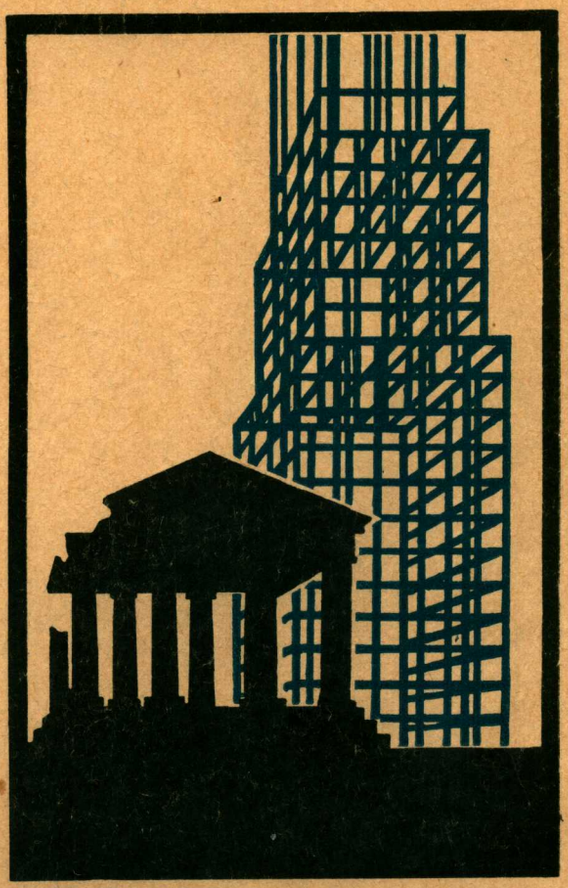
# THE ARCHITECTURAL RECORD



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# THE ARCHITECTURAL RECORD

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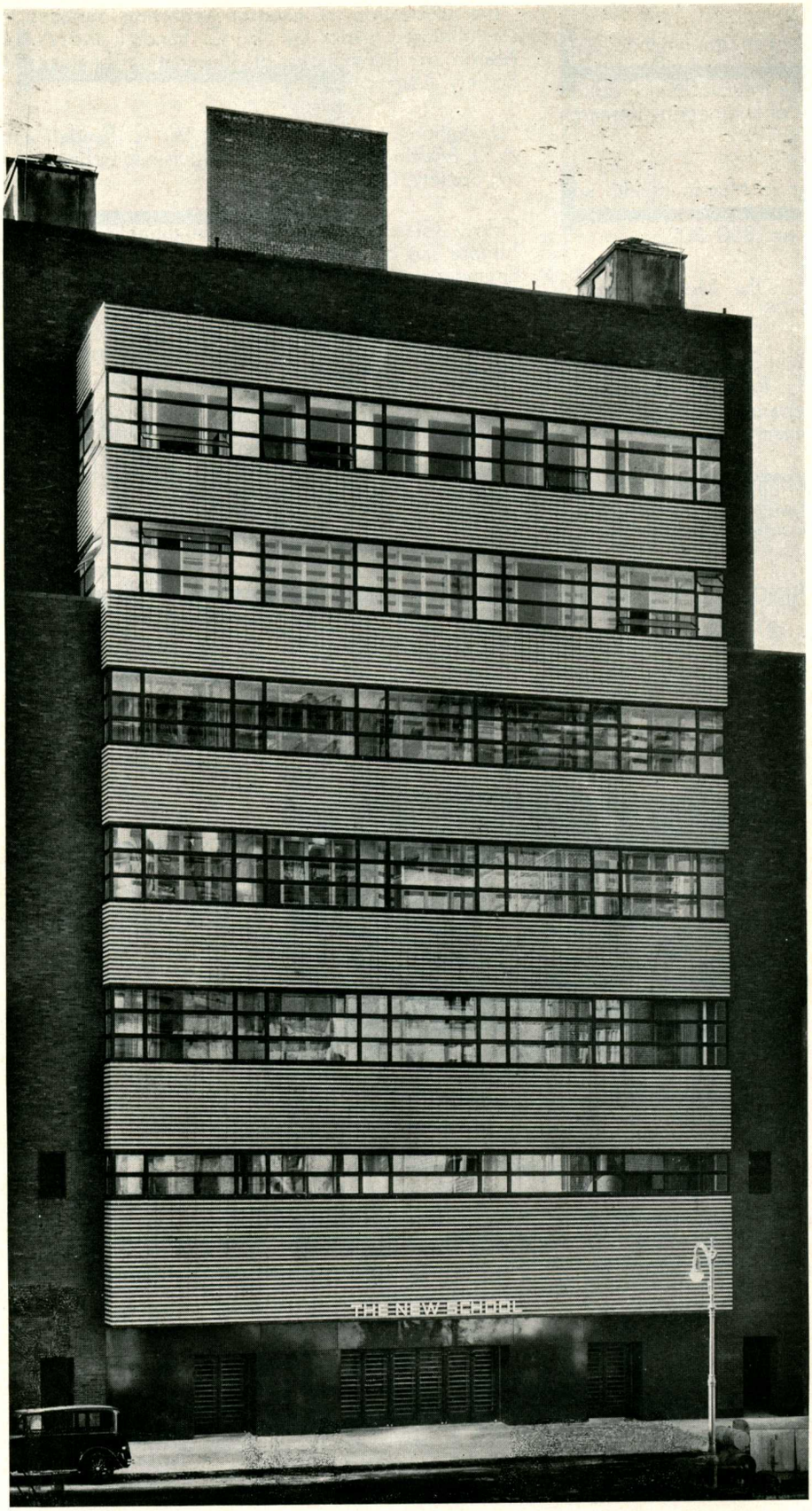
THE NEW SCHOOL FOR SOCIAL RESEARCH
NEW YORK CITY
JOSEPH URBAN, ARCHITECT




*Nyholm and Lincoln*

Elevation. Solid masses, mat black brick. Window spandrels, mat black and pale buff brick. Veneering round doors, Coopersberg black granite. Window frames, rolled steel painted black. Interior window frames and column surfaces generally carry the color of the rooms: sixth floor, white; fifth, yellow; fourth, dark blue; third, orange; at right, gray and blue; second, maroon; at right, gray-blue and deep blue; mezzanine, light orange.

# THE NEW SCHOOL FOR SOCIAL RESEARCH

## JOSEPH URBAN, ARCHITECT

## J. H. TAYLOR, CONTRACTOR

By Shepard Vogelgesang

**Plot dimensions: 103′ 3″ x 77′ 7¼″.**
**Height of building: 7 floors and basement.**
**Total cubage: 803,000 cu. ft.**
**Complete cubage costs including fixtures, decorations and furnishings, exclusive of two mural paintings: 65c per cu. ft.**
**Total cost, exclusive of land price: $500,000.**

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The New School was founded on the perception of the demand for adult mental occupation and expansion in an age which, among the machine products, has been rapidly fabricating leisure. The client, Dr. Alvin Johnson, is an educator of broad information and liberal ideas. His experiment was to give opportunity for following many interests in this leisure time. It met with a degree of success which demanded more ample housing. What he wanted of his architect was the embodiment of the school requirements—simply, technically and beautifully, within the economic means at hand. There was no question of recalling the past; the building was to function in the present and if possible to forecast the future. To these liberal assets he added the skill and enthusiasm of two outstanding progressive American painters, Thomas Hart Benton and Jose Clemente Orozco. Benton is a New Yorker whose work was well known for vigorous ability but never before adequately incorporated in a building. Orozco is a Mexican with the forcefulness and integrity which New York recognizes in the famous Mexican group but has been reluctant to provide with patronage. During the erection of the building the enthusiasm of the architect, the client and these painters communicated to everyone engaged in the work. Few buildings have opened with an equal air of suspense. Few buildings have ever had so much experiment and intense conviction at stake.

The organization in plan is concentration of the instruction facilities in the basement, ground floor and second floor; third floor—administration; fourth, fifth and seventh—research, exhibition and studio. The vertical circulations, elevators and stairs disperse upward traffic in two channels in parallel stacks on each side near the front of the building. The toilets and kitchens are also in tiers, opening on two sides on light shafts located toward the rear of the building.

For instruction in the dance a circular room with ballet rail is provided in the basement where Dalcroze eurythmics, ballet and round dances can be given. The first floor comprises the main auditorium seating 550 persons, and entrance lobby from each end of which all other floors are accessible by two elevators and stair towers. Above is a mezzanine with two galleries each accommodating 20 additional spectators, a projection room equipped for sound motion pictures and a bookstore. The second floor provides five class rooms, two accommodating 220 and 187 students each on ramped floors which parallel the curve of the auditorium ceiling. Classes are held for the most part in the evening so usual requirements of orientation to natural light were waived in favor of utmost economy in space.

On the administration floor the dome of the auditorium is echoed by the rise in level to the board of directors' room. This room is flanked by general office space and building superintendent's quarters. The central area on this floor is occupied by the reception room where the general public is accommodated. On one side of this room, across the front of the building, are the director's and assistant director's offices, each with a secretary's room, flanking a central office for the school clerk. On the opposite side of the room, across the back of the building, is the board of directors' room.

The fourth floor accommodates the library which connects through an open well by a double flight of stairs to a landing on the exhibition floor. The rear of the library is raised above the board of directors' room a few steps to the area allotted to book stacks and office space.

The fifth and exhibition floor is all on one level. Across the front and for two-thirds of the depth of the building is exhibition space. The remaining third is occupied by the students' dining room with a dining room for the faculty to the right and kitchen to the left.

The donor of the property has an apartment occupying the sixth floor which will eventually revert to the use of the school.

On the seventh floor is a wide, open room with a terrace to the front of the building. It is to be used as studio space.

Apart from affording the changes of floor level on the second, third and fourth floors, the auditorium,

*Nyholm and Lincoln*

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**Detail of brickwork and windows. Black brick laid in mineral - pigmented black cement, buff brick jointed with buff cement.**

with class rooms above, conditioned much of the plan. Its shape influenced the contour of the dance floor in the basement below it and the entrance lobby in front of it. Steel columns rest on the extremities of the girders which roof the auditorium. Throughout the building the void which it establishes in the centre of the structure is felt by the absence of columns and the openness of central space on each successive floor.

The side passages extending from back to front of the building provide fire exits from the rear classrooms above the auditorium as well as direct communication with the stage. Above the mezzanine these passages are covered by stairs and other extensions of the building.

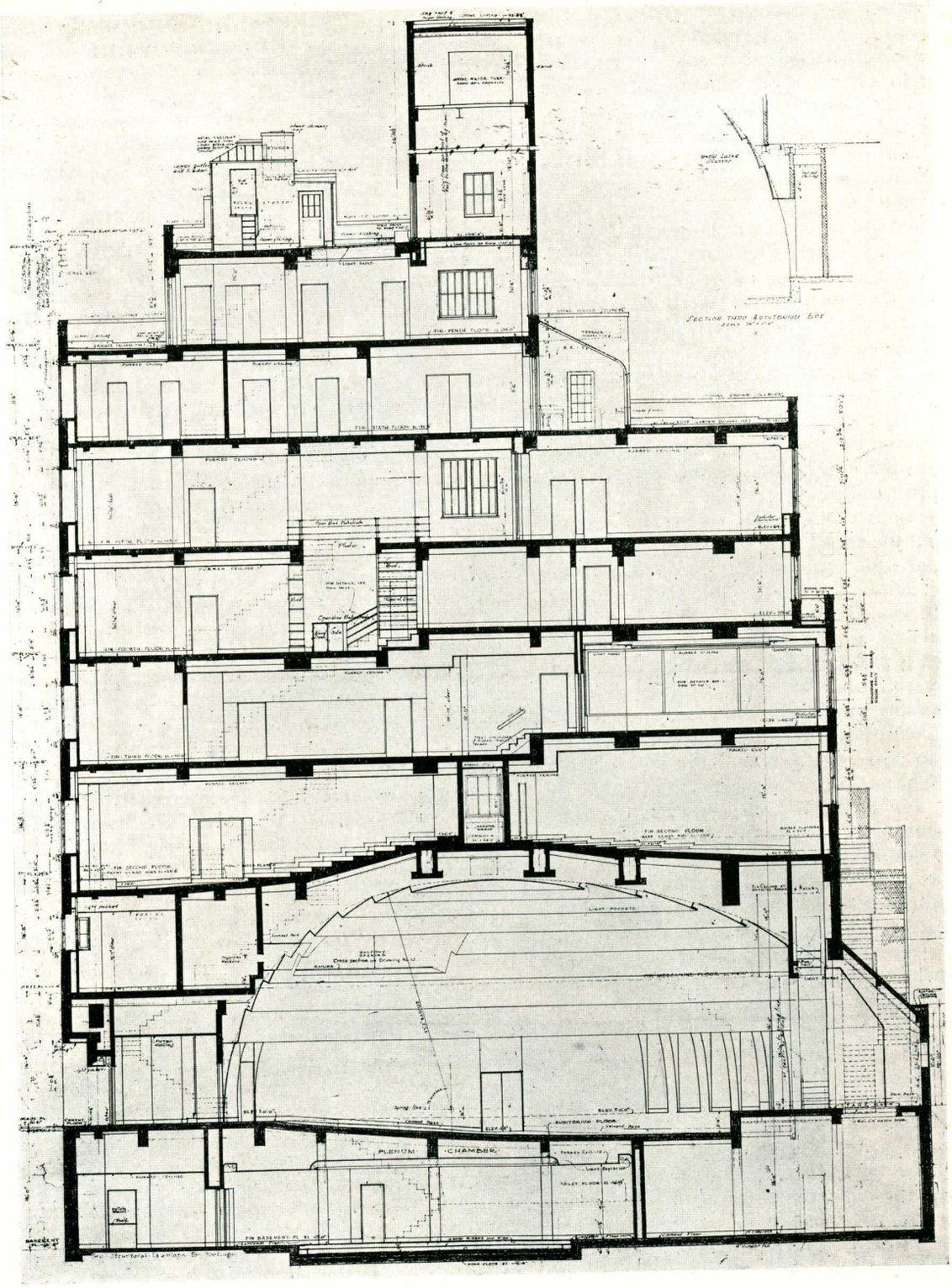
The auditorium occupies maximum space commanding good view of the stage. The domical cover, evolved as the logical enclosure to such a plan, provided location for the lighting scheme and also, originally, for the ventilating system. Adoption of a hung plaster ceiling 25 per cent perforated for acoustical reasons changed the ventilation scheme by permitting the use of the entire ceiling surface as a vent into the plenum chamber above. The auditorium functions acoustically like an open air theatre. The wood background of the stage and the folding wood curtains act as resonant reflectors for sound which is projected into the seating space and immediately absorbed through the ceiling perforations in the same way it would be dissipated in the air above an out-of-door stage. Right and left of the main stage are two side stages for choruses and music incidental to theatrical performances.

Professor Floyd R. Watson consulted on the acoustic problems of the room. The result in his estimation establishes a distinct advance in the science of acoustics which can lead to almost limitless possibilities in the variation of auditorium forms. In addition to the acoustic properties of the auditorium there is an interesting installation of electrical sound equipment to be connected by radio with the outside or used to transmit interior programs. A series of loud speakers makes possible giving music or speech simultaneously in the dance room, the auditorium and one of the upstairs classrooms. The main auditorium has also equipment at the speaker's desk which permits the amplification of a weak voice. The apparatus is controlled from one of the seats in the rear of the auditorium and possesses the remarkable quality of filling the room with uniform sound in such a way that no variation of intensity is noticeable between seats placed directly under the desk amplifier and seats in the rear of the room. In the center of the rear stage wall is a loud speaker horn 7 feet square which can be concealed by doors uniform with the stage walls. It is proportioned to the volume of the room and the stage. The shape of the stage further enlarges the trumpet action of the installation. Back of the rear stage wall is a sound chamber. In the peak of the stage chamber is a grille communicating back to the sound chamber. This connection acts precisely like the eustachian tube of the ear, equalizing air pressures on the diaphragm caused by varying volumes of sound. This device is essential when the sound box is separated from the room into which sound is projected. The large horn is also for use with sound motion pictures. A sound screen has been installed which can be lowered in front of the horn.

Beside the lighting apparatus and a floor trap there is no stage equipment, no gridiron and only such fly galleries as are needed to accommodate the motion picture screen with a velvet mat. Whatever scenery is to be used will be indicative of the mood, time and place of action, not pictorial. Two four-speed door sections opening in the middle supplant a curtain. The room functions acoustically without any curtaining usual to a theater. The only hangings are those in the side stage openings and at the back of the galleries. These are found unnecessary for sound purposes.

Since the building is to accommodate 2,000 students, additional sheltered sidewalk space in front of the entrances was a necessity. For this reason the entrance wall was set 3 feet back from the building line and the other stories were cantilevered out to the building line. As the site is on a narrow side street, windows were made continuous to admit as much light as possible. The building presents to the street a bay facade in horizontal bands of glass and continuous black and white brick spandrels enframed in the plain vertical black brick elevator and stair tower walls without windows. The mat black brick is laid up with ½″ mortar joints containing black mineral to provide a color as near black as practicable. The entrance is veneered with large slabs of black Coopersberg granite anchored to a common brick back wall; copings are mat-glazed black terra cotta. The soffit of the overhang is sheathed in bronze plates. Owing to the proximity of the elevator shafts it was impossible to eliminate the corner columns in the bay by cantilevering without excessive extravagance. The black and white brick facade batters one foot in its total height. This is accomplished by setting the sills a few inches back at each floor. The purpose of this device is to prevent the optical impression of the building leaning over the street, to rectify the tendency toward concavity in a line composed by joining vertical and horizontal members such as the window uprights and brick coursing. There is a slight addition to the quantity of light admitted to the interior by sky reflection which the backward cant emphasizes.

The exterior windows are specially made steel sash, the top and bottom units of each bay of the projected type, the other units fixed. The steel sash is set on the exterior face of the building. On the

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**Contour of the auditorium dome provides, in the main classrooms above it, change of level which at the rear of the building continues through the third and fourth floors.**

interior a second vertically divided casement sash is set flush with the inner face of the sill. The double windows allow a reduction of 25 per cent in heating costs for these window areas; they provide effective insulation against street noises. The width of the sill between windows permits the window cleaner to pass between the sash and reach all glass surfaces. The vertical articulation of the inside casements is also necessitated by the window cleaning problem. In the students' dining room the projected type of sash provides 100 per cent ventilated area and allows the decoration of an area of center wall which with double hung or other partially ventilating types of windows would have been lost.

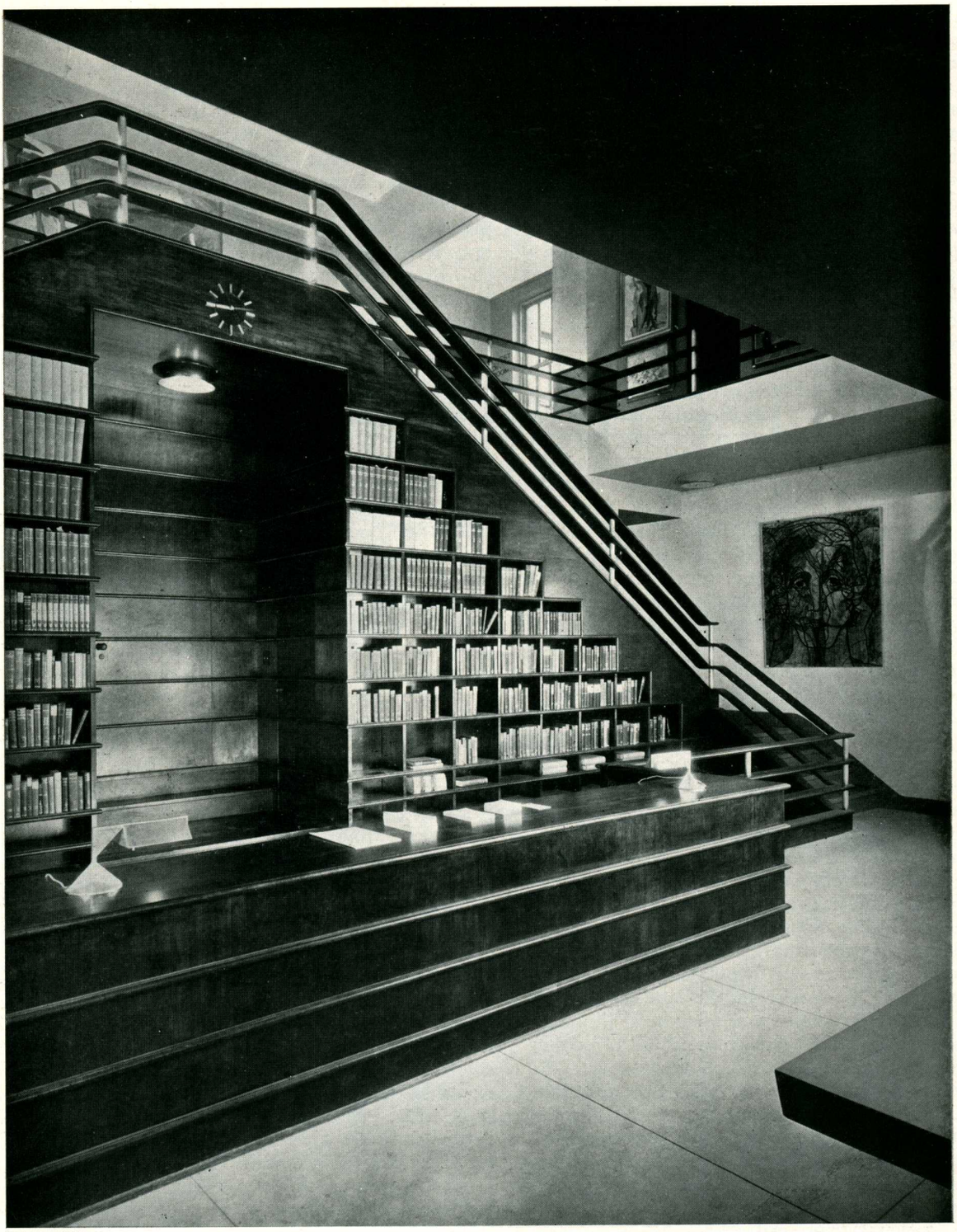
Direct radiation from heaters located generally under the windows supplies the heating of all rooms, except the entrance lobby where a hot blast recirculating system is used. The boiler is oil burning, operating at 0–15 pounds pressure. Condensate is returned to the boilers by vacuum pump. Separate supply and exhaust ventilating systems provide ventilation to the basement dance floor, the auditorium and two main classrooms. Unit ventilators of the recirculating type with fresh air inlets from out of doors supply the other rooms. The basement toilets are in separate exhaust systems while gravity exhaust ventilates the kitchen range hood and interior toilets.

Only the basement plumbing fixtures are on an ejector, the remainder of the sanitary system is gravity flow from the roof tank.

Lighting is designed mainly for a pleasant distribution of illumination where required. Most of the fixtures are of built-in design. Where cost prevented installation of ceiling boxes simple triangular fixtures, bulb and socket fixtures, hanging reflectors and circular metal domes with flat diffusing glass plates were designed. Each of the two mural artists has a different scheme of illumination. That in the board room decorated by Mr. Benton throws all the light on the murals, leaving the center portion of the room to be illuminated only by light reflected from the walls. In the students' dining room Mr. Orozco's desire was for general illumination which gave equal importance to all objects in the room without emphasis on the murals. He wished by this method not to exhibit the paintings as decorations but to keep them as much as possible a part of the life of the room. The lighting of the auditorium is designed to place dramatic emphasis on the stage. Four rings of the dome carry lights in reflectors, the upper ring 20 100-watt lamps, below it 32 100-watt lamps, and 40 60- and 48 50-watt lamps each. The stage equipment consists of three panels of four colored lights, red, blue, amber and white, each color having a capacity of 8000 watts. Four spots located in stage wings, two arcs in projection booth. One panel is over the proscenium, the others are in the side stages; all are hung on pipe battens. The entire auditorium lighting equipment is controlled from a room at the extremity of the left side stage by Vitrohm continuous duty dimmer plates of interlocking type. There is a master lever for the auditorium ceiling lights and a master control of 110 steps for each section including the balcony lights. The electrical energy supplying lighting to the building is 4 wire 120/128 volts. The entrance lobby and dance floor are completely cove-lighted; in both rooms the lighting follows the ceiling contour with the addition in the basement of a rectangular cove over the dance floor. These examples of strip and cove lighting taken with the illuminating system of the auditorium contribute the newest uses of architectural lighting to be seen in the building.

Light and power are operated generally separate and are connected with a main distribution board.

Color has been extensively used in the building. Behind the glass of the facade is visible part of the color scheme. It shows in blocks of red, blue, green, yellow, orange, white, purple, brown, dark blue, as it occurs in the rooms behind the glass. The gamut of color is for the most part strong; a few pale yellows are used, no reds darker than an English vermilion but a variety of greens, blues and browns, all the way to black. The total is ninety colors including white. The use of color has had various purposes in different rooms, governed generally by principles of lighting; cool colors in shadow; warm colors in light; large areas of color of high reflecting power against smaller areas of colors with high absorption to even out the illumination of the rooms. Beyond these principles of application are other considerations, balance of accent, focusing attention at a desired point in the room, maintenance of a diagrammatic scheme to add to the legibility of planning where needed, and selection of colors for their emotionally reactive values. By confining color to the actual planes of the building accenting structural features—columns, for example, are generally kept white—architectural values are enhanced and color given its proper function in building. The ceilings and walls, where not exposed to wear, are executed in a new casein matt paint; the remainder of the work is oil stippled flat except where staining is used on cork or woodwork.



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**Staircase between library floor and exhibition and dining floor. Library ceiling, deep blue; plane under right and left balconies, gray; wall back of stairs, light chrome yellow; exhibition floor walls, gray; ceiling and columns, white. Maple trim, black, showing wood grain slightly.**

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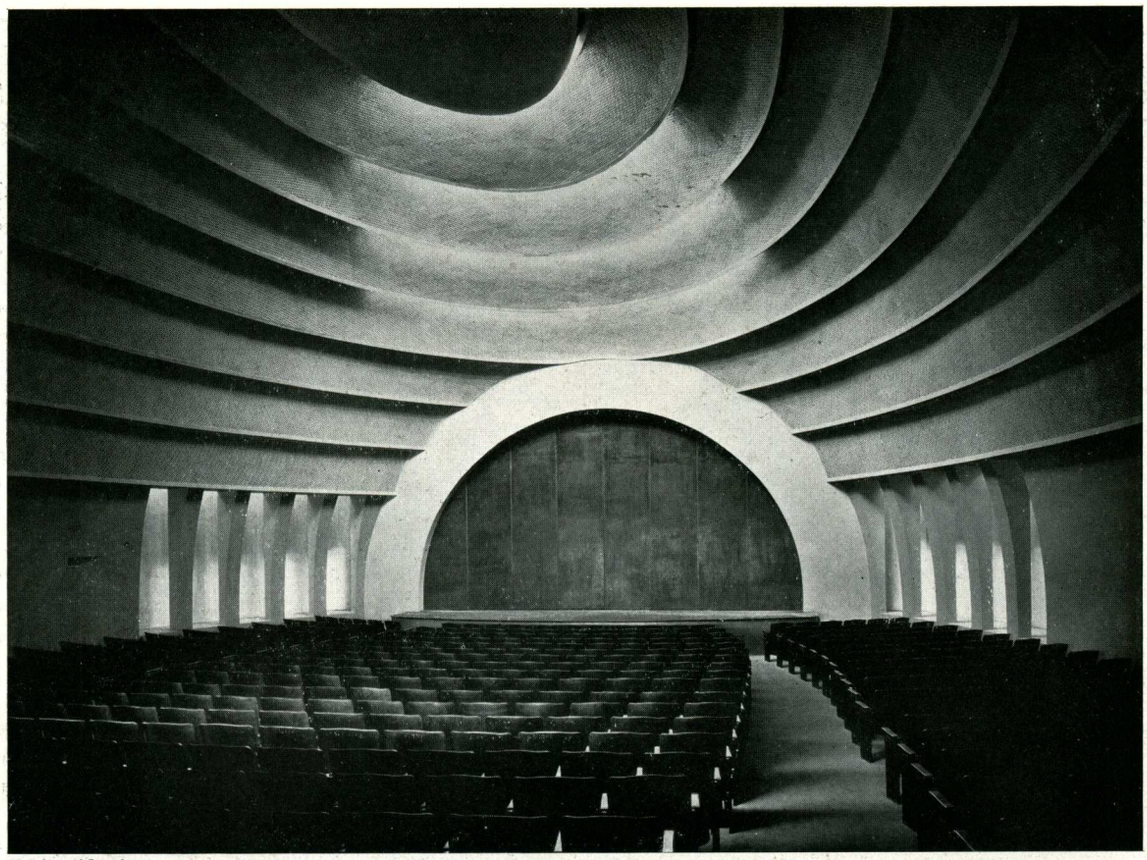
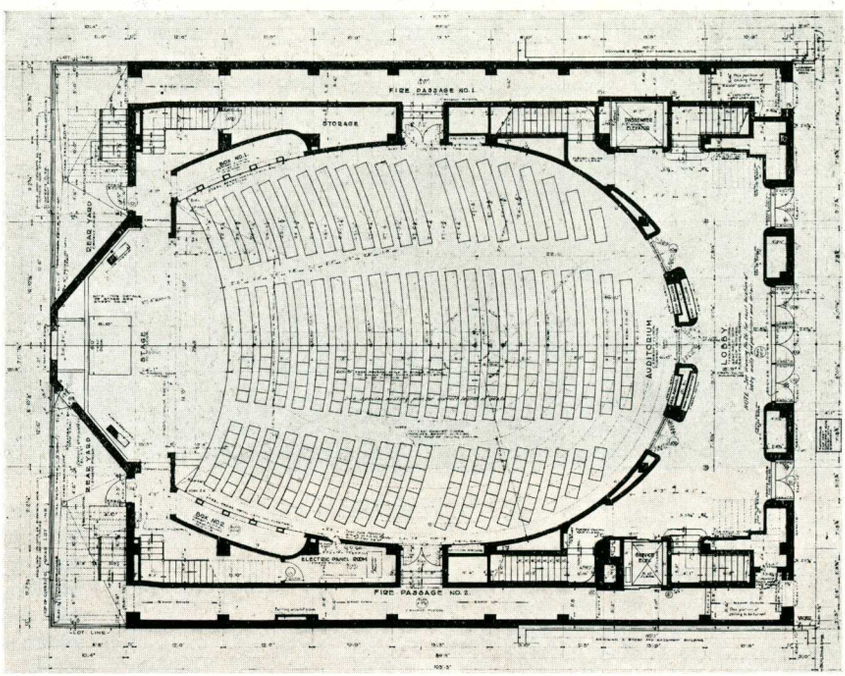
**Entrance lobby. Ceiling lighting surface, white Sunflex paint; ceiling surface and over doors, black Sunflex; end walls, burnt sienna oil paint; vent and pipe chase surfaces, white oil paint; metal work, gun metal finish oxidized bronze; floor, black and white terrazzo laid in bronze strips.**



*Nyholm and Lincoln*

**Auditorium. Hung plaster ceiling 25 per cent perforated to produce acoustic conditions similar to those of an open-air theater. Main stage opening closed by two 4-speed doors; stage cyclorama and side stage walls built of maple with one thin coat of white paint to aid in reflecting colored lighting. Walls, gray Sunflex graded in nine tones to top of ceiling; proscenium and ceiling reveals of English vermilion; carpet to match; chair seats, dark gray; seat backs and stage doors, black.**

FIRST FLOOR PLAN

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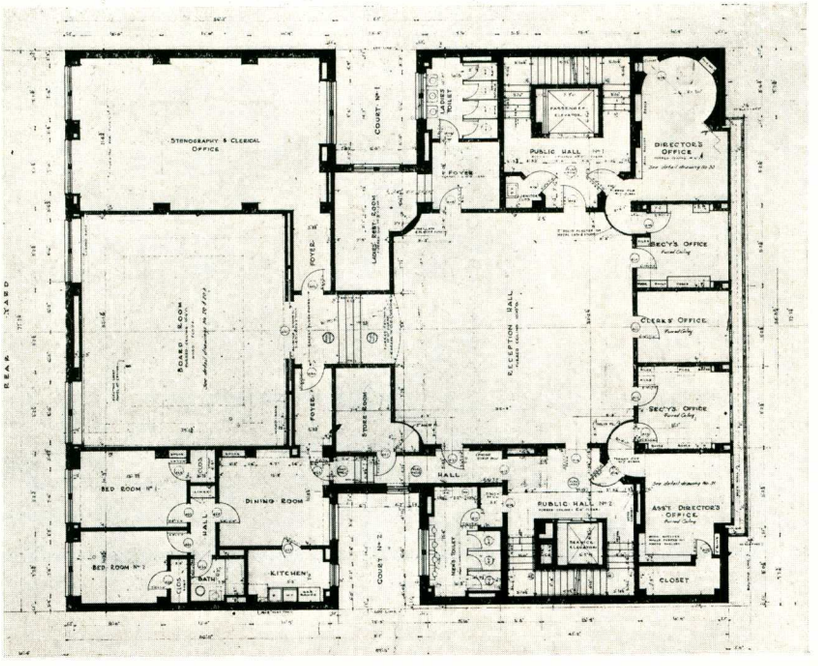
*Nyholm and Lincoln*

**Board of directors' room. Murals by Thomas Benton. Ceiling, terra cotta Sunflex; lighting fixture, opal glass; moldings, aluminum leaf wainscot; doors and tables, black eggshell finish lacquer; floor varnished maple; curtain material, cerulean blue.**

THIRD FLOOR PLAN

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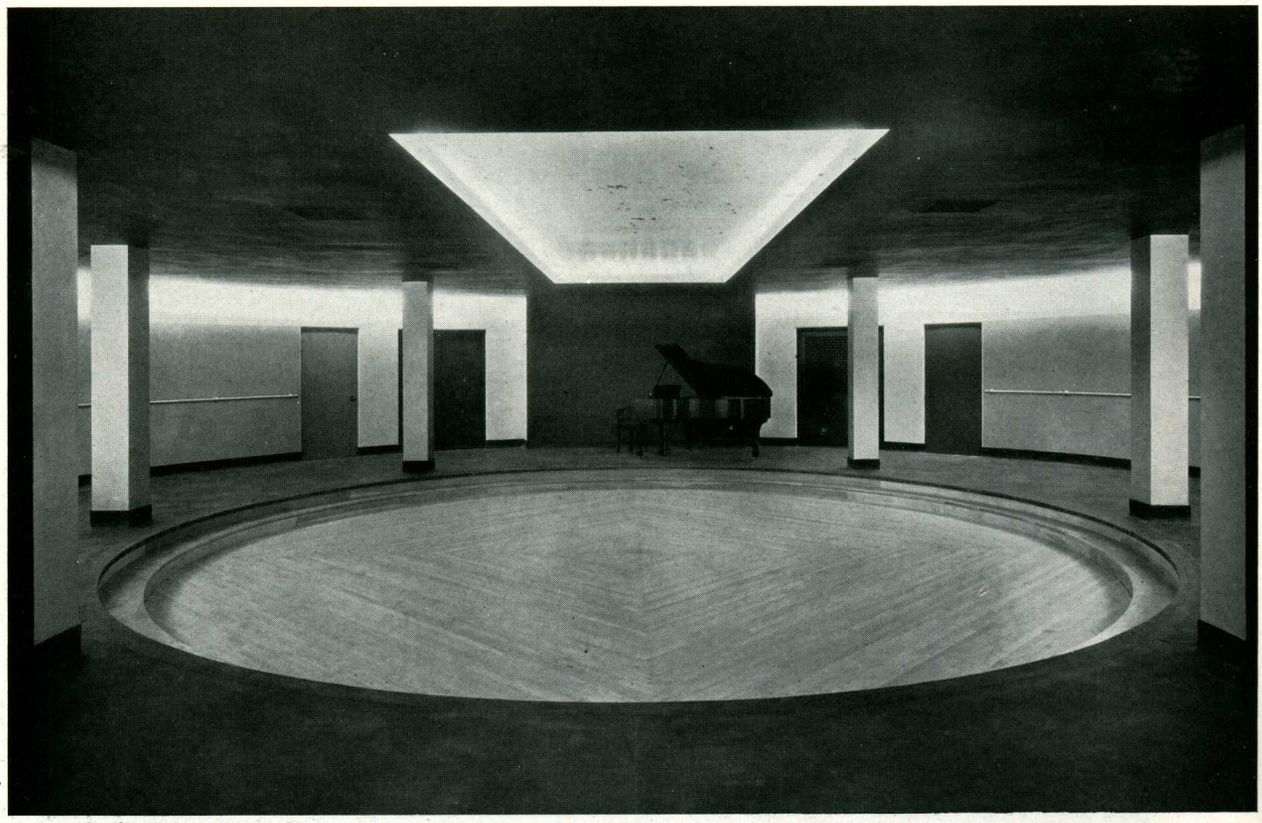
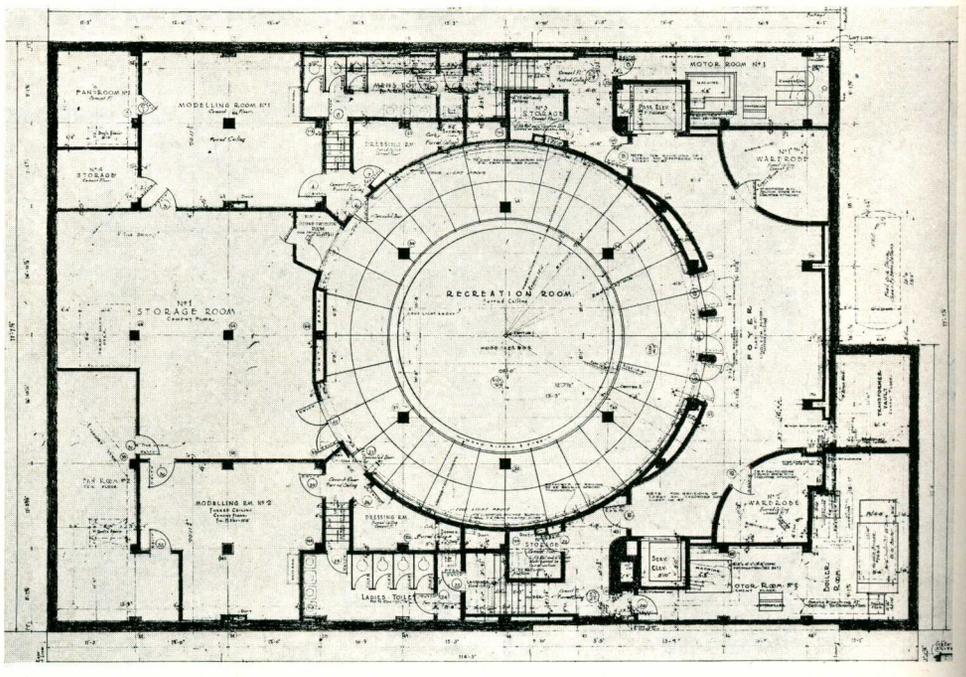


*Nyholm and Lincoln*

**Dance floor. Dancing surface, varnished and waxed maple; surrounding floor, dark blue Marbleoid; ballet rail, aluminum; ceiling, black and white Sunflex. Walls, deep blue, citron, English vermilion, emerald green, orange, ochre, cobalt blue, delft blue; rectangles in flat oil paint; columns, brushed aluminum paint.**

BASEMENT FLOOR PLAN

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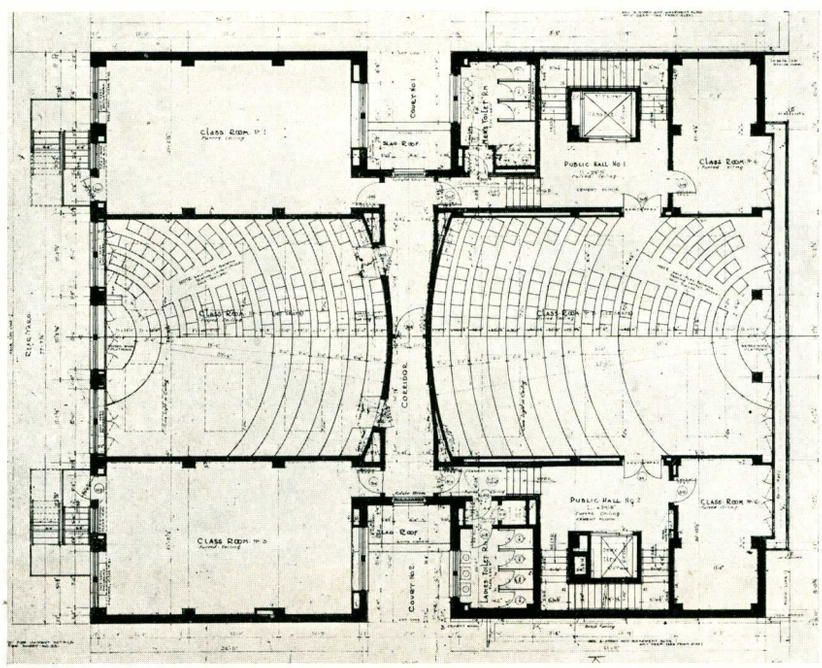
*Nyholm and Lincoln*

**Main front classroom. Pale yellow ceiling; window wall, gray-blue; curtains, indigo blue; columns, white; side walls, deep green-blue; doors, pale chrome yellow; strip over door to back of room, white; strip below, deep orange; rear wall, gray-blue.**

SECOND FLOOR PLAN

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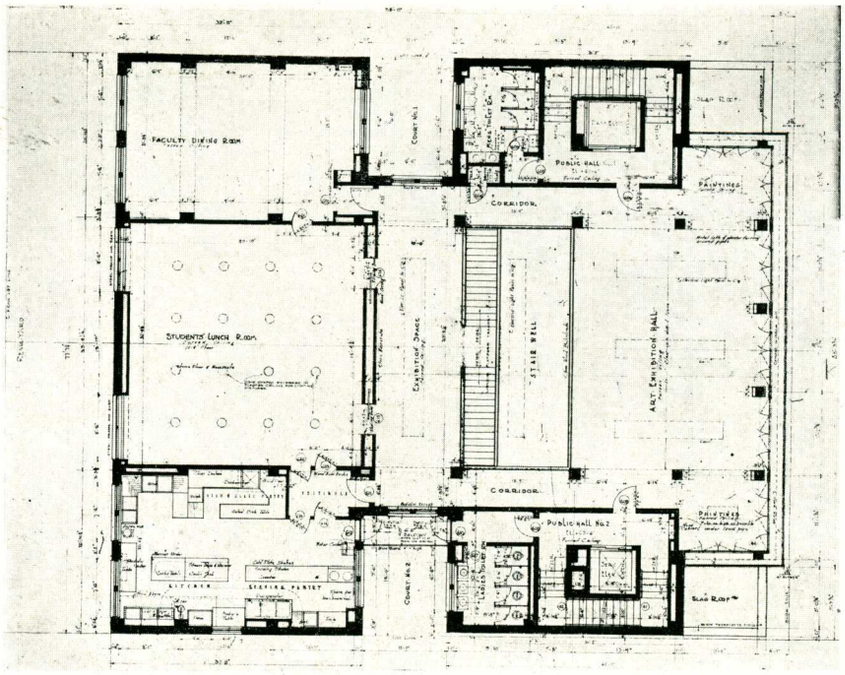
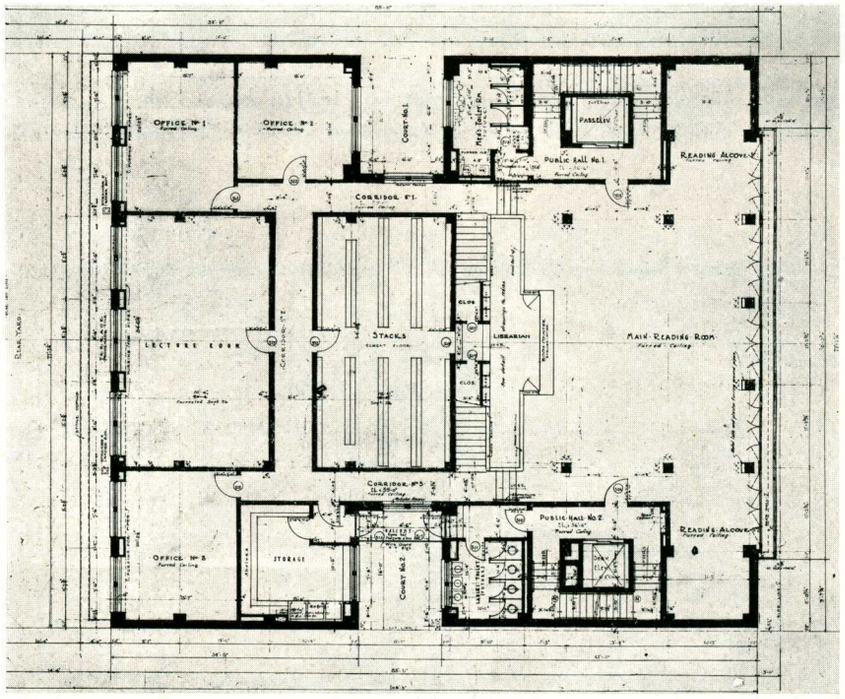



Fifth floor plan: front, exhibition space; rear, students' lunchroom, faculty dining room, kitchen; center, stair well down to library.




Fourth floor plan: front, library reading room; rear, temporary office space for later stack room extension; center, stack rooms and stair well to fifth floor.

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