CITY. PAYSON 1932 . . . THE TALIESIN FELLOWSHIP PROSPECTUS 1932 . . . ARCHITECTURE AND MODERN LIFE. SOME ASPECTS OF THE PAST AND PRESENT OF ARCHITECTURE. HARPER AND BROTHERS 1937.

SAY ON—SAYERS! DIG, MODEL, PILE UP THE WORDS OF THE EARTH. WORK ON—(IT IS MATERIALS YOU MUST BRING NOT BREATHS) WORK ON AGE AFTER AGE—NOTHING IS TO BE LOST; IT MAY HAVE TO WAIT LONG, BUT IT WILL CERTAINLY COME IN USE; WHEN THE MATERIALS ARE ALL PREPARED, THE ARCHITECTS SHALL APPEAR. I SWEAR TO YOU THE ARCHITECTS SHALL APPEAR WITHOUT FAIL! I ANNOUNCE THEM AND LEAD THEM. I SWEAR TO YOU THEY WILL UNDERSTAND YOU AND JUSTIFY YOU; I SWEAR TO YOU THE GREATEST AMONG THEM SHALL BE HE WHO BEST KNOWS YOU, AND ENDORSES ALL, AND IS FAITHFUL TO ALL; I SWEAR TO YOU, HE AND THE REST SHALL NOT FORGET YOU—THEY SHALL PERCEIVE THAT YOU ARE NOT AN IOTA LESS THAN THEY; I SWEAR TO YOU YOU SHALL BE GLORIFIED IN THEM.

WALT WHITMAN



CHANTING THE SQUARE DEIFIC, OUT OF THE ONE ADVANCING OUT OF THE SIDES; OUT OF THE OLD AND NEW, OUT OF THE SQUARE ENTIRELY  
DIVINE, SOLID—FOUR SIDED—ALL THE SIDES NEEDED. I AM TIME, OLD, MODERN AS ANY. WALT WHITMAN

THE COLOR RED IS INVINCIBLE. IT IS THE COLOR NOT ONLY OF THE BLOOD—IT IS THE COLOR OF CREATION. IT IS THE ONLY LIFE-GIVING COLOR IN  
NATURE FILLING THE SPROUTING PLANT WITH LIFE AND GIVING WARMTH TO EVERYTHING IN CREATION . . . TIMIRIAZEV, PLANT PHYSIOLOGIST



# BUILDING MONEY

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## THE PRESIDENT'S PLAN FOR BUILDING

**is lower equities for buyers, higher liquidity for lenders, and mass production for builders. Analysis of the New Deal's second major move for Building.**

"The long-continued lag in building is a drag on all industry . . . We must recognize clearly that housing will not be built if costs are too high in relation to the consumer's income . . . The rise in hourly rates and in material prices was too rapid and too great for the consumer to bear."

Thus ran President Roosevelt's diagnosis of Building's prostration to the extraordinary session of Congress, called to combat the nation-wide "recession." That this diagnosis was accurate none could deny: residential construction had declined steadily in volume for nine consecutive months, and the monthly totals had stood below the corresponding 1936 figures for five consecutive months; material prices, on the other hand, had risen steadily to a May peak of 97.2 per cent of 1926, and had then levelled off only slightly to 96 for the next four months. Labor, meanwhile, had been at its busiest in a decade, organizing, raising wage rates to near 1929 levels.

The message on building which the President delivered to Congress was the product of a series of conferences between Business and Government which had just

been called in Washington. Most important spokesmen for Government and reputedly the parents of the new program were Chairman Marriner Eccles of the Federal Reserve Board and his right hand man, Matthew Daiger, who is currently attached to the Federal Housing Administration. Business sent GE's Gerard Swope,

This article went to press while the proposed amendments to the Housing Act were still being discussed in Senate Committee. Thus, the legislation as finally enacted in January may differ in some details from this version. Next month THE FORUM will report all changes.

New York's Contractor Henry Turner, Sears Roebuck's General Robert E. Wood, Radio Corporation's Edward McGrady, former Assistant Secretary of Labor. And toward the end of the conferences RFC's Jesse Jones and FHA's Stewart MacDonald also put in an appearance.

"Simple changes" in the National Housing Act was the way the President described the five basic suggestions which emerged from this group. In essence he called for:

- 1.) A lower down payment on houses.
- 2.) A lower finance charge.
- 3.) Encouragement of large scale projects.
- 4.) Revival of modernization and alteration work.
- 5.) Pressure on both industry and labor to reduce prices and wages.

Day after the message, the regular housing team of Senator Robert Wagner and Representative Henry Steagall appeared before their respective committees with drafts of legislation to implement the new program. Three weeks later Congress was debating the series of amendments to the original National Housing Act which comprise the frame-work for the New



Deal's second big push for Building. If passed, it would be the only legislation to come out of the extraordinary session.

The proposed amendments attacked the building slump along four broad fronts:

**For the home buyer** the FHA undertakes to insure mortgages up to 90 per cent on houses costing \$6,000 or less if the mortgage is made prior to the construction of the house. On houses costing from \$6,000 to \$10,000 it will insure the first \$6,000 on a 90 per cent basis, the remainder on an 80 per cent basis, thus effect a sliding scale. Further, it will charge its insurance premium of  $\frac{1}{2}$  of 1 per cent on the diminishing balance of the mortgage instead of on its face value; and in the case of houses costing less than \$6,000, it will reduce this premium to  $\frac{1}{4}$  of 1 per cent. Finally, lending institutions dealing in FHA mortgages must now assume the service charges (which run from  $\frac{1}{2}$  to  $\frac{3}{4}$  of 1 per cent) instead of adding them onto the basic 5 per cent interest rate.

The net effect of these provisions on the under-\$6,000 house is to halve the equity while reducing the over-all charges from  $6\frac{1}{4}$  to  $5\frac{1}{4}$  per cent, with the result that the monthly payments are increased only fractionally over their old levels despite the smaller down payment (see tables).

The new legislation also gives Title Two an indefinite lease on life by changing the provision which put it out of existence when it had done two billion dollars worth of insurance; the provision now reads that it may never have more than two billion dollars worth of mortgages insured at any one time, which in effect turns this sum into a revolving fund.

About these changes two facts are worth particular note. In the measure that the lowering of the equity requirement achieves its objective of broadening the home market by reaching lower income groups, it also attracts increasingly poor credit risks. And it remains to be seen whether a basic interest rate of  $4\frac{1}{4}$  to  $4\frac{1}{2}$  per cent will prove sufficiently attractive to such institutional mortgagees as building and loan associations to attract any of their funds to FHA loans. Best incentive will be in the discount privileges made available through the mortgage associations (see below).

**For the builder** the FHA will now try to play a more potent role in encouraging multi-unit projects. Under the original Act, the FHA's activities in mortgage insurance were severely limited at the top to large-scale housing "for people of low income"; and at the bottom to apartments costing less than \$16,000 and housing not more than four families. For the enormous amount of apartment and subdivision construction which lay between this pip-squeak bottom and socialized ceiling, there was not a crumb of Federal help.

Under the new amendments, the so-called "large scale housing" must still be constructed on a limited dividend basis; but the ambiguous phrase "for people of low income" has been eliminated in favor of a limitation of \$1,200 a room and \$5,000,000 a project. As a further encouragement, one of the amendments provides that debentures may be issued upon the assignment of the mortgage after default, rather than requiring the foreclosure of the mortgage by the mortgagee

and the conveyance of the property to the FHAdministrator.

In the middle of the market a whole new field is opened up by making eligible for insurance projects costing from \$16,000 to \$250,000, providing only that the cost-per-room does not exceed \$1,000. These projects must consist of apartment houses or groups of not less than 25 single family houses for sale or rent; and the insurance may extend to construction loans. The debentures for these projects are issued on foreclosure and conveyance of the property to the Administrator.

**For the financier** the amendments revamp the sections of the old Act designed to create national mortgage associations. The original provisions required the subscription of a minimum of \$2,000,000 in cash or Government bonds against which debentures could be sold to the public for additional funds up to 12 times the capital stock—in this minimal case, up to \$24,000,000; the associations were allowed to buy mortgages but not to make mortgage loans; and they could buy none till their capital stock was paid in full. Result of these stringent restrictions is that no association has ever been formed.

The amendments to this section all make mortgage associations more attractive business propositions. An association may now not only buy mortgages but also make them on FHA-insured, large-scale projects; it may make or buy them as soon as it has put in 25 per cent of its capitalization, or a minimum of \$500,000. Hitherto, the group forming an association would have had to leave a minimum of \$2,000,000 in capital tied up in low interest Government bonds while it scurried around the thin market trying to scrape up the necessary \$2,000,000 in mortgages; now, it need only tie up \$500,000, put more in when it has the first quarter safely earning its fatter mortgage interest rates.

A second fundamental change in the associations was to jack up the ratio of debentures to capital stock from 12 to 20; although no debentures may be sold to the public until all the capital stock is paid in. Thus on the minimum capital investment of \$2,000,000, an association may now sell to the public \$40,000,000 in debentures as against the old maximum of \$24,000,000. And these debentures are now exempt from Federal as well as State taxation.

These provisions have in effect made possible the creation of mortgage discount banks to which lending institutions with mortgage holdings can always turn for liquidity. Whatever the opinion about the advisability of this practice, such an accumulation of capital has one unarguable virtue: it provides a ready source of mortgage money for those promoters of large scale projects who have in the past had such difficulty disposing of their jumbo-size mortgages to the institutions big enough to assume them.

**COMPARISON OF AVERAGE MONTHLY PAYMENTS ON A 90% AND 80%, 20-YEAR MORTGAGE \$5,000 HOUSE (NEW)**

		New Plan	Old Plan
1st year	PRINCIPAL AND INTEREST PAYMENT .....	\$29.70	\$26.40
	AVERAGE SERVICE CHARGE .....	.93	1.64
	AVERAGE FHA PREMIUM .....		1.67
	TOTAL .....	\$30.63	\$29.71
3rd Year	PRINCIPAL AND INTEREST PAYMENT .....	\$29.70	\$26.40
	AVERAGE SERVICE CHARGE .....	.87	1.54
	AVERAGE FHA PREMIUM .....		1.67
	TOTAL .....	\$30.57	\$29.61
5th Year	PRINCIPAL AND INTEREST PAYMENT .....	\$29.70	\$26.40
	AVERAGE SERVICE CHARGE .....	.80	1.42
	AVERAGE FHA PREMIUM .....		1.67
	TOTAL .....	\$30.50	\$29.49
10th Year	PRINCIPAL AND INTEREST PAYMENT .....	\$29.70	\$26.40
	AVERAGE SERVICE CHARGE .....	.61	1.08
	AVERAGE FHA PREMIUM .....		1.67
	TOTAL .....	\$30.31	\$29.15
15th Year	PRINCIPAL AND INTEREST PAYMENT .....	\$29.70	\$26.40
	AVERAGE SERVICE CHARGE .....	.36	.64
	AVERAGE FHA PREMIUM .....		1.67
	TOTAL .....	\$30.06	\$28.71
20th Year	PRINCIPAL AND INTEREST PAYMENT .....	\$29.70	\$26.40
	AVERAGE SERVICE CHARGE .....	.04	.07
	AVERAGE FHA PREMIUM .....		
	TOTAL .....	\$29.74	\$26.47



# A PRESIDENT'S PROGRAM: NEW SPURS FOR BUILDING



Thos. McArroy

**The President's New Program** for Building was called forth by the recession which sent construction volume on a nine-month tail-spin. Inspiration for this 1938 panacea came from dark, smart Chairman Marriner Eccles of the Federal Reserve (left), longtime champion of mortgage discounting, lower interest rates. To help put these ideas and a few others into the shape of laws he called as usual on his Special Assistant J. M. ("Matt") Daiger (right). Result was a series of amendments proposed to the original National Housing Act.



Associated Press



International



International



Wide World

**Realistic reactions**, perhaps some needed cooperation were what Chairman Eccles and the President wanted when they called in such bigwigs as Sears, Roebuck's General Robert E. Wood (left), GE's Gerard Swope (center), Radio Corp.'s Edward McGrady (right).

72nd CONGRESS  
2d Session

**H. R. 8520**

IN THE HOUSE OF REPRESENTATIVES

November 22 (Wednesday), November 23, 1937

Mr. BENNETT introduced the following bill, which was referred to the Committee on Banking and Currency and ordered to be printed

**A BILL**

To amend the National Housing Act, and for other purposes.

1 *Be it enacted by the Senate and House of Representatives*  
2 *of the United States of America in Congress assembled,*  
3 That titles I, II, III, and V of the National Housing Act,  
4 as amended, be further amended as follows:  
5 Sec. 2. Section 201 of title II is amended by striking  
6 out the words "As used in this title" and inserting in lieu  
7 thereof the words "As used in section 203 of this title",  
8 and by amending subsection (a) of such section to read

**Against the Bill** stood the Building and Loan League's Morton Bodfish. He saw little help, too much competition in it.



Bernard Hoffman

**For the Bill** 100 per cent stood NAREB's 1937 President Paul E. Stark, fresh from his national convention which had already plumped for virtually the same remedies.

**Against the Program** on one ground alone stood AFL's William Green. In traditional opposition, he came out against wage reductions for Labor.



Joseph Steinmetz

**For the Bill** also was the American Bankers Association's Past President Robert V. Fleming, who agrees closely with Chairman Eccles' theories of finance.



**For manufacturers and builders** Title One, providing for the insurance of loans for repairs, alterations and additions ("Modernization"), has been resurrected until July 1, 1939. The insurance is limited to 10 per cent of all loans, and covers only those loans made for permanent additions and improvements to the house. Example: heating systems are eligible; refrigerators are not. The \$100,000,000 limit on insurance contained in the original Act is converted into a revolving fund in order not to require further appropriations.\*

Such was the legislation through which the President announced that he hoped to lift the building industry out of its doldrums. Not included in the amendments was that part of the President's five-point program which was obviously the most important: his demand that capital and labor both reduce their shares of the costs of home construction. Through the AFL's William Green and the CIO's John L. Lewis, Labor lost no time in making its reply: No scheme involving reduced wages would be countenanced. Still left up in the air by this stand was Labor's attitude on the frequently-suggested plan of lower wages for steady work; but everybody knew that even this approach was highly distasteful to the unions. Capital, for its part, gave an answer of sorts at the National Association of Manufacturers' "Congress of Industry" which convened the following week in New York. Professing its readiness to cooperate with the Government, the NAM nevertheless indicated clearly that it thought the burden for reducing prices rested squarely on Labor. Thus, at month's end the President's most fundamental proposal, lacking the support of law, remained stymied.

**Reaction.** With the exception of an oversanguine reception from the Press, the other reactions to the new legislation were decidedly lukewarm. Warmest backing came naturally from the Federal Reserve's Mariner Eccles. Testifying before the House Committee, he gave endorsement to the Bill, but pointed out that the banks would not be very interested in 5 per cent loans which—when service fees and taxes are counted—finally shrink to 3½ per cent, unless it was perfectly certain that in addition they could be discounted through the proposed mortgage associations. To make it easier for these associations to get a large and quick market for their debentures, he accordingly convinced the Committee to make these debentures more saleable by exempting them from Federal and State taxes.

The commercial banks found their spokesman in President Robert V. Fleming of the Riggs National Bank, and board member of the American Bankers Association, who confined his testimony to a blanket approval of the amendments, but

\* The Senate Committee omitted this amendment.

warned the Committee that the new interest rate on mortgages was just about as low as it could profitably be dropped.

The NAREB's 1937 President Paul E. Stark, who must have been gratified to note that the new legislation embodied virtually everything endorsed at his Association's last convention month before, stood diametrically opposed to ABA's Fleming: he recommended as a future goal 4½ per cent money and 30-year loans. To quiet the more conservative of the bankers he pointed out that 90 per cent loans were in fact nothing new, that under the old boom system of multiple mortgages such a high percentage coverage had been a common fact.

The FHA's Administrator Stewart MacDonald gave qualified support to the new program, but was careful not to commit himself in favor of the revival of modernization loans under Title I, a field in which the FHA has been none too happy, although its total losses to date from this source have been slightly less than \$6,000,000.

The Building and Loan League's able Apologist Morton Bodfish gave the program its sharpest digs. Basis of his criticisms was the fact that the present slump was due largely to maladjustment between costs and rents, that the amendments would have little beneficial effect on these two factors. Then he asked the rhetorical question: "Is it in the interests of local institutions and private enterprise for the Government to attempt to control interest rates and loan terms, possibly to the point where community thrift institutions, with their billions of funds supplied by savers and investors cannot successfully operate?"

**Revival.** In reporting the President's original message the Press waxed highly optimistic over the possibilities of his proposals, headlined a "\$16,000,000,000 Building Program." This was obviously wishful reporting. A realistic appraisal of the President's program in terms of a Boom must begin with the fact that the real, grade-A Boom must still be in the lower-priced house, must be directed primarily at the man earning between \$1,500 and \$3,000 a year. There, and there alone, lies real volume.

An objective analysis of this market for houses as of the beginning of 1938 reveals that the consumers in this income bracket are not buying houses because the incentive is not strong enough and because they have not enough money.

The incentive is, of course, a function of the rentals now being paid. They have as yet failed to rise to that level where it is as cheap to own a home as it is to rent one.\* It seems safe to assume that where the new legislation influences rents at all, it will tend to lower rather than raise them by encouraging the construction of units with the cost restriction of \$1,000 per room.

But rentals are only half the picture;

there remains the question of the ability to pay. The new legislation has already taken one step in the right direction by reducing the down payment required. But it is self-evident that the vital cost to reduce is still the monthly payment, and this has on the contrary been slightly raised by the new enactments. Ignoring the theoretical possibility of a further reduction in interest rates and lengthening of the period of amortization, it therefore becomes evident that the key to an honest and reasonably immediate revival in building lies in a reduction of construction costs rather than in any juggling of finance charges or premature boosting of rents.

Thus the issue is placed squarely where the President put it to begin with—before Labor and Industry. And it is precisely in this conjunction that the new program can be most effective. Its provisions for the insurance of construction loans and mortgages on multi-unit projects ranging in cost from \$16,000 to \$250,000 is nothing less than a frank bid for private projects big enough to effect real economies in operation. They may be either for sale or for rent, and in many cities the restriction of \$1,000 per room should not prove unattractive to private investors. It is only in such projects as these that Labor can conceivably be induced to accept long-term contracts in return for lower daily wages; and only in such projects as these that Industry can effect the economies in building operation which are required of it today. The remainder of the President's program makes good sense; but it is this provision that may make building history.

A good way to start making it has already been announced by the President: "The success of such a program as this . . . will depend mainly on the willingness of industry and labor to cooperate . . . To help attain this end, it is my intention to initiate a series of conferences with representatives of industry, labor and finance with a view to giving housing construction a fresh start."

\*This hackneyed real estate aphorism about rising rents is not nearly so applicable to the critical \$1,500-\$3,000 income group as it is to those immediately above and below it. An increase in rents will only prove an incentive to buying a home when the consumer's income is also rising; otherwise he will be able to afford neither the old apartment nor the new house, but on the contrary be forced as a group into cheaper accommodations. Which is precisely what tends to happen to the \$1,500-\$3,000 income bracket. Reason is that this bracket is composed predominantly of white collar workers whose incomes remain relatively stable in times of rising costs. According to studies made by the Department of Commerce, during the past year the cost of living rose about 4 per cent, the income of most industrial workers rose about 14 per cent, while the income of white collar workers rose fractionally less than the cost of living. In other words, white collar workers have progressively less net income as the cost of living increases. Net result is that rising rents are a relatively smaller incentive toward home buying among the very group from which the Boom must develop.



# A HINT TO PREFABRICATORS

on methods of distribution is advanced by Stran-Steel and its mass production plans for small houses.

LAST month, in Detroit, the Stran-Steel Division of the Great Lakes Steel Corporation presented its own version of the low-priced house, first step in an ambitious merchandising plan which was using as springboard Detroit's currently severe housing shortage. Barely qualified to win FHA approval as a house of minimal proportions, its cost to the average buyer was more than \$3,000 without land, represented therefore not so great a bargain as can be made on similar minimal houses elsewhere. It was, however, a significant house, for it demonstrated a partial solution to one of prefabrication's most formidable problems—distribution.

The frame of a Stran-Steel house consists of steel units. To the steel frame are fastened plywood panels which have been processed at the nearest lumber yard. Wood is nailed to steel through the use of rippled nail holes in the steel beams. Stran-Steel Division points out that any builder has merely to take its specifications, and he will be able to assemble and erect the house from the directions. All that Stran-Steel sells is the steel—about two tons to the small house.

**Simplifications.** By confining its activities to the merchandising of the steel, Stran-Steel has evolved an intermediary solution to the prefabricator's problem of distribu-

tion. This problem begins with transportation: the further the prefabricated units are shipped, the smaller the profit. Second is supervision: the expense of maintaining the specially trained crews necessary to the erection of a prefabricated house raises labor costs. Only when the savings derived from shop fabrication are higher than these losses can prefabrication pay its way. Stran-Steel ships no cumbersome panels, only steel beams. Its wood panels can be fabricated in any yard, its house can be erected by ordinary labor. Furthermore, Stran-Steel thus escapes two well-known local antagonisms. The local builder still builds the house; and the material dealer has become the manufacturer of the product. Sole difference to him is that he is buying steel rather than wood lumber.

The ratio of labor-in-the-plant to labor-on-the-site, under Stran-Steel Division's set-up, has settled about midway between that of the conventional custom-built house and that of the prefabricated house. A lumber yard with a large order on its hands would in effect become a plant in operation, with the consequent economies of mass production.

Stran-Steel is of course not selling a prefabricated house at all. It is simply giving local builders a good publicity campaign built around three basic designs in exchange for putting two tons of steel in

each house. But its *approach* to the market—via licensed dealers who in effect become small-time prefabricators—is one which the prefabricators can examine with much profit when it gets under full sail.

**Stran-Steel's Future.** The Detroit shortage of shelter has afforded Stran-Steel Division with its first chance to see a lumber yard functioning as a plant. In small Ecorse, near Detroit, plans are afoot for the erection of 125 Stran-Steel houses, with Mayor William W. Voisine having put in the order on behalf of his Wayne County Housing Corporation. The mayor was last month talking about a total of 1,000 houses for his town.

The houses themselves will be just larger (23½ x 25 ft.) than the FHA minimum standards for Detroit. They will include a lean-to utility room outside, but no basement. They will not be too cheap, as witness:

\$2,491.90 for the house
250.00 for the contractor's profit
137.50 for the real estate broker's profit
144.40 for financing
500.00 for land, a variable factor
100.00 for range and refrigerator

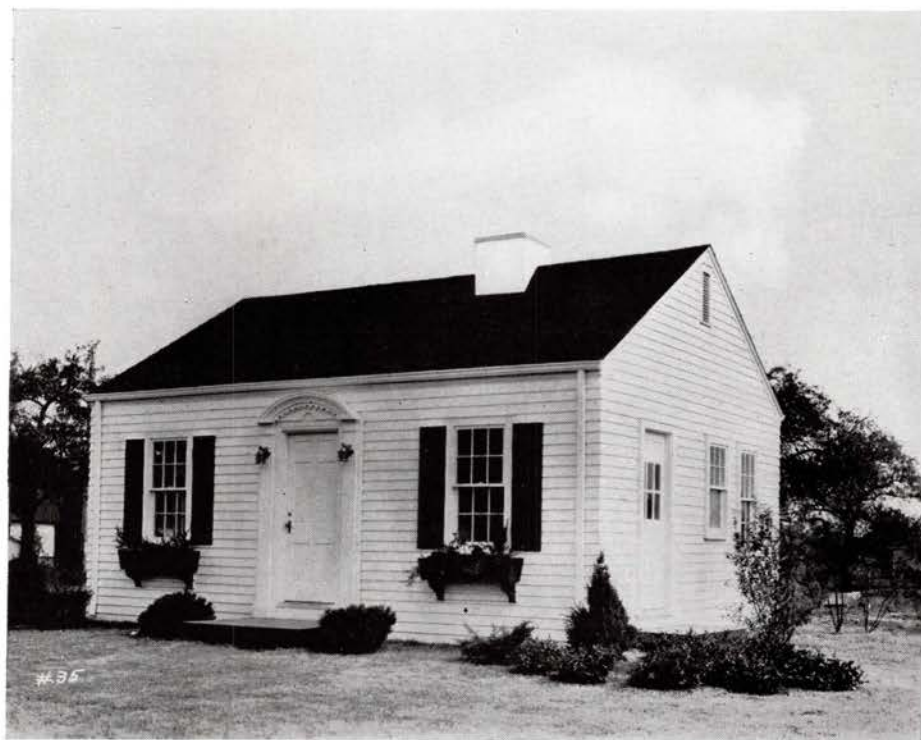
\$3,623.80

In Ecorse, the plan is for the housing corporation to be mortgagor, sell the houses on land contracts—10 per cent cash, the balance at 1 per cent per month.

Stran-Steel Division sees for the immediate future a 60-day market which will mean 2,000 houses. Tentative feelers have been extended to Pittsburgh; but it seems likely that the market, if it materializes, will be confined to the Detroit area, with the one big buyer the town of Ecorse.



"Too minimal", said the FHA of the first Stran-Steel house (right). To win FHA approval, plans were redrawn (above). There are three base plans, from which Stran-Steel expects a market of 2,000 houses to multiply in 60 days.





# BUILDING COSTS TURN DOWNWARD

for the small house. The FHLBB's November survey shows only four cities out of 25 on the rise. Material prices drop 2 per cent from August.

OF the twenty-five cities which reported costs on the Federal Home Loan Bank Board's base house last month, only four indicated that prices were higher for November than for August: Wilmington, Wheeling, New Orleans and San Diego. In New Orleans the cost as quoted in the contractor's bid was \$177 more than on August's \$6,027 house. In Wheeling the increase was \$132 on a \$6,704 house, in San Diego \$63 on a \$6,181 house, in Wilmington \$27 on a \$5,784 house. In Dallas and Reno the costs had remained exactly the same as in August. In every other case there had been decreases recorded, from as little as Memphis' \$5 off a \$5,752 house to as much as Columbus' \$402 off a \$6,536 house.

First slight signs of this downward drift of prices appeared last July. After the tendency to level off throughout August and September, the decrease became distinct during October, leading up to November's sharp declines. The FHLBB attributed the trend to "decreased prices for building materials rather than to any tendency on the part of labor to accept lower pay." In October material prices dropped 0.8 per cent from September, with the total decrease in November as compared with August set at 2 per cent.

Equally as significant as the general decline in costs from August was the fact that of the 25 reporting cities, which are located in the Pittsburgh area, the Cincinnati area, the Little Rock area, and the

Los Angeles area, more than half reported that it would cost less to build a house there today than it did in May, when the effect of high building costs was beginning to affect the market volume severely.

There was, on the other hand, no single instance of a city which had a lower cubic-foot cost in November of 1937 than in November of 1936. Month ago, after a survey of a different set of representative cities, the FHLBB reported that the cubic-foot costs were \$0.025 higher on the average for October, 1937 than for October, 1936. Last month this average showed the costs of November, 1937 to be \$0.0238 higher than November, 1936, again illustrated the gradual drift downward of the nation's building costs.

**The House on Which Costs Are Reported** is a detached 6-room home of 24,000 cubic feet volume. Living room, dining room, kitchen, and lavatory on first floor; 3 bedrooms and bath on second floor. Exterior is wide-board siding with brick and stucco as features of design. Best quality materials and workmanship are used throughout.

The house is *not* completed ready for occupancy. It includes all fundamental structural elements, an attached 1-car garage, an unfinished cellar, an unfinished attic, a fireplace, essential heating, plumbing, and electric wiring equipment, and complete insulation. It does *not* include wall-paper nor other wall nor ceiling finish on interior plastered surface, lighting fixtures, refrigerators, water heaters, ranges, screens, weather stripping, nor window shades.

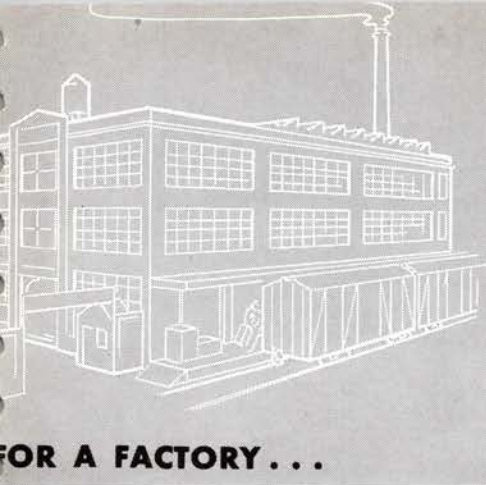
Reported costs include, in addition to material and labor costs, compensation insurance, an allowance for contractor's overhead and transportation of materials, plus 10 per cent for builder's profit.

Reported costs do *not* include the cost of land nor of surveying the land, the cost of planting the lot, nor of providing walks and driveways; they do not include architect's fee, cost of building permit, financing charges, nor sales costs.

In figuring costs, current prices on the same building materials list are obtained every 3 months from the same dealers, and current wage rates are obtained from the same reputable contractors and operative builders.

FEDERAL HOME LOAN BANK DISTRICTS, STATES, AND CITIES	CUBIC-FOOT COST		TOTAL BUILDING COST					
	NOV. 1937	NOV. 1936	NOV. 1937	AUG. 1937	MAY 1937	FEB. 1937	NOV. 1936	AUG. 1936
<b>NO. 3—PITTSBURGH:</b>								
DELAWARE:								
WILMINGTON	\$0.242	\$0.219	\$5,811	\$5,784	\$5,737	\$5,406	\$5,258	\$5,259
PENNSYLVANIA:								
HARRISBURG	.251	.225	6,031	6,186	6,181	5,668	5,408	5,405
PHILADELPHIA	.238	.209	5,720	5,948	5,944	5,483	5,010	4,929
PITTSBURGH	.280	.247	6,715	6,781	6,730	6,179	5,920	5,433
WEST VIRGINIA:								
CHARLESTON	.263	.237	6,312	6,350	5,857	5,696	5,696	5,564
WHEELING	.285	.240	6,836	6,704	.....	5,846	5,763	.....
<b>NO. 5—CINCINNATI:</b>								
KENTUCKY:								
LEXINGTON	.235	.218	5,635	5,721	5,887	.....	5,223	5,237
LOUISVILLE	.245	.227	5,883	6,066	6,111	.....	5,456	5,338
OHIO:								
CINCINNATI	.279	.239	6,689	6,711	6,321	5,849	5,748	5,932
CLEVELAND	.284	.259	6,827	6,981	6,756	6,320	6,213	6,165
COLUMBUS	.256	.241	6,134	6,536	6,352	6,052	5,778	5,850
TENNESSEE:								
MEMPHIS	.240	.212	5,748	5,752	5,704	5,462	5,092	5,080
NASHVILLE	.228	.212	5,476	5,504	5,421	5,267	5,094	5,096
<b>NO. 9—LITTLE ROCK:</b>								
ARKANSAS:								
LITTLE ROCK	.216	.214	5,186	5,208	5,285	5,195	5,136	5,202
LOUISIANA:								
NEW ORLEANS	.259	.225	6,204	6,027	5,911	5,601	5,395	5,124
MISSISSIPPI:								
JACKSON	.249	.225	5,981	6,112	5,849	5,607	5,412	5,365
NEW MEXICO:								
ALBUQUERQUE	.277	.243	6,653	6,744	6,358	5,948	5,827	5,779
TEXAS:								
DALLAS	.256	.235	6,147	6,147	6,143	5,968	5,641	5,641
HOUSTON	.252	.242	6,047	6,073	6,391	5,935	5,809	5,809
SAN ANTONIO	.260	.231	6,250	6,284	6,284	5,884	5,538	5,532
<b>NO. 12—LOS ANGELES:</b>								
ARIZONA:								
PHOENIX	.279	.243	6,706	6,814	6,742	5,885	5,843	6,032
CALIFORNIA:								
LOS ANGELES	.243	.229	5,833	6,001	6,015	5,800	5,489	5,301
SAN DIEGO	.259	.233	6,218	6,181	6,141	6,137	5,581	5,361
SAN FRANCISCO	.266	.259	6,375	6,452	6,407	6,319	6,222	6,151
NEVADA:								
RENO	.278	.265	6,677	6,677	6,641	6,360	6,354	6,313

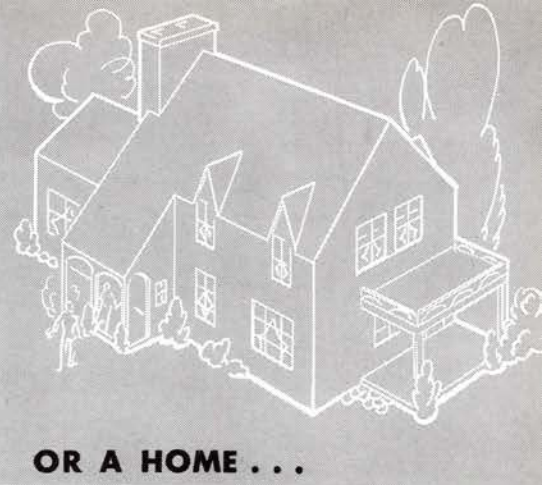




**FOR A FACTORY . . .**



**OR AN OFFICE BUILDING . . .**



**OR A HOME . . .**

DOES ELECTRICAL MACHINERY have to be moved to new locations? Does new equipment have to be added to a factory? Robertson Floors in a factory make this quick and simple . . . and inexpensive. No change in basic floor construction is necessary, no floors need to be torn up, no new ducts laid. For a Robertson Floor is electrically available . . . over its entire area. And it's stronger, lighter, easier to install. Send for our free book containing complete information.

NEW ELECTRICAL DEVELOPMENTS can never take the building you design by surprise . . . and find it unprepared . . . if you've fitted it for the future with Robertson Steel floors! These floors provide beforehand for the transformation of a building from one use to another. Electrical outlets can be placed anywhere over the floor areas, whenever needed. And they supply the building with a lighter, stronger floor construction, too . . . with greater live load capacity.

WOULD YOU LIKE to put floors in the homes you design that will kill the sound of footsteps on the floor above? That are fire-resistant, sturdier, stronger . . . yet thinner? You can specify such floors, now, thanks to Robertson. Adaptable to the application of any kind of floor finish. Often making the installation of plumbing, heating and air conditioning equipment easier. Protected against creaking or sagging. And permanently better in every respect.

**FLOORS BY  
ROBERTSON**

THE CELLULAR STEEL CONSTRUCTION of the Robertson Floor is the secret of its strength, lightness and electrical availability. Above is a typical cross-section showing how cells may be used as wireways. At the center cell is shown the access portion of a typical header crossing the cells. Any desired type of floor finish may be applied over the screed and access unit tops, still allowing ready accessibility to floor cells for wiring purposes at any time.

IT'S a great advantage to specify "Floors by Robertson," whether it's a factory, a skyscraper, a department store, a home or a hospital you're designing. For the Robertson Steel Floor is lighter, more compact, yet stronger than ordinary floors. It is corrosion-resistant, termite-proof. Due to its hollow cells which may be used as wireways, it offers electrical advantages no other floor equals. It speeds up building erection, because it eliminates temporary planking and floor forms and is so easy to install. And it saves space, time, money. For complete information, send the coupon for our free booklets "New Life for Buildings" and "When Your Dream House Comes True."

**ROBERTSON STEEL FLOOR SYSTEM**

H. H. ROBERTSON CO.,  
2004 Grant Bldg., Pittsburgh, Pa.

Please send me, without obligation, your booklet  
describing the use of the Robertson Steel Floor

☐ in large buildings ☐ in the home

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_



# MESKER



## GWILL SILLS



## STOP RUST



## AND REDUCE



## MAINTENANCE COST over 90%

Prove to yourself the value of concentrated sill protection.

Send for the results of a fact finding survey incorporated in the free booklet

"Only Concentrated Protection Reduces Window Maintenance Cost."



# Mesker

SINCE 1879

MESKER BROTHERS . . . Dept. A-1  
424 South 7th St. . . St. Louis, Missouri

## UNIFORM FORECLOSURE

for the U. S. is pushed: what the proposed law will cure.

LAWYERS, bankers, mortgagors, and mortgagees the country over sweat and fret because:

¶ Foreclosure is by power of sale in Kansas City, Mo., is accomplished in a month and a half, and costs about \$44. Across the river in Kansas City, Kan., foreclosure is a court action, costs \$90, takes a year.

¶ Cost of foreclosure in Illinois is more than \$350; in Texas it is about \$5.

¶ Time required to complete a foreclosure in Virginia is eight days; in Alabama it is more than two years.

¶ Mortgage or deed of trust forms now vary in length from 1,000 to 4,000 words; the form can be put into about 160 words, which would appreciably cut down the mortgagor's recording fees, currently as high as \$10.

¶ Four out of every \$5 spent for foreclosure in New York is legalized waste, with mortgagees forced to spend, in useless costs, some \$10,000,000 a year.

Such lengthy, expensive, and obsolete inconsistencies stud the case for a uniform real estate mortgage and foreclosure law, a case which, in the last decade, has been supported by nearly every responsible body touched by foreclosure. Last month the latest reform drive was started, headed this time by the quasi-Governmental Central Housing Committee. Its draft for an improved and uniform statute is currently being studied by the U.S. Building and Loan League, the American Bar Association, and the Conference of Commissioners on Uniform State Laws, seems nearer passage than ever before.

The drive for uniformity started back in 1927, but did little more than supply a base for subsequent operations. The earlier draft was never accepted by any State, despite approval by the Bar Association, on the grounds of its many ambiguities. The present draft, which specifies the redemption period, increases the notice of foreclosure to the mortgagor, and simplifies the method, is not more stringent nor more lax, but clearer and up-to-date.

Advantages to the mortgagee from this uniform statute: the redemption period would be shaved down to 30 days, thus increasing the maximum loanable value of a property; foreclosure would be by power of sale, with provision for court confirmation at the will of the mortgagee, a simple and inexpensive process; the machinery by which mortgagees can claim deficiency judgments would be regularized.

The greater facility, lower cost, and speedier process of foreclosure under the proposed law benefit the mortgagor as well

(Continued on page 36)

# MONCRIEF

winter  
AIR CONDITIONERS



make homes modern

MONCRIEF Winter Air Conditioners contribute more than any other factor to make homes modern—for this year and for the years to come. In addition, Moncrief Winter Air Conditioning makes a house immediately more saleable, with a higher re-sale value for the future. Moncrief Winter Air Conditioners—for gas, coal, or oil—include the very latest improvements, together with exclusive Moncrief features, such as the patented wind box, the Moncrief system of baffles, combustion drums, etc. Every Moncrief unit has been re-styled and re-engineered so that it stands in the very forefront in appearance, efficiency and economy of operation.

★  
Write for  
illustrated literature  
and data sheets.  
★

Moncrief Engineering Service is freely available for estimating and laying out plans.

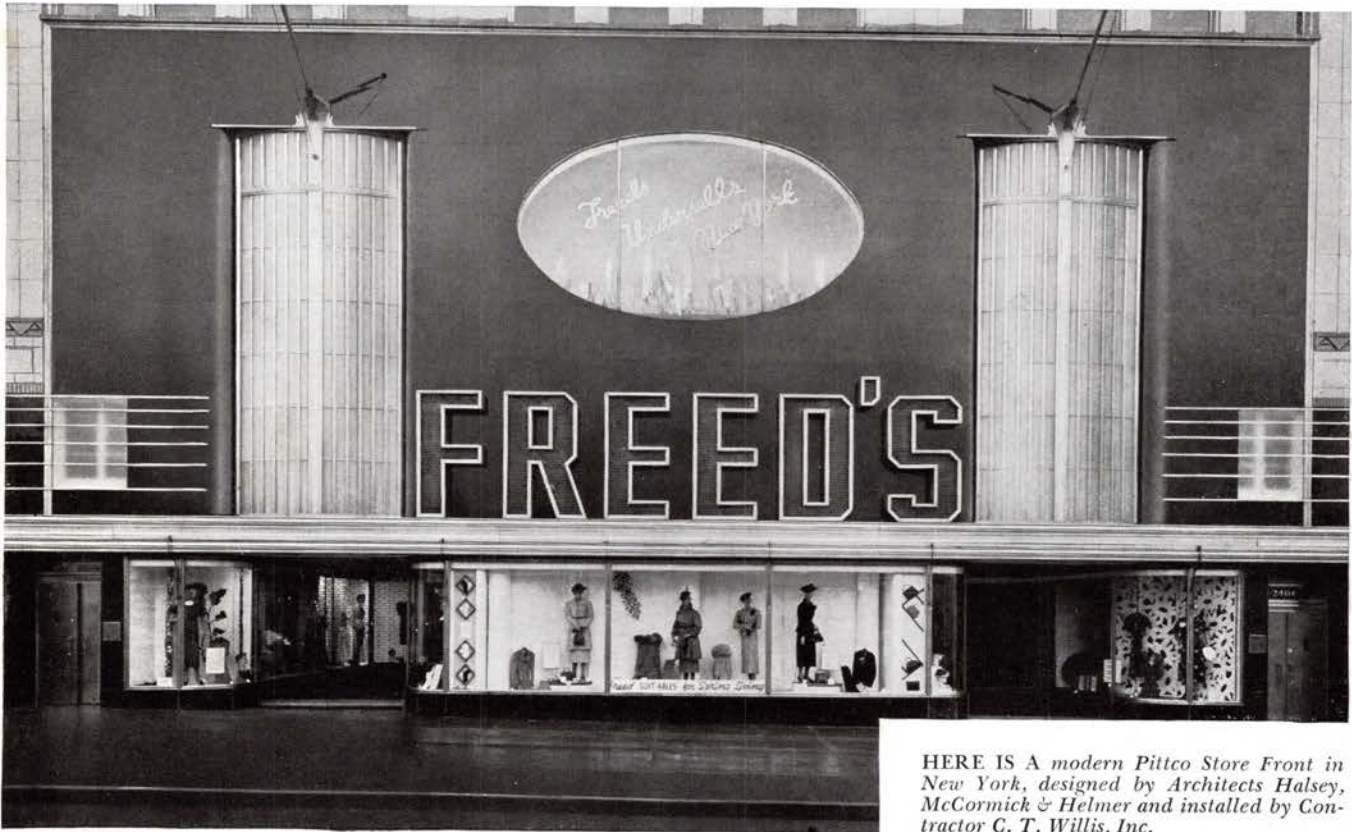
THE HENRY FURNACE & FOUNDRY CO.  
3485 E. 49th Street Cleveland, Ohio



# Ideal Execution

## of your Store Front Designs

*Insured by the use of Pittco Store Front Products, properly installed*



HERE IS A modern Pittco Store Front in New York, designed by Architects Halsey, McCormick & Helmer and installed by Contractor C. T. Willis, Inc.

A FINE store front on your board often becomes a mediocre store front on Main Street . . . unless your design is carried out with quality products properly installed. That's why architects throughout the country who are doing store front work have made a habit of specifying Pittco Store Front Products on their jobs.

The glass, metal and paint which make up the Pittco line are all of unquestioned high quality . . . and

meant to be used together in the creation of harmonious, attractive and resultful fronts. Manufactured by a company which has pioneered in modern store front construction, they represent the best in store front products. Further, the Pittsburgh Plate Glass Company maintains crews of skilled workmen throughout the country, with specialized knowledge of how to install Pittco Products properly.

We urge you to take advantage of

Pittco Products, properly installed, to insure the ideal execution of your store front designs. And we invite you to send the coupon for our free book of helpful facts, figures and photographs of Pittco installations of all types.

**PITTCO**  
STORE FRONTS  
*glass...metal...paint*

*Paint* \* **PITTSBURGH** \* *Glass*  
**PLATE GLASS COMPANY**

Makers of WALLHIDE PAINT • WATERSPAR ENAMEL AND VARNISH • SUN-PROOF PAINT • FLORHIDE • POLISHED PLATE GLASS • MIRRORS • PENNVERNON WINDOW GLASS • DUPLATE SAFETY GLASS • PITTCO STORE FRONT METAL •  
Distributors of PC GLASS BLOCKS and CARRARA STRUCTURAL GLASS

Pittsburgh Plate Glass Company,  
2125A Grant Bldg., Pittsburgh, Pa.  
Please send me, without obligation, your  
book entitled "Producing Bigger Profits with  
Pittco Store Fronts."

Name.....  
Street.....  
City.....State.....



Egbertsville, N. Y. High School. Bley & Lyman, Architects, Buffalo, N. Y.

## Sealed Weather-tight with Pecora

This and many other schools are protected against weather damage by calking window and door frames, and tuck pointing masonry, with Pecora Calking Compound. Tight joints help to reduce fuel costs and provide more uniform temperature—of great importance in air conditioning. Since 1908, Pecora has been specified by leading architects because of its reliability and unchanging quality. Properly applied, it will not dry out, crack or chip. Applicable to all building materials. Write for folder "Famous Buildings."



Creators of  
Calking Compound  
in Cartridges

## Pecora Paint Company Inc.

Fourth & Venango Sts. Est. 1862 by Smith Bacon PHILADELPHIA, PA.  
Member of Producers' Council, Inc.

Also MORTAR STAINS • SASH PUTTIES • SUCTION MASTICS



(Continued from page 34)

as the mortgagee, since he will be able to borrow more money, and at better rates. For example, in Illinois it costs over \$300 to foreclose a \$5,000 mortgage, and takes more than a year and a half. Cost of the delay, including interest on the investment, accrued taxes and insurance, and depreciation, has been estimated at \$2 a day, a total of nearly one-fourth of the mortgage. Thus the mortgagee loaning more money than 65 per cent of the appraised value of the securing property has inadequate protection; nor can the delinquent borrower be safely carried when his accumulated taxes, interest, insurance have increased the total debt to more than three-fourths the value of the security. But in Massachusetts, where in two months a \$5,000 mortgage can be foreclosed for \$30, the loaning institution can well afford to lend up to 80 per cent of value.

As a final and convincing footnote to the inconsistencies of the 48 State laws on foreclosure, the HOLC, from its records, averaged the cost and the length of time involved to foreclose properties, basing estimates on as near 100 foreclosures as possible for each State. Released last month in the *Federal Home Loan Bank Review*, the estimates show:

State	Total time* Months	Days	Average cost of foreclosure†
Alabama	25	3	\$ 47.95
Arizona	8	27	202.38
Arkansas	5	4	123.18
California	14	26	161.34
Colorado	7	18	102.65
Connecticut	4	4	111.00
Delaware	3	12	120.93
District of Columbia	1	3	68.75
Florida	3	22	158.16
Georgia	0	27	56.70
Idaho	15	1	170.98
Illinois	19	16	354.30
Indiana	14	0	185.61
Iowa	15	14	129.35
Kansas	11	14	90.88
Kentucky	6	3	149.23
Louisiana	4	11	125.23
Maine	12	25	21.32
Maryland	1	11	157.56
Massachusetts	2	6	29.08
Michigan	15	1	90.52
Minnesota	13	25	96.11
Mississippi	1	24	58.81
Missouri	1	16	44.83
Montana	15	2	161.74
Nebraska	5	26	112.19
Nevada	15	12	223.01
New Hampshire	1	27	70.82
New Jersey	4	21	222.29
New Mexico	13	0	175.38
New York	3	17	312.54
North Carolina	1	16	64.07
North Dakota	16	4	114.94
Ohio	3	24	125.46
Oklahoma	9	20	139.93
Oregon	15	10	130.37
Pennsylvania	1	19	158.27
Rhode Island	2	10	44.72
South Carolina	2	28	123.25
South Dakota	13	25	70.84
Tennessee	1	11	77.51
Texas	0	22	5.18
Utah	14	23	158.33
Vermont	8	27	97.14
Virginia	0	8	94.48
Washington	16	6	134.40
West Virginia	1	6	56.93
Wisconsin	16	0	169.94
Wyoming	15	1	174.11

\*In case of foreclosure in court, the time has been computed from the date of filing of the petition to foreclose to the date of acquisition of title, free of all rights of redemption.

In case of foreclosure under power of sale contained in the mortgage or deed of trust, the time has been computed from the date of the first publication of notice of sale or of intention to foreclose, where such is required, to the date of acquisition of title, free of all rights of redemption.

†Costs do not include salaried personnel; in both Texas and Massachusetts salaried attorneys handle foreclosure.

## MEMORANDUM

*Capitol Rock Wool is now Moisture-Proofed—has new Vapor-Proofing Membrane to eliminate passage of moisture from interior of home—new larger batts fit tightly between studding—easier to install E.R.*

The new Capitol Rock Wool Insulation Batts are moisture-proofed by a special new process. With each carton of batts, vapor-proofing membrane (for tacking to studding over batts) is included.

The batts are 15" x 24", to "spring fit" into studding spaced on 16" x 24" centers, available both wall and 2" thickness. Also Capitol Grade A Blowing Fibre.

Ask your local Capitol Rock Wool Insulation Engineer, or write: The Standard Lime & Stone Co., Dept. A, Baltimore, Md.

## CAPITOL Rock Wool Insulation

*Capitol Rock Wool is installed by Franchised Capitol Rock Wool Insulation Engineers in accordance with the Master Specifications of the Standard Lime & Stone Co., Manufacturers, who reserve the right to inspect every contract.*





From ugly building to appetizing cafe—with the help of Atlas White stucco. DiPinto's Cafe is located on Torresdale Ave., near Frankford Ave., Philadelphia. Owner and general contractor, A. Ferraco. Plastering contractor, A. Bonbano—both of Philadelphia. Light buff colored exterior stucco furnished by Penn-Crete Products Co., Philadelphia.

# Look again— *It's the same Building!*



## *Another example of how exterior stucco of Atlas White portland cement helps transform "eyesores" into handsome, profitable buildings*

● Really amazing—the remodeling magic that's accomplished with exterior stucco of Atlas White portland cement.

On the job shown here, metal reinforcing was placed over the old brick walls, then three coats of stucco, with a finish coat of Penn-Crete light buff. Atlas Gray cement was used for the base coats.

When you are figuring on a remodeling job, remember these facts:

1. White portland cement stucco gives a building a fresh, bright and permanent exterior.
2. It is durable because it is a thin sturdy wall of concrete with the permanence, weather resistance and fire resistance of concrete.

3. It can be applied in any texture and any color.

4. It is economical in first cost and gives the kind of service that endures in any climate.

Universal Atlas Cement Co. (United States Steel Corporation Subsidiary), 208 South La Salle Street, Chicago.

**A FACTORY PREPARED STUCCO IS PREFERABLE**



S-11

STUCCO MADE WITH **Atlas White** PORTLAND CEMENT



**HOUSES SELL  
FASTER WITH  
RITTENHOUSE  
ELECTRIC  
DOOR-CHIMES**

**STOP  
DOOR-BELL  
NERVES**



New equipment that contributes to more enjoyable living attracts the prospective buyer's attention and makes houses easier to sell. That's why Rittenhouse Electric Door Chimes are being installed in new houses everywhere. Rittenhouse Chimes were selected for House Beautiful's Bride's House, House and Garden's Ideal House, 5-Star Homes and others.

Superb tone quality, smart styling, rugged construction, popular prices, make Rittenhouse Electric Door Chimes the universal choice. Easily installed using regular door-bell wiring. Made in tubular and bar chime models. Prices \$1.00 to \$10.00 list. A model for every Chime need. Choice of several attractive finishes. Nationally advertised in leading magazines.

At electrical wholesalers everywhere. Mail coupon below today for folder describing entire line.

The A. E. RITTENHOUSE CO., Inc. Dept. 304  
Honeoye Falls, N. Y. Established 1903



**RITTENHOUSE  
ELECTRIC DOOR-CHIMES**

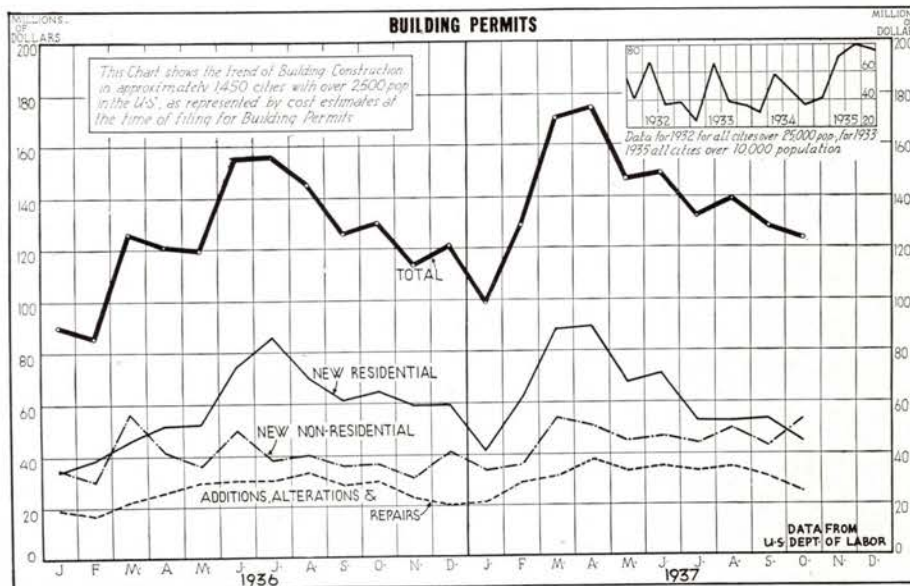
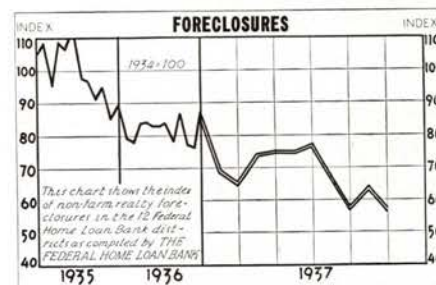
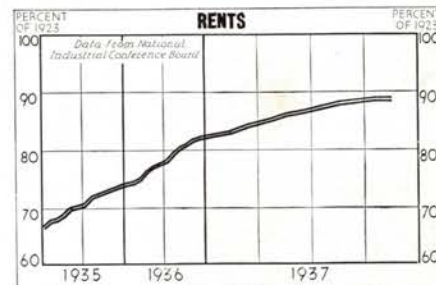
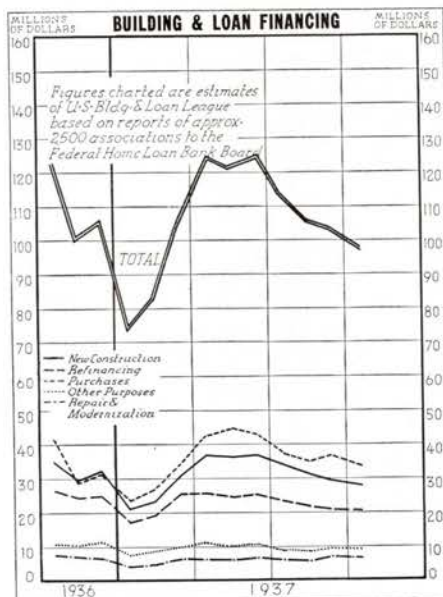
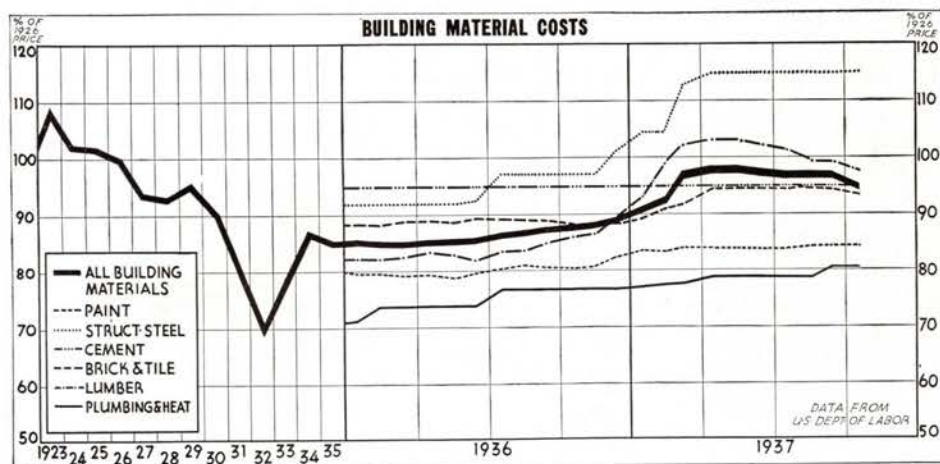
The A. E. RITTENHOUSE CO., Inc.,  
Dept. 304, Honeoye Falls, N. Y.

Send folder describing complete line of Rittenhouse Door Chimes.

Name.....  
Address.....

## PRICES DECLINE SLIGHTLY

and rents continue to climb slowly, two hesitant harbingers of more building.





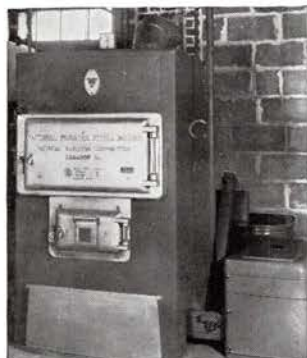
# BOILER INDUSTRY

co-operates with

# IRON FIREMAN



AMERICAN RADIATOR



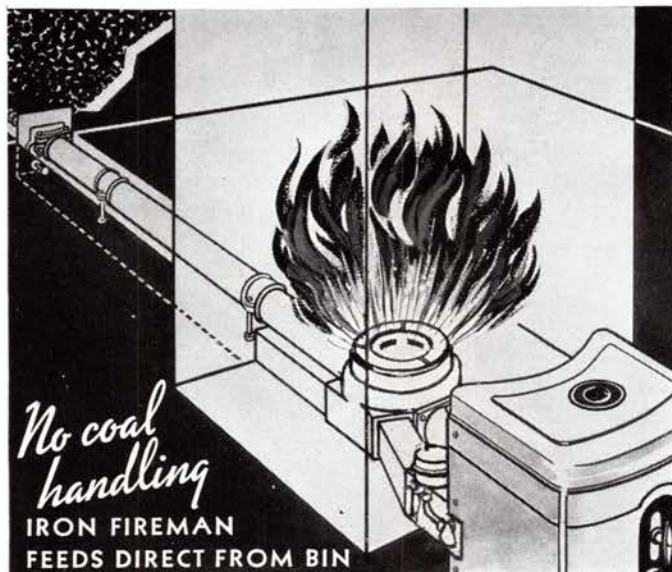
NATIONAL



FITZGIBBONS



WEIL-McLAIN



## Combination Units Latest Development in Modern Automatic Coal Heating

BOILERS and furnaces by leading makers are now designed especially for automatic coal firing. One of these units, with the addition of an Iron Fireman *Coal Flow* model that feeds direct from bin to fire, represents the acme in automatic home heating.

An Iron Fireman automatic coal burner is a thoroughly efficient machine—as fine a product as men, money and materials can make. An installation in a boiler or furnace built expressly for automatic coal firing will provide the finest heating comfort ever known. The entire unit is modern, compact, clean.

No matter what types and sizes of homes you are working on, there is an Iron Fireman combination unit to meet your requirements. Whether you are in anthracite or bituminous coal territory; whether you prefer hopper model installations, or *Coal Flow* installations that abolish coal handling, there is a unit that will fit your plans and your budget.

See your Iron Fireman dealer or write for literature and detailed information on the Iron Fireman line of automatic coal burners. Iron Fireman Mfg. Company, Portland, Oregon; Cleveland, Ohio; Toronto, Canada. Dealers everywhere.

# IRON FIREMAN

## AUTOMATIC COAL FIRING EQUIPMENT

This famous trade mark is the symbol of Iron Fireman, the world's leading automatic coal burner, the machine that made coal an automatic fuel.



IRON FIREMAN MANUFACTURING CO.  
3061 W. 106th Street, Cleveland, Ohio.

Send Iron Fireman literature for ☐ Home Heating  
☐ Commercial Heating

Name \_\_\_\_\_  
Address \_\_\_\_\_



KEWANEE



BURNHAM



ECONOMY



RADIANT



CAPITOL



# Wood Maintains Its Preference...

## flexwood

[WOOD IN FACILE FORM]

**...extends its applications**



*Then...* CREWE HALL, CHESHIRE  
circa 1615

Crewe Hall, with its richly carved screen and wainscot, is an excellent example of the reliance placed on wood for fine interiors in olden days. Parliamentary troops, garrisoned there in 1643, were besieged by the Royalists under Lord Byron. Here, as in most landmarks, wood was the background for historical happenings.



## *Now...* CURVED MURAL MADE OF 20 DIFFERENT VENEERS

The curved murals made up of 20 different kinds of wood in the William H. Block Company Auditorium in Indianapolis, show the amazing versatility of Flexwood . . . wood in facile form. Three full wall areas are finished in Mahogany Flexwood, four thousand square feet being used. The Flexwood for the four murals, each eighteen feet square, was cut and applied on the job, on the curved wall surfaces. Vonnegut, Bohn and Mueller, of Indianapolis, were the architects.

Since Flexwood is applied by hand to any smooth surface, curved or flat, it makes possible wood treatments hitherto undreamed of from the standpoint of beauty, speed and economy. Flexwood, because it is real wood, is alive...colorful...elegant. Flexwood places no limitations on the creative skill of the designer, and no strain on the normal budget. Samples and complete data are yours for the asking.



**UNITED STATES PLYWOOD CORPORATION, 103 PARK AVENUE, NEW YORK**  
**Manufacturers of Flexwood, Plywood, Armorply . . . and kindred products**



# WHY THESE NEW MACBETH GALAX GLOBES GIVE MORE USEFUL LIGHT



**ROMANESQUE**... plain white or applied brown decoration.  
**HALLSTADT**... plain white or with tan applied on lower section.

Models shown here are stocked in plain white and can be furnished with various decorative treatments. Globes are available in wide range of sizes with standard fitters.

*Revolutionary new process gives unusual efficiency to dust-proof enclosing globes!*

**M**ODERN lighting standards demand enclosed globes that are not only attractive, but effectively provide semi-indirect lighting.

MACBETH GALAX Globes meet this need in a unique fashion. The upper portion has very high transmission, nearly equal to that of the inside frosted glass of a modern MAZDA lamp. The lower portion is semi-opaque, its inner surface has one of the highest reflection factors in the

field of lighting glass. Yet the entire globe is in *one solid piece!*

These globes retain their high efficiency for longer periods because the reflecting surface is enclosed and thus protected from dust. The smooth outer surface makes cleaning an inexpensive job. Macbeth chip-resisting edge is an added value.

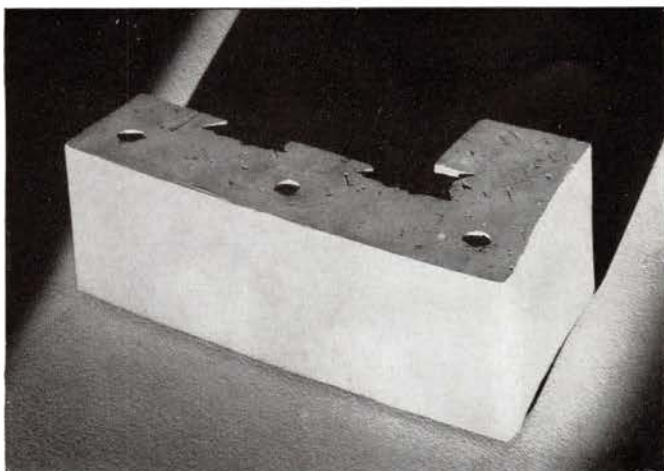
Write today for illustrated manual, "The Effective Use of Illuminating Glass", giving complete details of Galax glassware, as well as data on other Illuminating Glass Products. Illuminating and Optical Division, Dept. F-1, Corning Glass Works, Corning, N. Y.



## CORNING means Research in Glass



# STREATOR ★ BRICK ★



★ Streator Brick Company is proud to have been chosen by Frank Lloyd Wright to collaborate in the development of the special face brick required for the remarkably effective new type of wall construction used in the Johnson Office Building and the H. F. Johnson, Jr. residence at Racine, Wis.

Exclusive production facilities, including the continuous type tunnel kiln recently perfected by the Streator organization, made possible the economical production of 16 different brick designs required. These involved special size, shape, design, and color, in quantities ranging from 200 to 300,000 of a kind. The efficient, rapid, and extremely flexible production of brick with Streator methods and plant equipment permits free expression of the architect's ideas in brick design without delay or excessive cost. Recommendations on the production of unusual brick shapes will be submitted upon receipt of specifications. Write for color portfolio showing the wide range of standard Streator Brick colors and textures.

**STREATOR BRICK COMPANY, Streator, Illinois**



## Shaletex

*The Standard of Value in Shale Face Brick*

**MURAL-TONE**  
THE PROVED CASEIN-LITHOPONE  
WALL PAINT

*Reduces*  
**PAINTING**  
*costs*

You can specify MURAL-TONE with the assurance that it will reduce painting costs for your clients. Its money-saving ability has been proved under practically every condition from coast-to-coast during the past two years.

MURAL-TONE is a quality wall paint usable on almost every sort of interior wall surface—plaster, cement, insulating wall board, concrete, etc.—for new or old construction.

One gallon, thinned with water, yields one and two-thirds gallons of paint. Covers as much as a thousand square feet.

MURAL-TONE saves time, labor and material. One coat covers and hides, eliminating the necessity of shuffling scaffolding back and forth.

Users report savings of as much as 33½ per cent on light bills, because White MURAL-TONE is 90 per cent light reflective. Ten pastel and twelve positive colors make possible any desired tint.

Typical of firms which approve MURAL-TONE are Shreve, Lamb & Harmon, Eric Gugler, McKim, Mead & White, and William and Geoffrey Platt.

Samples of MURAL-TONE will be supplied gladly, and we will be happy to give you names of satisfied users whose requirements approximate those of any particular client you may have in mind. Please address: THE MURALO CO., INC. 574 Richmond Terrace, Staten Island, New York. Branches: Atlanta, Boston, Chicago, Los Angeles, San Francisco.

Founded  
1894

**mural-tone**

*The Money-Saving Paint*

*in the Orange Can*

Dries in forty minutes

One coat covers on most surfaces

Non-inflammable in the can  
Fire-retarding on the wall



Will not lime-burn

90% light reflective

1 gallon yields 1½ gallons of paint

Cuts costs at least 25%

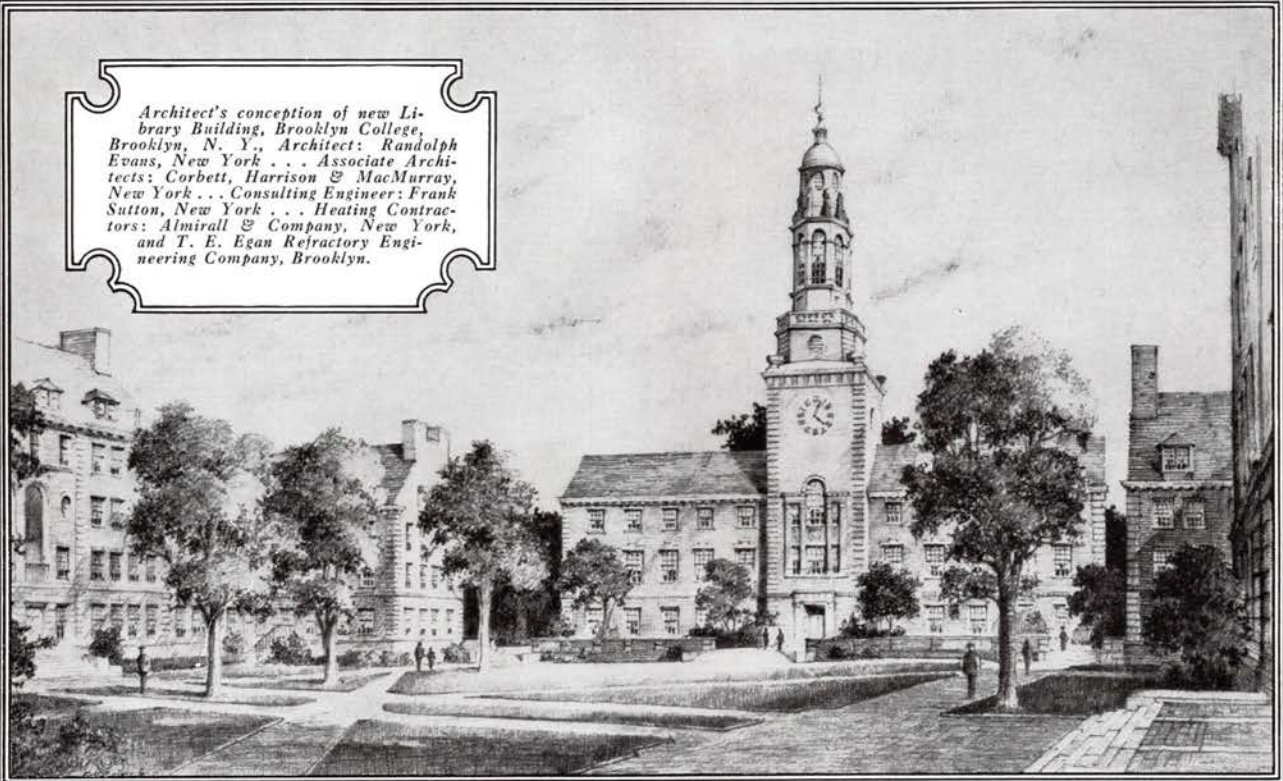
**A MURALO PRODUCT**



# Brooklyn College joins the parade

## ... to NATIONAL PIPE

Architect's conception of new Library Building, Brooklyn College, Brooklyn, N. Y., Architect: Randolph Evans, New York . . . Associate Architects: Corbett, Harrison & MacMurray, New York . . . Consulting Engineer: Frank Sutton, New York . . . Heating Contractors: Almirall & Company, New York, and T. E. Egan Refractory Engineering Company, Brooklyn.



*Library Building • Brooklyn College*

THREE impressive buildings—library, science hall, and gymnasium—are now nearing completion on the campus of Brooklyn's municipally controlled college of arts and sciences. As integral parts of a long-range building program, these important structures will provide modern educational facilities for many generations of students.

Architects and engineers responsible for the selection of materials for this project determined to safeguard their investment by every feasible means. This meant careful balancing costs against quality of materials.

Here again, as in other outstanding

buildings, NATIONAL Pipe came out the winner.

Take a cross-section of the country's finest buildings—the most representative in design, construction, and materials—and note how extensively NATIONAL Pipe has been used. You will find it in every type of service,

for NATIONAL has developed superior pipe for every purpose.

NATIONAL Pipe is produced by the world's largest and most experienced pipe manufacturer. It is available everywhere, through a wide-spread and efficient distributor organization, ready to consult with you at any time.



# NATIONAL TUBE COMPANY

PITTSBURGH, PA.



Columbia Steel Company, San Francisco, Pacific Coast Distributors • United States Steel Products Company, New York, Export Distributors

# UNITED STATES STEEL



# SMART



PATENTED

PATS. PEND.

● The smartly designed T/N ONE-PIECE water closet helps your efforts to design bathrooms, out of the "ordinary" class. Notice the low, trim lines of the exclusive T/N ONE-PIECE water closet. Its strong centrifugal flushing is unusually quiet. What's more, the T/N eliminates overflow danger, and is constructed to remove any possible contamination of the domestic water supply system. The T/N, available in practically unlimited colors, is taken for granted in most of the expensive bathroom plans, yet it is priced for the most modest building or remodeling budget.

## T/N ONE-PIECE WATER CLOSET

For complete information on the T/N ONE-PIECE water closet, and other Case equipment, just write to:

W. A. CASE & SON MFG. CO.  
33 Main St., Buffalo, N. Y.

Founded 1853  
Dept. E-18

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## FORUM OF EVENTS

(Continued from page 16)



Globe Photos

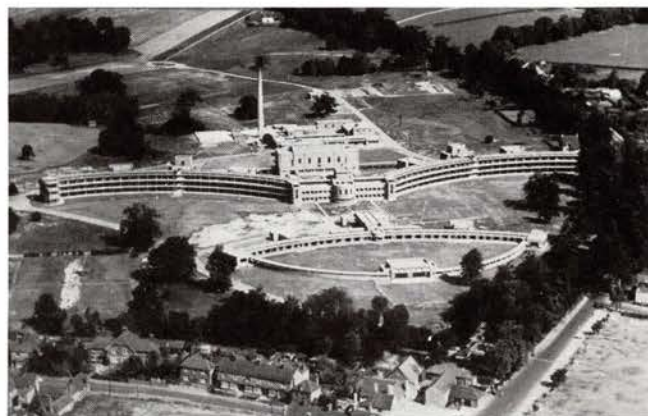
### NAZI "HONOR" SHOUT

A TYPICAL sample of totalitarian achievement is the Nazis' use of modern propaganda apparatus to disseminate medieval ideals in the new open air theater at Oldenburg, North Germany. Peeping out bashfully from behind scraggy bushes and nestling in the upper stories of thirteenth century home-steads built last summer are more than 80 loudspeakers and



The sound emerges from loudspeakers hidden in these sunken "pill boxes" and within the stage buildings. Sound control and blending is controlled from a single desk behind the audience.

microphones. Sunk in the ground at the edge of the semi-circular moat are four loudspeaker "pillboxes" (which reports from Madrid indicate may be useful for firing propaganda across the next war's No Man's Land) linked by subterranean passages. This intricate apparatus is said to give perfect synchronization between sight and sound, to carry the inspirational message provided by "The Honor of the Stedings" across the moat to the ideologically well-trained ears of those in the 14,000 seat amphitheater.



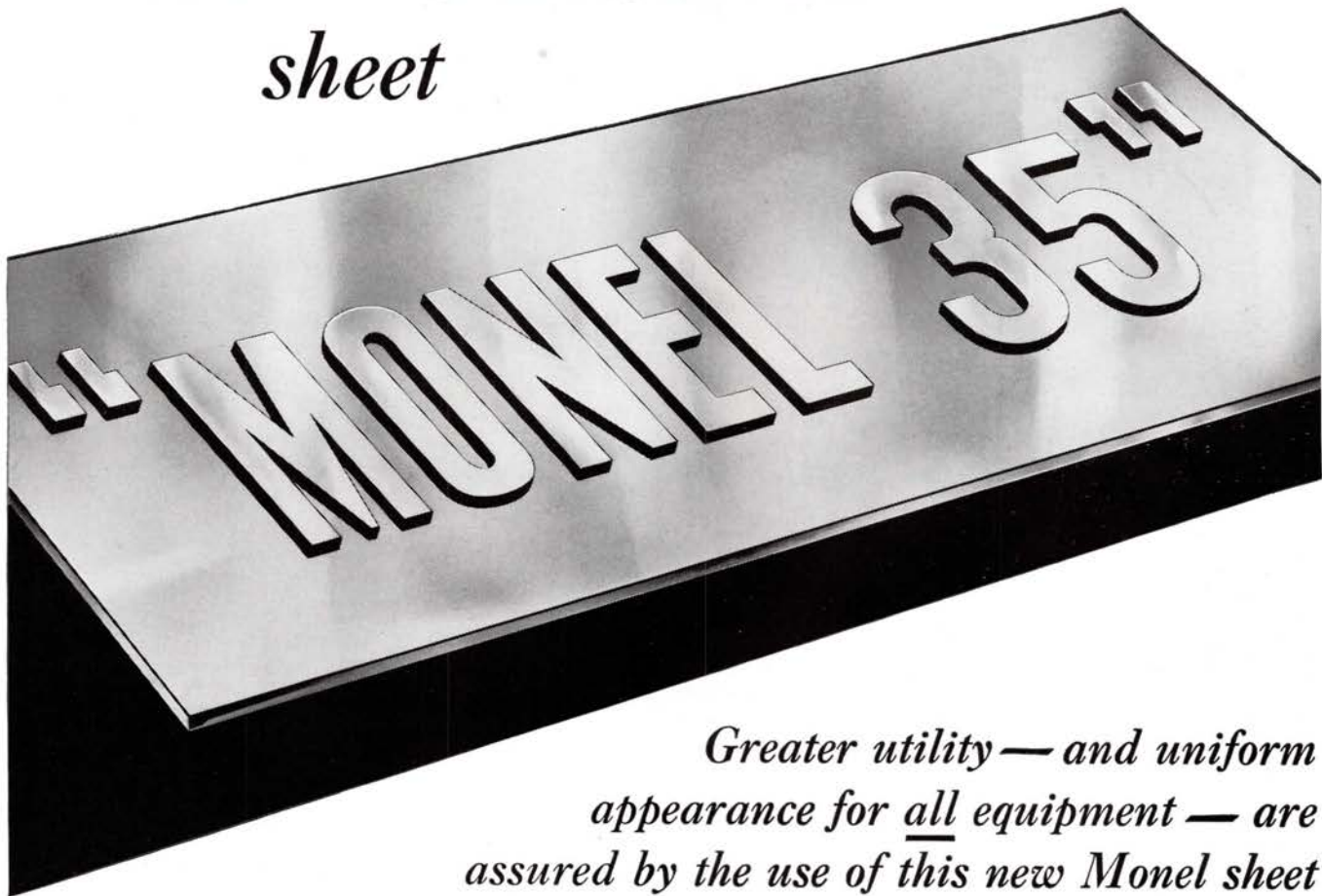
### SUNLIGHT FOR SANATORIA

LOGICALLY planned to douse tuberculous patients in sunlight and fresh air, the wards of this municipally owned sanatorium at Harefield, England have been laid out in two shallow curves running east and west. Each wing is one room deep, with cantilevered balconies in front and a service corridor behind. The curved plan not only protects the balconies from cold side winds and gives the patients a less monotonous outlook, but also minimizes the difficulties of communication and supervision inevitable with such a lanky plan. One nurse, observing from a jutting, glass-enclosed bay at the center of each wing, can supervise a whole floor.

(Continued on page 48)



# *A new, harder* **MILL POLISHED** *sheet*



*Greater utility — and uniform appearance for all equipment — are assured by the use of this new Monel sheet*

**H**ARDER, stiffer, more resistant to denting: That is one characteristic of the new Monel 35 sheet — the property that makes this form of Monel\* more *useful* than ever. And the second important characteristic of Monel 35 is its uniform mill finish: For it provides absolute assurance that *all* equipment, regardless of when or where fabricated, will have the *same identical silvery satin appearance* — standard finish produced at the mill.

Yet none of Monel's well-known advantages are sacrificed. Specify Monel 35 and you build into your clients' equipment the same sound qualities for which Monel has always been famed—strength, toughness, complete freedom from rust, and stout resistance to

corrosion. That is why, more than ever before, Monel is the ideal sheet metal for kick plates, push plates, cove bases, and for food service, clinical, hospital and laundry equipment.

Where lasting beauty and uniform appearance are of paramount importance, remember—"Monel 35". And for lastingly leak-proof roofs, safe, sturdy ceilings — Monel sheet and Monel tie-wire respectively. Write for further information on Monel for architectural requirements. Address:

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\*Monel is a registered trade-mark applied to an alloy containing approximately two-thirds Nickel and one-third copper. This alloy is mined, smelted, refined, rolled and marketed solely by International Nickel.



# Training

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FOR HUMAN COM

The HAND of  
TRANE

HEATING  
COOLING  
VENTILATING  
CLEANSING  
HUMIDIFYING  
DEHUMIDIFYING



## GREAT BUILDINGS

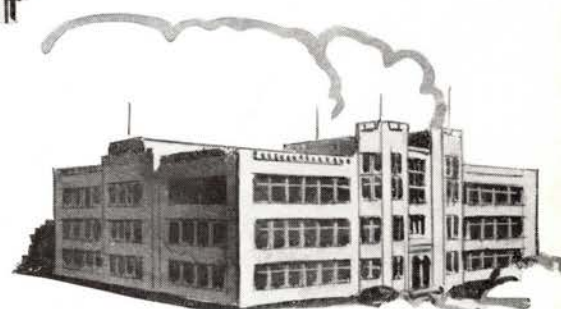
Scanning the weather map we encounter such outstanding Trane large building installations as: Mayo Clinic, U.S. Supreme Court Building, Wrigley Building, 1939 World's Fair Administration Building, Imperial Bank of Canada, among many.

## APARTMENTS

Structures like the following indicate the high level of acceptance of Trane heating and air conditioning in the apartment field: Rockefeller Apartments, New York City, Kennedy-Warren Apartments, Washington, Royal York Apartments, Century Apartments, New York, etc.

## HOMES

Homes for every man, in every state in the union, are delightful places to live, thanks to Trane Convection heating and Trane Air Conditioning. Among the homes of Tycoons, here are a random few from the long Trane list: Pickfair, the residence of Mary Pickford, O. O. McIntyre residence, Ryerson Residence, Residence of Col. R. R. McCormick, Residence of Eugene O'Neill, "Lady Esther" Residence, Residence of Cardinal Mundelein.



## SCHOOLS

Trane and education are well met. The widespread installation of Trane equipment in schools and colleges throughout the country is evidenced in these important installations: Berea College, Indiana Univ. Medical School, Texas A. & M., Louisiana State University, Memorial Union, Univ. of Wisconsin, Purdue, Stanford University, University of Virginia.

HEATING AND AIR CONDITIONING TO THE *N<sup>th</sup>* DEGREE

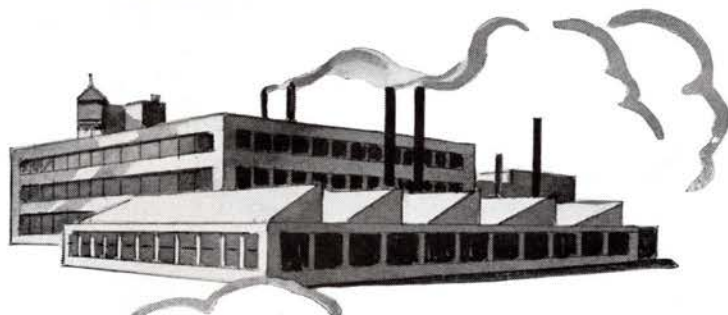
SERVING ARCHITECTS, ENGINEERS & CONTRACTORS FROM 70 U. S. OFFICES



# *Air* TO HEAT IT, TO COOL IT, TO HUMIDIFY AND DEHUMIDIFY IT FOR INDUSTRIAL PROCESSES *is the business of Trane*

## INDUSTRIAL PLANTS

In industry Trane has a great story to tell. Trane serves industry in such notable examples as: Campana, Pepsodent, Hormel, Agfa-Ansco, Chevrolet, Aluminate Company of America, Hiram Walker, Texas Company, Ford, Buick, Dupont.



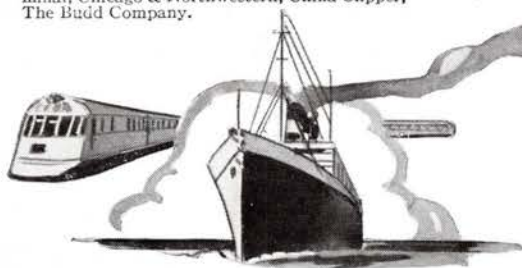
## HOTELS

Operators in the hotel field turn to Trane equipment because of its adaptability, dependability and economy. Space permits five outstanding examples: Adolphus Hotel, Dallas, Roosevelt Hotel, St. Louis, Palmer House, Chicago, Agua Caliente Hotel, Mexico, Astor Hotel, New York.



## SHIPS AND TRAINS

Trane Air Conditioning and heating units cover the travel lanes, bringing comfort to passengers in crack trains, aeroplanes and fast modern ships. Outstanding users: C.B. & Q., Southern Pacific, C.M. & St.P., Illinois Terminal, Chicago & Northwestern, China Clipper, The Budd Company.



This symbol



is used exclusively by Trane to signify the Nth degree of excellence in Heating, Cooling and Air Conditioning Equipment.

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**NOW YOU** can meet the insistent demand for more bath facilities in homes of every size and price class. Weisway Cabinet Showers, with vitreous porcelain or baked enamel walls, in a wide choice of colors, make added baths easily possible, in small space at low cost. Models suitable for master's bath, the "convertible study," or basement "clean-up." Thoroughly adapted in detail to modern building practice.

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**WEISWAY**  
*Cabinet Showers*

## FORUM OF EVENTS

(Continued from page 44)

### DEATHS

PAUL GMELIN, architect, 80, at his home in Cranford, N. J.

A native of Ulm, Germany, he received his early education in Stuttgart, coming to this country in his youth as a draftsman for *The Bridge Builder's Magazine*. Babcock & Willard, New York, was the first architectural firm with which he was connected. Later, he joined the firm of Eidlitz & Mackenzie and greatly aided in their design of the New York Times Building on Times Square. In 1885 he and Andrew Mackenzie won a competition for a proposed telephone building in New York. From 1910 to 1926 he was associated with the firm of Mackenzie, Voorhees & Gmelin, which became Voorhees, Gmelin & Walker upon Mr. Mackenzie's death.

### ANNOUNCEMENTS

A NATIONAL Competitions Committee for Architecture and the Allied Arts has been formed, based on the belief that architectural competitions are the best method of selecting designs for buildings where the expenditure of public funds is involved. The Committee welcomes support from organizations and individuals interested in its program. Further information may be obtained by addressing Henry S. Churchill, Chairman, or William Lescaze, Secretary, P. O. Box 493, Grand Central Annex, New York City.

The spring semester of the Chicago Bauhaus will run from February 7 to June 25, 1938. In addition to the regular day class there will be a separate course of night classes. Besides the Basic Workshop course under the direction of L. Moholy-Nagy, H. Bredendieck and G. Kepes, and a course in modeling by Alexander Archipenko, the night class schedule will include a series of twelve lectures by American and European authorities on related subjects. Further information from: The American School of Design, 1905 Prairie Ave., Chicago, Ill.

The next session of the North American Conference on Church Architecture and Allied Arts will be held in the Cathedral of St. John the Divine, New York, on Friday, March 4, 1938. It will be conducted by the Associated Departments of Church Architecture and the *Christian Herald Magazine*.

### COMPETITIONS

THE American Academy in Rome has announced its annual competition for fellowship awards in architecture, painting and landscape architecture. The competitions are open to unmarried men not over 30 years of age who are citizens of the United States. Residence and studio are provided without charge at the Academy, and the total estimated value of each fellowship is about \$2,000 a year. The term of fellowship is two years. Entries for competitions will be received until February 1. Application blanks and further information may be obtained by addressing Roscoe Guernsey, Executive Secretary, American Academy in Rome, 101 Park Ave., New York City.

The New York Chapter of the American Institute of Architects announces a nationwide competition for the 1938 Le Brun Traveling Scholarship, carrying a stipend of \$1,400. Candidates for the scholarship must be nominated by a member of the Institute and must be between 23 and 30 years of age, must have practiced architecture for at least three years, and have received no other traveling scholarship. Nominations must be received by Jan. 15 by the Le Brun Scholarship Committee, 115 East 40th St., New York, N. Y.

(Continued on page 52)



# **'INCOR' SAVES TIME, CUTS COSTS, IN CHICAGO ZOO'S GIRAFFE HOUSE**

**24-HOUR CEMENT HARDENS 5 TIMES AS FAST,  
SAVES UP TO \$1.22 A CU. YD. OF CONCRETE**



Construction of Chicago Zoo's new giraffe house fell 6 weeks behind. No news in that, for many things can happen to delay a building job. But it certainly is news when lost time is made up at no extra cost. And that is what 'Incor' 24-Hour Cement made possible here. Reason:

'Incor,' a basically improved Portland cement, cures five times as fast, saves "dead" days waiting for concrete to harden. You pour concrete one day—strip forms the next.

That saves time, and time costs money—\$25 to \$100 or more a day, for fixed job overhead, every day the contractor is on a job. So 6 weeks saved means \$2100, even at a nominal job overhead of \$50 a day.

That is why it pays to encourage contractors to estimate with 'Incor' as well as Lone Star. True Portland cements, both—producing the same high strength and durability. The difference is that 'Incor,' through basic process refinements, cures 5 times faster. That means quicker re-use of forms, smoother operation, reduced overhead and labor costs. On 5 typical jobs recently surveyed, these 'Incor'\* savings amounted to 45¢ to \$1.22 net a cu. yd. of concrete. Write for book entitled, "Cutting Building Costs." Lone Star Cement Corporation, Room 2226, 342 Madison Ave., New York. \*Reg. U. S. Pat. Off.



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MAKERS OF LONE STAR CEMENT... 'INCOR' 24-HOUR CEMENT





House at Bear Run, Pennsylvania

*Designed by Frank Lloyd Wright — Insulated with*

Tested by more than 50 years of use, Cabot's Quilt is an insulation that meets every demand of modern architecture. Its thermal conductivity is less than that of other insulating materials. It is rot proof, vermin proof, fire resistant. It loses none of its insulating qualities with passing years. Write for free booklet, *Build Warm Houses*. Samuel Cabot, Inc., 1270 Oliver Building, Boston, Mass.

**Cabot's  
"Quilt"**

**WINDOW  
GLASS**

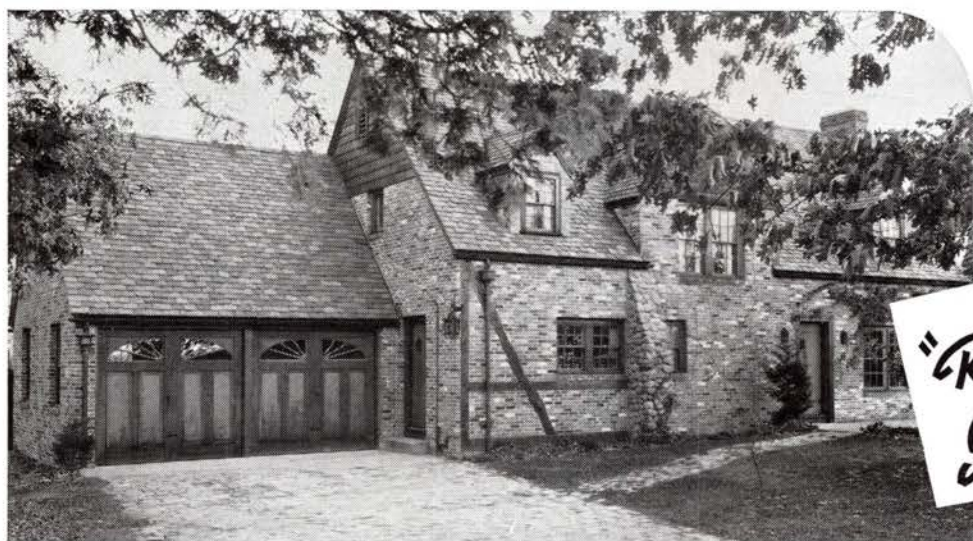
**EASY ON THE EYES**

This ventilator type window is a most practical treatment for stairways in apartments, schools and other buildings. But whatever the style window, for greater satisfaction be sure and specify Clearlite Quality Glass.

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Make your sketches with free rein in garage door design . . . your estimates without worries about expense, if you specify Stanley "Swing-Up" Garage Door Hardware. This unique equipment makes garage doors a high spot instead of a nuisance, both to architect and owner ¶ Easily installed

on any pair of stock doors, new or old, they "float" doors open, in perfect balance, even when snow-banked . . . close them tightly at the pull of a cord

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THE 25-YEAR OLD PROVEN METHOD  
FOR STAINPROOFING AND DAMPPROOFING  
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## FORUM OF EVENTS

(Continued from page 48)

### PERSONALS

ROBERT P. GREENLEAF, mechanical engineer, announces the establishment of an office for engineering consultation and design with special reference to air conditioning located at 2804 East 132d St., Cleveland, O.

Hart Wood, A.I.A. architect, and Arthur J. Russell, architect, announce the formation of a partnership for the practice of architecture at 2512 Manoa Road, Honolulu, Hawaii.

George W. Neff, architect, announces the removal of his office to 730 Lewis Tower Building, 15th and Locust Sts., Philadelphia, Pa.

William A. Mitchell, architect, announces the opening of an office at 309 South Ave., Westfield, N. J. and requests all manufacturers' data and samples.

Elwyn E. Seelye and Gilbert D. Fish have formed a partnership to practice consulting engineering in the welding field with offices at 101 Park Ave., New York City.

Lloyd B. Knutsen and Henri B. Brunet, architects, announce the opening of an office at 228 1/2 South Broadway, Rochester, Minn.

The New York District Office of the Bureau of Foreign and Domestic Commerce announces the removal of its office from 734 Custom House to 602 Federal Office Building, Church and Vesey Streets, New York City.

The de Postels Studio, architectural and industrial arts, has moved to 644 Riverside Drive, New York City.

Louis A. Brown, Jr., architect, announces that he will make his headquarters at 603 National Bank Building, Charlottesville, Va. and will divide his time between that office and his New York office, 60 East 42nd St., New York City. Irving Noel Simon, registered architect, will be general manager of the New York office.

Charles W. Frank, former member of Noah & Frank, an architectural firm of Akron, Ohio, has been appointed vice president of Designers for Industry, Inc., industrial designers and product stylists of Cleveland, Chicago and New York.

### COMPETITIONS

THE American Institute of Architects will receive, between the dates of January 1 to March 1, 1938, proposals of candidates for Edward Langley Scholarships for the year 1938. Awards will be announced about June 1, 1938. The grants, which will be limited to ten, with no stipend exceeding \$1,500, are open to architects, architectural draftsmen graduate students, and teachers of architecture in the United States and Canada. Architects may propose other architects or architectural draftsmen as candidates for the awards to the Regional Director of the Institute who represents the district in which the proposers and candidates reside; faculty or head of architectural schools approved by the Institute, to the Institute's Committee on Education. All proposals are obtainable from the American Institute of Architects, 1741 New York Ave., Washington, D. C.

Washington University, St. Louis, announces the twelfth annual competition for the James Harrison Steedman Memorial Fellowship in Architecture. The fellowship offers \$1,500 for the study of architecture in foreign countries and is open to all graduates of recognized architectural schools, who are between 21 and 31 at the time of appointment, and who have had at least a year's practical work in the office of a St. Louis architect. Application blanks must be returned not later than January 29, 1938 to the Secretary of the School of Architecture, Washington University, St. Louis, Mo.





# AMERICA

## *Lives by Steel*

The day begins, for the average American, with a signal by an alarm clock made largely of steel. Next his shower, in a steel tub, under a steel showerhead fed by water from steel pipes. Then he dries himself on a towel made on steel looms, shaves with a steel razor in front of a mirror rolled between steel rolls, and dresses for the day in clothes containing approximately 110 pieces of steel.

Then breakfast, cooked in steel pans on a steel stove, and perhaps including oranges from his steel refrigerator or mackerel from a steel can of tin plate.

He steps into his steel automobile, drives to a steel-framed building, is whisked up in a steel elevator, sits in a modern steel chair at a steel desk, uses a telephone containing steel parts, and signs letters typed on a steel typewriter.

Home again in his steel automobile, he sits beneath a lamp wired through steel conduit, and reads a magazine printed on steel presses. And then to bed—made comfortable by steel springs.

For every one of these uses there must be a special steel, and Youngstown research finds for each product the steel best suited for its purpose.

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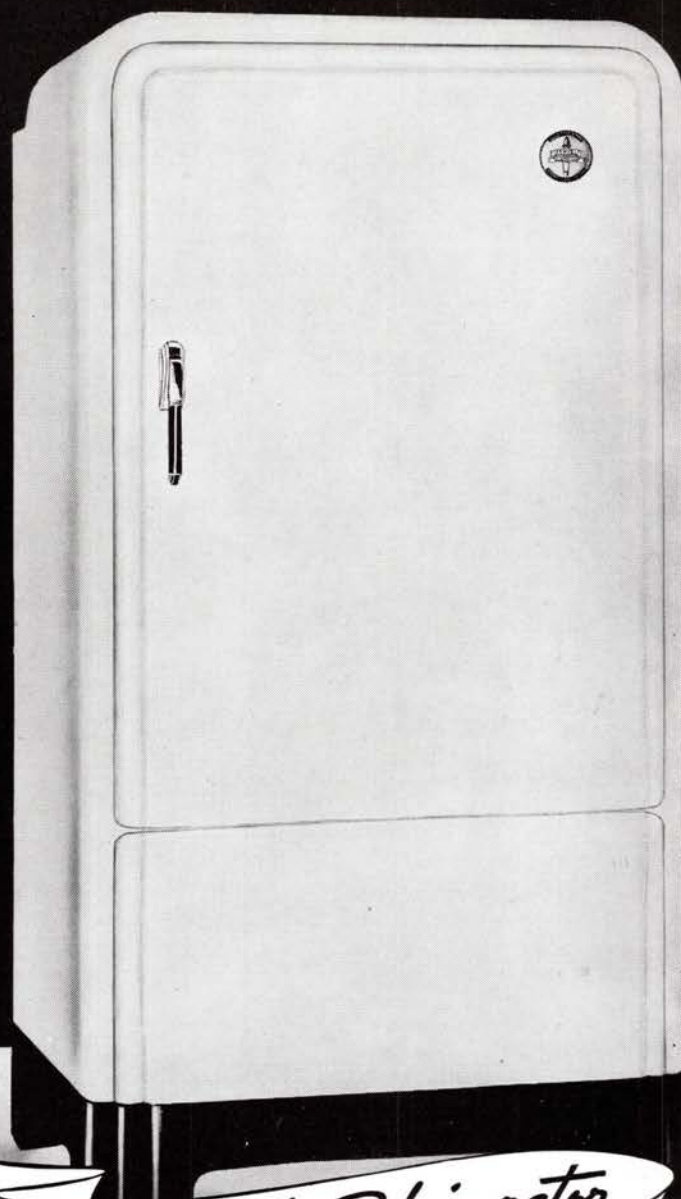


#### TENANTS ENJOY ITS SILENCE

Sophie N. Clark . . . 2 Autumn Street, Brookline, Mass. . . apartment dweller . . . writes: "When you have lived in a small apartment as I have for several years, you really appreciate a refrigerator that's always silent. That's why I'm so pleased with our Servel Electrolux. It costs amazingly little to run, too. I just wouldn't be without gas refrigeration again."

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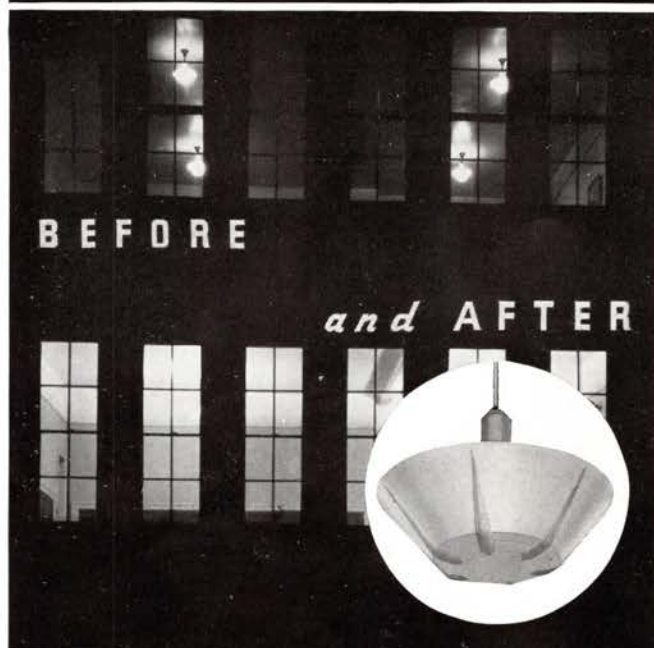
See this different refrigerator at the showroom of your gas company or local Servel Electrolux dealer.

*Specify The Refrigerator*

*THEY HEAR ABOUT But Never Hear!*



## NEW LIGHTING UNIT OF PLASKON .. SHOWS AMAZING DIFFERENCE



## See the **COMMODORE** before you specify lighting

This unretouched night photograph, taken outdoors to picture indoor lighting, shows at a glance how the new Wakefield **COMMODORE** improves seeing conditions. It provides 83% of the light from the bare bulb, by test of Electrical Testing Laboratories, New York . . . more than most indirect fixtures. And its light is glareless, restful to eyes.

The Commodore cuts maintenance costs, too, thanks to its amazing 18-ounce Plaskon shade. This is easy to clean and being tougher than ordinary steel, it assures less breakage and greater safety.

Particularly helpful to architects is the Commodore's design, appropriate to a variety of interior treatments either in new buildings or old.

**FREE** Two interesting booklets of lighting recommendations. One, on schools, already available; the other, on offices, now on the press. Write for copies.



Ask to see this test that shows the difference. No obligation.

## THE F. W. WAKEFIELD BRASS CO.

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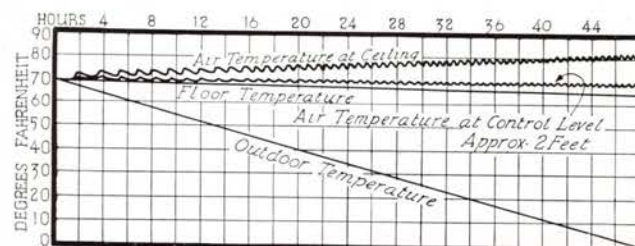
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## PRODUCTS and PRACTICE

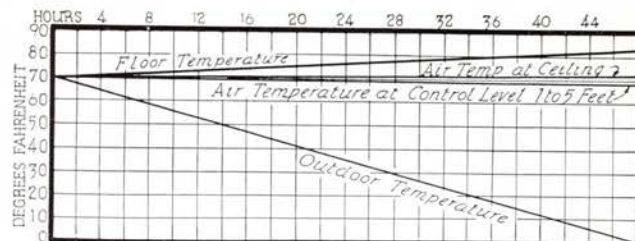
(Continued from page 10)

room and is also used for concealed indirect lighting, and located on the interior walls of the rooms. A return duct the same length and about half the width of the heating riser conducts this air back to the heater.

Since the floors of the house contain about 40 tons of concrete, which must be warmed to about 70° F. before the heating system begins to function, it is necessary to operate the heating unit about 24 hours from a cold start to bring floor temperatures to the comfort point. This condition, however, never exists in practice, since the house is maintained at nearly constant temperature the year 'round, with a minimum of 70° during the heating period and a maximum of 80° during the summer. The enormous heat



**TYPICAL PERFORMANCE: CONVENTIONAL FORCED AIR HEATING SYSTEM.** Chart shows temperature fluctuations resulting from intermittent firing and increase of air temperature near ceiling as outside temperature falls. Based on a number of tests in typical homes.



**PERFORMANCE OF PERSONS SYSTEM OF FLOOR HEATING.** Temperature fluctuations due to intermittent firing have been completely eliminated, and the air temperature at the ceiling is practically the same as that at the floor.

capacity of the floor slabs has, in fact, a very decided stabilizing effect upon the heating system, totally eliminating alternate hot and cold periods due to intermittent operation of the burner.

Temperature records made in the Persons residence and in typical homes heated by conventional methods indicate that use of the new system results in considerably improved conditions. In zero weather, for example, the difference between the temperature of the air near the floor and that near the ceiling in the Persons residence was only slightly more than 2°, and comfortable conditions were maintained with scarcely perceptible air movement, while the difference in temperature in a typical house employing ordinary forced-air heating under the same conditions was said to be more than 8°, and air movement such as to cause drafts. The floor temperature required to maintain comfort with the Persons system with an outside temperature of zero was about 83°, and the air issuing from the wall slots about 75°. With the outside temperature at 32°, a floor temperature of 79° was found to be necessary.

Another unusual feature of the air conditioning system in the Persons home is the use of exhaust air from the kitchen

(Continued on page 60)



**YOU DEMAND BEAUTY OF FINISH  
PLUS PRESERVATION. YOU GET  
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ILLUSTRATION SHOWS HOW DEEPLY  
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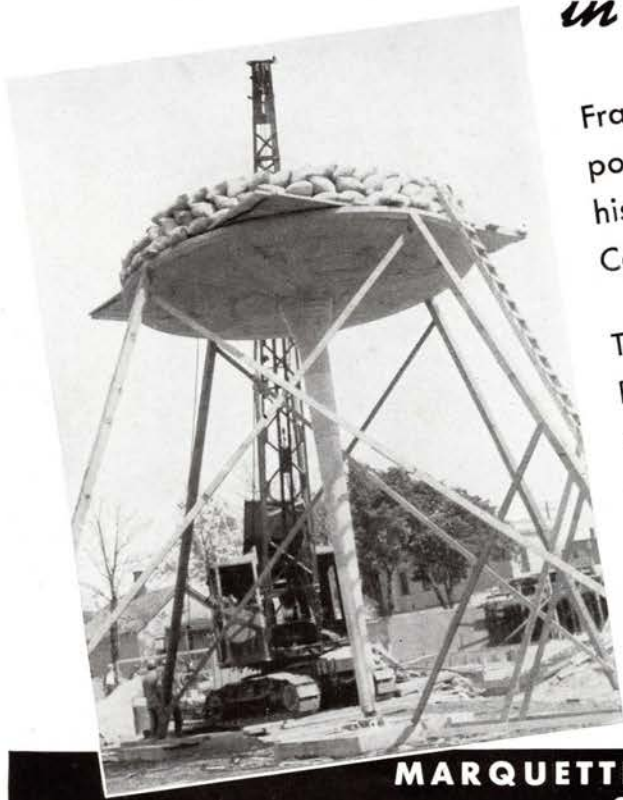
See the center panel for a few more of the many reasons—why you will want to specify LIGNOPHOL, the natural wood preservative and finish.

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Now these two leaders in glass have formed a separate corporation . . . the Pittsburgh Corning Corporation . . . whose purpose is the advancement of glass in the architectural, building and decorating industries. The new company will offer a coordination of research, engineering and manufacturing experience unparalleled in the glass industry. And it will make available to the building trades the latest technical achievements in glass.

The Pittsburgh Corning Corporation will produce glass block, glass tile, colored structural glass and related products. Each of these materials will be identified by the name "PC"

as a member of the Pittsburgh Corning group of products. Carrara Structural Glass, which has been for many years manufactured and sold by the Pittsburgh Plate Glass Company, will now be manufactured by Pittsburgh Corning Corporation as one of the new organization's leading products.

The formation of this new company will not affect in any way the diversified interests of either the Corning Glass Works or the Pittsburgh Plate Glass Company in their other fields of glass manufacturing. Sales of all Pittsburgh Corning products will be handled through the nation-wide sales organization of the Pittsburgh Plate Glass Company.

We are confident that the activities of the Pittsburgh Corning Corporation . . . its products, its research and its advisory services . . . will result in greater creative opportunities for the architect, builder and decorator.

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**Virginia**  
**GREEN TREMOLITE**

**PRODUCTS and PRACTICE**

(Continued from page 56)

for garage heating. Excess heat and kitchen odors are drawn out through an exhaust grille in the kitchen ceiling and discharged through a duct to the floor of the garage. It has been found that this provides sufficient heat to keep the temperature of the garage above freezing under normal winter conditions.

Summer cooling equipment consists of a 3-ton refrigeration unit equipped with its own blower. Direction of air flow through the system is reversed for cooling, bringing conditioned air in at the tops of the rooms and letting it settle to the outlets at the bottom. Cooling for the compressor is provided by an ornamental pool and fountain at the rear of the house.

Costs of operation of the entire conditioning system are claimed to be somewhat less than for a system of similar size of the conventional type.

**NEW DATA ON AIR PURIFICATION**

Discovery of a process to remove odor concentration in air conditioned buildings is reported to the American Chemical Society by Dr. V. A. Gant of the University of Illinois College of Medicine, and H. D. Shaw of the Pullman Company. Activated carbon, described as a more efficient kind of charcoal, purifies odor-laden air in which danger to health may lurk.

"In air conditioning any structure where certain percentages of fresh air and recirculated air are utilized, in time the odor concentration will increase to the point where it is very objectionable, and may present a health hazard and industrial problem," the report explains. "It then becomes necessary to remove the odor or its cause. If complete removal is impossible, the odor concentration should be reduced to the point where it is no longer noticeable.

"Complete air conditioning involves the control of temperature, humidity, dust, and odors. These factors cannot be controlled satisfactorily unless we have scientific and practical proof as to the efficiency of the equipment. Temperature can be observed on a thermometer, humidity on the hygrometer, and dust by a suitable dust-counting apparatus. Methods are known whereby odorous substances known to exist in the air can be determined quantitatively, but information obtained in this way is not satisfactory for obvious reasons. The odors may be so complex and derived from so many different sources that simple chemical determinations of one or more odoriferous substances may represent only a small percentage of the total amount present. "Solution of the problem resolves itself into the following steps: (1) to determine the total odor concentration by a scientific and practical method; (2) to reduce the concentration effectively by some efficient and economical material; and (3) to prove by the developed method how much odor concentration is reduced by using this material."

The chemists devised a freezing-out method for determining the concentration. Solid carbon dioxide, contained in a properly insulated box, was the refrigerant used in the experiments to freeze out moisture and odor in an efficient condenser tube through which measured amounts of air were drawn at a low velocity. Liquid air was not used on account of the expense and danger involved. An osmoscope was employed to determine the relative odor value of the condensate by the air-dilution method.

"Activated carbon was demonstrated to be a safe, very efficient, and economical means of removing odor in an air conditioned structure," the report concludes.



**DUTCH BOY  
WHITE-LEAD...**



*plus*



**DUTCH BOY  
LEAD MIXING OIL**

# Washable and How!

● When you choose an interior paint your first question should be "Will it stand repeated washings?" As you know, walls usually need repainting not because paint has worn off but because stains and dirt insist on *staying on*. Therefore, real washability automatically means economy.

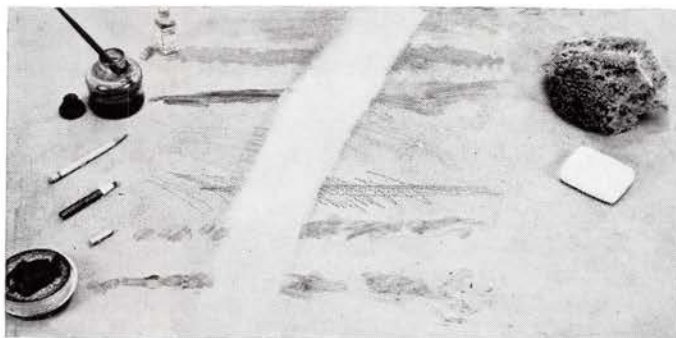
When you use flat paint made from Dutch Boy White-Lead and Dutch Boy Lead Mixing Oil, you will find that stubborn stains and dirt really do "come out in the wash."

For proof, take a look at the test panel on the right. It was walked on for a week. Then it was smeared with grease, stained with mercurchrome, streaked with pencil, crayon and lipstick, daubed with shoe blacking. *But despite this hard treatment, washing with soap and water left the panel looking as clean as when first painted.*

Now consider briefly this paint's many other advantages. It has all white-lead's characteristic richness, solidity and depth, a paint of unusual beauty. Because of its excellent sealing power, it stops suction and hides fire cracks. Finally, this paint gives you all-round economy. It has high coverage (800 sq. ft. per gal. on smooth plaster), mixes quickly, spreads easily. Add up those three qualities, and you have *low first cost*. Then add long wear and *real cleanability*, and you have low cost per year.

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111 Broadway, New York; 116 Oak St., Buffalo; 900 W. 18th St., Chicago; 659 Freeman Ave., Cincinnati; 1213 W. Third St., Cleveland; 722 Chestnut St., St. Louis; 2240 24th St., San Francisco; National-Boston Lead Co., 800 Albany St., Boston; National Lead & Oil Co. of Pa., 316 Fourth Ave., Pittsburgh; John T. Lewis & Bros. Co., Widener Bldg., Phila.



● This test panel is a piece of wallboard painted with Dutch Boy White-Lead and Lead Mixing Oil. Horizontal streaks show how it was defaced with various enemies of interior paint. Swath shows marks completely removed by washing with soap and water.



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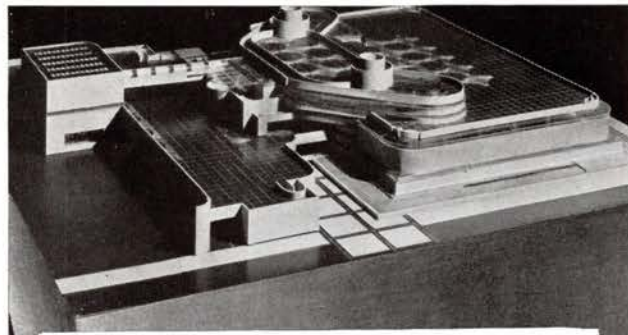


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NEW CHARM AND INTEREST



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## B O O K S

(Continued from page 18)

**THE PRACTICAL BOOK OF GARDEN STRUCTURE AND DESIGN**, by Harold Donaldson Eberlein and Cortlandt Van Dyke Hubbard. Drawings by Marian Greene Barney. J. B. Lippincott Company. 97 pp., 231 illustrations. 9½ x 12½. \$5.00.

The object of this book, as stated by its authors, is to help amateur gardeners "to create that organized structure on which, as a foundation, the garden as a finished composition must rest." It is a much-needed addition to a field in which it has too frequently been assumed that making a garden is synonymous with floriculture; with this latter subject the book is not concerned, except incidentally.

The appearance of a practical book on gardening is timely, not only because there is daily evidence of increased interest in the matter, but also because all tendencies in contemporary architecture point to the development of the garden from a stylish accessory to an integral part of living space. One need go no farther than the work of Frank Lloyd Wright, illustrated in this issue, to see what a powerful means the architect has at his disposal for completing his conception. This aspect of garden-making, its use as an extension of living activities, has been stressed throughout the book by the authors.

Briefly, the book covers garden planning, the use of enclosures, and the function of permanent planting in this connection, accents in the garden composition, such as sculpture, the use of water in pools and fountains, rock gardens, city gardens, and roof gardens. It describes the proper manner of building walks, terraces, steps, and small architectural elements. Emphasis is laid on those things which can conveniently be constructed by the owner, not only as a means of saving expense, but of increasing understanding and appreciation. Illustrations show gardens of all types and periods, and include plans and drawings of details as well as photographs. An extensive bibliography is included. The book provides a valuable working reference for those architects whose interest in their houses continues out beyond the foundation lines.

**AN ILLUSTRATED HANDBOOK OF ART HISTORY**, by Frank J. Roos, Jr. The Macmillan Company, New York. 304 pp. illustrated. 8 x 10. \$3.50.

Most difficult problem for students and teachers of art history is to find adequate illustrative material of all phases of their subject, within the limits of scholastic budgets. Mr. Roos, himself a fine arts professor at Ohio University, offers his "Illustrated Handbook," not as another general art history, but as a compendium of photographs of painting and sculpture from prehistoric times to the present day, to be used in conjunction with classroom discussions or more fully annotated histories. As such, it serves its purpose only in a superficial fashion. Devoid of text, save for the captions identifying each picture, the book is useful for cursory reference, but the large number of photographs on each page and the rather poor quality of the reproductions limit its value for art appreciation studies. An appendix presents charts tracing the chronological development of art periods, including furniture as well as the fine arts.

*As a service to interested readers, THE ARCHITECTURAL FORUM will undertake to order copies of foreign books or others not conveniently obtainable locally, which have been reviewed in this department. Checks and money orders to be made payable to THE ARCHITECTURAL FORUM.*





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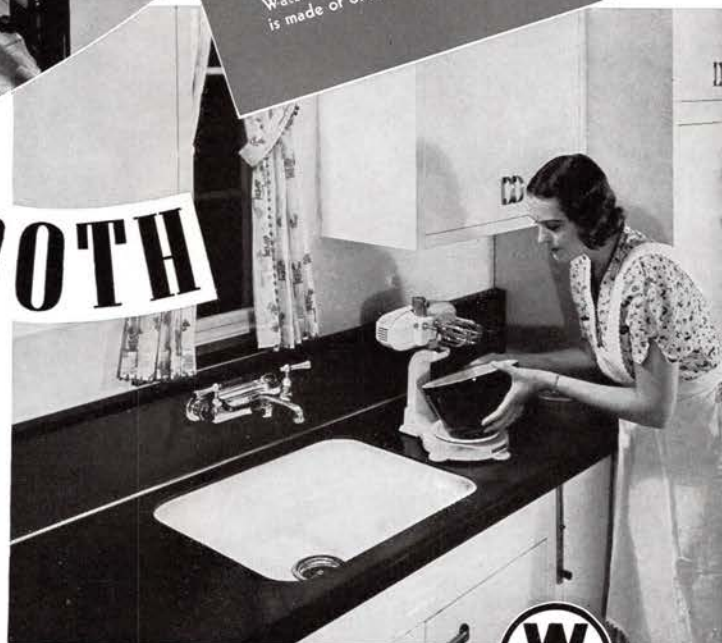
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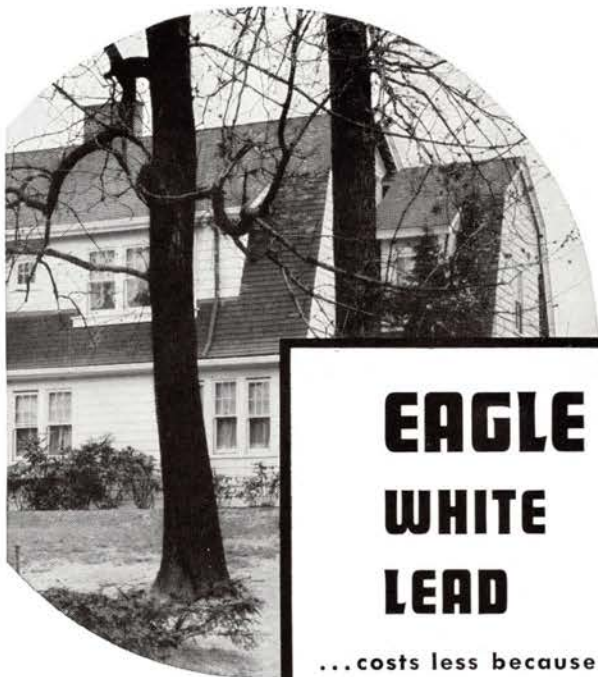
Here, an intriguing curved window of peach color plate glass adds a delicate mellowness to the view reflected in the large peach mirror above the mantel. Of striking decorative beauty, this mirror lends its subtle inference of greater spaciousness within—brightens far corners and repeats engaging colors. A further contribution to the colorful yet dignified decorative scheme is found in the fireplace faced with maroon Vitrolux, the new color fused tempered plate glass. With the many modern effects to be obtained with glass, its quality becomes a matter of paramount importance. Libbey•Owens•Ford Quality Glass is today, as it has been for many years, unexcelled by any that the industry has ever offered.

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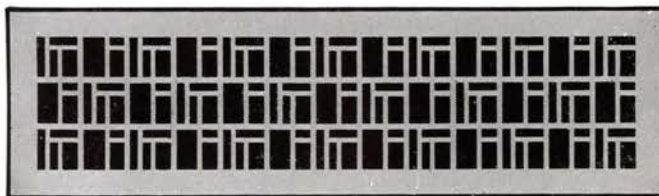
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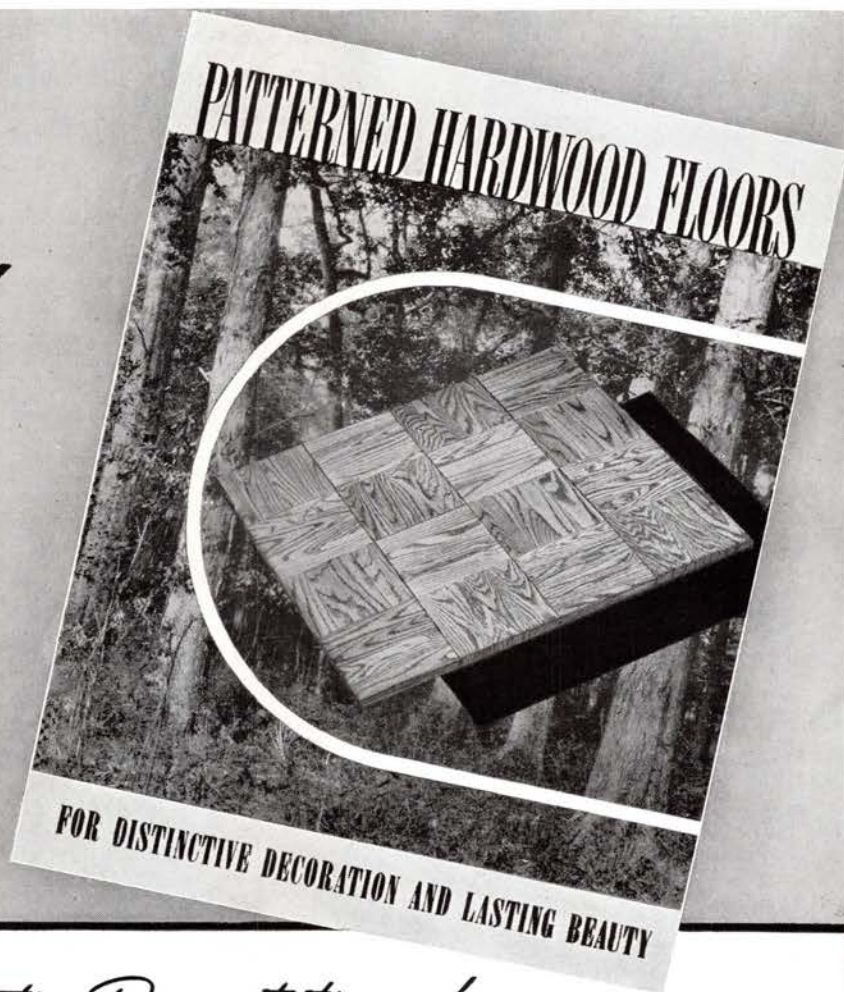
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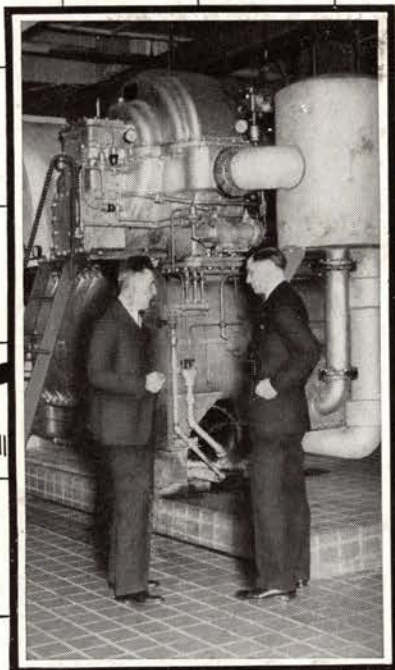


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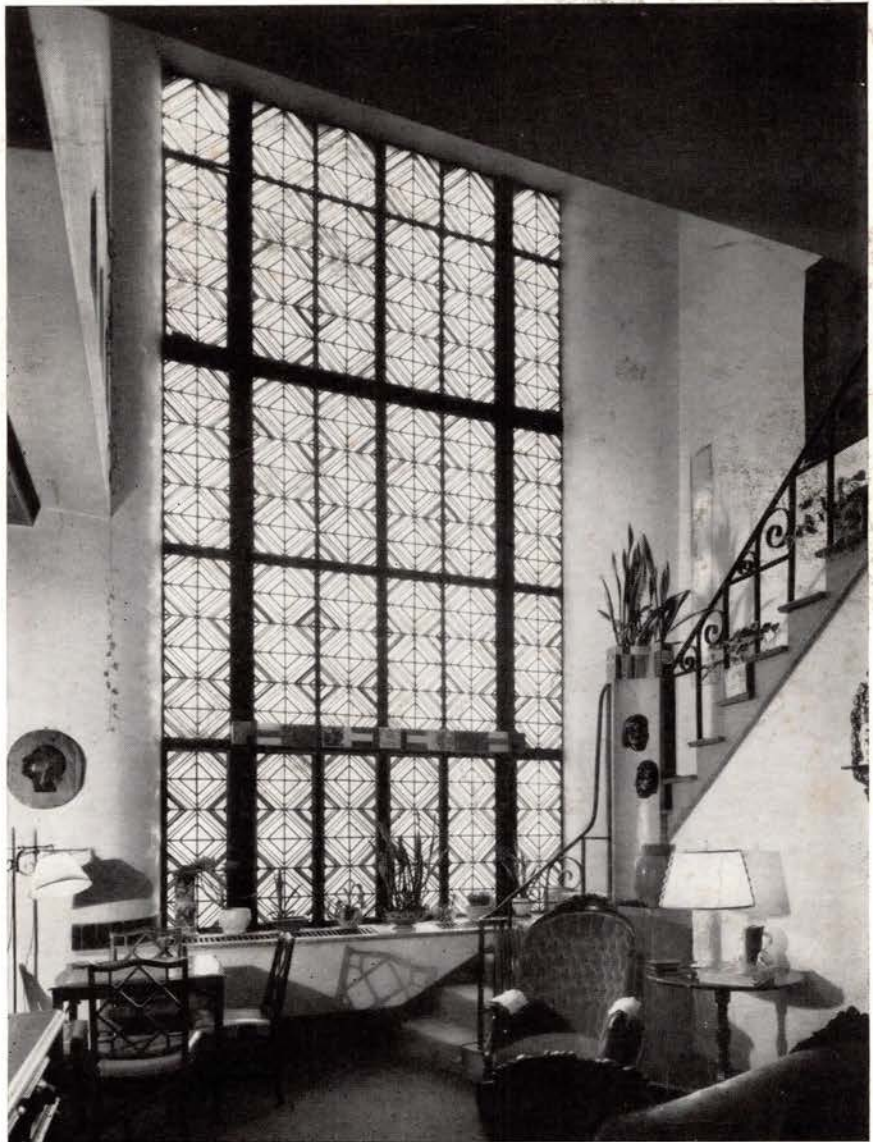


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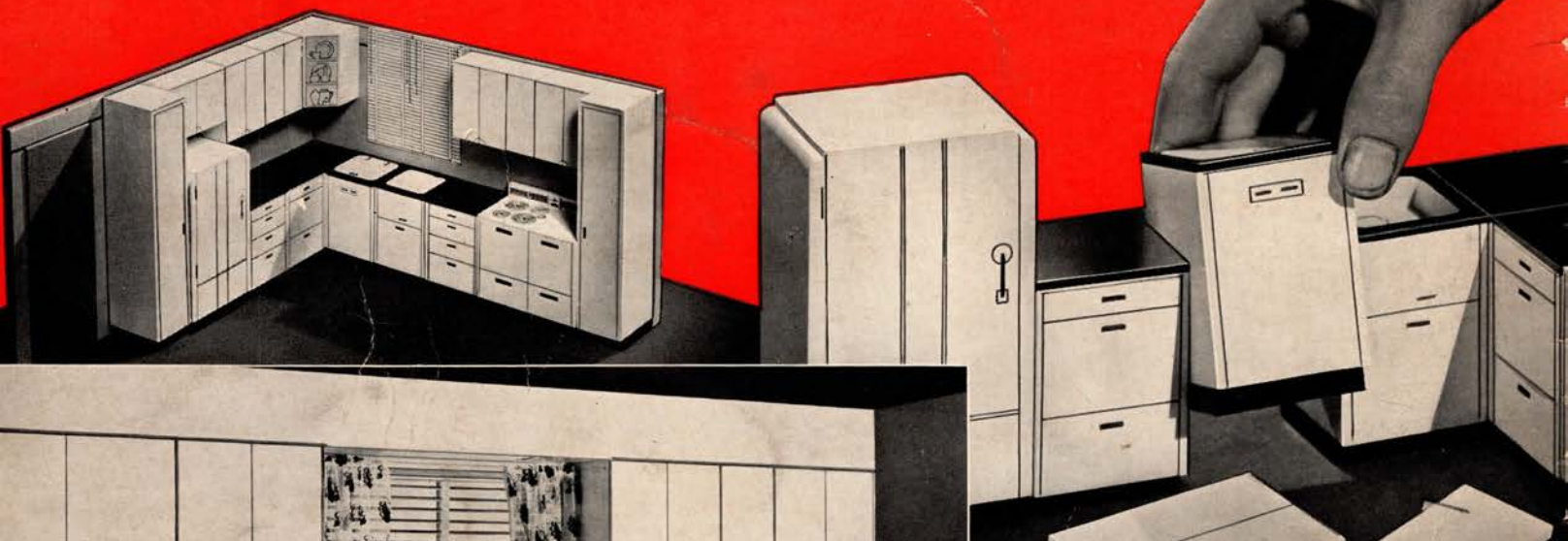
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