THE MAIN BANKING ROOM

THE PHILADELPHIA SAVING FUND SOCIETY BUILDING

PHILADELPHIA, PENNSYLVANIA

HOWE & LESCAZE, ARCHITECTS

Photo by Richard T. Dooner

The Architectural Forum

THE ARCHITECTURAL
FORUM

VOLUME LVII NUMBER SIX

DECEMBER 1932

A NEW SHELTER FOR SAVINGS

On August first the Philadelphia Saving Fund Society's Twelfth Street Branch moved into its glittering new building in the heart of Philadelphia's shopping center. Told here is the exclusive story of the unusual design developed by Howe and Lescaze, architects, and on pages 543 to 550 are set forth some of the most interesting construction details with a concise description of the structural and mechanical features

THE Philadelphia Saving Fund Society is more than the oldest and third largest savings bank in the United States. It is an institution that typifies the temper of modern Philadelphia as accurately as Faneuil Hall and the colonial fronts on Washington Square denote its momentous past. Of ancient and impeccable lineage — it was founded in 1816 by Condy Raguet, soldier, lawyer, statesman, editor and Philadelphia merchant — it boasts an enviable record of consistent growth and a continuing policy of progressive conservatism. For 116 years — ever since its first deposit by a Negro domestic — the Society has meant financial safety, economic wisdom, sound business judgment. From that one depositor the number has grown to over 450,000, whose savings total more than $310,000,000, and from the dingy cubicle of its first office the Society has expanded into five branches, ably controlled from the dull Victorian fastnesses of the 64-year-old main building.

All the branches are comparatively new. Four of them are polite, quiet little buildings, unobtrusive and tasteful, designed by George Howe who has since obviously recognized many of their fundamental improprieties. If "architecture is frozen music," the Society's main office is a frowsy minuet, the four little branches, careful, contemporary chords. But the fifth is new; it is slick and sheer and shining, and the Society, alive to the tempo of the day, has gone Gershwin.

As the *Rhapsody in Blue* sets itself apart from such solid thunder as *Siegfried*, so does the Society's new building contrast with the staid neighbors of its location. A few blocks away is the frumpy, bastioned City Hall, from the top of which William Penn looks down unsmilingly upon air-conditioning equipment and a mammoth neon sign, and on South Twelfth Street, placidly nestled at the base of the smooth, new building, is a little Quaker Meeting House, whose thick red brick walls and fine colonial woodwork have withstood the dank cold and bluster of 120 Philadelphia winters.

In the opinion of many a Philadelphian this contrast is synonymous with absolute condemnation. To others the planning of 35 stories of air-conditioned, sound-insulated and multi-windowed offices is justification enough for the bank's enterprise. To a still greater proportion (about 50 per cent of an extensive prospective tenant list) that thoughtfully contemplates the Society's remarkable record of success, the building at Twelfth and Market Streets represents a courageous and thrilling accomplishment which marks the Society as a prime patron of a new architectural era.

But the Society's building committee would emphatically deny the implication. From their collective standpoint a building is a tool of business, an economic expedient for which they hold no brief as regards architectural tradition or æsthetic style, and if, in their well-weighed judgment, another structure could have fulfilled all the requirements of their problem, a correctly Georgian façade might now be ranged beside the little Quaker Meeting House.

An attempt at such a thing was actually made, for upon the presentation of their first comprehensive sketches the architects were very nearly convinced that their building would never be built. Howe

THE MAIN OFFICE OF THE SOCIETY

is housed in an old Victorian block on Philadelphia's Washington Square. "Seventh and Walnut" is no mere address. To small depositors of almost every race, color and creed it signifies a place to put money. It has meant that since 1868 and is a symbol — at least to Philadelphians — of impregnable savings' safety

and Lescaze drew more sketches, reasoned, cajoled, argued. Figures were examined, estimates made, and on the basis of these the Society's president, James M. Willcox, announced that the Board of Managers were satisfied that style was no essential criterion of building —or banking—efficiency.

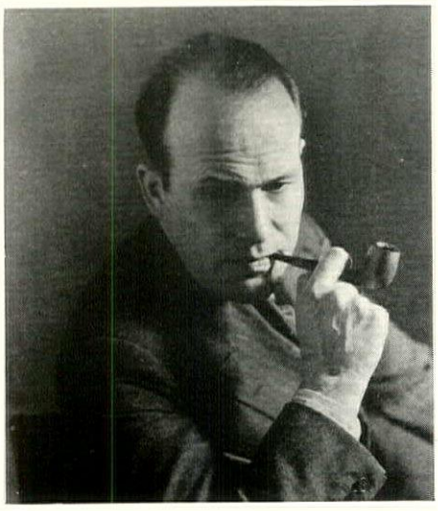
On November 28, 1930, a final scheme was approved signifying in all important details the fulfillment of the Society's demands. The scheme was not Georgian. President Willcox characterized it to one interviewer as "ultra-modern only in the sense that it is ultra-practical."

Bachrach

GEORGE HOWE

"ARCHITECTURAL beauty is the result of the successful interpretation of a human problem in terms of a structural technique. . . . No external mass which does not express an internal function can have any organic significance as beauty. It follows also that the potentialities of the structural technique must be expressed in the visible structural members and their outer shell, and not concealed behind a false screen or loaded with meaningless . . . masses"

"Ultra-practical." The Society's building requirements prosaically and economically set themselves. On the plot adjoining the Quaker Meeting House was a branch bank, erected as an experiment in serving Philadelphia shoppers. Useful only for temporary quarters the building was to be razed and a new one, modern, efficient, attractive, erected in its place. But the land cost had been high; the expenses of operating a large mid-town branch were heavy, and the Society early decided to exploit the rental possibilities of the future building's location. Therefore the architects' first sketch in-



WILLIAM LESCAZE

"THE phenomenon of creating a plastic image is each time an equally exciting adventure. . . . People argue: 'steel, glass, functionalism, post-functionalism.' I say, 'yes, but architecture, please.' Or they pile up boxes on top of boxes. I say, 'no, please, architecture.' . . . First, you put your brain on the program of requirements, then something clicks in your heart. . . . You push a T-square on some tracing paper, and work and work to make it architecture"

dicated stores on the ground floor and at the level of the subway concourse, an enormous banking room on the second floor, and, above, a succession of office floors, cantilevered on three sides to provide the maximum of daylight area.

It indicated further a desirable separation of office building and bank entrances. The latter entrance, on the principal street (Market), was large and imposing, and (to conserve rentable area in the ground floor stores) was located at the far corner of the plan. For the same reason the elevators to the offices were placed at the rear of the lot nearest the Quaker Meeting House, with a corner entrance to them on South Twelfth Street.

The plan sketches were pondered, checked for income possibilities, and, in a slightly revised form, finally approved. In the final scheme most of the cantilevers on the east and west sides disappeared, because of a potential interference with office layouts. The economic height of the building, carefully established by the Society and the financial department of the George A. Fuller Co., substantiated the architects' claim of 28 office floors.

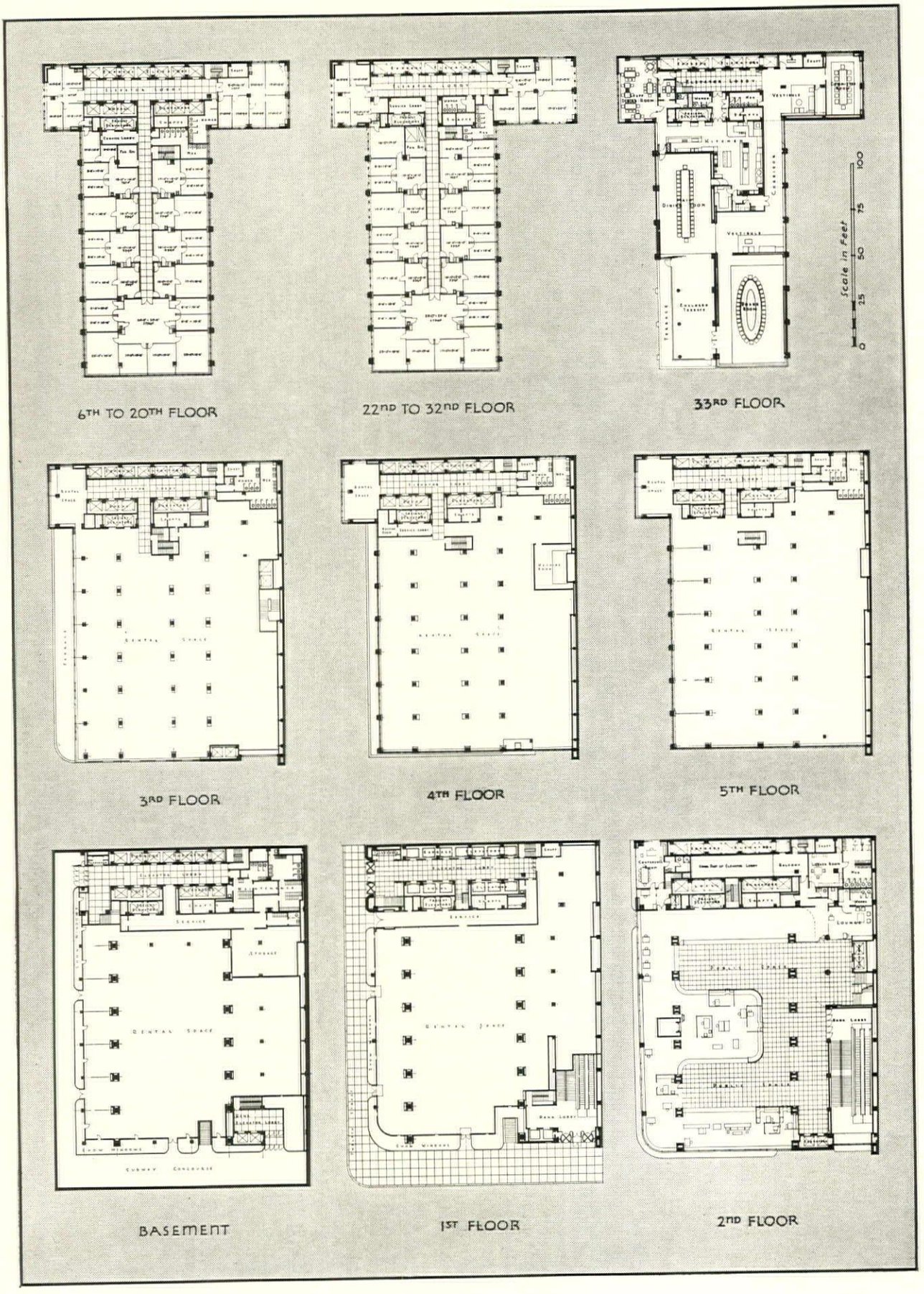
The setbacks were developed from no mandatory code provisions. On the Twelfth Street side they more forcefully emphasize the bank's four lower floors. On the west side the setbacks over the administrative floors (which cover the greater part of the 21,650 sq. ft. of plot) secure permanently the greatest amount of light and air. No offices will be darkly smothered by a possibly competitive future structure.

"Modern" only in that it obeys the Society's mandate of practicality, the building's plan is chiefly distinctive for the second floor banking room and the location of the elevators on the south party wall, for the highly efficient office floors differ in no other important planning detail from those in many another similarly purposed building, save that the pier to pier windows admit a maximum of daylight.

Dooner

. . . AND THE NEWEST AND LARGEST OF ITS BRANCH BANKS

By day a shining shaft of black-and-white, gleaming glass and steel; by night an unwinking blaze of red neon light


6TH TO 20TH FLOOR
22ND TO 32ND FLOOR
33RD FLOOR
Scale in Feet
0
25
50
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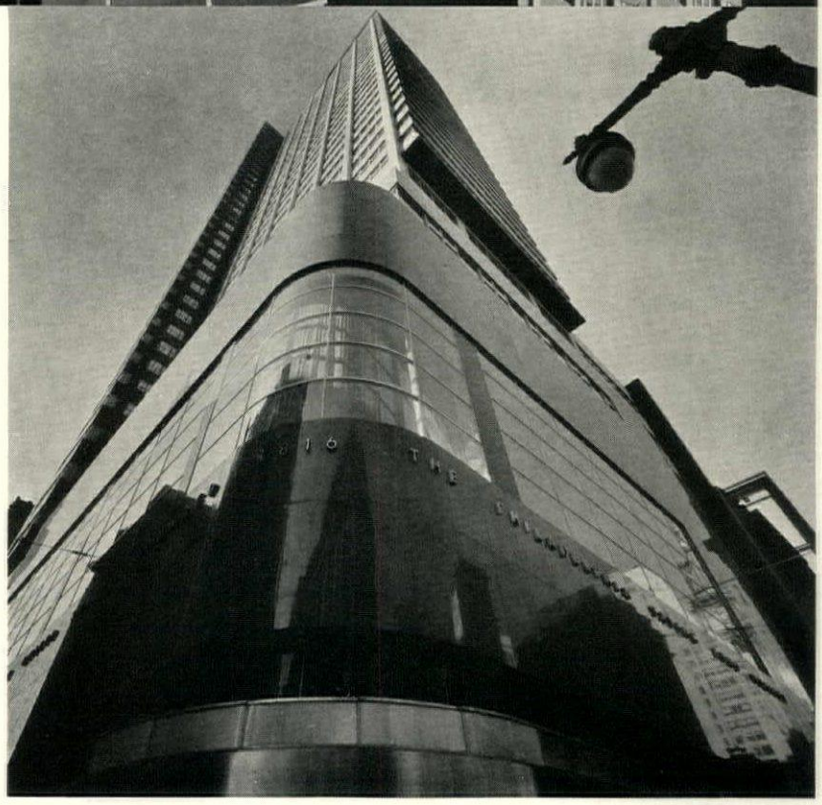
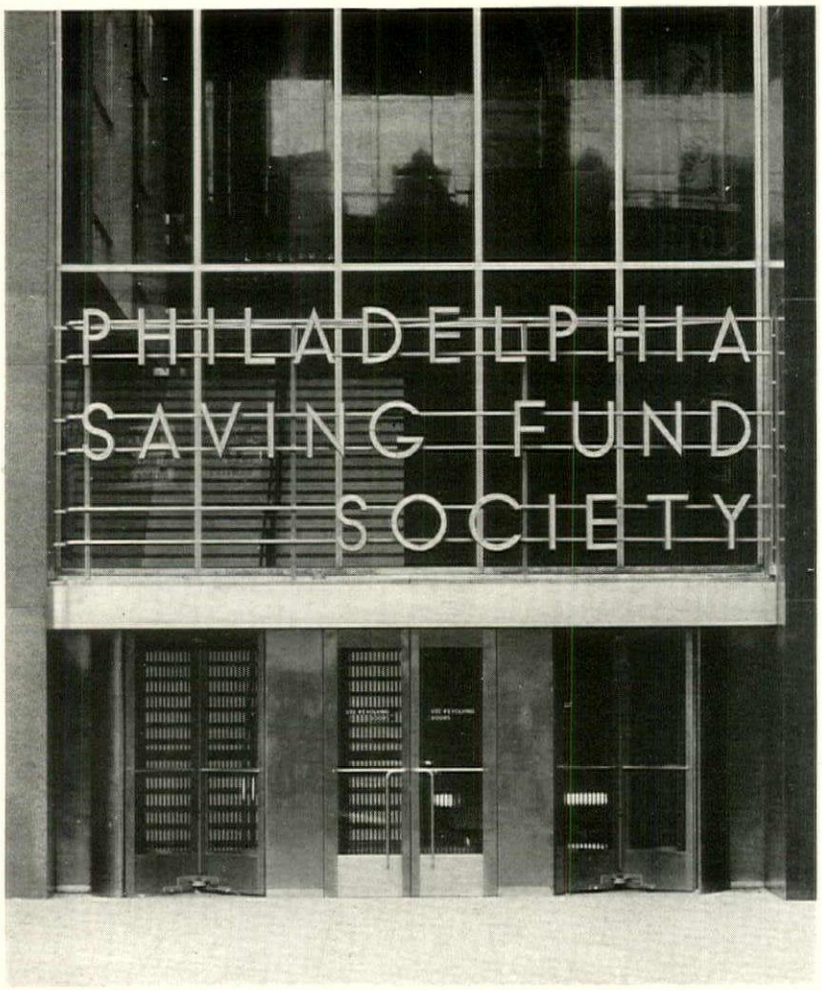
3RD FLOOR
4TH FLOOR
5TH FLOOR
BASEMENT
1ST FLOOR
2ND FLOOR

Steiner & Nyholm



"ULTRA-MODERN AND ULTRA-PRACTICAL"

PHILADELPHIA'S shoppers pass daily by the first large office building in which a popular architectural tradition has been completely disregarded and in which daylight enters offices from wall to wall. It is the second office building in America to be air conditioned, and the tempered air is an economic advantage of first magnitude. It is noteworthy that the air conditioning is the greatest single attraction to the majority of prospective tenants. Attractive also, however, is the plan of the building. The exterior columns have been kept on the outside of the wall to eliminate an interior surface obstruction; the interior ones have been spaced to offer opportunity for the greatest variety of office arrangements



Steiner & Nyholm

A NEW ENTRANCE TO A BANK

DURING its opening day more business was transacted in the Society's Twelfth Street Branch than is recorded for any prior similar period. The entrance hall (shown opposite) is 52 ft. high and is enclosed on the street side by an enormous window. On the exterior the entrance is surrounded by dark gray granite. The window frames are aluminum. The doors and the structure of the sign are all of stainless steel. The letters are faced with white opal glass behind which are small frosted sign bulbs 2½ in. on centers. The lobby itself, containing the escalator access to the second floor banking room, has been treated to expand visually the narrow, shaftlike space and to admit as much light as possible into the area. The wall toward the banking room is of black marble under a huge window of heavy plate glass. (See detail page 544.) The opposite wall is of gray marble and the ceiling baffle is surfaced with acoustical tiles painted a dark brownish-red. To emphasize direction the walls at the top of the stairs are of black marble lighted in the corner nearest the bank by a vertical cove. The escalator housing and the stair handrail are also of stainless steel

"Ultra-modern." Given an approved plan layout the development of the exterior followed, according to William Lescaze, "simply and naturally." The æsthetic philosophy of the design was, briefly, to focus the attention of the public upon the bank and to play softness against hardness. The last phrase applies to color as well as to form, to mass and to detail. As to mass, the floors that include the bank jut sharply from the office tower above and by a contrast in detail are distinct from the stores below. The office portion is liny, rectangular, hard; the bank's enclosure is smooth, broad-surfaced, and is softened by a curve at the corner of the building.

In regard to color, the base of the building is further emphasized by the play of dark granite against the oyster white spandrels of the office floors. In effect these are horizontal bands, to which, in contrast, the elevator, stair and stack tower is essentially vertical, since it is surfaced with a dark gray brick. And a sort of spine is created to which the office floors are attached like so many ribs.

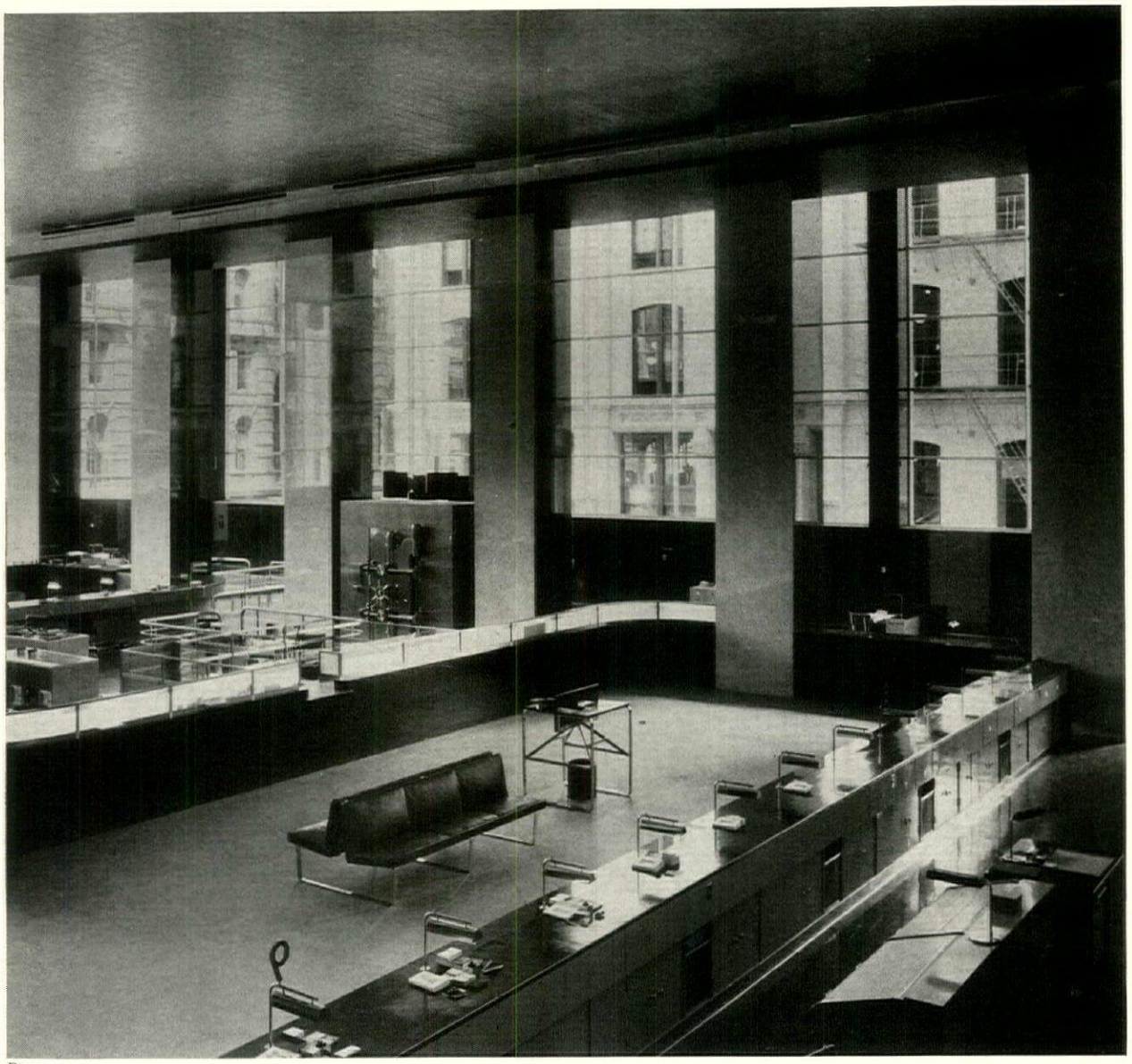
Ornament is conspicuous by its absence. Here the ornamentation is a fitting technical excellence, integral with the structure itself. The surfaces of machine production are inherently beautiful, say the architects, and the combination of material, color, surface and fine workmanship produces a natural æsthetic movement supplied in other buildings by sculptured swags and terra cotta gargoyles. The architects answer the possible criticism of monotony from their conviction that a repetition of form achieves (at least in this building) not monotony but unity, and that monotony may exist only from a maladjustment of "ultra-practical" components of design.

On the interior the design philosophy expands to further the illusion of space already supplied by tremendous areas of glass. Thus explained are the highly polished surfaces; large, plain areas of dull color; and the contrasts of black and white. This was the prime reason for the elimination of every possible projection throughout the building. Particularly is this true in the banking areas and in those spaces to which the public is freely admitted, but the principle obtains wherever possible in the private offices as well. Here even the movable partitions produce a smooth, flat wall with no structural or decorative projections whatsoever.

Dooner

PHILADELPHIA SAVING FUND SOCIETY BUILDING

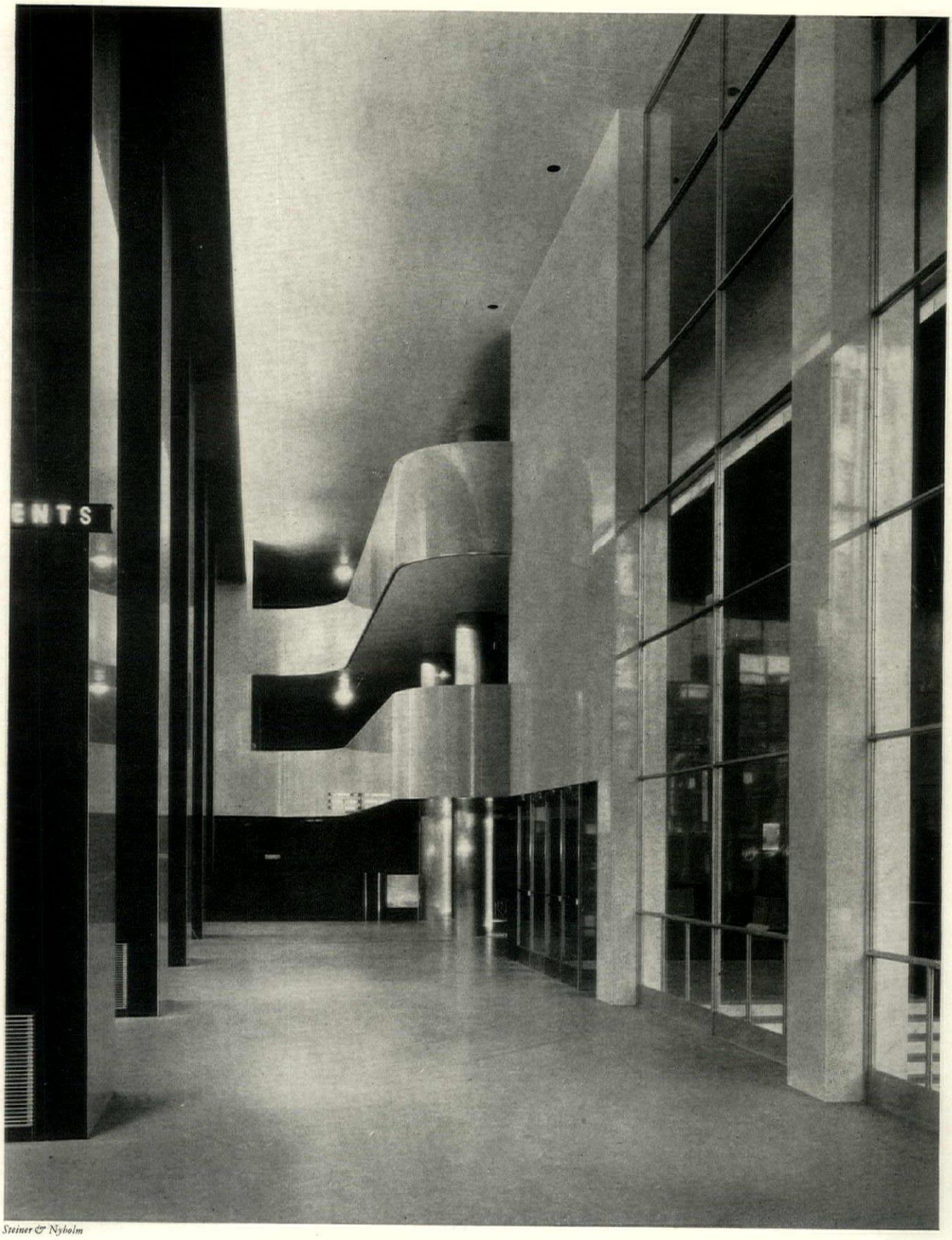
HOWE & LESCAZE, ARCHITECTS



Dooner

THE MAIN BANKING ROOM

IN THE selection of materials in the main banking room there existed a particularly intricate problem of color, surface, and impression of texture. The banking room itself is a very large space, purposely unobstructed by any interior columns and lighted to the extreme by the large windows which enclose both the Twelfth Street and Market Street sides. The scale of the room was necessarily large, the surfaces solid and broad. From the design standpoint an effort was made to communicate the philosophy already established on the exterior, and to play softness against hardness in both form and color. In addition it seemed desirable to keep, in so far as possible, an even intensity of daylight throughout the room. The combination of these fundamentals established the principle of light colors on those surfaces farthest from the daylight source and dark colors on the surfaces immediately adjacent to the windows. It was responsible also for the use of highly polished surfaces, which, due to reflection, destroy the heaviness of huge, unrelieved planes. That the desired result was achieved is indicated particularly well in the picture above where the columns in some instances seem to disappear in the reflection of scenes actually outside of the building. In general, the color scheme of the room is black and white, strongly contrasted in some instances and relieved with stainless steel, yellow and dull red. The floor is a very dark gray. The facing of the window columns and base is black marble, as are the north and south sides of the free-standing columns. The two opposite sides of the room are almost entirely white, except where they are interrupted by glass or the Sienna facing of the mezzanines. The ceiling is surfaced with acoustical tile painted a dead white and the light baffles, which also hide the air conditioning outlets, are acoustically treated and painted a dull brownish-red. The base of the banking counters is faced with black marble and all equipment in the work spaces is finished in a gray baked enamel with stainless steel trimmings. The furniture is chromium plated, upholstered in blue leather



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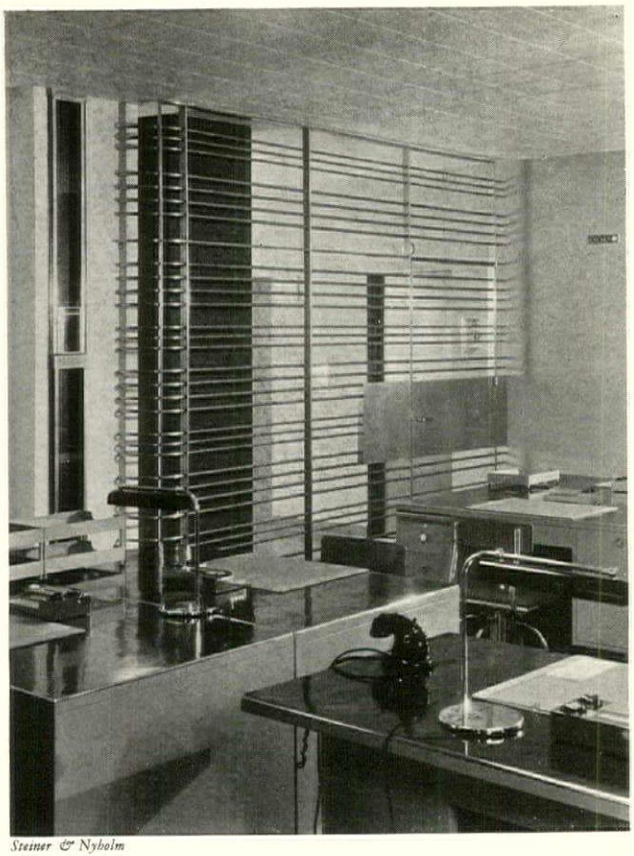
HOWE & LESCAZE, ARCHITECTS



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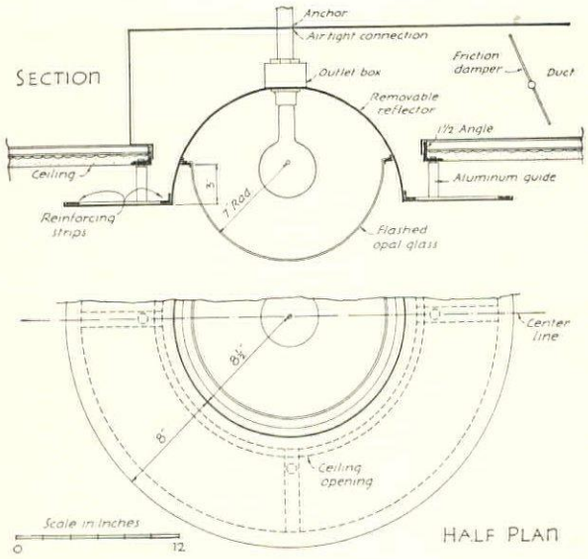


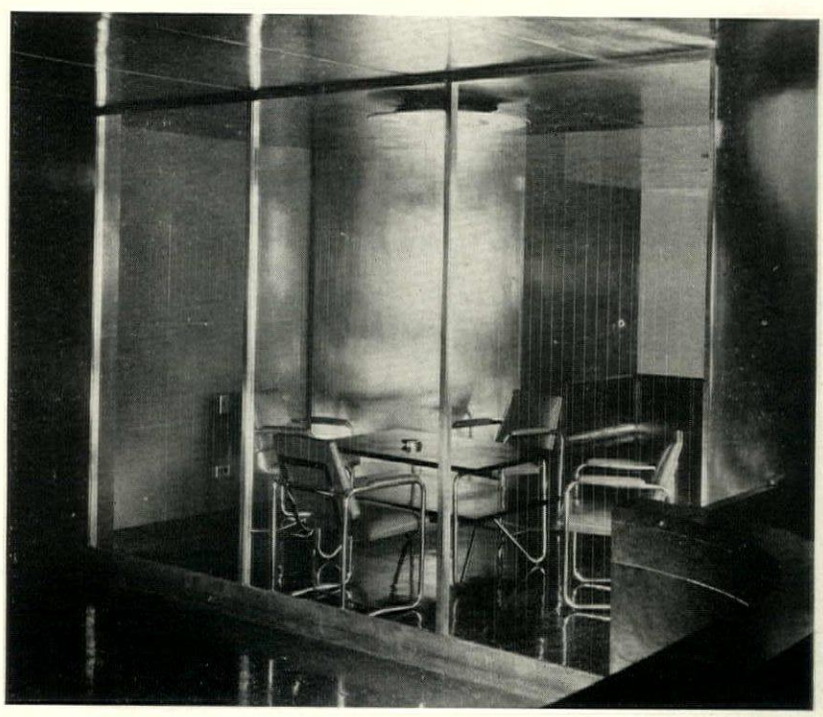
THE MEZZANINES

THE first mezzanine is one of the typical work spaces of the bank. The floor is of gray rubber tile. The walls are of painted plaster: the west brownish-red, the south gray, and the east white. The metal fixtures, with the exception of the air conditioning baffles, which include the lighting fixtures shown above, are of stainless steel. The baffle is of polished aluminum

Donner

Steiner & Nyholm Photos

IN CONTRAST with the sharp forms and black-and-white brilliance in other parts of the main banking room the soft curves of the mezzanines are faced with polished Sienna marble. The colors employed on the work spaces have been chosen to produce an impression of lightness in areas which would otherwise be comparatively dark and oppressive. The illustration at the right is a detail of the lounge under the first mezzanine in the southwest corner of the banking room. The screen which separates it from the work space is of Protex glass set in a stainless steel frame. The floor and walls are of rubber tile, the floor gray, the south wall dull red and the west and north walls oyster white. The furniture is chromium plated. The table tops are of black formica and the upholstery of the chairs is of red and gray leather



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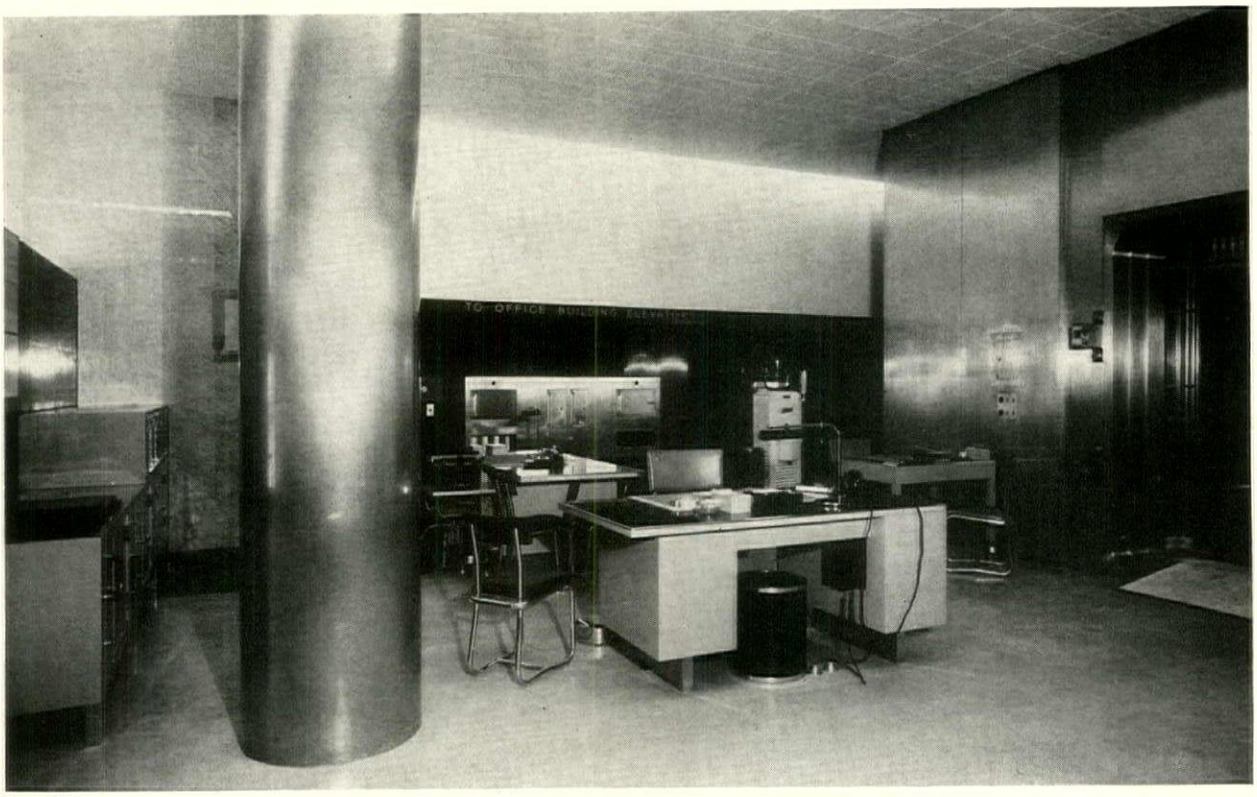
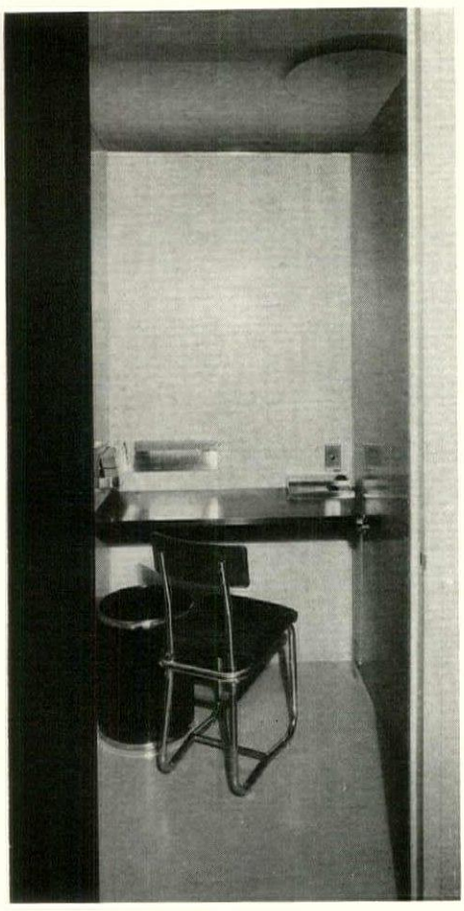
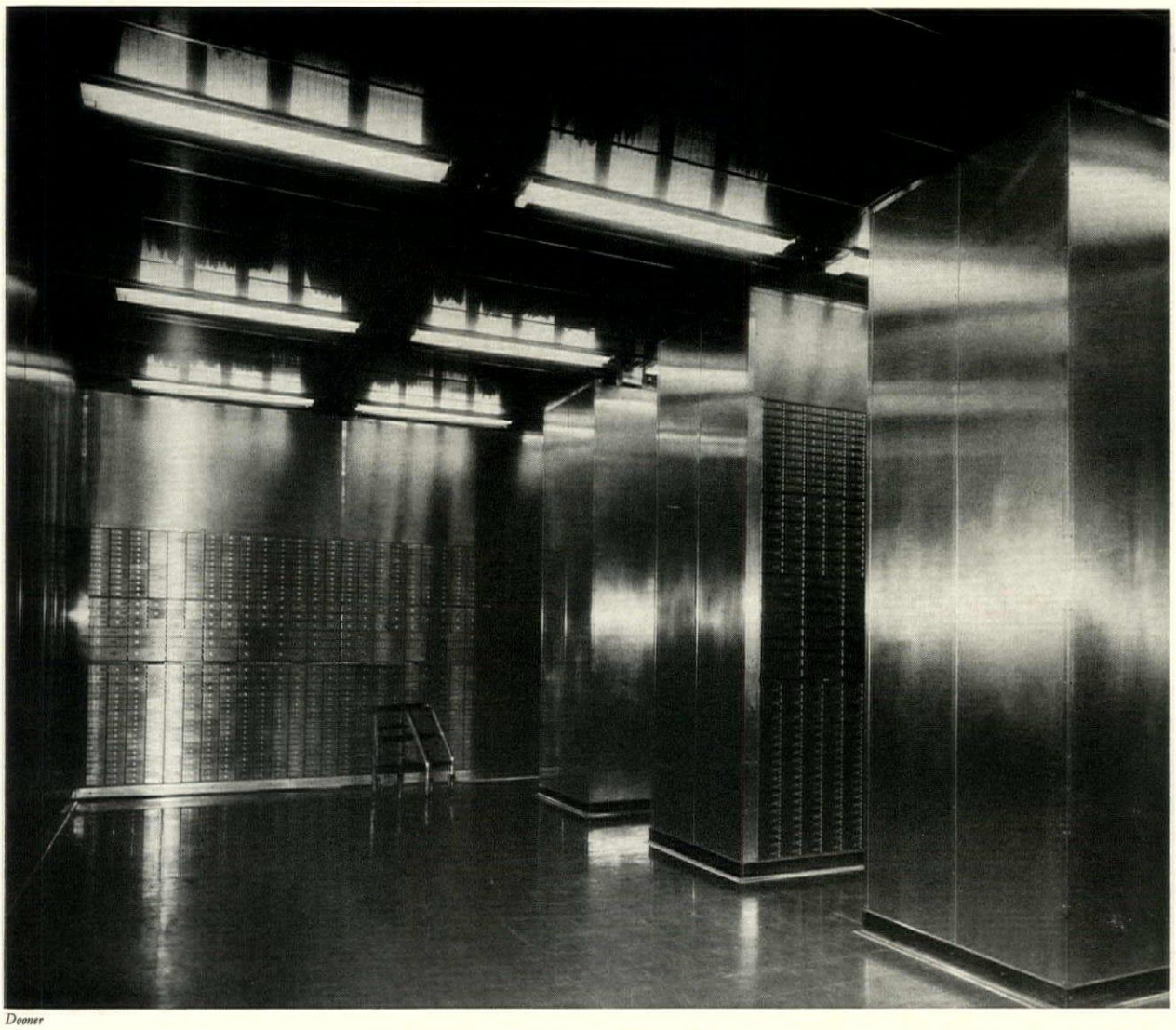
HOWE & LESCAZE, ARCHITECTS



Dooner Photos

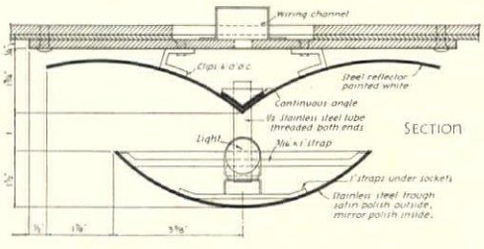


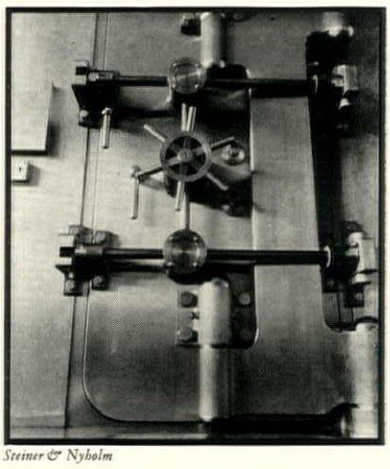
IN THE vault lobby above, the floor is beige rubber tile, the 7-foot high wainscot is black marble, and the wall above it is plaster, painted a dead white. The exterior of the vault is yellow bronze except around the door which is stainless steel, as is the casing of the round column. In the coupon lobby below the columns are faced with a dark brown rubber tile



Dooner

A NEW type of design employing extremely thin walls has made possible the vault location on the third mezzanine with but few special structural provisions. The interior finish is stainless steel, with fittings of bronze and lettering in vermilion red. The floor is dark blue rubber tile. Maximum protection is afforded by means of automatic radio and special electric devices. It is noteworthy that the architects checked every detail of the design as it affected the finished surface appearance of the structure. In the detail of the door, for example, shown at the right, the contrast between polished and dull surfaces was specified by the architects and was indicated on the shop drawings





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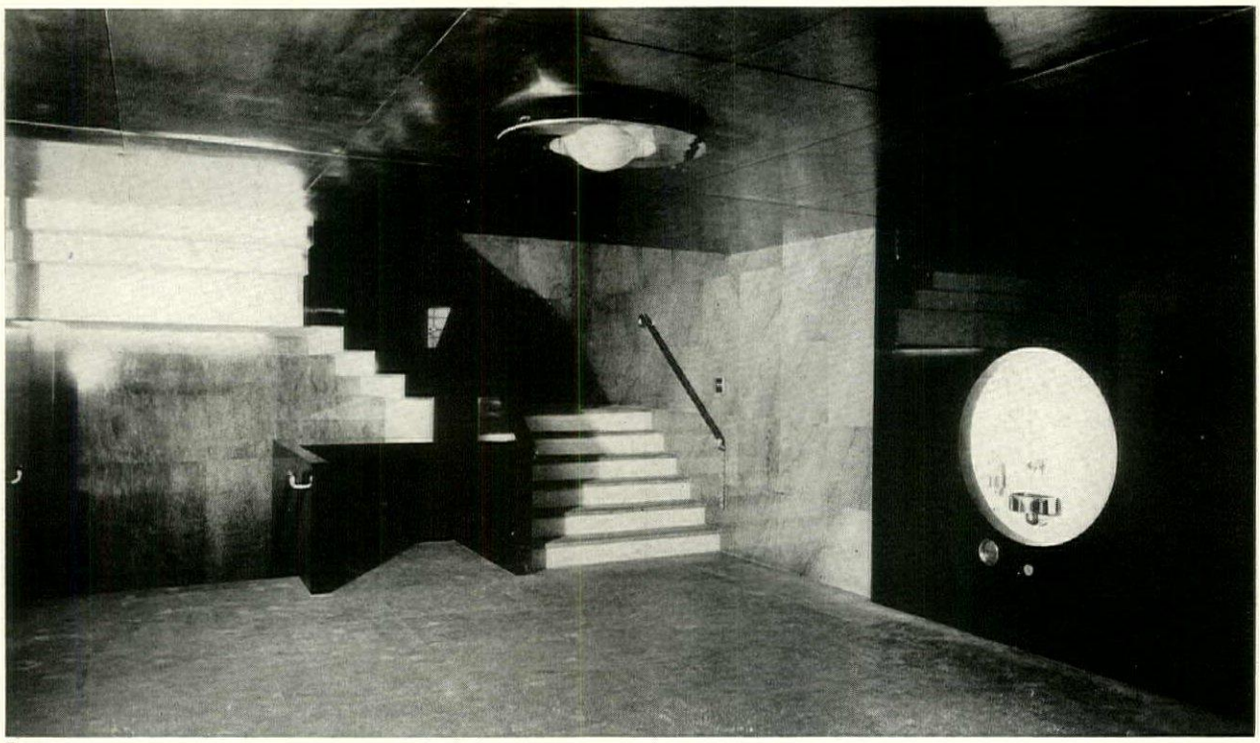
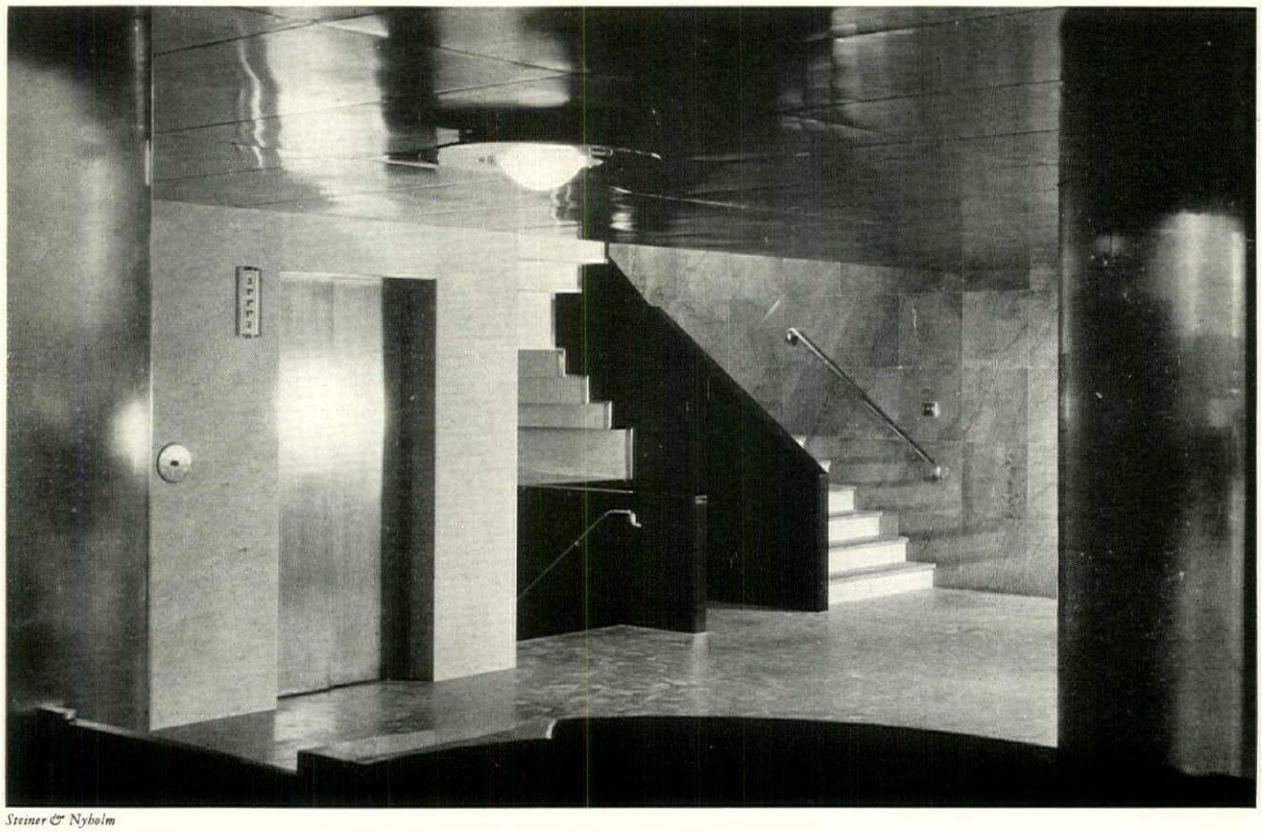
HOWE & LESCAZE, ARCHITECTS



Dooner

OF PARTICULAR interest in these two pictures is the elevator door of perfectly plain bronze, the yellow bronze ceiling with its polished aluminum lighting fixture, and the specially designed drinking fountain of Monel metal set in a field of white marble. The balustrade and the wall surrounding the drinking fountain are of black polished marble



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THE BUILDING ELEVATOR LOBBY

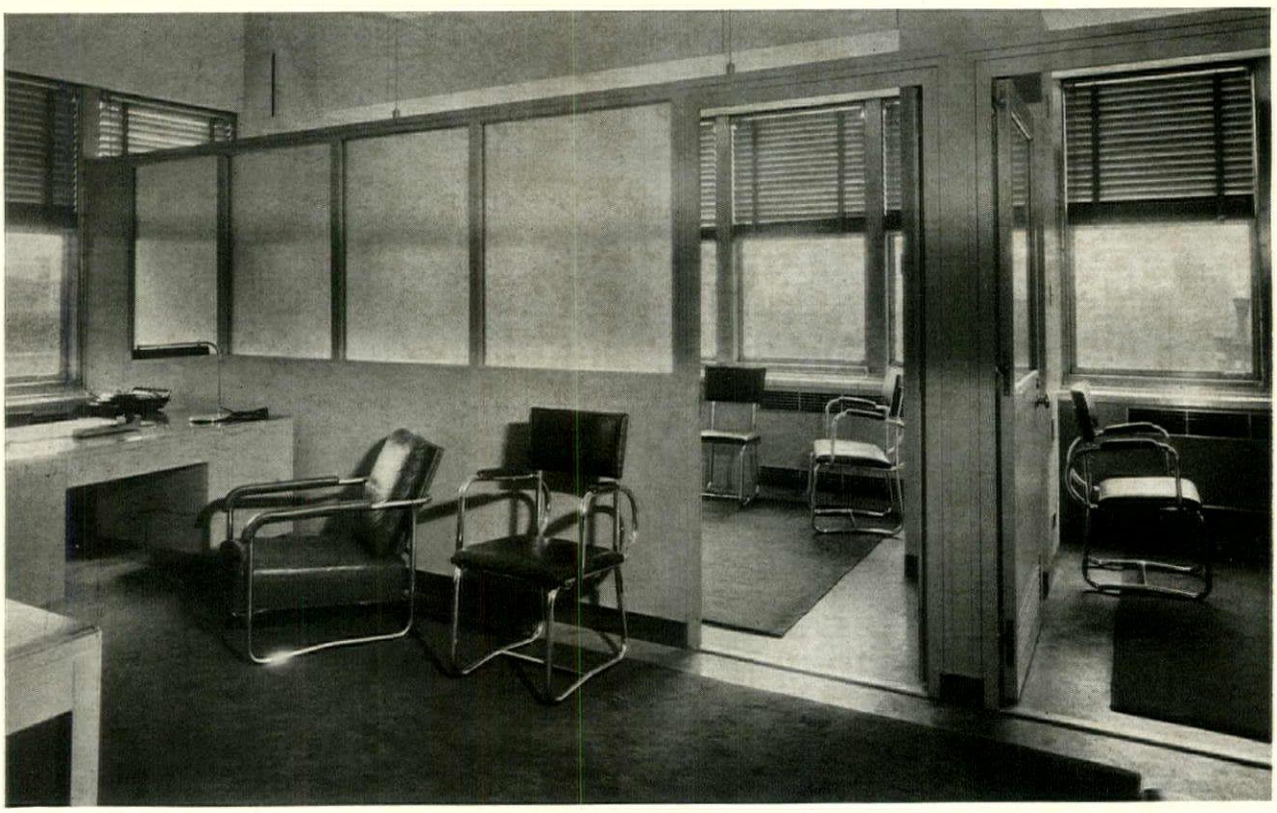
THIS space is actually divided into two parts (see plans on page 486), the first containing the telephone booths, subway stair, and concession space, and the other, as shown in this picture, the elevator entrances. This latter portion is the higher. Here the floor is of a light gray marble, similar to the walls above the elevator doors. Between the doors, which are of stainless steel, is a facing of a dark gray, variegated marble. The strip behind the light band over the doors is of white marble and the ceiling baffle is an acoustic tile painted dark brown. All marble surfaces are highly polished

PHILADELPHIA SAVING FUND SOCIETY BUILDING

HOWE & LESCAZE, ARCHITECTS

Dooner Photos

THE offices, where standard equipment includes gray Venetian blinds, aluminum windows, projectionless movable partitions of gray baked enamel and lighting fixtures which are designed to produce an average intensity of 21 foot-candles. In these particular views the furniture is of chromium, upholstered in blue leather



INTERNATIONAL SECTION

THE ARCHITECTURAL FORUM presents, with this issue, the first edition of the International Section — to be published hereafter six times a year.

Each edition of the International Section will be devoted wholly to the architecture of one country . . . this month Austria, then Germany, France, Russia, the Scandinavian countries, Italy. Not simply a collection of photographs from abroad, the section is continental in subject and spirit. It is designed, written, edited, and printed across the Atlantic.

Nothing is lost of architectural or national spirit in transcribing for American architects the work of their European contemporaries. This is not only a significant departure in publishing practice, but a distinctive contribution to architectural literature.

INTERNATIONAL SECTION

AUSTRIAN ARCHITECTURE

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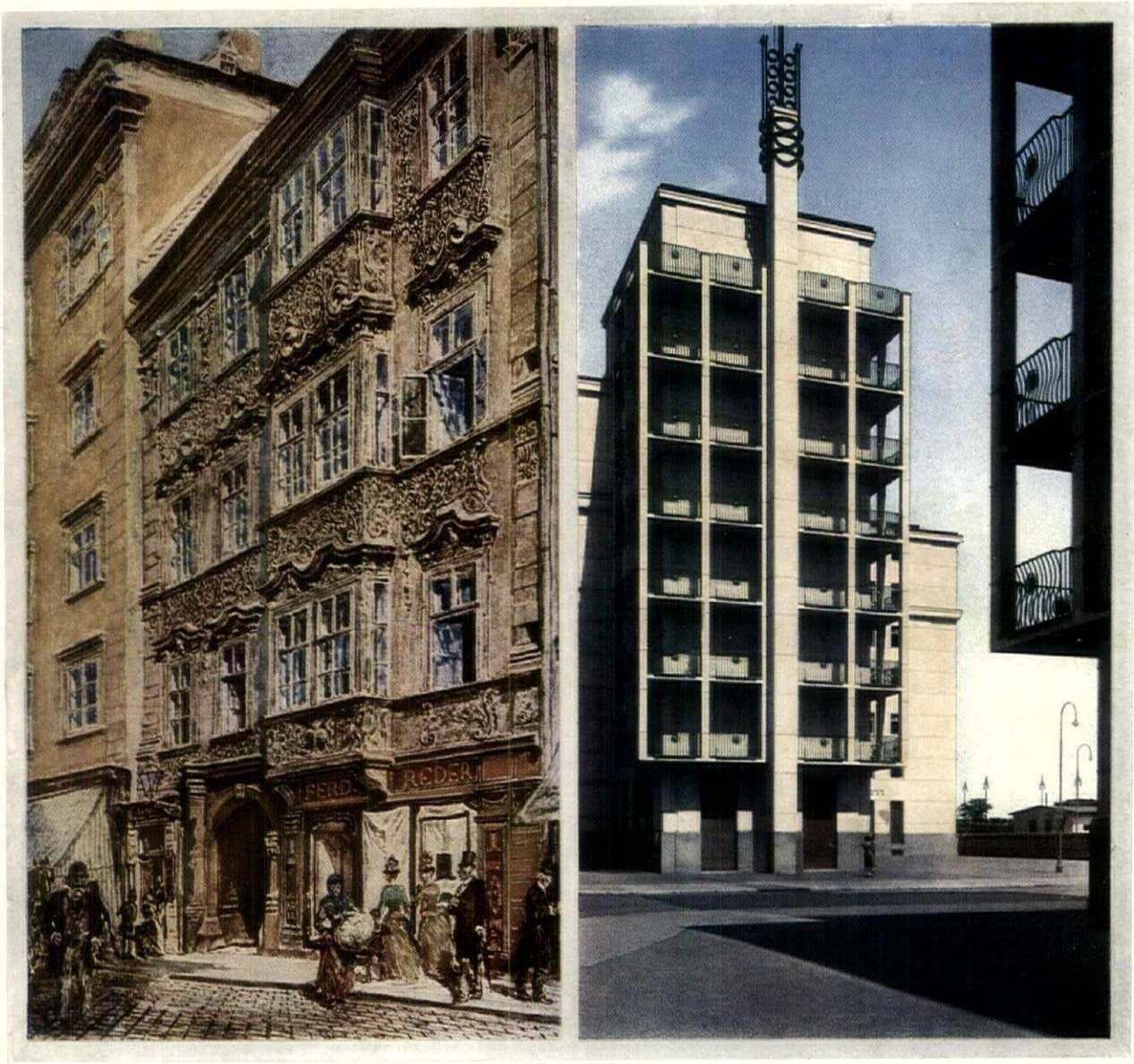


VIENNA

THE OLD

Vienna house about 1750
(so-called Elefantenhaus)
from a watercolour by Franz Alt

THE NEW

Vienna house 1932
erected by the Municipality of Vienna:
Rudolf Perko, Architect

The ARCHITECTURAL FORUM

★ AUSTRIA ★

VIENNESE ARCHITECTURE

DR. MAX EISLER, PROF. OF THE UNIVERSITY IN VIENNA

Considered superficially, one can hardly imagine a stronger contrast than that which exists between the old architecture and the new in Vienna. The old municipal features of the city, where they have been kept pure, show the confused network of streets which is so typical of the Gothic Period, yet these streets have been built up with Baroque houses. Gothic building, indeed, is present, as in St. Stephen's cathedral, which dominates the city, or in Maria am Gestade, the graceful boatman's church. In secular architecture, however, nothing which goes back so far has been preserved, while monuments of the Baroque are to be seen everywhere.

Viennese Baroque embraces the clerical as well as the secular and affords specimens of every type of structure from the palace to the middle-class family house. In the inner city stand whole ranks of proud winter palaces designed for the high aristocracy of former days, and decorated with plastic works of art. Strong and beautifully proportioned apartment dwellings, like those in the Baeckerstrasse, are to be found everywhere. Yet Baroque is not limited to the inner city, but extends beyond, breaks through the ring of fortresses, and reaches out into the suburbs.

Immediately after the constructure of St. Peter's church on the Graben, Prince Eugen of Savoy, the conqueror of the Turks, built the magnificent church of St. Charles. For his own use the prince built, as his townhouse, the beautiful house in the Himmelpfortgasse, and, as his summer residence, the Belvedere, which in a later century was to be inhabited by the unhappy archduke Francis Ferdinand.

In the immediate neighbourhood of Vienna, just as in the suburbs of Rossau and Favoriten, wide, aristocratic garden cities sprang into being. The passionate joy in building does not stop here. It does not content itself with designing country-seats for courtiers and nobles. It touches more humble lives, it plans gardens and cottages deep into the hills of the Wienerwald. First only in the Baroque Period was landscape really enlisted as an aid to architecture. Only then did builders learn to join both in a single art, festive and organic.

The architecture of our time, however, is neither festive nor organic. At least at first sight it appears to be the exact contrary. One thinks of the underground railway which started the new epoch round 1900, of the big, cheap workmen's apartment houses, erected by the municipality during the past decade.

One thinks, first and foremost, of useful structures designed to be of service to the whole people. Here, indeed, one finds the nucleus of the whole new art of building. For this is the first time in the history of architecture that emphasis falls upon buildings raised for the benefit of a whole community. The fundamentally social character of its architecture is the determining characteristic of our time. Because of its peculiarly socialistic government, Vienna offers our most striking example of this new type, yet the style itself is by no means exclusively Viennese. To find the unique contribution of modern Viennese architecture we must look deeper.

The new development in Vienna started about 30 years ago, when Otto Wagner gave the city its modern character by building the underground railway, the asylum and the church in Steinhof, the *Postsparkasse* (postal savings bank) and a whole range of apartment houses. His chief contribution, however, lay in his drafting of the plan along which the new Vienna was to develop. Otto Wagner is not unknown to Americans. He lectured here in 1910, on the phenomenon and character of the modern metropolis. His views, even in this epoch of Corbusier, have dictated the basic concepts for all reforms which have been carried out in this field. His clear and logical expression of the problems of architecture was made possibly by his strong sense for facts, especially for facts relating to the social structure of the metropolis. Wagner was helped by statistical material which he collected from all part of the world. He came to the conclusion that the first duty of the architect of our time is to bring order into the fast growing communities which are continually developing within our large cities. He understands the severe and objective way of living of our days, and thus he carries architecture away from a merely plantlike development out of the Baroque into paths of reason. The brilliant façade looses its importance; the ground-plan, the possibilities of comfortable living, the inner rooms and halls become the main thing.

From this basic concept all his further work can be explained. He wants his buildings to represent not merely aesthetic values, but also to be honest. They are to show on their outer façade what kind of lives people lead in them. The walls are nothing but the covering of the inner space. Nor is this his only innovation. To-day instead of the arbitrary and the imaginative, severe planning rules. Exact geometry and with it the straight line and the square angle have come back into use. Thus we may account for the geometrical effect both of his ground-plans and of the sharply defined outer surfaces of his buildings. The first pure creation of this type is the building of the *Postsparkassa.* The façade is faced with white marble plate riveted to the walls. The rivets of glittering aluminium stand out plainly. The inner building is constructed around a big, light hall made of glass and metal.

The post-Wagner era before the war mostly demanded villas and plain apartment-houses from its architects. Monumental buildings went out of fashion. A change from luxury to simplicity was obvious. Building activities shifted from the old centre of the city toward its outskirts, yet a clearly defined line characterized the whole development.

Josef Hoffmann, who, in the deepest core of his being, is a successor to Austria's Baroque architects, is inclined to give plastic decorations to his buildings. Yet, even as far back as in 1906, he built the sanatorium in Purkersdorf, a simple, easy cube. Adolf Loos, who, in his youth, has breathed the atmosphere of modernity during his stay in America, moves along more definite lines. In his villas, which are characterized by a sure sense for harmony of form, the flat roof absolutely dominates the whole character of the construction. He was the first to build in 1910 a terraced house with sloping roofs. Oscar Strnad, the stage-decorator of international fame who collaborated with Reinhardt in the Salzburg festivals, is a dramatist of space. He wishes to transform space into motion. His villa for the novelist Wassermann is a clear example of this tendency.

But the most modern phase of Viennese architecture has found its leader in Josef Frank. Under him almost all modern architects joined forces in creating the exhibition of the *Österreichischer Werkbund*, among them the clear-thinking and logical Ernst Plischke, and the more sentimental Hellmuth Wagner-Freynsheim. The Werkbund exhibition showed that in spite of the individuality of Vienna artists there is one element that is characteristic of all: the strongly developed sense for inner space, the feeling for harmony and intimacy.

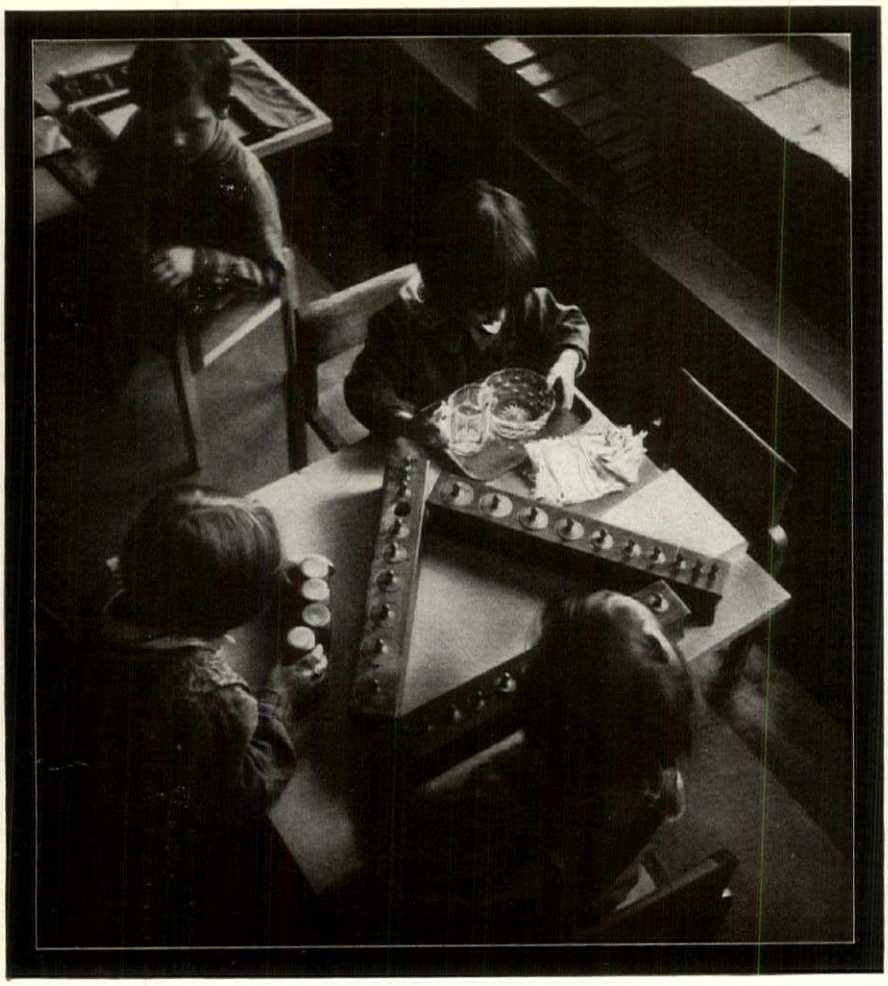
And here we come back to our point of starting. For this is the same sense of harmony and intimacy which produced the chef-d'oeuvre of Viennese interior decoration: the so-called Biedermeier style. And even at the same period architects, inspired by classic ideals, were building both in Vienna and in the surrounding suburbs, mainly in Baden, those clear and severe structures which, under changed circumstances of life, in a different rhythm of living, seem to come again to life, taking their place as models for the architects of foreign countries.

KINDERGARTEN

FRANZ SINGER, ARCHITECT

For more than ten years the City of Vienna has been striving to increase the general welfare of the population by carrying out a large building program. In foreign countries, especially in America, only those phases of this program have attracted attention which have meant better hausing conditions for the lower classes. The big municipal buildings in the center of the city, and the *Siedlungen* in the garden colony on the outskirts are well known. These provide 50.000 healthy, modern, happy homes for people of small means, mainly for laborers. But no less important are those measures which concern the welfare of children. They begin with the *Mutterberatungsstellen* (offices where mothers and prospective mothers are advised as how to nurse and handle their babies) and the *Wöchnerinnenheime* (nursing-homes where mothers stay for the first ten days after having given birth to the baby) and wind up in the *Versuchsschulen* (schools for especially gifted children between 7 and 14 years of age). Thus the child is being taken care of even before it is born, and this municipal supervision and help continues until it has finished school.

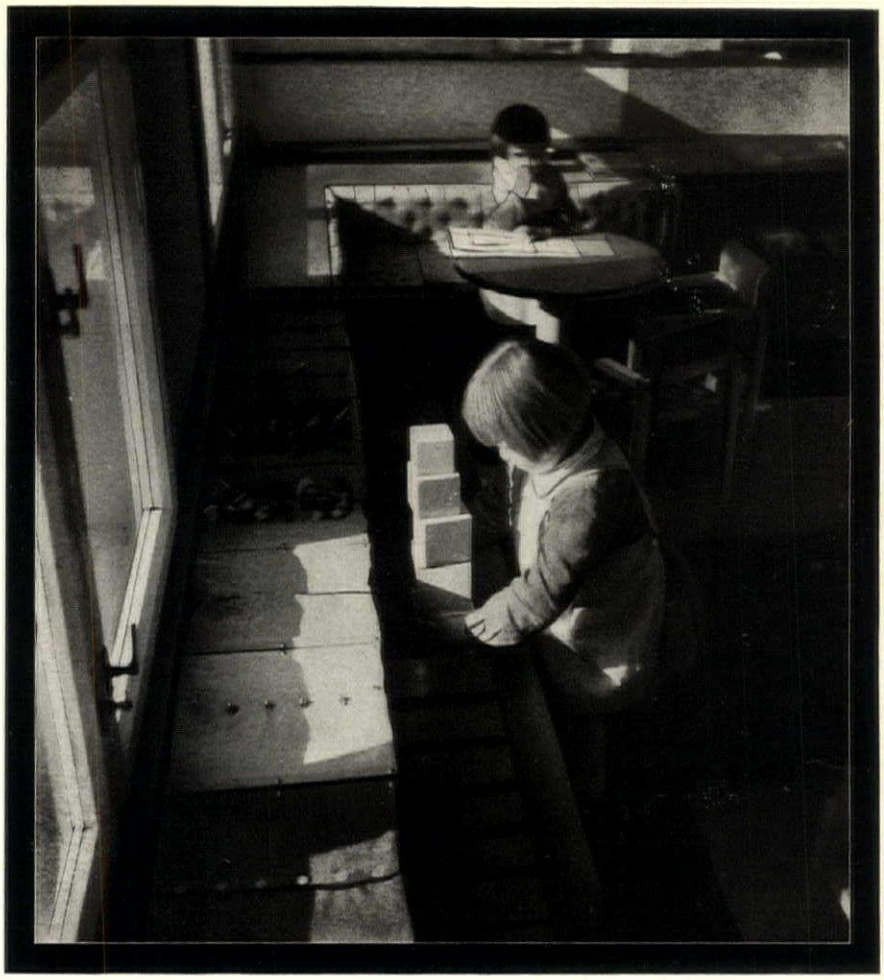
There are various kinds of institutions that look after children of all ages. We need only quote one



COOKING LESSON

GARDENING LESSON

example to make it plain how carefully this whole plan has been laid out: that is the way in which the very smallest children, the children under 7 years of age are being taken care of. Children whom their parents have neglected or left are taken in at the *Kinderübernahmsstelle*, a large building equipped with all the devices of the most up-to-date hygiene. Children whose parents although they may wish to do their duty by them are obliged to spend the day away from their homes in order to work, spend their days in the so-called *Hort*, or children's shelter. As soon as spring begins, numerous children's swimming-baths and pools open their doors. During the sum-



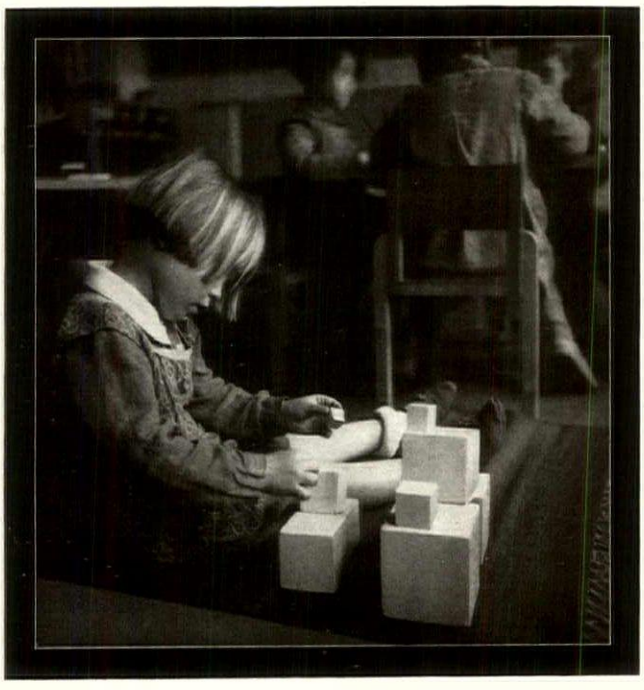
PLAY CORNER

TOILET CORNER

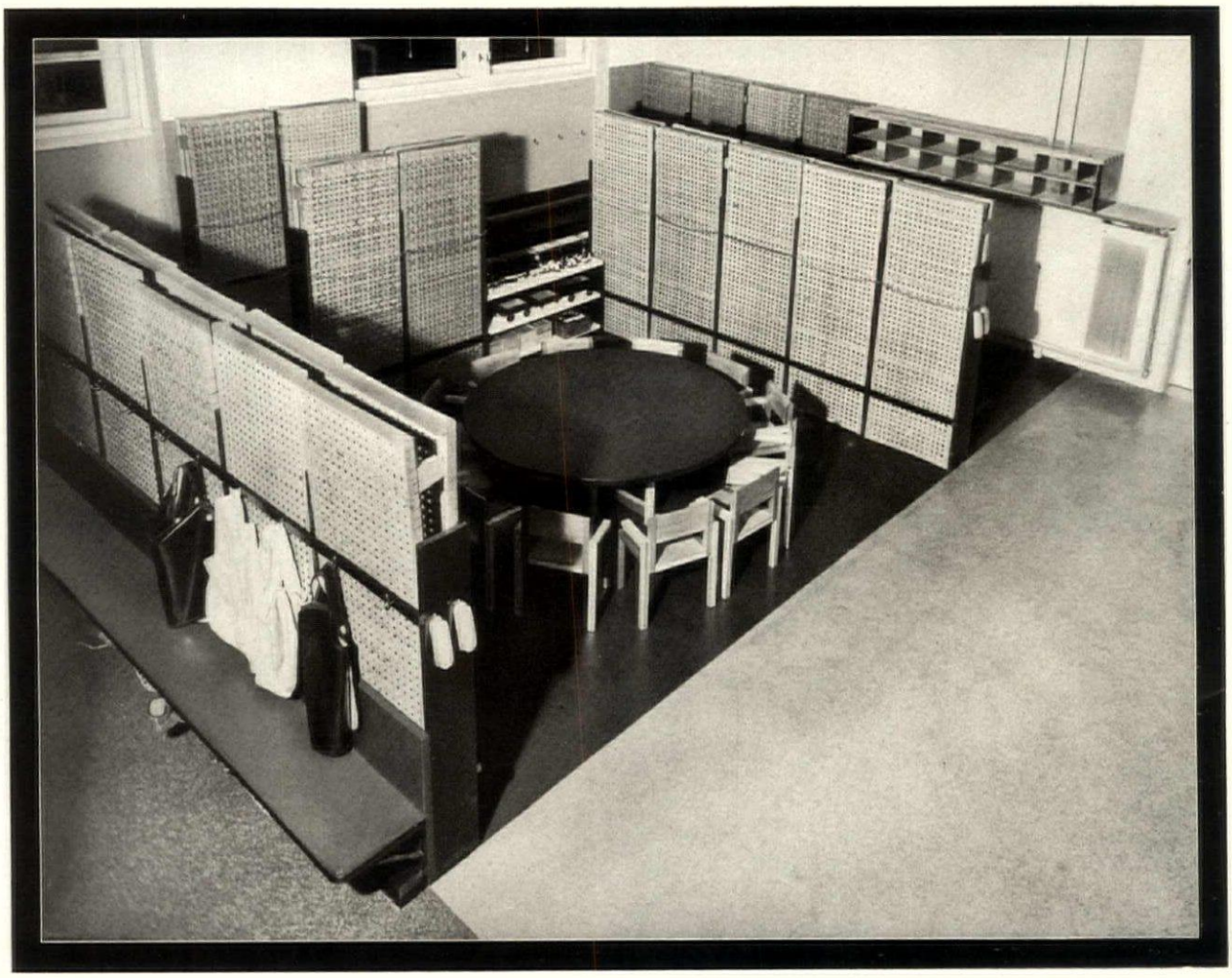
mer the children are sent off on holidays in the country. But in distinction to *Kinderübernahmsstelle* and *Hort*, the kindergarten is meant for all children, these who are well looked after by their parents just as much as for those who are not. Vienna kindergartens, since they have been opened to all classes of the population free or for very small sums, have taken on a tremendous development.

We are publishing photographs of two characteristic Vienna kindergartens designed by Erich Leischner. That of the new colony of Sandleiten, which is inhabited by 5000 people, forms truly the center of the whole community. The kindergarten in the

REST CORNER TRANSFORMABLE

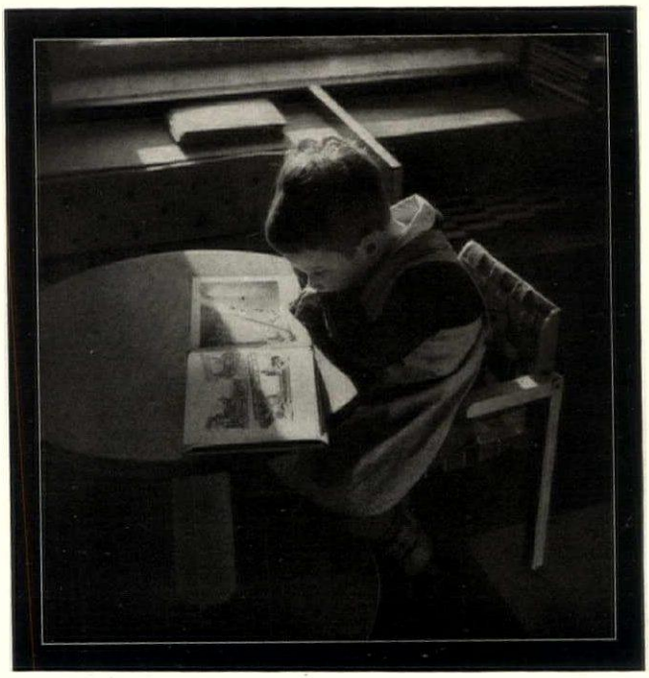


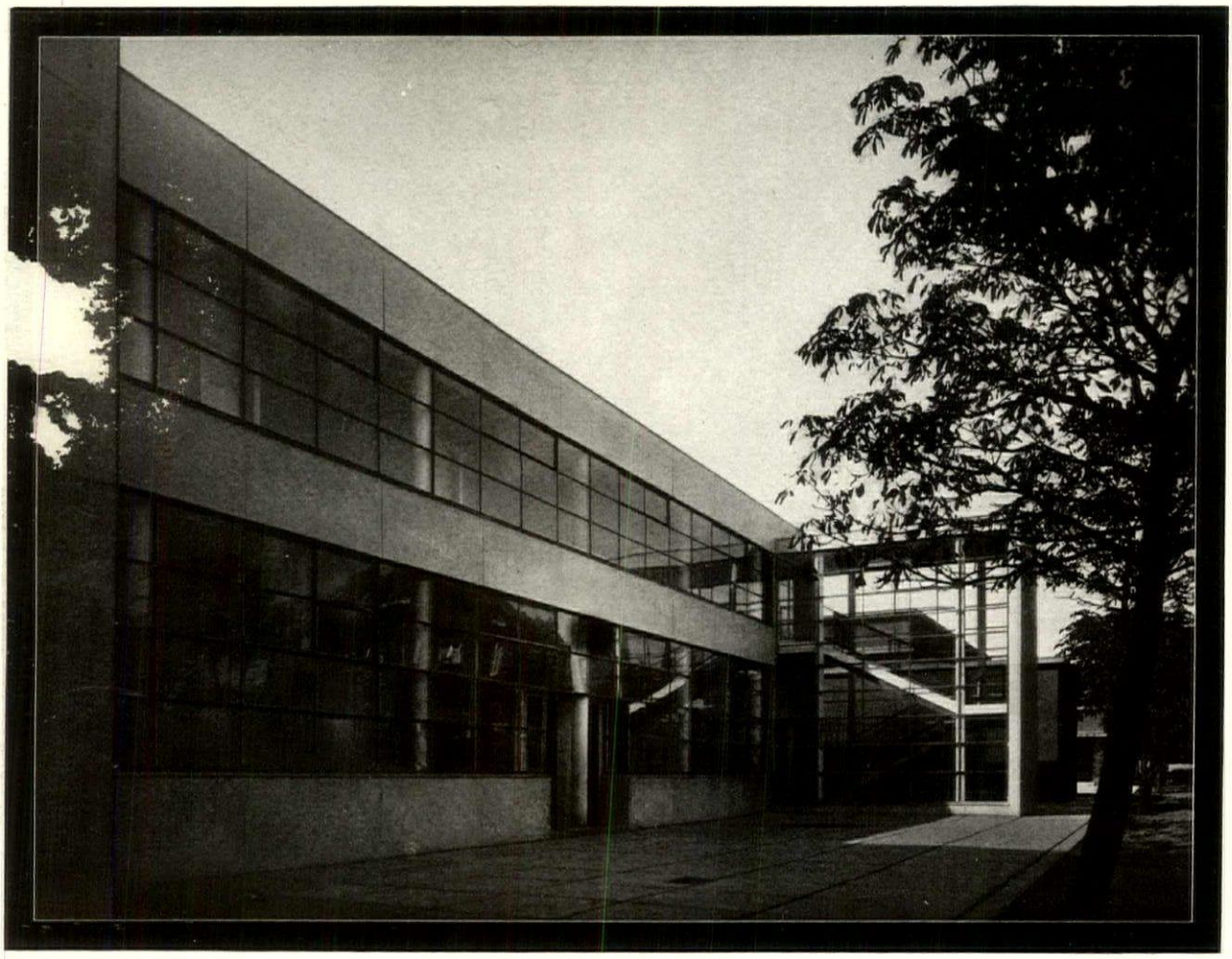
Goethe-Hof, of which we publish a series of views, serves one of the big workmen's apartment houses in the city. This kindergarten stands, as a quite separate building, in the courtyard of that great community house. It consists of two floors, the lower of which was only completed and opened to the children for the first time last year. The interior decorations designed by Franz Singer follow the general principles of Dr. Maria Montessori, whose ideas also guide the teaching. All that a child can do for itself, it is taught to do alone and independently. Accordingly, all the furniture, the tables and the benches, the chairs and the cupboards, are made from the natural wood in models so small that the children themselves can handle and use them.

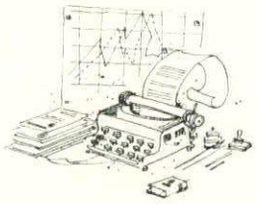


INTO SMALL LUNCHEON ROOM

Whenever a child is through with the task of the hour, it must be able to put everything back in its proper place, so that there is space for new work, or new play. When mealtime comes, the children must place the tables and chairs all side by side, so that they may have one big table at which they can all unite. They must still be helped in the getting ready of the low wicker deck-chairs on which they take their afternoon-naps, taking them out of their racks and placing them in rows. But there are few tasks in the kindergarten which do not incite the child to make itself helpful, and so contribute, even in play, to its happy and useful development.







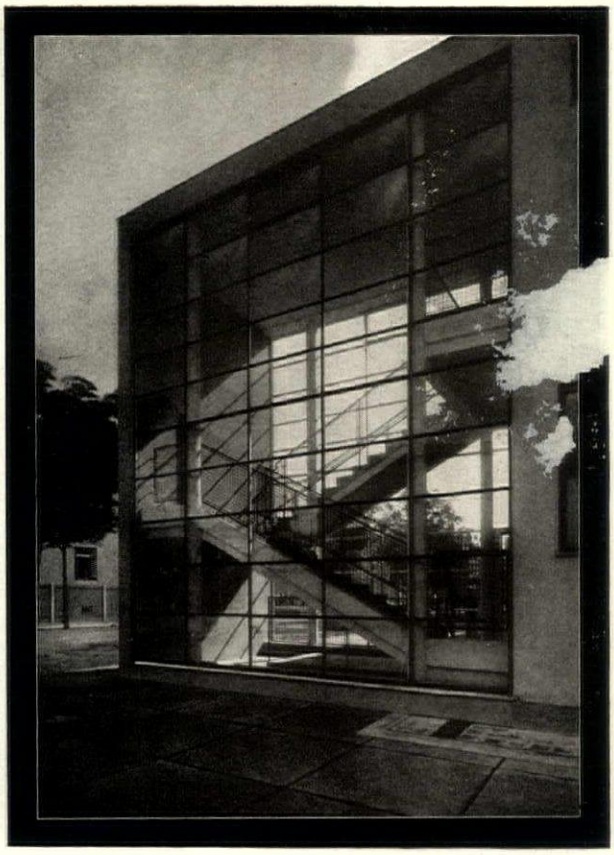
EMPLOYMENT OFFICE

ERNST PLISCHKE, ARCHITECT

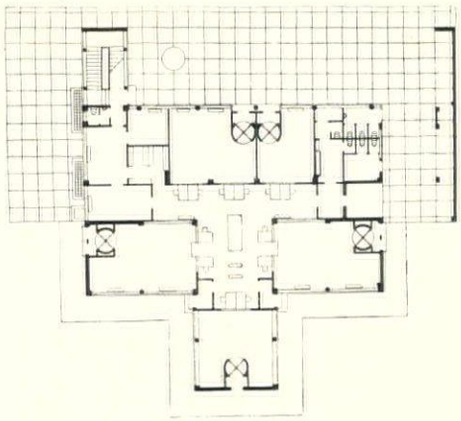
The sustained economic crisis with its unfortunate concomitant of unemployment has imposed upon the architects of Europe special problems. In the industrial regions where unemployment is aggravated by the political and moral dangers always associated with the presence of thousands of people out of work, it has become the architect's social duty to strike in his building the note of sanity, health and cheerfulness. For skill in meeting this problem and successfully solving it the designers of a new employment office recently built deserve a special praise. It is essential that the foundries, tile-making establishments and leather shops of the region be provided with an elastic labor supply and at the same time that the workers receive considerate treatment while awaiting jobs. The central point in this delicate situation is the employment office. The building has been constructed according to the best principles of the modern style.

Modern materials and modern design could not be better adapted than for the creation of a sane,

FRONT VIEW

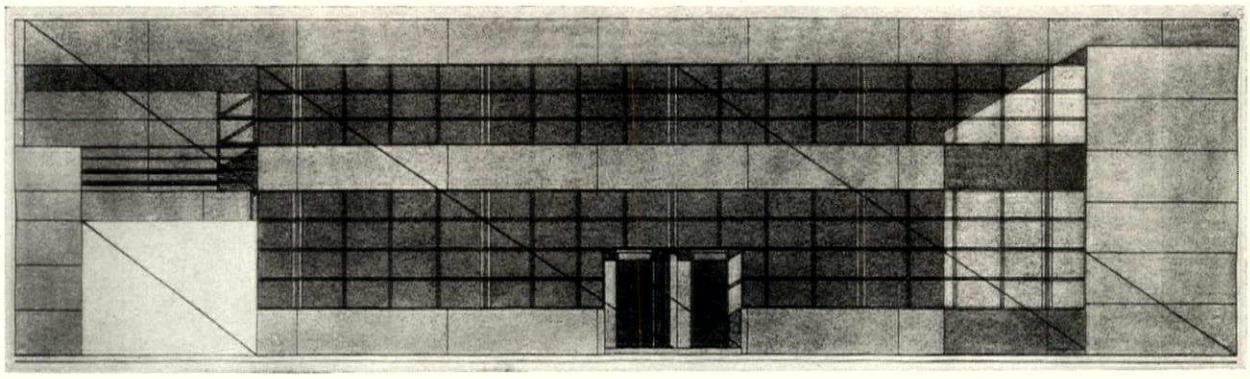


STAIRCASE



GROUNDPLAN

CROSS SECTION



STAIRS

bright impression. The designers of the employment office have obtained this result first by the use of a simple formal ground-plan and second by admitting a profusion of light which streams in both through the large windows and through the glass walls. Large windows and glass walls are essential in the modern spirit. A simple formal ground-plan is also indicated. The formal arrangement of this employment office is perhaps its most interesting individual feature. The use of the building imposes a symmetrical division of space. It is necessary to have an office-room standing between the two boxed-in information offices or "*Schalter*" for men and women. Having statisfactorily solved the question of locating these essential services, the architect was free to devote himself to the outside of the building which must not only carry on the balanced plan of the interior but, if possible, develop it in the same mood of brightness and calm. To this end the architect has used his stairway, which works itself organically into its ground-plan as a main feature of the façade. From the street the building appears to give just that impression which its social problem necessitates. It is seldom that architecture is enabled to perform a manifold service more happily.

The proportional sketch shows how well chosen the proportions of the building are, and how admirably it fits into the landscape. It is here perhaps interesting to note that the ideas as to form advanced by artists in the most different countries are approaching one another and becoming more and more alike. In this employment office this internationalism comes out clearly and may

perhaps be explained by the fact that economic development and factories of the very sort which this building is called upon to serve, and factory life as its patrons experience it are tending to make life in all modern countries absolutely alike.

★

Modern furniture with its emphasis upon simplicity and service accords perfectly with a building constructed of metal, concrete and glass and destined for an essentially utilitarian rôle. Up-to-date heating-fixtures and ventilators find an appropriate employ in such a structure.

The modern steel filing cabinet forms here a harmonious element of interior decoration. Modern desks arranged in rank before geometric windows carry out the *stimmung* of façade and stairway. A cold, reassuring logic dominates the whole.

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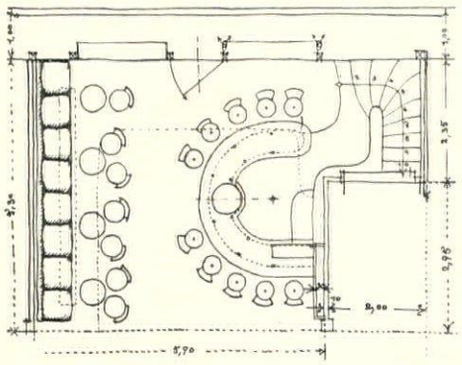
QUICK LUNCH COUNTER K. HOFFMANN, F. AUGENFELD, ARCHITECTS

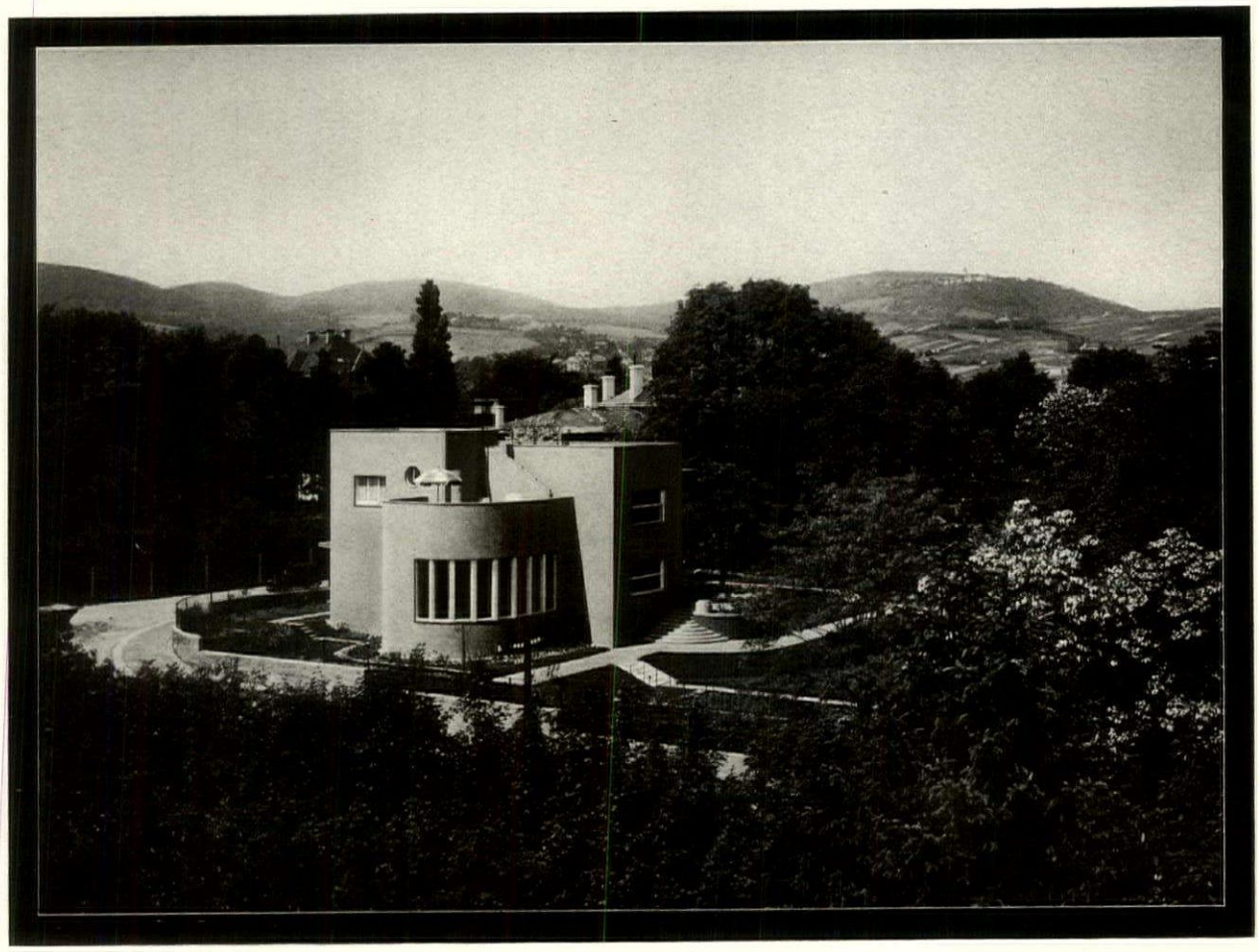
QUICK LUNCH COUNTER — GENERAL VIEW



There is no modern institution which adapts itself more gratefully to the new architecture than the quick-lunchcounter. Cleanliness, brightness and efficiency, which are the fundamental requirements of the modern "quick lunch", can in no other way be met more satisfactorily as by a judicious use of the new materials.

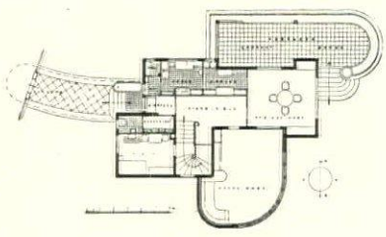
The lower part of the walls in this "quick lunch" is faced with Courberil wood. The walls of the little gallery are lacquered pure white. The actual counter, the built-in shelves against the walls, the socle of the revolving chairs, and the table are lacquered light cream. Care has been taken not only to make the color scheme harmonious but to have the materials used of the best quality and the lacquer so applied as to stand frequent application of soap and water.

All metal parts throughout the building are coated with chromium, the modern metal which has shown itself most satisfactorily both for its lustre, resistance to oxydation, hardness and durability under severe wear. The upholstery throughout is of artificial leather, the floor is covered with white and red linoleum.



RESIDENCE STEPHAN RITTER v. A.

HELLMUTH WAGNER-FREYNSHEIM, ARCHITECT

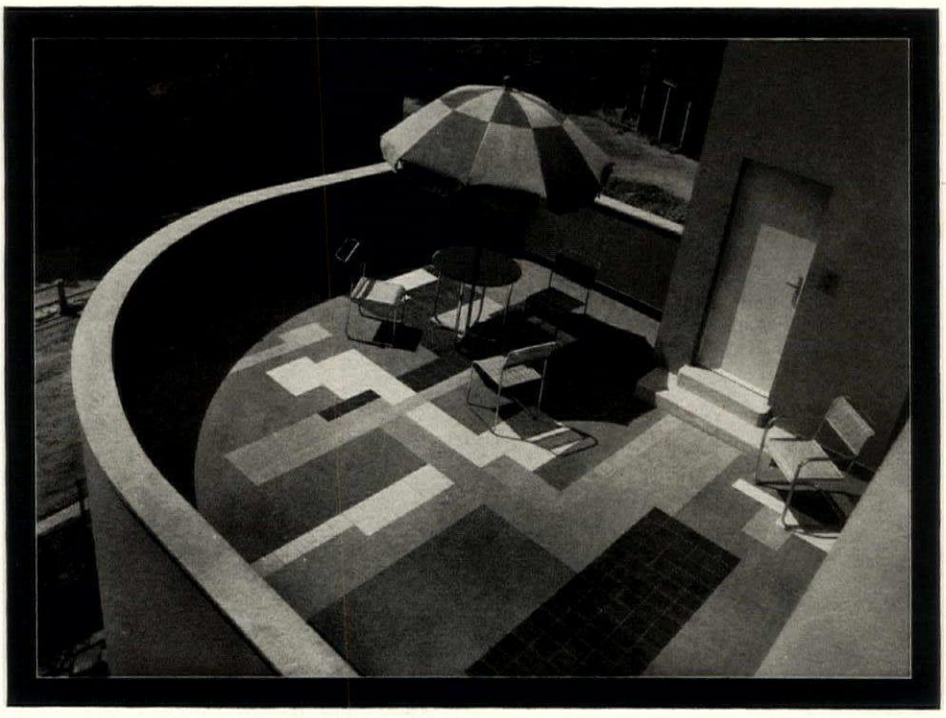


Hellmuth Wagner-Freynsheim of Vienna adapted the principles of modern architecture to the problem of the private dwelling-house. He has been called upon to build a two storied villa for Herrn Stephan Ritter von A. in a suburb of the Austrian capital. With a minimum of distracting detail and a continual emphasis upon simplicity, solidity and serviceability of forms he has designed a structure which fits most satisfactorily into its background of oak-trees and terrace garden. The façade is relieved rather by variety in the treatment of essential parts than by any straining to deform these parts for effect. One enters the grounds by way of a simple gravel path between green lawns and rose-gardens. One mounts a short flight of six steps to attain the slight elevation upon which stands the actual building. From this approach the house is seen to

EXTERIORS: BALCONIES AND ROOF TERRACE

consist of a large one-story room, its whole curving wall taken up by a curving row of tall windows, of a two story central block, and of a terrace and balcony partially enclosed. The side of the house, taking advantage of the long sweep of the terrace flower border and of the horizontal lines of balcony window and roof, conveys a most satisfactory impression of solidity and repose.

The interior is fitted throughout with patterned hard wood



floors, built-in hard wood book-cases and cabinets and built-in upholstered furniture. The walls are simply treated, curving to conform with the façade. Modern lighting fixtures provide a pleasing and adequate illumination.

The terrace, an essential feature in a house located near the Wiener Wald and the Austrian Alps, has been designed not only for sun-bathing but for actual plunging as well. A bath has been installed here quite open to the sky, a bath with appropriate fixtures, shining nickle rails, a shower attachment and draw-curtains of canvas. Like the façade itself the flat surfaces of this roof are broken only by details each of which has been adroitly modelled to serve its proper function in a terrace.

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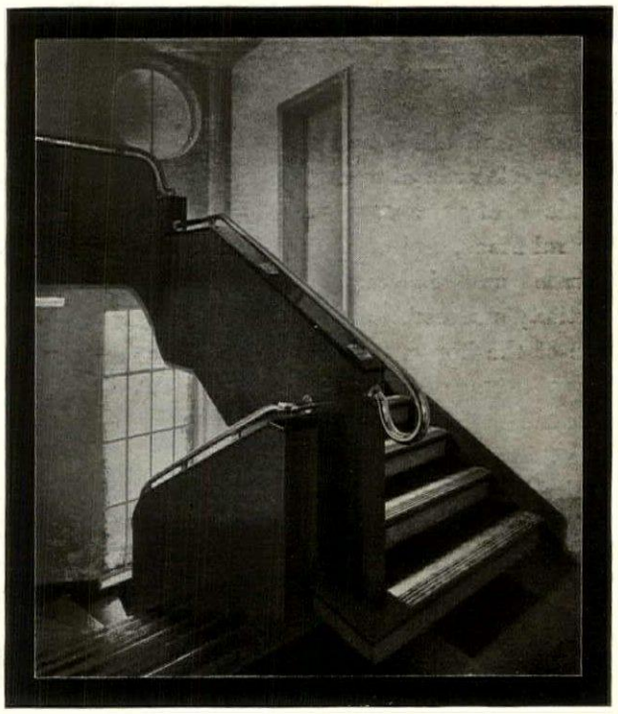
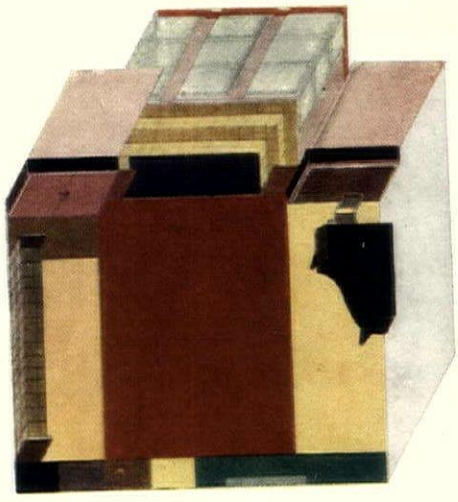


SALON AND STAIRS

KINDERGARTEN

GEOMETRICAL DRAWINGS

1. MUSIC ROOM
2. DAYNURSERY
3. WORK CORNER
4. TOYBOX CORNER
5. WASHING AND DRESSING CORNER



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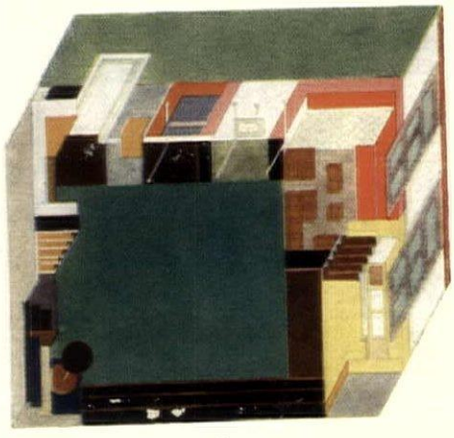

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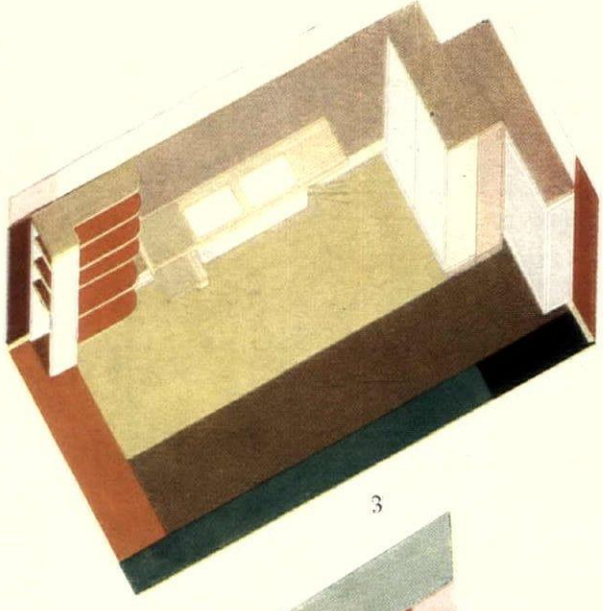

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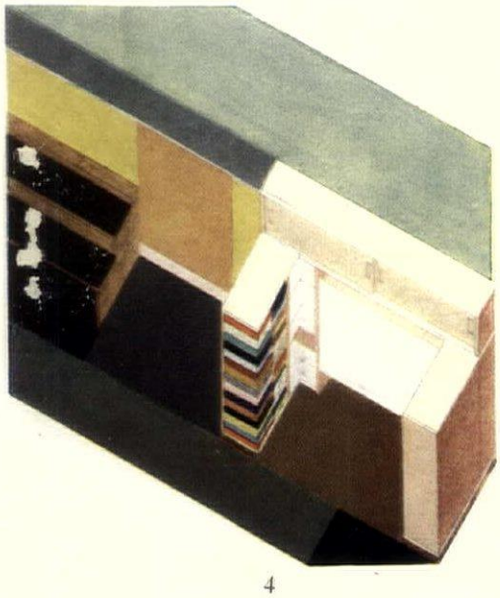

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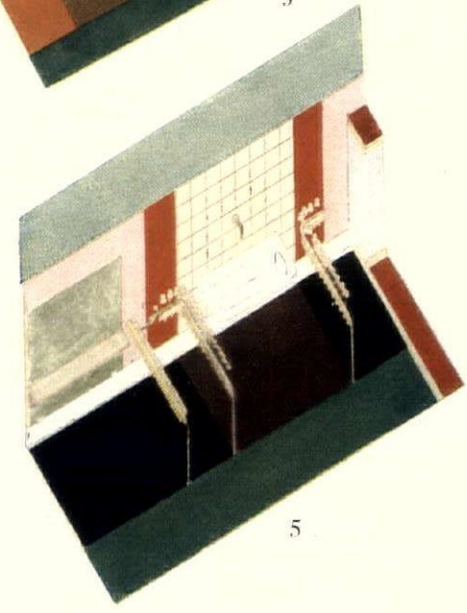

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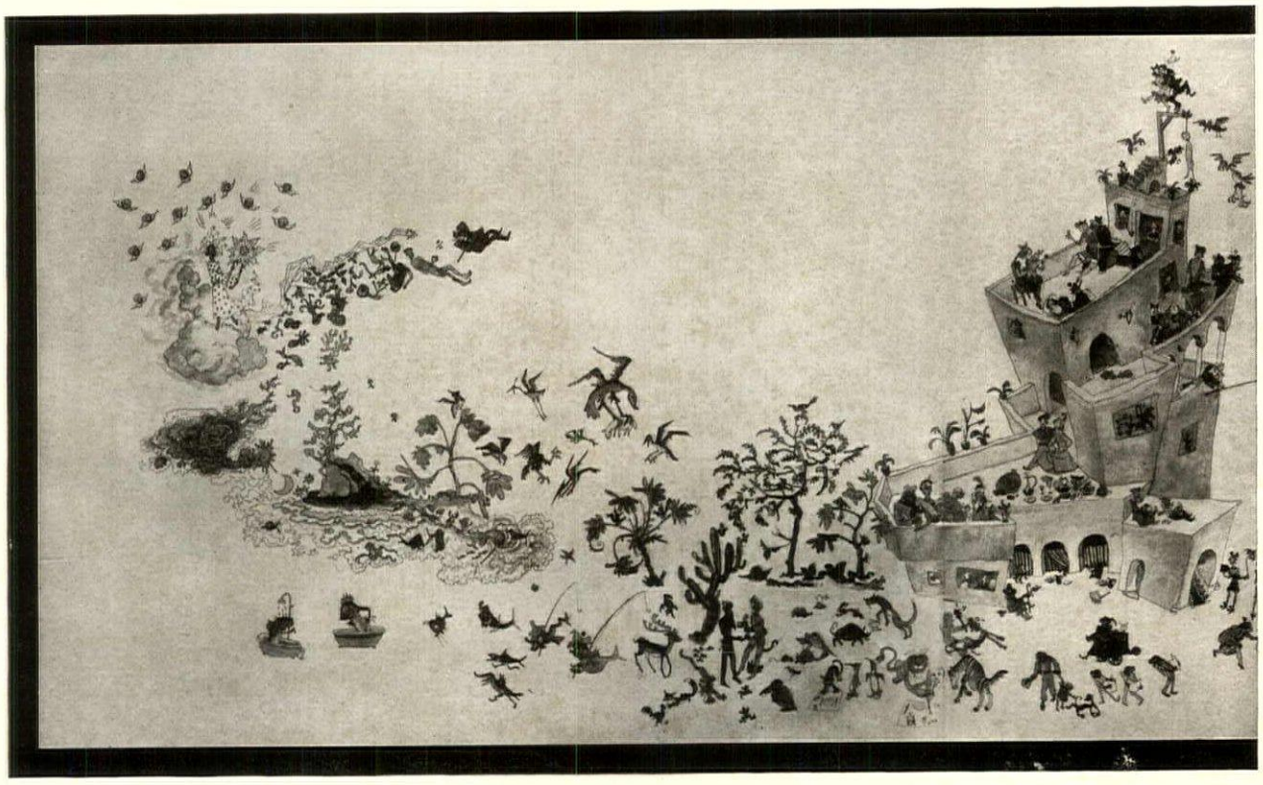
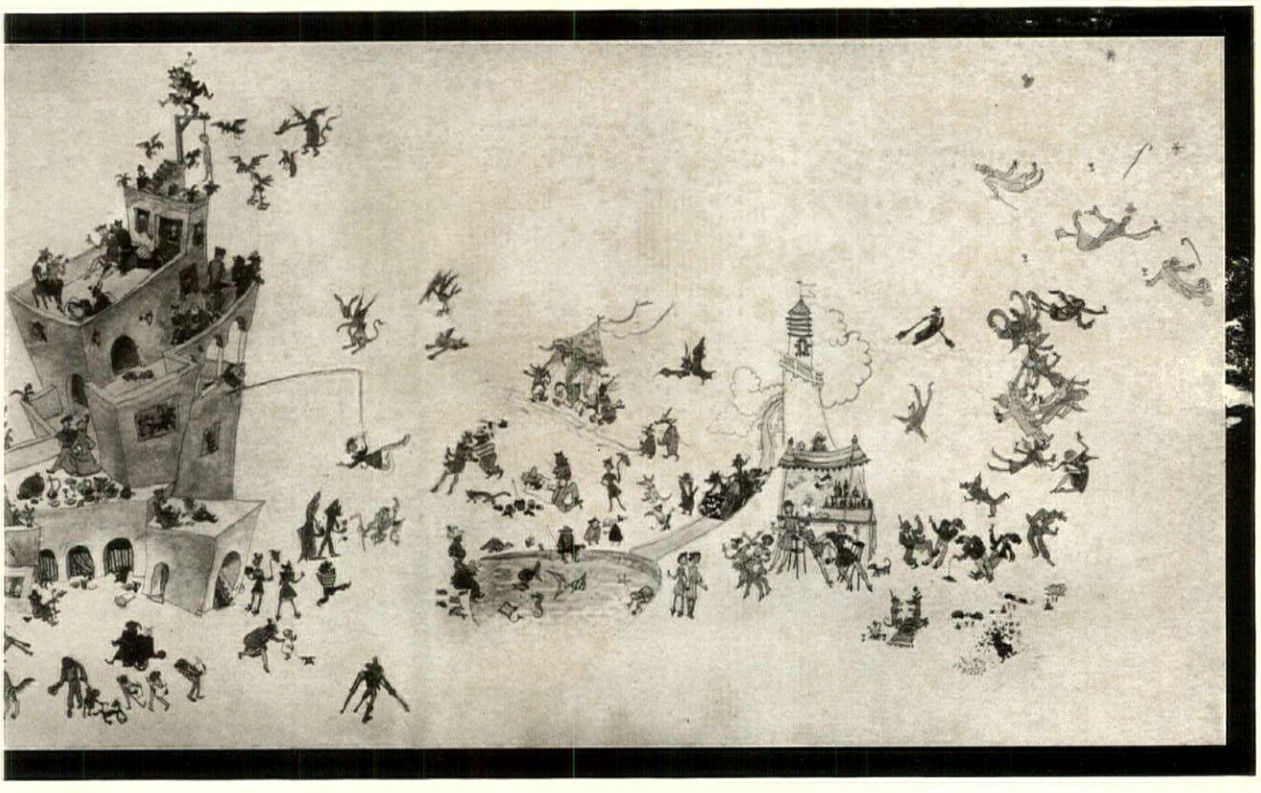
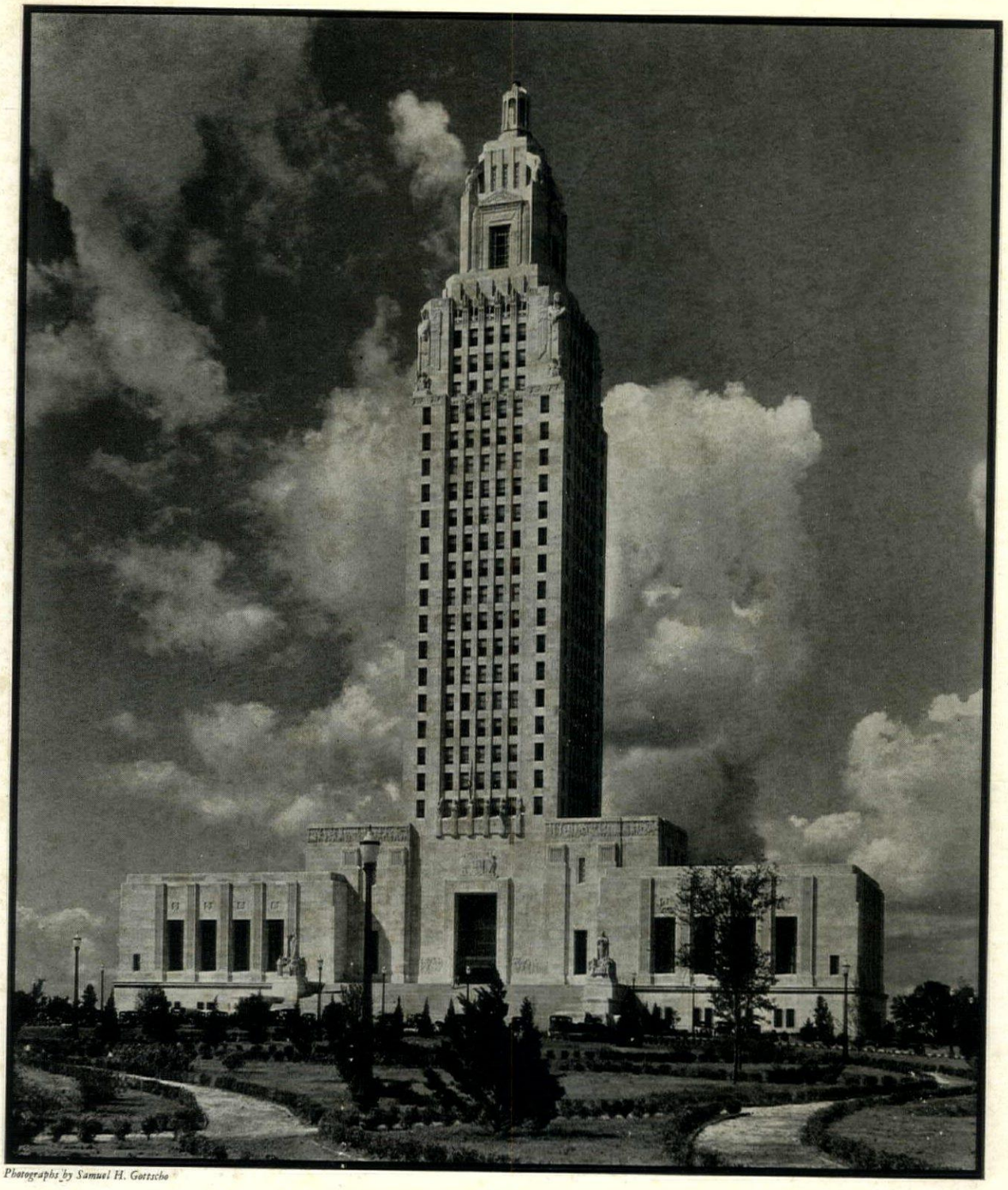


WALL DECORATIONS IN THE PRIVATE BAR OF A VIENNA HOME
BY FRANZ TAUSSIG



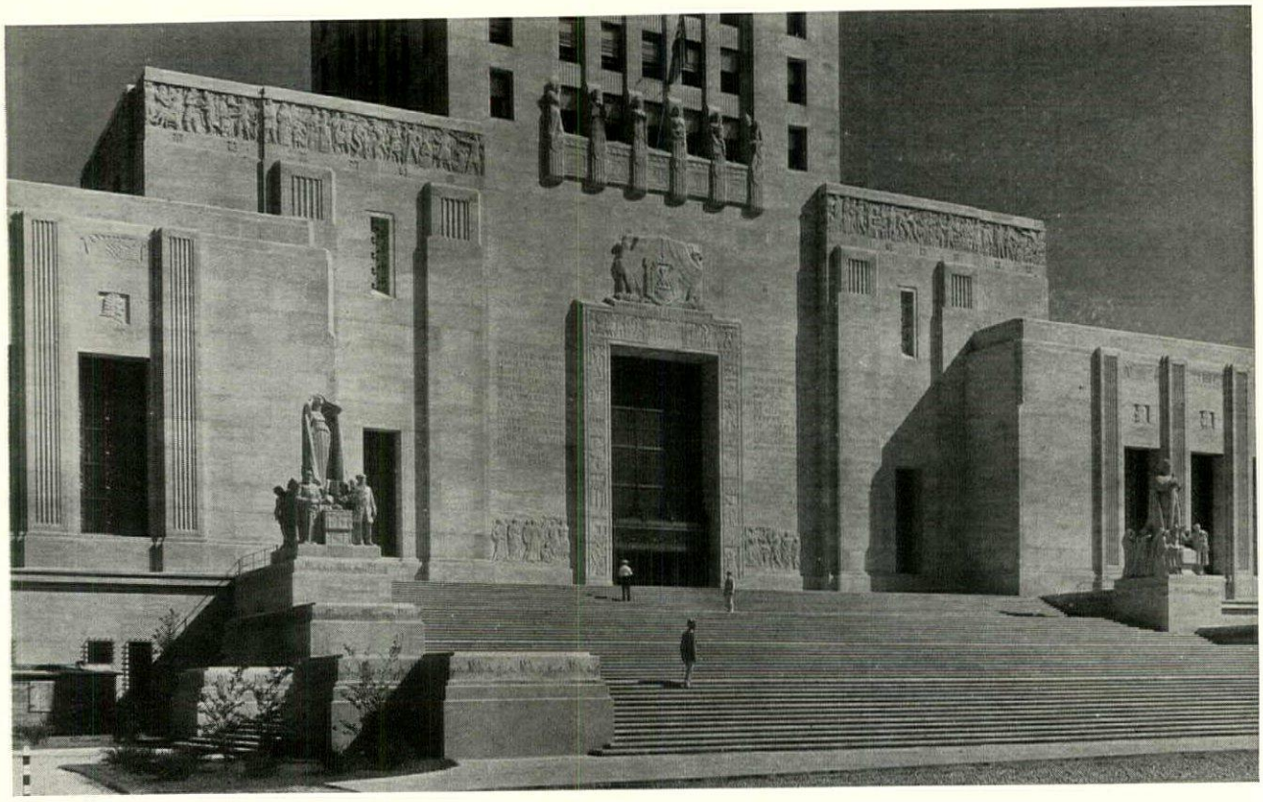


Photographs by Samuel H. Gottscho

LOUISIANA STATE CAPITOL

BATON ROUGE, LOUISIANA

WEISS, DREYFOUS & SEIFERTH, ARCHITECTS



THE SOUTH'S NEW SKYSCRAPER CAPITOL

WEISS, DREYFOUS & SEIFERTH, ARCHITECTS

A BUILDING as important as the capitol of a State has, traditionally, two distinct functions: first, to serve efficiently as a legislative, executive and judicial meeting place, with offices for government officials, departments and bureaus; secondly, to serve as a public monument embodying the history, progress and aspirations of the people of the State. The architect's problem is to produce a design for a building which combines both of these functions to the highest possible degree. How well the architects have succeeded is shown in some small measure by the photographs and plans here reproduced.

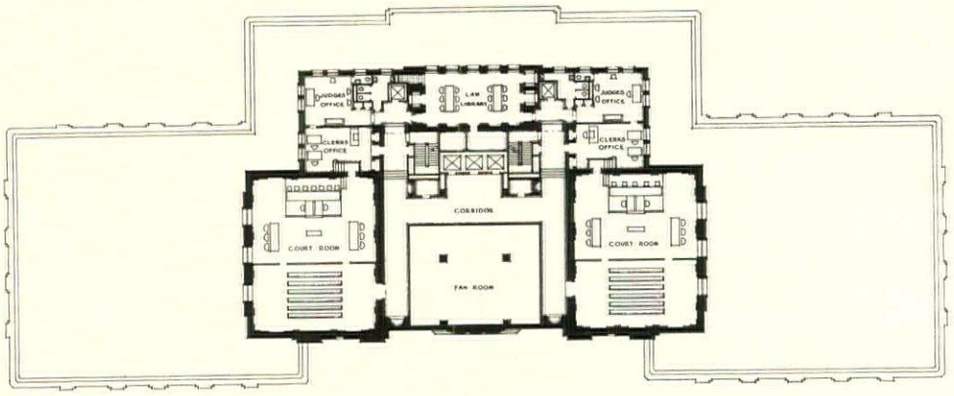
An excellent site for the building had been chosen at Baton Rouge, with a long vista through the 50-acre park and backed by the waters of University Lake. The main elevation faces the south toward the city of Baton Rouge. The building occupies a plateau some fifty feet above the Mississippi's low-water level.

In 1930 the architects were authorized to make their studies of the site and of the requirements for the capitol. Attacking the problem in a logical and scientific manner, they made an exhaustive study of the requirements of each and every department of the government which was to be housed in the new building. At the same time members of the firm traveled extensively to study other State capitols in order that they might have the advantages of being familiar with the most recent developments in build-

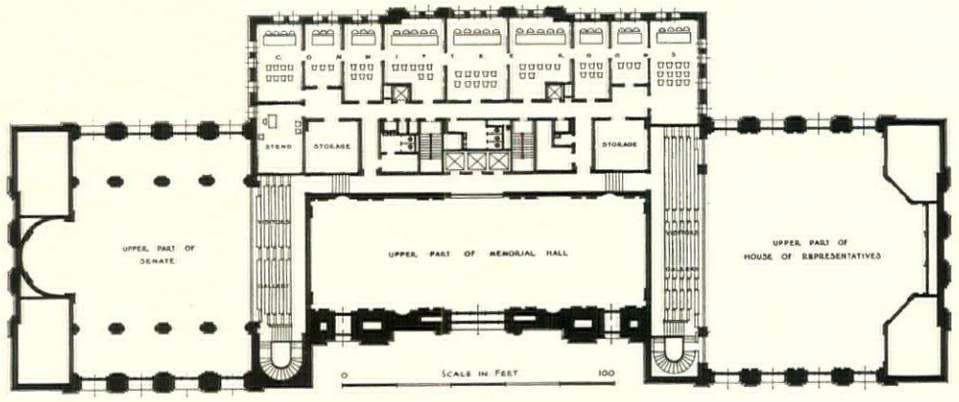
Above and to the right are views of the monumental southern front of the building, approached by 48 granite steps which are flanked by sculptured groups of Lorado Taft

LOUISIANA STATE CAPITOL, BATON ROUGE, LOUISIANA

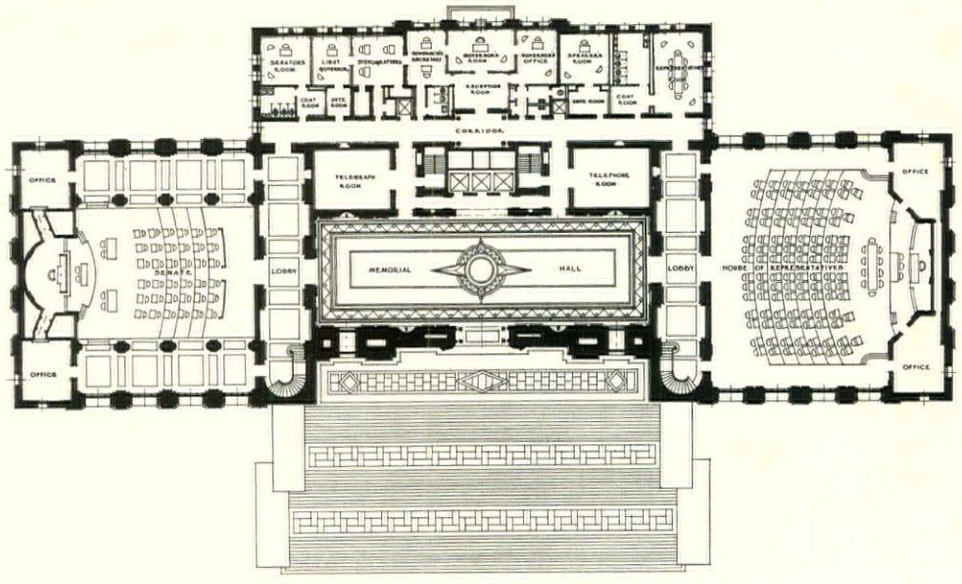
WEISS, DREYFOUS & SEIFERTH, ARCHITECTS



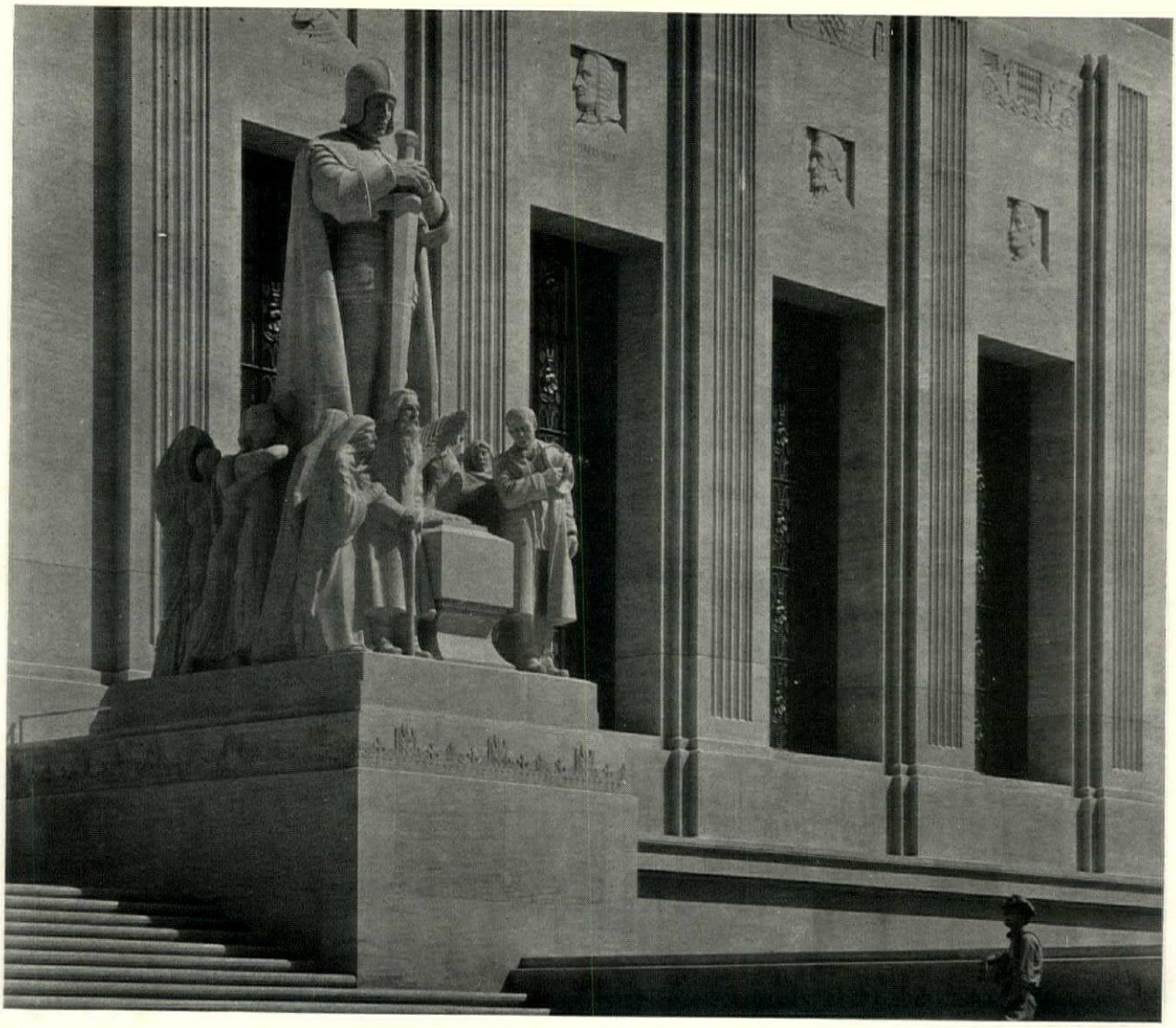
FOURTH FLOOR PLAN



SECOND FLOOR PLAN



FIRST FLOOR PLAN

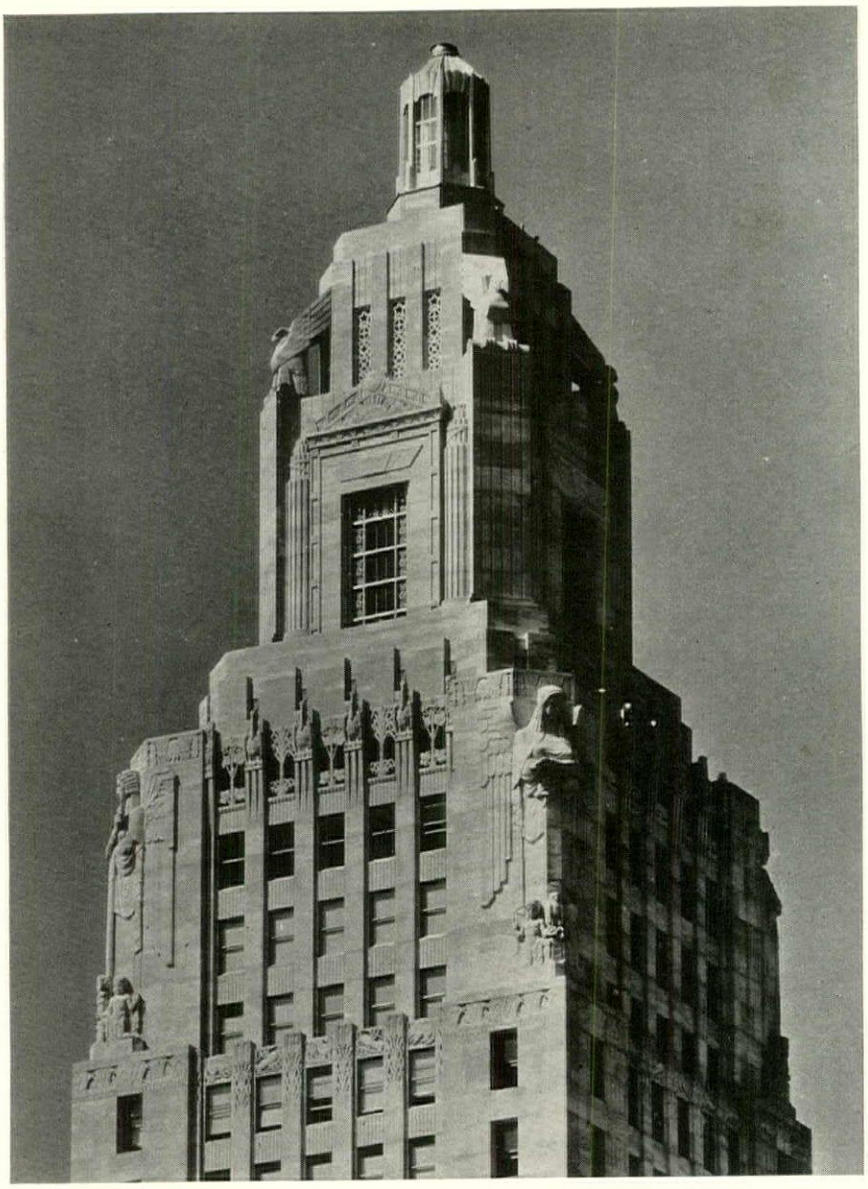


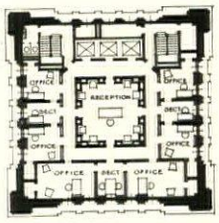
In the immediate foreground is Mr. Taft's "The Patriots," which, in its symbolism, pays homage to the bravery of the soldier, but at the same time expresses the hopelessness and futility of armed conflict. Above the Senate windows, in the background, may be seen four of the twenty-two sculptured heads of Louisiana's great citizens, which are the work of Albert Rieker, Juanita Gonzalez, Angela Gregory, John Lachin, and Rudolph Parducci. The bronze work of the windows themselves, modeled by the Piccirilli Brothers, memorializes the State flower, the magnolia

ings of this type. They definitely abandoned the outmoded "rotunda-dome-and-wing" type of capitol as being unsuited to modern needs, and followed rather the tower type of building with a broad and dignified base, of which the Nebraska State Capitol is an outstanding example. The two wings provide the two large halls for the two legislative bodies, the Senate and the House of Representatives, and the tower provides ideal office space for the State departments.

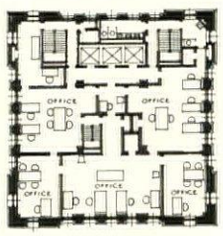
The plan is characterized by that simple directness which marks the logical solution of functional problems. The exterior reflects the same thought and frankly expresses the plan arrangement of the interior. The large windows of the wings give exterior expression to the great halls of the Senate and the House which they flood with light. The mass and detail of the building were carefully studied in large models to achieve the desired effect. In order that the entire building might be consistent in its design, the architects made special drawings for all of the furniture and equipment, including the lighting fixtures.

In the design of this monument of the State, a modern interpretation of classical *motifs*, the architects have made the most of the possibilities of sculptural enrichment. The *motifs* of the sculpture at the base of the building are divided axially, those





22ND FLOOR PLAN
TYPICAL UPPER TOWER FLOOR



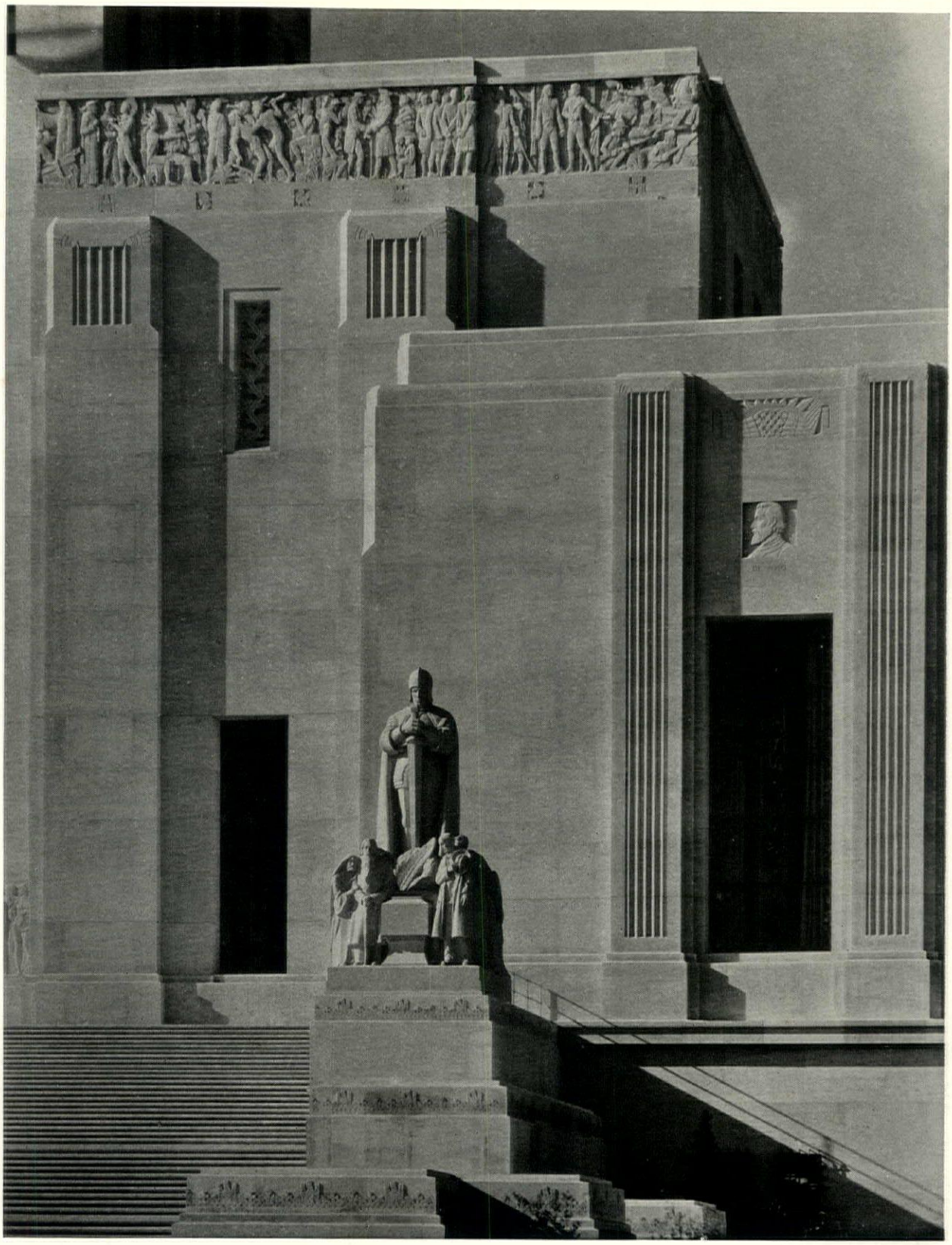
6TH FLOOR PLAN
TYPICAL LOWER TOWER FLOOR

Detail of the upper portion of the tower, showing the transition from the shaft of the tower to the aluminum lantern which crowns the building. The four corners of the upper portion of the main tower are occupied by colossal figures, almost four stories high, that represent the spirits of Law, Science, Art, and Philosophy. These are the work of Ulric H. Ellerhusen. The upper element represents a spiritual temple, resting upon the broad base of education. Adorned with celestial symbols and flanked by eagles, the entire upper composition is the work of Lee Lawrie

of the west being dedicated to the theme of Peace, those of the east depicting war themes.

The broad flight of steps is flanked by the Lorado Taft sculptures of the "Pioneers" at the west, symbolizing the heroes of peace, and the "Patriots" at the east, the heroes of war. The entrance door itself is enframed with bas-reliefs by Lee Lawrie, surmounted by the seal of Louisiana. Adolph A. Weinman's figures in bas-relief, representing the resources, industry and art of the State, flank the base of the entrance. The peace theme is continued in the westerly friezes and the war theme in those of the east. Ulric H. Ellerhusen was the sculptor of these large friezes which form an historic cresting band at the fifth floor level. Above this enriched flanking base the 35-story tower rises, to a height of 450 ft. above the level of the street, as a straight shaft crowned with the sculpture of the "temple" and the aluminum lantern. This is the tallest building not only in Louisiana but in the entire South.

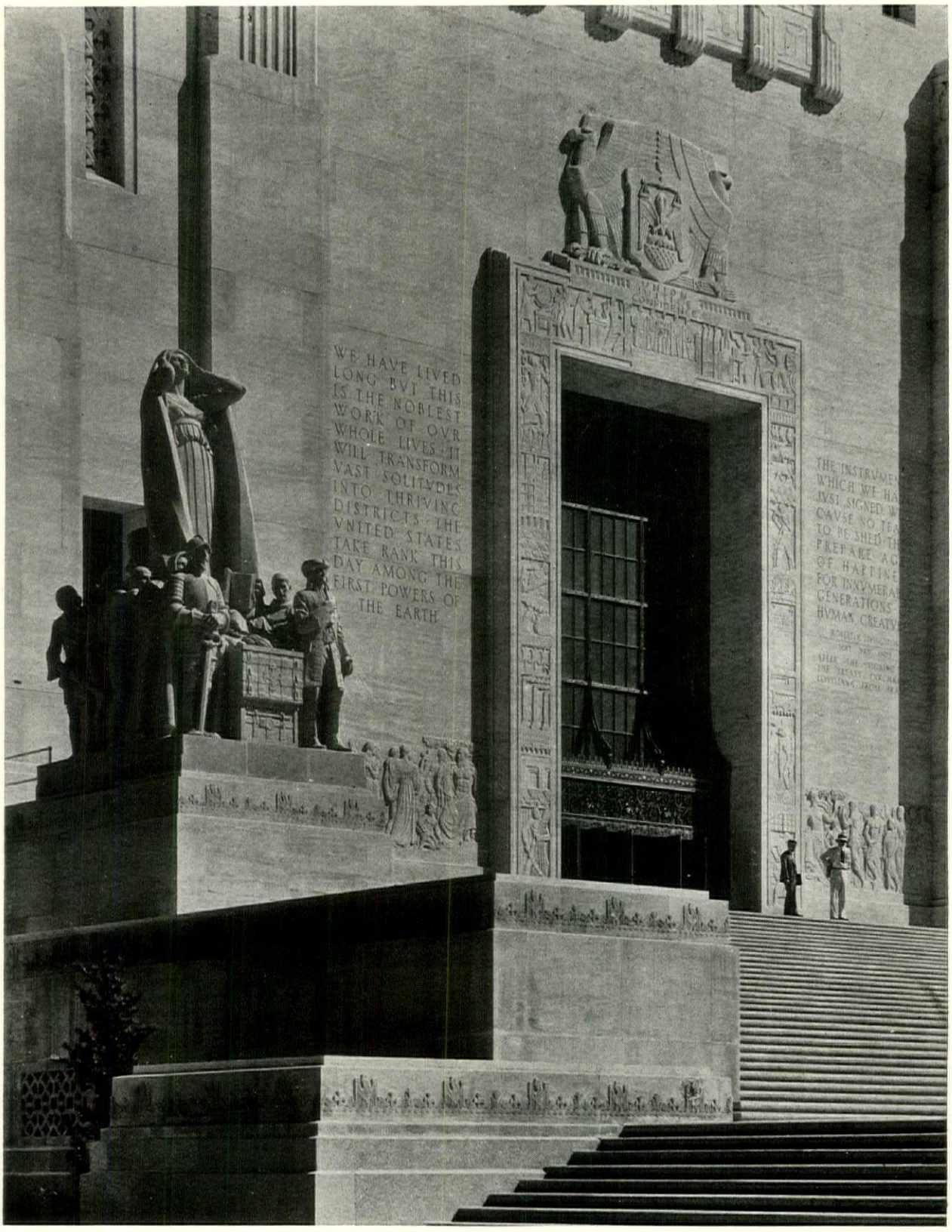
The exterior is built of Alabama limestone, the sculpture being carved in Indiana limestone. The



"THE PATRIOTS"

LOUISIANA STATE CAPITOL, BATON ROUGE, LOUISIANA

WEISS, DREYFOUS & SEIFERTH, ARCHITECTS



"THE PIONEERS" BY LORADO TAFT AND THE ARCHITRAVE BY LEE LAWRIE

LOUISIANA STATE CAPITOL, BATON ROUGE, LOUISIANA

WEISS, DREYFOUS & SEIFERTH, ARCHITECTS

Day and night views of the rear of the building from across the lake which is part of the 50-acre park in which the capitol is located. On the opposite page may be seen another Taft sculptural group, "The Pioneers"

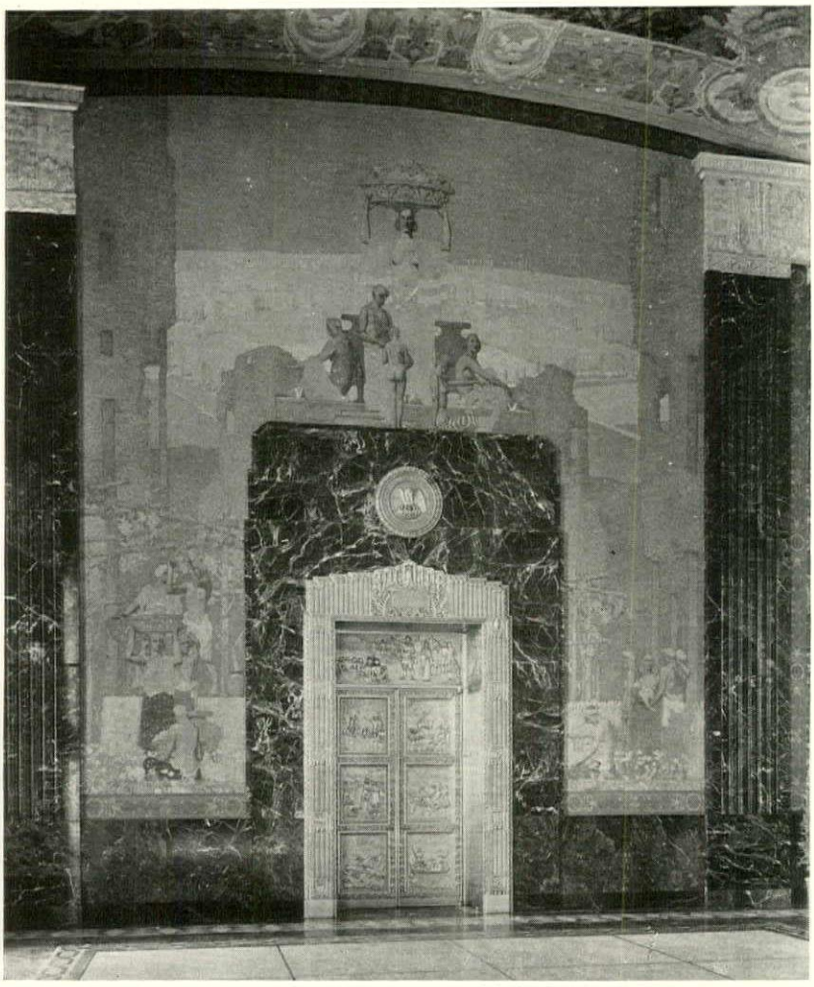
monumental granite steps are forty-eight in number, each inscribed with the name of a State in the Union, with its date of admission, the first flight of thirteen steps indicating the original States.

Through the bronze doors of the main entrance, one enters the Memorial Hall which contains the historical and symbolic record of the State in sculpture and in color. The ceiling of the Memorial Hall was painted by Louis Borgo and Andrew Mackey. The main portals to the Senate and House of Representatives are enframed by murals of Jules Guerin, depicting the abundance of the earth. The bronze doors themselves are beautiful examples of the work of Piccirilli Brothers, as was also the circular bronze map which marks the center of the floor of the Memorial Hall, and the many other notable features in bronze, such as the grilles. The interiors of the Senate and the House of Representatives are rich and dignified, the former with its graceful engaged Ionic columns, the latter in its more modern pilastered treatment. The interiors of the other rooms of importance have a unity in spirit with the design as a whole, while each has its own individuality and fitting character.

The building was erected by the George A. Fuller Co. in a year's time from the laying of the foundations in January, 1931. The building rests on a foundation of some 1,900 reinforced concrete piles 16 in. square, averaging in length between 40 and 60 ft., each designed for a 50-ton load.

The building will be heated by natural gas as fuel for a battery of three low-pressure steam boilers. The House and Senate chambers, Memorial Hall and the court rooms are provided with mechanical ventilation, both intake and exhaust. Air cooling systems have been provided for the judges' reception room, the dining room and the lunch room in the basement. The electrical system is complete in every respect, from its lighting and floodlighting systems and its elevators to the last detail of its equipment, its electric clocks and its fire alarms. A public address system connects with the executive suite so that legislative debates may be followed. An electrically controlled voting machine registers the vote of each senator on the tablet at the back of the rostrum.

The cost of the building was approximately $5,000,000.

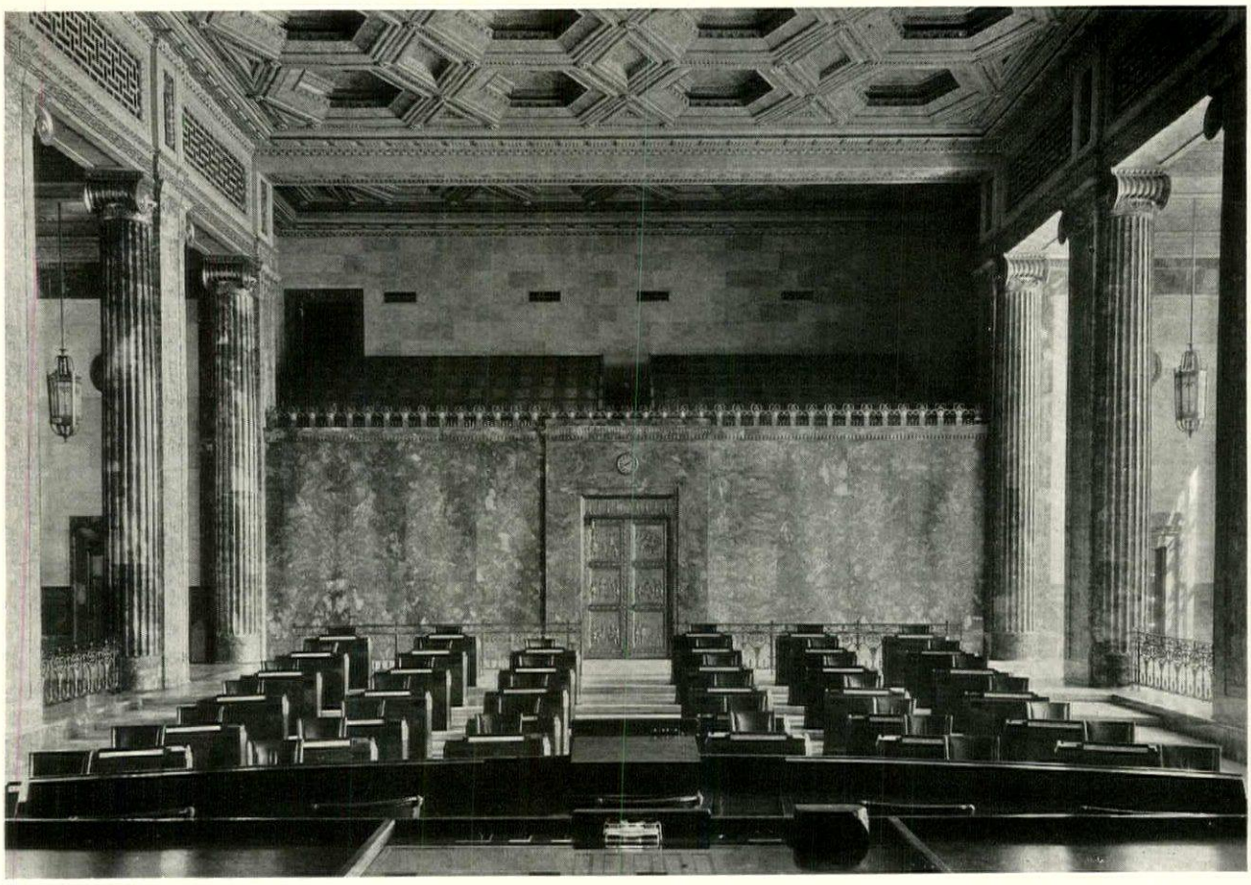


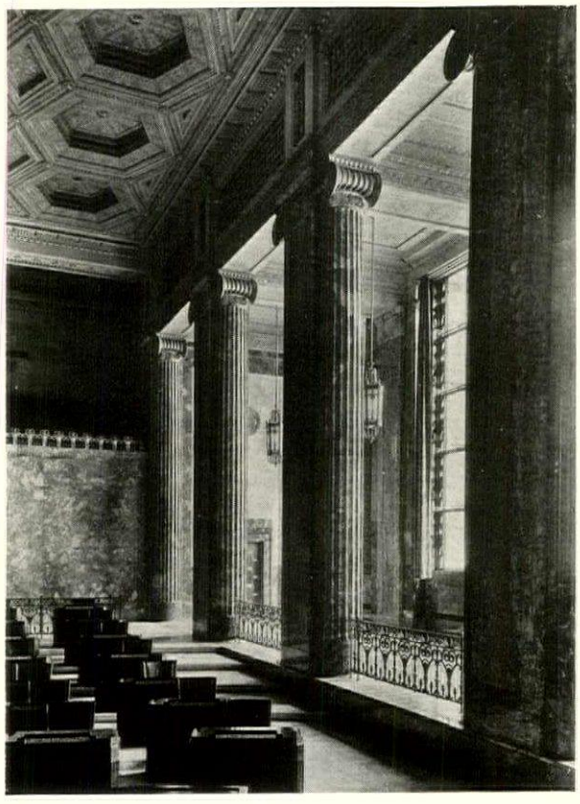
At the left is a detail of the West Wall in the Memorial Hall, showing the Senate Chamber doorway, enframed in the mural "The Abundance of the Earth," by Jules Guerin. The marble trim and pilasters are red Levanto. Below is the lobby of the House of Representatives, which has a floor of Roman travertine, with walls of Sienna travertine, pilasters of Jaune Benou marble, base and trim of Rojo Alicante marble. On the page opposite is the Memorial Hall, the central room on the main floor, in which marble is used for the floor, French stone for the walls, and a painted plaster ceiling. All the trim, including fixtures, plaques, railings, etc., are bronze

MEMORIAL HALL

LOUISIANA STATE CAPITOL, BATON ROUGE, LOUISIANA

WEISS, DREYFOUS & SEIFERTH, ARCHITECTS



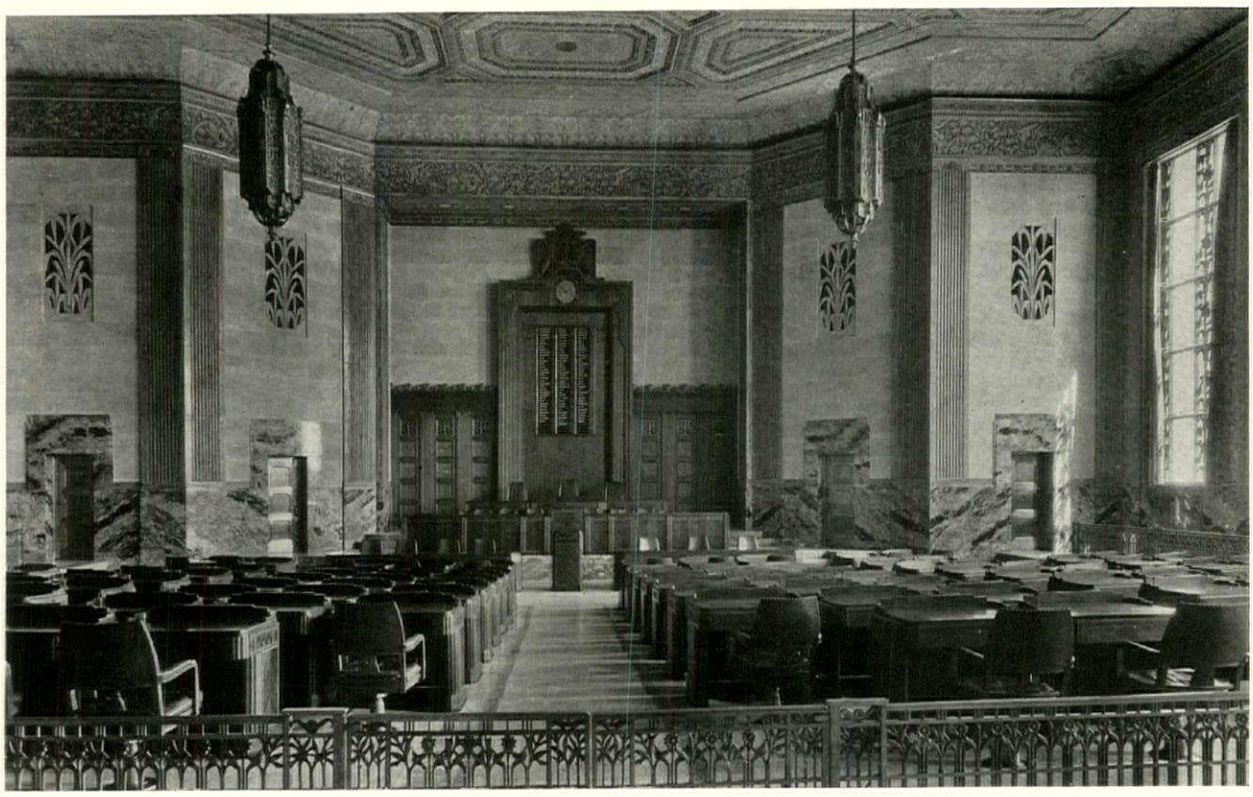


Three views of the Senate chamber, above, looking toward the visitors' gallery, at left, the row of engaged Ionic columns separating the chamber from the side aisle, and on the opposite page, looking toward the speaker's rostrum. The architecture of the Senate room recalls classic *motifs* to a greater extent than any other portion of the building. The pilasters and paneling are of violet Brocatelle marble, and the columns and doorways are of Famoso violet marble, with ashlar walls of Vaurion Roche Jaune and Clare. The floor is of Roman travertine, with Famoso violet marble used for the base and trim. The desks of the senators and the rostrum are of walnut and laurel, with deep red velvet drapes used to form the background of the rostrum. The ceiling is deeply coffered, with acoustically treated panels. The rails, lighting fixtures, and all other trim are of bronze

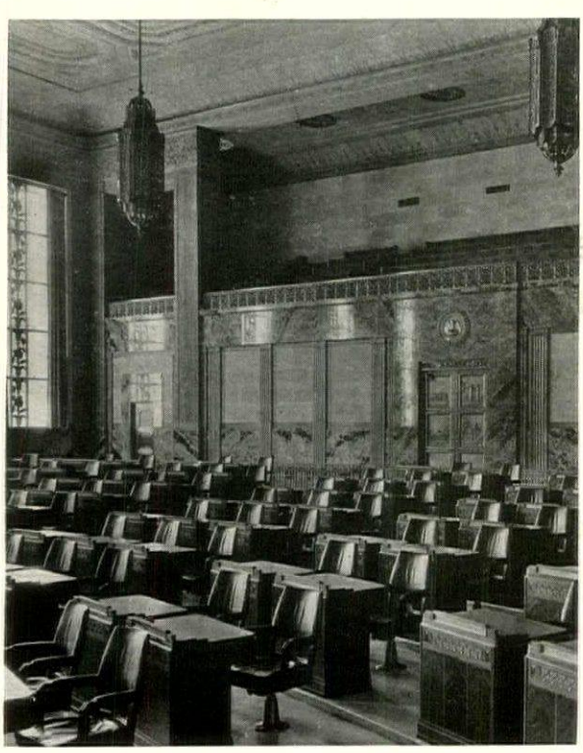
SENATE CHAMBER, TOWARD ROSTRUM

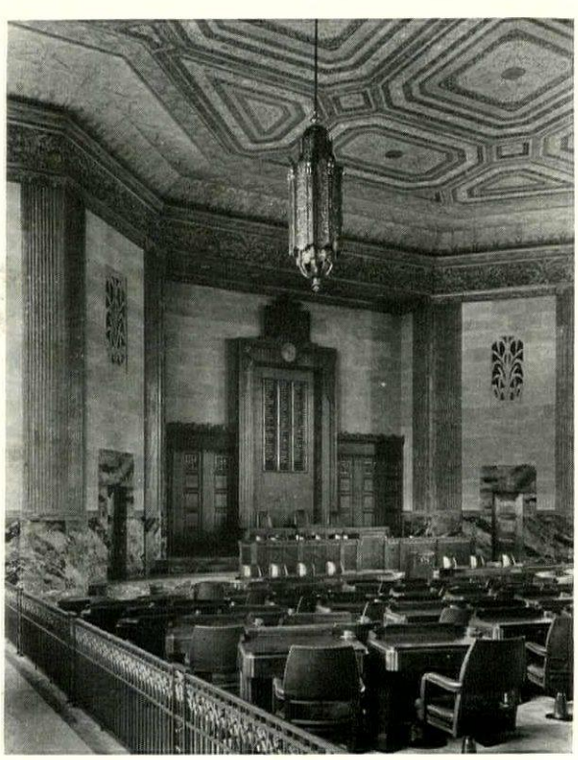
LOUISIANA STATE CAPITOL, BATON ROUGE, LOUISIANA

WEISS, DREYFOUS & SEIFERTH, ARCHITECTS



Three views of the House of Representatives. The keynote of color is derived from the Jaune Benou marble used for the wainscot and trim. The fluted pilasters are of polished Sienna travertine, with walls of light pink Crazannes Anteor stone. The floor is of Roman travertine, bordered and paneled with marbles. Desks and chairs are of Australian laurel, upholstered in blue leather. The basic lighting is indirect, but visible fixtures and other metal work are bronze



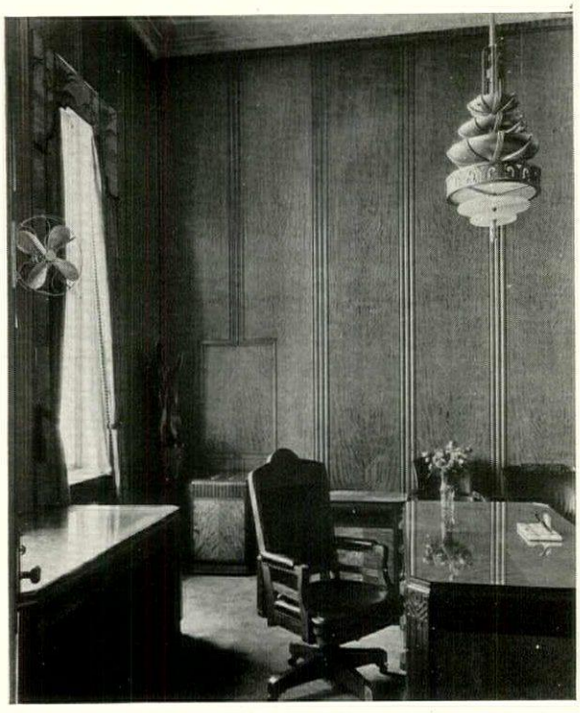


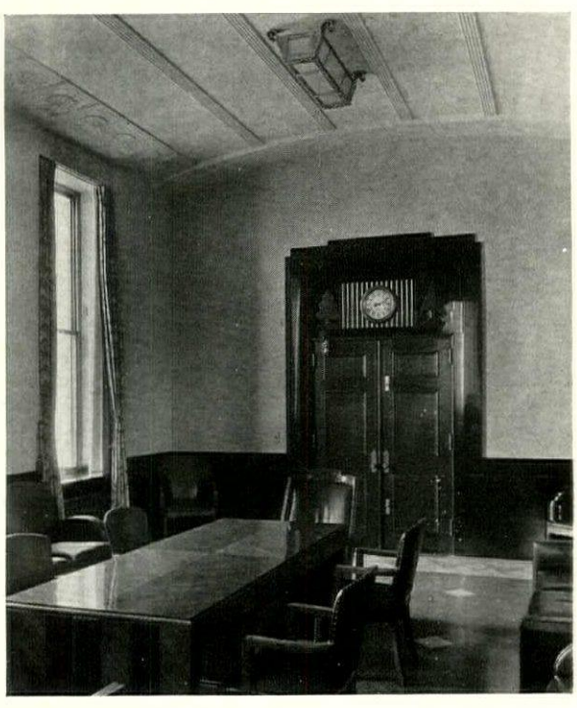
THE LAW LIBRARY

LOUISIANA STATE CAPITOL, BATON ROUGE, LOUISIANA

WEISS, DREYFOUS & SEIFERTH, ARCHITECTS

Above, the Court of Appeals, with a fresco by Conrad Albrizzio behind the bench. Below left is a corner of the governor's private office, and below right is one of the lounge rooms for the members of the House of Representatives





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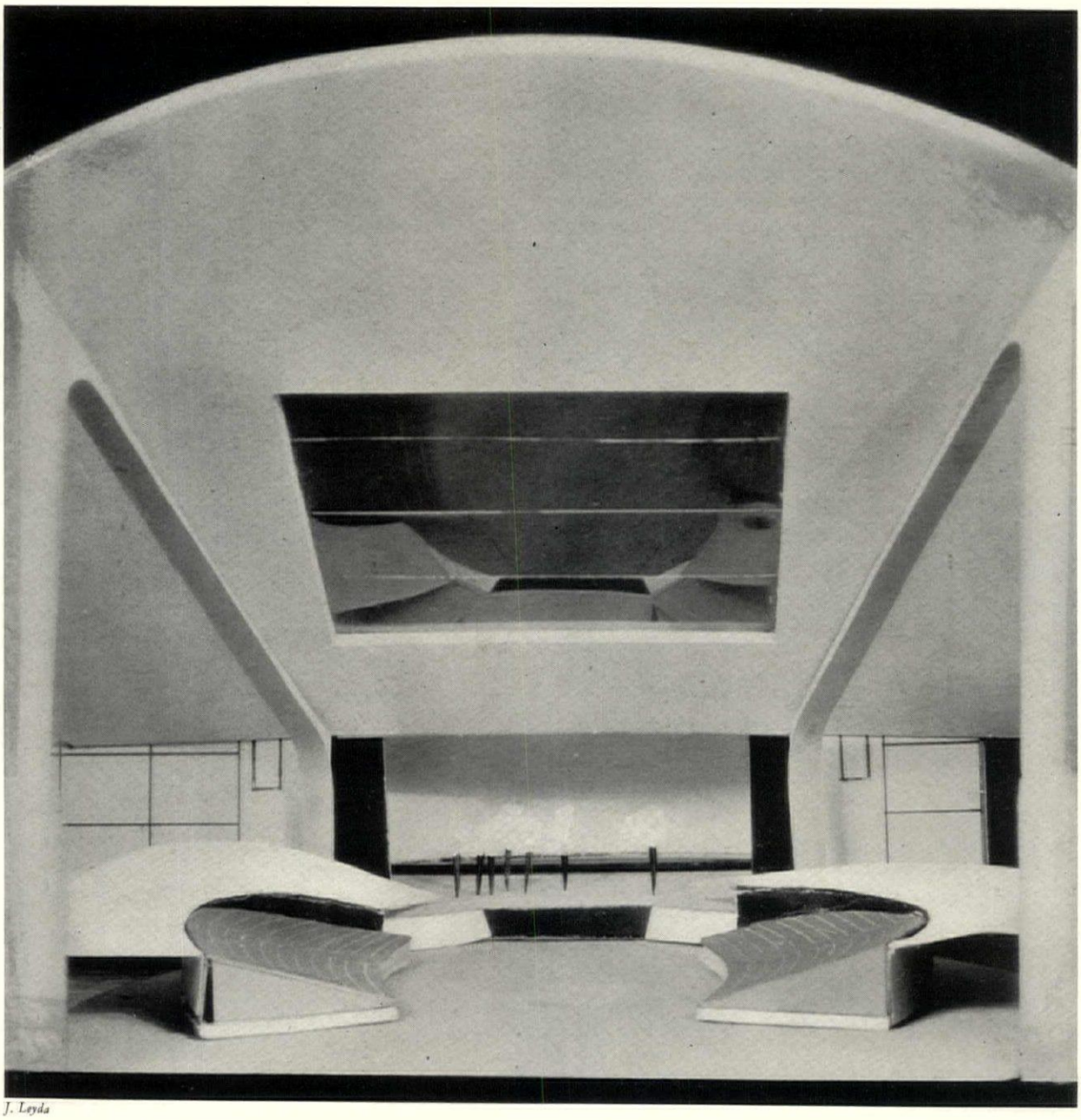
ENGINEERING & BUSINESS



J. Leyda

"THE UNIVERSAL"

A Multi-Purpose Community Center
Theater Designed for Woodstock, N. Y.

FREDERICK J. KIESLER, ARCHITECT

"THE UNIVERSAL"

This Multi-Purpose Community Center for Woodstock, N. Y., presents an interesting and ingenious project designed to fulfill the varied theatrical needs of a community by the most straightforward and economical means consistent with the functions of the building

FREDERICK J. KIESLER, ARCHITECT

SOMETHING new, something unusual, something unique is always a bit startling and frequently stimulating to the imagination. Ingenuity is a part of the architect's creative equipment and, when coupled with a background of intensive research, produces logical results that pry one out of the rut of traditional thinking and design.

This is the case in considering the "Universal" theater, no matter what one's reactions to it æsthetically may be. Here a complex problem has been solved in its simplest terms — a summer community center, adaptable to a variety of uses, departing from traditional structure, incorporating unusual ideas. Its tiers of auditorium seats split, pivot and roll to the sides to form an arena during the play without disturbing the audience; two auditoriums can be rolled into one; the proscenium can be made to fit the performance; scenery is to be "flown" to the side; flexibility and adaptability are the keynotes of the solution. Fitness for use is the criterion.

When a group of progressive souls, intensely interested in all the arts, decided there was need of an experimental art-theater at Woodstock, Mr. Kiesler was invited to submit sketches. His ideas intrigued the group led by J. P. McEvoy, and he made a small working model to dramatize this new home for the drama. His study of the problems of the theater and his long experience in this field led him to make a thorough investigation of the needs of the community and to determine the proper type of theater or auditorium to meet these specific needs. His original ideas of "space theaters," as here embodied, have been developing since 1923. His solution is based on a careful survey of the situation, takes into account all of the needs, trends and possibilities, and is geared to both the permanent and the transient population. The well-known "colony" at Woodstock is made up largely of artists and actors, playwrights, musicians and writers. The small permanent coterie is augmented in summer by an influx of congenial spirits from various cities.

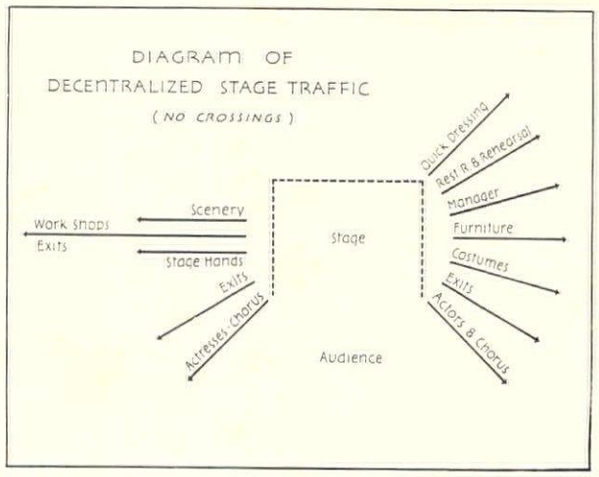
Mr. Kiesler continued his study into the field of the economic status of the community, of traffic conditions and accommodations, of what would be necessary to make the venture self-supporting. This research gave essential data on which to base a program and the actual design for a building. It gave figures used for sizes of audiences for various types of performances and, more than that, justified the conclusion of the architect that the structure should be as flexible as possible and adaptable to any type of performance or meeting — for the drama, opera, revue, for concerts or movies, dances or sports, conventions, carnivals, or what you will.

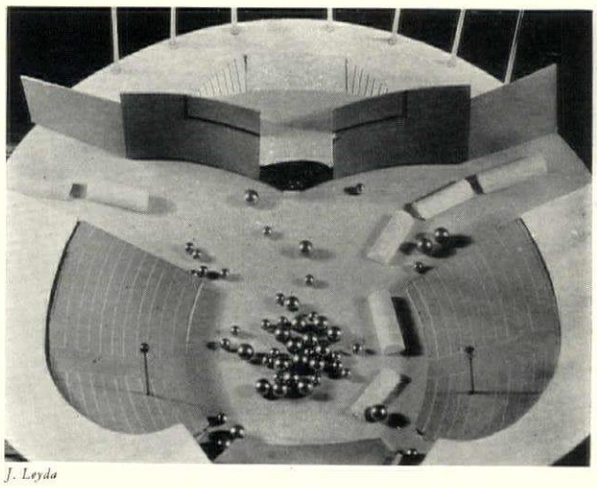
The structure was designed primarily for summer use and the ingenious construction was devised to be as economical, and also as airy, as possible. The building is entirely functional in its every phase as the design, construction and material are coordinated to serve the determined needs. The result embodies the principle propounded by Mr. Kiesler of "TIME-SPACE-CONTINUITY."

In addition to providing for the audience and participants in various types of stage and arena presentation, the building will include club quarters, exhibition hall, restaurant, gasoline service station and parking space. The various photographs and plans explain graphically the way in which the auditorium can be adapted to any one of the several kinds of performance which may be given, and show also the way in which the size of the auditorium can be varied to suit the conditions imposed by the performance.

The building consists of three main parts: the stage, with its stage storage, workshop and scene-shifting departments; the large auditorium with its ingeniously arranged tiers of seats and its peripheral stage and, last, the smaller tier of seats at the stage level serving the other stage portion at the rear. The dressing rooms, green room, rehearsal room, costume storage, are located as shown on the plans, in such a way as to avoid cross traffic and to be as convenient as possible to the stage. The sight-lines have been carefully worked out to be as nearly perfect as possible, not only in one direction but all around, if necessary, to enable the proper viewing of action on the peripheral stage or when the arena form is used. The view from the upper stadium is enhanced by the insertion of the peripheral stage.

The acoustic properties have been largely predetermined and the slope of the ceiling was established by wave transmission formula. The entire ceiling



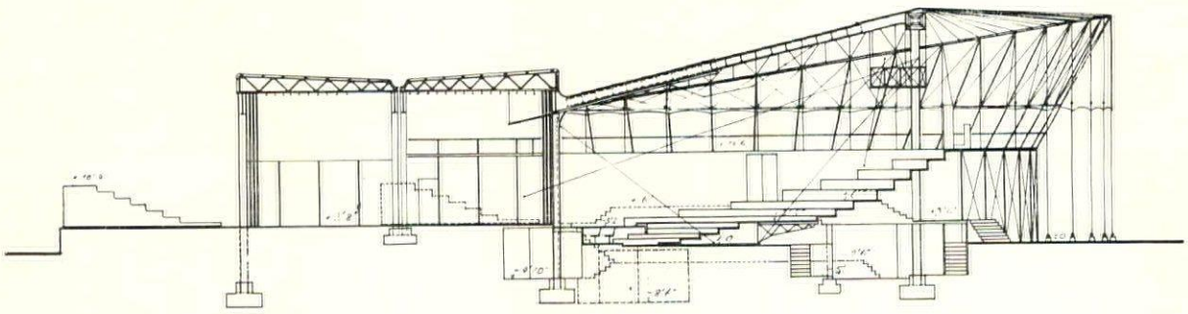


J. Leyda

The diagram at the left shows the relationships of the services or functions to the stage, and at the right illustration of the model showing use of arena for pageantry, indicating the entrance and egress for actors, floats, etc.

will be supported by two large girders which are seen in the illustration on the first page of this article. The covering material of the ceiling or roof will be reinforced canvas and the side enclosures of this material also. The seats are designed to be of pipe construction, canvas covered. Steel grating will be used largely for the floors, except for the stage, where wood is more suitable.

Flexibility and multi-use were the guiding principles in determining the lighting. The stage will not be provided with footlights as they date from the time of the short-range candle or gas flame. Such things as footlights are deemed unnecessary, due to the inclusion of long-range lighting systems and floodlights. Movable border lights for the rear of the stage and movable tower lights for vertical lighting will provide light of any intensity, color, direction or motion. In the auditorium, 22 ft. from the proscenium, will be rows of floodlighting reflectors which can be directed diagonally toward the stage or used to flood the arena with light by merely putting in operation the mechanical rotator which changes the inclination of the light from diagonal to directly vertical. Lateral border lighting will be provided for the runways, the mezzanine and the first floor. The general lighting of the auditorium is



LONGITUDINAL SECTION

AUDITORIUM FLEXIBILITY

According to need the auditorium capacity may be enlarged from 80 persons to 551 persons.

Audiences are limited to their interest in certain types of dramatic expression. This results in a definite ratio of audience to type of performance; viz:

Drama, dancing.....from 84 to 311 persons
Orchestra, opera, revue....from 311 to 451 persons
Sport, cinema.....from 451 to 535 persons
Small auditorium..... 84 persons
Large auditorium.....311 persons
(11 revolving seats, 124 orchestra seats, 60 group seats, 116 grand stand seats)

351 = 311 seats + 40 folding seats
451 = 351 seats + 100 standees
535 = 451 seats + 84 small auditorium seats

STAGE FLEXIBILITY

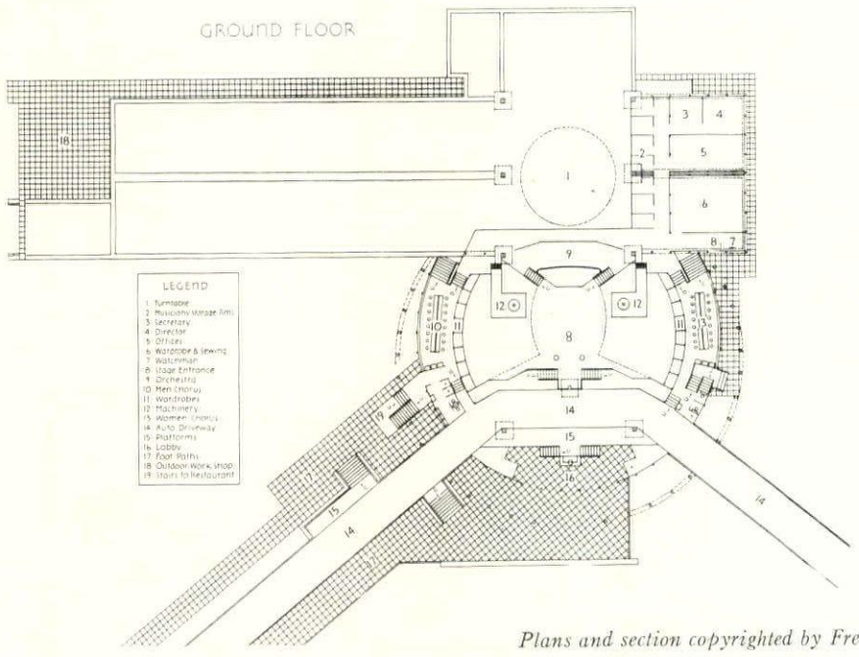
The stage might be expanded according to needs:
from 27 ft. depth to 131 ft. depth plus 28 ft. depth
from 2 ft. width to 76 ft. width
from 18 ft. height to 32 ft. height

Range of spatial levels for acting: +3 ft. 8 in., +3 ft. 2 in., +6 ft. 8 in., +14 ft. 6 in., +24 ft. 8 in., +32 ft. + or −

SUMMARY: "The obsolete formula of a monolithic construction, suddenly solidified and permanently and fictitiously thrust upon the scene, is out of the question. The changing demands of stage production and the need for proper correlation between actors and audience made necessary a flexible ephemeral construction and a building technique best achieved through tensional structures, light-weight easily fabricated tubular supports of metal, and web coverings of weatherproofed fabrics.

"Principal materials: Steel tubing, steel cables, electroforged steel grating for floors (except wooden floor for stage), water and fireproof canvas; concrete-block footing. Method of construction: Prefabricated, assembled. Flexible joints. Demountable. Time of erection: Two weeks. Costs: Estimated $35,000 (fireproof, as described)."

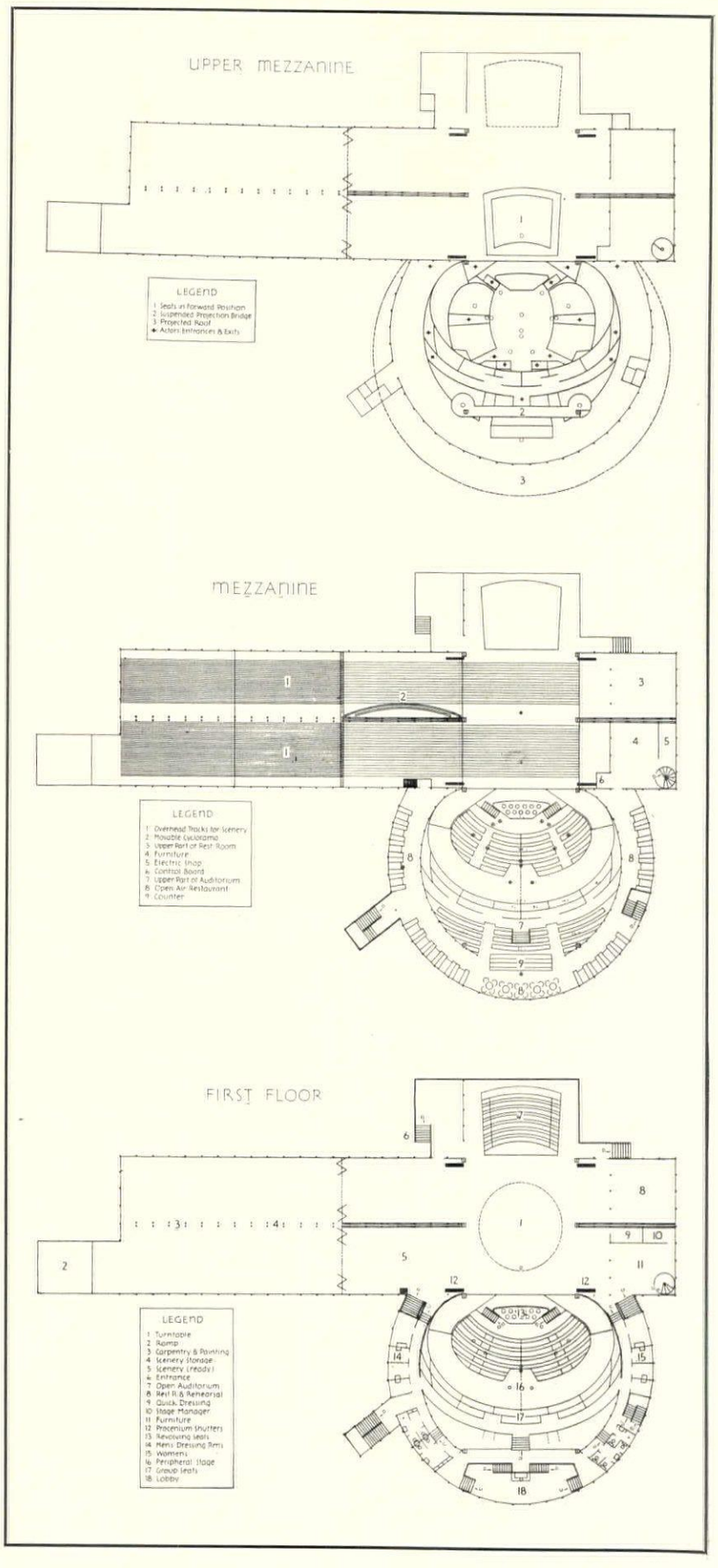
F. J. Kiesler.



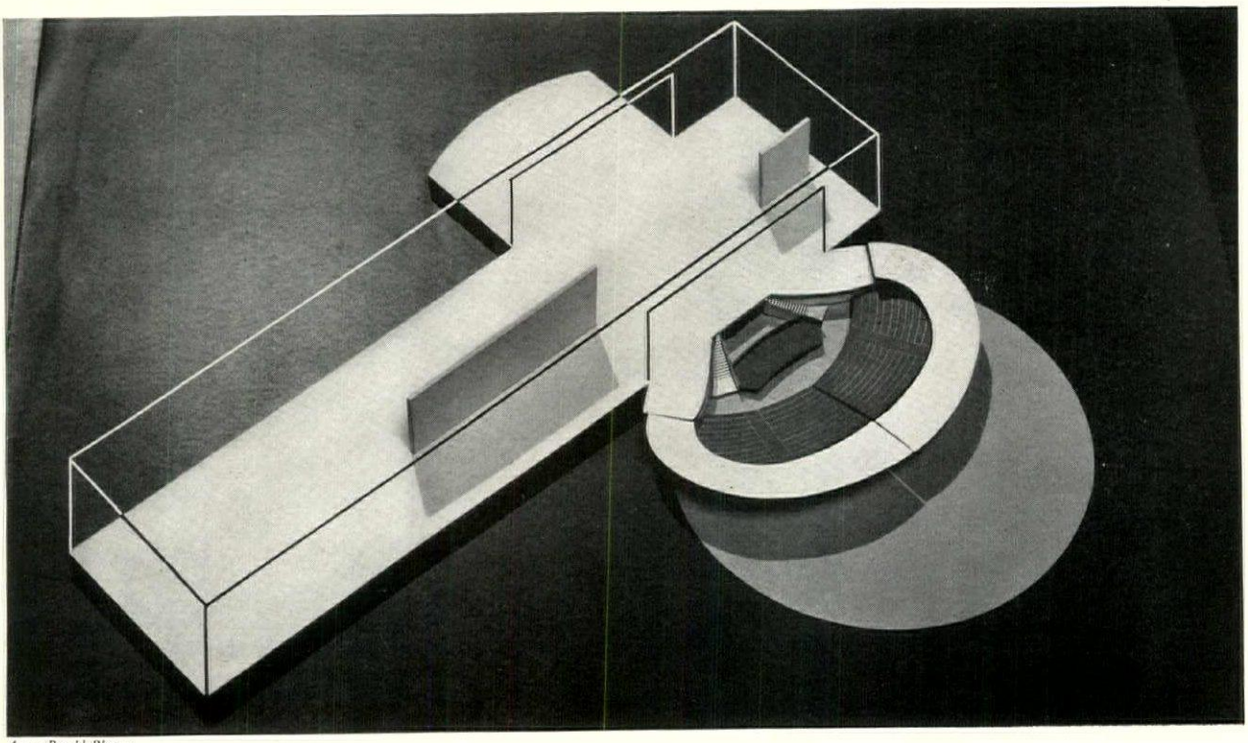
Plans and section copyrighted by Frederick J. Kiesler

to be obtained by rows of indirect lighting reflectors along the flanges of the two main roof girders. From a suspended bridge in the rear of the auditorium, light may be directed in any and all directions, giving lateral, diagonal and spherical wide-range lighting. This bridge across the auditorium and the two circular lookouts replace the old-fashioned single fixed lighting booth. There are of course the requisite provisions for motion picture and sound motion picture projection.

The changing demands of stage production and the need for proper correlation between actor and audience made necessary a flexible "ephemeral" construction and a building technique best achieved through tensional structures, light-weight easily fabricated tubular metal supports, and web coverings of weatherproofed fabrics. Mr. Kiesler has rejected as obsolete for this particular theater any form of monolithic construction. The principal structural members will therefore be of steel tubing and steel cables, prefabricated for assembly and made demountable, and therefore 100 per cent salvagable. The steel grating as used for the floors, except as noted for the stage, will permit natural ventilation throughout this summer community center. The walls, for the most part, will be of fireproof and waterproof canvas and those portions which must be translucent will be of a film-coated metal mesh. The footings for the structural frame are of concrete block.



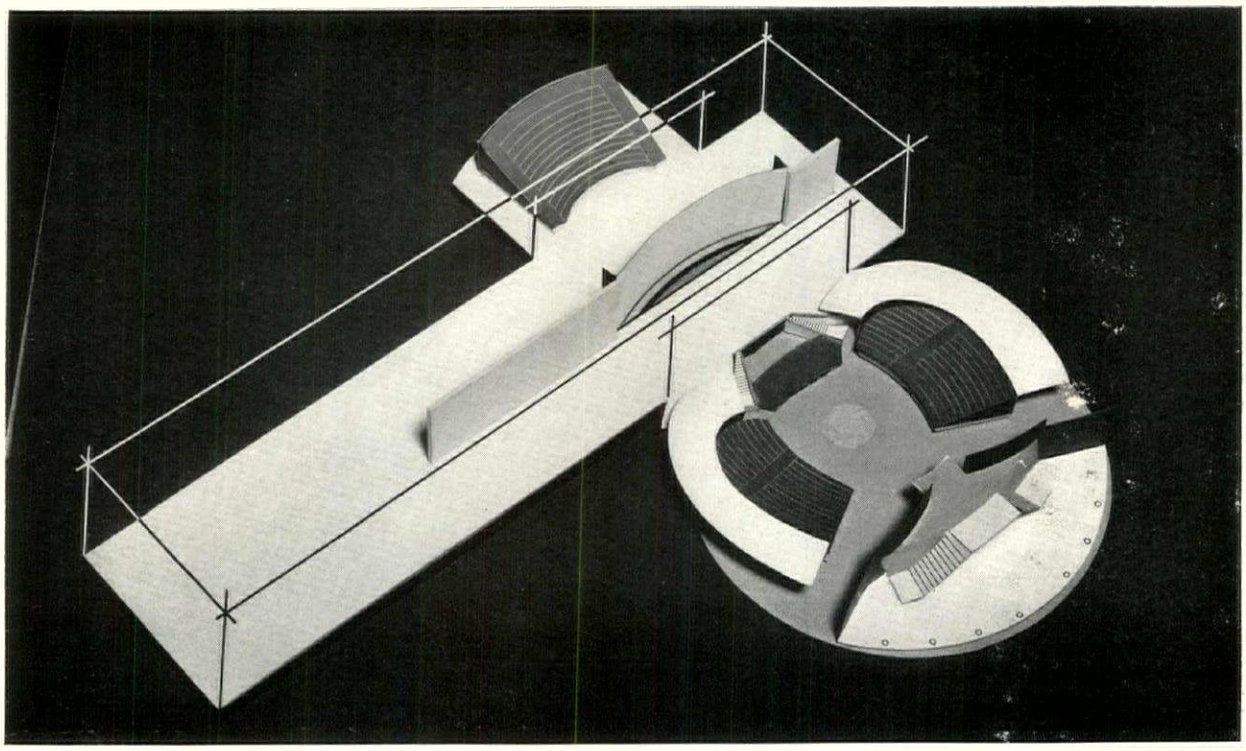
The plans are notably lacking in *poché* which usually indicates masonry walls, fireproofing, etc., for the obvious reason that such materials are not to be used in this structure of steel, wire and fabric

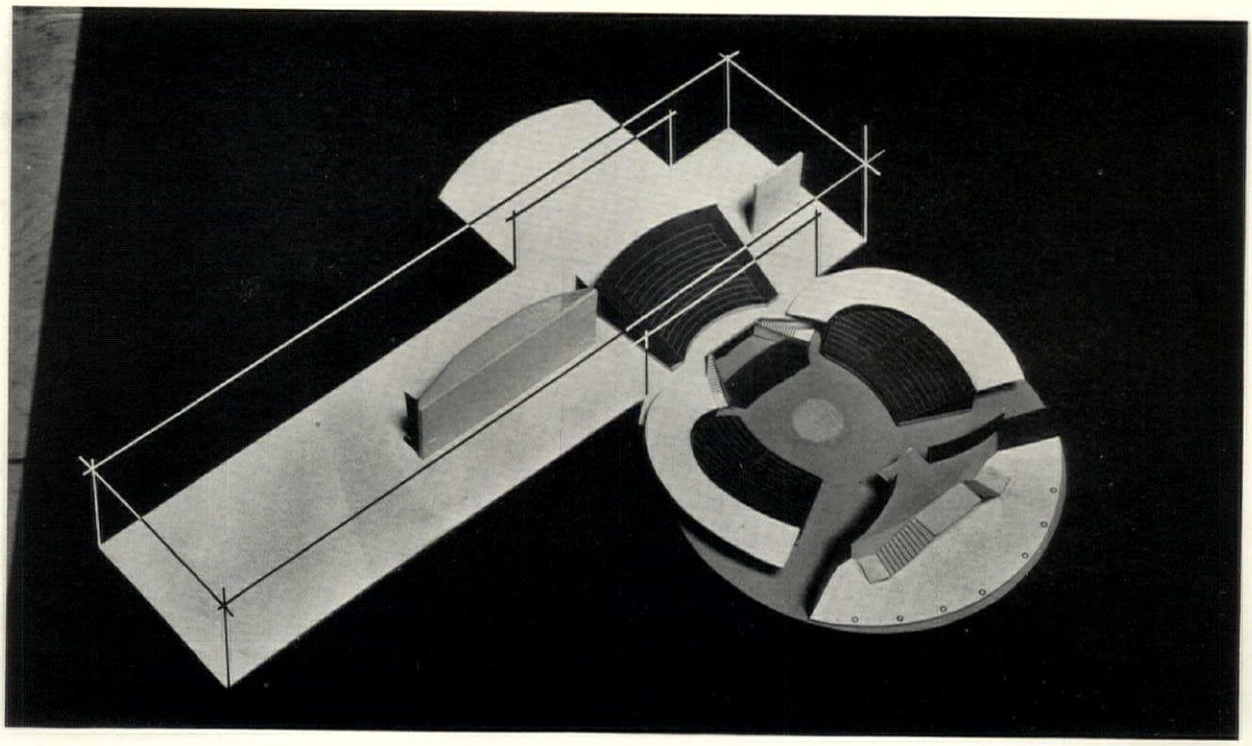


Anton Bruehl Photos

A view of the model showing the lower part of the large auditorium in closed position. It also shows the peripheral stage encircling the auditorium and connecting with the main stage. The diagrammatic lines show the extent of the pipe construction frame of the stage portion and indicate the maximum stage openings

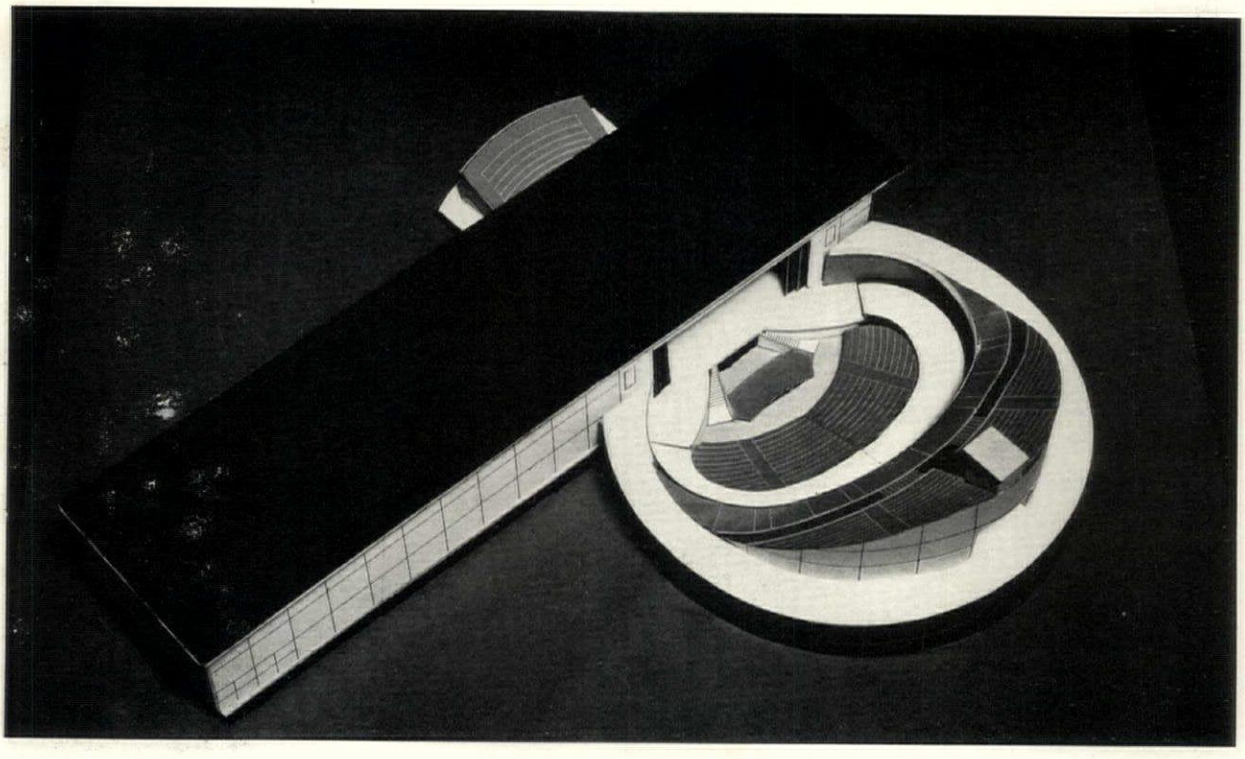
View of the model showing the auditoriums, both large and small, divided by the movable cyclorama which serves here as an "opto-phonetical clutch." Each auditorium may be used independently. The lower part of the large auditorium is in open position, forming an arena, and access is shown from both sides. The stairs leading up to the mezzanine are in the foreground

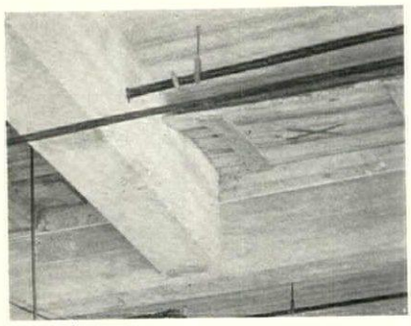




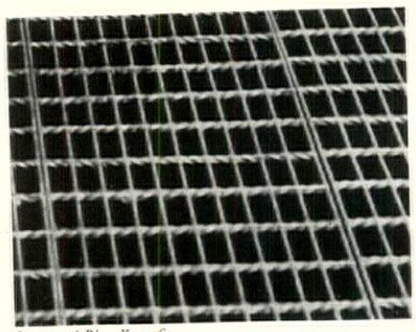
A view of the model showing the flexible enlargement possibilities when used as an arena, the movable seats of the smaller auditorium having been rolled across to augment the seating capacity of the main auditorium. The cyclorama has been moved to its storage position

Model of the "Universal" showing stage portion covered, and the stream-lining of the auditorium interior showing the several interrelated levels, connecting with the proscenium stage. The second level of the peripheral stage is shown in the foreground, to be partly used also as an open-air restaurant





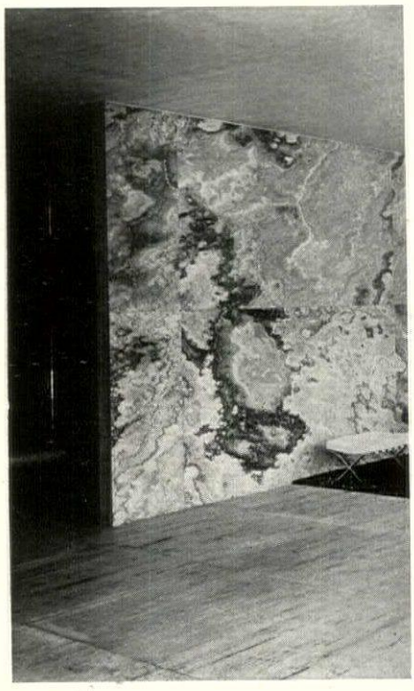
. L. Wilson

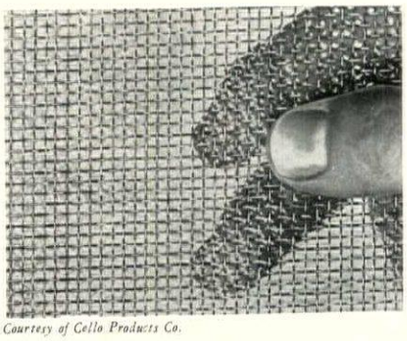


Courtesy of Blaw-Knox Co.

CONTRASTING MATERIALS

Usual construction compared with the "Universal," as used in the Woodstock community center. At the left are shown the usual types of construction — heavy, dead load, many-layer, handicraft, immobile. At the right, materials employed in the "Universal" — lightweight, "spiderweb" in principle

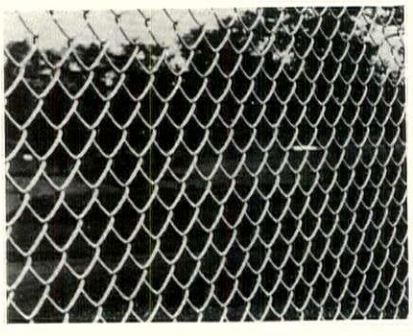




Courtesy of Cello Products Co.

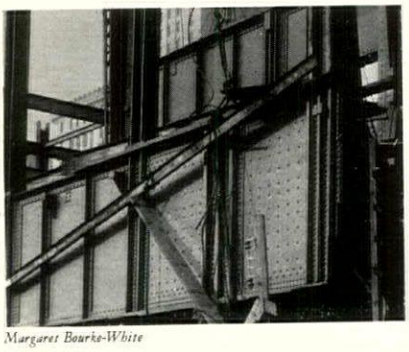
FLOORING

Forged steel grating, 1½ in. thick, non-inflammable, prefabricated; open for cool air circulation

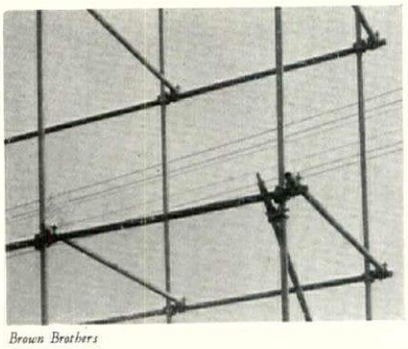


PARTITIONING OF SPACE

For translucence, celloglass; for safety enclosure, open steel mesh; free air circulation; for weather protection, canvas mesh, fireproofed, prefabricated



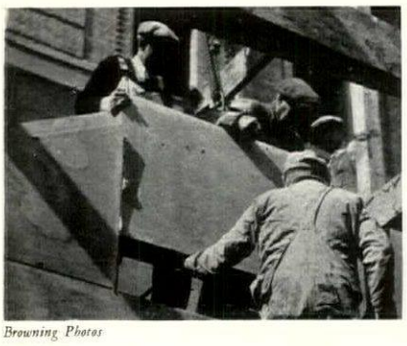
Margaret Bourke-White



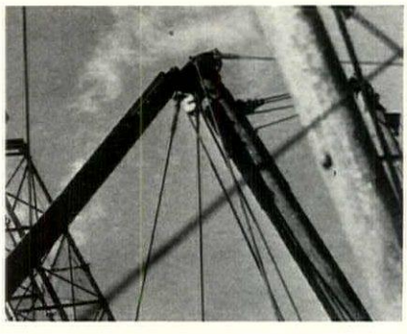
Brown Brothers

FRAME

Steel and aluminum pipe construction, flexible joints, corrosionproof, rapidly assembled



Browning Photos



COHESION

Cohesion of all building parts is attained by long-range, cable-tension instead of handicraft, mortar, caulking, riveting or welding

PLANNING, ENGINEERING, EQUIPMENT

THE PHILADELPHIA SAVING FUND SOCIETY BUILDING

HOWE & LESCAZE
ARCHITECTS

Steiner & Nyholm

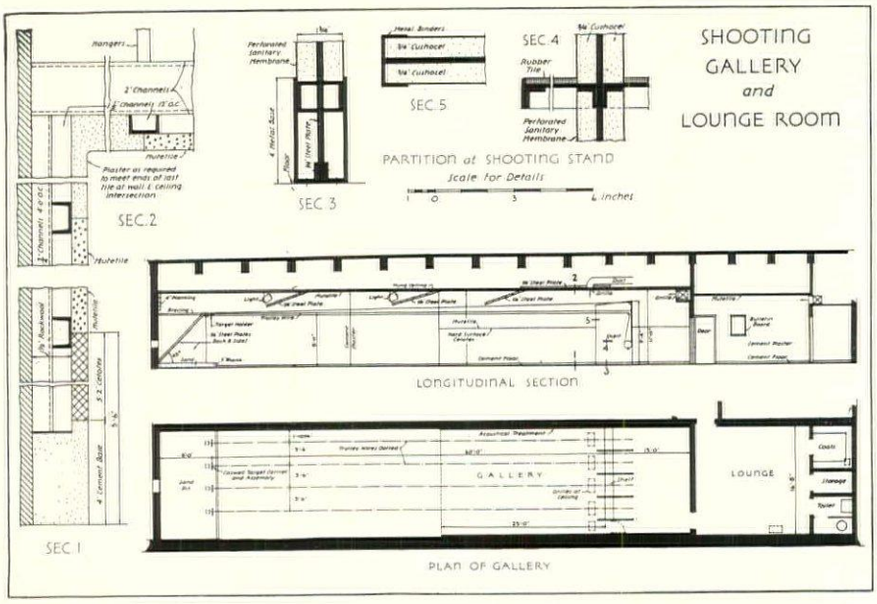
INNUMERABLE details of planning, of construction, of specification and equipment exist to point the architectural philosophy of the Philadelphia Saving Fund Society Building. The prime effort of the architects has been to produce a building completely sufficient to the purposes for which it was erected, and every detail for which they were responsible has been developed with that end in view. The architectural premises include the theory expressed by George Howe that "Architectural beauty . . . is the result of the successful interpretation of a human problem in terms of a structural technique" and that ". . . the structural technique must be not only exposed, but exploited to its furthermost limit." The first of these quotations might well refer to the general conception of the building as a whole; the second, to the choice of materials and the planning and details incident to their employment.

Planning. Indicated elsewhere in this issue is the fact that the planning of the bank and office areas in the building was not the result of arbitrarily arranging space to give opportunity for some preconceived æsthetic development. In all respects the layout — and subsequently the details of construction — followed the requirements of the owners in so far as they were consistent with the limitations of space and structure and an ultimate economy of method. Since the building conforms in many respects to currently accepted planning practices, it is most noticeably unusual from this last standpoint.

Though often relatively expensive as concerns first cost, every detail has been developed with a keen eye to a future value in use and appearance and to the effort and cost of maintenance. Throughout the building have been specified materials and constructions which, while adhering to a dictum of cleanly defined space, simplification of form and excellence of surface for the immediate present have the added factor of a future safety in all these respects. Thus, the use of surface projections, mouldings and cover strips has been avoided. Partitions, windows, doors, hardware, lights — all have been specially designed. In contrast to commonly accepted standards their form has in almost every case been simplified, refined, and all have been manufactured from the finest of available materials to emphasize structurally and æsthetically their inherent qualities in relation to their particular function.

It is true that unusual and intricate constructions have often been employed. But from the architects' point of view this can be justified. The conservation of their client demanded consideration only of the highest available quality consistent with a carefully considered purpose, and the utilization of contemporary methods of machine manufacture made possible a finished design that most completely expressed this purpose.

Materials. Of particular architectural significance is the manner by which materials have been combined as to type, surface and color to produce an effect of decoration without the use of any decorative *motif*. The effect is stimulated by the extensive use of artificial light and the visual distortion of multiple reflection. This characteristic holds true throughout the building but it is most evident in the public spaces. Here, in addition to much highly polished marble, stainless steel and yellow bronze have been employed. In general marble was selected for large, plain surfaces and was most carefully chosen for even color tones and graining. The stainless steel was selected in preference to other white metals for its great resistance to all ordinary forms of corrosion and for its strength. The latter quality

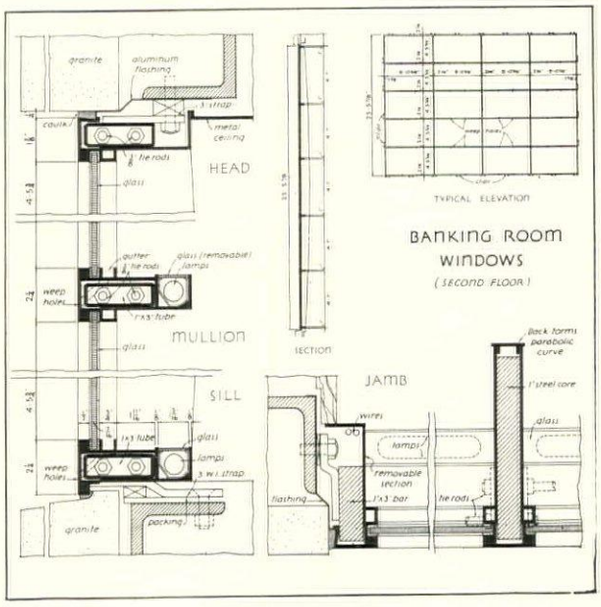


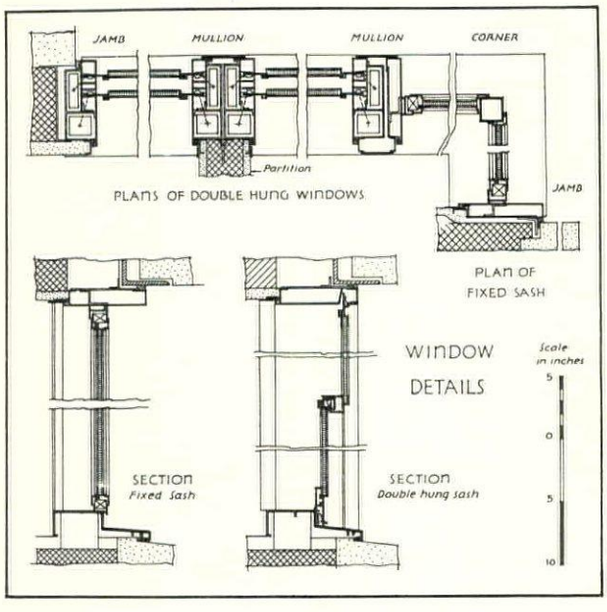
The shooting gallery in the subbasement. It is used in training the Society's guards and has been proclaimed by military experts one of the most efficient of its kind. Particularly noteworthy are the armored partitions at the shooting stands, the protected lights, focused directly on the targets, the armor steel shield that deflects bullets into sand, and the target tracks which can be controlled from the shooting stands. The room is painted a gray and white and is acoustically treated on the ceiling to absorb sound

was particularly important as it made possible details of a minimum thickness and met the desire of the architects to reduce the size of structural members wherever possible. In addition to its use for elevator doors, lighting fixtures, furniture and hardware, it has been employed for wall facings in the banking room and in the vault and for the housings of the escalators in the bank entrance lobby. The round columns in the banking room and on the mezzanines have also been surfaced with stainless steel, fabricated in two semicircles and installed with open bronze joints by an ingenious arrangement of clips and screws. The finish of the material is generally satin to reduce the effort of maintaining an easily marred high polish.

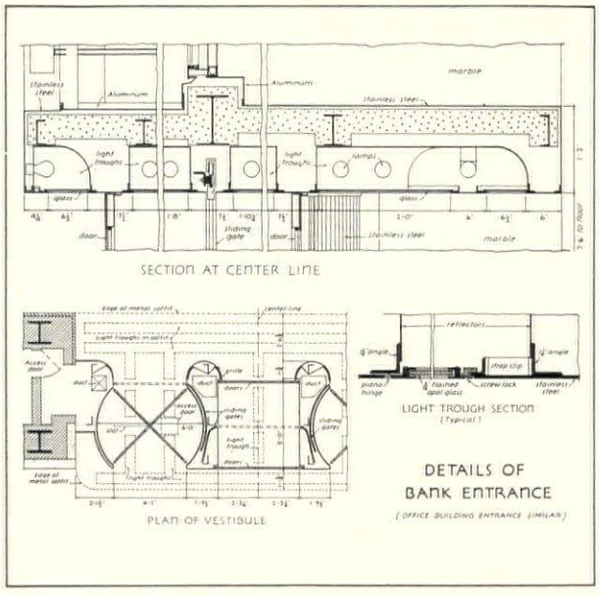
For reasons generally similar to those applying to stainless steel and also because of its color, yellow bronze was used for the ceiling under the first mezzanine and for part of the facing of the main bank vault.

Much aluminum has been used throughout the building. Due to its lightness, color and strength in



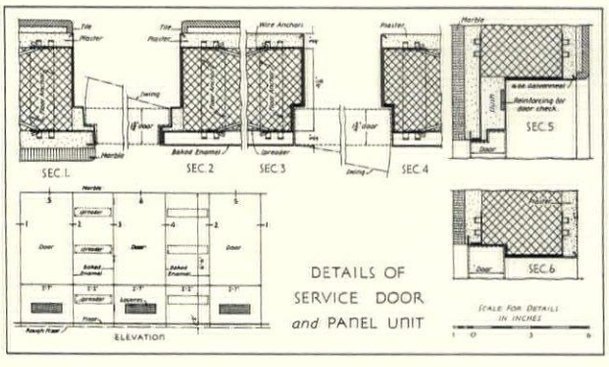


Aluminum was used for most of the windows throughout the building, due to its color, its light weight, its comparative resistance to corrosive stain. These details show the result of designing for a minimum thickness in structural members. This is particularly noteworthy in the case of the banking room windows where mullions are only 1 in. thick



The drawing above is generally typical of the detail of the Twelfth Street office entrance, illustrated in the photograph at the right above, and is similar also to the batteries of doors in the subway concourse. The purpose of this design was to effect an extreme simplification of surface and detail and at the same time to provide the highest efficiency of operation. The frames of the circular doors contain night gates, conduits and heating and ventilating ducts, the outlets for the latter being semicircular grilles on the interior. The detail at the right illustrates the same simplification as applied to a typical interior detail. This corridor service unit is standard throughout the building's office floors

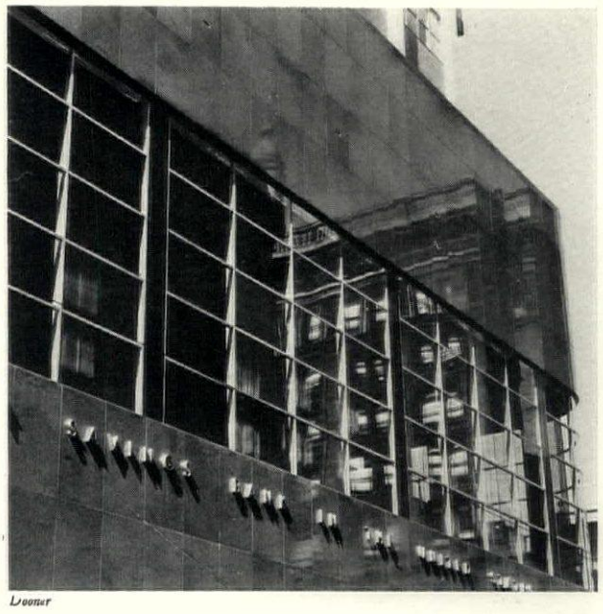
Dooner



all ordinary installations, it was chosen for the frames of the large windows on the lower floors and for the frames and sash for the windows of the office floors. It has been employed as well for the radiator covers and grilles throughout the building, for air conditioning baffles and in many instances for light reflectors. In most cases it has been given a brushed finish, but where used in connection with lighting fixtures the surface has been highly polished.

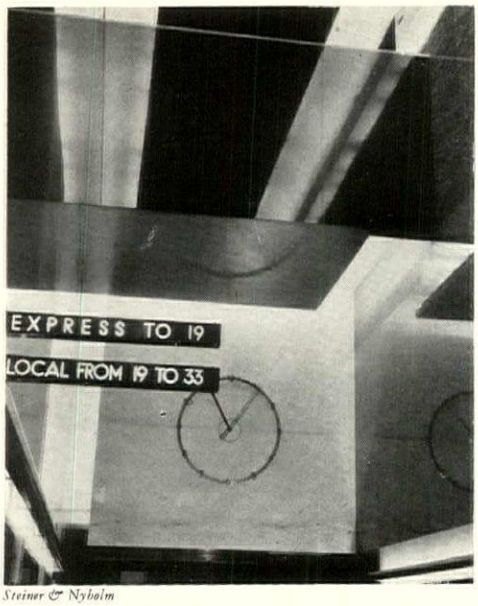
The hardware throughout is of satin finished chromium, except in the case of many parts of the bank screens where stainless steel has been used.

Though it is possible to describe here only a small portion of the materials that have been installed in novel ways, some mention should be made of rubber tile. It has been extensively employed in most of the service portions of the bank, and in some of the public spaces as well where quietness was particularly desirable. In the mezzanine work spaces, for example, it was laid as a finished floor in tiles 12 x 12 in. square and 3/16 in. thick, and in the coupon booths as well as in the lounge under the first mezzanine the material has been cemented to the walls and columns in oblong sheets 1/8 in. thick.



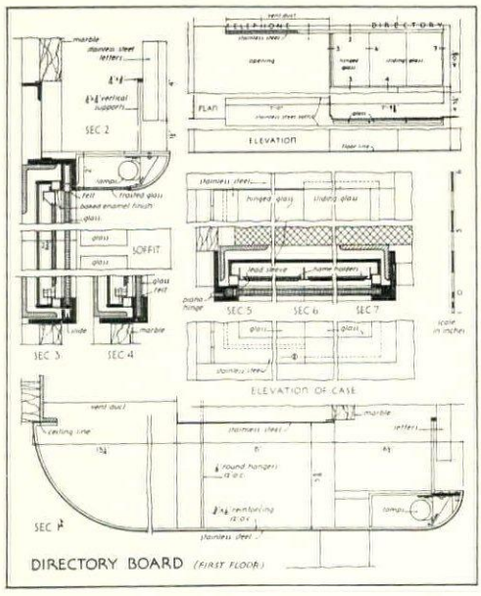
Dooner

An exterior view of the 23-foot high banking room window detailed on the opposite page. Note the apparent lightness and pattern of the horizontal and vertical aluminum mullions

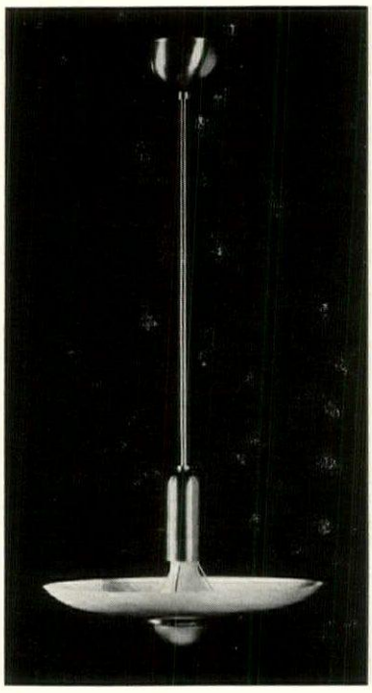


Steiner & Nyholm

This illustration of the building elevator lobby shows the effect of the lighting on the highly polished marble surfaces. The detail of the directory board (see page 497) is typical in most respects for the lights over the elevator doors. The section at the bottom of the drawing is through the beam at the entrance to the telephone booth alcove. The signs in the lobbies have been carefully studied for legibility and decorative effect. They are of dark blue enamel



Below is the lighting fixture that is standard throughout the office of the building. It gives an extremely efficient indirect light from a 200 watt silvered bulb with an average intensity of 19 foot-candles upon the working plane. The fixture can be relamped without removing the opal glass baffle at the light source. The support is of satin finished chromium. The unit was selected from 37 others for its high intensity, wide light distribution, diffusion, absence of glare and operating economy



Baked enamel finish has been used wherever the location and type of service warranted. The elevator doors in the typical office building corridors are finished in dark red enamel, and the office partitions are coated with a warm gray, a color chosen for its adaptability to any individual color scheme.

Details. One of the considerations of most influence in the development of almost every detail was the method of fabrication to be employed. Following an obvious trend in building construction the architects were at some pains to design constructions that were susceptible to shop fabrication to as great an extent as possible. Yet there was no straining toward this point. Where the employment of materials precluded the possibility of complete shop manufacture, the detail was arranged so that the work in the field would naturally supplement that in the shop in the accomplishment of the most efficient installation. In the detailing of joints, for example, due allowance was made for necessary field connections and joints to be made as part of an assembly at the building were detailed open, with a generous tolerance of material. Connections made in the shop, on the contrary, were kept as tight as the particular machine process would allow. An example of this has already been mentioned in the case of the round columns in the bank room where the joint tolerance of the stainless steel casing was closed by a strip of yellow bronze.

The effort toward the shop fabrication of as large units as possible is evident in the detailing of the office floor window sash and frames. Here too is evidence of the architects' design to keep the structural forms to a minimum dimension. The windows were detailed in conjunction with the interior and exterior sill, the cover of the radiator and the radiator grilles so that upon installation the entire assembly becomes a single fabricated unit between the piers. The practice obtained also in the doors shown on the preceding page.

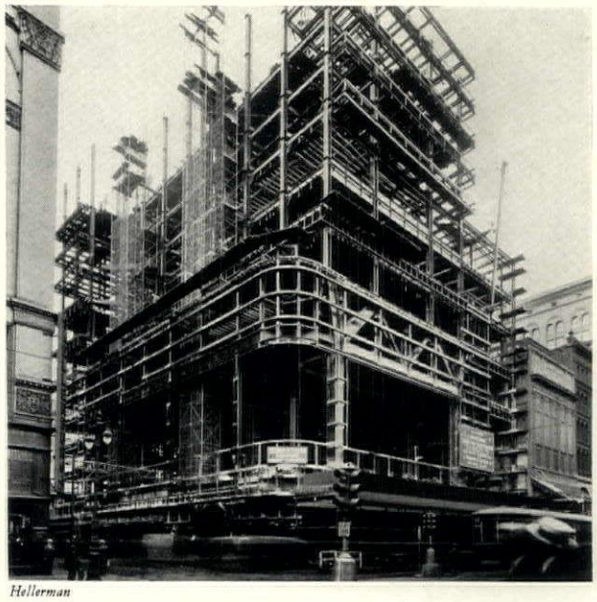
The point here should be clearly brought out that, if practical, the ideal condition would have been served by a complete manufacture and assembly at the shop and a comparatively simple installation at the building, and that the detailing of this and every other part of the building was done from the standpoint of machine manufacture and not from the standpoint of an individual craftsmanship.

STRUCTURAL ENGINEERING

PURDY & HENDERSON
CONSULTING ENGINEERS

THE chief interest in the structural design of Philadelphia's most recently completed building lies in the way in which the design of riveted structural steel was adapted to the architectural requirements of the structure. Briefly, the three most interesting features are: the extensive use of knee-bracing to resist wind-pressure throughout the entire building; the use of cantilevered construction; and the unusual location of the columns in relation to the exterior walls.

All relate to the superstructure of the building. In general no unusual conditions were met in the foundation work. The design here is based on open cassions to rock carrying a load of 25 tons per sq. ft. The reinforced concrete walls bounding the site were designed as vertical slabs to resist earth pressure, and, except where cantilevered girders were required, the columns were supported directly on the foundation piers by solid steel billets. Under the fourteen main columns in the Market Street wing these billets were over 6 ft. square and 10¼ in. thick. On the following page are typical diagrams of the interior and exterior structural framing. The main columns in the banking room are 63 ft. on centers. They carry the main trusses which are a full story in depth and which, in turn, support all the columns in the office space above. These trusses are built with two pairs of channels, connected at the flanges by heavy battens and straddling 2 in. gusset plates. By milling the trusses at the column connections above and below, and by using all rivets in double shear, the truss joints were made unusually compact.

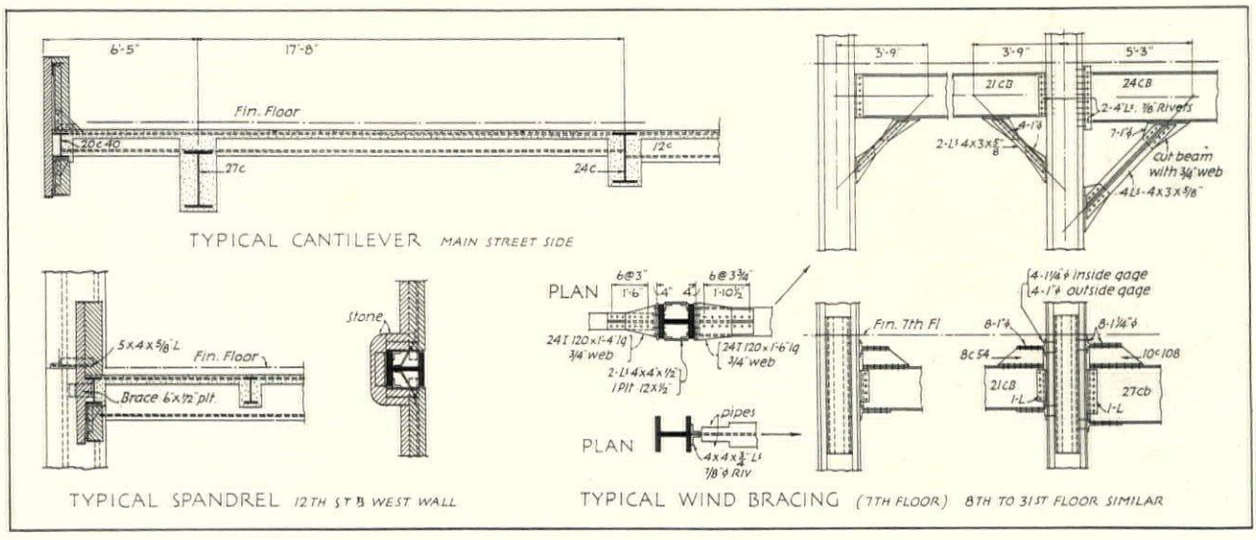


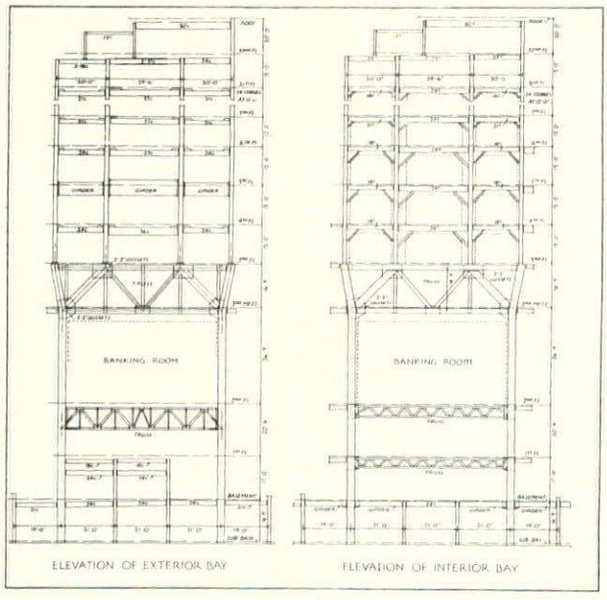
Hellerman

A progress photograph of the building showing the trusses behind the supports of the granite facing above the banking room window, the east wall columns and the cantilevers

By the use of knee-braces in the typical office floors all connections were restricted to 7 in. in plan width by butting the beam flanges, although heavier beams and deeper knee-braces were used in the middle than on the outside panels due to the heavier horizontal wind shear. The location of risers and ducts in the *depth* of the columns, and the subsequent furring, produced an effect of equal knee-brace depth in all the office bays.

The absence of piers on the Market Street elevation necessitated a continuous structural support





Typical framing diagrams showing the trusses and knee-braces

at the head and sill of the sash. (See detail.) The rigid bracket supporting the double angle member at the window head was designed for both horizontal and vertical adjustment in the field to provide perfect alignment. The vertical space resulting from the lowering of the girder beams to allow the cantilever over them was utilized for a wind bracing connection to secure sufficient rigidity without the use of knee-braces. This was an advantage since the girder beam was parallel and was so close to the sash line. The legal requirements for assumed wind pressure were fulfilled in the wind bracing design and the deflection under extreme loading was limited to 2/1000 of the height of the building.

On the east and west walls spandrels are set between piers that project 15 in. from the spandrel face to avoid a projection on the inside wall. The piers are of stone facing, which is supported at every floor. The outside flanges of the columns were braced to the beams framing into the inside flanges, but since the stone piers support the masonry spandrels, the usual sill angle was omitted.

The horizontal joints of the granite facing on the lower portion of the building are spaced about 6 ft. apart; the vertical ones about 4 ft. In general the stone is supported at each horizontal joint with shelf angles and auxiliary vertical members of two angles serve as stiffeners, holding the horizontal supports in place. The supports for the veneer at the curved corner were framed over a foundation system of cantilevers introduced at both the second and third mezzanine floors.

Since the air conditioning equipment was installed after the structural design was partially erected, it is interesting that only minor problems of local framing arose. Much of the equipment is located over the banking between the main trusses and utilizes what might otherwise be a wasted space. Nor were any particularly intricate problems met in the structural provision for either the elevators or the escalators in the banking room entrance lobby.

The electric sign over the roof is in the form of a triangle with a base of approximately 40 ft. and a height of 32 ft. The background for the letters is made of channel plates in units of 2 ft. x 12 ft. 10 in. These are fastened to a steel frame supported on a series of girders above the roof. The finished sign is illustrated on page 550.

MECHANICAL EQUIPMENT

R. BERKLEY HACKETT, M.E., CONSULTING ENGINEER

IN MOST respects the mechanical equipment in the Philadelphia Saving Fund Society Building is similar to that in other office buildings. But some parts of the installations constitute enough of a departure from current specifications to be noteworthy as exemplifying, in its hidden mechanical parts, the building's unusual design.

Electrical Systems. From separate power stations energy comes to the building through two 13,200 volt feeders, one for electrical power, the other for light. For the latter, energy is transformed through two 750 kva. transformers to a three-phase 60-cycle a.c. at 199/115 volts, and for power through two 1,200 kva. transformers to a three-phase 60-cycle a.c. at 440 volts.

The main feeder switches as well as all emergency and transfer equipment are remotely controlled in the main switchboard room. Should either group of transformers fail, the load can be transferred to the other from the control board through an "auto transformer" and should failure of one of the main feeders occur the load is automatically transferred to the other. Emergency general lighting is not provided, but a storage battery (required for the d.c. operation of the main switches) supplies energy for emergency lights near the electrical equipment in the sub-basement.

Vertical distribution of electricity is accomplished by copper bars enclosed in steel raceways which are fitted with removable covers at each floor so that tap-off for local distribution can be easily made at any desired point. The distribution system is safe, fireproof and easily accessible for repair.

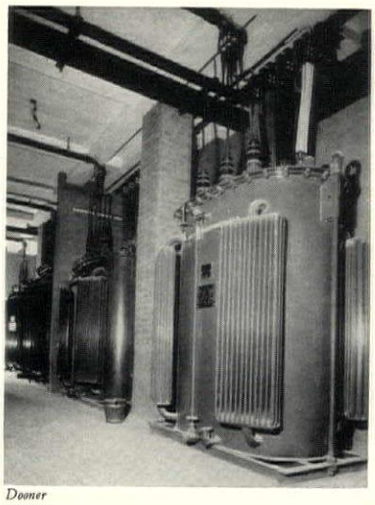
The efficient lighting throughout the building has resulted from the cooperation of Professor C. D. Fawcett of the University of Pennsylvania with the consulting engineer and the architects. In general the lighting is indirect and in most of the lobbies a system of coves in a hung ceiling directs the light against the adjacent walls. In the banking room and escalator lobby these coves take the form of suspended slabs. The office fixtures are shown on page 546.

Noteworthy as unusual in an office building is the provision for individual radio reception throughout the office floors. On the thirty-second floor (which contains the board and dining rooms) a centralized radio system has been installed, with a volume control at each speaker outlet, and microphone outlets in the President's office, with an amplifier in the banking room permitting the delivery of an address from the privacy of the President's office.

Heating and Ventilating. The heating is a low-pressure steam system under an automatic control of the dual compressed air type, with individual room thermostats where required. The dual feature permits heat to be maintained at two temperature levels: 70° during the day and 50° during the night, thus effecting steam economies. There are no boilers in the building. Steam is purchased from a Philadelphia service company and enters the building at a pressure of 150 pounds. It is reduced immediately to 40 pounds; then is carried to the twentieth floor. Here it is successively reduced to 5 pounds pressure and sub-atmospheric pressure, after which it is distributed throughout the building.

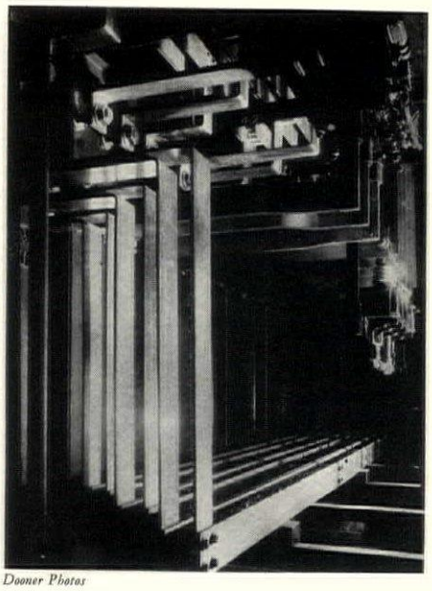
The system is such that during mild weather the steam is supplied to concealed radiators of the convector type at a pressure below that of the atmosphere. The resulting temperature of the steam and consequently that of the radiators ranges from 130° to 200° F., in contrast with the usual steam temperature range of 215° to 225° F., regardless of the season of the year.

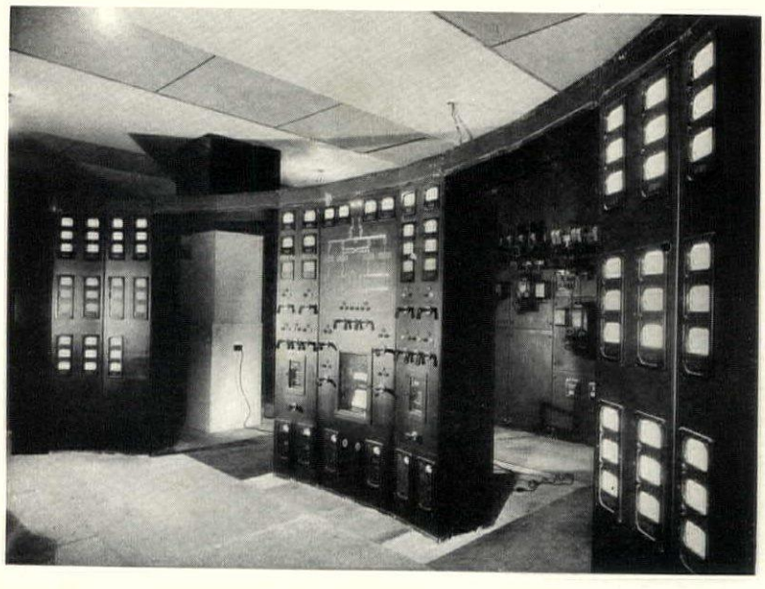
Ventilation is generally confined to fan systems that exhaust air from the transformer vault, storage battery room, shooting gallery, toilets, etc. A similar system of fans ventilates the sub-basement.



Dooner

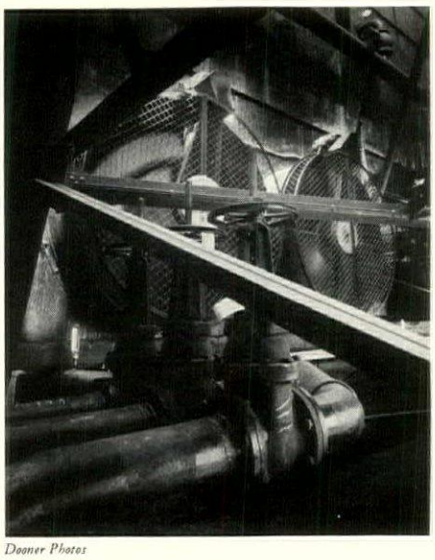
Above is one of the two groups of transformers which transform the energy as it comes into the building from two 13,200 volt feeders. An "auto transformer" shifts the power load from one group to the other in the event of a transformer failure. Should electrical energy in both feeders be interrupted a storage battery will supply energy for emergency light in the transformer vault and switchboard room as well as important locations in the sub-basement. General emergency lighting is not required by law in Philadelphia and the battery was installed primarily to supply d.c. current for the operation of the main switches

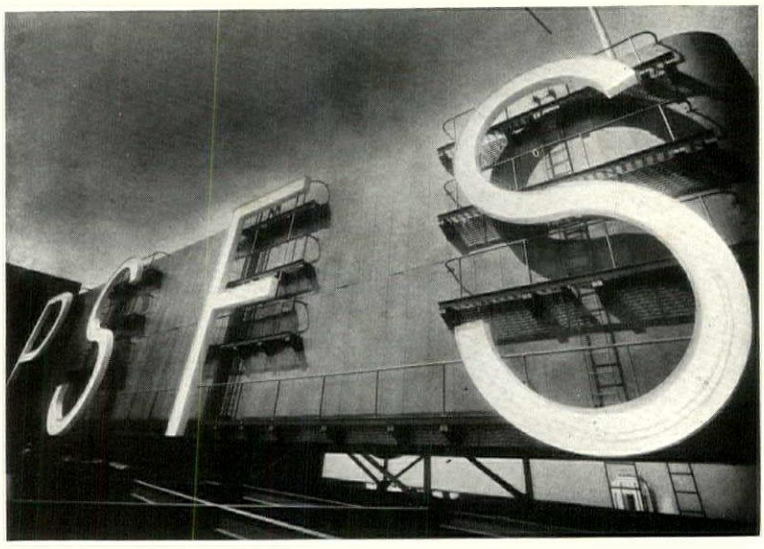




Dooner Photos

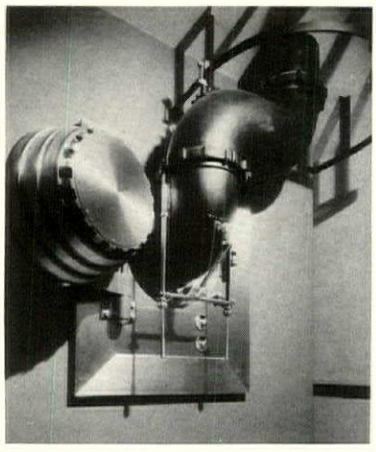
At the left is a view of the main bus connections for the electrical system in the sub-basement. At the right is illustrated the board from which all feeder switches, transfer equipment and emergency switches are controlled



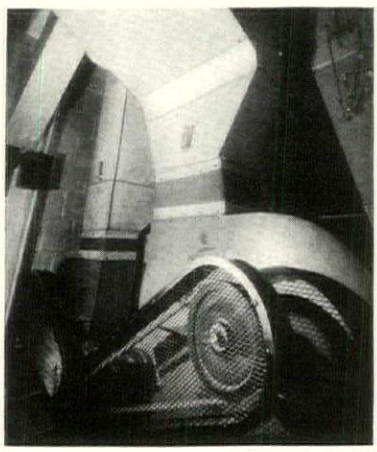


Dooner Photos

The steel background for the huge electric sign on the roof of the office portion of the building conceals part of the air conditioning equipment shown at the left. The letters of the sign are 27 ft. high and 15 ft. wide. They are formed with a white porcelain enamel face and are lighted by red neon tubes. The background of the sign is painted a cobalt blue



Above is the conditioned air supply to the vault. It may be removed at will. Below is a typical fan supplying one of the main ducts



Air Conditioning. The system as a whole is divided into two sections. The first serves the bank portion of the building, which includes the space from the basement to the fifth floor (allowing for a possible expansion of banking quarters), and the second serves the office building portion from the sixth to the 33rd floors. The bank's section contains seven complete air conditioning plants. The two which condition the basement and first floor are located in the sub-basement; the remaining five units are located between the trusses of the banking room.

The conditioned air in the first section is supplied through slots and baffles generally incorporated in the design of the lighting equipment. The air returns are through grilles located in columns furred out to include the ducts. The air intake for the seven units comprising the first section is at the roof of the third floor set-back. The units of the second section are located on the twentieth floor which has been given over entirely to the air conditioning equipment and storage space. The air is taken through louvers installed in place of windows on the east wall. Two separate plants condition the office building section, one serving the space from the sixth to the twentieth floor, the other the space from the twentieth to the thirty-third floor.

The distribution on a typical office floor is from two central ducts located at the ceiling on the outside of the interior columns. They are supplied by fans that draw the conditioned air from the shaft (located behind the service elevators) and mix it with return air from the corridor to the proper delivery temperature. One fan supplies the east side of the building, the other the west, making it possible automatically to control the temperature as the load shifts with the movement of the sun.

In each of the office bays four outlets are provided to permit flexibility of partitioning. The outlet permits the delivery of air at a much lower temperature than was previously considered good practice, thus making it possible to reduce the amount of air handled with a consequent reduction in the size of the ducts. Door louvers permit circulation and a portion of the air is returned from the corridors to the units on the twentieth floor.

The refrigerating equipment is located in the sub-basement. It consists of four centrifugal refrigerating machines which chill the spray water pumped to each of the nine conditioning plants.

NEW HOUSING for the LOWEST THIRD

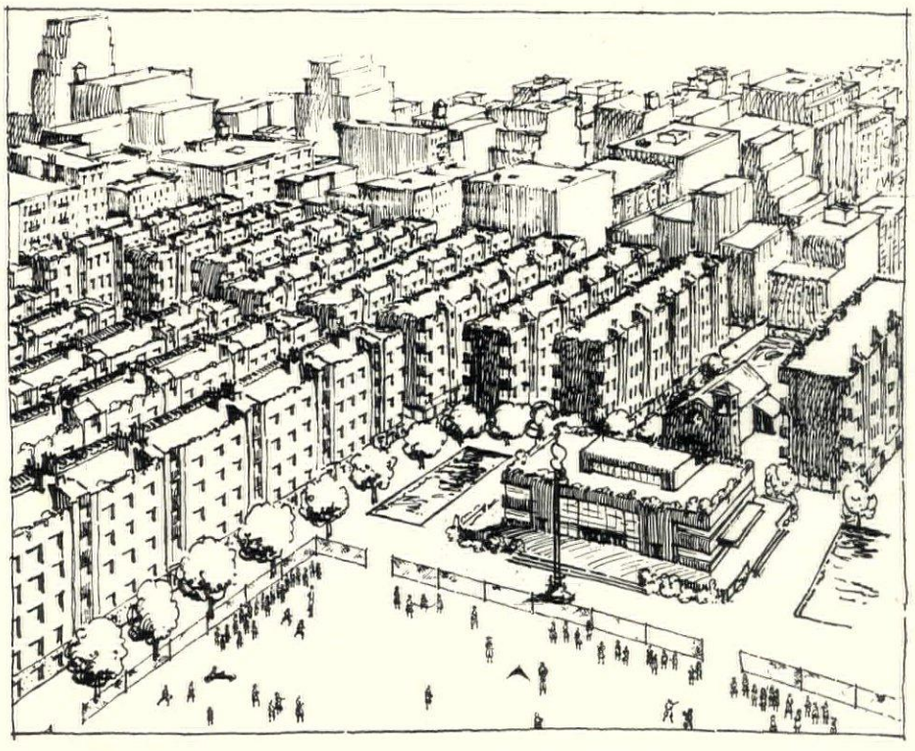
"It can't be done" is the usual dictum, but we present here HOWARD BURTON'S basic idea and the figures to support his contention that it *can* be done, even on $10 land, if one faces the facts. We welcome your constructive criticism or comment.

IT IS pretty definitely conceded that $12.50 per room per month is a prohibitive price for a family of the lowest third income group to pay. The problem is to give adequate housing to those who can pay only $3.75 to $6 per so-called room.

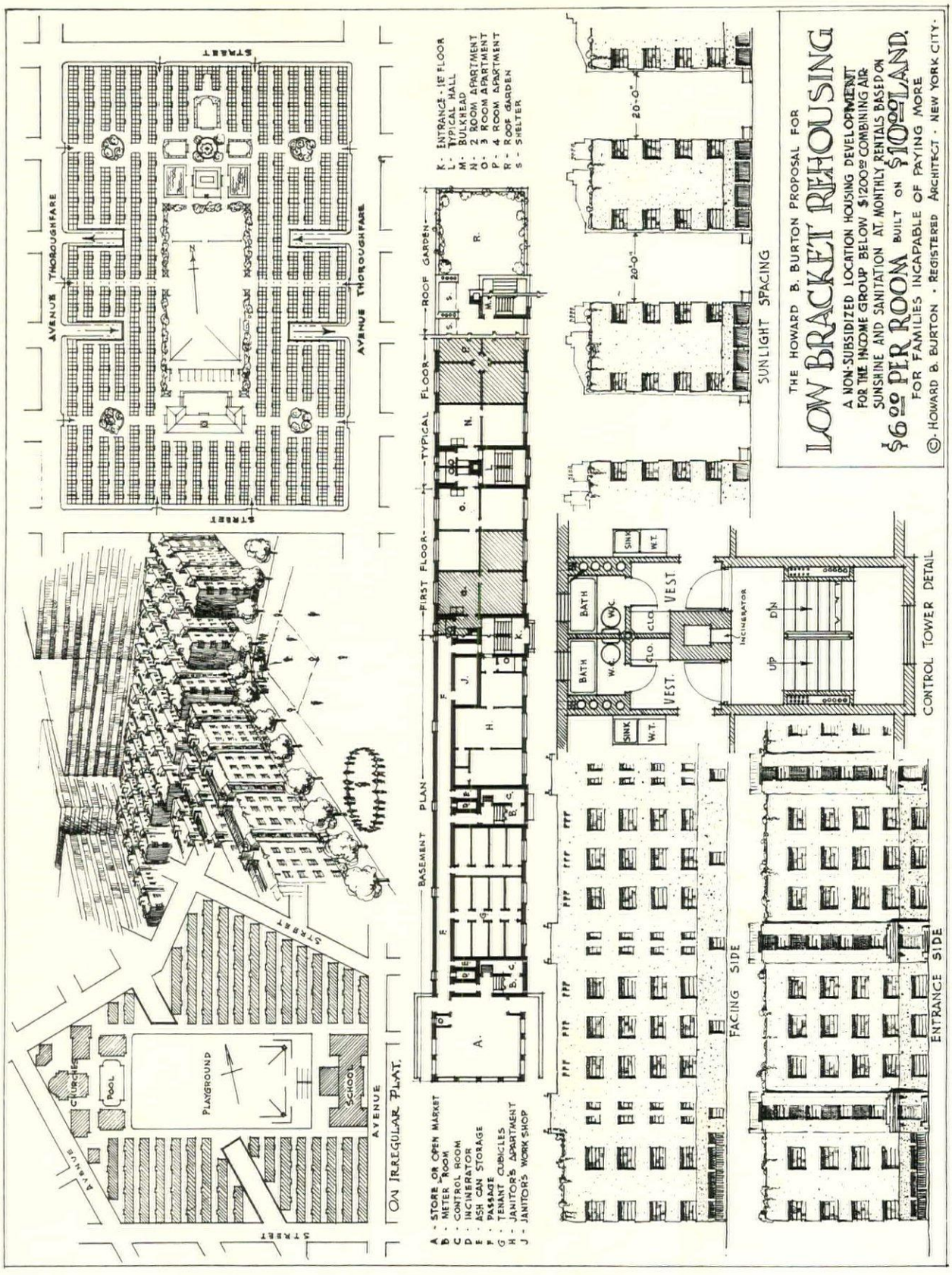
Mr. Burton has attacked this problem boldly from this angle. He has investigated conditions in New York and has conducted a thorough survey of housing for the West Side Association of Commerce. His premise is that sunlight, air, water, sanitation and clean, fireproof rooms are the basic needs to be provided. This means decent housing, but no frills. He makes no attempt to include breakfast nooks, kitchen cabinets, foyers, dining alcoves, porches or even clothes closets. He knows the living habits of those in this group and, without any attempt at uplift, will provide them with necessities of adequate housing. He is able to provide such accommodations through the economies of large scale construction, absolute simplicity and durability of materials and construction system, by multi-block plot utilization and by the utmost simplicity in plan. Through these, the housing essentials can be provided in any city if the conditions of this project are met, even on land at $10 per sq. ft. Steam heat, electricity and gas can be had at nominal cost when, if and as the tenant can afford them. The outlets are there in every apartment.

A glance at the sketch plans on the next page will show that sunlight and air for every room are provided by east or west orientation for all rooms and by building the rows in a north and south direction with 20-foot courts between each row. Apartments of two, three or four rooms will be available in each unit, and the plan is flexible, and susceptible to further development, so that the proportionate numbers of apartments of the various sizes can be changed to meet conditions. The typical unit is made up of a central stair and utility tower for each six rooms, there being six rooms between stair towers, all standardized as to size, construction and fabrication.

The preliminary financial statements are presented in full because they show the type of complete analysis which every architect of a housing project must make, and because it is necessary for a thorough understanding of the ideas underlying this project. The figures are Mr. Burton's.



A sketch of the proposed rehousing project showing the playground and the rows of apartment buildings. The percentage of the entire plot covered by the apartment houses is 36 per cent; the estimated population, 10,500; the estimated number of children, 2,500, and organized play space per child, therefore, 65 sq. ft. In addition, the roof garden area will be available for mothers and infants



Details of the Preliminary Plans for Rehousing "The Lowest Third"

BASIC RENTALS of the BURTON PLAN for REHOUSING

	Cost of land per Sq. Ft.	Five Stories High Min. (B)	Aver.	Max.	Four Stories High Min.	Aver.	Max.	Three Stories High Min.	Aver.	Max.
Not tax exempt	$15.00	$7.00	$9.10	$11.00						
Land tax exempt	15.00	6.00	7.00	8.50						
Full tax exempt	15.00	4.50	6.50	7.00						
No tax exemption	10.00	5.50	6.48	7.50						
	9.00	5.10	6.10	7.10						
	7.50	4.50	5.36	6.75	$5.25	$6.10	$7.00			
	6.00	4.25	5.00	6.25	4.50	5.50	6.70			
	5.00	3.75	4.50	6.00	4.30	5.09	6.20			
	4.00				4.00	4.70	5.75			
	3.00				3.25	4.13	5.50	$4.60	$5.68	$6.80
	2.00				3.00	3.64	4.75	4.25	5.01	6.25
	1.00							3.20	4.16	5.50

Note A: Straight count of rooms is used throughout the above table, *i.e.*, each room is counted as one room, not 1½ rooms. Baths and kitchenette portions of living rooms are not counted as an extra one-half room to create a lower apparent average room cost. By counting the 2,942 kitchen-living rooms as 1½ rooms each, all the above room rentals reduce by approximately 24 per cent.

Note B: From 20 to 30 per cent of all apartments are available at the *minimum* rental given.

Note C: In arriving at the above figures due allowance has been made for lower rentals of stores and other income items as the land values themselves descend. From the $1 and $2 per sq. ft. neighborhoods the write-down reaches 33 per cent off the $10 per sq. ft. high. The important objective in this entire proposal is to keep rentals within the very low paying ability of present tenants which the structures are designed to house.

For the above basic rentals tenants may have services at the following rates:

Steam heat	$.75 to $1.25 per room extra
Hot water	.30 to .70 per room extra
Gas	.15 to .30 per room extra
Electricity	.20 to .35 per room extra

Schedule H gives the estimated percentage of tenants who will select these luxuries. These rates are sliding and in proportion to the base rate of the apartment; *i.e.*, graduated to the tenants' ability to pay.

COST SET-UP

Cost of Land		Totals
A minimum of five large city blocks, 800 x 200, or ten small blocks, 400 x 200, or equivalent irregular site totalling 800,000 sq. ft. @ $10 per sq. ft.	$8,000,000	
Less resale of church sites at cost	184,000	
Cost of land retained		$7,816,000
City's pro rata share of land cost (See Schedule A) 23% =		1,797,680
Cost of land used by Corporation		$6,018,320

Cost of Buildings and Improvements		
298 Control tower units, 5,724,000 cu. ft. @ 30¢	$1,717,200	
11,517 lin. ft. roomage units, 15,900,000 cu. ft. @ 20¢	3,180,000	
		$4,897,200
Demolition at $10,000 per block	50,000	
Carrying charges, legal, architects' fees, etc., (See Schedule B)	200,000	
Landscaping, paving, etc.	120,000	
Unassigned costs	214,480	584,480
Cost of buildings and improvements		$5,481,680
Total investment or gross assets		11,500,000
First mortgage not over 67% @ 5%, 2½% amortization 20 years	$7,800,000	
Corporation stock approximately 33% @ 6%, Limited Dividend Public Corporation	3,700,000	$11,500,000

OPERATING STATEMENT

Operating Expenses	Per Room	Entire Project	Totals
Interest on mortgage (Schedule C)		$487,500	
Taxes on land 2½% (Schedule D)		139,075	
Taxes on improvements 2½% (Schedule D)		130,190	
			$756,765

Operating Expenses—*Cont.*	*Per Room*	*Entire Projects*	*Totals*
Insurance	$ .33	$3,000	
Water	1.00	9,000	
Wages	4.14	36,000	
Repairs and supt. supplies	2.12	19,000	
Exterminating	.55	5,000	
Courts and yards	.11	1,000	
Miscellaneous operating	.22	2,000	
Office salaries	.78	7,000	
Office expenses	.11	1,000	
Legal and accounting	.33	3,000	
Telephone	.05	500	
Miscellaneous administration	.71	6,500	
Redecoration	1.00	9,000	
	$11.45		
Heat-fuel, at profit	9.75	.....	
Electricity, at profit	1.40	.....	102,000
Allowance for purposes of comparison	$22.60		$858,765
Depreciation reserve @ 2% on buildings			97,944
Corporation stock: interest @ 6%			222,000
Total operating and carrying charges			$1,178,709

Operating Revenue

Optional services estimated (Sched. E)	$60,168	
Other Rentals (shops, stores, etc.)	420,860	
Leases (theaters, garage)	13,200	
Income from sources other than rentals		$494,228
Amount which room rentals must produce:		
Annually		684,481
Per month	$57,040	
Allow 5 per cent vacancies	2,852	
Total per month		$59,829

Nine thousand one hundred and twenty rooms @ average $6.48 (.....) or 10,591 rooms @ average 4.88 if kitchen-living rooms are counted as 1½ rooms each, as is customary, to give apparently lower average room rentals.

SCHEDULES

Schedule A

City's share of land cost, based on public-private use. (See note.)		
Land purchased	800,000 sq. ft.	
Streets repossessed	96,000 sq. ft.	
Streets aerial rights assigned	48,000 sq. ft.	
Open cut ramps	48,000 sq. ft.	
Area of complete rectangle	992,000 sq. ft.	
Less area resold to churches	18,400 sq. ft.	
Area for basis public-private cost sharing	973,600 sq. ft.	
Areas used for public municipal purposes:		
Playground	140,400	
School	31,200	
Pavilion	12,000	
Pools	19,200	
Deltas	22,500	
Public use areas for cost assignment	225,300 sq. ft.	= 23%
Public use area for cost assignment	748,300 sq. ft.	= 77%
		100%

Note: Under this proposal the municipality is asked to contribute:
Area of streets repossessed
Aerial rights over streets underpassed
Assume pro rata cost of land on basis of public-private usage
Repave depressed streets (if any)
Cut off abandoned street services
Since entire development can be served from present services, little or no relocation of any street piping should be required.

Schedule B

Owing to the progressive possibilities of the style of construction proposed and the immediate rehousing of existing tenants in the new buildings, the usual heavy write-off for interest during construction is all but eliminated. The present buildings remain undisturbed until 60 days before tenants move into new buildings on the same site.

Schedule C

Financing-Interest-Amortization		
Mortgage: Housing Board agreement as 5%.		
Amortization of 50% in 20 years at 2½% per year	$7,800,000	
Corporation equity: Limited to 6% dividends	3,700,000	
Total investment	$11,500,000	
Mortgage: 5% interest on half	195,000	
Mortgage: 2½% amortization	195,000	
Mortgage: 2½% interest on amortization	97,500	
Mortgage charges		$487,500
Stocks: 6% interest		$222,000

Schedule D

Taxes on land; value stabilized at 100% of value at time of purchase.			
Land purchased		800,000 sq. ft.	
Public use areas:			
Playground	140,400 sq. ft.		
School	31,200 sq. ft.		
Pavilions	12,000 sq. ft.		
Pools	19,200 sq. ft.		
Deltas	22,500 sq. ft.		
Church	18,400 sq. ft.		
		243,700 sq. ft.	
Amount private use for purposes of taxation		556,300 sq. ft.	
100% assessed valuation @ $10 per sq. ft.	$5,563,000		
Land tax @ 2½%			$139,075
Buildings and improvements 100% valuation	5,481,680		
Less 2% obsolescence	274,084		
	$5,207,596		
Taxes first year @ 2½%			$130,190

Schedule E

Optional services @ cost plus 25¢ per room (Total number rooms 8,916)	*Per Month*	*Per Year*
Heat: 60% wanted 5,350 rooms @ 25¢	$1,337	
Hot water: 40% wanted 3,566 rooms @ 25¢	891	
Gas: 50% wanted 4,458 rooms @ 25¢	1,114	
Electricity: 75% wanted 6,687 rooms @ 25¢	1,672	
Per month	$5,014	
Per year		$60,168

THE ARCHITECTURAL FORUM

INDEX TO VOLUME LVII
JULY TO DECEMBER, 1932, INCLUSIVE

THE ARCHITECTURAL FORUM
220 EAST 42nd STREET, NEW YORK

THE ARCHITECTURAL FORUM

INDEX TO VOLUME LVII — JULY TO DECEMBER, INCLUSIVE, 1932

Note: * *Illustrated* ex.—*exterior* in.—*interior* pl.—*plan*

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