NEWS

From the Southwestern deserts to the Arctic ice floes extends the world's Housing Front against the elements; and there's firing all along the line.

The Creole City has America's oldest market and means to keep it that way, modern gadgets notwithstanding.

Push-button Architecture: Memphis grocer builds automatic store while the Czechs design desks which move through the air with the greatest of ease.

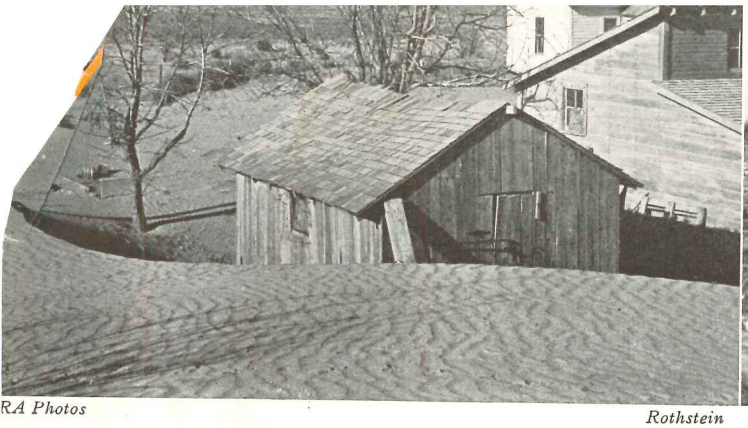
Banks go mobile. In Los Angeles the car drives in. In Buenos Aires the bank drives out.

Fairs, built and building: Paris opens late; New York builds a laboratory; Cleveland has Billy Rose.

Frank Lloyd Wright "marries" concrete and steel in a new way and shows Wisconsin that there'll be no divorce.

On the campus. New products. New trade literature. Announcements.

ARCHITECTURAL Record



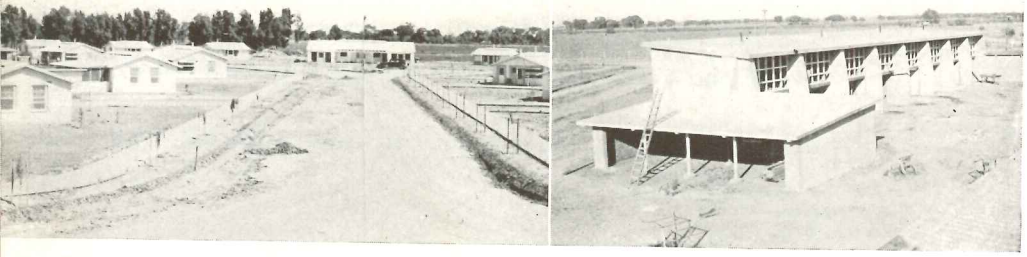
RA Photos

Rothstein

Lange

ON THE HOUSING FRONT: UNCLE SAM HOUSES THE MIGRANT WORKERS

1. ***LABOR CAMPS: Not architecture—yet; but better than the slums they replace.***



2. ***PART-TIME FARMS: Neatly planned communities for those whose work is seasonal.***

3. ***FULL-TIME FARMS: Closest kin to RA's projects elsewhere, these are complete and permanent communities.***

THE PROBLEMS which confront the Resettlement Administration are necessarily sectional—the tenant farmer in the South, the "Dust Bowl" refugee in the Middle West, or isolated groups elsewhere, hopelessly farming submarginal land. In the Far West, the major problem is that of agricultural labor. California and Arizona have developed an industrialized agriculture requiring a vast army of skilled and unskilled workers. But as this employment is seasonal in character, the laborer—unless he has other means of subsistence—must pack up his family and goods and follow the crops.

To RA's planning staff this program presented a highly complex task. Not only are conditions such as to set a premium on both time and money, but varying degrees of mobility, and very special problems of climate and geography, demanded nothing less than new standards in architecture and community-planning.

1. **Migratory Labor Camps:** Completely temporary, designed only to correct the appalling health and sanitary conditions of the Southwest's "rural slums," these communities are usually tent cities, with a semi-permanent nucleus of clinic, baths and laundries, community center, etc.
2. **Part-time Farms:** Planned communities of detached or group housing with small individual plots. These communities are closely integrated around a center (utilities—especially water which comes only from deep wells—make "open" planning out of the question) which provides for group activities of all sorts—sports, meetings, nurseries, etc.
3. **Full-time Farms:** These most closely resemble the RA projects elsewhere, except for characteristics imposed by the climate. In complete communities of permanent detached houses on 20 to 40-acre farms, the houses are notable for their fresh, simple design and honest construction.

ON THE HOUSING FRONT

10,000 Petition Congress

THE Wagner-Steagall housing bill now pending in Congress would set up a $1,000,000,000 loan fund to finance municipally built and managed housing projects over a four-year period. The government would contribute $50,000,000 in subsidies, and loans would be repayable in sixty years. Indorsed by such groups as the N.A.H.O. and A.I.A., the bill is regarded as the only encouraging factor on the housing horizon. A petition for the passage of the bill signed by 10,000 persons has been sent to Congress. Senator Wagner estimates that his bill would result in construction of 375,000 new dwelling units, with rents of $5 to $7 a room.

That such a program of building would only scratch the surface of the country's housing needs is borne out by N.A.H.O. figures, which estimate that 7,000,000 new dwelling units are required by 1945. The American Federation of Labor places the need at 13,000,000. Vacancy rates have dropped 75% since 1933 in such cities as San Diego, Des Moines, San Antonio, and Seattle. In Pontiac, Mich., the shortage of apartments has been so great that tent colonies have sprung up in the past few months. Less than one per cent vacancy of desirable quarters exists in many cities, says Joseph W. Catherine, Vice President of the National Association of Real Estate Boards.

Low Incomes Buy Houses, Too

WAGE EARNERS are home owners even when their incomes do not exceed $1,750 yearly, according to figures based on a survey of 28,520 Chicago nonrelief white families. From the $1,750 income class up, the proportion of home owners among wage earners is higher than among clerical, business or professional groups. Home ownership increases with increase in family income. The low-income group which prefers home ownership to renting represents a sizable market for low-cost dwelling units.

New York's Two Plans

NEW YORK City's housing situation is confronted by two major propositions—one to buy direct old-law tenements, the other to rent them at $1 a year. The first plan involves a long-range purchase of buildings. Under the second proposal, tenements would be rented for a period of three years at an annual rent of $1, rehabilitated, and then turned back to their landlords. That this plan would increase rents beyond the means of low-income families, and cost the city millions of dollars in subsidies to tenement-owning savings banks, is the basis of opposition on the part of the City-Wide Tenants Council which represents fifteen groups. "The proposal to rent slums at $1 a year and repair them with ERB funds is a sham move on the part of politicians to milk the taxpayers," said the Council. "The slum dweller could not possibly profit by this plan."

Life Insurance for Houses, Now

LIFE insurance for buildings is now a legal procedure in New York State. One company already is in process of formation. New only in this country, this theory of insurance uses established mortality tables for building, machinery or equipment, on which premiums are based. Under this system insured tenements, whose owners cannot modernize them because of increased rents, could collect insurance, tear down the buildings and replace them.

To Promote Home Ownership

THE "Home Builders Guild," newly formed body of the Land Developers and Home Builders Division of the National Association of Real Estate Boards, will try to reduce residential building costs and thus make the idea of home ownership more attractive. As a step toward this goal, purchase-pooling and other cooperative efforts will be undertaken and conferences with material manufacturers will be held.

Will Guard "Public Interest"

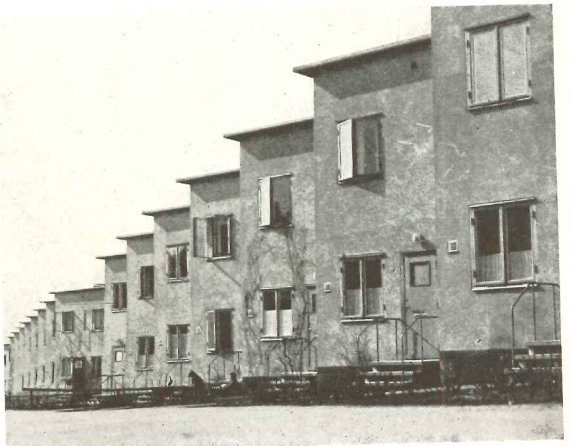
THE Vigilance Committee of the Construction Industry was recently formed to "protect the public from shoddy and dishonest construction and to safeguard the home buyer and investor." After eight months of research the vigilantes feel that the professionalization of construction and the elevation of its standards so as to produce safe and honest buildings is within easy reach. Committee consists of architects, engineers, jobbers, contractors, insurance and real estate men and bankers.

Arctic Architecture

NORTH POLE architecture, now in the earliest stages, has developed a house which weighs only eighty pounds and is weathertight. The hut has a duralumin frame over which is stretched rubberized cloth, painted black for visibility to aviators and to absorb the sun's heat. A wall of air cushions provides insulation. The whole is then covered by specially treated canvas. The interior finish is fur and eiderdown. Four Soviet scientists and a dog will live in this specially designed dwelling for a year while they gather scientific information. (For earlier arctic models see Byrd; Record, July 1934.)

Globe

HOW TO USE GAS IN SLUM CLEARANCE. This recent project in London demonstrates not only the practicability of gas as a fuel but also of gas works as a site. 64 fireproof flats built around a nursery school on the site of a former gas tank.



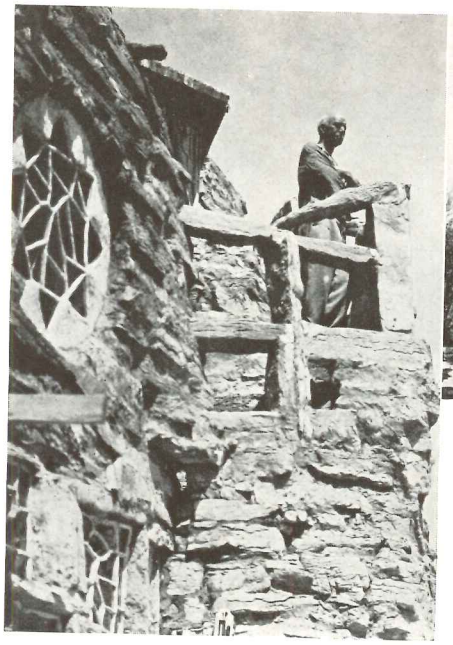
SWEDEN IS A DEMOCRATIC COUNTRY. In one of this row of 3-room houses recently erected in Stockholm dwells none other than the Swedish Prime Minister.

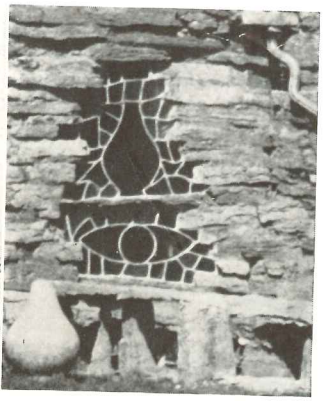
PWA ALSO CAN ADAPT ITSELF to local conditions and traditions. 6-story apartments in Harlem give way to 1- and 2-story neo-Spanish row houses in Florida. Latest PWA project to reach conclusion is Durkeeville, near Jacksonville, Florida.

ON THE HOUSING FRONT

PREFABRICATION MOVES ON IN THE Midwest. The Cape Cod model (above) is all-steel arc-welded on the job, while the Regency was completely fabricated in the factory, trucked to the site. (For earlier Midwestern "truckable" houses see March 1937, page BT36.)

FOR BUILDING DESIGNERS PLAGUED with the limitations involved in remodeling old tenements on interior lots, Egmont Merseberger, Hoboken architect, has an idea: Enlarge glass areas in outside walls as much as structure will permit and set standard windows in the glass-block panel; replan interior so that all main internal partitions are likewise glass block. Shown (right above) is one of Hoboken's "railroad flats" before Mr. Merseberger took hold; (left above) the same when finished; (lower right) one of his interior partitions. Result: rents rose from $30 to $92 per floor.





HIGH IN UP-STATE NEW YORK'S HELderberg Mountains is this home of the elderly potter and once famous socialist, Bouck White. Starting several years ago with his bare hands and an ample supply of the limestone of the region, Mr. White evolved his own design. The details—windows, rainspouts, pottery—are both his design and his handiwork. Seen at left is Mr. White atop a tower which he no longer feels is adequate and which he is now supplementing with a "lighthouse." Planned to reach 150', "lighthouse" will be of same general design and construction as main house. On it every night will burn a bonfire.

NEW ORLEANS REBUILDS OLD MARKET

CONSTRUCTION in the French Quarter has always offered problems of "style" to New Orleans architects; and they have not always been happily solved. New Orleans' historic French Market now stands rebuilt for modern use, but in its original form and style—a silent rebuke to many imposing new structures

No city has a tougher nut to crack than New Orleans in this ticklish question of restoration. For the first twenty years of the century, rapid extension of the business district threatened to engulf the Quarter with the then "modern" styles. Now, in revulsion against white marble Renaissance, the pendulum swings back. Even to its lampposts, the Quarter insists on its own Colonial idiom, 1800 A.D.

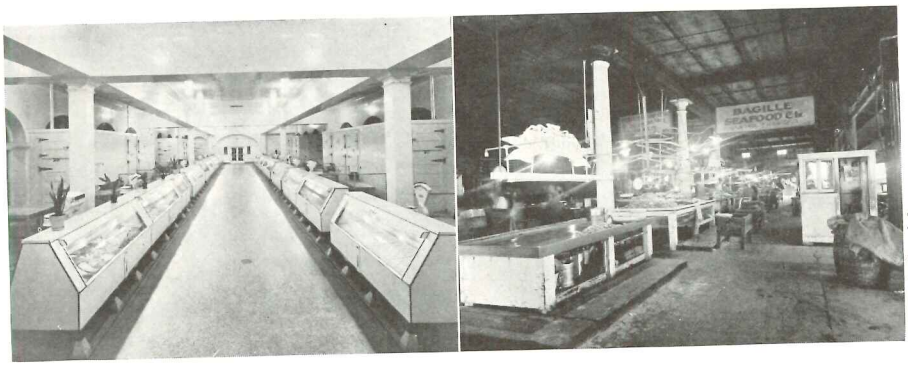
which have invaded the Quarter. Only those parts of the market which could not be restored, were rebuilt. Architect Sam Stone, Jr., found that century-old cypress timbers used in the Meat Market building were still sound, and relatively few changes were necessary. Air conditioning and screens have done away with the smells, and sanitary display cases have replaced the wooden tables with their heaps of sea food. Open arcades of squat Doric Columns surround most of the buildings, as in the old Market. The coffee shop, which once consisted of a huge copper kettle presided over by a mulatto woman, has been remodeled, and is at the south end of this building.

Located near the Place d'Armes, where stands St. Louis' Cathedral, the first market offered its bargains once a week to thrifty churchgoers. Soon the site of these transactions became permanent. In 1791 the Spanish Governor ordered the construction of a roof over these improvised markets. Then in 1812, not war, but a hurricane completely demolished the shelter. One year later an open market was built with heavy masonry arches and a slate-covered timber roof, known as "Les Halles des Boncheries." This is the present remodeled Meat Market. Other buildings were erected in subsequent years, until ten years ago, the French Market Corporation was organized.

Courtesy New Orleans Ass'n of Commerce

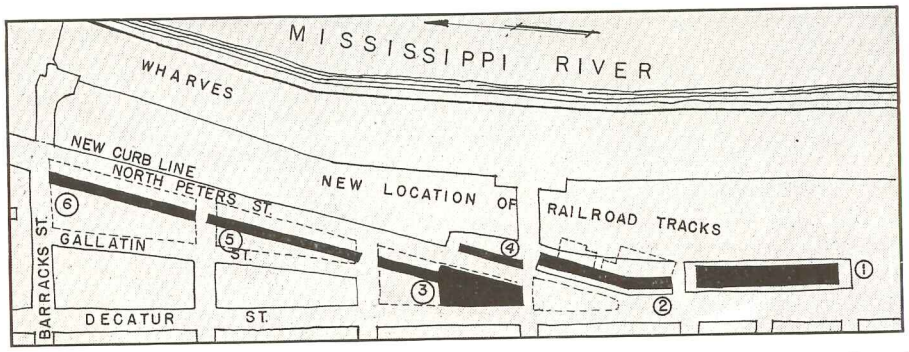
H. T. Harney

EXTERNALLY, AT LEAST, THE NEW structures are closely patterned after the old. The new fruit-and-vegetable unit (above) has the same squat, plastered columns, the same tile roof, as the old building (right). But concealed within are air conditioning, modern lighting and refrigeration.



F. A. McDaniels

MEAT AND FISH—after and before restoration.



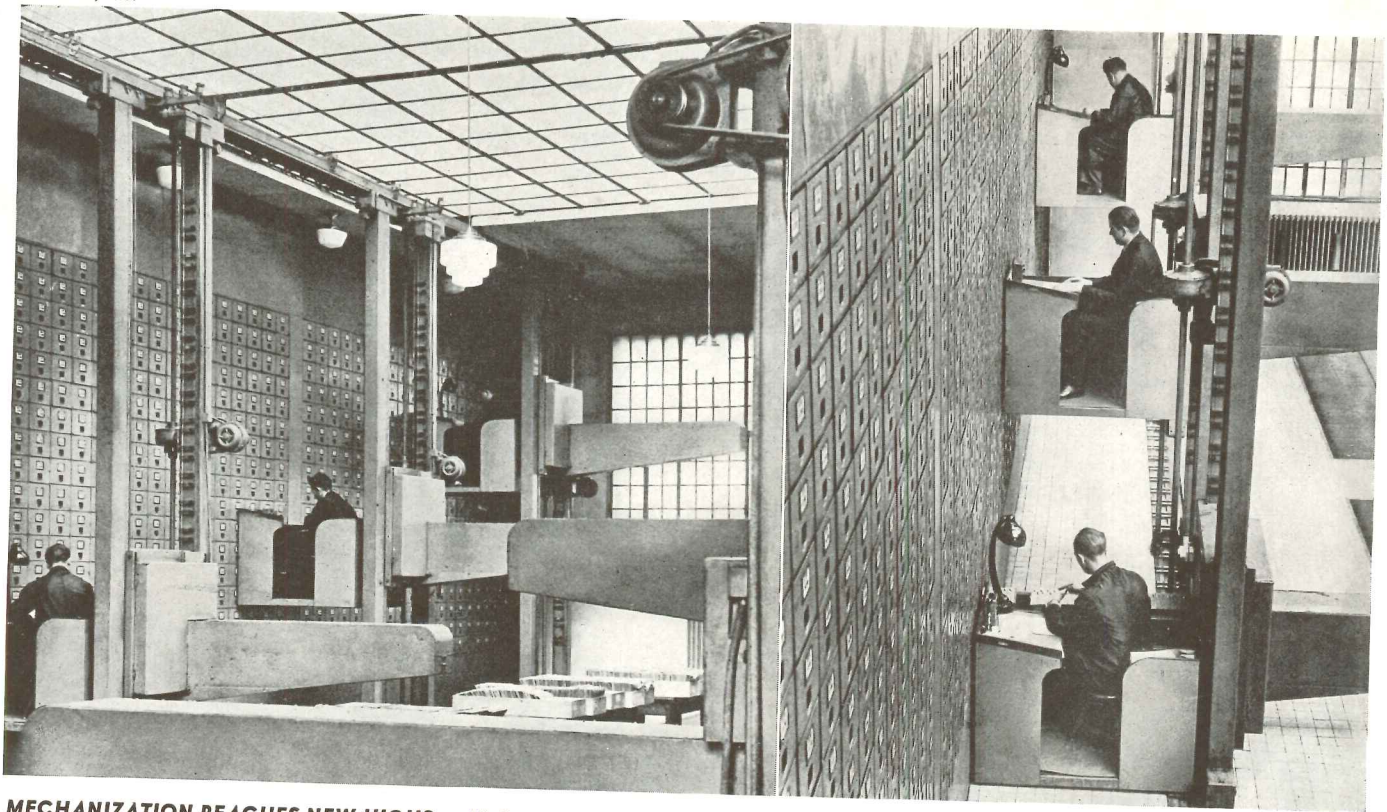
CHANGES IN THE LEVEE NECESSITATED relocation of the Market and railroad lines. Shown in dotted lines are demolished buildings; in black, new ones.

MECHANIZATION HITS GROCERY STORE, FILING ROOMS

Wide World

***WITH TWO FORTUNES IN GROCERIES** won and lost, Clarence Saunders, of "Piggly Wiggly" fame, is caught here in his new "Keedoozle" grocery. Built somewhat along the lines of the "Automat" cafeterias, the gray-haired executive's establishment is quite highly mechanized. A fiber rod about seven inches long with a knob on the end containing a red light, shown in Saunders' hands, is the "key" to his store. With it a customer walks past glass-incased shelves and inserts it into a corresponding hole at the side of the item he has selected. Her window shopping over, she returns to the cashier and surrenders the "key." Then, for the final act, the cashier inserts the "key" into another hole which releases all the contacts the customer has made. The articles are conveyed to a packing clerk by a traveling belt while an electrically-operated adding machine totals the cost—and the customer pays.*

Pictures, Inc.



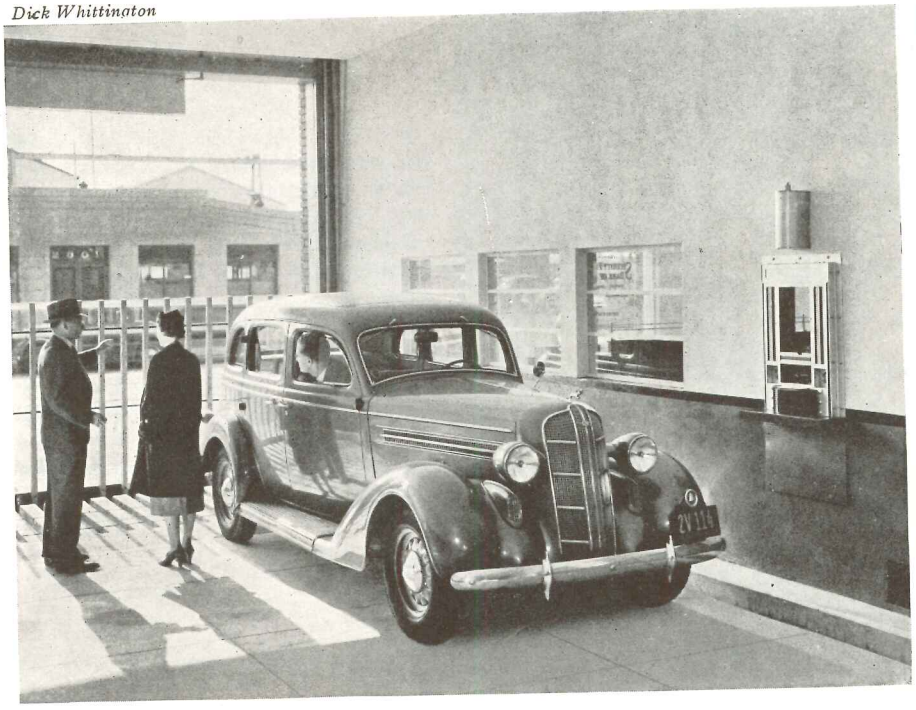
***MECHANIZATION REACHES NEW HIGHS** in the letter file of the Central Social Insurance Institution at Prague, Czechoslovakia, where the desks go to the filing cabinets instead of the reverse. This file—world's largest—consists of 3,000 drawers, each 10 feet long. The cabinets are arranged in tiers 16 feet high, reaching from floor to ceiling, covering about 4,000 square feet. In the rolled-steel framework are steel drawers equipped with roller bearings.*

Because of the size of the cabinets, special desks were built for those working at the file. These are in essence electrically - operated elevators, controlled by a touch of a button, which rise or descend, move right or left, and stop before the drawer desired. The drawers, too, are opened and shut electrically. This installation now in use enables 20 employees to do the work which, with the old-fashioned vertical file, would require 400 workers.

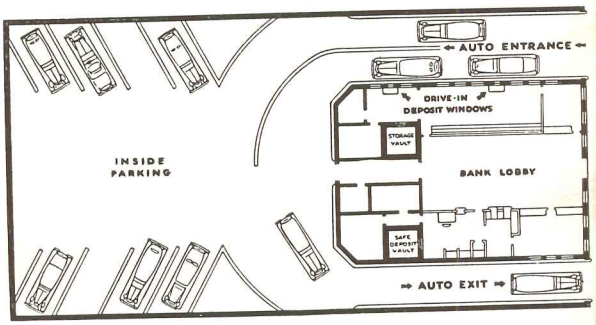
INCREASED MOBILITY ALTERS BUILDING DESIGN

FROM A MODEST BEGINNING IN A drug store or garage, the nation's bus stations have become increasingly ambitious, until they now have all the facilities of the average railroad station. They have the advantage of publicly-financed and maintained rights-of-way enabling them usually to occupy a central location in a given city. Since visibility is important, design of these two stations quite properly revolves around the sign. T. W. Lamb designed the New York structure (left); Wischmeyer, Arrasmith and Elswich designed Louisville station, T. W. Lamb, consulting.

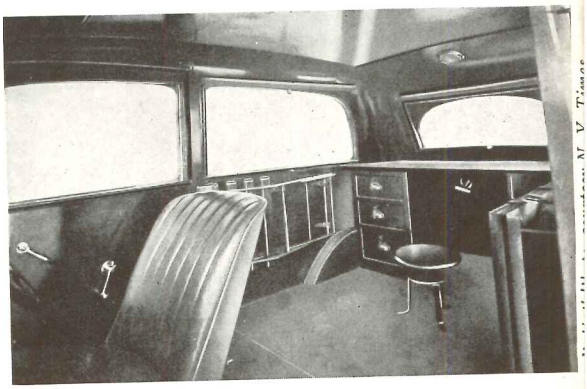
Dick Whittington



NEXT TO DETROIT THE WORLD'S MOST motorized city, Los Angeles has long reflected the high degree of mobility in Los Angeles life. Recently opened there is its latest contribution to the motorist — a drive-in bank. Located in a rapidly expanding industrial area and designed to meet the specialized needs of its customers, the new bank occupies a reconstructed garage. Noteworthy are its wickets of the "bandit-barrier" type developed in the Middle West (steel and bullet-proof glass). There is no opening through which a bandit may force an entrance. At the level of the deal plate is a revolving circular drum through which the customer makes his deposit. This is operated by the teller. Special sound grilles permit customer and teller to converse in normal tones.

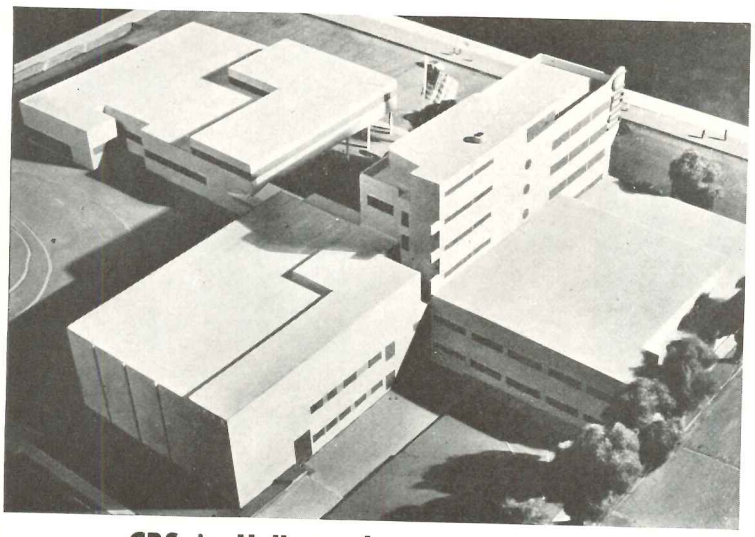


UNLIKE MOST BANKS, THE "LOBBY" of the Drive-In bank is planned for easy movement and parking of cars.



BUT IN ARGENTINA, THE PROBLEM IS reversed: and a big Buenos Aires bank recently purchased this specially-designed mobile "bank" to carry on business in the hinterland, where banks are scarce, autos scarcer.

"MUSIC IN THE AIR" KEEPS BUILDING DESIGNERS STEPPING



CBS in Hollywood

W. P. Woodcock

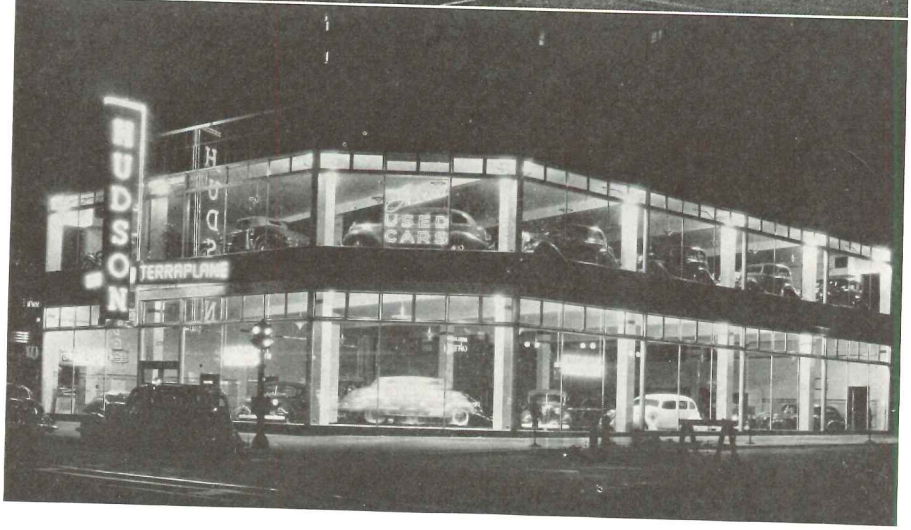
NBC in Hollywood

NO BUILDING TYPE IS MORE HAUNTED by the specter of obsolescence than a broadcasting station. Constant developments in acoustics, lighting, atmospheric control — as well as in the equipment itself—demand the greatest flexibility in building design. And Hollywood, one of the world's broadcasting centers, feels this most acutely. Construction work has begun on the new Hollywood studios which William Lescaze designed for CBS. The model (above, left) shows a structure laid out to meet the manifold needs of modern broadcasting. MEANWHILE, NBC IS CONTEMPLATING expansion of a structure (above, right) built only a year ago, now inadequate for its needs.

LIGHT PLAYS IMPORTANT ROLE IN COMMERCIAL WORK

Courtesy The Magazine of Light

ALL CATS MAY BE GRAY AT NIGHT but modern commercial buildings can no longer afford such anonymity. Illumination has become an integral part of building design, both within and (more recently) without. This new department store in suburban Chicago has both; besides high standards of interior illumination, the long horizontal bands of glass brick are equipped with continuous horizontal and vertical light troughs which flood them from within. Note also marquee, show windows and signs.



Lazarnick

THERE WAS A TIME WHEN SHOWrooms were more notable for external ornament than internal visibility; but this new auto "salon" in New York City is not one of them. The showroom was designed to display the maximum number of cars without congestion; and the continuous windows are as free from obstruction as possible, thus permitting the maximum visibility by day or by night.

PELICAN STATE BUILDS TWO STADIA, ONE PAY-AS-YOU-GO

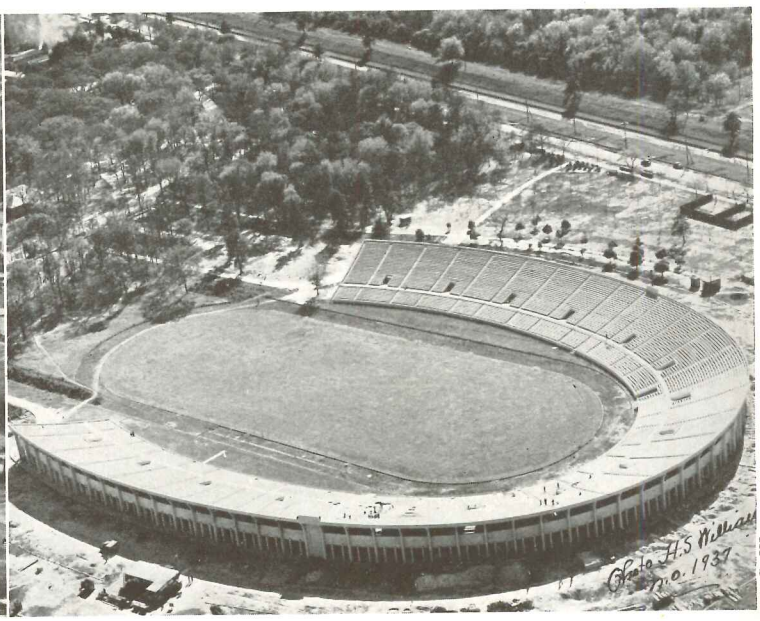


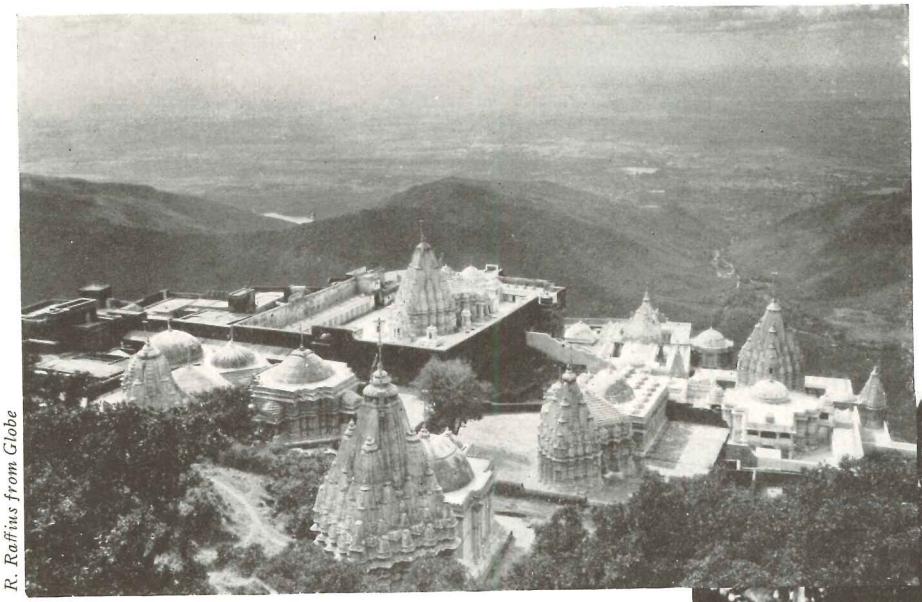
Photo by Edward Agnelly, © 1936 by the Times-Picayune Publ. Co.

Courtesy Lone Star Cement Corp.

KILLING TWO BIRDS WITH ONE STONE, *Louisiana State University recently completed this structure which combines stadium and dormitory into a solvent whole. Because the dormitory houses 1,000 men in its 499 rooms (at a rent of $108,000 per school year), L.S.U.'s athletic association was able to provide seating space for 46,000 persons on the "roof." The New Orleans architects, Weiss, Dreyfous and Seiferth, designed the structure so that the dormitory—entirely isolated from the stadium—consists of a 5-story strip of rooms served by interior corridors around the periphery. The stadium proper has its own entrances, dressing rooms, toilets, etc. The entire structure is of reinforced concrete.*

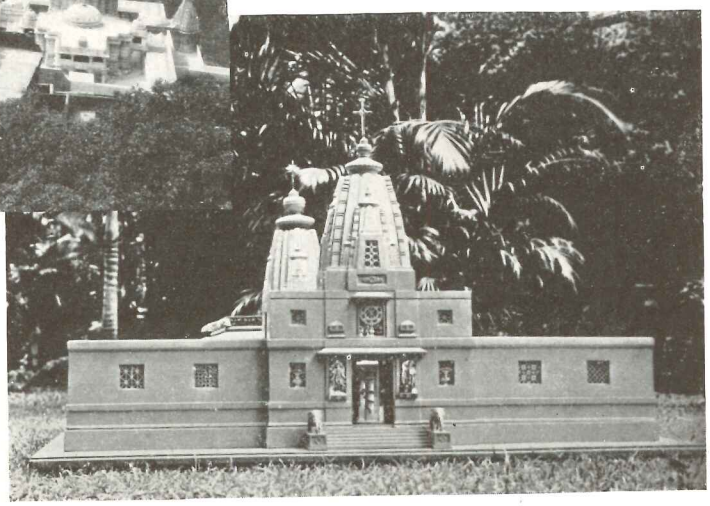
ANOTHER W. D. & S. STADIUM IS THAT *recently completed in New Orleans' City Park. Designed for track sports as well as football, this stadium is smaller, more simple and oval in plan.*

HISTORY REPEATS ITSELF IN INDIAN CHURCH-BUILDING



R. Raffius from Globe

THE REMARKABLE ADAPABILITY OF *Catholic architecture is nowhere better illustrated than in this model for a new Indian church (below) and its ancient prototype, the temples of Junaghar in southwestern India (left). Not only the style but the plan itself—inclosed court with altar protected by a second dome—flows straight from Indian temple building.*



Globe

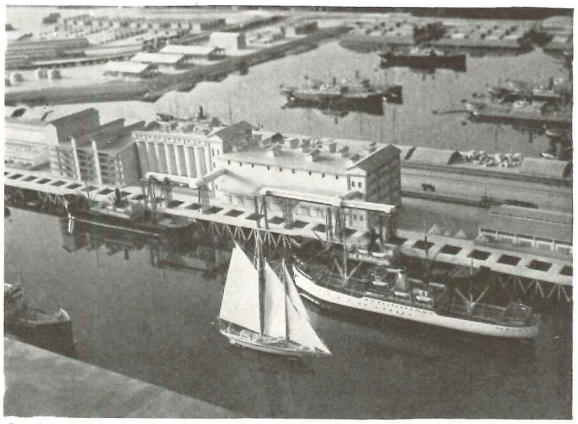
NOT ONE BUT SIXTEEN SEPARATE TEMPLES, THE BE- *wildering magnificence of Junaghar springs from its long and varied history—250 B.C. to the present. Using the pillar and lintel elsewhere, Junaghar architects built their domes with horizontal corbelling, usually closing the ultimate gap at the top with a hanging pendant. Not truly radiating voussoirs, the haunches of these corbels were anchored in place by the heavy pyramidal mass of the exterior of the dome, which was elaborately carved.*

TWO FAIRS OPEN, ONE LATE: NEW YORK TESTS MATERIALS

Wide World

***SURROUNDED BY FOREIGN DIGNITARIES,** Premier Blum and party inaugurate the Paris International Exposition. Seen here on the approach of the magnificent new Trocadero, the party made a formal tour of inspection of the entire exposition. Draped tricolor did its best to cover the fact that some of the construction—much of which was unfinished—would not be complete until August. In spite of this, the Exposition is drawing record crowds.*

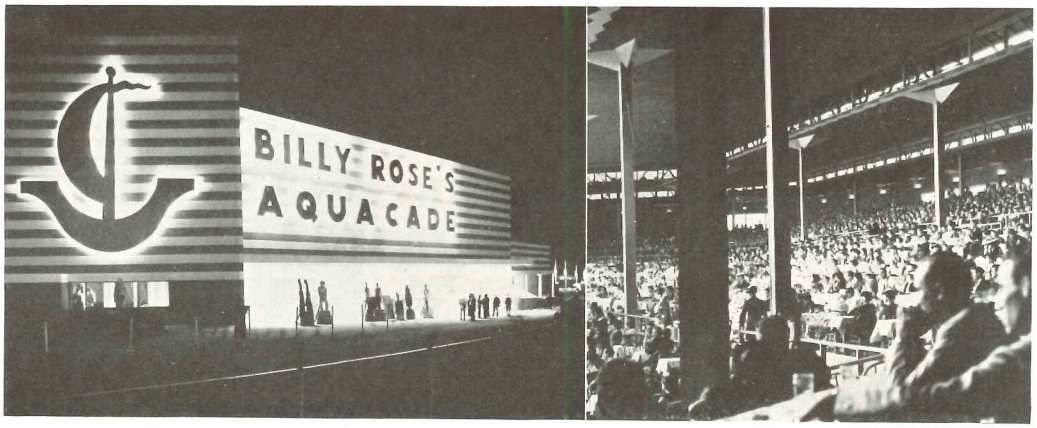
***THIS MODEL OF LENINGRAD'S FREIGHT** port is from the Soviet building at the Paris Fair. It is part of a large exhibit which deals with present work and future plans of the Soviet transportation industry.*



Sovfoto

***IN ALREADY SHAKY FLUSHING MEADOWS,** New York World's Fair engineers have contrived a test building where foundations can be dropped, walls made to settle, etc. Purpose: To test under acid conditions the physical characteristics of various structural and finish materials to be employed in Fair structures. The Test Building also houses a laboratory.*

***TWO THOUSAND DINNER** guests and 3,000 additional spectators are accommodated at one time in the huge marine theater-restaurant at Cleveland's Great Lakes Exposition. Entirely covered by a ventilated roof, the structure stands on piling. A band of water separates the stage from the diners.*



ON THE CAMPUS

City Planning Up

EVIDENCE of the growing importance of City Planning study is the fact that special curricula in this subject have been announced by several universities. The School of Architecture of Massachusetts Institute of Technology will this fall inaugurate a new six-year course in City Planning Practice which will combine the realities of field experience with professional training. Prof. Frederick J. Adams will head the new division. The course in city planning practice, leading to the degree of Master in City Planning, will follow the procedure adopted for the Institute's cooperative courses in electrical, chemical and mechanical engineering, and marine transportation. The curriculum of the course includes a year of varied experience in the offices of local, state, and regional planning boards. Among the authorities associated in conducting the courses will be Sir Raymond Unwin, Lecturer in City Planning and Housing; Joseph T. Woodruff, Assistant Professor of Regional Planning, Dr. Thomas Adams, Research Consultant in City Planning; Marjorie S. Cautley, Lecturer in Landscape Design; William Stanley Parker, Lecturer in Housing; and Ralph Eberlin, Lecturer in Site Planning and Construction. Visiting lecturers will include Russell V. Black, Clarence S. Stein, Jay Downer and Albert Mayer.

The Harvard Graduate School of City Planning has been reorganized as the Department of Regional Planning, coordinate with the Departments of Architecture and Landscape Architecture, in the Harvard Graduate School of Design. It is intended that students in regional planning shall have effective access not only to instruction in engineering, but also to instruction in economics, government, sociology, etc. Eight courses in Regional Planning will be offered. Courses in engineering include highway engineering, water supply and sewerage. In addition there will be a course in municipal government; one in principles of economics, and in introduction to economic statistics.

Columbia Starts New Laboratory

A LABORATORY for pure research in design correlation, unique in architectural education, will be established in the School of Architecture of Columbia University at the beginning of the next academic year. Frederick J. Kiesler of New York will direct the laboratory, which will operate in alliance with New York City workshops and with laboratories for technological, sociological, and biotechnical research. The executed designs of students will be housed in a new museum illustrating contemporary development. General objectives are to define an approach to progressive industrial design; to correlate design to the physical and psychological needs of the human being; to develop new standards for small and large-scale manufacturing, in accordance with existing and projected industrial equipment in the United States.

Cooper, Salvatore to Columbia

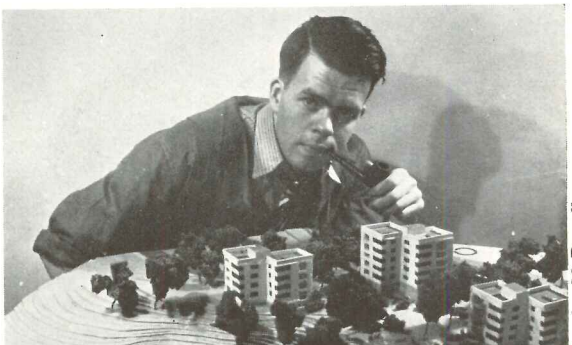
MARIO COOPER, magazine illustrator and former advertising art director, and Ettore Salvatore, specialist in plaster casting, have been appointed to the art teaching staff of Columbia University. Mr. Cooper, who studied at the Otis Art Institute, Chouinard School of Art, Los Angeles, and at the Grand Central Art School in New York, will have charge of courses in advertising art and illustration. Mr. Salvatore will supervise the casting work of students in sculpture. He studied at the Beaux-Arts Institute of Design, Cooper Union, and the Art Student's League.

Syracuse Offers 5-Year Landscaping

THE DEPARTMENT of Architecture of Syracuse University announces the inauguration of a five-year curriculum leading to the degree of Bachelor of Landscape Architecture. An effort will be made to provide fundamental courses which will round out the student, prepare him for a successful professional career, and aid him in serving efficiently phases of both professions. Technical courses follow the basic cultural courses. In the fifth year experts from other departments of the University staff, practicing architects, landscape architects, engineers, and others from the professional and business field particularly qualified in special problems, will be brought to the classroom for advice, criticism, and direction.

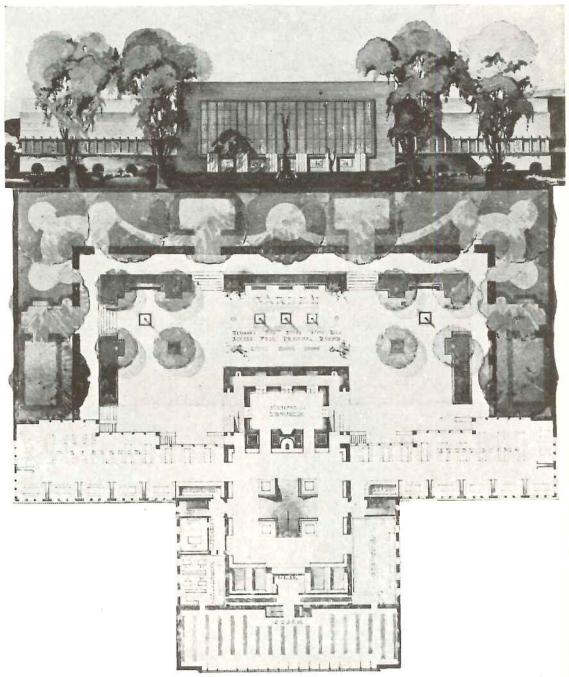
IES Prizes Awarded

WINNER OF a $300 first prize last month was C. Preston Andrade of the University of Pennsylvania, in the annual Illuminating Engineering Society-Beaux Arts Institute of Design competition. Second and third prizes of $200 and $100 respectively went to Raleigh T. Daniell of Catholic University, and Robert B. Little of the University of Illinois. The problem this year was to design a hotel interior which would, by decoration and illumination, serve three different uses and create a different atmosphere for each: convention room; ballroom for small and private social gatherings; and banquet hall.



Photos by McDonnell

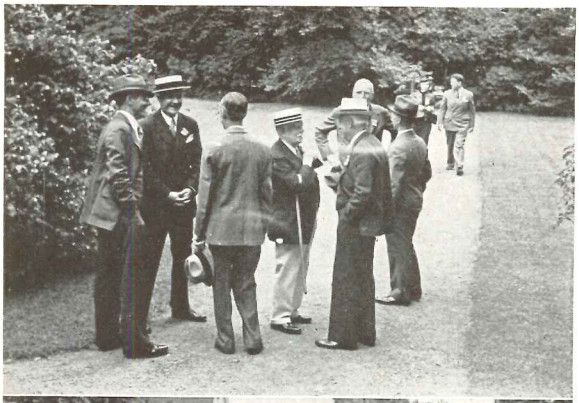
IN A COMPETITION FOR DESIGN of a proposed housing development in Fieldston, New York, for Teachers College faculty, Logan Chappell, Macon, Ga., took first place. Chappell received B. Arch. and M. Arch. degrees from Columbia. During 1936-37 he was University Fellow in Town Planning. Robert Murray, New York City, received second place. He holds both B. Arch and M. Arch. from Columbia.

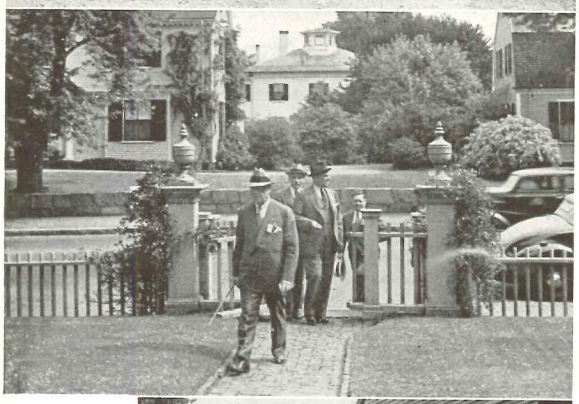


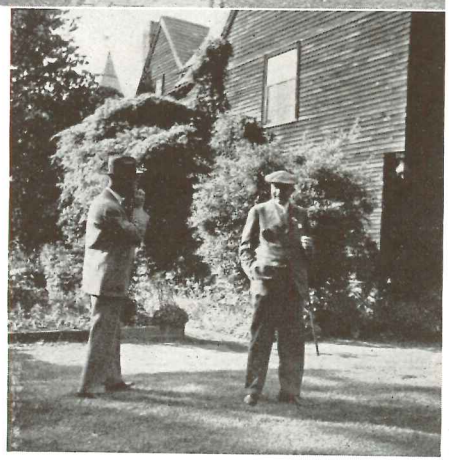
MATHEW LAPOTA of Maywood, Illinois, is the winner of the Lebrun traveling scholarship of $1,400. The competition subject was "A Library for a Woman's College in the East." Lapota is a graduate of the University of Illinois.

A. I. A. CONVENES IN BOSTON IN 69th SESSION

MEETING last month in Boston, the American Institute of Architects held a leisurely 69th Convention, dividing its time about equally between business and touring the June countryside. During the business sessions, A.I.A. members were pleased to learn that the Institute showed "a vastly improved financial condition" as a result of increased revenues from membership fees and other sources during the past year. They discussed a wide variety of subjects, accepted many Committee reports, most significant of which were those on Housing, Education and Public Works.







FOR RELAXATION THERE WERE GARDEN parties, clambakes, historic houses. Seen above (top) is a group at Cambridge's Lowell House; at Dean Emerson's Cambridge house (center) for tea; one delegate poses, another snaps his picture, in the garden of the famous "House of Seven Gables" at Salem, Mass.

Incoming ***Outgoing***

Former President Stephen F. Voorhees, of New York, yielded the chair to President-elect Charles D. Maginnis, Boston's own church designer.

Three ways of getting housing

Most important was A.I.A.'s progressive stand on housing. Under the leadership of Walter R. McCormack, Cleveland houser, the Committee on Housing submitted a fairly detailed analysis of the housing situation. Urging support of the now pending Wagner-Steagall Low-Rent Housing Act, the Committee pointed to three remedies for the present housing crisis: to increase the income of the American people to the point where they can pay the rents resulting from the present cost of building; to reduce the cost of building to the point where the ability to pay would enable a large number of people to secure satisfactory living accommodations; to partially bridge the gap by subsidy.

The Housing Committee submitted a program which urged:

A national real property inventory to determine just what the country's housing needs really are.

Establishment of mandatory minimum standards of housing in each city.

A grant of $200,000 to the U. S. Department of Commerce to find cheaper ways of producing houses and a new technological approach to construction.

Appointment of a national committee to investigate the results of completed units in the government's slum-clearance and low-rent housing program.

Cooperation with the national housing authority in working out a program of basic principles for the national housing movement and study of the relation of housing to city and regional planning.

Organization of local housing committees.

Meeks, Gropius on Education

Best-attended of all sessions was that of the Committee on Architectural Education, at which spoke Yale's Dean Everett Meeks and Harvard's new Professor Walter Gropius. Attacking the "Foreign Influence on Architectural Education in America," Dean Meeks blamed the World War for the "defeatism" which produced the post-war design in France and Germany. But "the school of the ugly," the "gas pipe and cardboard" of modernism is already old-fashioned, according to Dean Meeks; "out of the cataclysm," said he, "is coming a very interesting and—it must be acknowledged—sane point of view towards stylism."

Professor Gropius, Europe's leading modernist, made no direct reference to the style; instead confined himself largely to advantages of manual training in architectural schools. "The basis of preliminary training," he said, "should be a comprehensive course introducing the pupil to proportion and scale, rhythm, color, light and shade, and allowing him at the same time to pass through every stage of primitive experience with materials and tools of all kinds in workshops."

Recommends new method of selection

The Committee on Public Works found it "evident that certain functions of the building construction work of the Procurement Division can only be performed by a permanent organization familiar with the laws, regulations and requirements of the Treasury and other Federal agencies. . . . Under normal conditions the personnel required to conduct these functions becomes highly efficient in the routine work involved." However, the Committee felt that the architect in private practice is often "able to produce a work of greater freedom and virility not always obtainable in a large, permanent organization." It therefore recommended, on all major jobs, that a private architect be called in. The Committee further recommended a 5-man board to draw up a list of eligibles from which direct selection could be made.

Succeeding Stephen F. Voorhees to the A.I.A. presidency is Charles D. Maginnis. Other officers elected were Frederick H. Meyer of San Francisco, vice president; Charles T. Ingham of Pittsburgh, secretary, and Edwin Bergstrom of Los Angeles, treasurer.

From Londonderry, Ireland, in 1885 came ecclesiastic Charles D. Maginnis. Holder of many medals and honorary degrees, Mr. Maginnis is a member of the Boston firm of Maginnis and Walsh and designer of a number of Catholic churches and institutions throughout the country.

Producers' Council Also in Boston

CONCURRENT with the A.I.A. convention in Boston last month, was the 14th Annual Meeting of the Producers' Council. Principal feature of the session was the presentation of a plan for an educational and promotional campaign to be carried on by the Producers'

Affiliate of the A.I.A., the Producers' Council is composed of forty-four of the principal building material and equipment manufacturers in the United States. For fifteen years it has been engaged in developing higher standards in the building industry, better understanding between its many divergent elements, and the furtherance of a more intelligent use of materials.

Council and to take over the previous activities of the Manufacturers' Housing Promotion Council. As outlined, this program, which is contingent upon raising a $50,000 budget from voluntary subscriptions of building product manufacturers, would consist of several lines of activities.

R.I.B.A. Studies Employee Architects

THE ROYAL Institute of British Architects, "appropriately at the beginning of a reign, is revising its constitution," according to a recent issue of *The Architect's Journal*. Indorsing the move editorially, the Journal goes on to point out that the purpose of R.I.B.A. falls naturally into two divisions: "Narrowly, the R.I.B.A. exists to protect and consolidate the profession, to maintain its standards of qualification and conduct, to increase its prestige and to express its opinion on immediate questions where its advice is asked or the interests of members are affected. The wider purpose of the R.I.B.A. is to look ahead in a way architects cannot do individually and to make its preparations accordingly.

"A first example is the changing status of the architect. With the expansion of local government activities more and more architects are becoming salaried men. In this matter the R.I.B.A. has made the mistake of thinking that what the majority of its members did not want would not take place. And by not exerting at the outset all its influence to secure good conditions for salaried architects, it has allowed their prestige and conditions of work to become established on a level which will take years to alter.

"The next and overwhelmingly more important example is that of town planning, together with its subdivisions of the location of industry and the surroundings of work and education. In 1909 most architects thought town planning a bore, many still think so, and their representatives at the R.I.B.A. have only too faithfully acted on their views.

"Town planning, however, has continued; with the result that architects are now being increasingly compelled to conform to regulations governing the size, shape and position of buildings which they had no part in drawing up and which are in most cases merely restrictive and defeatist."

Spanish Architects Adopt Wartime Program

THE PROBLEMS facing the architect in wartime have seldom been more clearly stated than in a recent issue of A.C., organ of Catalonia's G.A.T.E.-P.A.C. Indorsing S.A.C.'s support of

Although differing sharply in the past, G.A.T.E.P.A.C., an organization of younger Catalonian modernists, is now an affiliate of the larger, more conservative Syndicate of Catalonian Architects (S.A.C.)—roughly equivalent to our own A.I.A.

the Loyalist government, the magazine says: "The Syndicate is the only professional authority that we recognize and support wholeheartedly, since it is from the regulations that it has set up that the concept of what the architect should be is derived. According to the Syndicate, then, there is a great task to accomplish:

1. Rational distribution of work, obtaining for each architect the place which he should occupy according to his professional training and specialization, and not according to influence, friendship or recommendations.
2. Orientation of architectural education along the lines for which we have been fighting since the creation of our group.
3. The creation of a Section of Cultural Relations in which architects can find support for their plans.
4. Decisive action in regard to general questions of planning; intervening actively in all those questions which affect that branch of construction, in its great variety.
5. Finally a multiplicity of enormous constructive aspects which will have to impress an enormous activity on our syndicate and which will involve a profound feeling of responsibility for its directors.

"It is necessary that we follow very closely the far-reaching events through which this country is passing. It is necessary that the technicians interest themselves in social questions and accept the responsibility of the moment."

F. L. Wright Guest of U.S.S.R.

ONE of the two American architects invited by the Soviet government to attend the recent All-Union Congress of Architects, Frank Lloyd Wright was forced last month to decline an offer of an honorary degree from a Connecticut college. "In a choice between the field of action and honors for action in the past there is no question but that I must choose the field of action," Wright wrote the college in explaining his position. Best known in Europe of all American architects, Mr. Wright's "Broadacre City" has attracted wide interest in the U.S.S.R. He believes that the Soviets "see the possibilities of it and are ready to spend some money."

FAECT Hears Wright

ON HIS way to Europe, Mr. Wright stopped in New York long enough to address the Architect's Section of

Into the C.I.O. recently went not only all 16 chapters of FAECT but also the independent Society of Structural Engineers and Draughtsmen; and negotiations for the affiliation of the Society of Designing Engineers of Michigan are now under way.

FAECT. Speaking on "Economic Organization and the Professional," Mr. Wright warned that economic security was all right—he would like "to see the whole country unionized to the hilt"—but that it wasn't enough. "We must have a dynamic security—a freedom which comes from within—from internal order"—as well as from without.

Of current architecture, Mr. Wright was his usual caustic self. "Any building you build is only a preliminary study for the final form. You can never achieve an ideal, but you can grow toward it. A building is an interpretation of the life of the present looking toward the future. The man who can't build a building that is 25 years ahead of his time shouldn't be allowed to build it."

CIAM in Paris, Publishes Work

IN ITS FIRST convention since 1933, the International Congress of Modern Architecture (CIAM) meets this month in Paris for its 5th Congress.

Adopted in 1929, CIAM's program of "formulating the contemporary architectural problem, presenting modern architectural concept, struggling for its concrete realization" has led to a steadily expanding scrutiny of the social and economic bases of architecture.

One of the few architectural groups in the world organized around a long-range plan of research, CIAM will this year discuss "The Functional City," exhibit four years of research work by its component national "groups."

Coincident with the Paris meeting, CIAM will publish "The Functional City"—a popular edition of its work, including its standardized analysis of twenty-eight world-cities. A much more comprehensive technical edition of the same material is planned in the near future.

SCIENCE SHORTS: NEW AIDS TO BUILDING

Courtesy The Milwaukee Journal

60 TONS WITH EASE: When Wisconsin's Industrial Commission questioned design of a column Frank Lloyd Wright intended to use in a new factory at Racine, he promptly built this sample, loaded it while the townspeople looked on. Designed to carry between 11 and 12 tons, it was loaded with 20 tons when the onlookers "retired for beer"; loading continued to 60 tons without cracking the column. Finally it was pulled down by the satisfied examiners who were interested in architect Wright's specially-designed reinforcing, which substitutes an expanded metal netting for deformed bars.

Western School has novel roof

A HOLLOW girder roof, with hollow supporting columns, has been used for the first time in a building at the Bradford Ave. School in Placentia, California. The general basis of design is similar to that used in Pacific Northwest bridges. The girders have thin web plates of varying thickness, and 6-in. top and bottom slabs. Top slabs were cast integral with the intervening roof slabs to form a horizontal diaphragm designed to transmit seismic forces to foundations by way of surrounding walls. The girders and columns form a series of five rigid-frame bents 26 ft. high, spaced 18 in. apart. The span is 77 ft. The girders carry one-fourth of the roof area, and loading over the remainder of the roof is transmitted by intermediate joists to the girders. Both girders and columns are a part of the architectural design, interior and exterior, of the building.

Inexpensive device measures air flow

AIR flow around buildings can now be studied by the building designer in his office without recourse to large and expensive machinery. A fluid-flow analyzer which is small, inexpensive and simple to operate, has been designed by H. L. Parr of Columbia University. The device consists of a wooden box divided into three compartments: an air inlet; a glass-covered chamber painted black, with shielded lights; and an air outlet. Models cut from ¼-in. rubber sheet are placed on the glass plate, and smoke produced by inserting titanium tetrachloride in a sheet copper slotted trough passes over the model. The effect obtained in this way can be photographed with a camera placed above the apparatus, with illumination from either top or bottom.

New source of "dry ice" found

SMOKING factory chimneys are potential commercial sources of "dry ice," according to Prof. R. H. McKee of Columbia University and E. A. Winter, research student, who have devised a chemical process for this conversion. The new absorption process consists of the combination of CO_2 flue gas with ammonia in the presence of water vapor. With an excess of ammonia in even a very short section of the absorption tower, virtually all CO_2 can be made to react. The ammonia present in the gas phase of the tower apparently acts as a catalyst in carrying CO_2 to a lye solution. As ammonium carbonate forms, it is dissolved into the lye, which decomposes by its alkalinity the carbonate, and frees the ammonia. The process then repeats itself continuously, and CO_2 is boiled off from the charged lye.

Base metals now electrically colored

LIGHT-FAST color, electrochemically produced and free of dyes, can be applied to practically all base metals by the recently developed Electrocolor process. Electrolytic in nature, this process gives metallic transparency as well as depth of tone and variety of shades and effects in a single bath. The range of colors made possible by the Electrocolor process is practically that of the spectrum. The finish on the metal may be of any desired character. Base metals of light shade, such as nickel-plated surfaces, finish in a lighter shade than base metals of darker color. United Chromium, Inc., exclusive licensee of Kansas City Testing Laboratory, recommends that the color plating deposit be finished with clear lacquer, because of its high resistance to corrosives and abrasives.

Porcelain-enamel bond improved

SECURE bonding of porcelain-enameled sheeting to its backing is now possible by means of a new process developed by the Porcelain Enamel and Manufacturing Company of Baltimore. Known as Pem-lox, this method eliminates warping of panels, as well as the metallic, hollow sound frequently noticed in panels not securely bonded. Porcelain enamel panels are finished on the reverse side with a pitted, crater-like surface and the cement or plastic to which it is applied fills the holes and forms a strong bond. Cement, a finer grained and hard-setting substance, is recommended as the best material for this method. Pem-lox is applied by spray, and dried and fired as with any other porcelain enamel.

Pittsburgh house uses steel planks

WHEN steel planks were used in a house in Pittsburgh erected of materials developed by the Mellon Institute of Industrial Research, subflooring was found unnecessary. These planks, of cellular construction, are two feet wide. On the upper side of the floor, concrete may be used to fill the troughs, while the under side forms a flat steel ceiling. The walls of the house are of "bonded metal," a substance developed for fastening any kind of material to steel. Other materials used are stone, wood and brick.

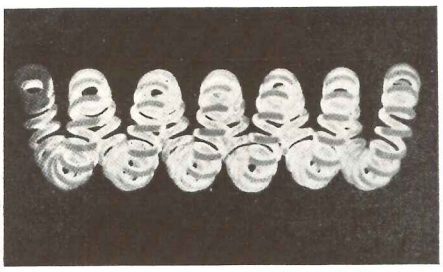
U.S.S.R. "plasticizes" wood

WOOD treated with resol compounds is now used in the U.S.S.R. where lead and metals were previously used. The treatment increases the wood's resistance to attack of hydrochloric, phosphoric and sulphuric acids, and gas mixtures with a 20% admixture of nitrous oxides. Resistance to pressure is increased 160%. The Moscow underground railway recently tested brake blocks of plasticized red-beech wood and after using them for 3,000 miles the blocks showed no trace of carbonizing.

Impregnated wood developed in Germany

WOOD impregnated with metal has properties of both its constituents in a comparatively easy and inexpensive process recently developed in Germany. Hot liquid metal is forced into dry wood under pressure. Full impregnation is not necessary; the amount is regulated according to species of wood, purpose, kind of metal and degree and duration of pressure. Fully impregnated wood has a metallic surface with a silk-like sheen. The new material can be sawn, bored, planed, nailed, turned, glued, rubbed and polished. It resists fire, climatic influences and chemicals, and lacks a tendency to split, blister, or splinter.

NEW PRODUCT NEWS



Courtesy "Science News Letter"

New filament saves 10% current

A NEW tungsten-filament lamp which gives 10% more light without using additional current has been achieved through research by Dr. Irving Langmuir of General Electric Laboratories. A "lighting bonus" amounting to $16,500,000 annually will thus be provided the public, it is claimed. The lamp consists of a tungsten filament drawn into a straight wire, 19/10,000 of an inch in diameter, wound around a molybdenum wire 355 turns to the inch, which in turn is coiled again on another molybdenum mandrel. The coil, originally 20″ long, is at the end of this process 3.4″ long. The coils must be as close together as possible without touching each other, for this would short-circuit and cause the lamp to fail immediately. The new filament is mounted in the lamp as a cross bar between two lead-in wires with one support in the center of the filament, instead of the older method of looping the filament around three supports.

General Electric Laboratories, Schenectady, New York.

Ignitron spot welding timer

SPOT WELDING of nonferrous metals, by the use of "Cupaloy," copper-chromium alloy, as welding point material, has been developed by Westinghouse Electric and Manufacturing Company. The ignitron spot welding timer makes simple such combinations as bronze to mild steel, brass to bronze or nickel silver, etc., while aluminum, lead and zinc are readily spot welded to themselves.

Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa.

Portable air cleaner

AN IMPROVED low-priced portable electric air cleaner unit is announced by Continental Motors Corporation. At a rate of 60 cu. ft. per minute, "Clean Air" can take care of one room change per hour, operating on 110 A.C. (D.C. is available at slight extra cost). The unit has a 1,000-watt heating element which can be switched on to supply warm air when necessary. Height, 13″; width, 10″; weight, 10 lb.; reservoir capacity, 4-5 qt. water.

Continental Motors Corporation, Detroit, Mich.

Nonshrinking mortar

MORTAR VOLUME can be reduced so as to increase workability and decrease the amount of excess water in mortar by the use of Truscon "Mortite." This new product helps to avoid shrinkage and consequent cracks. "Mortite," added directly to the mix, also insures integral waterproofing of the mortar, reduces lime solubles and efflorescence, and resists corrosion from smoke and gases.

The Truscon Laboratories, Detroit, Mich.

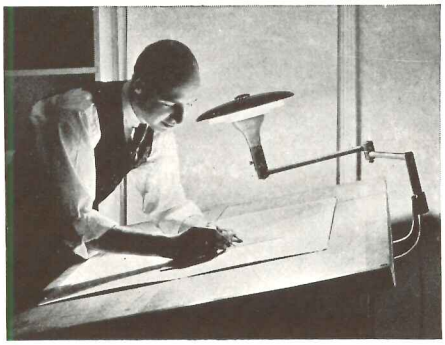
Insulating plaster

INSULATING and fire-retarding values are blended with sound-deadening properties in a new insulating plaster aggregated with mica pellets. The entire plaster load in a building is reduced 60 per cent, it is claimed. It is formulated to provide strain resistance and elasticity which insures against cracking under normal conditions.

F. E. Schundler & Co., Inc., Long Island City, N. Y. and Joliet, Ill.

Light for draftsmen

ESPECIALLY DESIGNED for drafting boards or plan tables is this Sight Light plus Lamp with an offset bracket



arm which screws to the underside of the board. Two arms with swivel joint allow light to be swung in a 4-foot circle. Other models, designed for various purposes, are also available.

The Sight Light Corporation, Essex, Conn.

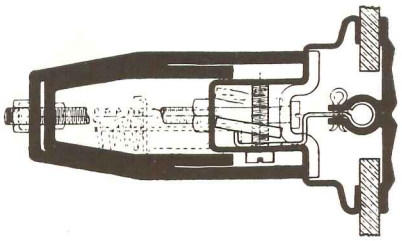
Lightweight copper roofing sheets

COPPER ROOFING sheets, weighing 10 ounces per square foot, require no heavy supporting structures. The sheets, 16″ wide by 10′ long, provide a series of panels 13″ wide when laid by the standing seam method.

The American Brass Company, Waterbury, Conn.

New holding members for glass

GLASS HOLDING members have been developed which are of the semi-extruded, nonscrew type. This kind of holding member provides resiliency



for both sides of the glass, and eliminates the necessity for back puttying. Of particular value in construction of store fronts, the new nonscrew members are expected to effect a substantial saving to building owners and insurance companies.

The Non-Pressure Glazing Company Inc., 8206 De Longpre Ave., Hollywood, Calif.

Sprayed insulation

A NEW METHOD of applying insulation to surfaces is the spraying process developed by Keasbey and Mattison Co. Application is by machine, and requires less time and labor than other methods. The company maintains a spray school to train machine operators. Sealed asbestos insulation providing 100 per cent coverage at any required thickness on any normal surface can be applied. Sprayed asbestos is especially recommended as insulation on ships.

Keasbey and Mattison Co., Ambler, Pa.

Transformer for mercury vapor lamp

A NEW HIGH-INTENSITY mercury vapor lamp transformer, used with the proper high-intensity lamps, provides greater lighting efficiency and better seeing illumination than ordinary incandescent types of lamps. Special core manufacturing methods were created which included the use of extremely thin laminations of high silicon steel. This and the oversize wire used for all coils help to insure cool operation of the functioning units. Coils are precision wound, and are of the armored insulation type, double impregnated. Universal mounting features and removable mounting legs are other features. A thread coupling is an integral part of the end plates and is ready for pendant mounting by removing end plate cover. This transformer has two positive contact universal terminal panels each mounted in a large compartment with ample space for making connections. All connections to line or lamp are made at the terminal panels; no joints or taping are required. Con-

(Continued on page 40)

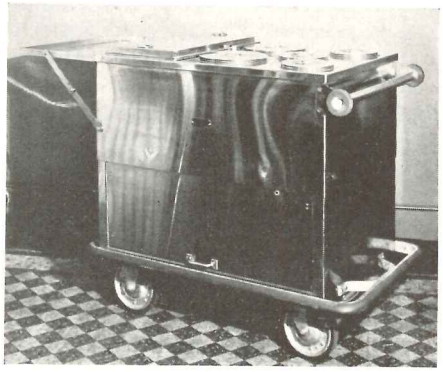
NEW PRODUCT NEWS

(Continued from page 39)

nections may be made from either or both ends of transformer, for mercury vapor lamp or mazda or for combination use of both type lamps.

The Acme Electric and Manufacturing Co., 1440 Hamilton Ave., Cleveland, Ohio.

Electric food conveyor



THIS food conveyor for hospital use is of stainless steel throughout, including wells and utensils. Food is kept at the proper temperature by an electric heating unit in the conveyor.

Prometheus Electric Corporation, 401 West 13 Street, New York City.

MARKETING NEWS

Color matching laboratory

A CORNERLESS ROOM, known as the "Tunnel of Light," is Westinghouse's new color matching laboratory. Combination incandescent-mercury lighting with an effective intensity of 114 foot-candles renders the all-white room shadowless. The 28 300-watt incandescent and 11 400-watt mercury vapor lamps are alternated, spaced, shielded so as to give maximum light efficiency. The laboratory tests pieces of porcelain enamel ware for variations in color. All pieces pass through the booth on conveyors and are matched with three commercial standards. Previous to the installation of the "Tunnel of Light" rejects were 300 per cent higher.

Committee gathers data on glass buildings

INVESTIGATIONS of glass building units at the Pittsburgh Testing Laboratories will make available data on glass structures and various types of windows. Air conditioning trends point to either entire elimination of windows, with complete dependence on artificial lighting, or better window construction which will include double, and in some cases triple, glazing. These trends and related problems will be studied. The work is being done by the Technical Advisory Committee on Air Conditioning Requirements of Glass, headed by M. L. Carr.

NEW LITERATURE

HANDBOOKS

Architecture and Applied Arts. General catalog of Architectural Book Publishing Co., Inc., 112 W. 46 Street, New York City.

Architects' and Mechanical Engineers' Book of Yeomans Pumps for use in sewage drainage, water supply, air conditioning, etc. Yeomans Brothers Company, 1433 Dayton Street, Chicago, Illinois.

A Guide for Sheet Metal Workers. U. S. Steel Corporation Subsidiaries, 434 Fifth Ave., Pittsburgh, Pa.

Comprehensive Housing Legislative Chart. Indicates status of legislation affecting public and private housing, as of March 1, 1937. National Emergency Council, 2 Lafayette Street, New York City.

Housing Index—Digest. No. 15 (918-1007). Reference guide to American and foreign housing literature. Library Section, Central Housing Committee, subcommittee on Research and Statistics, Washington, D. C., April 1, 1937.

Industrial Guide for the Selection of Wire and Cable. Anaconda Wire and Cable Company, 25 Broadway, New York City.

Labor Requirements in Lumber Production. By Bernard H. Topkis. Serial No. R 529, from the Monthly Labor Review (May 1937), Bureau of Labor Statistics, U. S. Department of Labor, Washington, D. C. 17 pp.

Metal Statistics 1937 30th Annual Edition. American Metal Market, 111 John Street, New York City. Price $2.

Official Bulletin of the Acoustical Materials Association: Theory and Use of Architectural Acoustical Materials; Sound Absorption Coefficients. Bulletin No. V. January 1937. Published by the Association.

Proceedings of the Third Pacific Northwest Regional Planning Conference, 1936. National Resources Committee, District 11, Portland, Oreg.

Research Bulletin No. 23. American Institute of Architects and The Producers Council, New York City.

Small Houses, £500-£2,500. By Myles A. Wright, M.A., A.R.I.B.A. Photographs, plans and descriptions, and discussion of problems which affect the small house. The Architectural Press, 9, Queen Anne's Gate, London, S.W.1. England. Price 7s. 6d. net.

The People of the Drought States. Research Bulletin No. 2 of series dealing with problems of Great Plains agricultural area. Division of Social Research, Works Progress Administration, Washington, D. C.

The Problem of Noise Abatement in Chicago. Report of the Noise Abatement Committee of the City Club of Chicago. 15 pp. April 26, 1937.

U. S. S. Roofing and Siding Guide. Sales material catalog information, and tables. United States Steel Corporation Subsidiaries, 434 Fifth Avenue, Pittsburgh, Pa.

AIR CONDITIONING, INSULATION AND HEATING

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Anemostat Draftless Air Distribution. Two bulletins. Anemostat Corporation of America, 551 Fifth Avenue, New York City.

Economical Automatic Heat for Hospitals and Institutions. Bulletin No. 540. Detroit Stoker Company, Detroit, Mich.

Economical Automatic Heat for Schools and Colleges. Bulletin No. 512. Detroit Stoker Company, Detroit, Mich.

Ideal Boiler No. 21 for Automatic Coal Burning. American Radiator Co., 40 West 40 Street, New York City.

Ideal Coal Firing Boilers: General Information. March 1937. American Radiator Company, New York City.

Ratings and Data for Ideal Oil Burning Boilers. March and April 1937. American Radiator Company, New York City.

The New Guide Chart and Manual of the Lamneck Simplified System. A prefabricated duct for forced air and air conditioning installation practice. Lamneck Products, Inc., 416-436 Dublin Avenue, Columbus, Ohio.

STRUCTURAL MATERIALS AND PARTS

After 10 Years. Service record of Incor 24-hour cement. Lone Star Cement Corporation, 542 Madison Avenue, New York City.

Cabot's Clear Brick and Clear Cement Waterproofing. Samuel Cabot, Inc., 141 Milk Street, Boston, Mass.

Structural Clay Products. Statistics. U. S. Department of Commerce, Bureau of the Census, Washington, D. C. 3 pp. February 1937.

Super-Harbord. Harbord Plywood Corporation, Hoquiam, Wash.

(Continued on page 42)

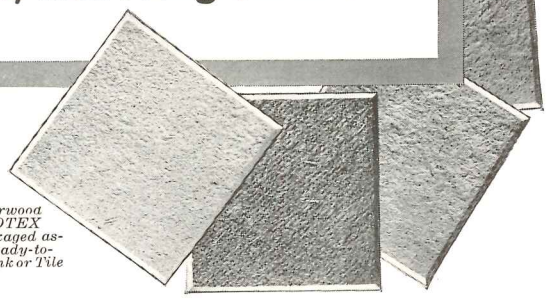
UNITED STATES GYPSUM COMPANY *presents...*

NEW WEATHERWOOD BLENDTEX

INSULATING TILE AND PLANK

Rich, Blended Shades of Soft Color ... New, Interesting Texture

One of the many varied and fascinating effects possible with the NEW Weatherwood BLENDTEX that *decorates* — *insulates* — and *quiets sound.*



Weatherwood BLENDTEX comes packaged assorted, ready-to-use, in Plank or Tile

■ Your clients will appreciate your specifying this completely new and interesting decorative interior finish material. Weatherwood *BLENDTEX is the only insulating interior finish keyed to the demand for rich, blended shades of *integral* colors combined with a new and more interesting texture. BLENDTEX is applied to both new and old walls and ceilings, in homes, schools, churches, auditoriums, theatres, stores, offices, etc. It *decorates*, *insulates*, and *quiets* sound.

These Eight Advantages Recommend Weatherwood BLENDTEX For Your Consideration

1. Blended shades of harmonious colors combine with a new, interesting texture to add charm and dignity to the interior.
2. Improves acoustics and quiets sound — at the same time insulates against heat and cold.
3. Durable—cleanable. Special toughening treatment of surface increases resistance to wear — preserves and prolongs the richness and freshness of colors and texture.
4. Integral colors go clear through the material—not merely a surface application.
5. Predecorated surface saves on time and cost of painting.
6. Adaptability—the wide variety of shapes and sizes gives unlimited scope to expression of individual taste in design.
7. Quickly, easily applied to both new and old walls and ceilings—goes right over old walls.
8. Economical — a popular-priced material. With all its advantages, BLENDTEX costs no more than ordinary insulating tile and plank.

Weatherwood BLENDTEX is backed by the United States Gypsum Company's rigid high standard and years of leadership in manufacturing wall and ceiling treatments, including Weatherwood IVORY Finish Insulating Plank and Tile, Weatherwood Building Board, Weatherwood Hardboard.

*Registered Trade-mark

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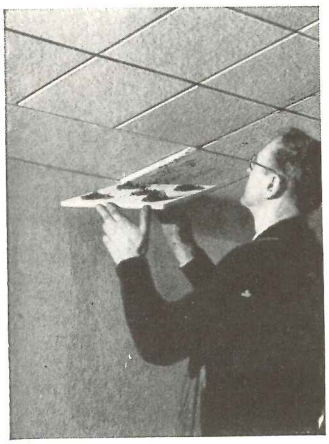
UNITED STATES GYPSUM COMPANY AR-7
300 West Adams Street, Chicago, Illinois
Please send full information regarding the new Weatherwood BLENDTEX.

Name .....

Address .....

City ..... State .....

UNITED STATES GYPSUM COMPANY



Showing easy application of Tile to ceilings, using adhesive.

BLENDTEX Plank quickly, easily applied to both new and old walls.

NEW LITERATURE

(Continued from page 40)

MISCELLANEOUS

Furniture Store Modernization—What to do and how to do it. By Robert Heller. Illustrated with photographs, floor plans, layouts and alternative color schemes. Masonite Corporation, Chicago, Ill. 24 pp. May 1937.

The Kitchen of Today—and Tomorrow. Pure-air Single-Unit Kitchens, Rolph C. Spinning, Inc., 5057 Woodward Avenue, Detroit, Mich.

Mellow Wood Interiors. National Lumber Manufacturers Association, Washington, D. C. Price, $0.10 for postage.

When Vacations Call. Sketches, renderings, photographs and floor plans of vacation cottages. The Celotex Corporation, Chicago, Ill.

DOORS, WINDOWS AND FLOORS

Air Space Insulated Windows. Insulaire Company, 2423 McKinstry Avenue, Detroit, Mich.

Living in the Sun: Glass windows and enclosures. Lord & Burnham Co., Irvington, N. Y., Des Plaines, Ill., St. Catherines, Ontario.

Modern Cornell Doors—Upward Acting. Cornell Iron Works, Inc., 13 Street and 36 Avenue, Long Island City, New York.

New Window Ensembles with Arco Radiator Enclosures. American Radiator Company, New York City.

Personalized Floors of Sealex Linoleum. Congoleum-Nairn, Incorporated, Kearney, New Jersey.

Riverbank Sound Insulating Doors: Principles of sound control as applied to doors. Hardwood Products Corporation, Neenah, Wis.

FIRE PROTECTION

Waterproofing of Floors; Drainage; Installation of Scuppers.
Blower Systems.

Automatic Sprinklers. Suggested form and requirements for an ordinance on these systems.

Protection in Walls and Partitions.
Reports of Committees, National Fire Protection Association, Boston, Mass. May 1937.

MATERIAL PROOFING AND PAINTS

Paint Specifications and Detection Charts for Douglas Fir Plywood. Douglas Fir Plywood Association, Tacoma, Wash.

Rust—Don't Coddle It—Kill It. Bar-Ox Formula "97" for iron and steel protection. Bulletin 441. The Truscon Laboratories, Detroit, Mich.

SPECIAL EQUIPMENT

Miami and Carey Bathroom Cabinets. Miami Cabinet Division, The Philip Carey Co., Middletown, Ohio. 23 pp.

Patterson Freon Water Coolers. Patterson-Kelley Co., Inc., East Stroudsburg, Pa. New York Office: 101 Park Avenue.

Residence Elevators—"Elevette" and "Inclinator." Inclinator Company of America, Harrisburg, Pa.

Yeomans-Shone Type SEC Sewage Ejector. Bulletin 4050. Yeomans Brothers Company, 1433 Dayton Street, Chicago, Ill.

MECHANICAL EQUIPMENT

Tested High Quality Packings. Metalistic Manufacturing Corporation, Hackensack, N. J.

Worthington Opposed Steam-Driven Compressors. Bulletin L-612-B3. Worthington Pump and Machinery Corporation, Harrison, N. J.

ELECTRIC POWER

Brown Pyrometers, Millivoltmeter Type. Catalog 15-c. Brown Instrument Co., Philadelphia, Pa.

Yesterday's Luxury Is Today's Necessity. Descriptions of latest "Mark-Time" devices. M. H. Rhodes, Inc., Mfrs., Rockefeller Center, New York City.

ANNOUNCEMENTS

THE STRUCTURAL Clay Products Institute, Inc., announces a small house competition open to architects, operative builders, realtors and contractors. $5,000 in prizes will be awarded. The contest has three main stages, each with two divisions. Stage one calls for the design of 1, 1½ or 2-story houses built of structural clay masonry. Stage two calls for photographs and plans of 1, 1½ and 2-story brick or brick and tile houses built since 1928. In each of these stages there are two classes: houses of 3-5 rooms, with 1 bath; and houses of 5-7 rooms, with 1 or 2 baths. Stage three calls for sketches or photographs of decorative or structural details built of clay masonry. Class A is made up of architectural (decorative) details, and Class B of practical construction details, or structural clay products. The contest closes at midnight, September 20, 1937, and all entries should be sent to Structural Clay Products Institute, Inc., 1427 I Street, N. W., Washington, D. C. In addition to the above prizes, the Institute offers $25 for each house submitted by architect, builder or contractor, and selected for publication in its literature. Photographs, floor plans and four elevations of brick or brick and tile houses are required. For brick or clay tile details showing ingenious uses of clay masonry for decorative or structural details in any type of building, the Institute will pay $10 each on selection. Acceptance of an entry for publication does not bar it from competition.

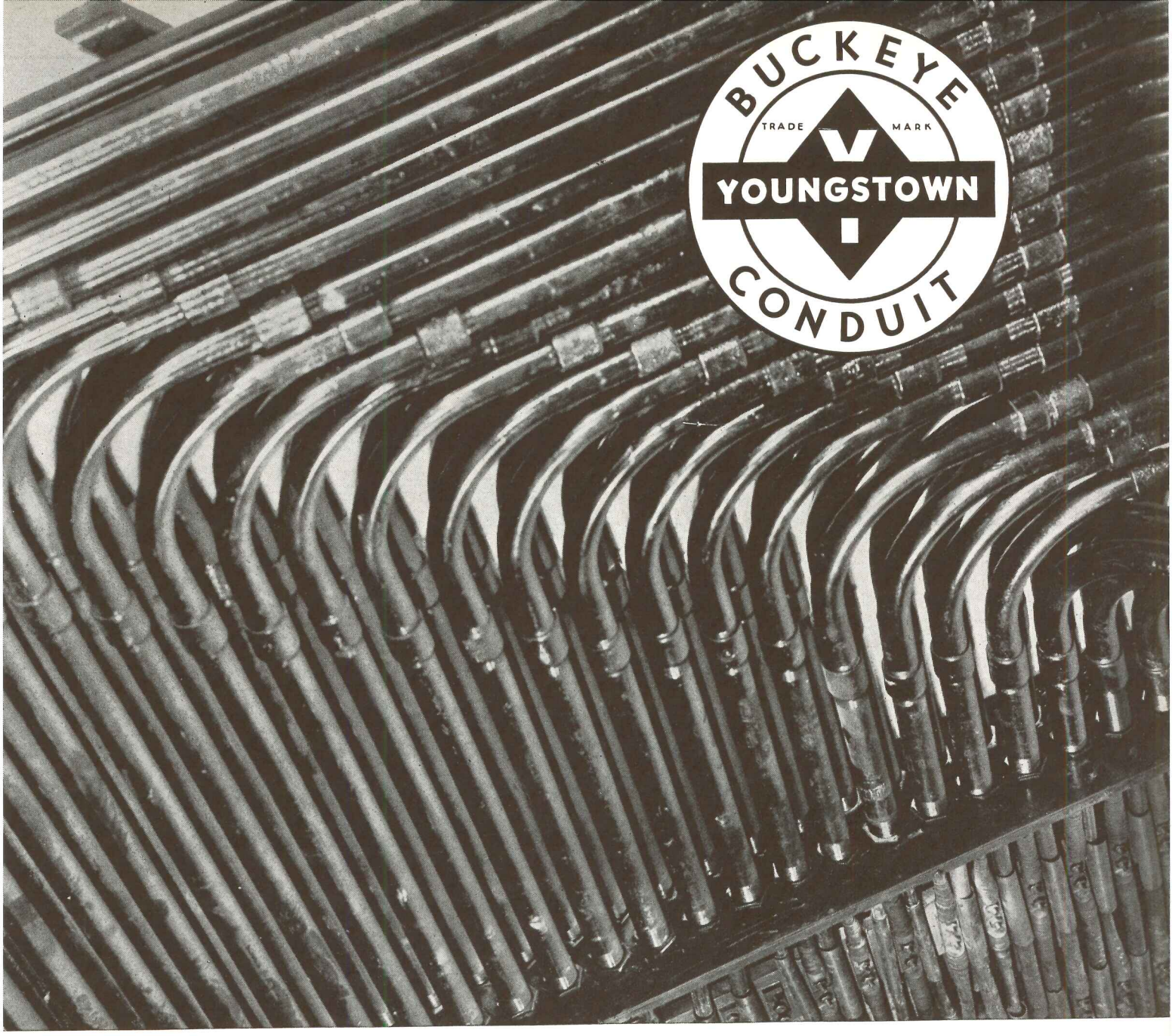
ROBT. S. HALE, Cincinnati, Ohio, submitted the first paper in the competition of The James F. Lincoln Arc Welding Foundation. Mr. Hale is construction engineer for the Procurement Division, Public Buildings Branch, United States Treasury Department.

The Foundation will award 446 prizes totaling $200,000 for papers on redesign or new design of existing machines, structures, buildings, etc., or organization and development of a welding service. Preference will be given to papers that describe products which show the fullest use of arc welding, although the product may be designed only in part for such use. Machines, structures, buildings and products must not have been designed for welding and sold in the open market or generally used prior to January 1, 1937. Papers must be mailed before June 1, 1938 and must reach Cleveland before July 1, 1938. All communications relative to the contest should be addressed to the Secretary, The James F. Lincoln Arc Welding Foundation, Box 5728, Cleveland, Ohio.

The RECORD publishes changes of address only on request; on file with Sweet's Catalog is the nation's most complete, up-to-date record of all changes in architectural offices.

CALENDAR OF EXHIBITIONS AND EVENTS

- **July 5–11**—International Housing and Town Planning Congress, Paris, France.
- **July 5**—Opening, summer session courses in architecture, Columbia University, New York City.
- **July 5**—Opening, summer session courses in architecture, Syracuse University, Syracuse, New York.
- **July 17**—Opening, Fourteenth International Congress of Architects, Paris, France.
- **July 19–23**—Competition for graduate scholarships, School of Architecture and Applied Arts, New York University, New York City.
- **September 1**—Closing date, National Alliance of Science and Industry Competition for Cemetery Memorial.
- **September 20**—Closing date, Structural Clay Products Institute competition.



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The same qualities that the contractor admires are an assurance of no kick-backs to you. The very ductility that makes it easy for him to set bends quickly with the hickey is assurance that outlets will be flush with plaster trim and exposed work neat and attractive. The tensile strength, that prevents him from having trouble fishing wire past a flat in a bend, is assurance to you that there will be no pinched wiring. The easy threaded jointing, that he knows makes for speed in coupling up, is assurance to you that the electrical connection of the grounded side is continuous.

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These "24-hour skylights" of low intrinsic brilliancy need no diffusing medium. The soft long-source light gets down into deep recesses, illuminates vertical surfaces and rests the eyes. All jobs are made easier —wherever sight is used.

Get the complete story of these new lamps. Let us explain why you can run many more of these light units per circuit with no increase in copper. Write for Bulletin 827DM. General Electric Vapor Lamp Company, 807 Adams Street, Hoboken, New Jersey.

GENERAL ELECTRIC
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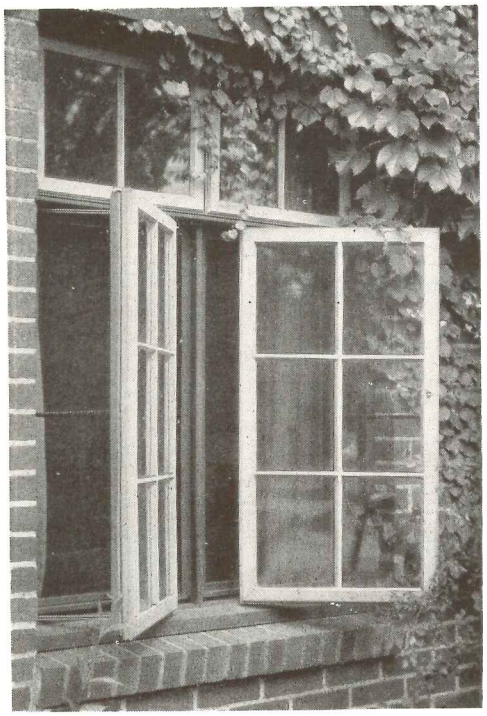
826

A Blessed Event in the Window Family

NOW CASEMENTS ARE SILENTITE TOO!



● In 1932, Curtis introduced *Silentite*—the "*Insulated*" window—marking the first major improvement in double-hung windows in 300 years. Since then *Silentite* has made window history and today is America's fastest selling modern window.

With *Silentite* launched on its career, Curtis engineers—never content with past achievements—then started to design a companion product—a *Silentite Casement*. After 5 years of thorough testing in laboratory and field, it has now proved worthy of the *Silentite* name—a vastly improved, weather-stripped wood casement—with new operating principles, new beauty, and new features covered by exclusive Curtis patents.

Compared to other types of casements, this new *Insulated* casement should reduce heating costs about 17%—a finding based on tests made by Curtis in collaboration with the Pittsburgh Testing Laboratory. From the standpoint of heat loss or heat transmission it proved far more efficient—more weather-tight.

When *Silentite* is closed, no hardware is visible on the outside. Inside, the hardware is all concealed excepting the adjuster face, flush with the woodwork and up off the sill out of a child's reach. The self-locking sash opens to a 45-degree angle, permitting ventilation over practically entire opening area. *Silentite* is draftless; cannot rattle, vibrate or swing in the wind. There's no seepage of rain or snow. Sash may be easily cleaned from indoors.

With the beauty of Curtis narrow mullions and division bars, *Silentite* casements may be used singly or in multiples, with or without transoms, affording the architect an unusual flexibility of design. But you'll wish to know *all* about this new "baby" of the Curtis line. Just mail coupon.

Complete unit includes screens and insulating glass. All parts machined, prefit and carton-packed.

All frame parts are interchangeable and sash may be installed to open from either side.

The adjuster at mid-height—and direct, positive power applied to center of sash—prevent warping or twisting action.

New patented weatherstrip of non-corrosive metal does not require nailing. Sash completely weatherstripped on all 4 sides.

Draftless ventilation.

All parts given preservative oil dip for longer life.

CURTIS COMPANIES SERVICE BUREAU, DEPT. AR-7, CLINTON, IOWA

Send, today, for complete information on the advantages of the Silentite Casement. The coupon is a convenient way to get the facts.

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Curtis Woodwork is available through the following distributors:
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Rust Sash & Door Co., Kansas City, Missouri
Morrison-Merrill & Co., Salt Lake City, Utah
Hallack & Howard Lumber Co., Denver, Colorado
Campbell Coal Company, Atlanta, Georgia
Jacksonville Sash & Door Co., Jacksonville, Florida
W. P. Fuller & Co., Boise, Portland, Sacramento. Seattle, Tacoma, Spokane.

1866 CURTIS WOODWORK SILENTITE "Pre-Fit" FRAME-WINDOW-SCREEN AND STORM SASH

OTHER CURTIS PRODUCTS: Silentite Double-Hung Windows • Exterior and Interior Doors • Frames Trim • Entrances • Moldings • Panel Work • Kitchen Cabinets • Cabinet Work • Mantels • Stairways Shutters • Screens • Storm Doors and Windows • Garage Doors • Mitertite Door and Window Trim

THE "INSULATED" CASEMENT WINDOW

CURTIS COMPANIES SERVICE BUREAU
Dept. AR-7, Clinton, Iowa

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☐ For information on other Curtis products, as listed above, check here.

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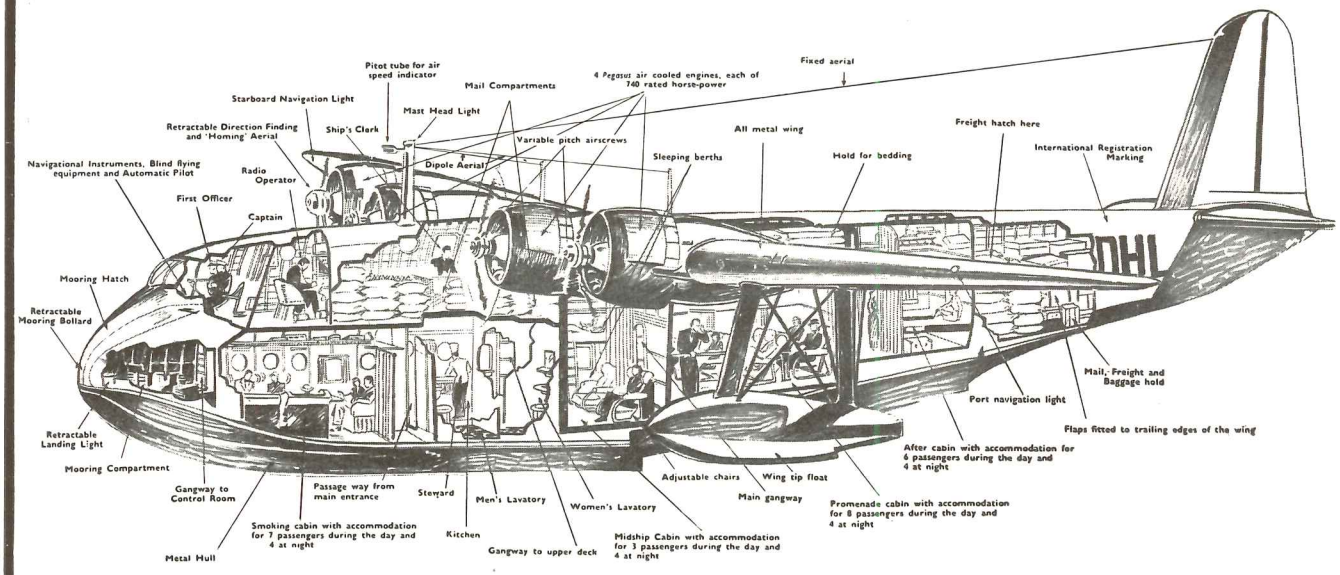
GIANT EMPIRE FLYING-BOAT

First of the Atlantic Fleet

started with a pencil



THE EMPIRE FLYING-BOAT

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Length, 88ft. ; Height from water line, 24ft. ; Speed, 200 m.p.h. (approx.) ; Span, 114ft. ; Weight fully loaded, nearly 18 tons ; Crew, 5 ; Accommodation, 24 passengers on day stages and 16 on night journeys

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It allows you to specify...

1. A system that gives the desired atmospheric conditions—your client pays *only* for what he needs.

2. Equipment of exactly the right capacity—neither too small, which would mean unsatisfactory service; nor too large, which would be wasteful and costly.

3. A *method* of installation that suits any building—whether remodeled or new, therefore controlling the ultimate cost.

4. *More* cooling action with *less* current consumption. Hence a control over operating costs.

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And gives you and your client a presentation of *all* the facts, so that you will know *and can therefore control* the entire cost.

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The Air Conditioning Division of General Motors

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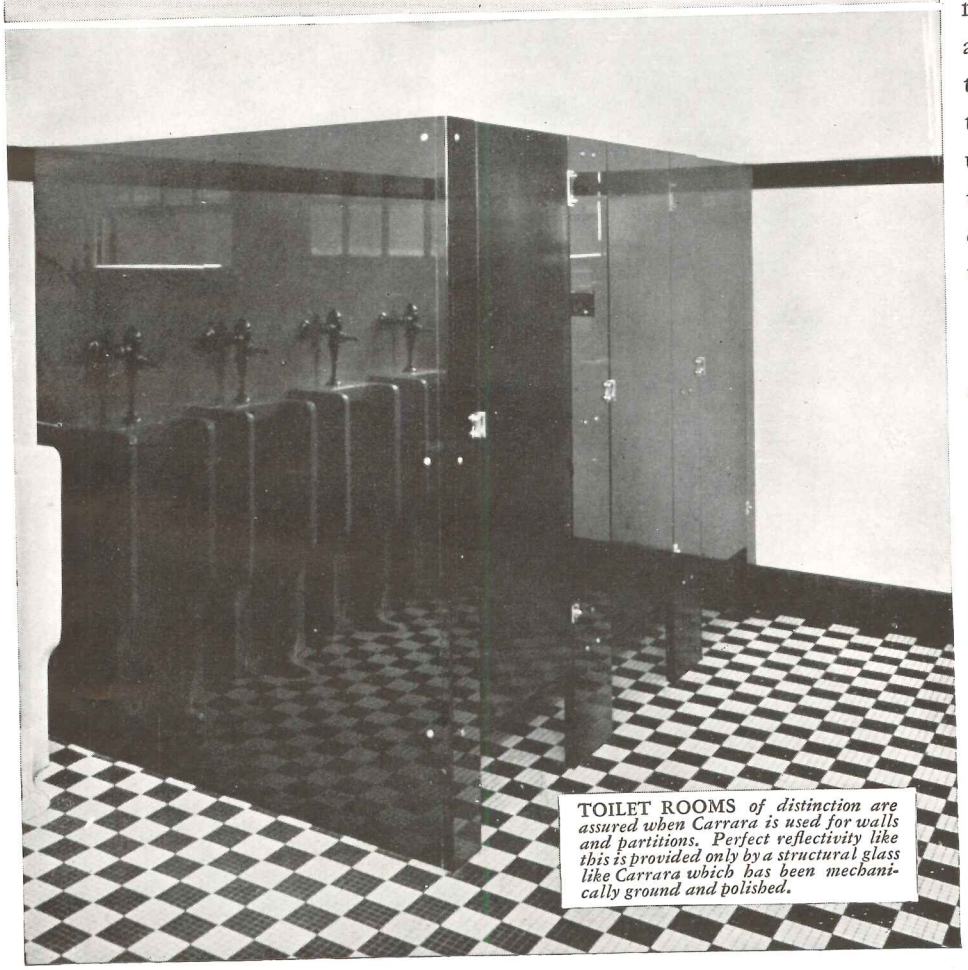

TOILET ROOMS *of distinction are assured when Carrara is used for walls and partitions. Perfect reflectivity like this is provided only by a structural glass like Carrara which has been mechanically ground and polished.*

THE matchless beauty of smooth, rich surfaces . . . the perfect, mirror-like reflections which are so vital in creating truly distinguished toilet rooms . . . joints that are absolutely true and free from lippage . . . these can be obtained in toilet room walls and partitions only by the use of a structural glass that has been mechanically ground and polished. Carrara is such a structural glass. It represents the highest quality available today. It is extremely versatile, adaptable to many kinds of treatment, imposes no restrictions on the architect. It is permanent, easy to clean, impervious to pencil marks, moisture and chemicals. For toilet room walls and partitions, specify Carrara . . . the structural glass that is manufactured exclusively with a mechanically ground and polished finish. Send the coupon for our book giving complete facts about Carrara.

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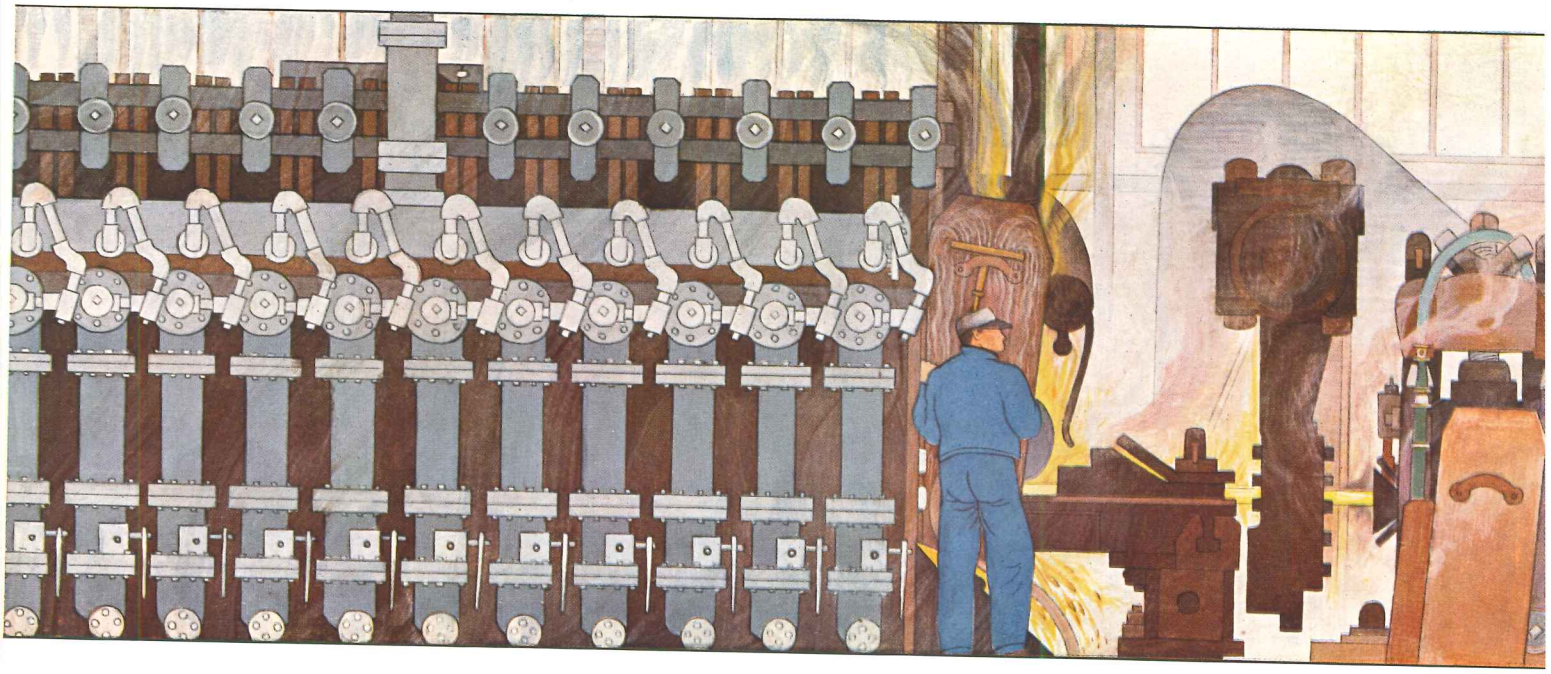
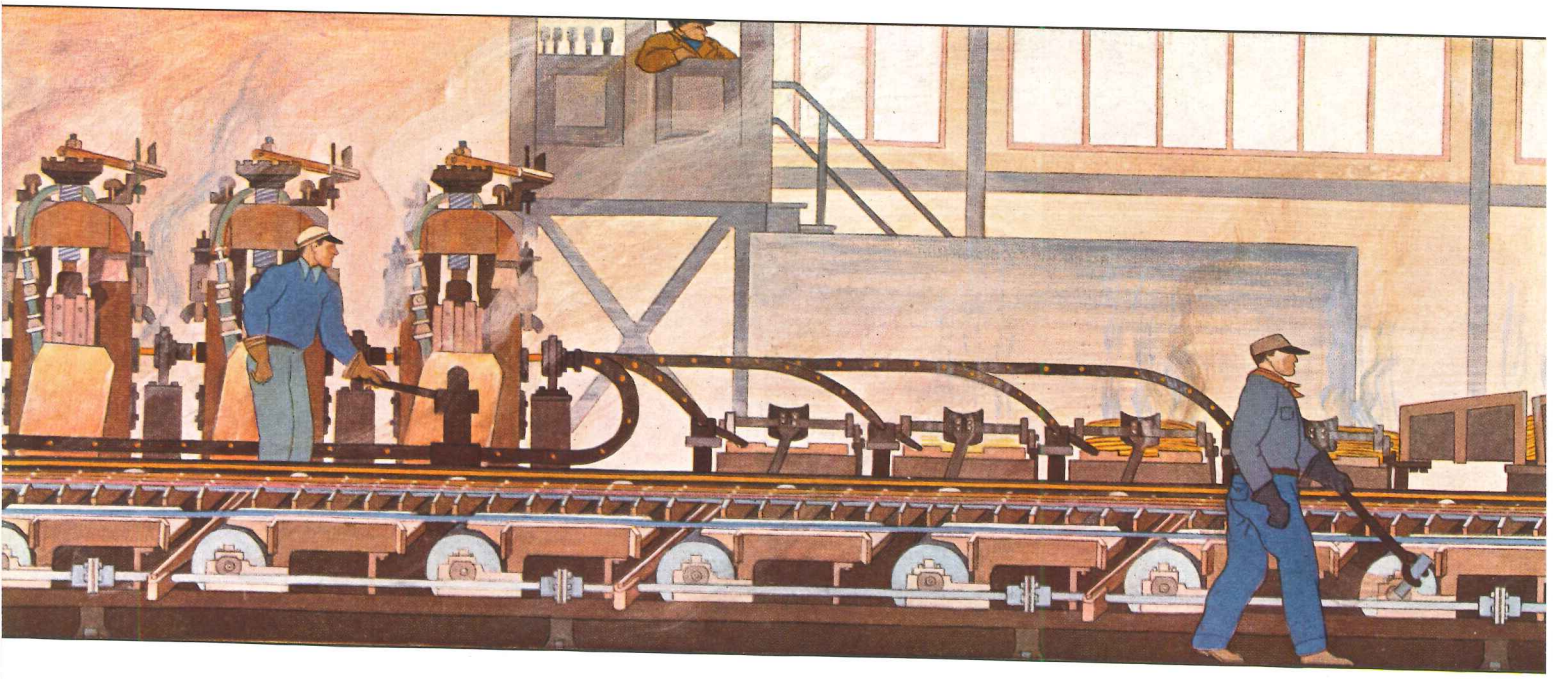


Long steel billets, of proper quality, size and length to produce the required bars, are fed into a huge gas-fired furnace. Slowly they move through. In a predetermined time they have been heated to a bright orange. One by one, 20 seconds apart, they are pushed out through shears which cut them to proper length. Then they begin their trip through the eight or ten stands of the rolling mill.



Next comes cooling, and here the route splits: Bars to be shipped straight pass through a tube to the hot bed (see foreground of painting). After they cool on this rack, they slide onto a roll conveyor and go to the shears. Cut to length, inspected and bundled, they are ready for shipment.

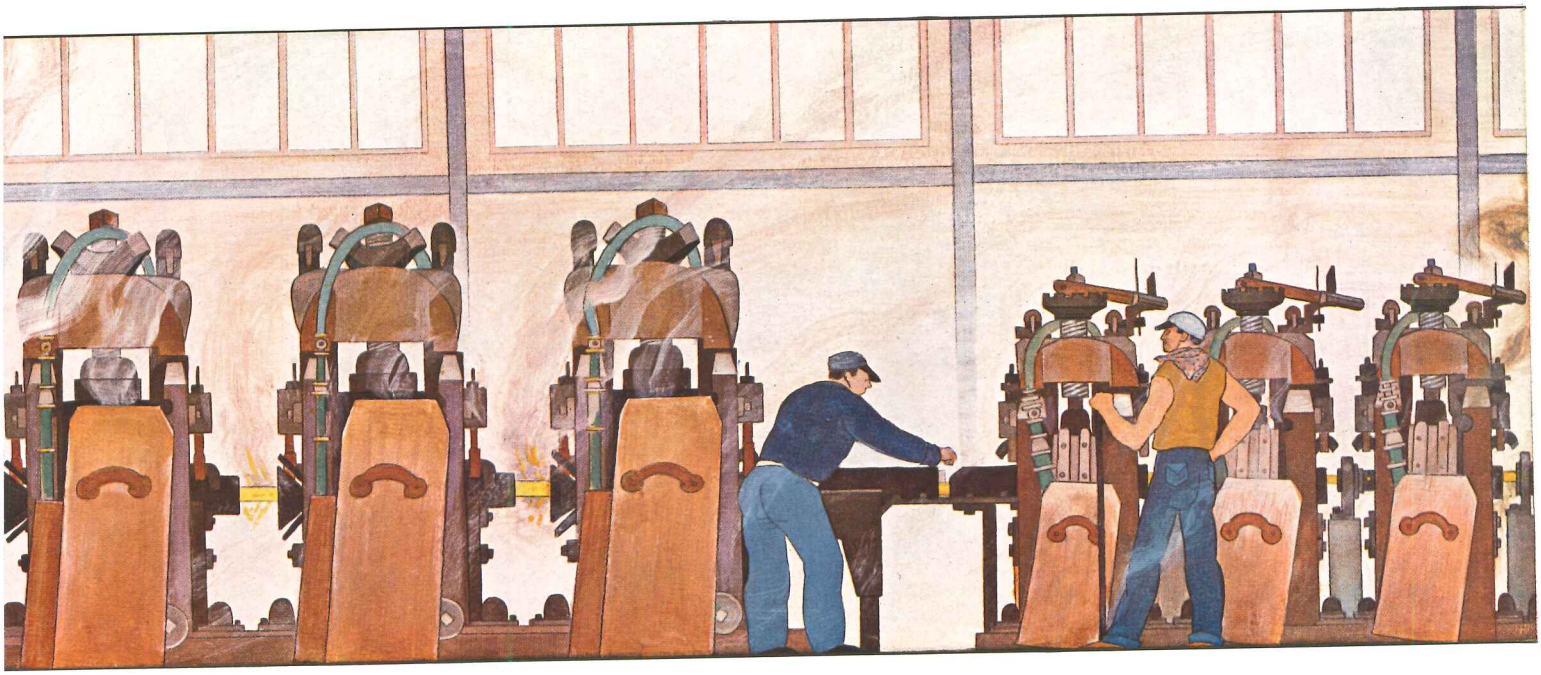
BETHLEHEM

Bars of iron, of carbon steel, alloy and stainless. Bars in straight lengths, bars in coils. Bars for a thousand different uses. Bars—the most widely used of all steel products.

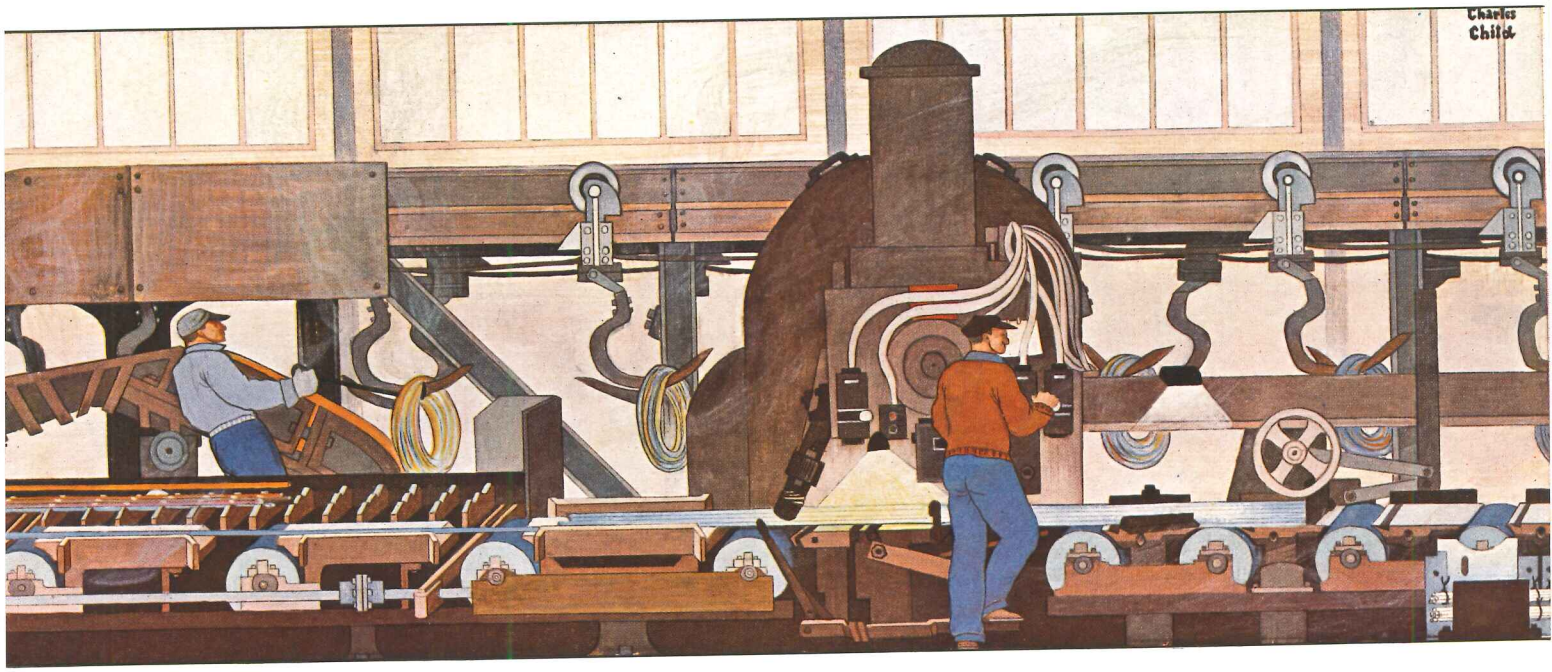
However varied the demands for bars, Bethlehem is ready to serve. Bar mills in eight plants, convenient to industrial centers, can turn out bars in virtually any tonnage required by industry.

And always on call are Bethlehem's metallurgists, ready to focus on your particular problem the experience gained in years of contact with every type of steel consumer.

Here is a continuous bar mill in action, at one of Bethlehem's plants.



First come roughing stands. Slow-turning rolls grab the billet, squeeze, knead, change its shape from square to oval to round. Without pause, without reheating, finishing stands take the rough-rolled bar. Each succeeding pair of rolls turns faster as red-hot steel becomes smaller and longer, accelerates its pace. In 40 seconds the finished bar shoots from the final stand at 16 to 20 miles an hour.



Bars to be shipped in coils go through tubes to a coiling machine (see background of painting). They whirl into coils and drop onto a belt conveyor. Hooks pick them up, carry them along a trolley until cool. Ends are trimmed, coils inspected and tied for shipment.

STEEL COMPANY

BETHLEHEM STEEL

WHEREVER INDUSTRY DEMANDS THE *Utmost* IN ROOF *Protection*

Continental Can Company's Houston, Texas, Manufacturing and Warehouse Building. Protected with 50,000 sq. ft. Ruberoid Built-up Roof.

Plans—Company Engineer. Roofing Contractor—Lone Star Roofing Co., Houston, Texas.

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Today, The Ruberoid Co. manufactures all three popular types of built-up roofs—asphalt-saturated asbestos felt and asphalt, tar-saturated rag felt and coal tar pitch, and asbestos-saturated rag and asphalt. Each is offered in multiple layers to fit the job. There is also a choice of top-surfacing finishes to provide a custom-built roof.

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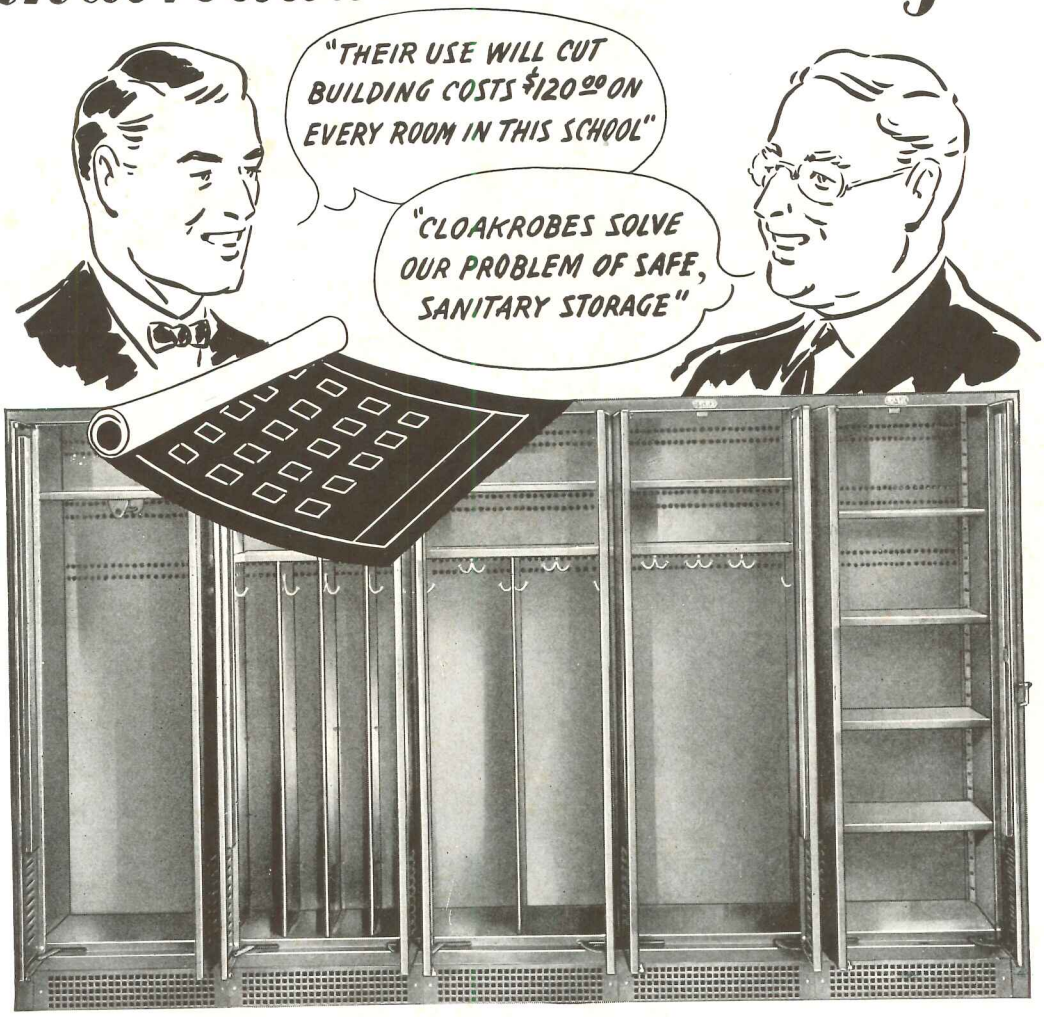

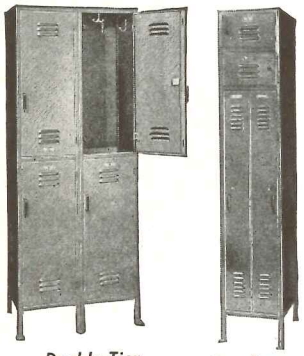

Double Tier Lockers — *Two-Person Lockers*

Cloakrobe illustration shows typical interior arrangements

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DESIGN TRENDS

How can blueprints or charts be made more intelligible to the layman as well as to the specialist? Years of success are behind Dr. Otto Neurath's graphically illustrated answer.

With one eye on their adding machines and the other on the future, mortgage lenders and appraisers consider modern design in domestic architecture.

Photography (via television) may become an integral part of the architectural scheme. Frederick J. Kiesler, in his "Design-Correlation," presents Part I of a novel history of photography. Part II will appear next month.

J. André Fouilhoux designs a 6-story annex to American Radiator's tower building in New York—including a double-story showroom.

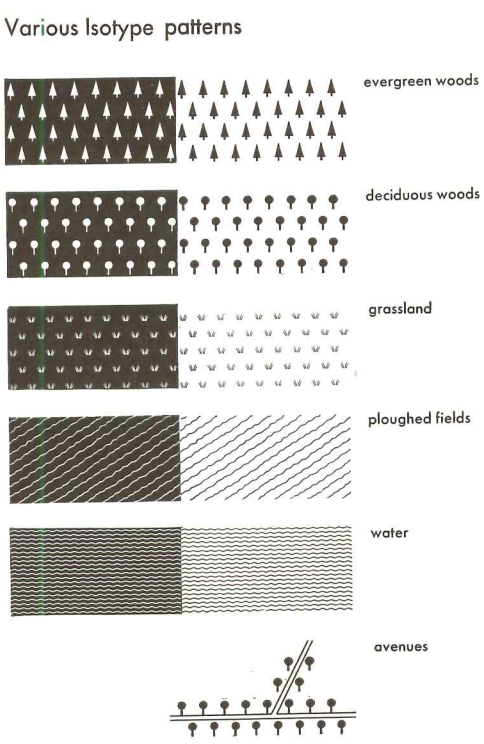
Hotels can be made to breathe new life by the addition of up-to-the-minute cocktail bars and cafes. Holabird and Root have developed a formula for such rejuvenation, the effectiveness of which is attested by the Keyhole Bar and Cafe, Gibson Hotel, Cincinnati.

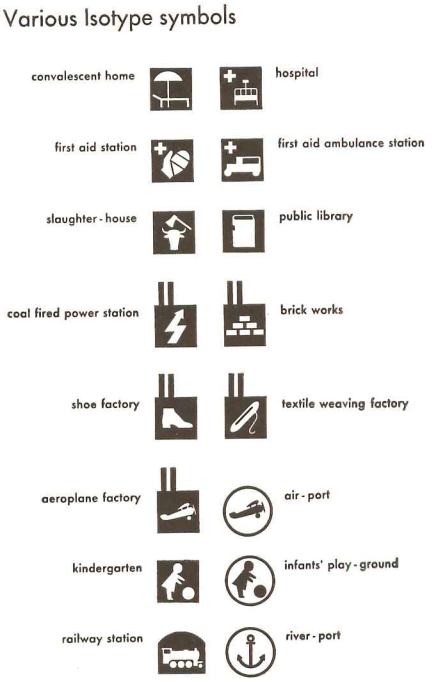
Van Pelt and Lind were commissioned by the Elite Cleaners of Pasadena to increase the size of their original structure to cover more than twice the former ground area.

ARCHITECTURAL Record

Example of a map with ISOTYPE symbols

In this map the different kinds of areas, the actual and projected buildings, grassland, woods and waste land are differentiated. The symbols represent stations, factories, kindergartens and other buildings. Symbol identification is shown on opposite page.





Visual Representation of Architectural Problems

By **OTTO NEURATH**, *Director, International Foundation for Visual Education*

I. General Architectural Problems

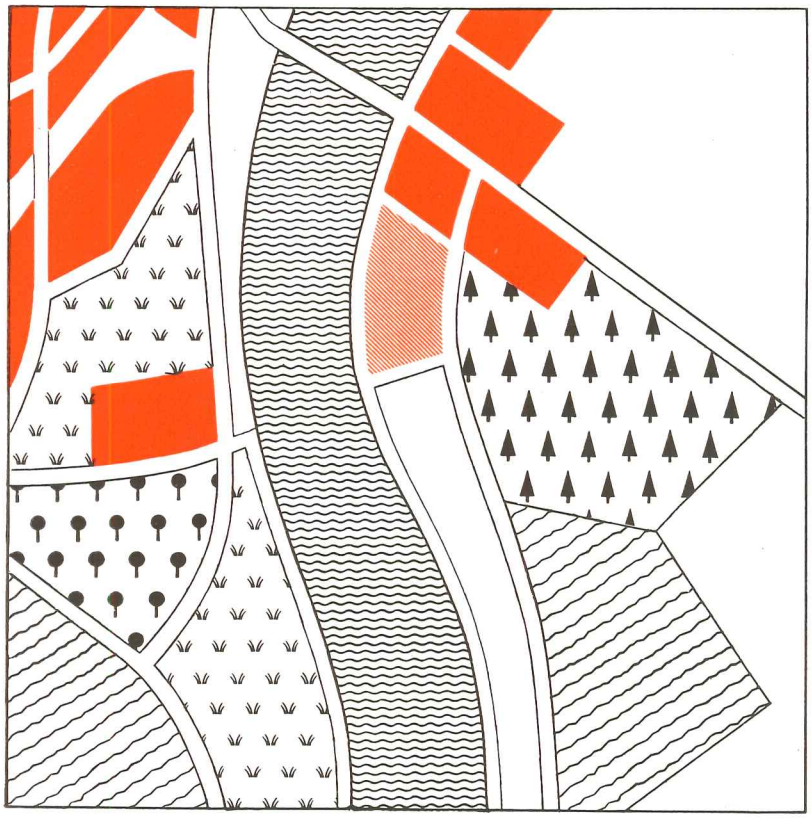
City planning and home planning are concerned with life planning in general, and architects must often cooperate with technicians such as builders, carpenters, and plumbers on the one hand and, on the other, with specialists in social sciences, with social workers, physicians interested in public and individual health, geologists, meteorologists and other people who deal with the environment of our social and private life. The reason for this is that architects are people whose profession it is to make the entire lives of human beings as happy as possible and that their theoretical view is not only founded on principles which determine certain technical functions but also on ideas of happiness of human beings as a function of architectural activity.

If we wish to explain the general importance of a new architectural project or idea to specialists in various branches as well as to laymen, we must show how people live and act within buildings such as houses, schools, factories, hospitals, museums, libraries; how men walk along streets, go by car or other vehicles; how men use parks, beaches and other places of recreation. We must also show how buildings, streets, parks and other architectural elements are important for the entire life of a community. That is to say, it is not enough to represent location and motion of men, vehicles and other things—one must also give a picture of the factors which condition human happiness. This implies a checking of all these correlations; such a checking is not so simple as the testing of new traffic regulations or similar undertakings. Therefore the representation of architectural problems often means the representation of something extensive in character.

Consequently it is not sufficient to show the exact technical layouts of plot plans together with exact three-dimensional exhibits, and more or less romantic pictures and models, because architectural problems in a wide sense are not exhausted when one has shown the shape of buildings, the arrangement of parks, beaches and other places of recreation. We need more than this; we need information on various other subjects, on the single factors which condition social environment and the standards of living of different social groups.

II. Humanization by Visual Coordination

The purpose is to represent the entire life of communities or individuals from an architectural point of view and to humanize architectural problems. We can speak of "architectural education" as we speak of "public health education" or of "traffic education." Such an educational activity in the field of architecture is addressed not only to poorly educated people; in a great many cases men well educated in the field of planning parks and other recreation grounds may not be able to understand without difficulty bar graphs dealing with problems of agricultural or public health statistics. We know men well educated in projecting schools and hospitals who avoid fuller information about the social background of their business because they cannot read and analyze statistical tables and statistical explanations. The counterpart of it: people well informed about the situation of a community are not in a position to discuss special technical questions which are connected with special social questions. Therefore we have, if possible, to build up a method of representation which gives enlightenment both to poorly educated people and to people



Second version of a section of the same map.

educated only in certain fields, that means in the end to all people, since no single individual is informed in all fields of knowledge.

A suitable basis for such a common education and information is *visualization* of all important problems. We need for this purpose visual aids which are self explanatory, if possible. The ideal types of expositions and picture books would be adapted to humanizing the problems but not in contradiction to a serious and scientific attitude. We must learn to assemble in expositions and museums educational pictographs, models, photos and other exhibits with motion pictures and cartoons as elements of an informative whole. We can build up a good correlation between different exhibits and different parts of an exposition by *visual coordination*. We can show the correlation between new types of buildings and family life, between city planning and communal standard of living, production, transportation and other social elements.

Such visual coordination must be governed in each case by a central idea. Special visual methods and special experience are needed to make such interrelationship visible in a coordinated scheme. We also avoid by means of such an extensive plan for visual coordination the monotony of a great many housing expositions (people interested in housing problems are not necessarily interested in looking at various series of models of houses). We also avoid by means of the same remedy the perturbing multiplicity of other architectural expositions. Such multiplicity is founded on the fact that a great many exhibitors are in competition, and also because individual managers of expositions are of the opinion that such multiplicity is attractive and avoids dullness. Experience shows us that we can combine attractiveness and informativeness by planned visualization which leads the visitor from one exhibit to the next, from buildings to city planning, from city planning to the life of a community.

It is not sufficient to make additions to layouts made by architects for plumbers or bricklayers and not sufficient to make additions to photos made for clients of architects; we need special designs which show social details of various kinds. An architectural plan which shows us actual and projected buildings with parks and streets is a geographical map with certain additions. A geographical map is more than a simplification of a photo taken from an airplane, since geographical maps characterize special kinds of bridges, streets and buildings. They also show us, for instance, the entrance to a mine by means of a special symbol: crossed hammers. The pure architectural plan has to inform us about all the factors which are important for building houses or arranging parks. Charts which are destined to explain more questions other than purely architectural maps have to show us, for instance, geographical distribution of population or occupations, the geographical distribution of manufactures, schools and other institutions. In all these cases we must use symbols which cover a greater area than the area occupied by the buildings themselves on the map. We cannot show all these social and economic details and also maintain the correct shapes of all architectural elements. We must always choose between representing exact architectural data in a narrow sense, and social information.

Architects who are always closely connected with making floor plans and maps mostly intend to show social facts on maps; but in a great many cases we have to give preference to other methods of representation. We must avoid accumulating maps showing social data; it is more instructive to combine maps and pictographs. This leads us to a use of a symbol dictionary which contains symbols applicable to both maps and pictographs. This is the basis of visualization more widely applied.

III. International Standardization by ISOTYPE

In all technical fields more and more standardized symbols are used. A symbol adapted to the use of specialists often needs to be adapted to other informative and educational purposes. Within an exposition it is very difficult to give extensive instructions about symbols; we also avoid such explanation in a picture book destined for people who are not specialists. We prefer self-explanatory symbols in such cases.

The ISOTYPE* method of visual education is intended to bridge the gap between more or less purely conventional symbols for the orientation of specialists, and more or less self-explanatory symbols destined for general enlightenment. It is also intended to bridge the gap between architectural symbols and symbols used for representation of social facts. The following illustrations give examples of the function of this method.

We present a map which is intended to form a basis

*The name ISOTYPE means in Greek: always using the same types. The backbone of this method is the unity of visual aids: the "visual dictionary" containing more than 2,000 symbols; the "visual grammar" containing the special rules about the order and combinations of symbols; the "visual style" is founded on the "transformation" principles by which we can visualize ideas. It is important to know that ISOTYPE does not give rules for translating automatically words or figures into pictures. It is not sufficient to make boring sequences of symbols instead of boring sequences of figures. See the book: *Otto Neurath, International Picture Language, the first rules of ISOTYPE.* Kegan Paul, London, 1936.

for discussion on ISOTYPE standardization. In this map we differentiate different kinds of areas: actual and projected buildings, grassland, woods, plowed land, waste land. If we always use shades of colors to represent city areas we can separate the city region from the rest of the map which we can leave white such as, on our map, areas occupied by streets, squares or airports.

The symbols representing stations, factories, kindergartens, and other buildings are in black with a white design in the middle.

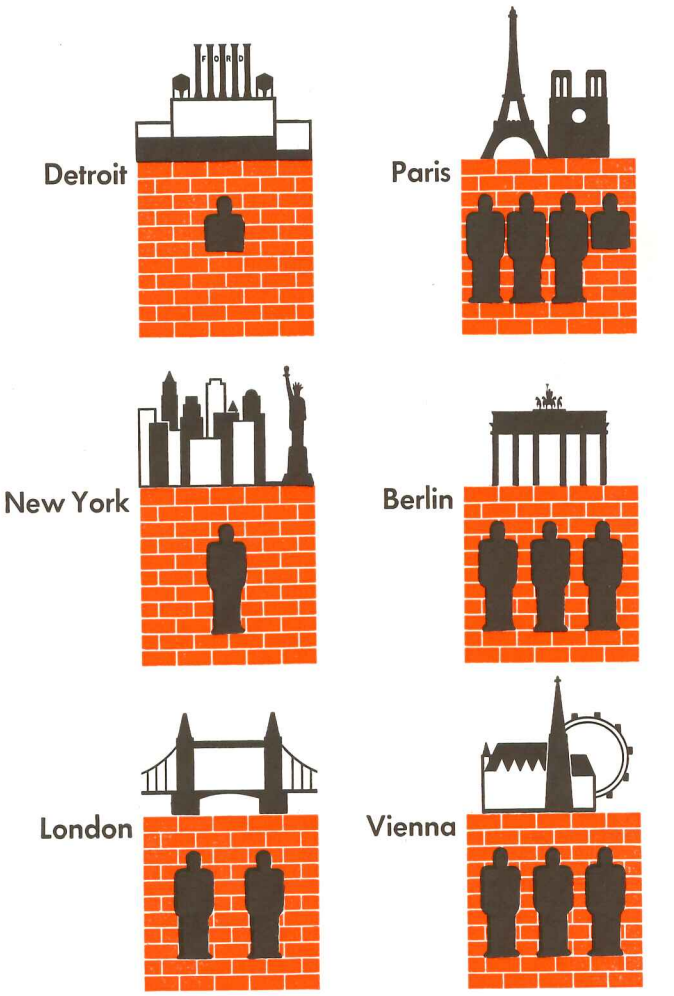
On the opposite page we show how we can use the symbols for trees, grass, etc., on a white ground. In this case we need black separating lines. This may lead to difficulties if we have to design a great many lines representing railroads, streetcar roads, bus lines and other transportation lines.

We can use designs in which black and white are reserved for special differentiation. In this way we can indicate, for example, the difference between an actual park and a projected park. The special purposes must indicate whether the one or the other variation is to be preferred. We can also use symbols in outline if necessary.

Since we also wish to use all symbols in economic and social pictographs we prefer the profiles of all objects: laymen read maps on which profile symbols are used with less difficulty. Such maps resemble charming old-fashioned maps. The use of all these symbols for making complete pictures compiled from ISOTYPE symbols only is discussed elsewhere.** The permanence of visual elements is based on the use of symbols for "grass," "evergreen tree," "leaved tree" in all cases without exception. A pictograph showing the proportion between built-up areas and open places uses a symbol which joins "evergreen tree," "leaved tree," "railing." That means we are using the same visual language to represent architectural and statistical facts. Joined

**See examples in *Otto Neurath, Basic by ISOTYPE*, Kegan Paul, London, 1937. We can couple ISOTYPE standardization with various attempts at architectural representation, e.g., with the stimulating proposals of the CIRPAC (Les Congrès Internationaux d'Architecture Moderne) made by van Eesteren (Amsterdam).

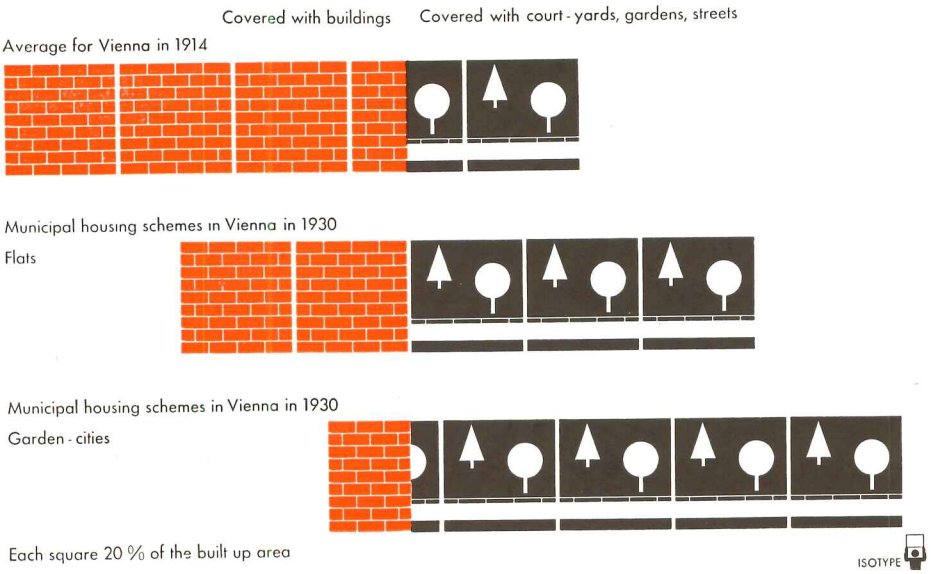
Men Living in one Unit of Area



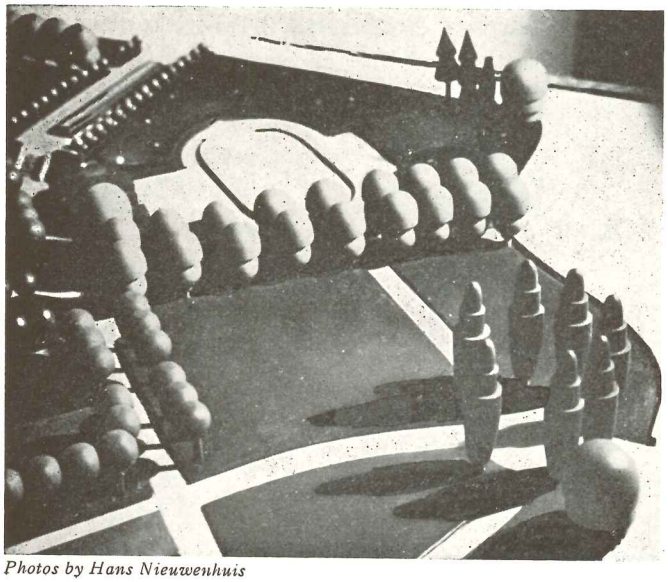
Each brick square represents 100 square metres
Each man symbol represents 1 man

ISOTYPE

Distribution of Open Spaces in Vienna



ISOTYPE

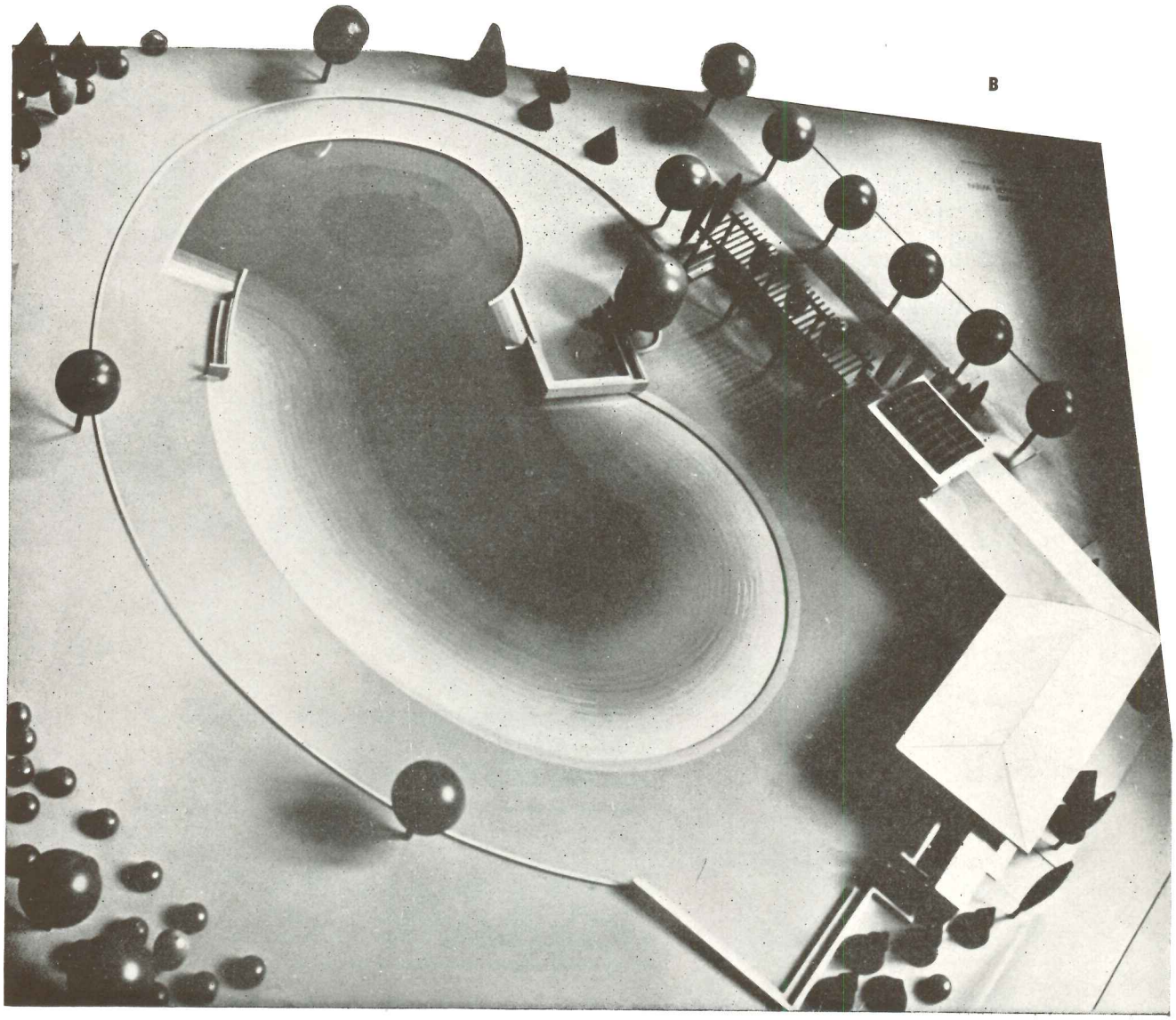


Photos by Hans Nieuwenhuis

A

A MODEL OF PARK WITH TREE-SYMBOLS (various types of trees and shrubs are represented by shape and color).

B CHILDREN'S BATHING POOL WITH DRESSING ACCOMMODATION (three-dimensional tree-symbols with simplified model of bathing pool).



B

bricks symbolize in the one example buildings in contrast to the gardens and streets; in another example they symbolize buildings as houses for human use, etc.

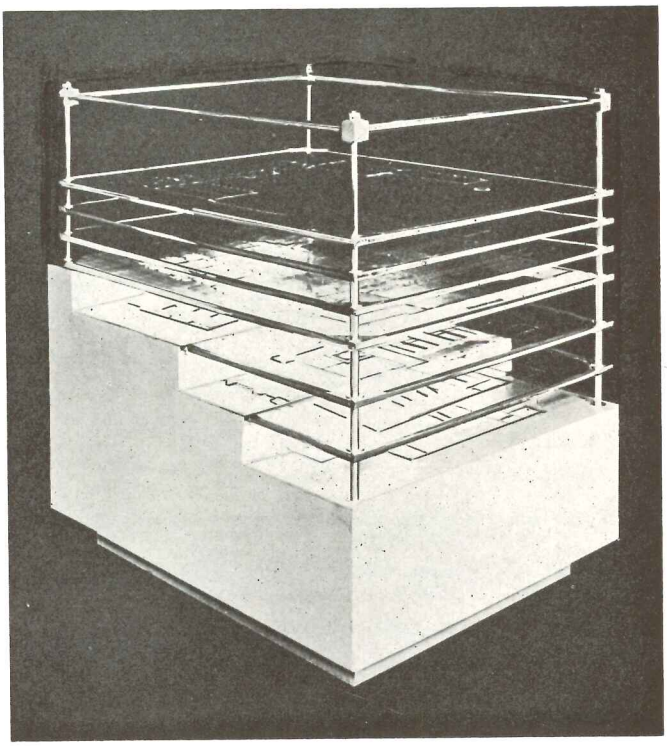
The symbols for "corner bath," "combination sink and dishwasher," "water closet" approved by the American Standards Association are destined for designs made by specialists for specialists. We can use symbols very similar to these destined for the information of laymen about the rooms of a house. A layman who sees the ISOTYPE symbols and then comes across a room drawing made for specialists understands such a special diagram better than before. And vice versa, the educational floor plan is more or less in concordance with the drawing for plumbers and architects; consequently, a technician would not feel inclined to reject such an informative and educational plan as being too childish or too primitive. We use the symbols for tree and grass also in pictographs which show the use of soil.

We hope to discuss in the near future the Practice of Architectural Representation. It is important for certain purposes that we can use the symbols arranged in such a way that we get patterns of wall papers. The single symbols are not isolated signs but elements of sequences of signs. We do not avoid cutting a symbol of a tree in half when cutting the "wall paper" of "evergreen trees."

IV. Three-dimensional Architectural Indication

The ISOTYPE method has been developed as a result of exposition practice.*** Therefore it was the purpose of this method to bring all the exhibits into relationship with one another. Unity of visualization became the actual basis of the unification of expositions. The purpose of the ISOTYPE method is to assemble pictographs, charts of different kinds, maps, photos, models, motion pictures, movie cartoons and other visual aids.

Our experience has shown that people understand a group of exhibits concerning a special problem better and more quickly if we use the same symbols and rules in all cases; either we join pictographs only with other two-dimensional exhibits or two-dimensional exhibits with models, relief maps and similar three-dimensional visual aids. We use three-dimensional tree-symbols like our two-dimensional tree-symbols—typical of a turner's work. We combine, as one of our pictures shows, three-dimensional tree-symbols with simplified models of a bathing pool and dressing accommodation. Another picture shows a model of a park; we can differentiate the various types of trees and bushes by means of shape and color. Such a model is suitable not only for exposition purposes but also as an aid for the technical collaborators of landscape architects. Such an exact three-dimensional model shows more important details than does a simple plot plan since we can show by means of a three-dimensional model the arrangement of bushes, flower beds and other shrubbery under trees.



BUILDING MODEL WITH OPEN SIDES AND TRANSPARENT FLOOR PLANS OF "LUMARITH." This informative type model was created because many people cannot read architectural plans easily. It is intended to portray, not only the floors of a big building but also the floors of a small house, including transparent furniture symbols.

A great many people cannot read architectural plans easily. A solution both informative and attractive is a structure with transparent floor plans. Such a structure is very instructive if we intend to portray not only the floors of a big building but also the floors of a small house. We also represent furniture by means of transparent symbols—transparent brown plates illustrate tables or chairs. One of our photos shows the transparent floor scheme of a big swimming pool. Electric bulbs are put in the bottom of the model. The lines representing the walls of the different floors can be made of different colors.

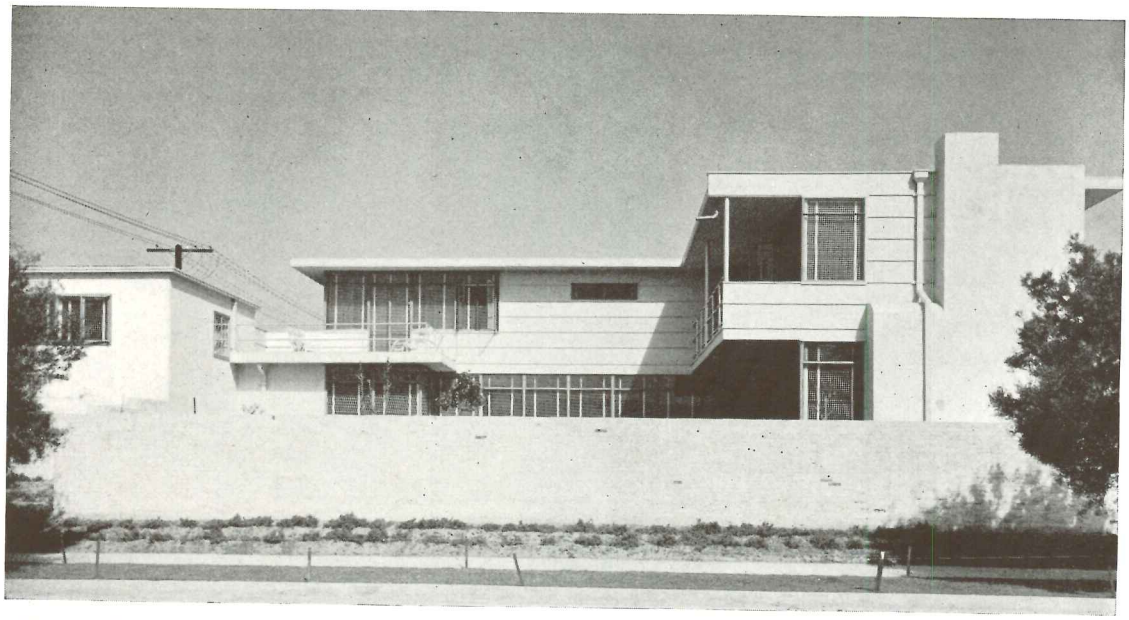
V. General Conclusion

If we wish to show the importance of a new city planning project or of a projected house within an exposition or picture book it is not sufficient to inform people only by means of floor plans and realistic representations. It is also necessary to show the dislocation and migration of people, birth rates, the size of families, general social situations and their trends.

All these problems can be discussed by means of visual aids in such a way that specialists and nonspecialists may understand the entire subject matter. The ISOTYPE standard symbols are intended to be flexible enough to enable us to cover, by means of the fundamental symbols and their variations, the whole field of informative representation; therefore the discussion on the Visual Representation of Architectural Problems is only part of the Encyclopaedical discussion on universal Visual Representation by ISOTYPE.

***A small Museum for Housing and City Planning founded in Vienna fourteen years ago was the birthplace of the later Social Economic Museum in Vienna and also of the later International Foundation for Visual Education. The city government in Vienna was in a position to consider the community as a whole. It was our purpose to build up a museum and expositions so that every one could understand how the government was using the taxation revenues. We had to show not only the problems of housing, of public health, of educational organization in Vienna, but also similar problems and their solutions in other countries, their social and economic background and the interrelationships between all these problems.

The International Foundation for Visual Education is incorporated in the Netherlands. President: Miss M. L. Fledderus; Director: Otto Neurath; Chief of Graphic Department: Gerd Arntz; Chief of Transportation Department: Marie Reidemeister; Consulting Architect: Josef Frank.



HOUSE AT LONG BEACH, CALIFORNIA HUGH R. DAVIES, ARCHITECT

Houses of Modern Design Do Receive

By HOWARD P. VERMILYA, *Director, Technical Division, Federal Housing Administration*

MORTGAGE RISKS on houses have undergone a considerable shift. Formerly a primary consideration was the borrower and his ability to pay. The lender could usually count on single ownership at least throughout the life of the mortgage. But society has become more industrialized and its institutions continue to undergo vast ramification with the result that the individual is less attached than formerly to the soil or to a particular community. The borrower may go away, but the house remains, to be used by other people. Therefore increasing importance attaches to the house itself, as the physical security of the mortgage, and to the environment, as affecting the desirability of the house. And the house must be desirable not only to isolated individuals but to groups of people large enough to form a dependable permanent market.

Accordingly, in examination of residential properties to determine their value as possible mortgage security, heavy emphasis is placed by the appraiser on the factor of marketability. The precise manner in which the "justified sales or market price" is determined is not a concern of this article. But we are concerned with marketability as a test which any kind of design must meet.

A Marketable House Must Be:

durable in construction;
planned for convenience in living;
adequately arranged and equipped for safety, light, and sanitation;
of pleasing and well-proportioned design;
possessed of an attractiveness that promises permanence;
located in a well-protected and stable community.

Here, it should be stressed, marketability is concerned not only with the present but with the future.

In appraising modern design in domestic architecture it must be admitted that such design is in an initial stage. Much of it has been paper architecture; some has been built, particularly in Florida and California where conditions for public acceptance have been favorable; and there are a few examples elsewhere. Judged by the standards we have just set up, much of it has been mediocre and some of it good; but the same could be said of our domestic architecture in general.

Such evidence as does exist indicates that modern design is a development of considerable vitality, one that cannot be dismissed as a temporary fad. Modern design has reached a development deserving serious attention not only by architects but by mortgage lenders and appraisers. An examination of it must be impersonal, free from prejudice. It is worthy of rational consideration rather than emotional attitudes.

Gain in Planning Efficiencies

Design as used in the domestic architecture of America for the past one hundred years has been applied art. It has been a transitory thing. First one and then another "style" has predominated, none for long, each

MORTGAGE LOAN for this house was written by a local bank. The mortgage was approved by Federal Housing Administration.

Photos by George D. Haight

Mortgage Loans

serving the popular whim only to be discarded later. Today it is Colonial; either Virginia, New England farmhouse, Cherry Valley Dutch Colonial, Pennsylvania, or California. Yesterday it was English Tudor with some Norman French and possibly an occasional Spanish or Italian villa; before that it was Gingerbread, the Chester A. Arthur period, and their forerunner the Greek Revival. What will it be tomorrow?

Throughout this period, admittedly decadent, there have been a few gains regardless of "style": a few planning efficiencies resulting in increased convenience; a few evidences of refinement of taste; a few improvements in structural systems; an increase in machine fabrication. Though materials have increased considerably in variety, only a limited number have demonstrated a radically better performance or economy. It is not strange, therefore, that design has reflected passing styles rather than changed modes of living or the industrial techniques elsewhere dominating this age.

Need for Flexibility of Plan

Any architecture of more than transient character must develop out of a sound structural system, adjusted to our social and economic order, used in a manner which expresses the current mode of living, in terms of the experience and tradition of the people. The future of such domestic architecture in this country lies in freedom from restrictive conventions.

That such an architecture should already be highly developed among industrial structures is significant. There no previous conventions hampered the free expression of spatial arrangements, suited to modern conditions of work, and constructed of modern materials such as steel, glass, and reinforced concrete.

There is a similar need in the domestic architecture of today. Home rarely has the characteristics formerly attributed to it. The rise of cities, the spread and acceleration of transportation, the instability and fluidity of employment in a great industrial society, all have changed materially our concept of a home. Rarely is it the center of family life as we conceived this life just yesterday. Nursery schools, playgrounds, theaters, amusement centers, restaurants, women's absence from home on occupations, and other byproducts of modern life, tend to diffuse the activities of the family. The increase in the demand for rental properties is indicative of this change in attitude.

Changed habits have brought a demand for flexibility in the arrangement of space. As other institutions have taken from the house some of its functions, the desire for economy calls for less space—but without less *sense* of space. This is achieved by giving the smaller space that remains a greater flexibility: multiple uses and supplemental areas. Again, outdoor living has required the coordination of the site plan with the plan of the interior, with an attendant stress upon the factors of light, ventilation, orientation, and traffic. There has been increased emphasis upon the need for specialized privacy; upon the degradation of the functions of service from those

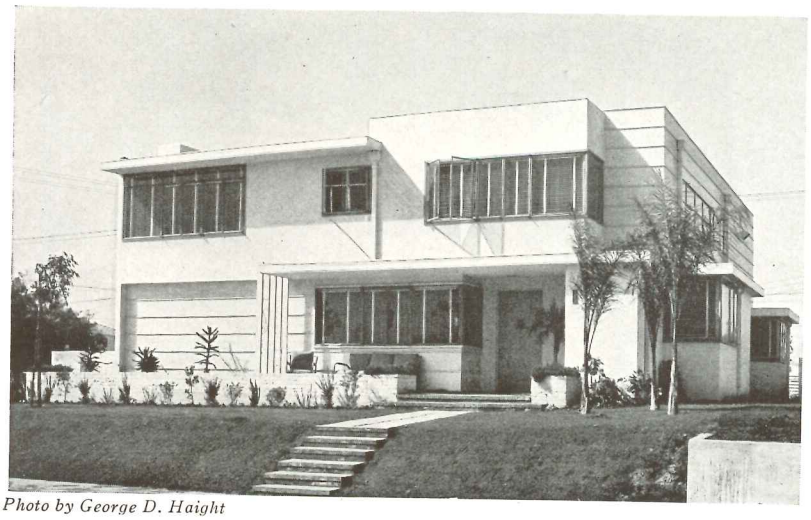
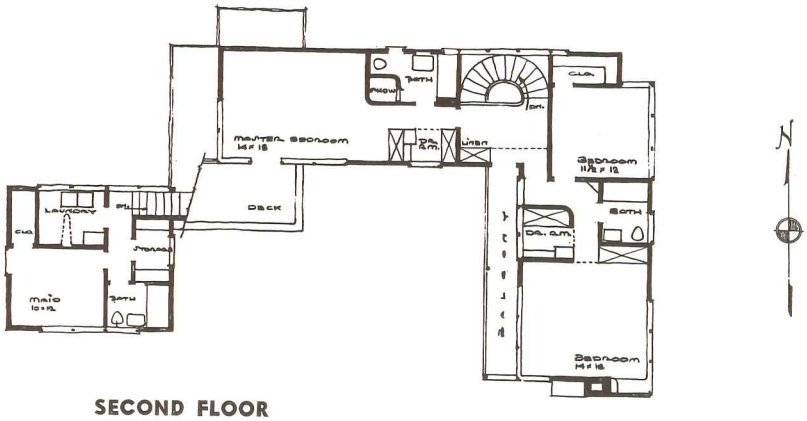


Photo by George D. Haight

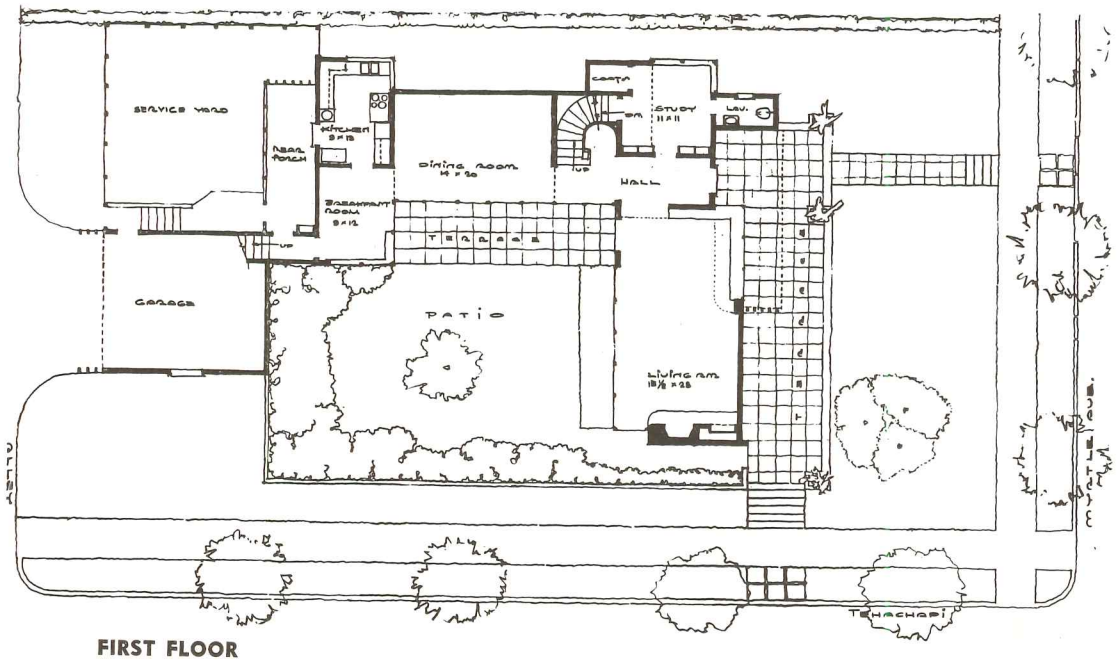
HOUSE AT LONG BEACH, CALIFORNIA

HUGH R. DAVIES, ARCHITECT



SECOND FLOOR

THIS HOUSE is commented on by FHA as achieving "a sense of space" with "coordination between interior and exterior spaces" and "in segregation of the living quarters from service areas, in privacy, flexibility, adequate light and ventilation, and in fine orientation. The use of materials is interesting and restrained."



FIRST FLOOR

CONSTRUCTION

FOUNDATION: WALLS—reinforced concrete. CELLAR DOOR and base of entire first floor, reinforced concrete slab. FRONT TERRACE—cement blocks, acid stained. PATIO TERRACE—cement, acid stained.

WATERPROOFING: Slab mopped with hot asphalt; two layers waterproof felt, mopped between layers.

STRUCTURE: Standard wood frame with light steel columns where large windows occur.

EXTERIOR WALLS: Cement plaster and wood siding over waterproof paper on wood frame.

ROOF: Built-up composition and gravel.

CHIMNEY: Reinforced brick, tile hearth.

SHEET METAL: ROOF-FLASHING—copper. GUTTERS and DOWN SPOUTS, galvanized iron.

INSULATION: SECOND FLOOR CEILING—one inch "Thermax."

WINDOWS: STEEL CASEMENTS AND SASH — Truscon Steel Co. GLASS—large areas plate glass; small panes, double strength, Pittsburgh Plate Glass Co.

FLOORS: LIVING ROOM, STAIR HALL, DINING ROOM AND BREAKFAST ROOM—black walnut block flooring. KITCHEN — maple block flooring; laid in mastic over waterproofing. STAIR TREADS — black walnut. SECOND FLOOR STAIR HALL—black walnut block flooring. BEDROOMS — oak flooring, E. L. Bruce Co. BATHROOMS—tile, Gladding-McBean Co.

ELECTRIC: SWITCHES — P. & S. Despard ivory—Duplex, P. & S. Despard ivory receptacles. Pass & Seymour. FIXTURES—flush type—"Holophane Units."

WOODWORK: FIRST FLOOR—flush birch veneer doors, birch paneling and trim. Base—pine; shoe—mahogany. KITCHEN AND MAID'S ROOM —pine. SECOND FLOOR — pine. Garage door, Holmes overhead.

HARDWARE: Yale & Towne Manufacturing Co.

PAINTING: BIRCH — stain, W. P. Fuller's Drift Wood; two coats white wax. PINE—two coats flat, one coat enamel. WALLS—3 coats paint. EXTERIOR WOODWORK—three coats lead and oil paint, W. P. Fuller Co. PLASTER—two coats Bonding Cement Paint. Bondex, Reardon Co.

PLUMBING: Standard Sanitary Manufacturing Co. MASTER BATH — colored fixtures.

HEATING: Basement gas unit furnace with Electric Hi-Lo-Medium Control. Payne Furnace and Supply Co.

TOTAL COST: House, without land, $13,253; including land, $15,753.

TERRACE

LIVING ROOM

of living (particularly in site planning), and upon the requirement that automatic equipment should reduce to a minimum the care of the house and its intrusion upon the lives of its occupants.

Consumer Acceptance of Modern Design Inevitable

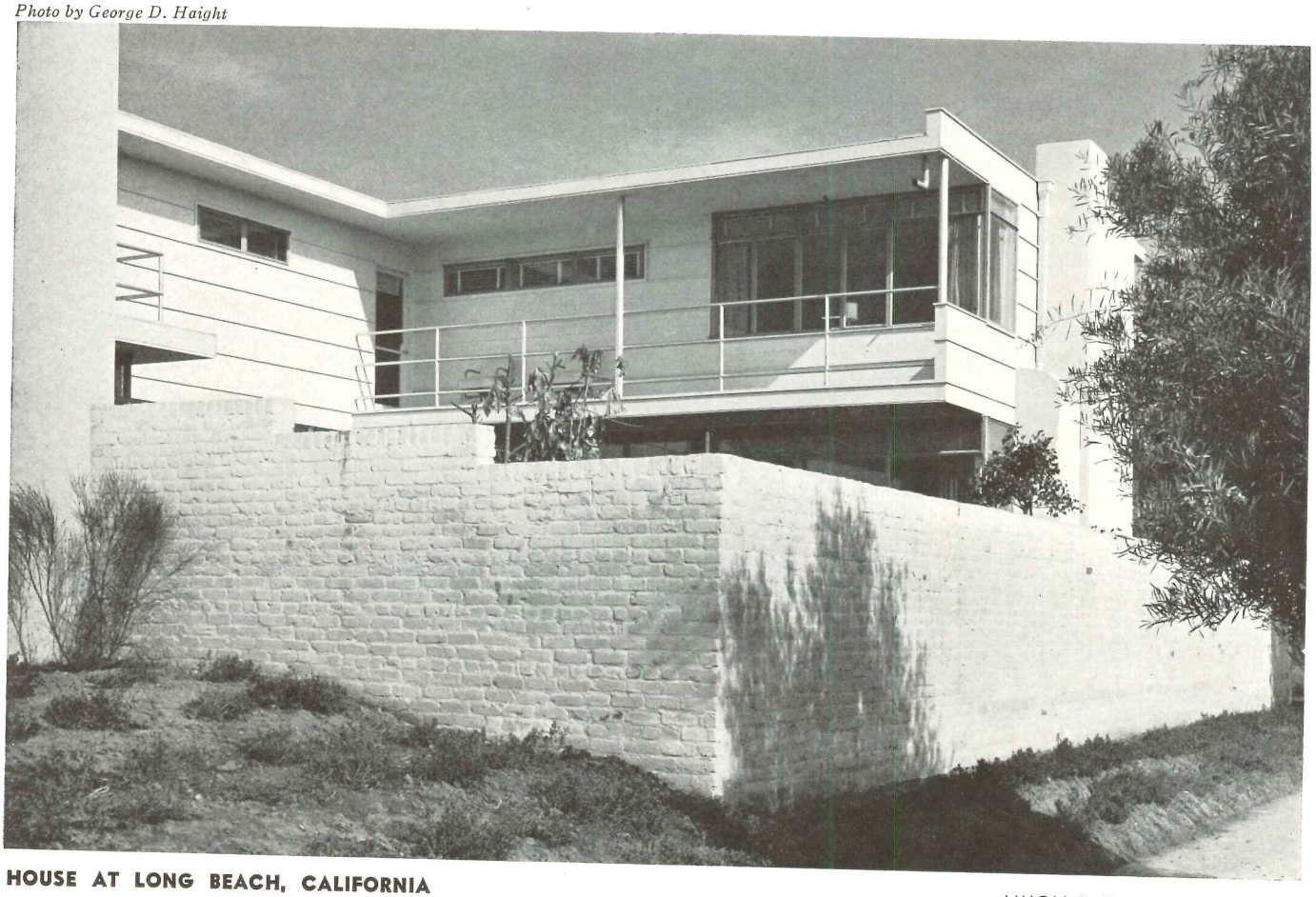
Only with considerable compromise can the requirements of modern living be compressed within the shell of the traditional house. The conventions of symmetry and classical proportion are inadequate. Modern design has not forgotten them but has had to leave them behind in the pursuit of larger principles. The more complex spatial arrangements of our time are harmonized by asymmetric balance rather than symmetry, and by homogeneous character rather than abstract proportion. The result has struck many people as "bare" and uninteresting particularly as it lacks familiar "detail." Moreover some of the new houses have consisted of little more than a set of tricks imported from Europe and applied to a conventional framework. As for the bareness, however, true new architectural styles have always put new structural development and planning adequacy ahead of the "trimmings" which have been of later growth.

The future of this architecture is not clear nor is the way easy. The forces of prejudice, ignorance, and conservatism are aligned against its acceptance. The majority of houses today are built for the market on speculation and must therefore meet an average rather than an advanced taste. Few persons own their own homes without financial encumbrances. There is a tremendous vested interest in existing housing. Mortgage interests, because of their dependence on marketability, which in turn de pends on consumer acceptance, prefer to follow rathe than lead.

If this movement toward a modern architecture i fundamentally sound it seems that consumer acceptanc must be inevitable. Then no man or institution can sto the new development. What is most needed at thi moment is a stay of judgment and the willingness t examine the new architecture rationally, together witl the willingness to recognize its worth where it has beei well done.

The accompanying illustrations are of a house designec and built by Hugh R. Davies, architect, in Long Beach California. The mortgage was written by Farmers anc Merchants Bank of Long Beach, and insured througl the Los Angeles District Office of the Federal Housing Administration. This house may serve as an example of good modern design. It presents an exceptionally fine solution of the particular problem of the small lot under the climatic conditions for which California is famous A careful study will reveal success in achieving a sense of space, in the coordination between interior and exterior spaces, in segregation of the living quarters from the service areas, in privacy, flexibility, adequate light and ventilation, and in fine orientation. The use of materials is interesting and restrained. The exterior design gives a satisfying balance between wall areas and openings. The construction is conventional in California. Nevertheless, the design would be adaptable to the panel type of construction which seems at the moment to hold the greatest promise as a structural system for domestic architecture.

Photo by George D. Haight



HOUSE AT LONG BEACH, CALIFORNIA

HUGH R. DAVIES, ARCHITECT

Photo by Van Anda

Addition shown on right half of photograph.

Photo by Lincoln

SHOWROOM

American Radiator Building Enlarged

. ANDRE FOUILHOUX, *Architect*

AMERICAN RADIATOR, having bought the property adjoining their present Tower Building on the west and the property adjoining their 39 Street Annex, decided upon the erection of a low building primarily to house a new New York showroom for Standard Sanitary Mfg. Co.

The property measures 72 feet on the 40 Street front and 44 feet on the 39 Street front, the westerly line of the 39 Street lot being 3 feet west of the westerly line of the 40 Street property. Entrance to the building was to be had from 39 Street as well as 40 Street, the 39 Street entrance to be used for service as well as for occupants of the building.

It was agreed from the start that the showroom should be of imposing proportions, double story in height with clear space. The necessity of keeping the showroom at its maximum width, also the fact that the western property line had an offset and that the building would have but few stories in height, were the deciding factors in splitting the elevators—one for each entrance.

At first, the height of the building was to be limited to 4 stories; it was then increased to 5 and finally to 6 stories to develop enough space to accommodate all the subsidiaries of the company not accommodated in the present Tower and Annex.

The sixth floor, which accommodates an auditorium for sales force, etc., has a ceiling height of 16 feet.

On the outside, the problem was to provide a structure which would tie to the present Tower without detracting from its lines.

Studies were made of a building frankly unrelated. Finally the present design was adopted. It is an extension of the base of the present Tower for the first 4 stories. Above, in order to free the outlines of the Tower, the building sets back from the street and from the east line to form a court between the new and existing building.

The motives in the lower stories of the present Tower were frankly extended in the new building. The corbels, executed in cast stone from models by Rene Chambellan, represent the different phases of the manufacture of plumbing fixtures: potter at his wheel, kiln, foundry molding, iron casting, enamel spraying.

The height of the showroom window and the different story heights are dictated by the present building. At the fifth floor level, there is a communication between the new and old building which in turn is already connected to the 39 Street Annex in its rear by a bridge across the yard. The fifth floor is thus a center of communication between the different units. This will help to take care of crowds in the sixth floor auditorium which can use the 2 elevators on the sixth floor of the new building and by going down one story can use 3 elevators in the Tower and 2 elevators in the Annex.

In the basement rear is a new boiler room where are displayed, in actual operation, several types of boilers and control apparatus. The room is finished in blue glazed terra cotta and white color applied to ceilings and pipe, ducts and boiler covering. The balance of the basement is to be a showroom. It is connected to the first floor by a generous circular stair with an interesting fixture by Kantack making use of Lumiline bulbs and sheets of clear glass.

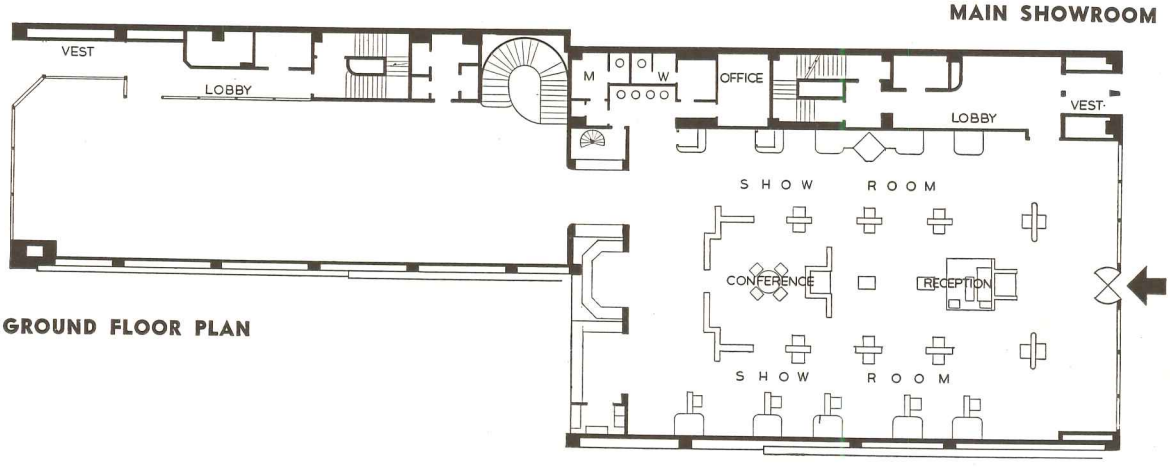
In the penthouse is located the Ross Unit for air conditioning. It is arranged so that the working of the apparatus can be seen by the public.

The rear of the first floor, the basement and the remodeled basement of the old building are being made into a special showroom to display the different products of the component companies. L. A. Skidmore has charge of these displays.

—J. ANDRE FOUILHOUX

Photos by F. S. Lincoln

MAIN SHOWROOM



GROUND FLOOR PLAN

DESIGN TREND

Standard Sanitary Showroom

This room is approximately 50′ x 100′ and 25′ high. The entire street front is of glass from floor to ceiling and wall to wall. The fixtures are displayed as free-standing floor groups and are ranged along the three walls as model bathrooms and kitchens under a marquee 7′-6″ above the floor. The marquee contains the air conditioning supply ducts. The air is forced into the room through the small slot in the bronze facia of the marquee running the length of the room. The exhaust grilles are along the floor in the piers separating the various bathrooms. In the various bath alcoves an attempt has been made to show as many as possible of the new materials, washable paper, mirrors, structural glass, molded glass, synthetic plastic, cork, etc.

The basic idea of the design of this showroom has been that of flexibility. Everything below the marquee is subject to change in arrangement and design without great time or expense. Incorporated into the design of the black terrazzo floor are numerous electric floor outlets affording complete flexibility in the arrangement of the floor displays and furniture.

The ceiling and rear wall are faced with 4-ft. square slabs of Transite with a Vinylite lacquer finish in a Chinese red color. The polished surface catches interesting reflections and increases the apparent height of the room.

Along the length of the sidewalls at the ceiling are 4′ high light coves which bathe the room with a soft light. Below these coves the plaster walls are painted a warm gray. This color is repeated in the Marsh Tile finish on the various screens and cases used as backgrounds for the plumbing fixtures. The neutral color serves as a foil for the many colors of the fixtures displayed.

SHOWROOM

AUDITORIUM

Elevator Lobbies

Since the building fronts on both 40 and 39 Streets, there are two small elevator lobbies. These are treated with white terrazzo floors, flush white plaster ceilings and marble walls. In the 40 Street lobby a dark red marble has been used as a wall facing with opposite walls of a white marble. This seems to correct the necessarily tight plan on the first floor which is the result of an efficient elevator arrangement on the upper floors. The flush doors, grilles and hardware are of a light satin bronze. The lights are concealed in marble brackets on the walls to illuminate the flush white ceiling. The 39 Street lobby is designed in a similar fashion using black and white marbles, white terrazzo floor and a glass screen from floor to ceiling affording a clear view into the adjoining showroom and widening the narrow passage.

Elevator cabs have the entrance wall and ceiling of bronze, thus simplifying the appearance of the various operating devices. The other three walls are of a natural finish teak, the floor is carpeted, the lights concealed.

Typical Floors

Corridor ceilings are furred. Floors throughout are covered with black asphalt tile. Doors are flush black, walls and metal partitions are finished in a light shade of a warm French gray. Venetian blinds throughout match the walls.

Auditorium

The auditorium and lecture hall on the 6th floor has one wall of perforated Transite back of which the necessary corkwork is placed for good acoustics. This wall is painted a dark purple-brown. The rubber tile floor is the same color. The opposite wall and ceiling are painted a beige color to match the natural Monk's cloth curtains: the auditorium may be cut down to half its size by closing a pair of these curtains. The lighting fixtures are 10 ft. in diameter shallow domes, the center of which has an anemostat form air supply grille with deflectors, which prevents any noticeable drafts. The lights are in an insular cove around the new anemostat.

The chairs are of the chromium tube type with Fabrikoid upholstery matching floors in color.

ROBERT CARSON

Photos by George D. Haight

above: EXTERIOR AND ENTRANCE to Elite Cleaners and Dyers Building

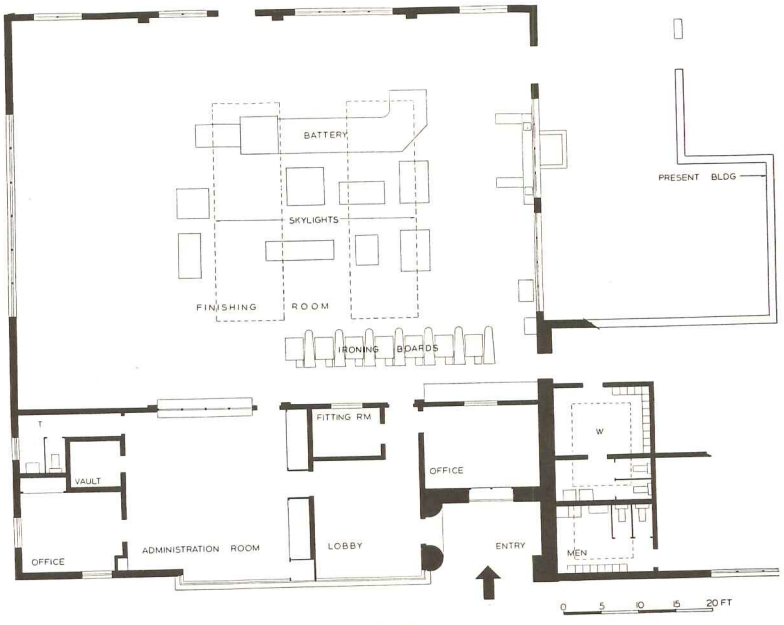
opposite page: CLEANING AND PRESSING LABORATORY

BUILDING FOR THE ELITE CLEANERS AND DYERS, INC. PASADENA, CALIFORNIA

VAN PELT AND LIND, ARCHITECTS

ELITE CLEANERS increased the size of their original structure to cover twice the former ground area.

CONSTRUCTION: reinforced concrete walls, beams, sign fin, shop floors. Structure designed for lateral stresses, of which sign fin is an integral part. Portions of exterior and interior plastered. Roof, Archrib construction with mineral-surfaced composition roof. Skylights, steel sash glazed with wire glass. Portion of building at left of sign fin is new construction, and, right of fin, remodeled part.



PLAN of cleaning laboratory and offices

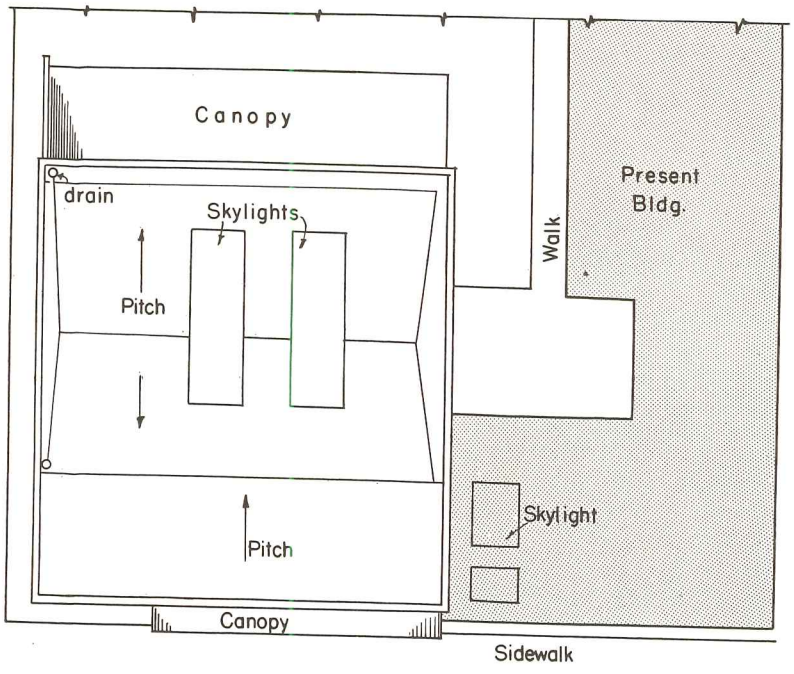
OFFICE AND RECEPTION ROOM

Photo by George D. Haight

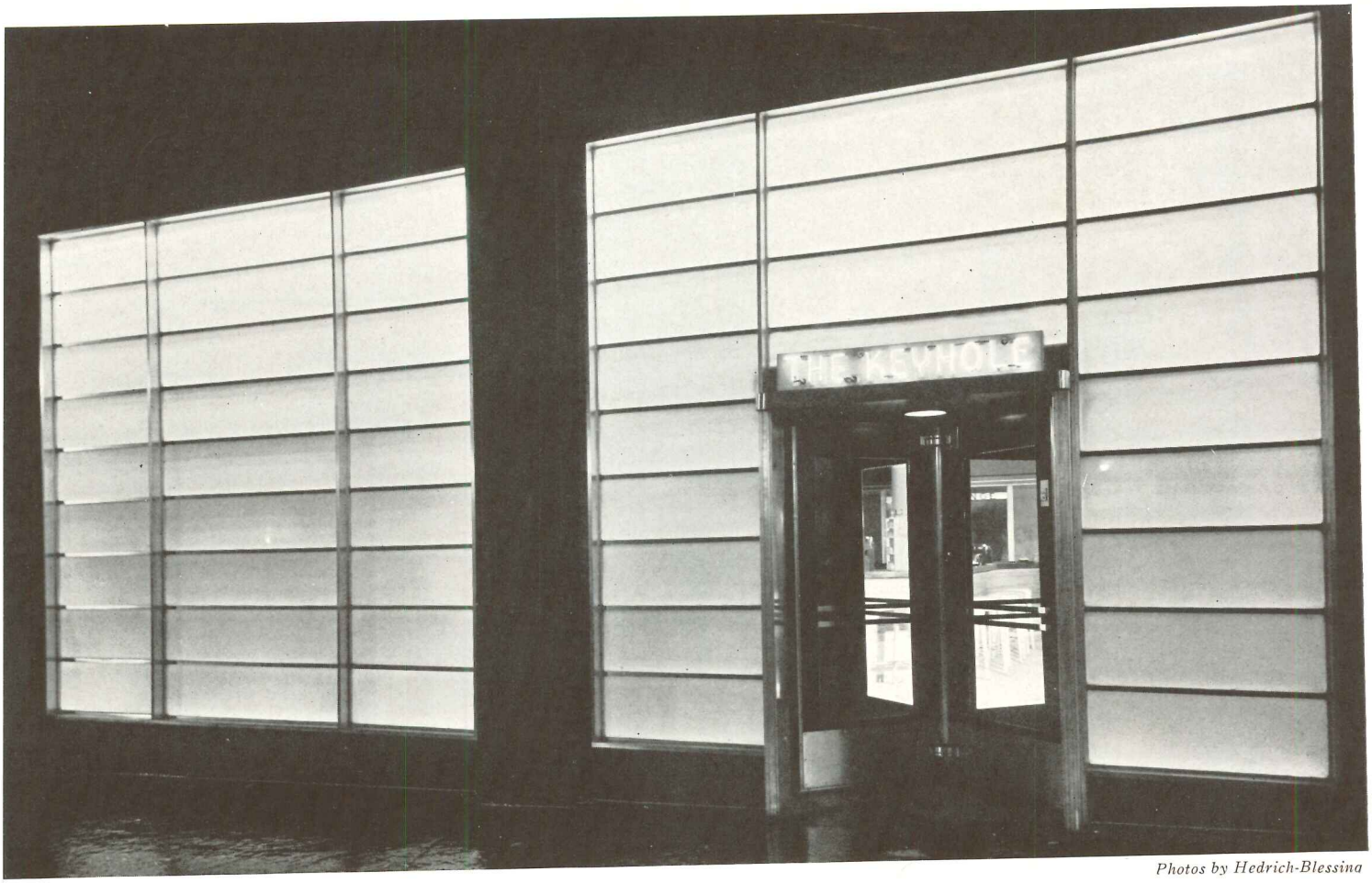
BUILDING FOR THE ELITE CLEANERS & DYERS, INC. PASADENA, CALIFORNIA

COLOR AND MATERIALS: general color of exterior, light buff. Dado at show windows, terra cotta. Entrance back wall and ceiling, wine color, and north wall, terra cotta. Office interiors finished with bleached mahogany panels, buff colored stucco above and Acousti-Celotex ceilings. Floors, Wood Mosaic's Gothic Oak in nine-inch squares. Shop walls and ceiling, light buff; floor hardened.

EQUIPMENT: heating throughout, forced air over fin-type steam radiators. Show-window lighting, combination of incandescent and neon.



PLOT PLAN



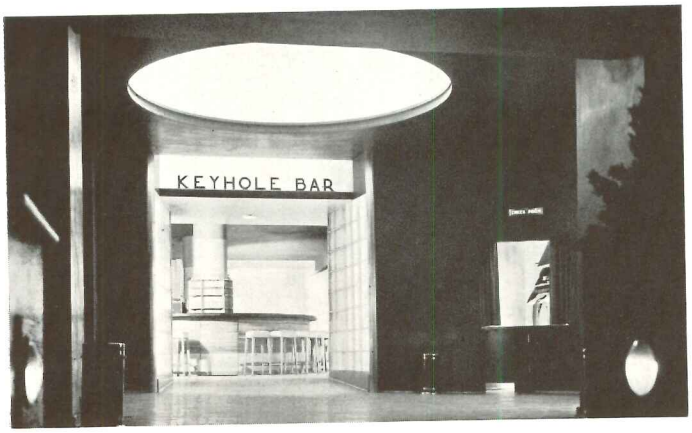
Photos by Hedrich-Blessina

ENTRANCE to Keyhole Bar and Cafe from street

KEYHOLE BAR AND COCKTAIL CAFE, HOTEL GIBSON CINCINNATI, OHIO

HOLABIRD AND ROOT, ARCHITECTS

THE KEYHOLE Bar and Cocktail cafe comprise a part of the first floor in the Hotel Gibson on the north side of the lobby. A new bronze front on Walnut Street was installed and glazed with flashed opal glass. Reflector window lighting was employed between the glazed front, and yellow Venetian blinds on the room side. A revolving door gives access to the bar direct from the street. From the bar, access is again provided to the passageway between the hotel lobby and the first floor of the Fifty-Third National Bank. From the passage, entrance is provided to the Cocktail Cafe which has a walkway at the first floor level and a hedge-inclosed, carpeted raised platform with canopy above. The purpose of this canopy is to reduce the apparent room height since the original ceiling here was approximately 24′ above the floor.



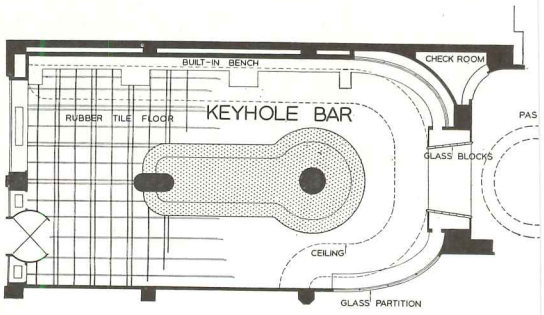
ENTRANCE from passageway in lobby

There is service from the kitchen to the Cocktail Cafe and bar service provided by a *special* service bar. The four alcoves have metal awning canopies above which there is a specially treated wall for projection machines which throw silhouettes and colored lights upon the wall.

The equipment room, beer pre-cooler and storage, together with glass-washing facilities for the barroom, are directly beneath this room in the basement area. Service is provided by means of a dumb-waiter.

The entire addition is air conditioned with separate supply and exhaust systems. Heating coils, air filters and other equipment supply both heat in winter and cool temperatures in summer. Automatic thermostatic control regulates heating, cooling and humidity.

THE COCKTAIL CAFE is an extension of the barroom separated by a passage. Here the ceiling is lowered by means of a canopy.

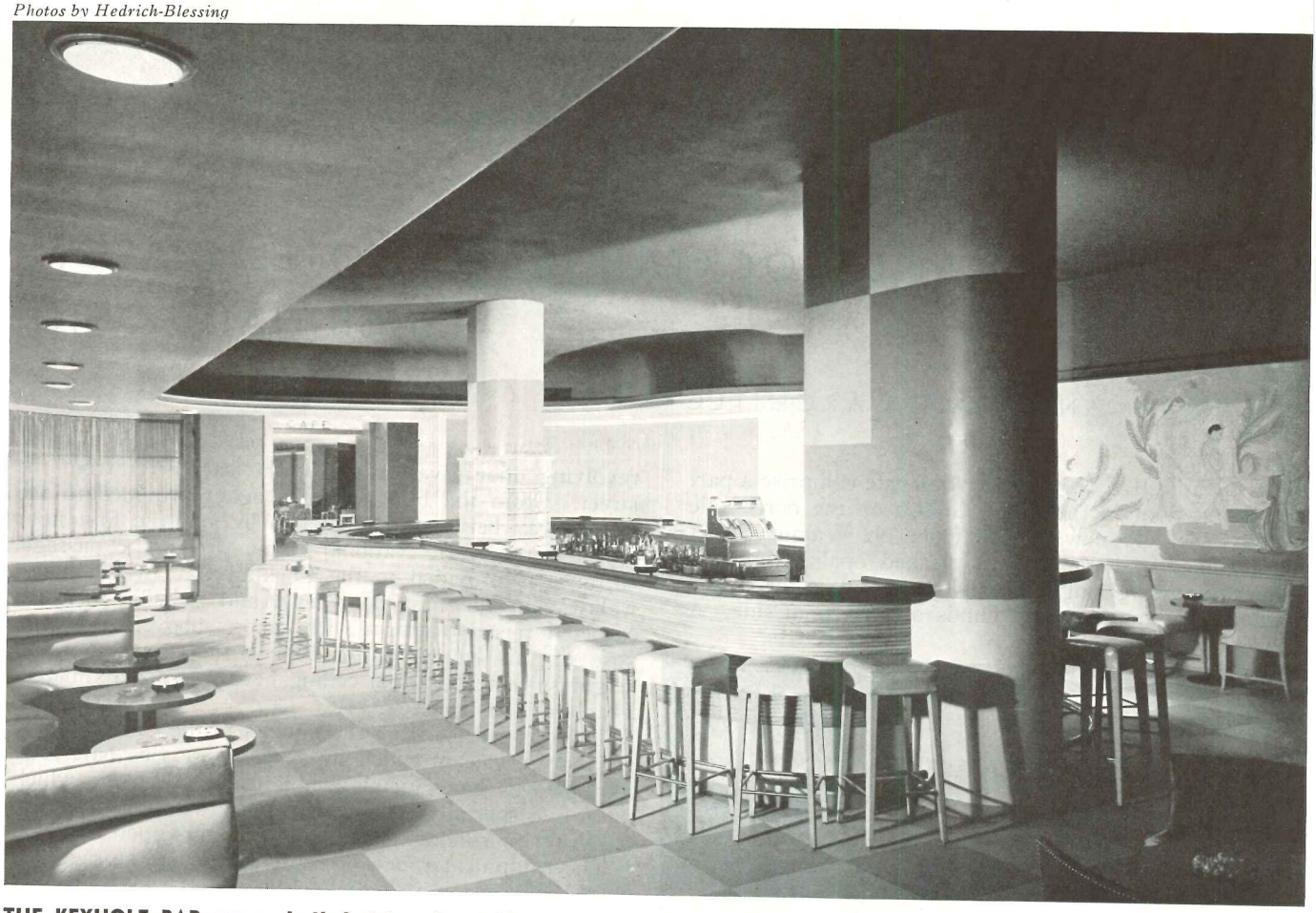


FLOOR PLAN

HOTEL

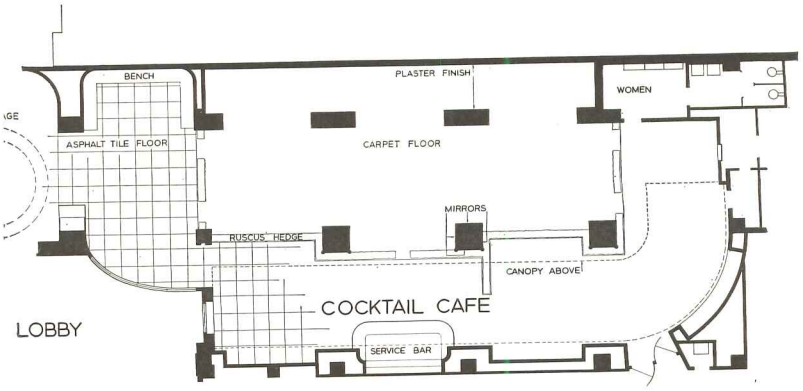
KEYHOLE BAR AND

Photos by Hedrich-Blessing



THE KEYHOLE BAR serves both hotel and outside clientele.

The general color scheme in the barroom consists of combinations of yellow and gray. The benches and stools are upholstered in yellow leather with table tops of gray Formica. The front of the Keyhole Bar is a combination of yellow and gray linoleum in the lower parts and natural reeds above. Free-standing columns are inclosed with glass shelves or niches above which the column is covered with gray and yellow linoleum.



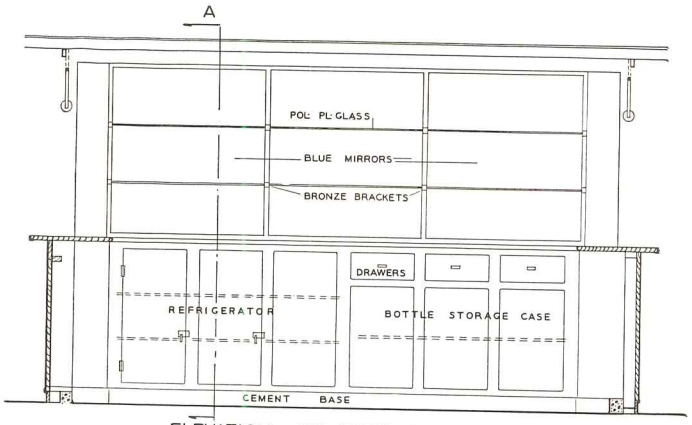
COCKTAIL ROOM, HOTEL GIBSON CINCINNATI, OHIO

GENERAL ILLUMINATION supplied by spotlights above canopy and by table and candle lamps.

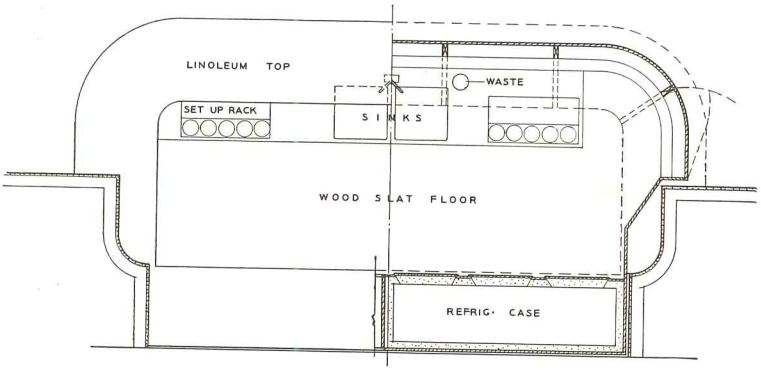
There are built-in curved benches in the barroom with table service, and chairs and tables for regular bar service.

The furniture in the Cocktail Cafe and the built-in benches are upholstered in green leather with chartreuse carpeting on the raised platform. The general color scheme in the Cocktail Cafe is chartreuse green and yellow. There are mirrors on three sides of free-standing columns below the canopy. Canopy ceiling is in an off-white while the main ceiling of the room is painted a very dark blue having acoustical and decorative hangings placed near the high ceiling and supported from permanent wire hangers.

Photo by Hedrich-Blessing

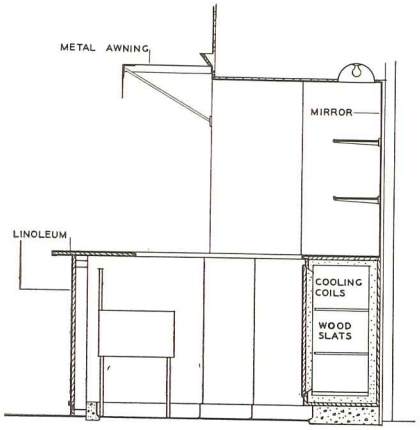


ELEVATION OF BACK BAR

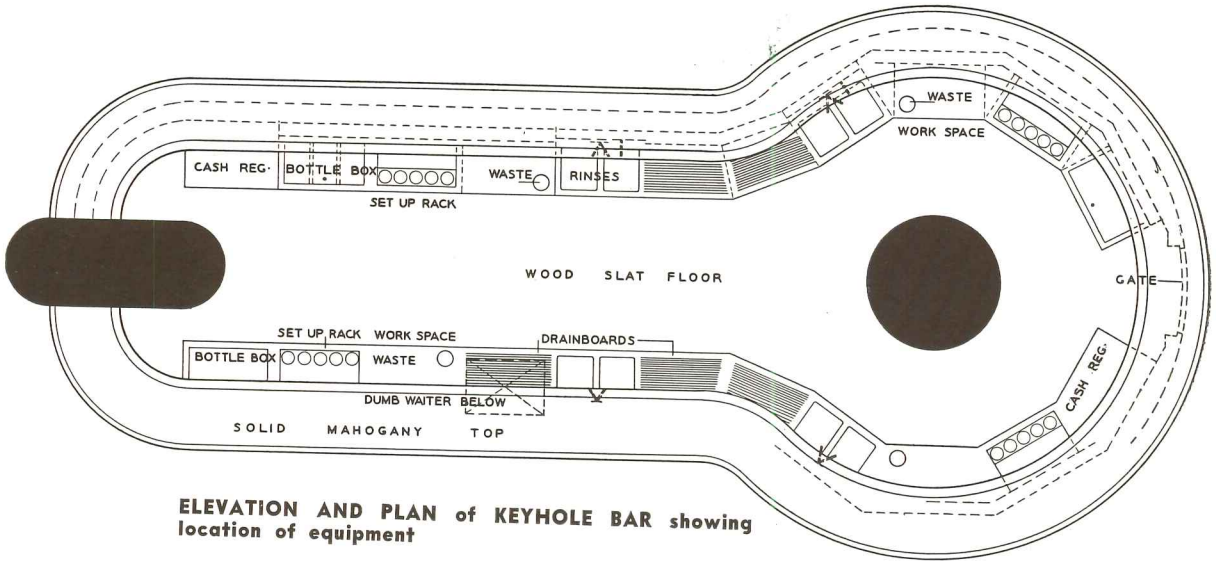


ABOVE BAR TOP BELOW BAR TOP

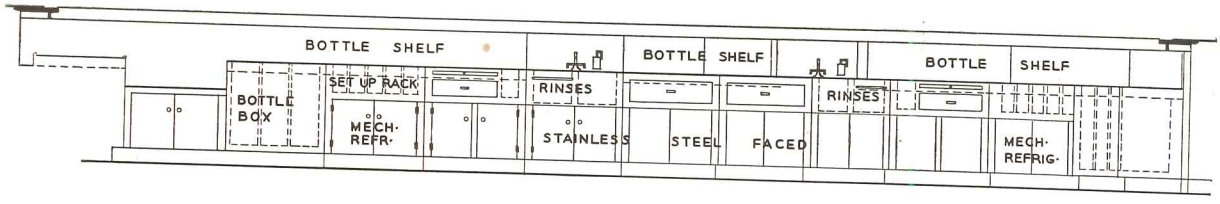
DETAILS OF CAFE BAR



SECTION A



ELEVATION AND PLAN of KEYHOLE BAR showing location of equipment



DDITION TO THE
ERMAN HOSPITAL
ALSTON, LONDON

SIR JOHN BURNET,
TAIT & LORNE,
ARCHITECTS

A

Photo by Herbert Felton, courtesy "The Architect and Building News"

B

Courtesy "The Architect's Journal"

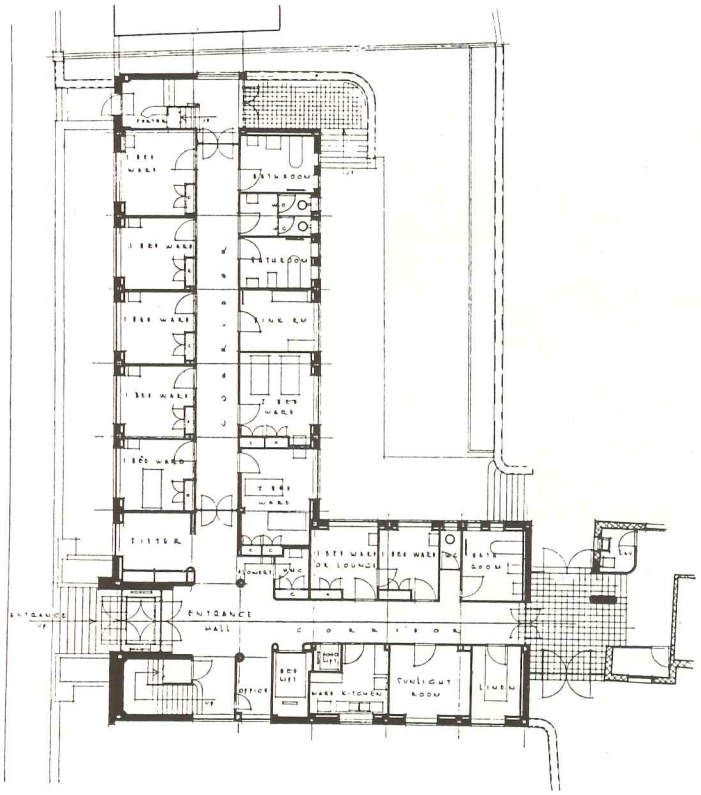
A The attractive appearance of this MAIN HOSPITAL FRONT is a result of a studied disposition of windows having horizontal proportions, and of a refined use of colors. The hospital walls are faced with a yellow sand-lime brick having light mortar pointing. Light blue tiles appear on piers at upper story.

B THE MAIN ENTRANCE is sheltered by a reinforced concrete canopy. Black granite was used as a background for the hospital name. The concrete flower boxes and canopy edges are surfaced with pebble aggregate.

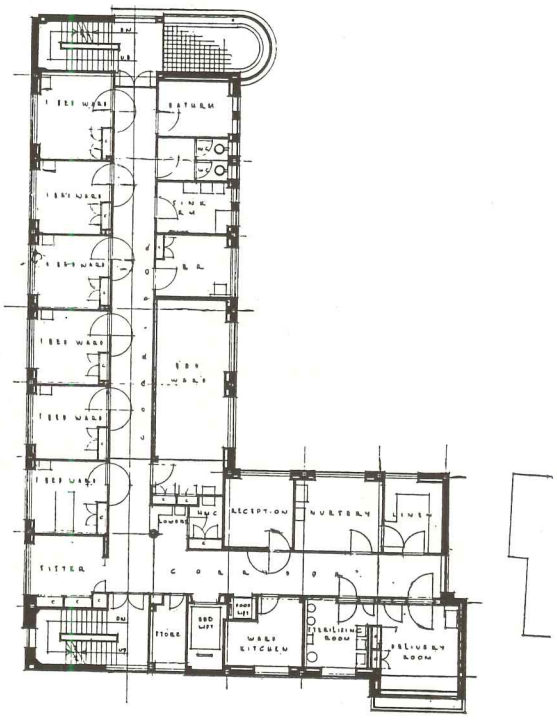
ADDITION TO THE GERMAN HOSPITAL DALSTON, LONDON

left: STAIRWAY HALL LEADING TO TERRACE. Treads, risers and dado in yellow harmonize with silver-bronze handrail.

right: ENTRANCE LOBBY showing waiting space and flower desk. Floor finishes are linoleum for all corridors and wards. Elsewhere the floors are terrazzo. The walls are tiled up to 5 feet, with one course of tiling carried round the door opening as an architrave. Painted plaster is used above the tiling. The general color scheme is yellow and blue throughout. Doors, metal trim and linoleum are all in a light, pleasant blue, while the walls and tiling are canary yellow.

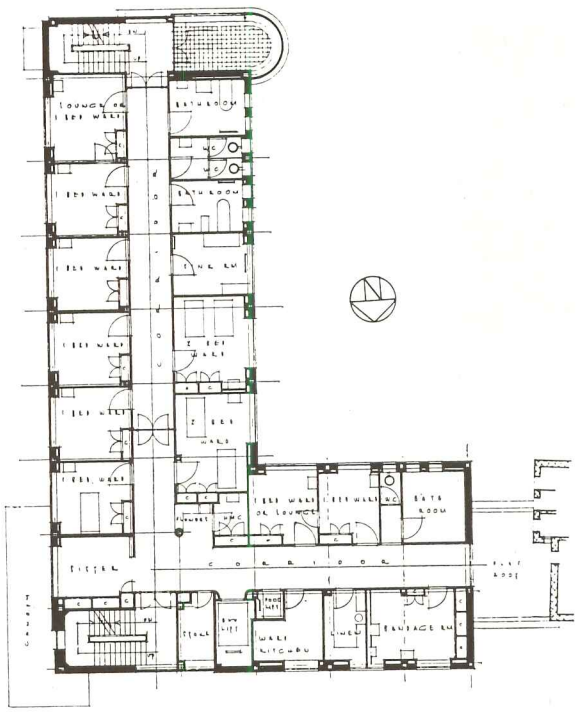


GROUND FLOOR

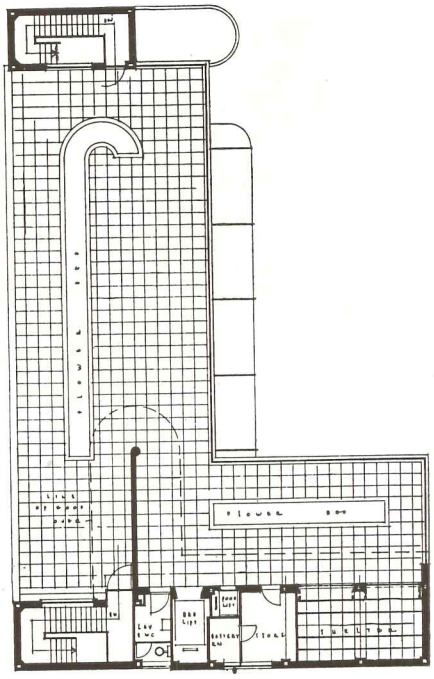


SECOND FLOOR

Photos courtesy "The Architect's Journal"



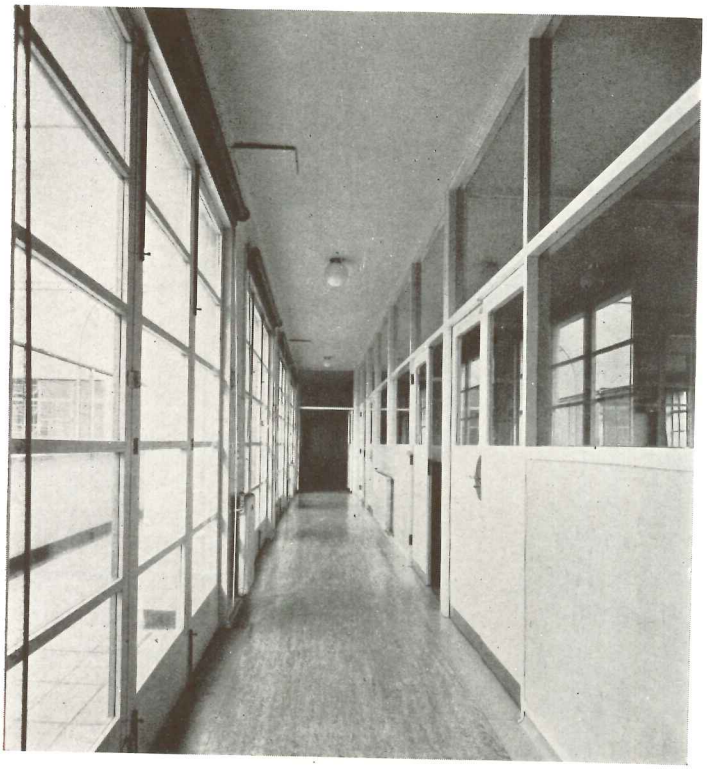
FIFTH FLOOR



ROOF TERRACE

A

Photos courtesy "The Architect's Journal"



B

ADDITION TO THE GERMAN HOSPITAL DALSTON, LONDON

A THE ROOF TERRACE is of precast concrete slabs laid on asphalt to provide hard-wearing surface. The canopy is of reinforced concrete cantilevered on either side of a center pier. The flower beds are constructed of a drained concrete pan with brick wall and stone coping.

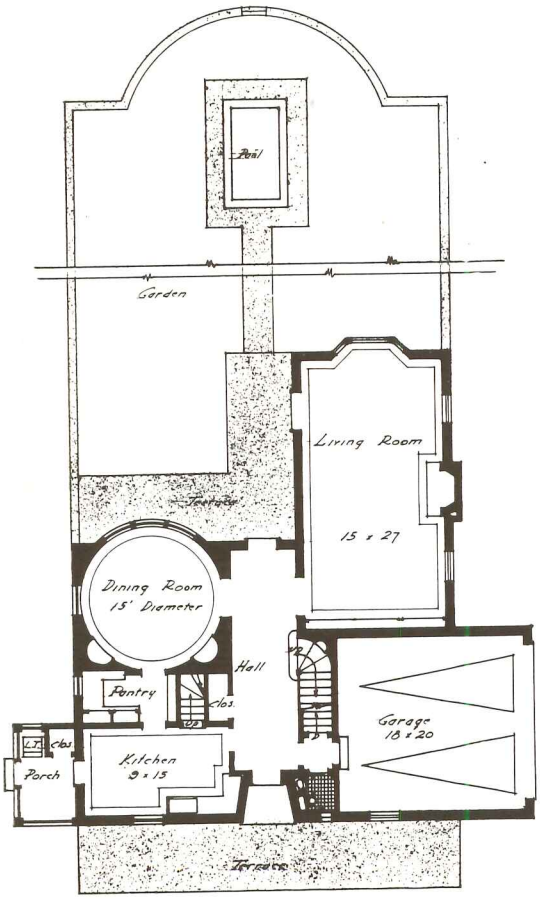
B CORRIDOR TO WARDS. All windows were specially designed to be cleaned from inside the building. The children's wards on the top floor are subdivided with glass screens from dado height to ceiling level. A point of interest is the way the door swings are arranged from the various wards on this fourth floor so as to permit beds to pass out on to the sun balcony. If required, this floor can be cleared of all screens and become one big ward.

Photos by Victor N. Camp

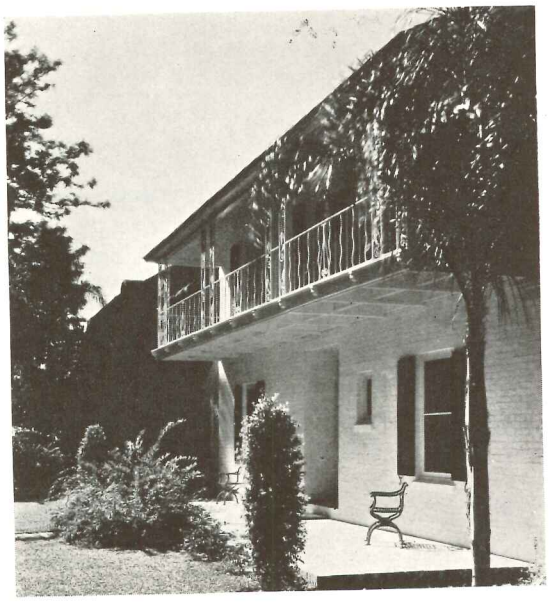
HOUSE DESIGNED FOR OUTDOOR LIVING

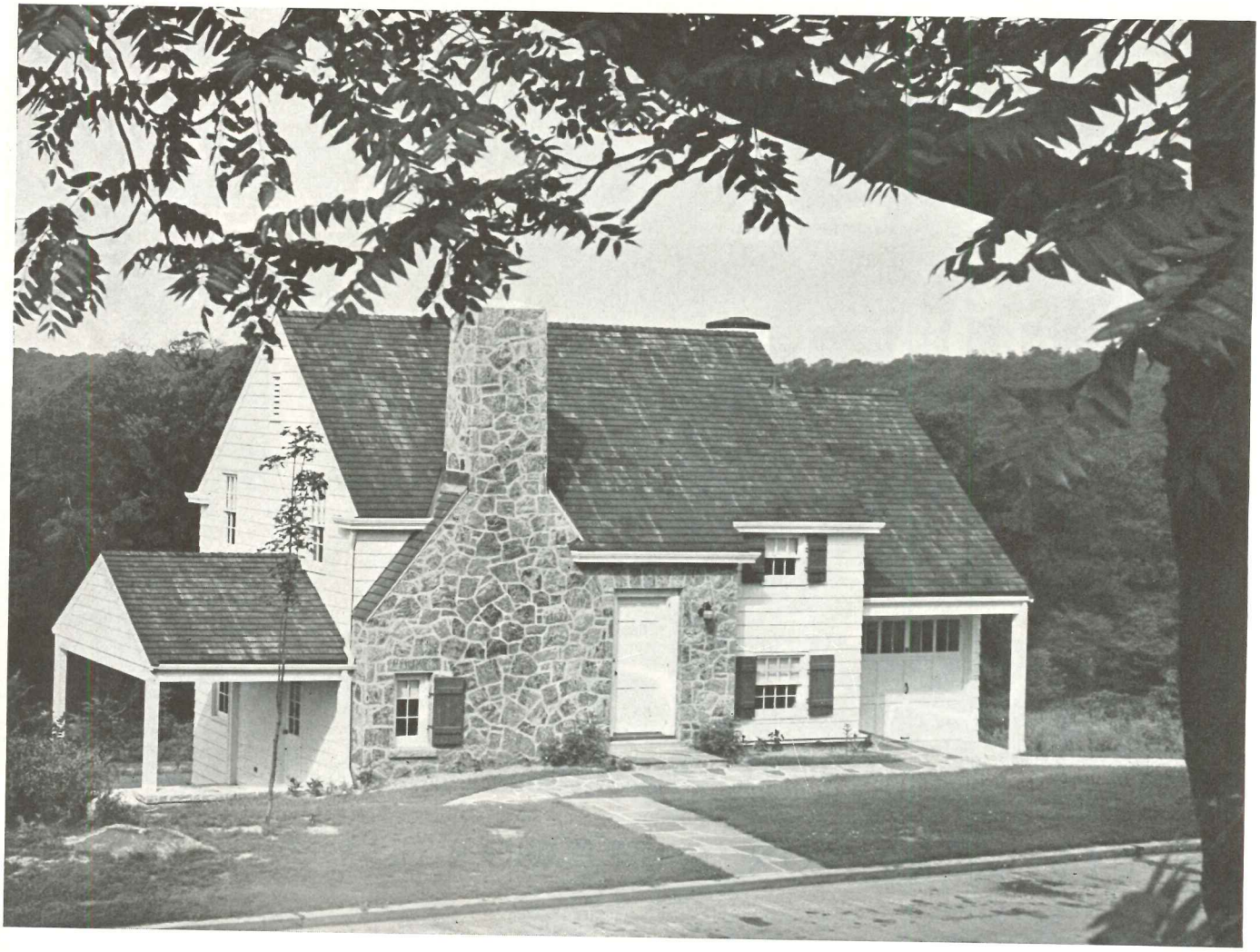
FLORIDA HOUSE

JAMES GAMBLE ROGERS II,
ARCHITECT



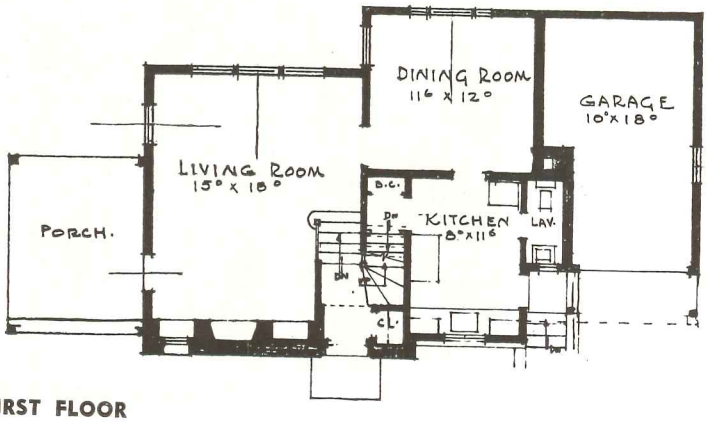
THIS HOUSE faces on a street having considerable traffic. Living and bedrooms face southwest and overlook garden at the rear. The garden is made an integral part of house for outdoor living. The house is intended for winter living only.



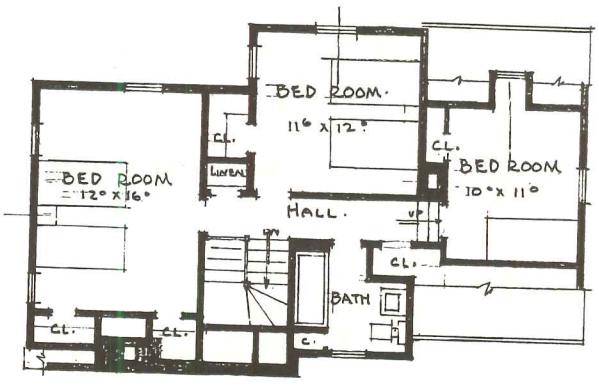


HILLSIDE HOUSE
ORCHARD HILL DEVELOPMENT, WESTCHESTER, NEW YORK

RANDOLPH EVANS, ARCHITECT



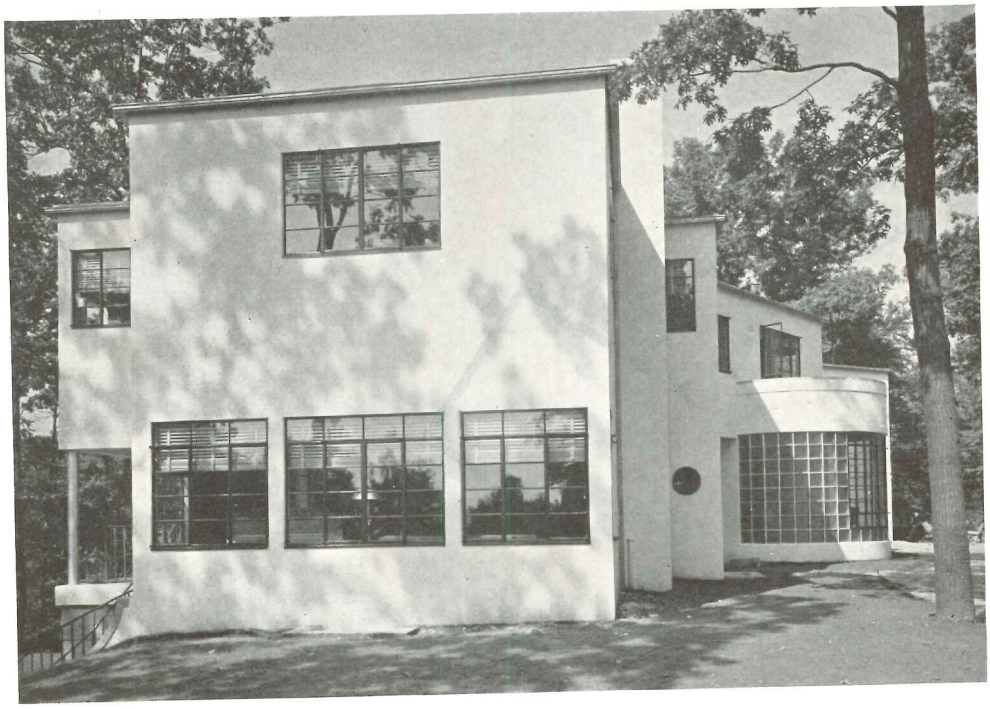
FIRST FLOOR



SECOND FLOOR

STEEL-FRAMED RESIDENCE, WESTCHESTER COUNTY, NEW YORK

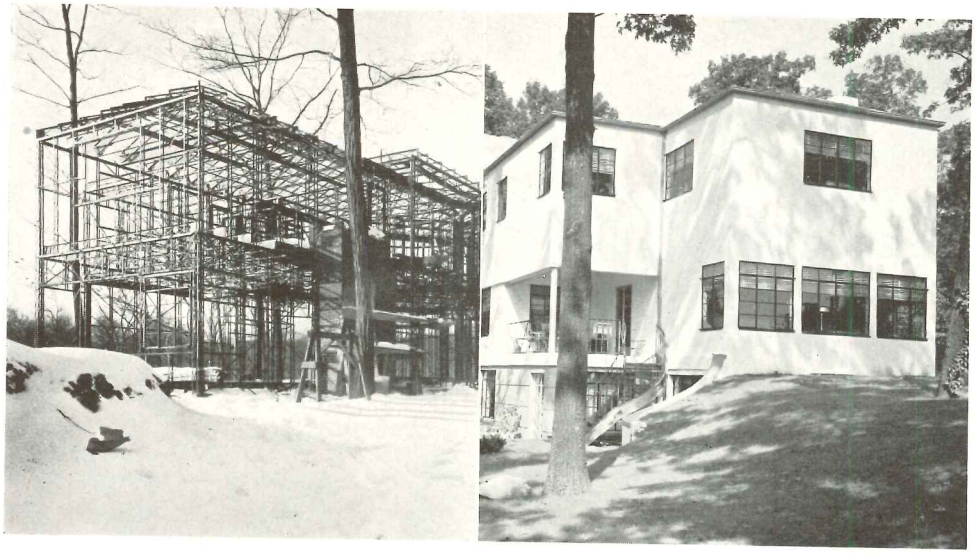
W. STANWOOD PHILLIPS, ARCHITECT



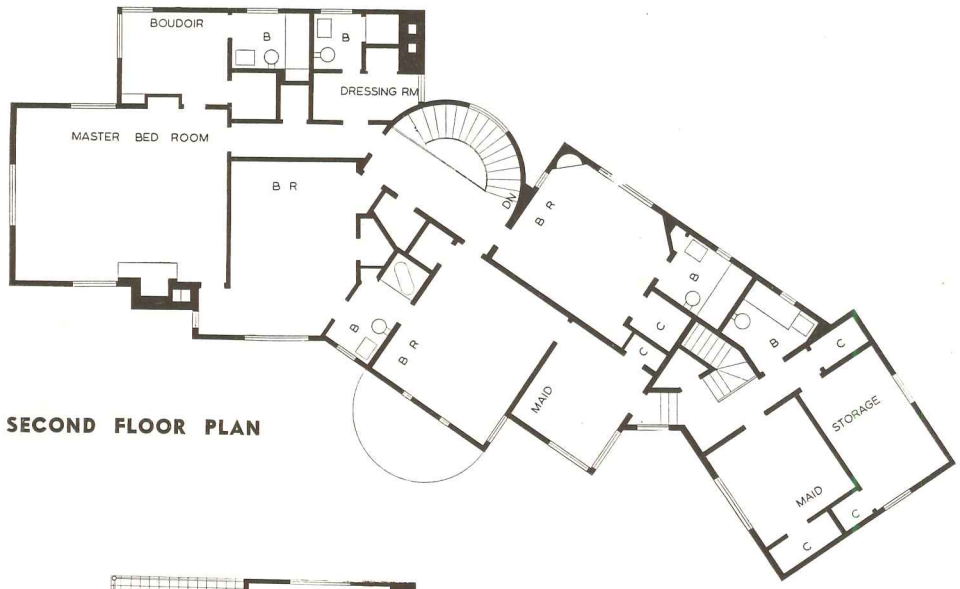
THIS SPACIOUS residence for all-year use was planned to fit a wooded site with desirable views to the south and east.

From earliest stages of planning, the owner insisted on a modern house in all that the term implies. The architect explains that "plans and structure are a conservative working out of such an idea in terms of personal use, materials, location at site and exposure."

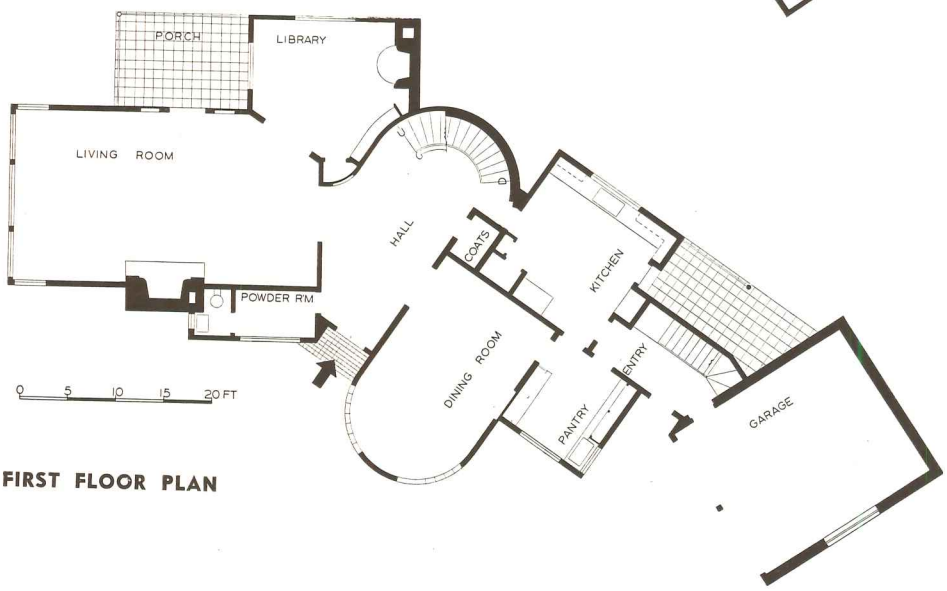
STEEL-FRAME RESIDENCE IN WESTCHESTER COUNTY



Welded steel frame, concrete floors, steel sash and final finish of cemont stucco



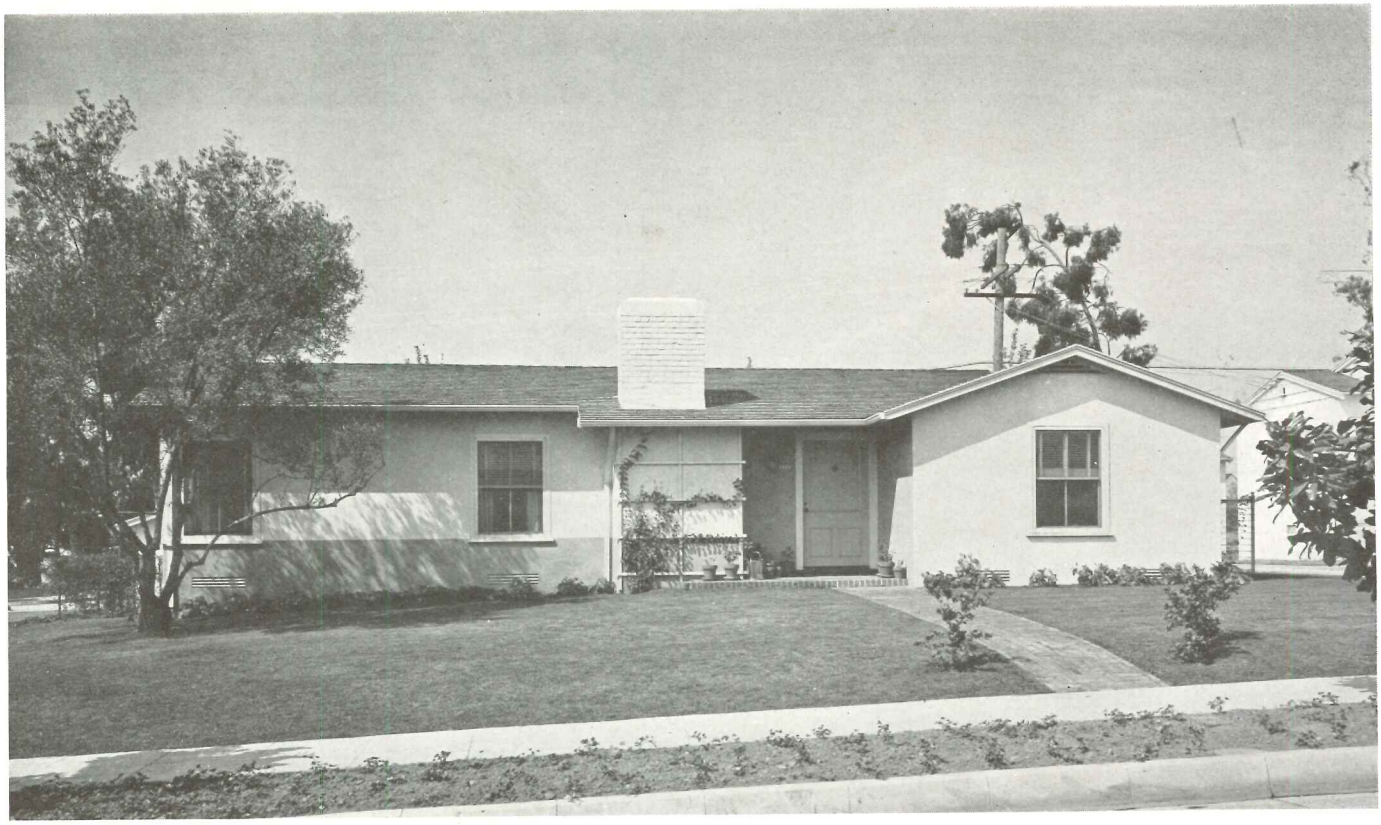
SECOND FLOOR PLAN



FIRST FLOOR PLAN

A fire-safe house was desired by the owner. Bethlehem steel-stud construction was adopted for the entire frame, faced with Steel-tex lath and a smooth cement finish. This construction insures a stable wall reasonably free from cracked surface because of the homogeneous character of framing and surface. Floors and roof are reinforced concrete on steel truss frame. The building structure has been welded throughout. Wood is entirely absent from the finish, excepting for doors and shelving.

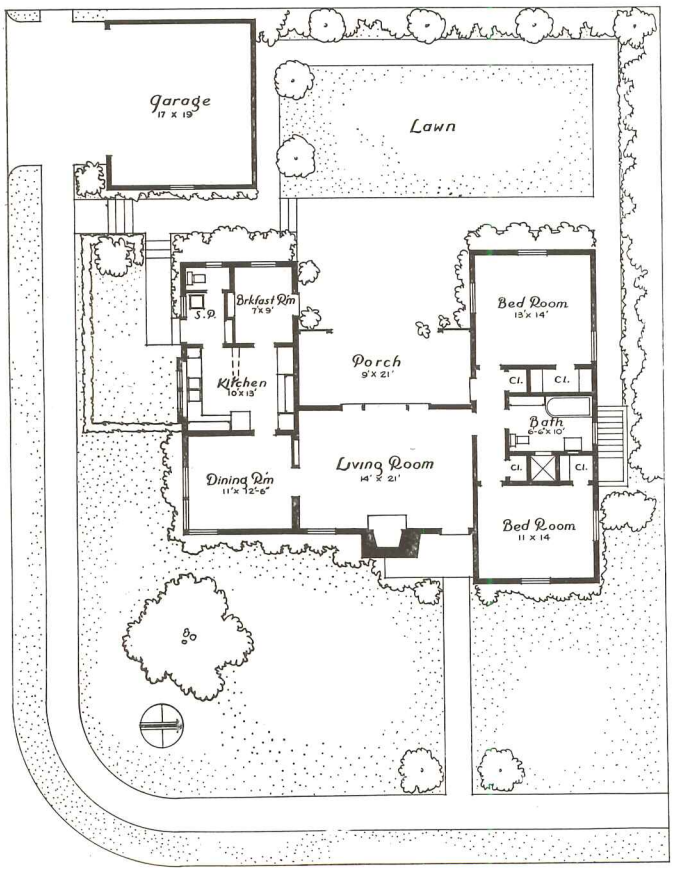
Rockwool insulation was adopted for side walls and ceiling beneath the roof. Heating is by Holland system with humidification and air circulation.



STARBARGER HOUSE ON CORNER PLOT

GLENDALE, CALIFORNIA

W. L. RISLEY, ARCHITECT



THIS house was built on a corner lot. The special feature was the outside living room reached from the living room, kitchen wing or bedrooms. The house is a warm parchment color with a henna dado. The rear wall of the patio and front door are also painted henna. This house is heated with a Payne gas furnace. The cost was about $5,000.

TVA CREATES A NEW FORM of DISPLAY

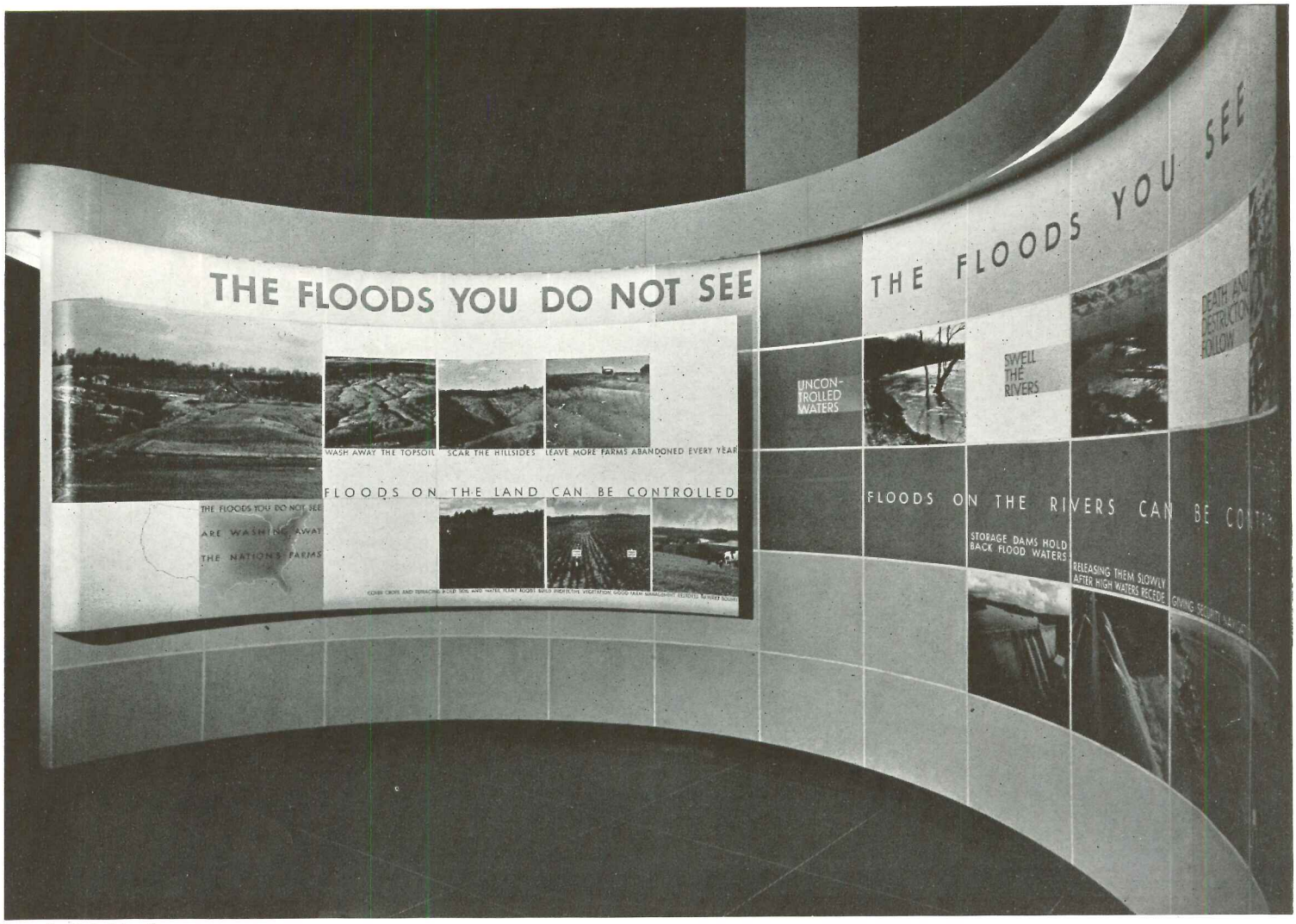
DESIGNED BY ALFRED CLAUSS

FOR THE MUSEUM OF SCIENCE AND INDUSTRY, NEW YORK

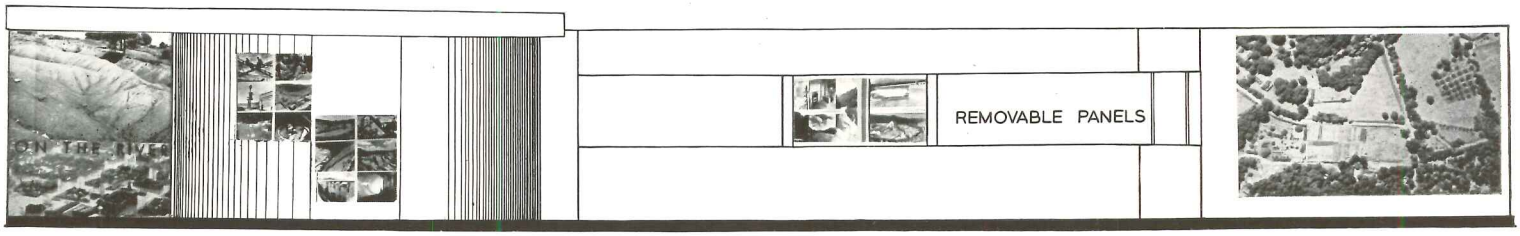
HOW the Government, through the Tennessee Valley Authority, is working to keep the great national waterways assets for the country is told in a comprehensive exhibition at the New York Museum of Science and Industry. The many-sided story of this large-scale flood control, navigation and power development project is told in models, dioramas, murals, maps, pictures and colored transparencies. The causes and cure of flood damage and land erosion are visually described in a group of large-sized picture panels which interpret the difference between these two phases of the conservation problem as "Floods You See," meaning the spectacular catastrophes of great rivers running amuck, and "Floods You Do Not See," meaning the more insidiously destructive processes which, continuing over a period of years, gradually wash away the land.

Large photographic displays of the dams which have been constructed under the TVA are made concretely intelligible to the layman through the medium of a model showing how a lock actually works. Landscapes demonstrating conditions in the vicinity of a controlled river and an uncontrolled river are compared in two large models of typical watershed country, while a diorama of an electrified farm illustrates the comfort and efficiency available to the farmer.

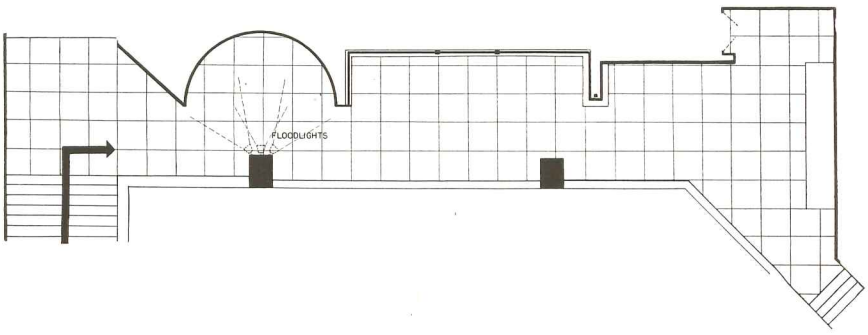
A large watershed map of the United States gives the visitor a comprehensive idea of the scope of the problem whose attack has been thus begun by the Tennessee Valley Authority in the nation's first large-scale, long-range regional development program. Another large map in the form of a painted glass transparency presents a unified picture of the entire range of the TVA's activities.



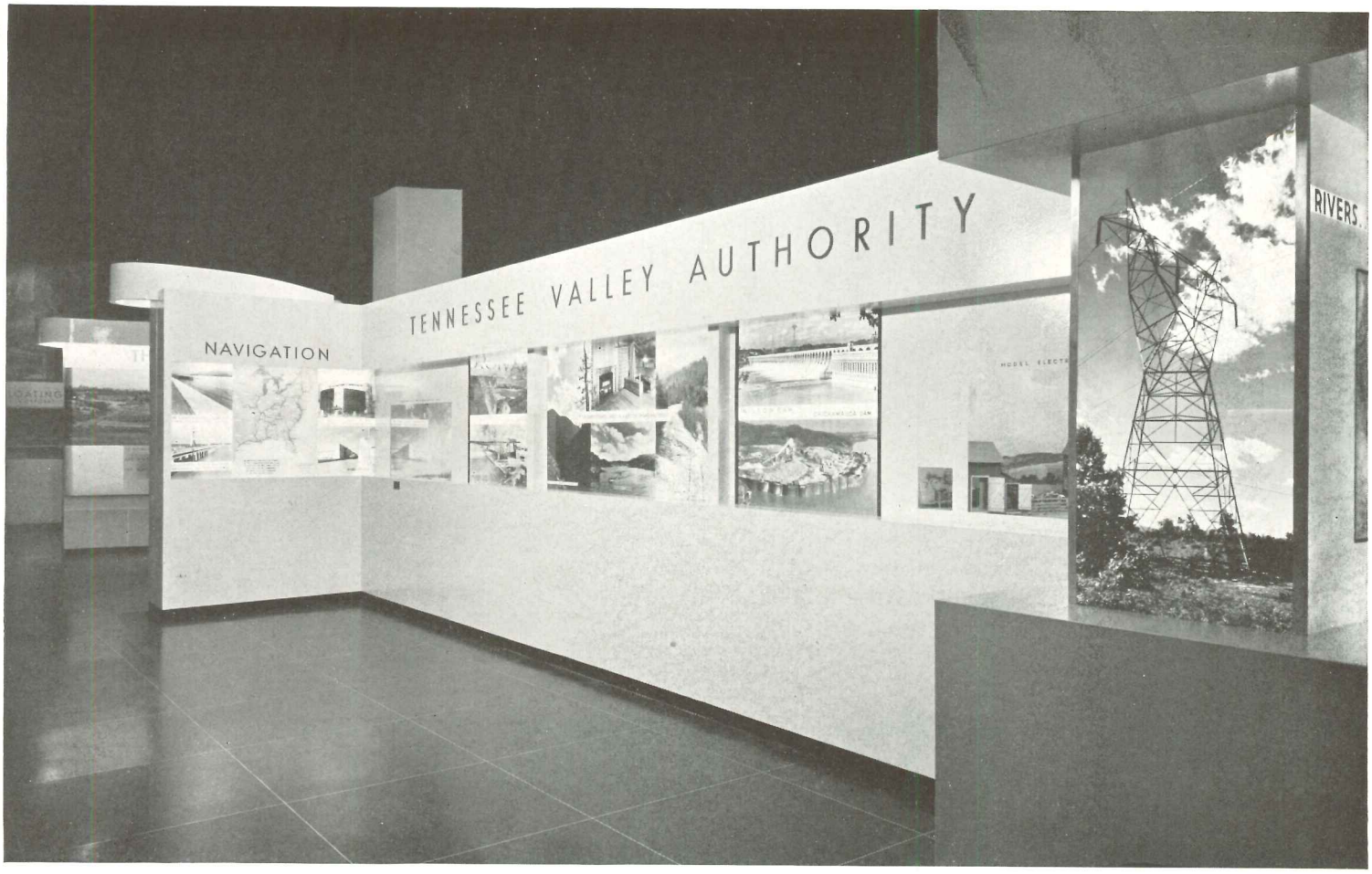
Photos by F. S. Lincoln



ELEVATION OF EXHIBIT with use of photo murals and illuminated glass panels



PLAN OF EXHIBIT showing relation to permanent exhibits at Museum of Science and Industry, New York.



TVA CREATES A NEW FORM OF DISPLAY

DESIGNED BY ALFRED CLAUSS

FOR THE MUSEUM OF SCIENCE AND INDUSTRY, NEW YORK

Photos by F. S. Lincoln

The causes and cure of flood damage, land erosion, power and construction are visually described in a group of large-sized picture panels which interpret conservation problems.

DESIGN-CORRELATION

By FREDERICK J. KIESLER

CERTAIN DATA PERTAINING TO THE GENESIS OF DESIGN BY LIGHT (PHOTO-GRAPHY)

PART 1

FOR THE public at large, photography was invented by Daguerre. For the historian, photography was invented by Wedgwood and Davy at the turn of the 18th century. For the morphologist photography is not an invention, but the result of an inevitable chain of chance discoveries.

These discoveries seem to be based on the desire of man to project himself beyond the moment of his being, for which purpose he invented religion, art and philosophy, as he developed science and technology for survival. Since he fails to survive physically, he seeks to defy death by procreation, and employing artifice, he creates less perishable documents, and leaves behind the permanent reality of thought. Using the agency of light to record a vanishing image of nature, photography was added to these manifestations.

When Danielo Barbaro proposed, in his "Practice of Perspective" in 1568, to put a lens into the aperture of a camera obscura room, he was chiefly concerned with helping artist-painters to achieve a truer perspective in their landscapes and interiors. Such technical aid was directed only at individuals who were artists. But with the first folding cameras of George Eastman in the 1890's, usable without tripod, easily movable and at a reasonable price, the reproducing camera-machine was directed at every one.

As chance discoveries progress and individuals as well as manufacturing plants learn to recreate natural phenomena artificially, and to control its effects to a satisfactory degree, it leaves the laboratory to become the tool of the public.

For centuries art schools have endeavored to turn out mass creators to reproduce true images of nature. They have failed, since the power to create art is singular. However, with the development of the photographic machine, the ability to record "veritable images of nature" has become general. As a matter of fact, it has gone further than art. It has developed the picture in motion and it is about to create the plasticity of the third dimension. Therefore, the static picture belongs to the begining of photography. (Outstanding achievements: by Stieglitz, Strand, Man Ray.)

Photographs, until the beginning of the 20th century, were largely representations of art principles rather than of nature. "Art for Art" was applied to photography. With the development of news-photography and television, photography has left the field of fine arts "which is concerned with the creation of objects of imagination and taste for their own sake and without relation to the utility of the object produced" and has through this development mutated into a practical function. Whereas, formerly the photographer individualized his prints by elaborate mounting, framing and signature, the present-day candid print, "disposed to record and judge according to truth and justice," has become anonymous and the property of the public.

William Henry Fox Talbot was the most gifted of all photographers in transmuting chance discoveries into controlled realities. When he remarked in his book, "The Pencil Of Nature," 1844, that besides the visible rays of light there might be invisible rays, he linked photography to principles of Art and Science, namely: to investigate and to record permanently the invisible as well as the visible. He wrote: "Alas! that this speculation is somewhat too refined to be introduced with effect into a modern novel or romance, for what dénouement we should have, if we could suppose the secrets of the darkened chamber to be revealed by the testimony of the imprinted paper." To activate invisible rays on a sensitive surface and to preserve such imprints beyond the moment of action, was only achieved almost ninety years later through the infra-red camera, and his speculation was turned into reality.

Another discovery followed by speculation, research and control was made in 1895. A physicist found that a photographic plate, which chanced to be in the room of his cathode-ray experiments, was fogged—that means imprinted by light—though it had been securely protected in a paper case. Speculation that followed this discovery led the physicist to repeat that "accident." A Geissler (neon) tube was covered with an opaque material. Then a paper screen, coated with the actinically sensitive barium-platino-cyanide, was put on a nearby table. The cathode rays of the Geissler tube were switched on. Contrary to all known rules of light, invisible radiation was passing through the opaque covering of the electro-tube, activating the screen-paper. The name of the man was Wilhelm Konrad Röntgen, and he called the first controlled invisible rays, x-rays.

In 1896 the first x-ray photograph was taken by Joseph Maria Eder of Vienna. The camera-eye penetrated the visible surface of the human body and recorded deep layers invisible to the naked eye. Fortunately, the customary emulsion of photographic plates was also sensitive to these invisible rays, and a permanent picture could thereby be obtained. Thus, invisible rays had recorded invisible matter

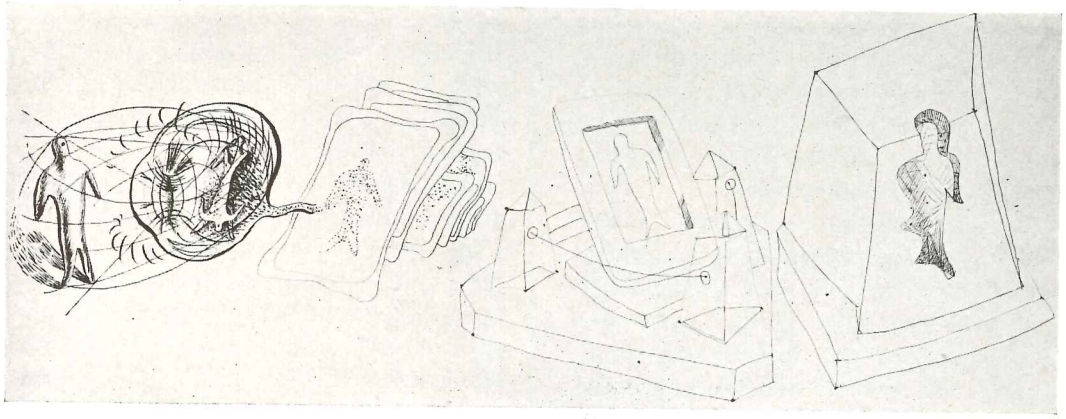
by means of photo-graphy, whereas formerly only surface-photography was possible. Soon x-ray machines reached the public, and are today in general use.

Another chance discovery in 1898 added to the knowledge of ray-activity. It demonstrated the constant "action at a distance" by radiation invisible to the human eye, but nevertheless of greater influence and power than those visible. It introduced a new approach to the solution of the riddle: energy-activation. The power that binds the atom of matter was tracked down to electro-magnetism. Machines were constructed to capture this power for still deeper penetration of the invisible fields of correlation. The theory propounded to account for this emission of radiation is a process of electron jumping, the electron being (at present) the finest particle of the microcosm. The mechanical pattern of this action was finally found to be both wave and corpuscular. This theory was the most unifying contribution in the new physics and it seemed justified to assume that materia was convertible into energy and energy into materia. Today the knowledge of the laws of "action at distance" is the foundation of infra-red-photography and the mutation of light into sound, the basis of the sound-film industry. The cathode-ray-tube has developed into the iconoscope, the artificial eye of television. "acting at a distance," defying time by means of photo-electric cells. Modern physio-chemistry permits the practical solution of color prints and color projection.

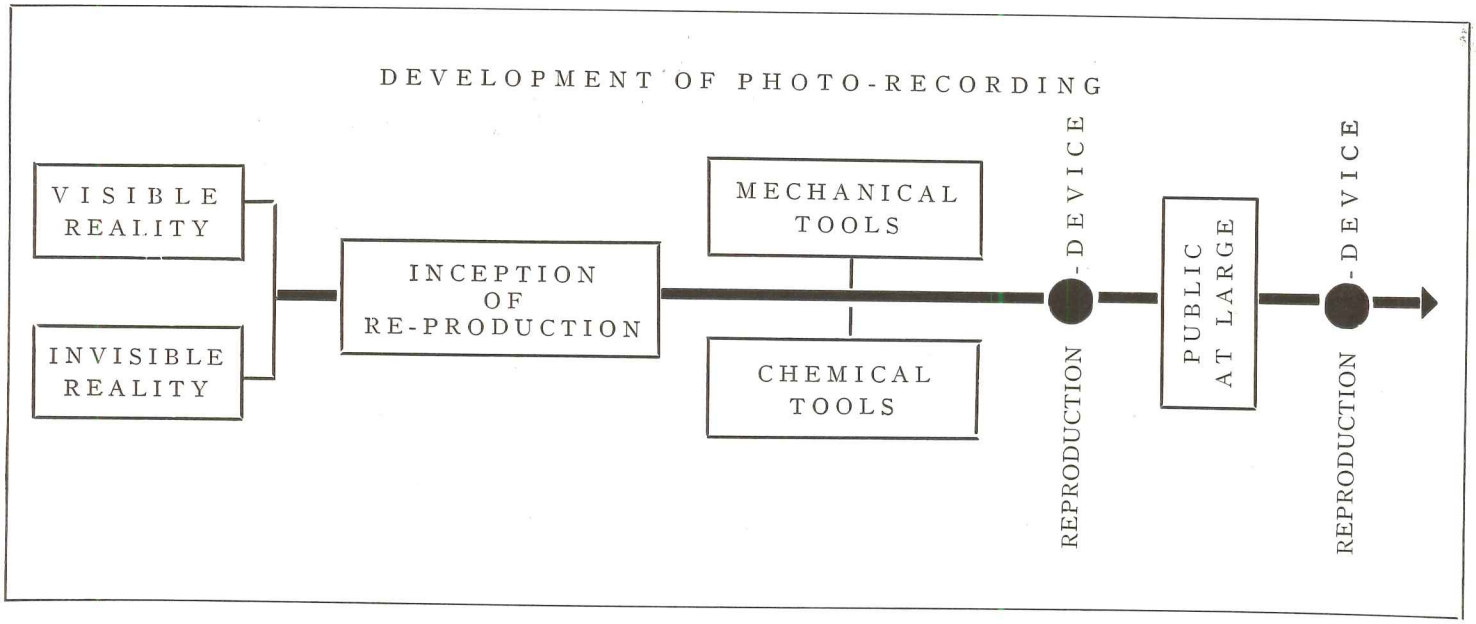
When the camera obscura, more than 2,000 years ago, projected a scene of nature through a minute hole, no one would have thought that it would take this long period of development to find the means of imprinting permanently a vanishing image of nature, and to store it for re-projection at will. However, photography still lacks many technological tools to reproduce a "true" picture of nature in its totality.

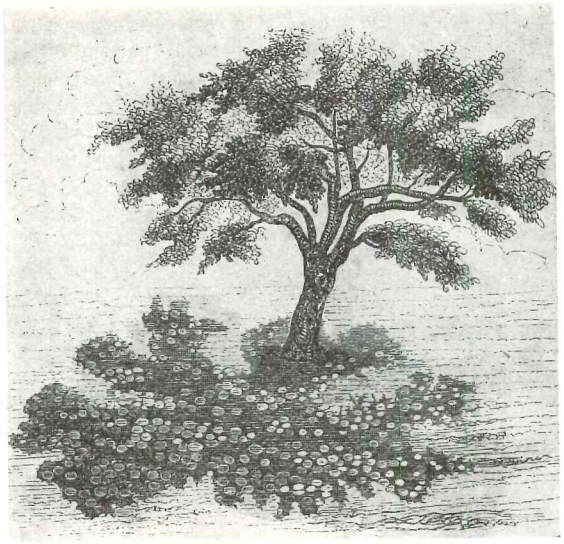
When television will be technically and economically ready to be released for service, it will then reach the profession of architects and industrial designers. They in turn will incorporate in their design for individual and group shelters control of the most efficient optical and phonetical factors of telecasting. Photography will then constitute an integral part of the architectural scheme and not be a mere wall ornament as has been the framed Daguerreotype photo and its up-to-date successors.

Natural and artificial means of more and more permanent recording of images.

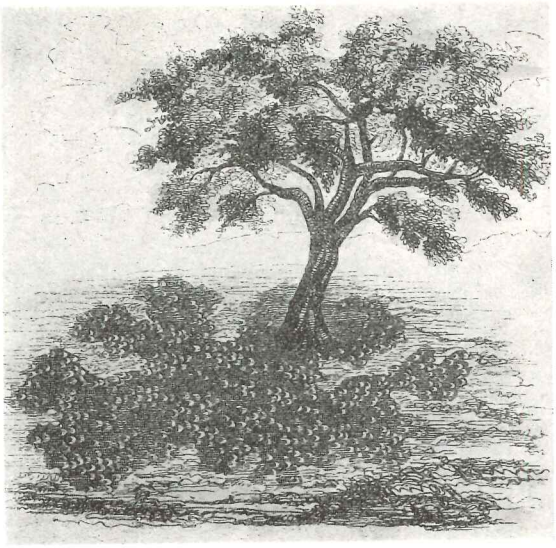


Human figure. | The eye with the image impulse on the retina. | The transmitted picture stored by the brain. | The fixed print of photo-graphy. | Permanent records of art.





Sun-rays project circular pictures of sun on ground, not irregular openings of foliage through which they are shining. The irregular opening acts like a lens in a camera obscura. A sun eclipse is clearly seen projected on ground. This natural phenomenon is the optical approach of photography. The chemical is the principle of photosynthesis, a process by which complex compounds are built up from simple elements through sunlight, others broken down.



4th century B. C.
Aristotle mentions phenomenon of an inverted image cast through a minute hole on opposite wall in a dark room. Nature projects its scenes as pictures in motion and color.

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300 B. C.
Euclid describes in his "Elements" the laws of binocular geometry deducted from our own double-eye-vision (stereoscopy). Camera obscura is monocular; can therefore not reproduce tridimensional pictures like stereopticons, which are constructed binocular.

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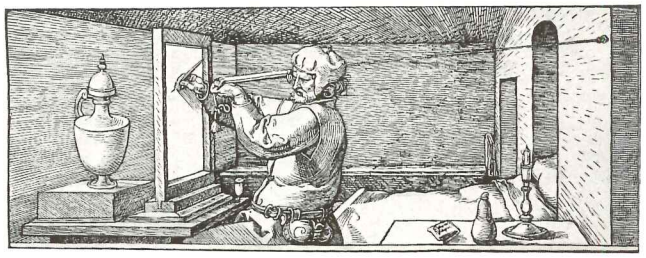
200 B. C.
Natural rock crystals cut to plaino-convex form found in excavations at Nimroud, Syria. 1937 industries are able to replace rare, expensive, natural crystal lenses by synthetic materials at rate of 1,500 pieces per hour with an accuracy of one five hundred thousandth of an inch. Material: Perspex. Chemical compound: methyl-methacrylate.

1055
Alhaven first describes the magnifying effect of simple lens for astronomical purposes.

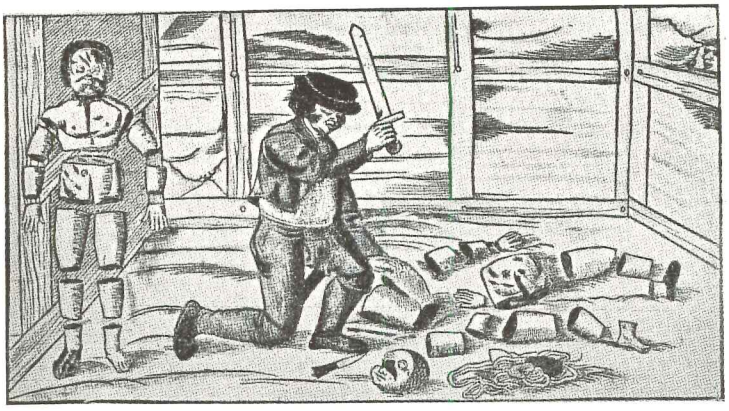
1255
Salvino D'Armato Degli Armati uses spectacle lenses for controlled focusing of vision.

1276
Roger Baco describes concave lenses and projection by laterna magica.

1525
Albrecht Dürer describes, in his book on Proportions, a mechanical device for correct "orthographic" perspective. Pictorial recording of nature facilitated by a machine. Use of oil paper as screen and artificial eye-tube for monocular observation, converting tridimensional natural vision into two-dimensionality. Recording time averaging one hour. Static model. Static recording device.



Courtesy Library Museum of Modern Art



1495, 1573
Message by graphic news-print. Wood-cut multiplication. Illustration shows events separated by time, simultaneously recorded. On the right one sees the murderer looking through window. Center: committing murder. To the left one sees the mutilated body. These handbills were distributed and sold at public gatherings.
News-recording embraced seven scene-fields: 1. Cosmic wonders. 2. Freaks ("The marvellous birth of the baby Worms." 1495). 3. Battle and horrors of war, portrayed by continuity of individual pictures. A predecessor of pictures in motion. 4. Catastrophes of nature (floods, earthquakes . . .) 5. Adventures and exploring. 6. Murder, crime, death (news-print of death, Hans von Hutten, 1515). 7. Public announcements.

1550
Leonardo da Vinci describes camera obscura. First artist to mention practical advantages of this phenomenon.

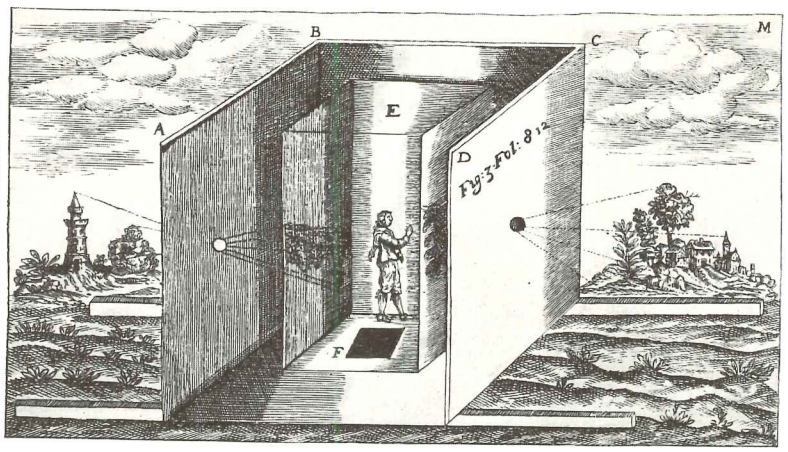
1555
Galenus explains stereoptical vision.

1568
Danielo Barbaro in his "Practice of Perspective" proposes to put a lens into the minute aperture of the camera obscura.

1599
Giovanni Battista della Porta built camera obscura theater. People sitting inside camera watching performance on screen. Scenes all

performed outside of camera and therefore invisible to audience. Recording of unseen events at time of action. In his book on Magic, he gave a description of two drawings, one viewed by the left and one viewed by the right eye, made to fuse into one picture for the illusion of plasticity. (Also described by Jacopo da Empoli, 1554-1640.)

1610
Galileo constructed refracting telescope which exhibits objects erect, that is, in their natural position. Diameter of lens: two and a quarter inches through which one could count ten times as many stars as with the naked eye, the range of which is about 6,000 individual stars. The light-gathering power of the 100-inch Hooker reflector at Mt. Wilson Observatory in California (1904), is equivalent to about ninety thousand human eyes. It has brought more than five hundred million stars to view and photography has revealed the existence of as many more through the light-gathering powers of mirrors and lenses.

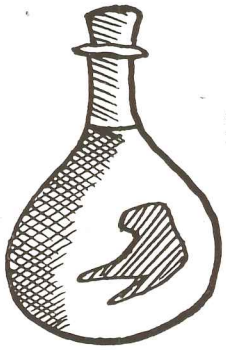


Courtesy Library Museum of Modern Art

1640-1671
Anastasius Kircher constructed camera obscura with lenses, shown above.

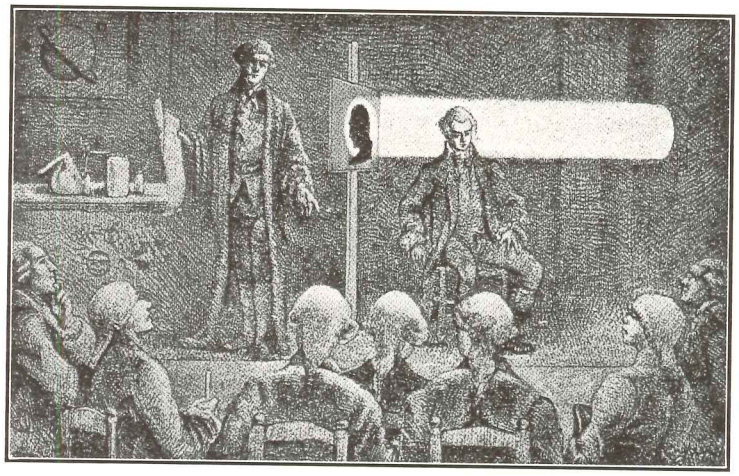
1663
James Gregory of Edinburgh built first reflecting telescope.

1727
Johann Heinrich Schulze observed the sensitivity of silver and nitric acid to sunlight which turned it from white into dark purple. When patterns were placed on a flask containing the fluid, it showed the imprint of the pattern clearly after it had been exposed to light.

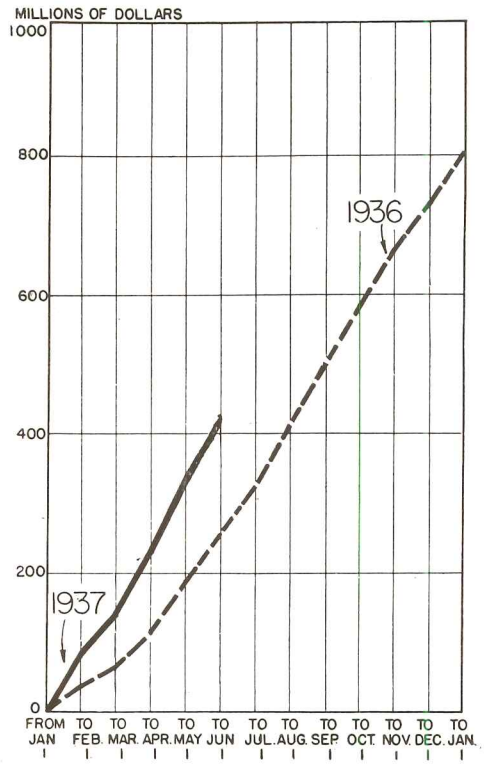


Courtesy Library Museum of Modern Art

1786 Physionotrace
First used 1786 by Gilles Louis Chretin. Seen through a transparent glass, the sitter's profile was exactly followed by a stylus on the plate glass and by a pantograph recorded on a copper plate, from which prints were made like an ordinary engraving. The actual design was then indirectly drawn by the artist. A machine was placed between the designer and the model and did the actual work under the guidance of the artist.

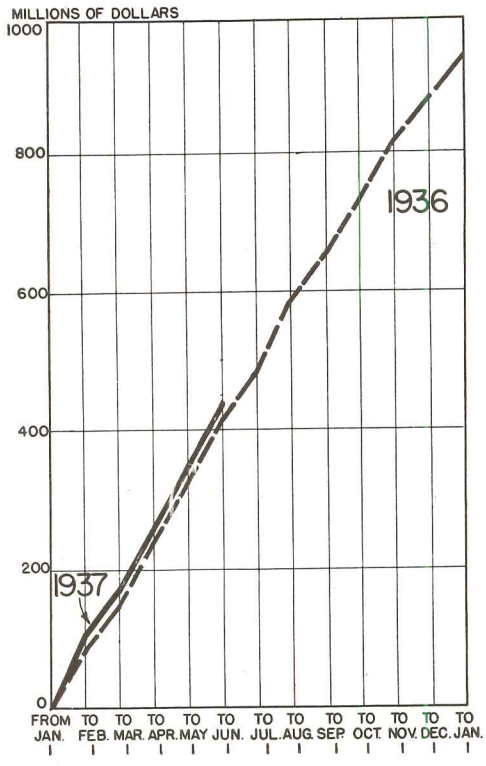


End of 18th century
Silhouettes were produced on a white screen after the sitter had been placed between a strong light and the screen. These black profiles stuck on a white piece of paper were followed up by Wedgwood, who thought that instead of cutting out the silhouette, he might print this profile on the screen by using paper treated with silver nitrate which would darken in the light. Wedgwood not only used this new process for recording the silhouette, but he tried to take photo-imprints with the camera obscura.



RESIDENTIAL BUILDING

Home building continues to rise though the rate of gain is not so marked as in early 1937. Nearby outlook is clouded by high costs.



NONRESIDENTIAL BUILDING

Large losses in educational building, though offset by gains in commercial and factory types, have retarded 1937 nonresidential building totals.

Charts relate to conditions in 37 eastern states only.

Current Building Outlook

By L. SETH SCHNITMAN,

Chief Statistician, F. W. Dodge Corporation

BUILDING OPERATIONS, though still running ahead of last year, are showing some signs of lessened vigor. Especially is this true in the residential branch, where relatively large increases over the previous year had become commonplace. Through April, residential building projects started in the 37 eastern states were valued somewhat more than 75 per cent greater than the volume reported during the corresponding four months of 1936. The May figure for residential building, however, showed an increase over May 1936 of only about 20 per cent.

Whatever the causes, the deceleration in the rate of gain should occasion no appreciable concern. With the physical volume of residential building on a higher quantitative level than at any time since 1930 it could hardly be expected that huge percentage gains would continue to pile up indefinitely.

Some six months ago a 40 per cent increase in housing construction was estimated for all of 1937. At the moment a gain of this size seems improbable; the year 1937, however, will likely end with a residential volume more than 20 per cent greater than the figure for 1936.

For nonresidential building of all descriptions, exclusive of civil engineering projects, the volume of work started during the initial five months of 1937 was about seven per cent greater than the volume in the corresponding period of last year. In this instance, large relative increases in commercial and factory buildings were able to offset the retrenchment which has occurred in public and institutional building, especially in educational types.

The earlier estimate for the year 1937 of an increase of almost 20 per cent in nonresidential building over the 1936 figure now seems impossible of attainment. If any increase occurs at all, it will likely be less than 10 per cent.

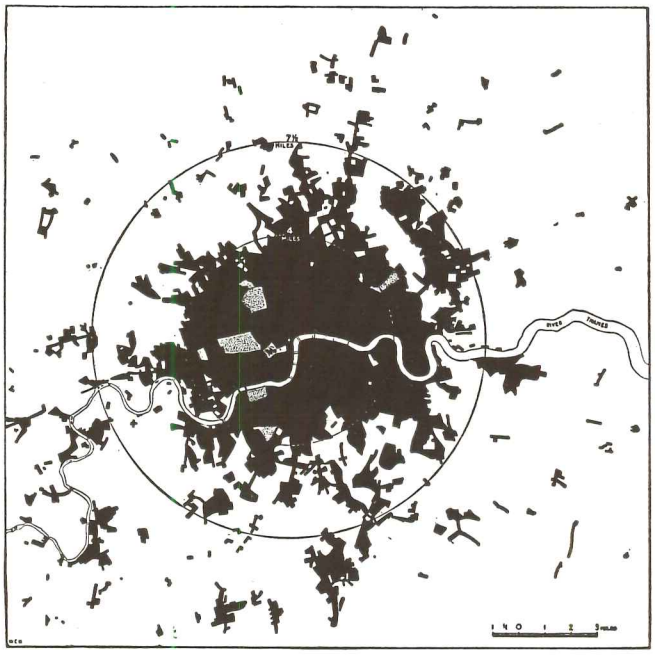
Taking residential and nonresidential building together, it now appears that the total dollar volume of construction in these classes for all of 1937 will run between $2,000,000,000 and $2,100,000,000 for the 37 eastern states, for a gain of between 15 and 20 per cent over the total of $1,755,000,000 recorded in 1936. This should mean no less than $1,300,000,000 in work for architects on projects in the 37 eastern states, if only the proportion of such work to total for the first five months of 1937 prevails for the remainder of the year.

Reviews of New Books

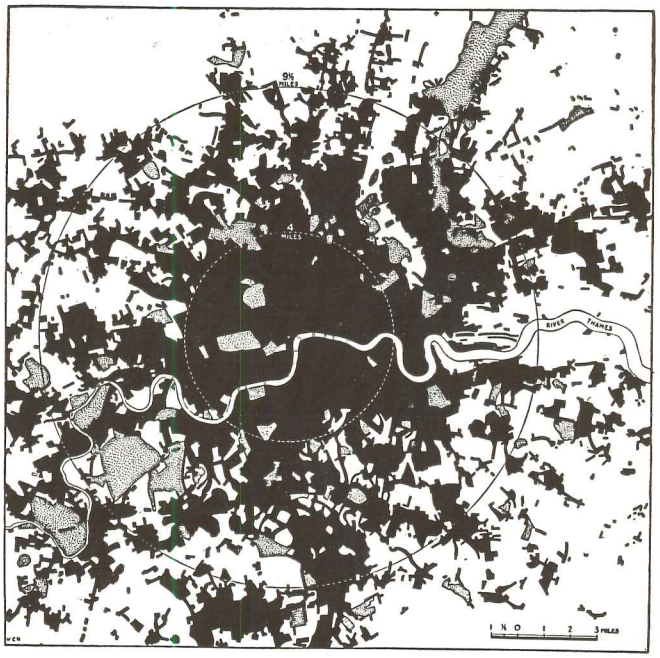
LONDON. THE UNIQUE CITY. By Steen Eiler Rasmussen with an introduction by James Bone. The Macmillan Co., N. Y. Price $4.

Steen Eiler Rasmussen of Copenhagen, architect, town planner, social student and author, has given many years of his life to the study of London. This book offers to the reader what students of London have long sought for, and what the average Londoner wants to know. The author had found that there was information on all pos-

(Continued on page 97)



LONDON in 1900



LONDON in 1929

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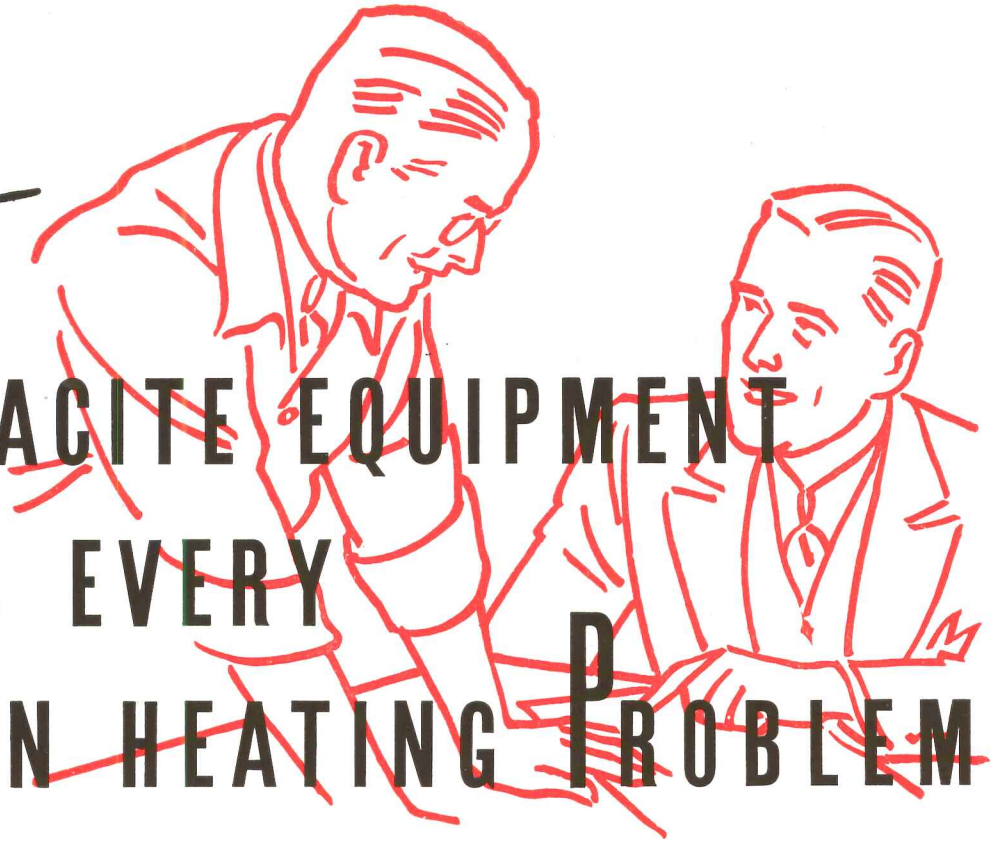

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(SEE ADVERTISEMENT ON OPPOSITE PAGE)

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Reviews of New Books

(Continued from page 94)

sible details in the many books on London, but not one complete picture of the development of the town.

The author discerns in London what he calls the "scattered city" as distinguishable from the "concentrated city" of which Paris and Vienna were the prototypes in the European town planning of the nineteenth century. To trace and elucidate this tendency is the aim of the book.

FUNCTIONAL COLOR. By Faber Birren. The Crimson Press, N. Y. 1937. Price $2.

This book is a compilation of facts about color for the architect, artist, interior decorator, designer. The book is announced as the result of years of research into such problems as legibility, visibility, color for identification, to promote safety, to speed up efficiency in industry, to build a desirable environment for the home. There are extensive lists of the color standardization work already done by various businesses and organizations, reports on the color preferences of people, records of color as a merchandising force.

In this book it is apparent that theory is avoided for utility. There are chapters on the psychology of seeing, check lists to assure desirable illumination, ideal color schemes for factory and home.

Color harmony is handled from the functional viewpoint and a radically new principle developed which capitalizes simple laws of vision.

The book is popular in vein rather than documented and exhaustive.

A DECADE OF BRIDGES 1926-1936. By Wilbur J. Watson; introduction by Paul P. Cret. J. H. Jansen, Cleveland, Ohio. 1937. Price $4.50.

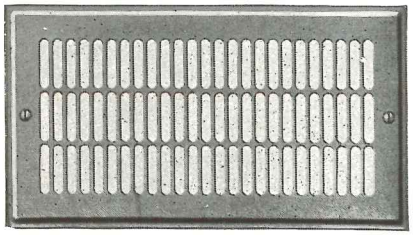
This book on bridges has current interest because this is a day of great bridges and striving for wider and higher spans. As a review of great bridges of a decade the book has interest. It was intended to be in the nature of a supplement to "Bridge Architecture," published in 1927, but because of the great number of notable bridges that have been completed during the last ten years, and the unprecedented size of many of them, it seemed advisable to publish the new material as an entirely separate and independent book.

There are one hundred bridges listed and illustrated in the text; also engineering and descriptive data of value to engineers and architects.

McMICHAEL'S APPRAISING MANUAL. A Real Estate Appraising Handbook for use in field work and advanced study courses. By Stanley L. McMichael. Second Edition. Prentice-Hall, Inc., N. Y. 1937.

A book on the new technique of appraising—the methods that have come to the front in the past few years. It covers the appraisal of lots, homes, industrial and commercial property of all kinds, and describes the factors to be taken into account in each case by the appraiser.

This second edition contains twenty entirely new chapters and has 220 more pages than the old edition.



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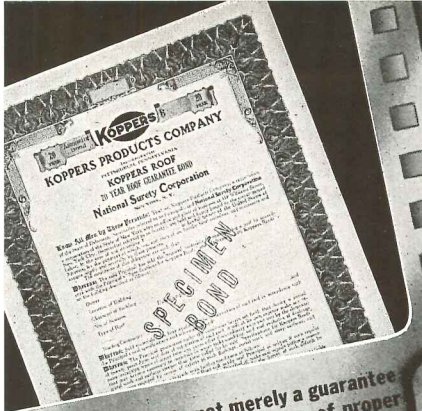

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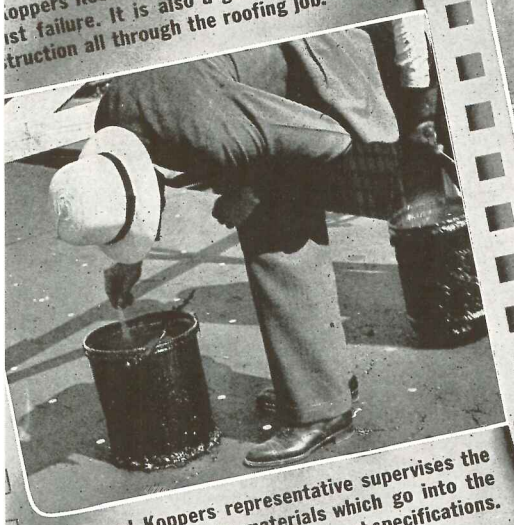

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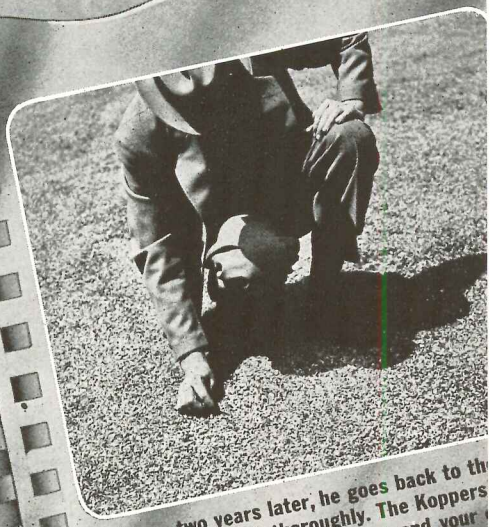

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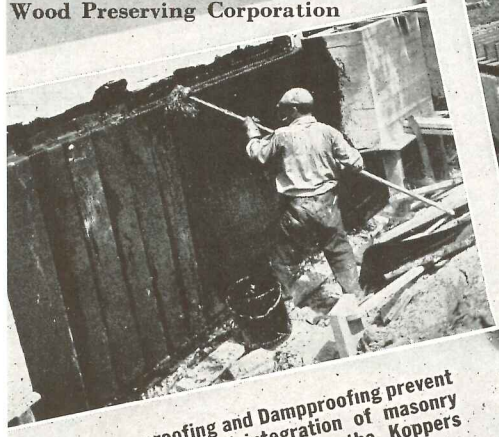

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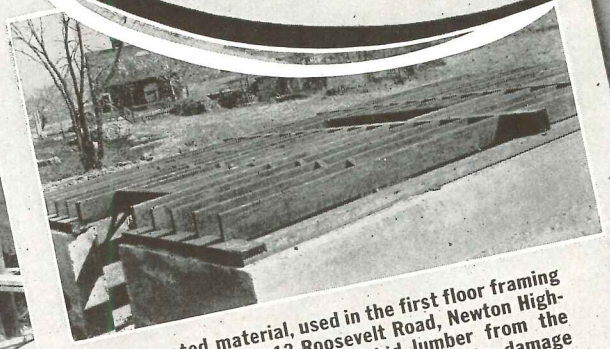

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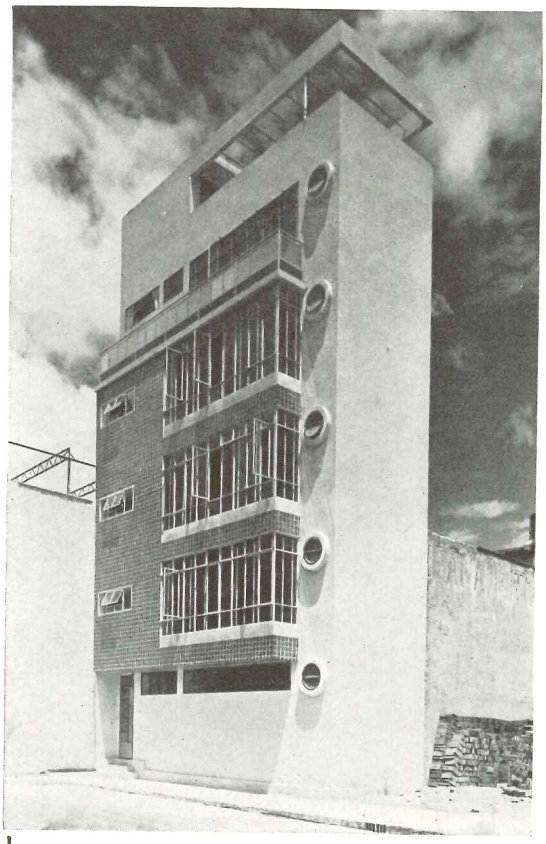

The New Architecture in MEXICO

Modern architecture, painting and sculpture in Mexico, collected and arranged with photographs, by Esther Born.

Mexico, the land of mañana and siestas, has suddenly waked up and found itself in the midst of a wave of modern construction, a new kind of revolution, carrying with it a renaissance of the creative talent of the Aztecs and the Spanish Americans.

The new architecture in Mexico includes outstanding examples in practically every important class of building—office buildings, store groups, factories, hospitals, schools, apartments, workers' houses, town and country houses. In their own setting, the new structures with their straight lines and unornamented flat surfaces present a dramatic contrast with neighboring buildings heavily ornamented in the Spanish Colonial tradition; yet the new architecture has been perfectly acclimated to its background.

This new volume is a reference source for building designers everywhere, and contains a complete assemblage of the progressive thought of architects and engineers below the Rio Grande.

The New Architecture in Mexico, by Esther Born, in text, photographs and colored diagrams, including supplementary text on mural painting, sculpture, and pottery $3.50

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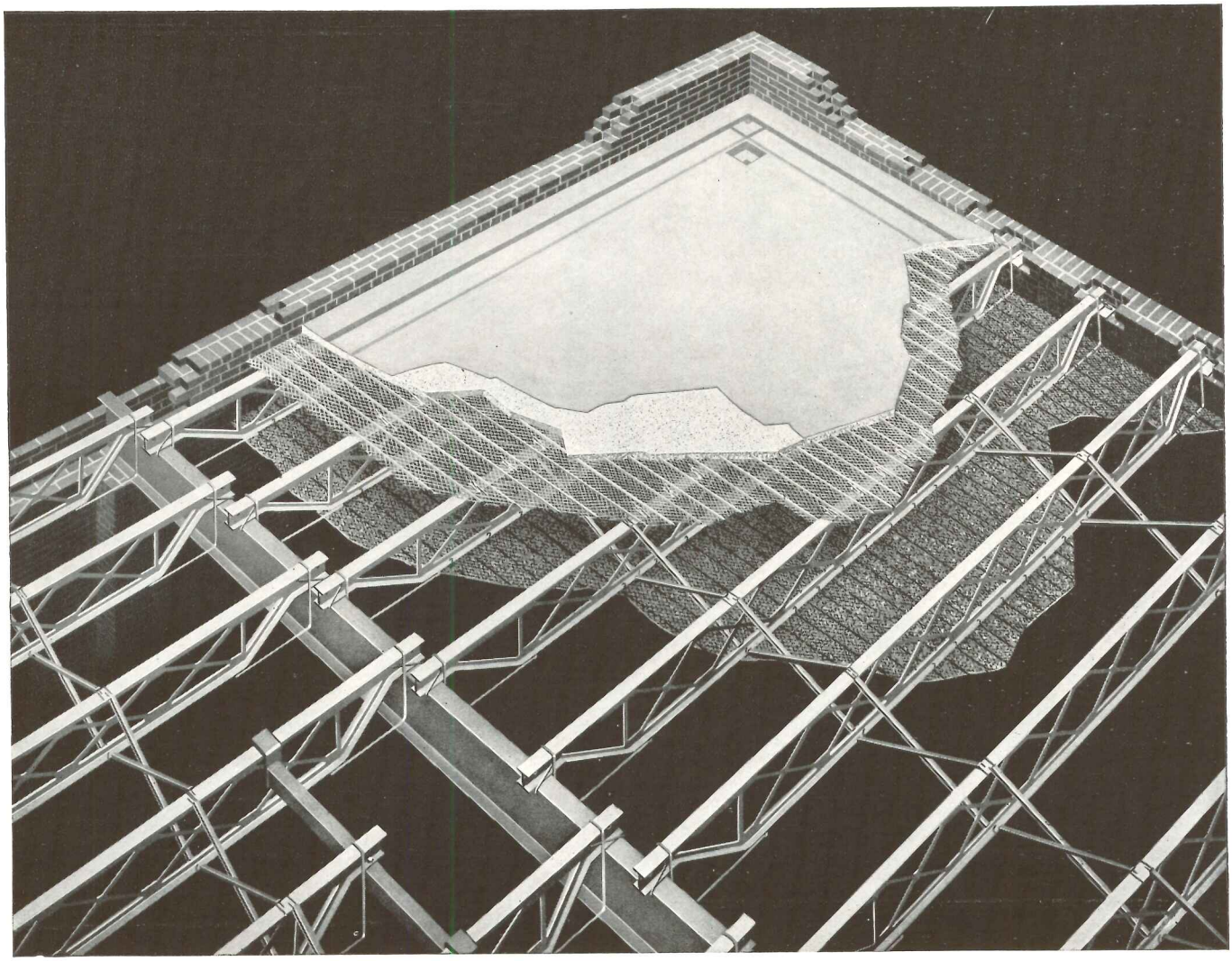

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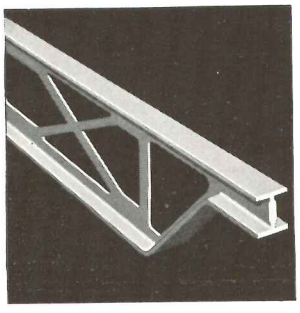
FLOOR CONSTRUCTION



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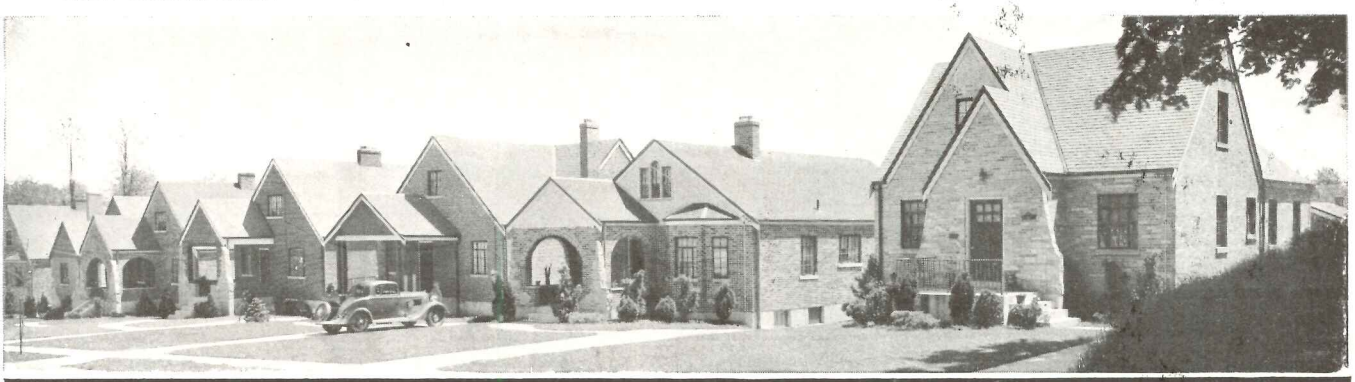

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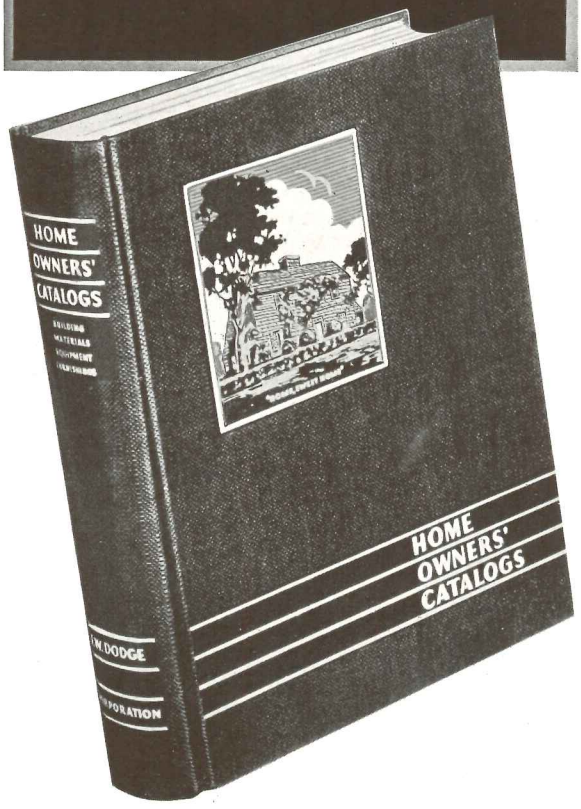

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BUILDING TYPES

HOSPITALS

General hospitals of less than 200 beds should not be built in the city of New York, advises Dr. Haven Emerson. This applies also to the metropolitan area, and has nation-wide implications for hospital planners.

Charles F. Neergaard believes that today the architect, engineer and consultant must restudy the hospital as a new problem.

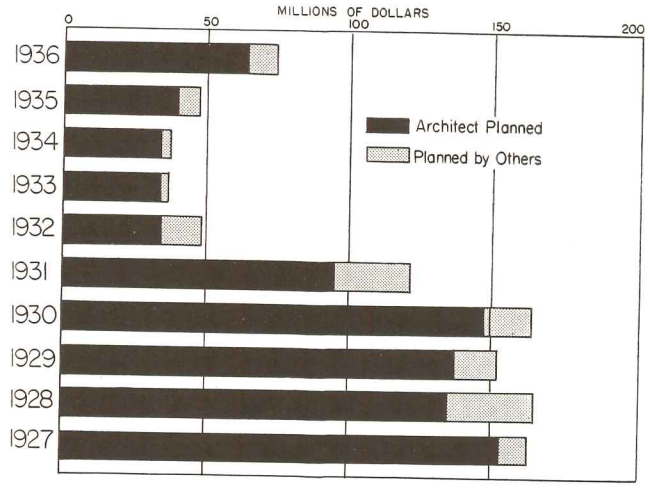
Doctors show a decided preference for air conditioned operating rooms. Victor F. Grahn tells how one hospital provided them.

Many are the problems in hospital design, but comprehensive is the bibliography especially compiled by Harry S. Robson, A.R.I.B.A.

Illustrated Case Studies: Queens General Hospital (475 beds), New York; Boston City Hospital (296 beds), Boston; University Hospital (400 beds), Baltimore; Tubercular Hospital (51 beds), La Viña, California; and others.

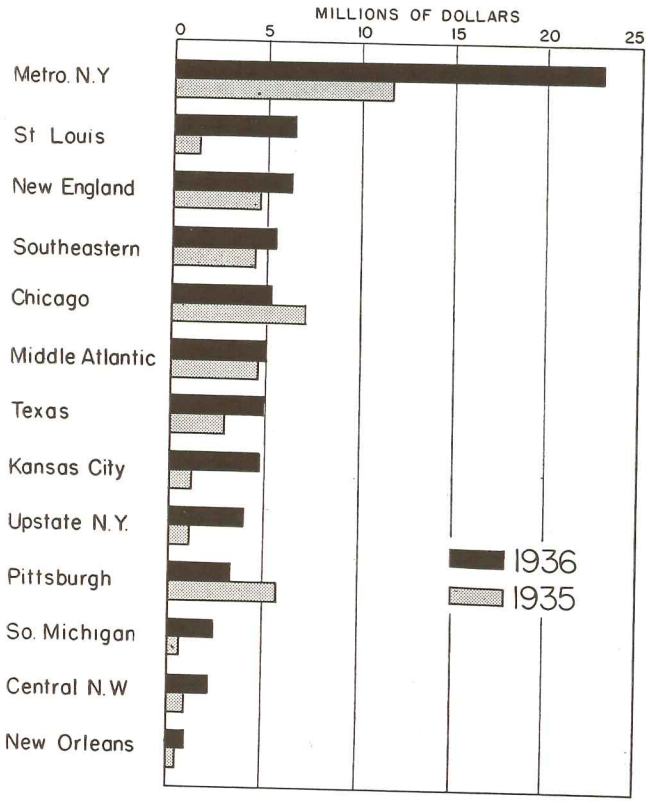
ARCHITECTURAL Record

Recovery in Hospital Building has been Gradual



A DECADE OF HOSPITAL BUILDING

The construction of hospitals and institutions has a good distance to come to attain the annual levels of the period 1927-1931. As these levels are approached architects will enjoy much greater activity.



HOSPITAL BUILDING: 1936 and 1935 compared

Arranged and ranked by Dodge districts

Chart clearly shows where recent building of hospitals and institutions has taken place.

Charts cover conditions in the 37 eastern states only.

By L. SETH SCHNITMAN,

Chief Statistician, F. W. Dodge Corporation

CONSTRUCTION of hospitals and institutions—both new and alteration — has shown appreciable, though gradual, improvement since the depression low of 1933. For 1936 the total amounted to $74,000,000 and represented 803 projects in the 37 states east of the Rocky Mountains. Architects planned about $64,000,000 or about 87 per cent of the total.

Of all hospital and institutional building in 1936, 299 projects valued at little more than $46,000,000 represented new buildings for an average value of about $155,000 while 504 projects, aggregating almost $28,000,000, represented alteration and modernization of existing facilities for an average of about $55,000 per job.

Another analysis of the hospital projects of 1936 discloses that of the total, 332 jobs valued at about $54,000,000 were undertaken by public agencies—local, state and Federal; the remaining 471 jobs, amounting to approximately $20,000,000, were started by and with private funds. The average public project was valued at about $164,000 or about four times the size of the average private job.

Still another approach indicates that in 1936 architects planned 254 new hospital projects having a value of about $41,000,000 and 337 alteration jobs valued at about $23,000,000. The average architect-planned new project was about $162,000—much greater in size than the average nonarchitect planned project; the average alteration job planned by architects amounted almost to $68,000 in 1936 or more than twice the size of the average nonarchitect-planned alteration project.

More than 30 per cent of the total hospital construction of 1936 occurred in the metropolitan area of New York. In 1935 this area accounted for only about one-fourth of the total. The St. Louis district (Western Tennessee, Southern Illinois, Eastern Missouri, Arkansas) in 1936 took second place outdistancing six areas which ranked ahead in 1935.

For the initial five months of 1937 hospital construction has been moderately better than in the corresponding period of 1936. That we will soon approach to levels of the late 1920's cannot fairly be drawn from current performance. However, as the national income expands —and no abrupt directional change in this respect appears likely over the next two or three years—more of the underlying demands for newer and better hospital facilities will be filled. In this movement the architect, as in the past, will continue to play his accustomed role.

Building for the Sick

by DR. HAVEN EMERSON

WITH THE PASSING of decades of geometrical rate of increases in the metropolitan population of the United States and the certainty that even the arithmetic increments of the past two decennia will not continue for the next generation, New York and some others of the older and more considerable urban aggregates of this continent are faced with an opportunity of definitive planning for future construction of both homes and hospitals heretofore impracticable.

The calculable probability that within the next twenty-five years the United States as a whole, and even such large fractions of its people as the 8.5 per cent found in the New York Metropolitan Area, will exhibit a balance between births and deaths resulting in a practically stationary population between 1960 and 1965, imposes an obligation to cease the haphazard and opportunistic process of hospital building of the past hundred and fifty years as well as offering an occasion to bring order and plan into the equipment of our communities, essential for the most effective application of the medical sciences for care of the sick.

The principal voluntary organization concerned with the support and common interests of voluntary hospitals in New York City is the United Hospital Fund, and it has been under its auspices that an independent general committee and its executive body or Study Committee undertook in 1935 an analysis of the organized care of the sick by institutions and agencies, with the object of revealing with all practicable exactness and in all useful detail the amount and character of facilities provided, the extent of their use, the cost of their establishment and operation and a projection of probable needs of the metropolitan community for such purposes in 1960.

The report of this Hospital Survey for New York is now in process of publication, the first volume which has appeared being devoted to a description of the institutions and agencies now serving the 11,000,000 people of the area, to be followed in August by a volume on the financial and economic situation, and a summary volume giving for the nontechnical reader the substance of the findings and conclusions to appear in July.

HOSPITAL OCCUPANCY .... an examination

Of all the 856 facilities for care of the sick (voluntary and proprietary), in the five boroughs of New York City and the five adjacent counties and parts of three others included in the area studied, 329 are general and special hospitals, 10 are homes for the chronically ill, and 56 are convalescent homes.

Of the gross investment of approximately $714,844,000 in all institutions and agencies for the care of the sick, 90.7 per cent, or $648,333,000, is in hospitals.

***DR. HAVEN EMERSON**, distinguished authority on public health (past president of The American Public Health Association and now Professor of Public Health at The College of Physicians and Surgeons, Columbia Univ.), states the probable present and future needs of hospitalization. In this article, especially prepared for ARCHITECTURAL RECORD, he interprets the findings of The Hospital Survey for New York—of which he was the Director of Study—in terms of its national implications and significance.*

Seldom has any study resulted in conclusions and recommendations more definitive—not only for General Hospitals but for many Special Hospitals; not only for Municipal Hospitals (public institutions) but for Voluntary Hospitals (private institutions supported by voluntary contributions).

U. S. NAVAL HOSPITAL, PHILADELPHIA, PENNSYLVANIA
W. T. KARCHER and LIVINGSTON SMITH, ARCHITECTS

Courtesy PWA

Of the total annual operating costs of these services for the sick amounting to $109,244,000 (exclusive of depreciation), 90.5 per cent, or $98,834,000, is for services for bed patients and dispensary patients in hospitals, the remainder being for such activities as visiting nursing, home care of the sick, and care in homes for the chronically ill and for convalescents.

One further general or bulk figure will be worth bearing in mind in visualizing the volume of work, the traffic, or what we may call the production units of this complex and still uncoordinated public utility for the sick, namely, the number of patients served.

In 1934, the last of the five years for which the collection and intensive analyses of facts was made, there were in all approximately 948,300 patients who received 20,593,400 days of care in hospitals, and there were 9,913,400 visits made by ambulatory or out-patients to hospital or independent dispensaries other than those serving exclusively the objects of health supervision.

The city planner, the hospital trustee, the philanthropist, the officer of civil government, the architect, builder and banker are all concerned with the mounting cost of the plant and equipment and in the expense of operation expressed in terms of patient days or dispensary visits, and their first question will be of the future. What are the immediate and more remote needs for buildings or personal services to assure the most humane and competent application of the advancing knowledge of the services and arts which we call the practice of medicine, and what of these can best be met by tax funds and what through voluntary organization and resources?

The conclusions and recommendations of the Survey deal with a multitude of factors apart from and beyond those affecting building for replacement, expansion or new undertakings, but within the limits of this article only the opinions of major importance in which the architectural profession is certain to be interested will be presented.

For the City of New York as for other political units of the metropolitan area and, in fact, for any large urban or suburban community in the United States, it is imperative that there be a permanent representative and authoritative planning group which should review and pass upon all proposals for major capital expenditures for organized care of the sick, especially those involving an increase of bed capacity of voluntary, municipal or county hospitals.

Lack of such consideration of new and expansion projects for hospital building has led to a great wastage of investment and commonly to an over production of bed capacity or provision for particular kinds of patients out of proportion to the need. The dual system of hospitals, that is, both governmental and voluntary institutions, usual in the majority of our cities, is found to be not only indispensable now as in the past for the best development of medical care, but desirable for the future in the interest of both taxpayers and voluntary contributors. Voluntary hospitals are used to much less than their capacity. It is believed that their operation will be more fully justified by their use to the fullest practicable extent by public charge patients for whose

:are civil government pays, and by ree patients, cared for at the expense)f the hospital.

Until the average occupancy of governmental hospitals, i.e., municipal and county institutions, is reduced to not more than 85 per cent of their normal bed capacity, the following changes should be made: (a) Conversion to services for ward patients of some of the space now assigned to private patients in voluntary hospitals; (b) more use of voluntary hospitals by public charge patients, the cost of whose care should be paid for by the city; (c) increase in bed capacity of the municipal hospitals in New York City and of both municipal and county hospitals in the outside area.

It is recommended that there be no increase in the number of beds for private patients in the New York Metropolitan Area without the approval of the authoritative planning group, but that where an institution can demonstrate a need for additional facilities for semi-private patients these be provided by a conversion of private patient rooms to this purpose.

LARGE GENERAL HOSPITALS . . . are more desirable

The recommendation of major importance to architects and to all persons responsible for hospital provision through tax funds, legacies, or voluntary contributions for patients with general medical and surgical conditions is that upon the desirable size of a general hospital. It is advised that no more general hospitals of less than 200 beds be built in New York City or, except in unusual circumstances, anywhere else in the metropolitan area.

This conclusion has been arrived at as the result of experience and changes of a great variety among which the following are the more important. The occupancy rate, i.e., the percentage of normal capacity actually used on the average throughout the year, in New York City is consistently higher in larger general hospitals than in the small institutions, particularly those of 100 beds or less. It is evident from responsible medical experience that this higher percentage of use in the larger hospitals is not a matter primarily of popularity, novelty of size or construction, exploitation, or age of the hospital, but is the inevitable result of the tendencies in and necessities for good care of the sick. A large hospital can afford a departmental organization of its administrative and professional force, and a specialization and perfection in a wide variety of diagnostic and therapeutic resources which are impossible for the smaller institutions to justify owing to the relative rarity of conditions calling for their employment among a more limited number of patients applying or admitted for care. The increasing specialization of medicine imposes the responsibility on a hospital management to include specialist facilities in their institution for the patient with some quite usual illness who develops complicating conditions often cared for only in certain special hospitals. Inclusive diagnostic and treatment facilities for all variety of general medical and surgical patients is expected by the patients, and is found necessary by the medical staff, and this can be economically provided only in a hospital with such numbers of beds as offers a wide range of experience with disease in all its complications.

Then too the ease, safety and cheapness of public and private transportation make it quicker and more convenient than ever before for patients to reach a large central base hospital when in need, and for their friends to visit them. In a large city the distance from home to a large hospital is no greater commonly than to what may be a neighborhood institution of limited scope.

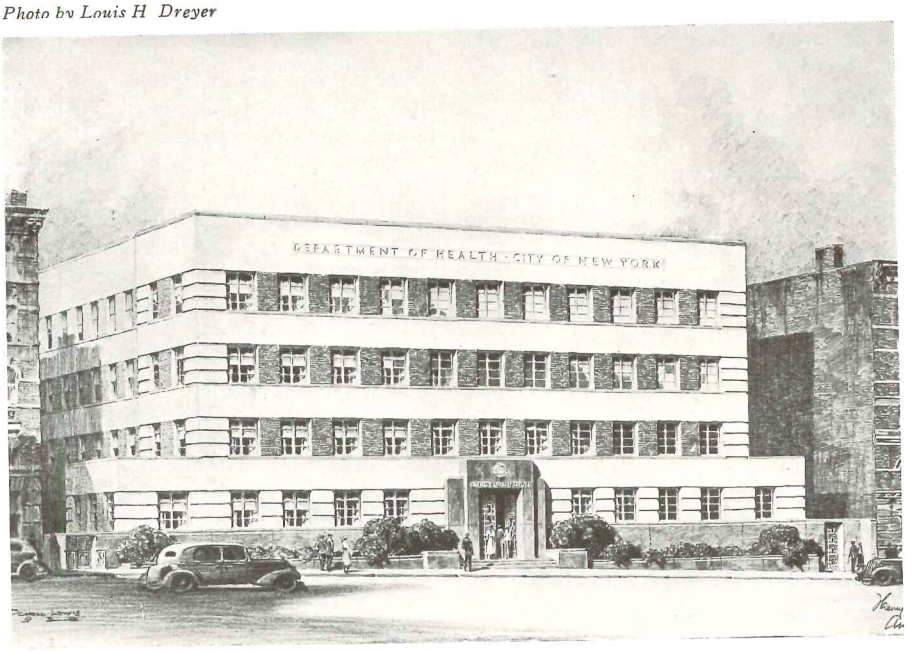
SMALL GENERAL HOSPITALS . . should be merged

Smaller general hospitals with low occupancy rates should, with advantages of economy and service, be merged with larger general hospitals, and such of the special hospitals as are relatively unoccupied, except those for tuberculosis and mental disease, should also be merged with general hospitals.

In other words, the public and the medical profession benefit from the building and administrative control of large hospital units serving the widest practicable range of general illness under one management rather than by the maintenance of a similar bed capacity in several separate hospitals or in hospitals devoted to the surgical and medical specialties. Neighborhood hospitals to meet the special ambitions of some particular locality or group of physicians can seldom be justified by necessity, convenience, or the quality of care they can provide.

The location of any new general hospital should be determined by the appropriateness of the site for hospital use and convenience of access for patients and their friends and for the attending staff. Only on evidence of need of added hospital capacity for the community as a whole should a new hospital be approved, whatever may be the site selected.

Photo by Louis H Dreyer



KIPS BAY — YORKVILLE HEALTH AND TEACHING CENTER BLDG., NEW YORK
HENRY C. PELTON ARCHITECT

Health centers will lessen the burden of hospitals—provide preventive medicine and health education.

CHRONIC HOSPITALS . . . . need further development

Among the special types of hospital for which increased use is foreseen in the immediate future is the institution for the chronic sick. With the exception of Montefiore Hospital, recognized nationally as a model of humane care of such patients, and of the new hospital on Welfare Island now in course of construction, there is no plan or pattern of such institutions generally accepted, and there is much room for constructive imagination in creating new and adequate buildings and grounds for those patients who can not look forward to any other than an institutional existence with medical and nursing care available for assistance.

Some increase also in beds in convalescent homes is needed, even though almost 50 per cent of all convalescent beds in the United States are within 50 miles of New York City Hall.

Construction and operating costs of convalescent homes (not more than half those of a general hospital) are good reasons for providing institutions for convalescent patients who do not need further hospital care but are not yet fit to resume their normal lives.

MATERNITY HOSPITALS . . . . expansion not needed

No more hospital beds are needed in New York City or the remainder of the metropolitan area for the care of maternity patients now, nor will additional hospital construction for this purpose be required in the near future. The inevitable corollary of an increasing average age of the population is a declining birth rate. Even if maternity hospitals are used to no more than 80 per cent of their bed capacity and maternity patients occupy their beds for no more than the usual 11 days there will be for some years to come a generous surplus of capacity. A continued decline in the birth rate, which can be predicted with some confidence, will still further postpone the need for any addition to hospital bed capacity for maternity patients.

TUBERCULOSIS and MENTAL HOSPITALS . . . . increased use foreseen

There are needed in general hospitals in the New York Metropolitan Area 1,650 more beds for observation, diagnosis, and temporary treatment of mental patients, as well as the building of several new state hospitals for mental disease of approximately 1,500-2,000 bed capacity.

For tuberculosis patients there are needed in New York City at least 1,900 more hospital beds in expanded or new institutions than the Board of Estimate has provided for in its Corporate Stock Budget.

Upon no other single facility does the further progress of the successful campaign against tuberculosis so much depend as on the provision of not less than 1.5 beds per annual death from this disease. New York City with one bed per annual tuberculosis death has all its municipal tuberculosis hospitals constantly crowded to over 100 per cent of normal capacity, some of them in the peak load season to as much as 140 per cent of capacity and always a waiting list of 300 or more patients in the active stage of the disease who should be immediately removed from their homes to prevent infection of other members of their families.

For syphilis and gonorrhea more of the general hospitals should open their ward facilities until there are at all times 1,000 beds in New York City for nonpay patients with these diseases who require temporary hospital treatment.

For cancer patients there is needed an increase of such general hospital facilities as comply with the standards of the American College of Surgeons for approved cancer clinics, where the range of resources necessary for diagnosis and treatment of cancer of any stage and anatomical site may be offered.

Such a moderate program of expansion of existing hospital plants, and for the building of new hospitals, will be adequate for immediate and future needs only if the recommended development of better out-patient or dispensary facilities for ambulatory patients, a doubling of the present number of visiting nurses for bedside care of the sick in their homes, and the organization under the new City Charter for New York City by the Department of Hospitals of medical care of patients whose home conditions permit of their adequate treatment without removal to a hospital, are provided.

Among the benefits to be expected from a coordination of existing agencies and institutional resources for the sick will be a growth of those services requiring little capital investment in plant and equipment and a more generous use of personal services of physicians and nurses for home care of patients now unnecessarily admitted to hospitals.

The summary tables above will give an idea of the range in investment in hospital plant and equipment per patient bed, and in the operating cost per patient day (exclusive of interest on indebtedness, nonoperating expense and depreciation) in New York City in 1934.

PROPERTY INVESTMENT PER BE

	RANGE		
	High	Low	Averag
Voluntary General Hospitals	$26,919	$1,667	$10,19
Municipal General Hospitals	22,276	4,871	9,04
Special Hospitals (exclusive of acute communicable disease, mental disease, and tuberculosis)	17,510	1,500	6,66
Acute Communicable Disease Hospitals	9,350	4,503	6,12
Mental Hospitals	12,857	3,878	5,01
Tuberculosis Hospitals	16,060	2,047	4,46

OPERATING COST PER PATIENT DA

(Exclusive of interest on indebtedness, nonoperating expense, and depreciation)

	RANGE		AVERAGI	
	High	Low	(All patients)	(Ward patients only)
Voluntary Hospitals	$17.97	$1.25	$5.51	$5.32
Municipal Hospitals	7.24	1.68	3.12	3.21
Voluntary General Hospitals	17.97	3.26	5.93	5.43
Municipal General Hospitals	4.92	2.46	3.24	3.38
Special Hospitals (excluding acute communicable diseases, mental, and tuberculosis)	11.26	1.68	4.78	
Acute Communicable Disease Hospitals	7.24	3.95	4.96	
Mental Hospitals	7.37	0.92	1.52	
Tuberculosis Hospitals	3.54	1.25	2.29	

New Standards in Hospital Design

By CHARLES F. NEERGAARD

EMERGING, as we are, from the depression—faced with many changed and changing conditions—it seems timely to consider the future of hospitalization and especially the basic problems of hospital planning.

The factors influencing and defining the need for new standards of design are increasingly apparent. To the forefront stands the demand for greater economy of operation as well as of construction. With the rising flood of taxes, the redistribution of wealth, the thousands of new and old poor who will be the hospitals' responsibility for years to come, there is little likelihood that the earnings and contributions will, in our time, reach the high levels of days past, and the hospital, if it is to continue to maintain its old standards and progress with medical science, must find ways to save.

The architect, engineer, and consultant must restudy the hospital as a new problem; subordinating the ambition to create a monument (large or small) to the urgent necessity of an efficient building which will house more effectively the multitudinous activities of the modern hospital.

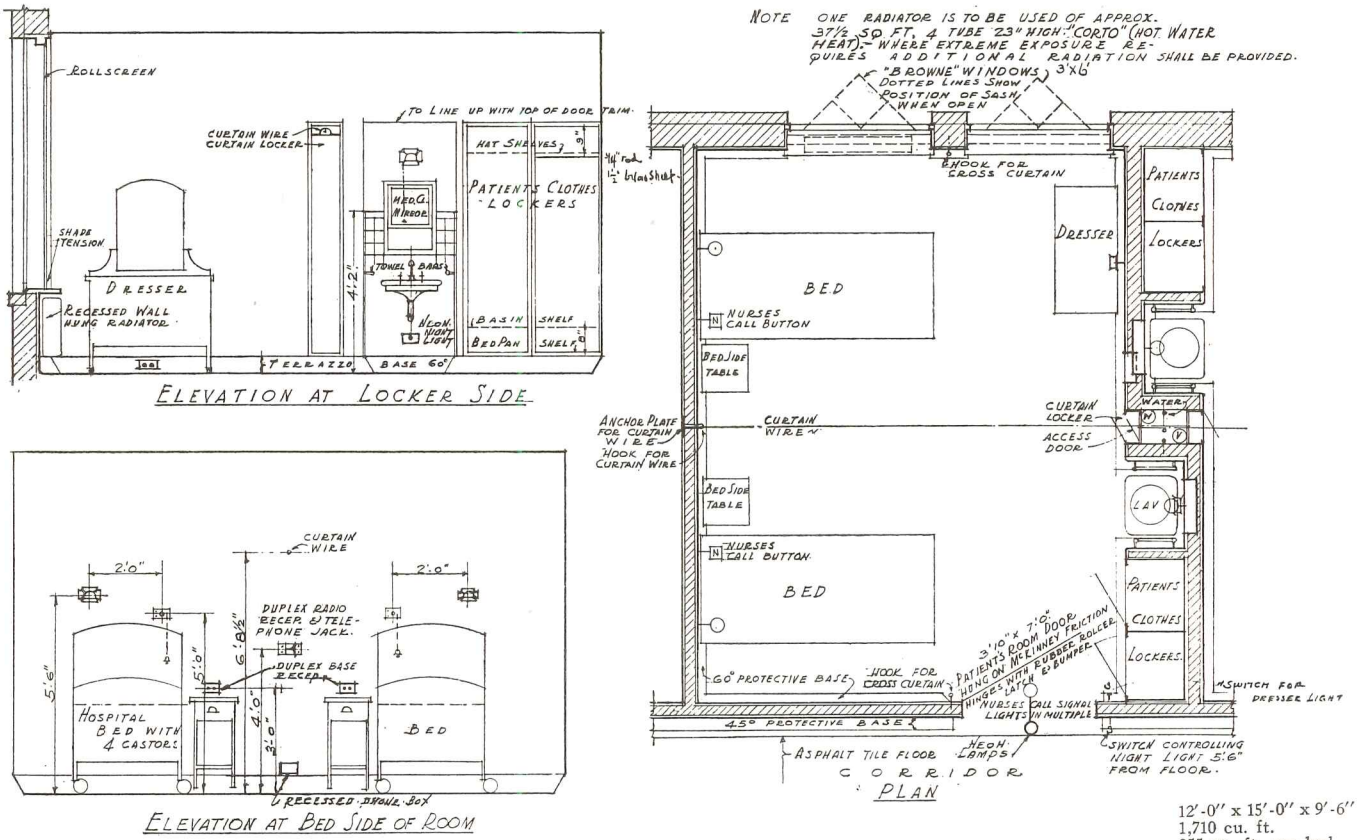
MR. CHARLES F. NEERGAARD, the author of this article, is chairman of the Committee on Hospital Planning and Equipment of the American Hospital Association. During the past twenty years he has acted as consultant in the planning of many of the outstanding hospitals in the east.

It is essentially a functional plan of many elements interrelated, overlapping, constantly used. Through its corridors flow many streams of traffic—patients, visitors, doctors, nurses, employees, food, and supplies—and they must be able to come and go directly, quietly, and without confusion. Its machinery must operate day and night, year in and year out, with failure hazardous. It houses a complex organization which in the past has often led the designer to create a complicated building and an over-elaborate mechanical plant, costly to construct and costly to operate.

Thus the building must be soundly planned, flexible in arrangement with waste space and waste motion reduced to a minimum in the blueprint stage, and materials and equipment specified which will figure a minimum of expense for upkeep.

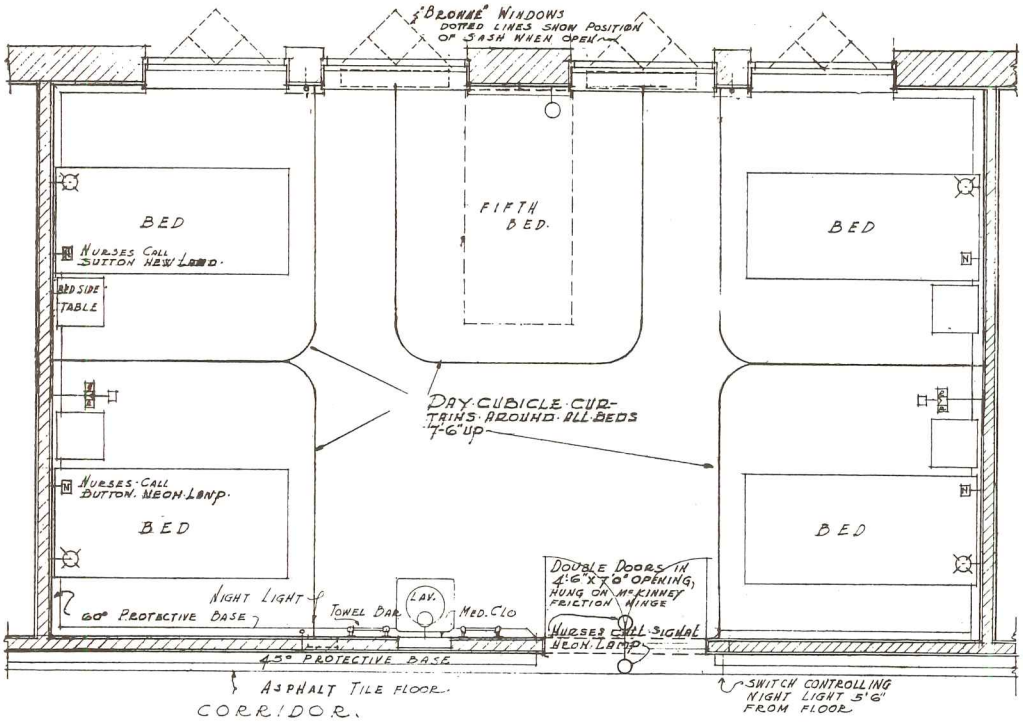
The high price of hospital care is largely responsible for the wide gap between hospital use and the potential demand; this cost must and can be brought down by the elimination of the unnecessary and the development of a more efficient type of hospital plant. The American Hospital Association for several years has stressed the extravagance of the large number of unused hospital beds. It is a well established fact that a hospital operates most efficiently when its average bed occupancy is approximately 80 to 85 per cent of capacity. Far too many voluntary hospitals have been showing a bed occupancy of less than 60 per cent with the country-wide average under 70 per cent. As an occupied bed represents waste in maintenance as well as in initial expense, here lies the greatest opportunity for savings.*

*"Building For The Sick," in this issue, pages 113-116, develops this necessity.



12'-0" x 15'-0" x 9'-6"
1,710 cu. ft.
855 cu. ft. per bed
90 sq. ft. per bed

FIGURE 1: PLANS AND ELEVATION OF CONVERTIBLE ROOM



15'-0" x 25'-10" x 10'-6" 792 cu. ft. per bed
3,962 cu. ft. 75 sq. ft. per bed

FIGURE 2: PLAN OF A CONVERTIBLE 4-BED WARD

Rooms and Wards

Obviously, an elastic plan where fewer beds can take care of a given average demand, offers the best formula for the unoccupied bed problem. The Convertible Room, developed by the writer and used in many institutions, is shown in fig. 1. With but a slight increase in the normal private-room size, provision is made for the accommodation of a second bed when required. Thus a private pavilion of 50 rooms may be expanded to accommodate 100 patients. With the present rapid growth of the group prepayment plan in many cities, which covers the cost of semi-private accommodations, undoubtedly the future will see this plan extended to the ward patient at lower rates, which will emphasize the need for accommodations for the private ward patient. Here, again, an elastic plan is a valuable feature. Referring to fig. 2, the 4-bed ward, slightly increased in size over common practice, can accommodate a fifth bed when the occasion demands.

With the use of these standard room sizes, which can be readily superimposed, it is possible to achieve uniformity in the exterior with ideal lighting and ventilation for each bed.

The solaria, provided on each floor, should be equipped with nurses' signals so that these spaces may be used for beds in times of epidemic or catastrophe. Where the convertible rooms and wards are used space should be arranged on each floor for the storage of extra beds when not in use.

Operating Rooms

A large proportion of the people who go to a hospital need surgical care and the operating room is the scene of most of the triumphs and tragedies of both surgeon and patient. There is no more exacting task facing the designer of a general hospital than the planning of the operating suite. Surgery is the most highly specialized branch of the medical profession. The average surgeon is a pronounced individualist. The technique in his operating room must be not only quiet, swift and flawless, but essentially his own—and each room is used by many surgeons. Every detail must be studied from many angles: floor space adequate for the convenient placing of the complicated furniture and equipment, yet not so large as to involve unnecessary steps, powerful shadowless lights, enabling the surgeon to work in a deep incision, supplemented by an emergency lighting system which can be switched on instantly should the regular current fail; provision for the sterilization of instruments, utensils and supplies; compressed air and suction and many other mechanical resources, conveniently available and precisely regulated; perfect control of temperature combined with the introduction of clean, filtered air and the removal of foul air and odors; the regulation of humidity adding sufficient moisture to the dry air of winter to avoid static sparks which might explode the gases used in anaesthesia and, in summer, removing the excessive humidity for the comfort of surgeons and nurses—and perhaps cooling. The latter are all elements of air conditioning, involving many modifications of the customary formulas of air conditioning engineers.**

In each room must be incorporated many and varied resources of the most modern type, in such a way as to gain the approval of the many surgeons and nurses who must use them. In fig. 3 is shown an operating room lay-out which has been used in scores of hospitals. This plan is the cumulative result of the ideas and suggestions of many surgeons and nurses, yet some invention of tomorrow may make it obsolete.

The science of noise control has progressed far. New acoustical materials have been developed with high-absorption coefficients which, applied to ceilings of corridors, quiet rooms, nurseries, delivery rooms and labor rooms, etc., reduce the noise levels to a point where the hospital becomes a place of peace and quiet. With greater competition and lowered prices it will soon be practical to use acoustical treatment in every patient's room.

Noiseless hardware, friction hinges and soft rubber bumpers and roller latches eliminate some of the most disturbing noises from which patients have long suffered. Engineers have learned how to control vibrations of machinery, to insulate and wall off noisy equipment. Quiet flush valves and toilets have at last been perfected and even the problem of the rush and roar of water through the pipe is reaching a practical solution.

Hospital construction in the immediate future will be largely along the lines of *reconstruction,* and additions. There are countless institutions which are struggling under the handicaps of inadequate, poorly-designed, antiquated plants. Many of these are now being modernized, rearranged and expanded, and reborn to a new life of service.

As an illustration of what can be done, there is a city of approximately 20,000 inhabitants and serving it and an area almost twice as large, a typical hospital of the early nineties. It was, for those days, a very modern building, with 95 beds. More than 25 years have passed: the one-time ample hospital is now outgrown, its quarters crowded with extra beds in wards and solaria, maternity patients and children scattered among medical and surgical cases, the x-ray department in the basement between the

**"Hospital Air Conditioning," in this issue, pages 147-149. presents a more detailed study.

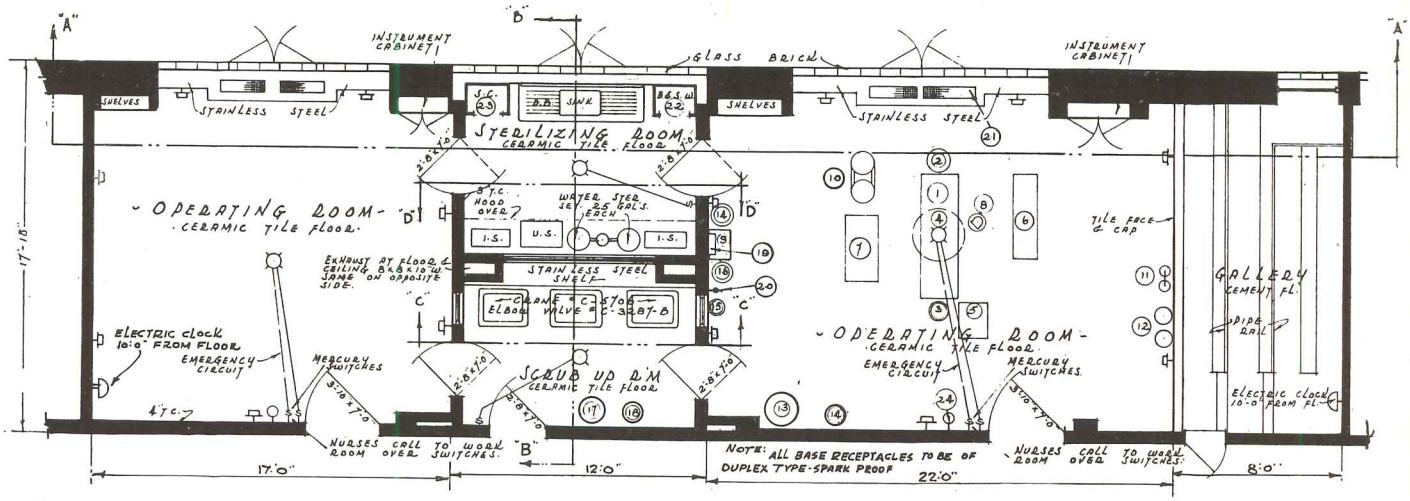
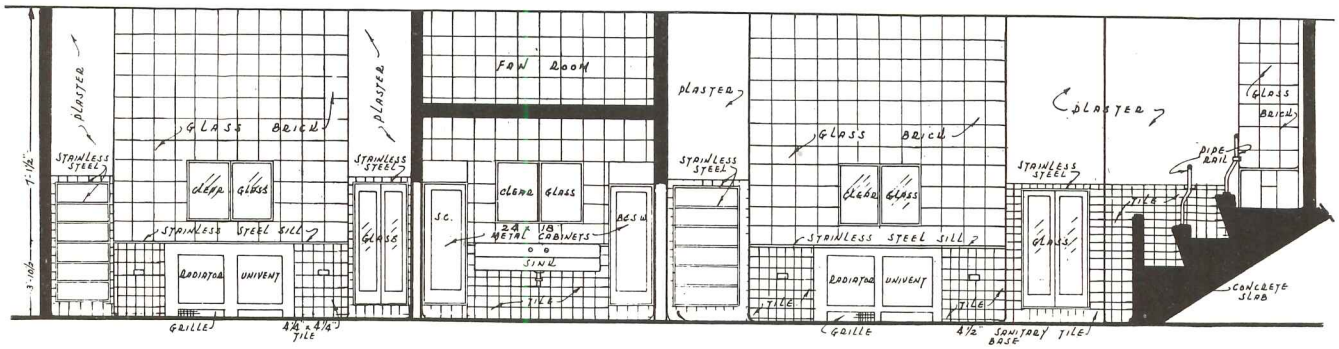
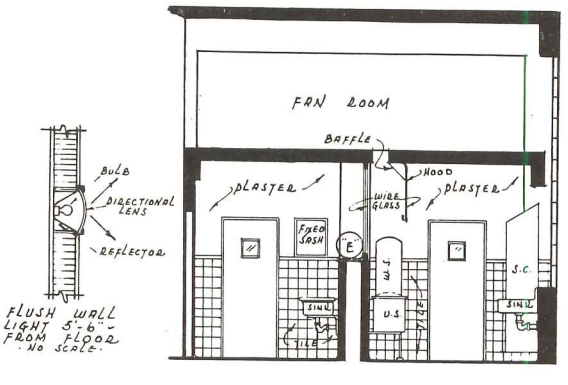


FIGURE 3: OPERATING ROOM LAYOUT

1. Operating table
2. Surgeon's stool
3. Anaesthetist's stool
4. Operating light
5. Anaesthetist's table
6. Instrument table
7. Dressing table
8. Electric light reflector
9. Table for gloves, powder, etc.
10. Dressing drums
11. Irrigator stand
12. Basin stand
13. Soiled linen conveyor
14. Waste receptacles
15. Alcohol dispenser
16. Gown drum
17. Towel drum
18. Soiled towel receptacle
19. Viewing box (x-ray 23x25)
20. Compressed air and suction
21. Univent on high-pressure steam with reducing valve
22. Blanket and solution warmer
23. Storage cabinet
24. Flush light for general illumination (see detail)



SECTION A-A



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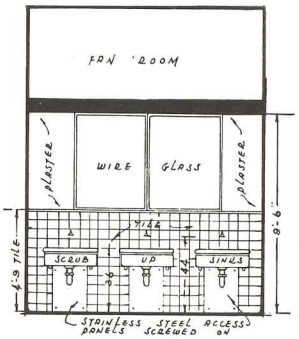

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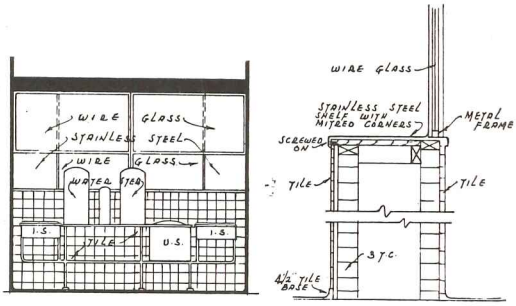


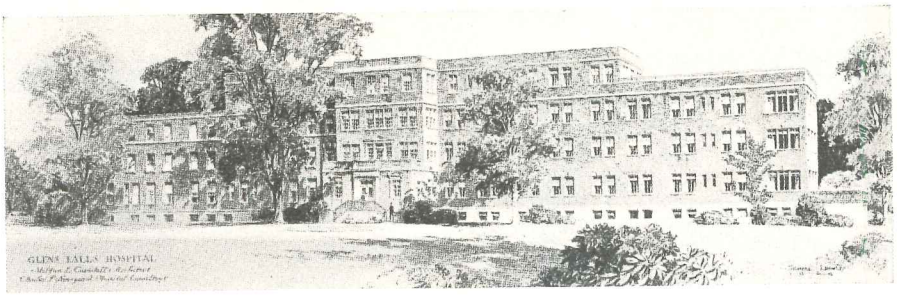
SECTION D-D

kitchen and laundry, a laboratory built on to the nurses' home, where not infrequently an overflow of patients is also lodged. There is but one major operating room and minor surgical work is handled in the anaesthetizing room. The only provision for out-patients is in a small emergency room: the administrative space available for the superintendent, secretary, business and admitting office is scarcely large enough for a superintendent's office alone.

The entire community as well as those connected with the hospital have long been dissatisfied and something had to be done. Two schemes were considered: one, to scrap the old hospital and build a medical center hospital with floors for doctors' offices, a pharmacy, shops, etc., which ran to an impractical $1,500,000; the other, to secure a new and better site upon which to build a 100-bed hospital at $750,000, continuing the old institution as an emergency unit, with the increased overhead incidental to two buildings.

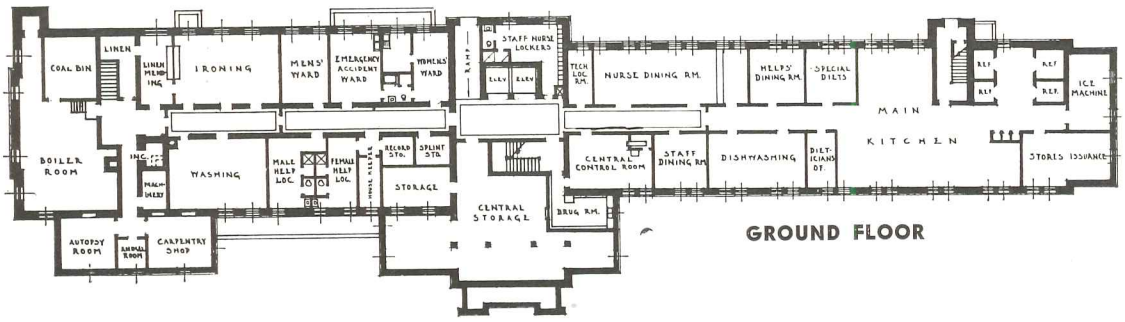
At this point a consultant was called in and after a careful survey of the needs of the community and its doctors, a satisfactory solution was reached. The illustrations tell the story. The main entrance drive will lead through landscaped grounds to a dignified central unit, replacing an end door on a narrow street; a new wing is added to balance the old and is designed for future enlargement; the original building, completely rearranged, adequately houses the administration offices, laboratories, and a new department of physical therapy. Badly needed clinic facilities are added with wards on the upper floors, completely redesigned and re-equipped. An enlarged laundry, storerooms and an emergency accident unit are located in the old basement.

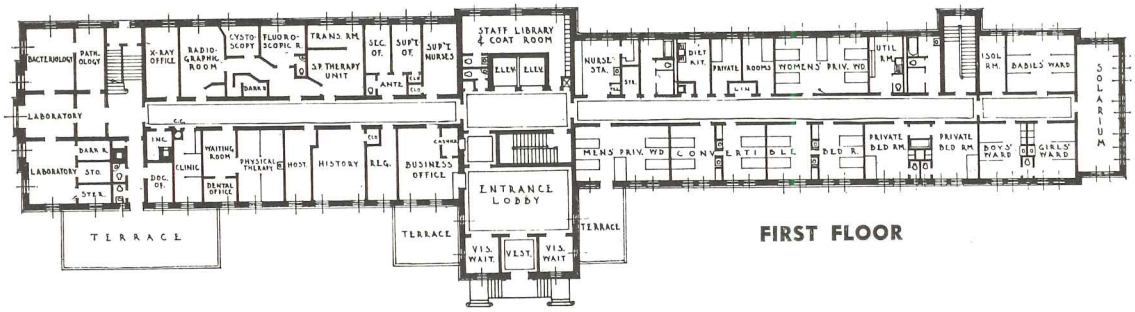
In the new wing is a modern kitchen designed for central tray service, and dining rooms, with private and semi-private patients' rooms on the upper floors. In the surgical

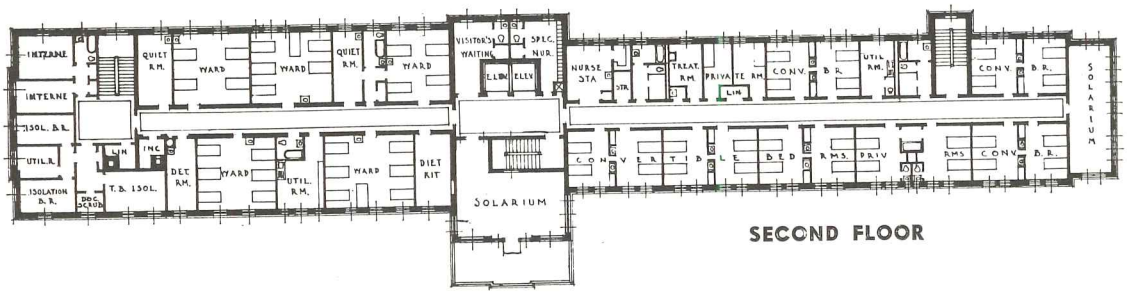


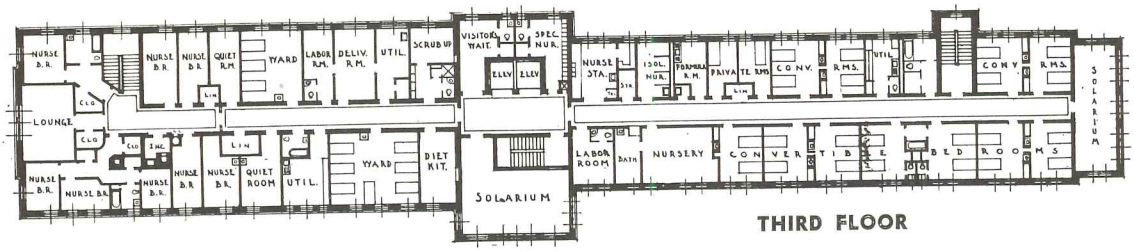
unit are two major operating rooms and one minor, with a large staff conference room adjacent. By the use of the convertible room the normal capacity of the new hospital, 140 beds, may be increased to 160, and a peak load of 185 patients can be accommodated when beds are placed in solaria.

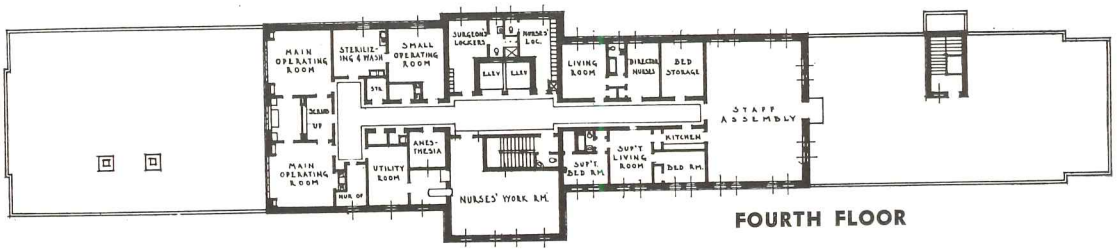
Finally, instead of spending $750,000 to $1,500,000 for new buildings, as had been variously proposed, the city will only require $400,000 for the complete improvement of its hospital plant which will be as good as new and adequate for many years of service. The institution described is the Glens Falls Hospital, for which Milton L. Crandell is the architect. The wing on the left of the floor plans is the old building, 50 ft. in width; that on the right shows the more efficient and economical layout possible in a narrower building.











GLENS FALLS HOSPITAL

GLENS FALLS, N. Y.

MILTON L. CRANDELL, ARCHITECT

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prepared by **HARRY S. ROBSON,** *A.R.I.B.A., B.Arch., Liverpool University, England*

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Architectural Record, v. 77, June 1935, pp. 412-429, illus.

"Planning the General Hospital," H. Eldridge Hannaford.
1932, pp. 391-398, illus., plans.

"Problems Confronting Administrators in New Hospital Construction," by Howard E. Bishop, F.A.C.H.A.
Hospitals, v. 10, March 1936, pp. 30-35, illus., plan.

"Reconditioning and Remodeling Hospitals and Equipment." Charles F. Neergaard.
Transactions of the American Hospital Association, v. XXXV, 1933, pp. 720-726.

"Reconditioning and Remodeling Hospitals and Equipment." Committee . . . Report.
Transactions of the American Hospital Association, v. XXXV, 1933, pp. 703-720.

Report . . . International Hospital Congress, by C. Ernest Elcock.
Room sizes, construction, costs, planning, etc. Nosokomeion IV/2, 1933.

Report of the Committee on Hospital Planning and Equipment. "New Hospitals for Old."
Transactions of the American Hospital Association, v. XXXVIII, 1936, pp. 123-138, plans.

Studienausschuss I/ Bau, by Hermann Distel, Architect.
Nosokomeion VI/1-2, 1935, pp. 97-103.

The Architectural Forum, v. 57, Nov. 1932.
Special Hospital Reference Number.

The Architectural Forum, v. 49, Dec. 1928.
Special Hospital Reference Number.

Architectural Record, v. 77, June 1935.
Special Hospital Reference Number, Medical Centers.

"The Establishment of a Hospital, with Particular Reference to Planning and Construction," by Captain J. E. Stone, M.C. F.S.A.A.
Nosokomeion VII/4, 1936, pp. 293-306.

"The Hospital Manual of Operation," by Warren P. Morrill.
Planning and construction, Chap. III, pp. 37-63. Mechanical department, Chap. IX, pp. 186-207. Special equipment, Chap. X, pp. 209-228. New York, Lakeside Publishing Company, 1934.

"The Hospital, Today and Tomorrow," by Carl A. Ericson.
Architecture, v. 67, Feb. 1933, pp. 63-92.

The Modern Hospital (monthly journal).
Chicago, Illinois, The Modern Hospital Publishing Company.

Zum Krankenhausbau. Hjalmar Cederström, Architect.
Nosokomeion VII/1, 1936, pp. 63-68.

HOSPITAL PROJECTS

Concorso per l'ospedale di Bolzano.
Architettura, v. 15, Febbraio 1936, pp. 71-79, illus., plans.

Concorso per un ospedale a Viterbo.
Architettura, v. 13, Marzo 1934, pp. 151-167, illus., plans.

Il Concorso Nazionale per l'Ospedale Clinico di Modena. . . .
L'Architettura Italiana, v. 29, Maggio 1934, pp. 147-162, illus., plans.

Il concorso per l'Ospedale Clinico di Modena.
Architettura, v. 13, Luglio 1934, pp. 414-430, illus., plans.

GENERAL HOSPITALS (Large)

300 OR MORE BEDS

"A New Hospital—Five Years Later," by John M. Smith.
(Hahnemann Hospital, Philadelphia.) The Modern Hospital, v. 42, March, 1934, pp. 45-51, descript. analysis.

"A Seaman's Hospital, Built at Low Cost, Compact in Design," by R. H. Creel, M.D.
(U. S. Marine Hospital, Baltimore.) The Modern Hospital, v. 5, Aug. 1935, pp. 42-47, illus., plans.

"Achèvement du nouvel hôpital Beaujon." Walter, Plousey et Cassan, Architects.
La Construction Moderne, v. 50, Janvier 20, 1935, pp. 374-380, illus.

Amtssygehuset i Aarhus. Tidsskift for Danske Sygehuse.
Kobenhavn, 1935. (Booklet, with complete illus., plans of county hospital.)

Architectural Record, v. 77, June 1935.
Special Hospital Reference Number, Medical Centers.

Beaujon Hospital, near Paris. Walter Plousey et Cassan, Architects.
The Architect and Building News, v. 144, No. 15, 1935, pp. 197-199, illus., plans.

Cité Hospitalière de Lille," by Paul Nelson.
Paris, Editions "Cahiers d'Art," 1933.

Das Bata-haus der Gesundheit in Zlin. Dr. Vlad. Uklein.
Nosokomeion VII/2, 1936, pp. 128-139, drawing, plans.

"Fifty Years a-Growing," by G. Walter Zulauf, M.D.
(Allegheny General Hospital.) The Modern Hospital, v. 48, March 1937, pp. 46-54, illus., plans.

Hammersmith Hospital. (Additions, New Ward Block and Post Graduate Medical School and Outpatients' Department.) G. Topham Forrest, F.R.-I.B.A., Architect.
The Architect and Building News, v. 142, May 10, 1935, pp. 151-156, illus., plans.

Le Fonctionnement et l'esprit du Medical Center de New York en 1934. J. de Harven.
Brussels, Université libre. Revue, 1935, Année 40, pp. 414-447.

Le Nouvel Hôpital Beaujon de Paris. Albert Chenevier.
Nosokomeion VII/1, 1936, pp. 61-63.

Los Angeles County General Hospital. Allied Architects Association of Los Angeles.
The Architectural Forum, v. 62, March 1935, pp. 212-229, illus., plans.

"Marine Hospital Climbs Aloft," by L. E. Hooper.
(U. S. Marine Hospital, Seattle, Wash.) The Modern Hospital, v. 46, May 1936, pp. 56-58, illus., plans.

Middlesex Hospital. Alner W. Hall, F.R.I.B.A., Architect.
The Builder, v. 148, June 28, 1935, pp. 1192-1197, p. 1202, illus., plans.

Pontypridd General Hospital (Competition).
The Architect and Building News, July 10, 1936, pp. 52-54, v. 147, July 17, 1936 pp. 80-82, plans. The Builder, v. 151, July 10, 1936, p. 54, pp. 52-56, p. 71, plans.

"Progetto Proposto per il Nuevo Ospedale Generale di Siracusa," by G. Bonajuto.
Nosokomeion VII/4, 1936, pp. 284-293, drawing, plans.

"Rearrangement of Space Possible at New Jewish Hospital," by J. Cecil McDougall, C. Davis Goodman, and S. S. Goldwater, M.D.
(Jewish General Hospital, Montreal.) The Modern Hospital, v. 44, April 1935, pp. 49-54, illus., plans.

"Teaching Hospital Selects a Plan Well Suited to Its Needs," by A. J. Lomas, M.D.
(University Hospital, Baltimore.) The Modern Hospital, v. 4, June 1939, pp. 47-53, plans.

The New Allegheny General Hospital, Pittsburgh.
Hospitals, v. 10, Aug. 1936, pp. 13-18, illus., plans.

"The Toronto Western Hospital," by A. J. Swanson and James Govan, Architects.
Hospitals, v. 10, Feb. 1936, pp. 44-52, illus., plans.

GENERAL HOSPITALS (Small)

LESS THAN 300 BEDS

Bulletin No. 3 of the Duke Foundation, 1928.
Check List.

Cooperative Hospital in Tel Aviv. Joseph Neufeld, Architect.
The Architectural Forum, v. 65, Dec. 1936, pp. 544, 545, illus., plan.

. . . das bezirksspital in St. Immer. . . .
Moderne Bauformen, v. 35, Februar 1936, p. 79-87, illus., plans.

"Fresno County Modernizes Its Hospital," by H. M. Ginsburg, M.D. and Fred L. Swartz.
(Fresno Co. General Hospital—Calif.) Additions. The Modern Hospital, v. 43, Oct. 1934, pp. 50-55, illus., plans.

German Hospital, London (Additions). Burnet, Tait and Lorne, Architects.
The Architects' Journal, v. 84, Nov. 12, 1936, pp. 663-668, illus., plans.

"Going Modern in Melbourne," by A. G. Stephenson.
(Sisters of Mercy Hospital, Melbourne, Australia.) The Modern Hospital, v. 47, Aug. 1936, pp. 40-46, illus., plans.

"Hagerstown's New Hospital," by Charles F. Neergaard.
(Washington County Hospital.) Hospitals, v. 10, Jan. 1936, pp. 26-31, illus., plans.

"Henrotin Blends Beauty and Service," by Veronica Miller.
(Henrotin Hospital, Chicago.) The Modern Hospital, v. 44, May 1935, pp. 47-52, illus., plans.

"Hôpital-hospice Emile-Roux à Eaubonne (Seine et Oise)," by Charles Clement-Grandcour. J. Mourre, Architect.
La Construction Moderne, v. 52, Decembre 20, 1936, pp. 194-202, illus., plans.

Hospital at Surbiton, Surrey. Wallace Marchment, F.R.I.B.A., Architect.
The Architect and Building News, v. 147, Aug. 14, 1936, pp. 188-193, illus., plans.

"In This, Our First Year . . . " by Jose F. Muguerza.
(Hospital Muguerza, Monterrey, Mexico.) The Modern Hospital, v. 47, July 1936, pp. 40-44, illus., plans.

"Le Nouvel hôpital de Neuilly-sur-Seine," by Antony Goissard. Edouard Jacquemin, Architect.
La Construction Moderne, v. 51, Decembre 22, 1935, pp. 249-260, illus., plans.

"L'Hôpital Franco-Musulman de Bobigny," by Jean Favier, L. Azéma et M. Mantout, Architects.
La Construction Moderne, v. 51, Mars 22, 1936, pp. 502-508, illus., plan.

"L'Hôpital de Miliang (Algerie)," by Emmanuel de Thubert. X. Salvador, Architect.
La Construction Moderne, v. 50, Avril 21, 1935, pp. 646-656, illus., plans.

Llandudno Hospital.
The Builder, v. 151, Dec. 18 and 25, 1936, p. 1194, pp. 1199-1203, p. 1238, pp. 1250-1253.

Main Hospital of the National Railroads of Mexico. Carlos Greenham, Architect.
Architectural Record, v. 81, April 1937, pp. 36-39, illus., plans.

"Planning from the Inside Out," by Raymond G. Bodwell.
(Huron Road Hospital, Cleveland, Ohio.) The Modern Hospital, v. 47, Oct. 1936, pp. 58-62, illus., plans.

"Portfolio of Plans."
The Modern Hospital, v. 46, March 1936, pp. 53-64, illus., plans.

"Portfolio of Plans of Small Hospitals."
The Modern Hospital, v. 44, March, 1935, pp. 55-64, illus., plans.

Royal Masonic Hospital, London. Sir John Burnet, Tait and Lorne, Architects.
American Architect, v. 146, Jan. 1935, pp. 58-64, illus., plans.

Scarborough Hospital. Wallace Marchment, Architect.
The Architectural Review, v. 81, Feb. 1937, pp. 73-75, illus., plans.

Scarborough Hospital. Wallace Marchment, Architect.
The Architects' Journal, v. 85, Jan. 14, 1937, pp. 47-56, illus., plans.

"Some Points of View on Small Hospitals," by Gustav Birch-Lindgren.
Nosokomeion V/1-1934, p. 24, pp. 33, 34.

"Stretching the Community Dollar," by Charles F. Neergaard.
(Prince Edward Island Hospital, Charlottetown.) The Modern Hospital, v. 42, March 1934, pp. 57-62, illus., plans.

The Nestlé Hospital, Lausanne. Georges Epitaux, Architect.
Architect and Building News, v. 146, June 26, 1936, pp. 393, 394, illus., plans.

"The Small Hospital," by W. P. Merrill, M.D.
Hospitals, v. 10, Sept. 1936, pp. 78-84.

"The Small Hospital's Home and How It Should Be Arranged," by Carl A. Erikson.
The Modern Hospital, v. 44, March 1935, pp. 76-79.

"The Small Hospital of the Future Capable of Being Enlarged," by Ernst Balser.
Nosokomeion V/1-1934, pp. 21-24, 25-32, drawings, plans.

Two Australian Hospitals. Stephenson and Meldrum (Architects).
(Sisters of Mercy Hospital, Melbourne, Gloucester House, Royal Prince Alfred Hospital, Sydney.) The Architectural Review, v. 81, Feb. 1937, pp. 51-55, illus., plans.

Welwyn Cottage Hospital. H. G. Cherry, Architect; Consulting Architects, Adams, Holden and Pearson.
The Architects' Journal, v. 84, July 23, 1936, pp. 113-115, illus., plans.

WARDS AND ROOMS

"Current Notes on Planning: Recent Developments in Hospital Planning (Hospital Wards)," by "E. and O.E."
The Architect and Building News, v. 145, Feb. 14, 1936, pp. 213-215, plans.

"Die Krankenbettenabteilung als Standardisiertes Element (Die Pflegeeinheit)," by Dr. K. Borrisowa and W. Hebebrand (Arch.).
Nosokomeion V/4, 1934, pp. 256-269, plans.

"Jewish Hospital Provides for Ward Surgical Patients," by Joseph C. Doane, M.D., and Horace W. Castor.
(Jewish Hospital, Philadelphia.) The Modern Hospital, v. 45, Sept. 1935, pp. 51-54, illus., plans.

"La Piu Pratica Disposicione della „Zona di Degenza" e della„ Zona dei „Servizi Complimentari" per Offrire „Migliore Servizio Agli Ammalati," by Ettore Rossi, Architect.
Nosokomeion VI/1-2, 1935, pp. 59-67, drawings, plans.

"Planning and Equipping the Utility Room for Maximum Service," Leighton F. Irwin, Architect.
The Modern Hospital, v. 44, June 1935, pp. 65-67, plan.

"Space Required for Hospital Patients," by Hans Frey.
Nosokomeion, IV/2, 1933, pp. 271-272.

EXAMINATION & SPECIAL TREATMENT FACILITIES

CYSTOSCOPY
OPERATING ROOMS
ELECTRO THERAPY
PHYSICAL THERAPY
PSYCHIATRIC
RADIOLOGIC

"Two-Corridor Arrangement Features New Cystoscopy Department," by Joseph Turner, M.D.
(Mount Sinai Hospital, New York City.) The Modern Hospital, v. 42, Feb. 1934, pp. 85-87, illus., plans.

"An Ideal Operating Suite," by Harold L. Foss, M.D., and Edward F. Stevens, F.A.I.A.
The Modern Hospital, v. 44, Feb. 1935, pp. 65-69, plans.

"An Operating Room Modern in Feeling and Equipment," by Anton Skislewicz, B. Arch.
(James M. Jackson Memorial Hospital, Miami, Florida.) The Modern Hospital, v. 43, Sept. 1934, pp. 78, 79, illus., plans.

"Operating Room . . . Air Conditioning."
Hospital Management, v. 38, July 1934, pp. 22-24, illus.

"Planning the Operating Suite," by Louis H. Burlingham, M.D., Wilbur T. Trueblood, A.I.A., Evarts A. Graham, M.D.
Transactions of the American Hospital Association, v. XXXV, 1933, pp. 731-734.

"Planning the Surgical Facilities," by S. S. Goldwater, M.D.
Architectural Record, v. 71, Feb. 1932, pp. 138-143, illus.

"The Hospital Architect Considers the Operating Room," by J. C. Murphy, Fellow A.I.A.
Hospital Management, v. 37, Jan. 15, 1934, pp. 22-24, plan.

"The Organization and Administration of an Electro-Therapeutic Department," by Philippe Baumens.
Nosokomeion IV/1, 1933, pp. 65-68.

"Problems the Architect Overcame," by Carl A. Erikson.
The Modern Hospital, v. 46, April 1936, pp. 62-64, illus., plans.

"How to Organize a Department of Physical Therapy," by Earle E. Shepley, M.D.
The Modern Hospital, v. 42, June 1934, pp. 83-87, plan.

"Planning the Physiotherapeutic Department in Hospitals," by Hermann Distel.
Nosokomeion IV/1, 1933, pp. 87-98, plans.

"Portrait of a Successful Physical Therapy Department," by Charles O. Molander, M.D.
The Modern Hospital, v. 46, March 1936, pp. 78-83, plans.

"Solving a Difficult Problem for the Psychiatric Department," by Edward Randall, M.D., and Lucius R. Wilson, M.D.
(John Sealy Hospital, Galveston, Texas.) The Modern Hospital, v. 44, June 1935, pp. 56-58, illus., plan.

"Planning the Radiologic Department," by R. A. Rendich, M.D., and C. B. Braestrup, P.E.
The Modern Hospital, v. 45, Oct. 1935, pp. 45-51, plans.

OUT-PATIENT FACILITIES

CLINICAL SERVICES
DISPENSARY SERVICES

"A New Dispensary in an Old Hospital Building," by Merrell L. Stout, A.B., M.D.
(University Hospital, Baltimore, additions and alterations.) Hospitals, v. 10, Nov. 1936, pp. 52-59, illus., plans.

"Clinic Building, University of California," by F. S. Durie.
Hospital Management, v. 37, Feb. 15, pp. 38, 39, illus., plans.

Dispensaire municipal à Albi, Tarn. André Laborie, Architect.
L'Architecte, II Année, 1934, pp. 131, 132.

Eastman Dental Clinic. Waldemar Johanson, Architect.
The Architects' Journal, v. 84, October 15, 1936, pp. 533-537, illus., plans.

"Ecole de Puericulture . . . Paris," by J. L. Margerand. Duval et Gonse, Dresse et Oudin, Architects.
Construction Moderne, Année 49, Février 11, 1934, pp. 309-318, illus., plans.

"Preventorium à St. Georges Motel," by Antony Goissard. Edouard Fouque, Architect.
Construction Moderne, Année 52, Octobre 18, 1936, pp. 59-67.

The Osaka Dental Clinic, Tokyo. S. Kigo, Architect.
The Architect and Building News, v. 148, Nov. 27, 1936, pp. 260, 261, illus., plans.

The Surgical Clinic, Tuebingen University. Hans Daiber, Architect.
The Architect and Building News, v. 146, April 1936, pp. 48-51, illus., plans. Moderne Bauformen, v. 35, Januar, 1936, pp. 5-32, illus., plans.

"This Clinic Gives Individual Service to Each Patient," by Francis R. Van Buren.
(Children's Hospital, Cincinnati.) The Modern Hospital, v. 44, June 1935, pp. 48-50, illus., plans.

"Two Old Structures Make a Modern Out-Patient Building," by William Gehron and Joseph Turner. M.D.
(Mount Sinai Hospital, New York.) The Modern Hospital, v. 43, Nov. 1934, pp. 50-56, illus., plans.

NURSES' HOMES AND TRAINING SCHOOLS

CLASSROOMS
RECREATIONAL FACILITIES
INTERNES' AND DOCTORS' RESIDENCES
EMPLOYEE DORMITORIES

"A Hilltop Home." York & Sawyer, Architects.
(Vassar Bros.' Hospital, Poughkeepsie, N. Y.) The Modern Hospital, v. 48, Feb. 1937, pp. 67-69, illus.

"A Modern Nurses' Home Designed to Provide Maximum Comfort," by H. P. VanArsdall, A.I.A.
(Hamilton Co. Tuberculosis Sanatorium, Ohio). The Modern Hospital, v. 43, pp. 52-56, illus., plans.

"das schwesternhaus." Modern Bauformen, v. 34, Aug. 1935, pp. 406, 407, illus.

"Giving a Background of Comfort to the Nurses' Job," by Katharine J. Dinsford, R. N., and Stirling Horner.
(Nurses' Hall—Univ. of Minn.) The Modern Hospital, v. 45, Nov. 1935, pp. 72-76, illus.

"New Nurses' Home, Hospital for Sick Children," London. Stanley Hall, Easton & Robertson, Architects.
The Architectural Review, v. 76, Aug. 1934, pp. 43-50, illus., plans.

"Nurses at Cook County Have a Home-like Home," by Margaret R. Griffin, R. N.
The Modern Hospital, v. 46, Feb. 1936, pp. 70-74, illus., plans.

"University College Hospital," Nurses' Home and Paying Patients' Block.
The Builder, v. 151, Sept. 18, 1936, pp. 528-530, plans.

LABORATORIES

Das Arztliche Zentrallaboratorium . . . Dr. H. Kerschensteiner.
Nosokomeion VII/1, 1936, pp. 25-29.

Das Krankenhaus-Laboratorium. Dr. V. Uklein . . .
Nosokomeion VII/3, 1936, pp. 191-198.

"Die Bauanlage des Laboratoriums im Krankenhaus," by Dr. Hubert Ritter.
Nosokomeion VII/3, 1936, pp. 199-204, illus., plans.

"Some notes on Laboratory Construction . . . " by Charles E. Elcock.
Nosokomeion VII/2, 1936, pp. 162-164.

"Spotlight on the Pharmacy," by Morris Dauer, Ph.G., B.Sc.
The Modern Hospital, v. 48, March 1937, pp. 71-74, illus., plans.

"The Fundamental Principles of the Planning, Construction and Fittings of Central Laboratories in Larger Hospitals," by Edward F. Stevens, F. A. I. A.
Nosokomeion VII/3, 1936, illus., plans.

SERVICE FACILITIES

HOSPITAL KITCHENS
SPECIAL DIET KITCHENS
FOOD PREPARATION FACILITIES
FOOD STORAGE FACILITIES

"An Architect Plans a Hospital Kitchen," by H. Eldridge Hannaford, A. I. A.
The Modern Hospital, v. 46, 4/36, pp. 108-114, plans.

"Analage und Einrichtung der Krankenhauskuche," by Benno Schachner, Architect.
Nosokomeion 111/4, 1932, pp. 357-364, plans.

"Feeding the Patient in the Modern Manner," by Charles F. Neergaard and Percy C. Quintard.
Nosokomeion 111/4, 1932, pp. 391-395, illus.

"Food Service for Hospitals," by Edwin M. Loye.
The Architectural Forum, v. 57, Nov. 1932, pp. 457-460, illus., plans.

"Laying Out the Dietary Department," by Helen F. Murson.
The Modern Hospital, v. 42, Mar. 1934, pp. 63-65, plans.

"Rebuilding the Kitchen—an Inside Job," by John G. Benson.
The Modern Hospital, v. 46, June 1936, pp. 90-94, illus., plans (refers to Methodist Episcopal Hospital, Indianapolis, Ind.)

SPECIAL HOSPITALS

CHILDREN'S

Casa-cuna de nuestra senora de las Mercedes. Luis Gutierrez Soto, Architect.
Arquitectura, v. 18, Marzo 1936, pp. 73-80, illus., plans.

Children's Hospital, Denver, Colorado. Burnham Hoyt, Architect.
The Architectural Forum, v. 65, Dec. 1936, pp. 511-516, illus., plans.

"Denver's Children's Hospital . . . Specialized Unit . . . " by Burnham Hoyt and Robert B. Witham.
(Physiotherapy etc.) Hospitals, v. 10, Oct. 1936, pp. 29-34, illus., plans.

"Kinderklinik der Städt Krankenanstalten, Essen," by Ernst Bode.
Essen, 1931, illus., plans.

Hospital for Sick Children . . . London. Stanley Hall, Easton and Robertson, F. F. R. I. B. A., Architects.
The Architect and Building News, v. 139, Aug. 3, 1934, pp. 127-131, illus., plans.

"One Link in a Chain of Hospitals for America's Crippled Children," by Gertrude R. Folendorf, R. N.
(Shriners Hospital for Crippled Children, San Francisco, Calif.) The Modern Hospital, v. 46, Jan. 1936, pp. 42-46, illus., plans.

"Planning Hospitals for Children," by Albert Kahn, Architect.
Transactions of the American Hospital Association, v. XXXIV, 1932, pp. 271-282.

"Planning the Convalescent Home for Children," by N. Thomas Saxl, M.D.
The Modern Hospital, v. 42, June 1934, pp. 69-73.

Tadworth Court (Country Branch of Hospital for Sick Children, London). H. Courtenay Constantine, F. R. I. B. A., Architect.
The Architect and Building News, v. 146, May 22, 1936, pp. 211-214, illus., plans.

"This Children's Home has been Designed for Living," by L. M. Franklin.
(D. T. Watson Home for Crippled Children.) The Modern Hospital, v. 46, April 1936, pp. 40-43, illus., plans.

SPECIAL HOSPITALS

CHRONIC

"A Community Program for the Care of the Chronic Sick," by Ernst P. Boas.
Hospitals, v. 10, Feb. 1936, pp. 18-23.

"The Fruit of Research," by Isadore Rosenfeld.
(Chronic Disease Hospital, Welfare Island, New York City.) The Modern Hospital, v. 48, March 1937, pp. 58-64, drawings, plans.

SPECIAL HOSPITALS

ISOLATION
COMMUNICABLE DISEASE

"Built without Corners," James Purdon, Architect.
(Burbank Hospital, Fitchburg, Mass.) The Modern Hospital, v. 47, Dec. 1936, pp. 63-65, illus., plan.

"Current Notes on Planning: Hospitals for Infectious Diseases," by "E. and O. E."
Parts 1-4: The Architect and Building News, v. 146, 1936. May 8, pp. 147, 148, May 15, pp. 176, 177, June 5, pp. 268, 269, June 12, pp. 297, 298, plans.

Hospital at Paisley. Burnet, Tait and Lorne, Architects.
The Architects' Journal, v. 84, Sept. 3, 1936, pp. 295-298, illus., plans.

"The Future of the Isolation Hospital," by W. H. Hobday, F. R. I. B. A.
Journal of the Royal Sanitary Institute, v. 57, Sept. 1936, pp. 151-162, plans.

Tolworth Isolation Hospital, England. P. J. B. Harland, A. R. I. B. A., Architect.
The Architect and Building News, v. 143, July 26, 1935, pp. 106-108. R. I. B. A. Journal, v. 44, Dec. 19, 1936, pp. 181-183, illus., plans.

SPECIAL HOSPITALS

MATERNITY
NURSERIES

A Maternity Home, Berne. Salvisburg and Brechbuhl, Architects.
Architect and Buliding News, v. 148, Oct. 23, 1936, pp. 112-114, illus., plans.

Entbindungsheim . . . Stuttgart.
Moderne Bauformen, v. 34, Aug. 1935, pp. 379-415, drawings, plans.

"Maternity and Children's Hospitals," by A. Saxon Snell, F. R. I. B. A.
Journal Royal Sanitary Institution, v. 54, May 1934, pp. 575-598, plans.

Maternity Hospital, Warsaw, Poland. Gelbard, Sigalin and Wojniewicz, Architects.
Architect and Building News, v. 149, March 3, 1937, pp. 334, 335, illus., plans.

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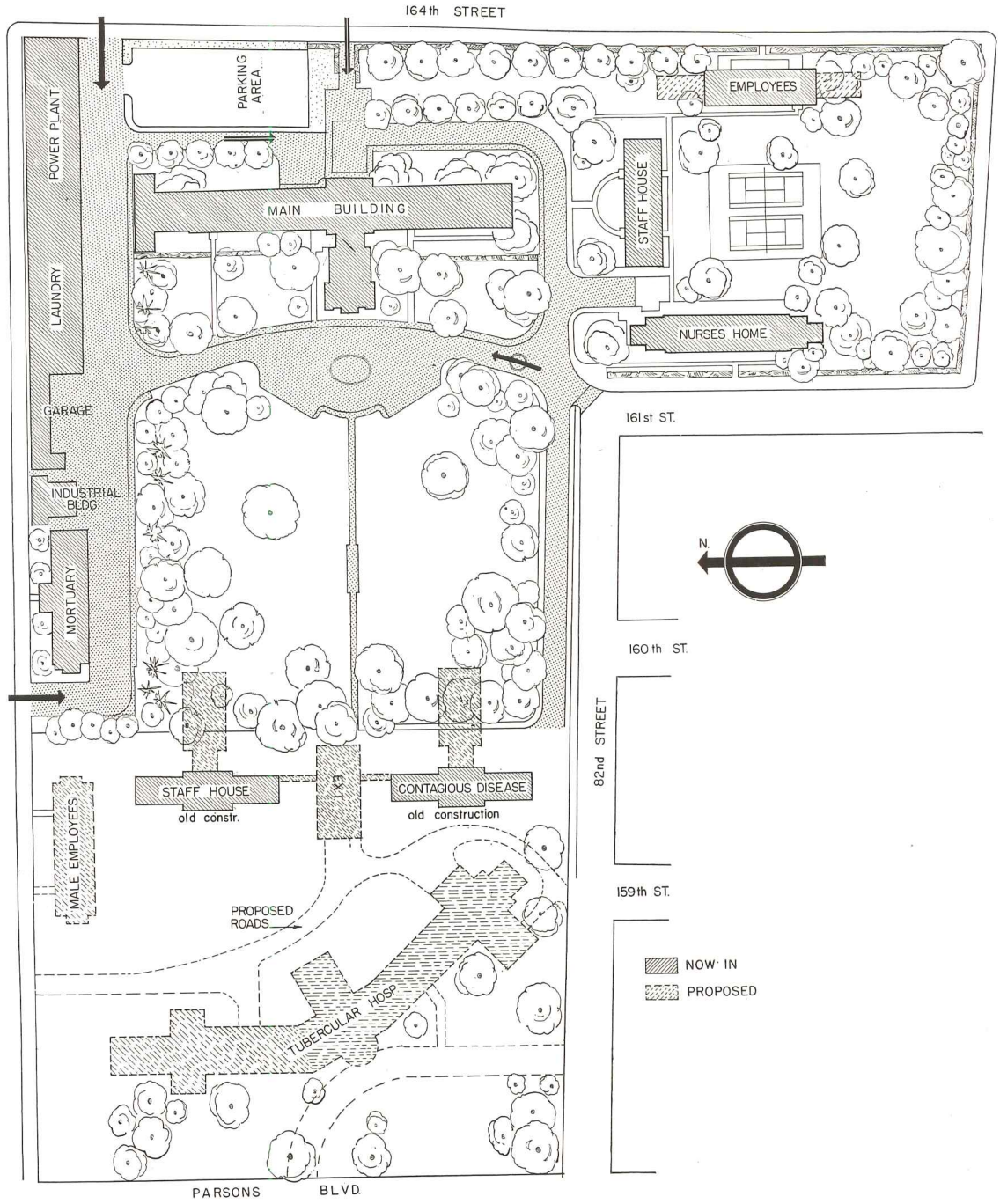
A GENERAL HOSPITAL – 475 BEDS 1



PLOT PLAN

SERVICE ENTRANCE
PATIENTS' AND VISITORS' ENTRANCE
ADMINISTRATIVE ENTRANCE

Underground service and walking tunnels connect all buildings

QUEENS GENERAL HOSPITAL, NEW YORK CITY

SULLIVAN W. JONES, F.A.I.A., ARCHITECT
JOHN E. KLEIST, ASSOCIATE
JACOB LUSTIG, DEPARTMENTAL ARCHITECT, New York Department of Hospitals

1 A GENERAL HOSPITAL — 475 BEDS

AERIAL VIEW

Photo by Aerial Explorations, Inc.

SCHEDULE OF EQUIPMENT AND MATERIALS

FOUNDATIONS AND TUNNELS	Reinforced concrete
FRAME	Structural steel and terra cotta arches, reinforced concrete joists Structural steel and cinder conc. arches
WATERPROOFING	Bituminous membrane waterproofing subsurface construction
PARTITIONS	3" T.C. blocks @ *
EXTERIOR	Face brick (mottled salmon-orange) @
Coping and Panels	Sandstone @
Window Sills	Slate (black) @
Platforms and Parapet Rail	Galv. W.I. 1
Sash	Double-hung and casement (steel) 1 Double-hung steel 2-8 Monitor type 8
Doors	Bronze-covered (wood core) 1-5 Wood (white pine) 6, 7, 8
Roofs	Built-up asphaltic slag surfaced @ Red quarry tile, sun deck 1, set backs 2, 3
INTERIOR	
Floors	Terrazzo—halls 1, 2, 3, 4, 5, and solaria 1, 2 Linoleum—wards and rooms 1 (lead-proofed in x-ray) Wood—quartered white oak parquet—rooms 2, 3, 4 Cement finish—basement 1-5 all floors 6, 7, 8 all tunnels Quarry tile—boiler room 8 kitchens 1, 2, 3 Ceramic flint tile—operating rooms 1 all toilets @ autopsy and embalming 5
INTERIOR	
Wall Finish	Glazed tile—White: Toilets and cleaners' closets, Wainscot @ Operating units 1, wainscot @ Autopsy room and embalming 5, wainscot @ Glazed tile—Green: Corridors 1 Cement Plaster—Basement @ All rooms 5-8, except as noted White Plaster—@ except as noted Offices 5, 8; waiting rooms 6 English sycamore and Padouk inlaid veneer—teak base; board room
Ceilings	White plaster @, except where walls are cement plaster Acoustical, halls and maternity section 1
Doors and Trim	Wood doors—white oak veneered @, except hollow metal at fire stairs (X-rayed proofed in X-ray rooms) Slide-up type 7 Trim: hollow metal and wood
Hardware	Bronze @
Stair Construction	Steel, Alberine stone treads 1-4 Cement treads 5-8
MECHANICAL EQUIPMENT	
Heating	2-pipe vacuum steam system (40 lb. pressure for kitchens; 60 lb. pressure for sterilizers and laundry)
Pipe	Bethlehem Steel
Radiators	Cast-iron tube type—Pierce-Butler-Pierce @ Convector type — Rome Brass (in children's ward) 1 Copper fin radiation—Trane Co. (operating rooms) 1

(Continued on page 159)

*
1. Main Building 2. Nurses' Home 3. Staff House 4. Employees' Home 5. Mortuary Building 6. Industrial Building
7. Garage 8. Laundry and Power-house @ All Buildings

A GENERAL HOSPITAL – 475 BEDS 1

BASEMENT FLOOR

1. Butcher shop
2. Dairy room
3. Bread room
4. Vegetable preparation
5. Pastry shop
6. Main kitchen
7. Office
8. Stores
9. Scullery
10. Food truck storage
11. Dietitian's office
12. Dietetic kitchen
13. Dishwashing
14. Cafeteria
15. Kitchen help's dining room
16. Male help's dining room
17. Clerks' dining room
18. Cafeteria
19. Blower room
20. Record storage
21. Female help's dining room
23. Men's tub room
24. Women's tub room
25. Clothes room
26. Examining rooms
27. Accident ward
28. Emergency admitting office
29. Pharmacy
30. Isolation rooms
31. Patients' clothes room
32. Mattress room
33. Storage space

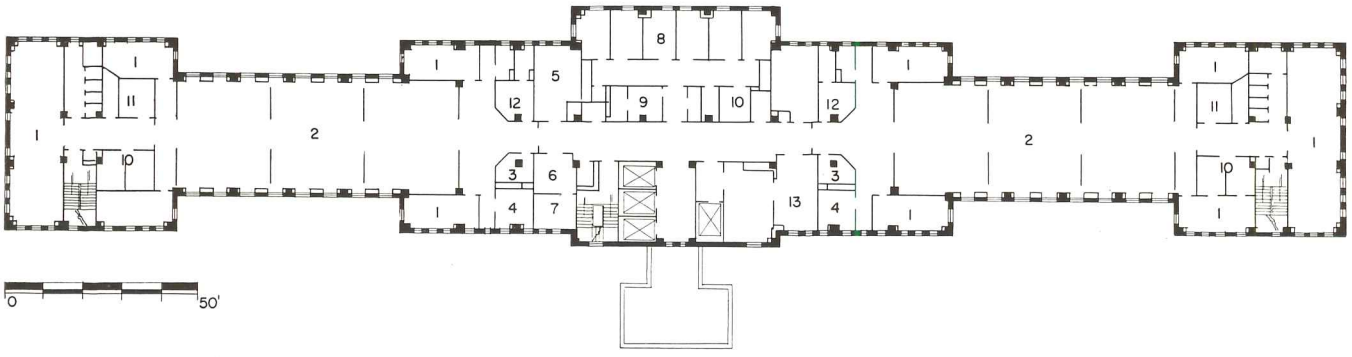
MAIN BUILDING, west elevation

Photo by Dwight N. Streeter

1 A GENERAL HOSPITAL — 475 BEDS

Photos by Dwight N. Streeter

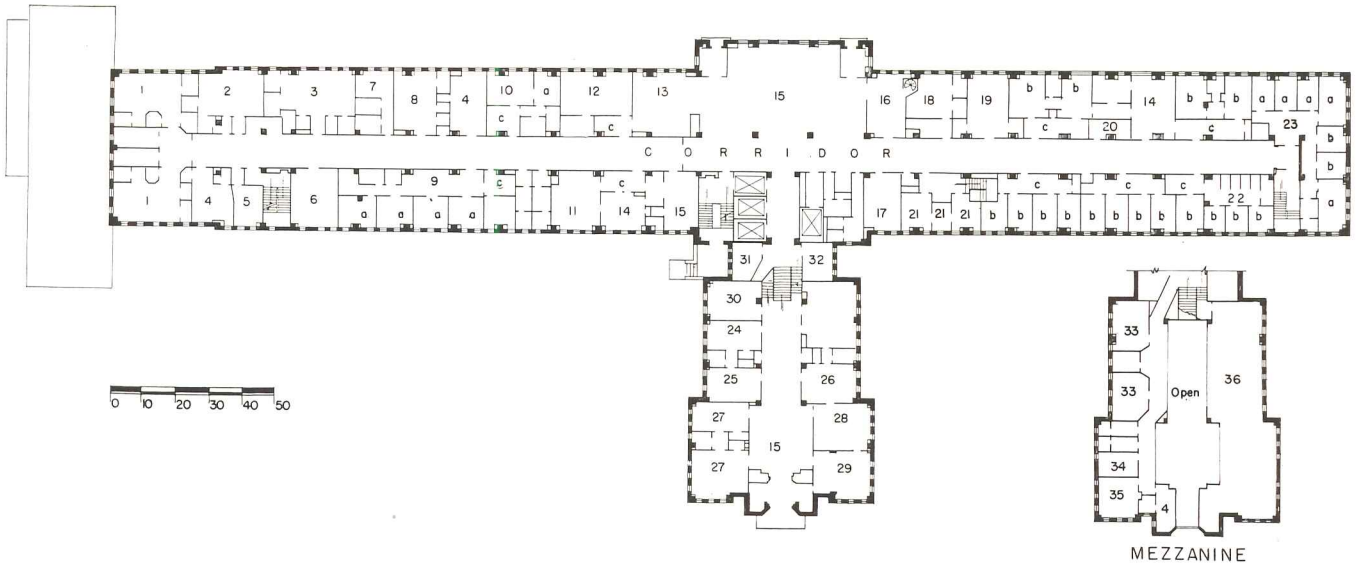
MAIN BUILDING, east elevation



TYPICAL WARD FLOOR

1. Solaria
2. Wards
3. Linen storage
4. Utility room
5. Medical treatment room
6. Examining room
7. Laboratory
8. Single rooms
9. Charge nurse
10. Tub room
11. Dining room
12. Nurses' station
13. Kitchen and serving pantry

A GENERAL HOSPITAL – 475 BEDS 1

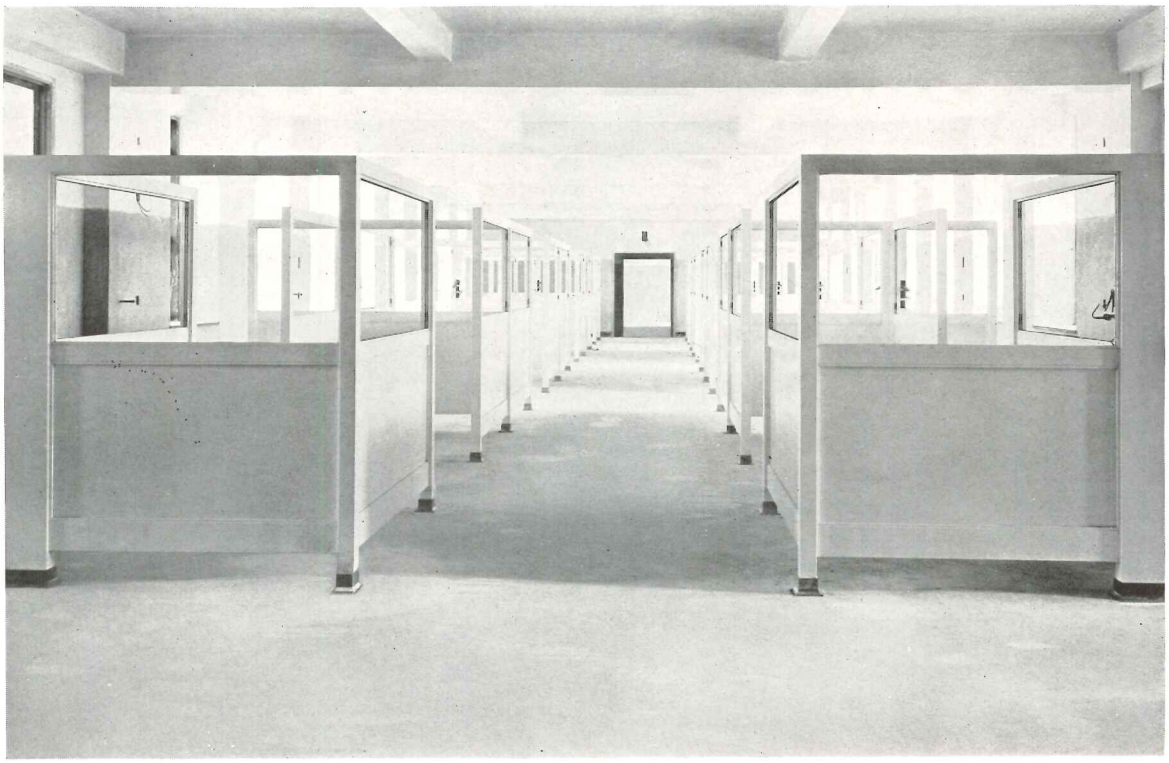


FIRST FLOOR

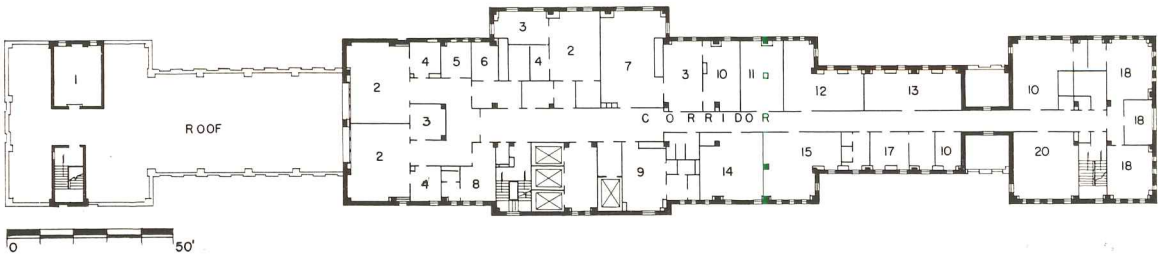
1. Radiographic rooms
2. Fluoroscopy rooms
3. Fracture G.U. rooms
4. Offices
5. Film storage room
6. Film viewing room
7. Film developing darkroom
8. Fracture and cystoscopy room
9. Physiotherapy department
10. Dental clinic
11. Ear, nose and throat clinic
12. Eye clinic
13. Record room
14. Operating room
15. Waiting room
16. Pharmacy
17. Social service
18. Visiting doctors' cloakroom
19. Pediatric
20. Cardiac
21. Isolation
22. Gynecology
23. Genito-urinary department
24. Assistant superintendent of nurses' office
25. Superintendent of nurses' office
26. Deputy medical superintendent's office
27. Medical superintendent's suite
28. Hospital office
29. Admission
30. Offices
31. Storeroom
32. Supplies
33. Deep therapy
34. Superficial therapy
35. Radium treatment
36. Telephone switchboard

a. Treatment rooms b. Examining rooms c. History

TYPICAL WARD

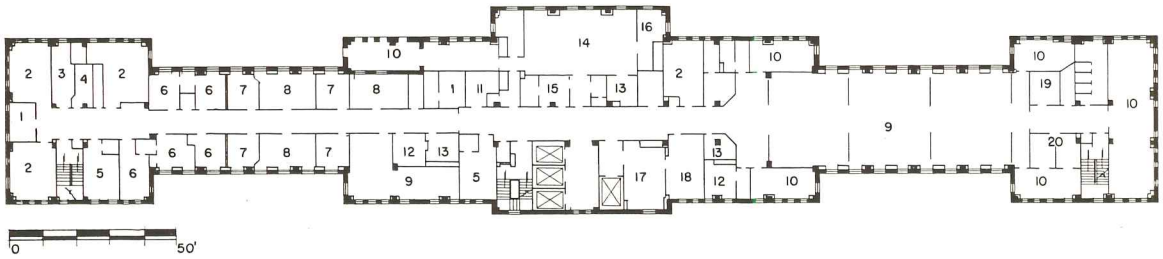


1 A GENERAL HOSPITAL – 475 BEDS



OPERATING ROOM FLOOR

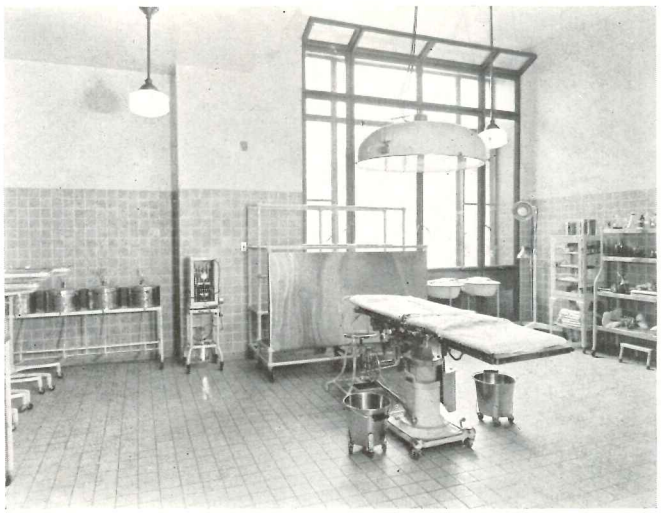
1. Fan room
2. Operating rooms
3. Sterilizing room
4. Scrub-up room
5. Instrument room
6. Anesthetizing room
7. Workroom
8. Nurses' room
9. Doctors' room
10. Storeroom
11. Bacteria laboratory
12. Serology laboratory
13. Pathology
14. Museum and library
15. Chemistry laboratory
17. Office
18. Animal rooms
20. Photography rooms



MATERNITY DIVISION FLOOR

1. Nurses' room
2. Delivery rooms
3. Sterilizing rooms
4. Doctors' scrub-up room
5. Doctors' room
6. Labor room
7. Private room
8. Semi-private room
9. Ward
10. Loggia
11. Storeroom
12. Utility room
13. Linen room
14. Nursery
15. Charge nurse
16. Infants' bath
17. Serving kitchen
18. Serving pantry
19. Washroom
20. Tub room

OPERATING ROOM



SUN DECK

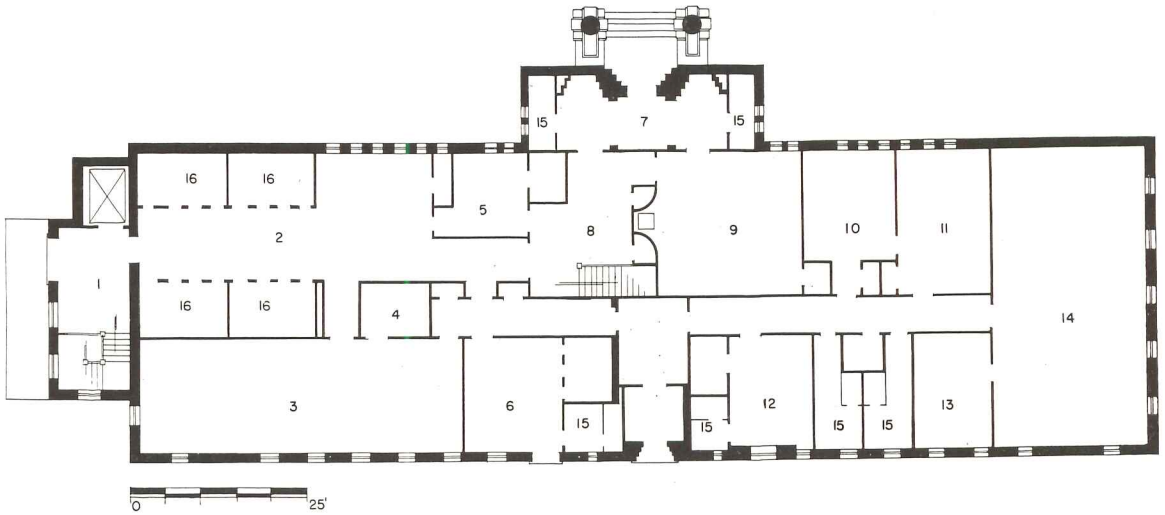
A GENERAL HOSPITAL – 475 BEDS 1

Photos by Dwight N. Streeter

MORTUARY BUILDING, north elevation

THE TWO QUADRANTS seen on the end wall of the chapel are designed to enable officers of the law, posted within, to listen to conversations or vows which may take place over the body chamber and which may assist in the solution of a crime associated with the deceased.

The purpose of these chambers is, of course, not apparent to those within the chapel nor is there any suggstion of the existence of the listening posts. The square indicated between them indicates the glass panel through which the head of the deceased may be viewed.



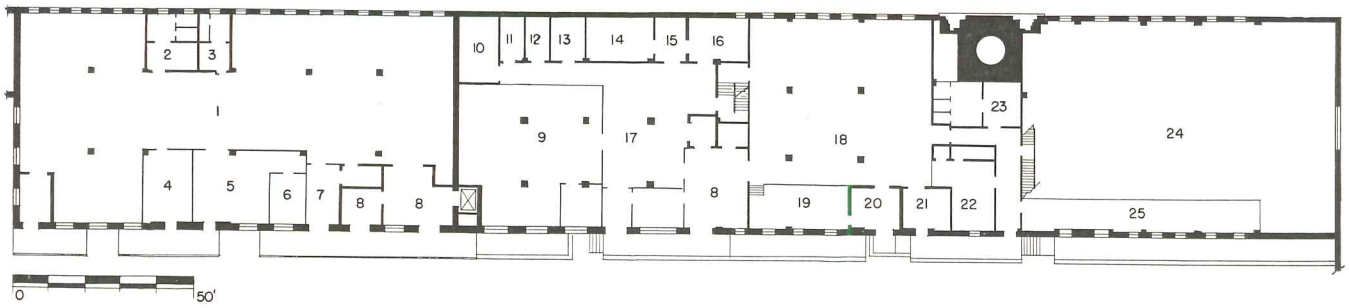
MORTUARY BUILDING, FIRST FLOOR

1. Service entrance
2. Embalming room
3. General autopsy room
4. Doctor's office
5. Mortuary office
6. Contagious disease autopsy room
7. Public lobby
8. Work space
9. Chapel
10. Stenographer's office
11. Pathologist's office
12. Medical examiner's office
13. Storeroom
14. Laboratory
15. Toilets
16. Mortuary refrigerators

1 A GENERAL HOSPITAL – 475 BEDS

Mortuary Building | Industrial Building | Garages | Laundry | Stores | Power-house

GENERAL VIEW OF SERVICE BUILDINGS. The Industrial Building (extreme left) provides waiting rooms and toilets for ambulance drivers and internes as well as carpenter, paint, and electrical shops.



SERVICE BUILDINGS, FIRST FLOOR

Laundry

1. Laundry room
2. Female toilet
3. Male toilet
4. Sorting and distributing room for staff laundry
5. Sorting and distributing room for hospital laundry
6. Mending room
7. Office
8. Storekeeper's office and receiving room

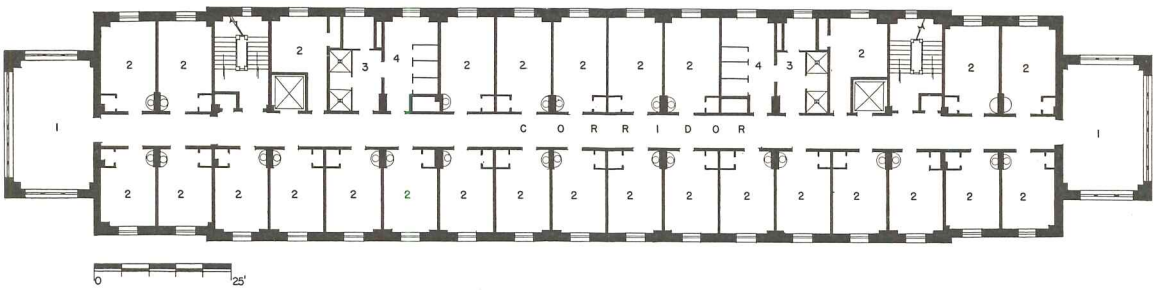
Stores

9. Groceries storeroom
10. General refrigerator
11. Fish refrigerator
12. Fruit refrigerator
13. Butter and egg refrigerator
14. Meat refrigerator
15. Fresh meat storage
16. Cutting room
17. Distributing room

Power-house

18. Refrigerator machine room
19. Ice machine
20. Ice storage room
21. Incinerator room
22. Engineer's office
23. Toilets and locker room
24. Boiler room
25. Balcony

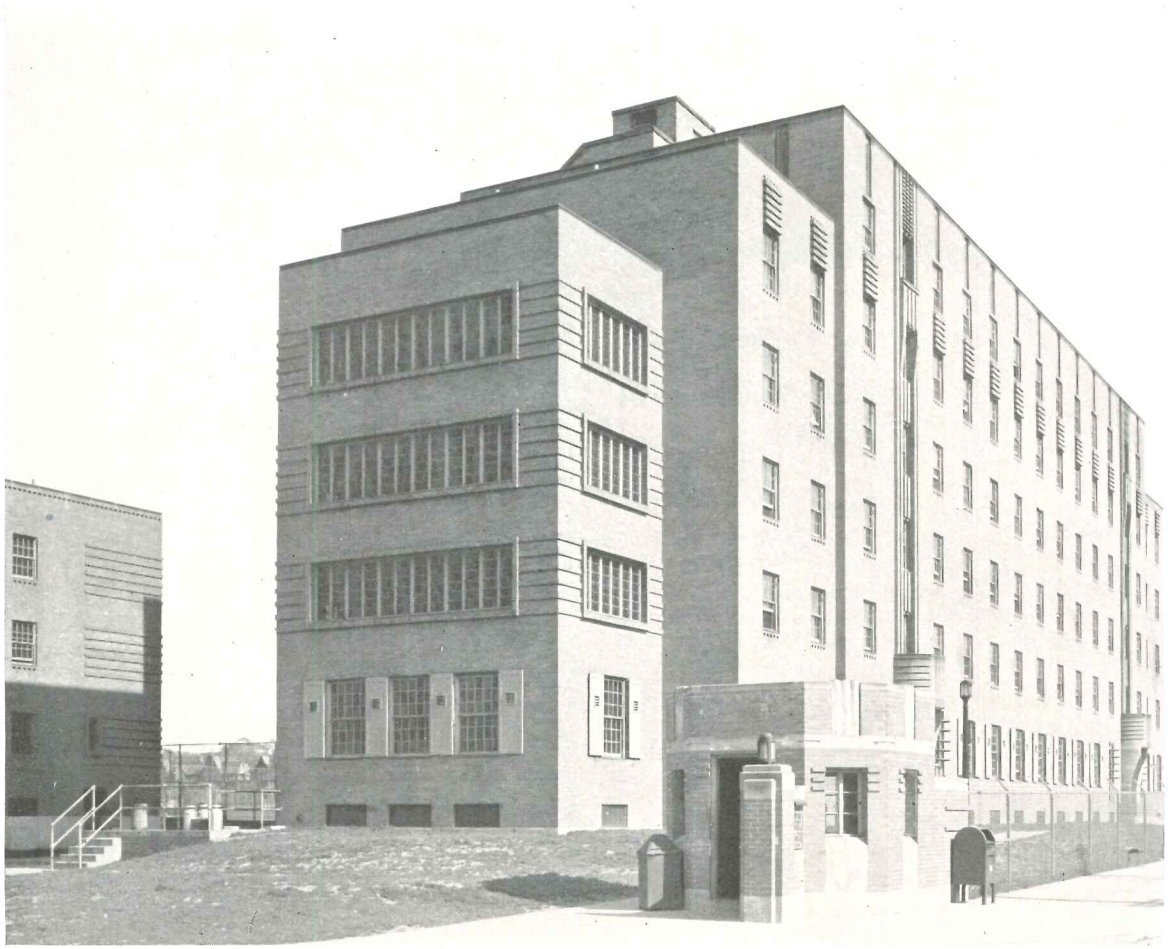
A GENERAL HOSPITAL – 475 BEDS 1



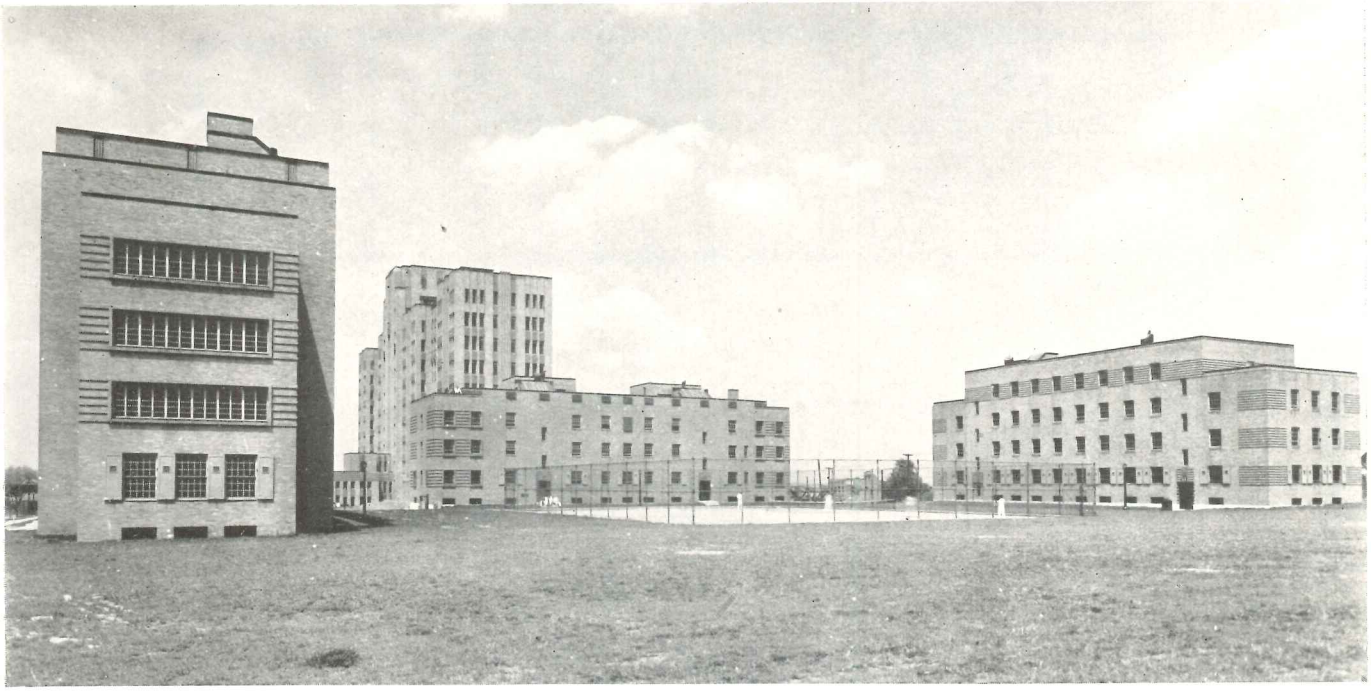
NURSES' HOME BUILDING, TYPICAL FLOOR

1. Solaria
2. Bedrooms
3. Bathrooms
4. Toilets

NURSES' HOME BUILDING, showing guardhouse. In the basement are provided kitchen and storerooms, help's dining room, social hall, laundry, and trunk storage space. On the first floor are the nurses' main dining room with serving pantry, reception room, as well as suites for the superintendent of nurses, the chief dietitian and other executive nurses. Terraces occur on the fourth and fifth floors.



1 A GENERAL HOSPITAL — 475 BEDS



NURSES' HOME STAFF HOUSE EMPLOYEES' DORMITORY

STAFF HOUSE, FIRST FLOOR

1. Medical superintendent's suite
   a. Living room
   b. Dining room
   c. Kitchen
   d. Chamber
2. Internes' bedrooms
3. Washroom and toilet
4. Reception room
5. Dining room
6. Kitchen
7. Serving pantry

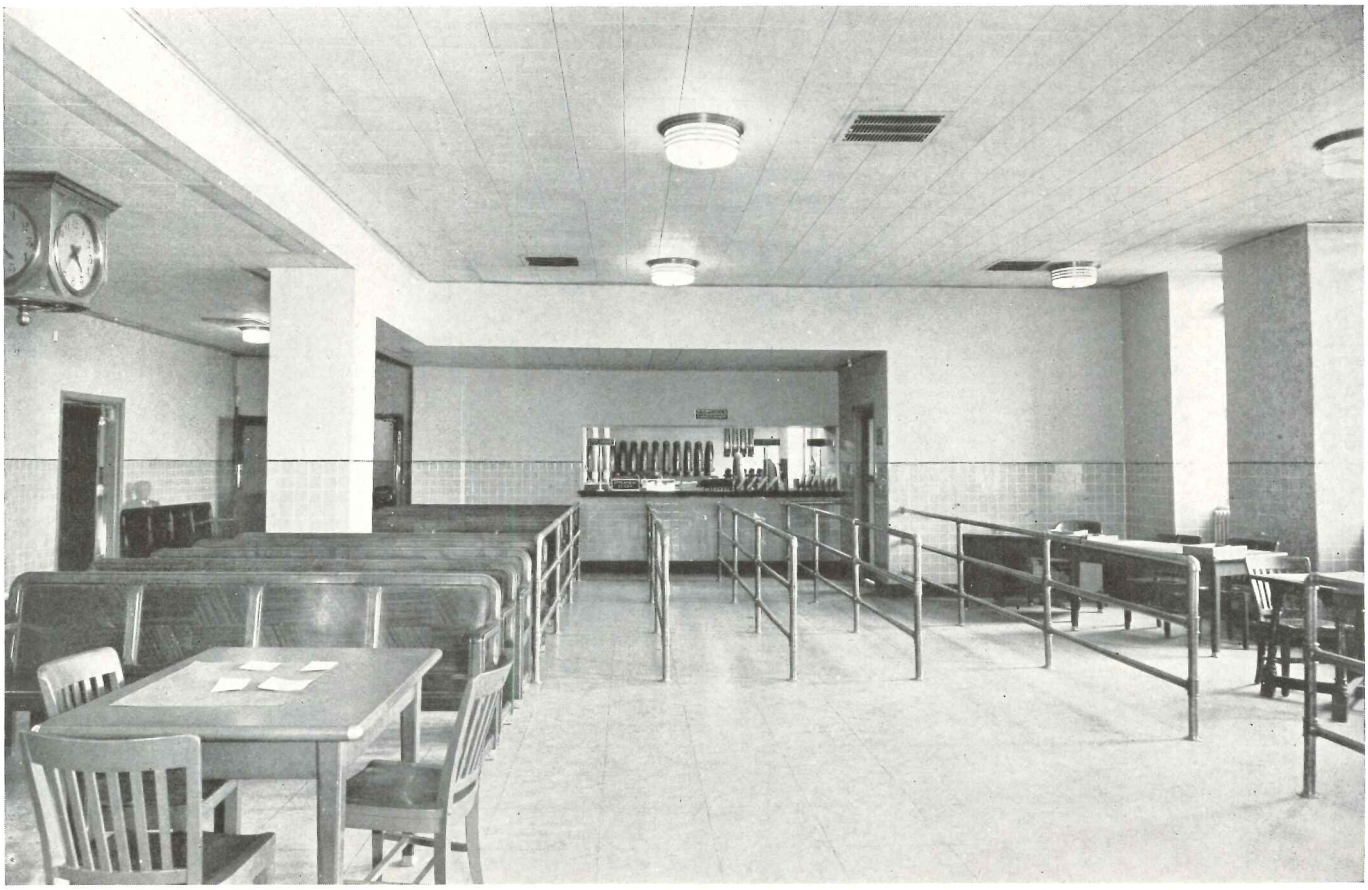
NURSES' HOME includes 132 single rooms and 4 suites (2 rooms and bath each). STAFF HOUSE includes 40 single rooms and 2 apartments (1-5 rooms, 1-6 rooms). EMPLOYEES' DORMITORY includes 75 single rooms.

RECREATIONAL FACILITIES: A billiard room is provided in the basement of the Staff House. A social hall for dances and entertainment is provided in the basement of the Nurses' Home.

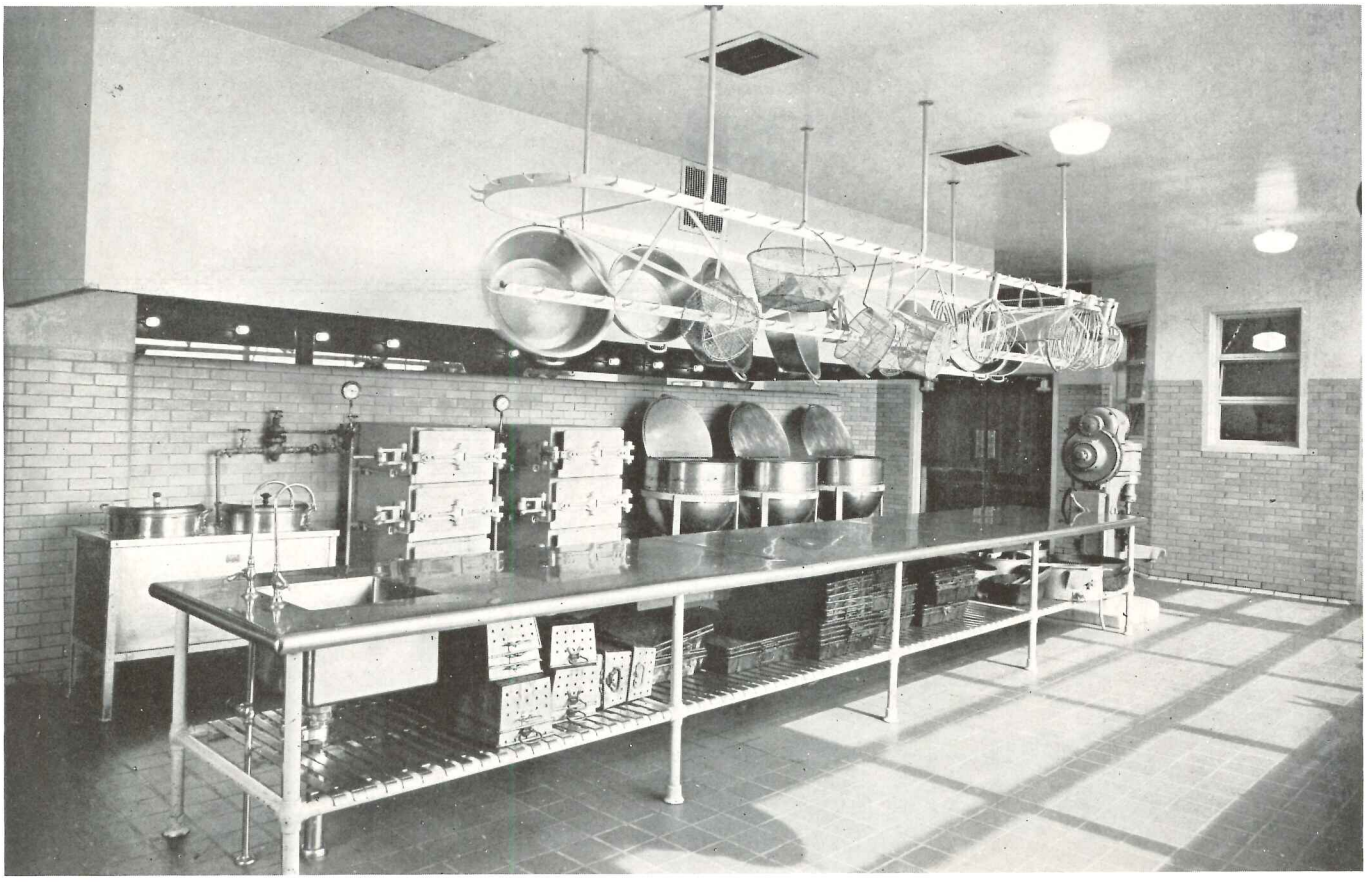
Two concrete tennis courts (integral green coloring was used in the concrete) are for the joint use of nurses and staff. These courts have been designed to provide ice skating in the winter.

INTERIOR VIEWS (opposite), showing (above) OUT - PATIENTS' WAITING ROOM, with record room and information desk, and (below) the MAIN KITCHEN.

A GENERAL HOSPITAL – 475 BEDS 1



Photos by Dwight N. Streeter



2 A GENERAL HOSPITAL – 560 BEDS

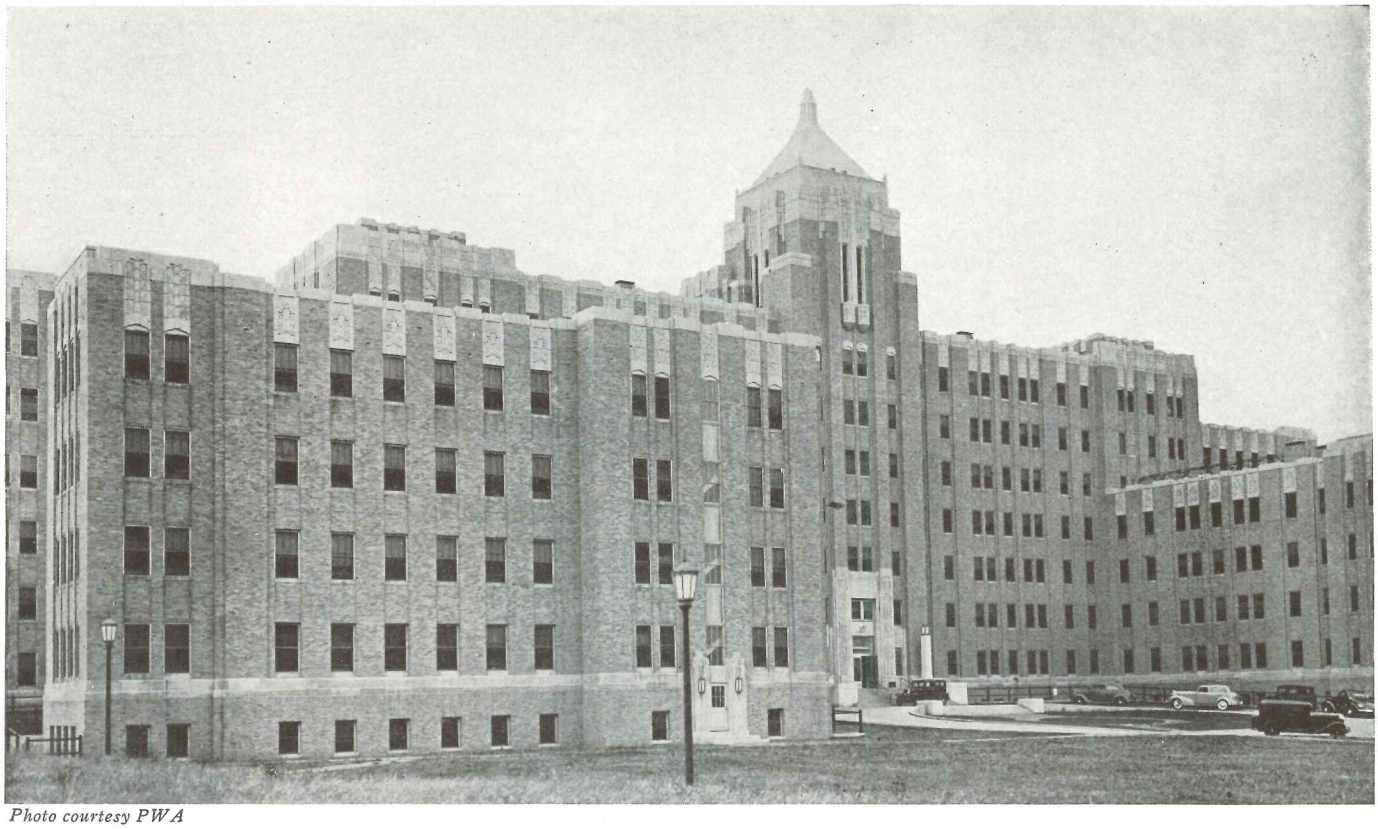
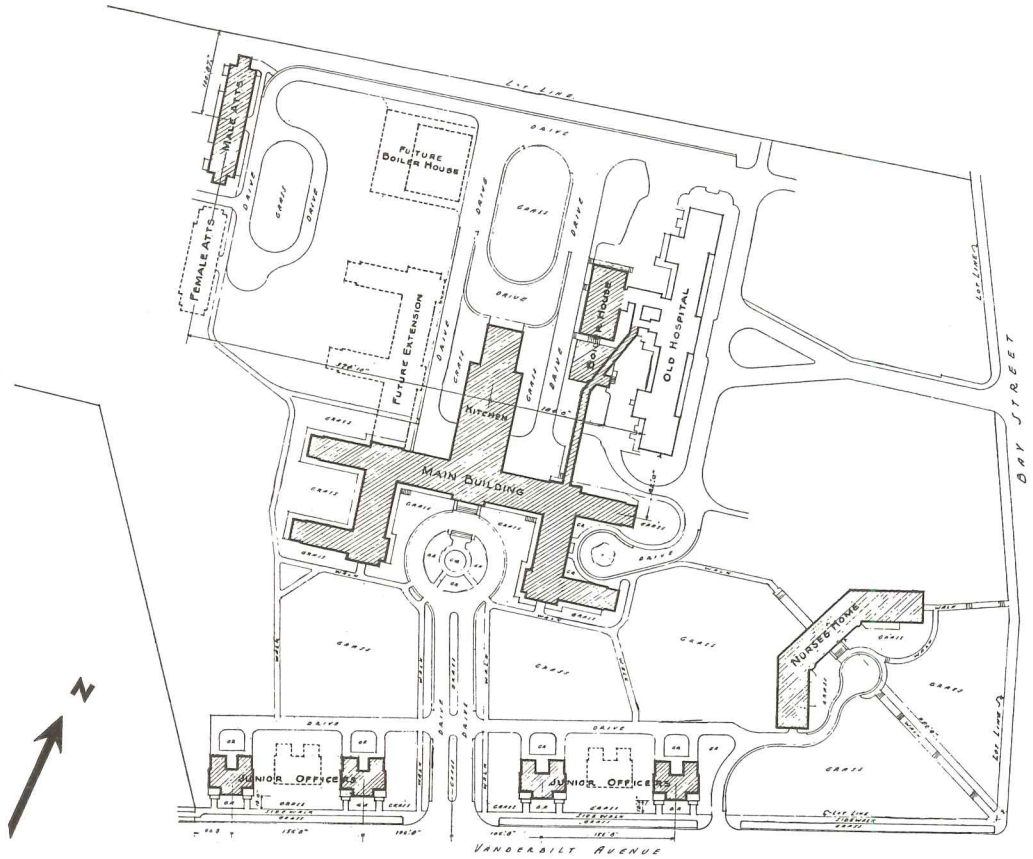


Photo courtesy PWA

U. S. MARINE HOSPITAL, STAPLETON, NEW YORK



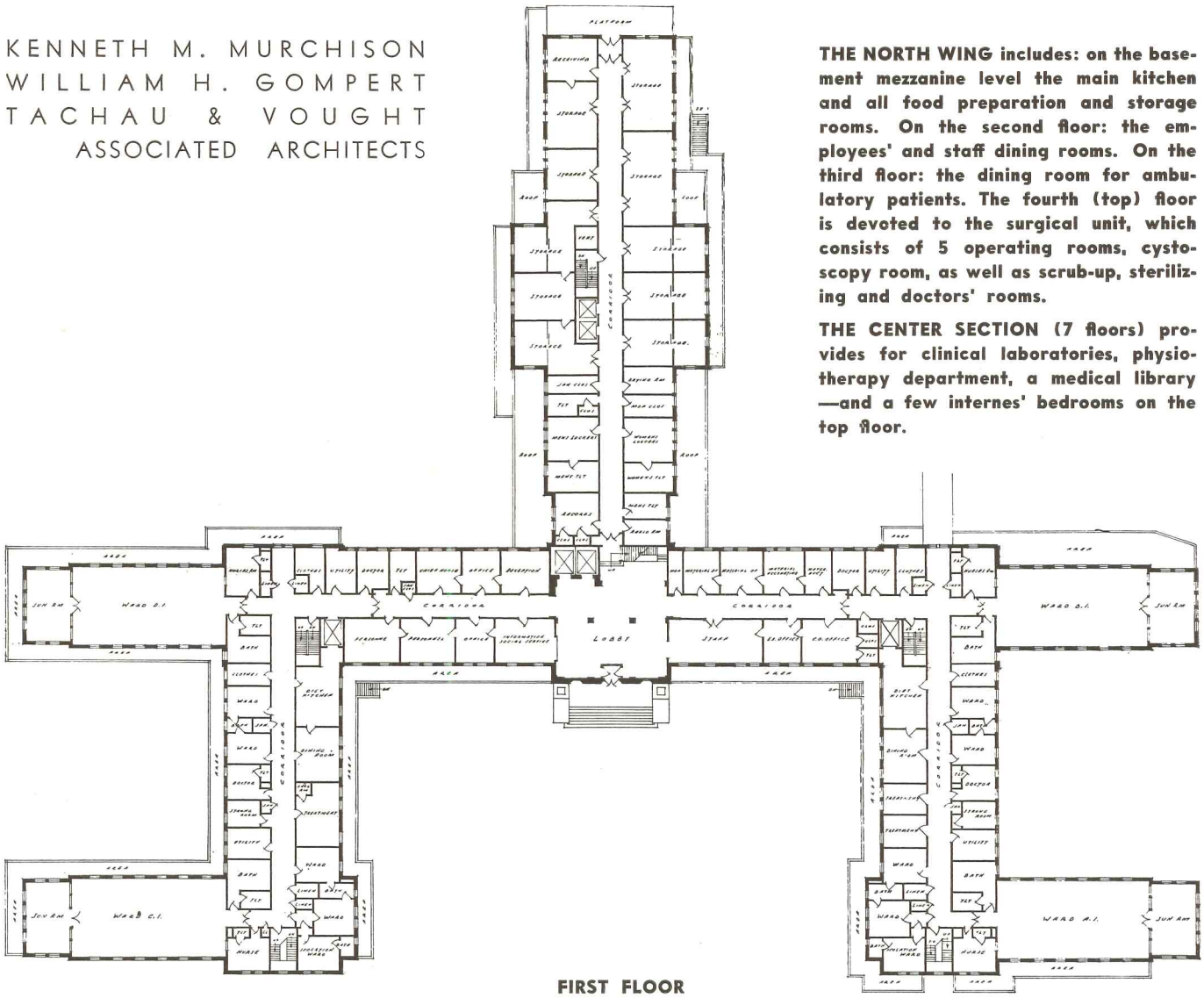
PLOT PLAN

A GENERAL HOSPITAL — 560 BEDS 2

KENNETH M. MURCHISON
WILLIAM H. GOMPERT
TACHAU & VOUGHT
ASSOCIATED ARCHITECTS

THE NORTH WING includes: on the basement mezzanine level the main kitchen and all food preparation and storage rooms. On the second floor: the employees' and staff dining rooms. On the third floor: the dining room for ambulatory patients. The fourth (top) floor is devoted to the surgical unit, which consists of 5 operating rooms, cystoscopy room, as well as scrub-up, sterilizing and doctors' rooms.

THE CENTER SECTION (7 floors) provides for clinical laboratories, physiotherapy department, a medical library —and a few internes' bedrooms on the top floor.



FIRST FLOOR

IN ADDITION to wards (14 beds each), each floor includes two isolation suites, consisting of a room and bath, to which may be added two adjacent rooms providing space for 1, 3, or 5 isolation cases in each wing or the floor. Two special protected rooms are also provided on each floor for mentally disturbed patients.

Special feature of the U. S. Marine Hospital is the service corridor arrangement, located on the basement mezzanine floor. This corridor permits routing of food trucks from the main kitchen (on the same level) to service elevators which open to diet kitchens on ward floors. All other service traffic—supplies, rubbish, etc.—is similarly routed, thus obviating the necessity of such traffic through ward or main corridors.

3 A GENERAL HOSPITAL — 400 BEDS

Photo by The Hughes Co.

UNIVERSITY HOSPITAL
BALTIMORE, MARYLAND

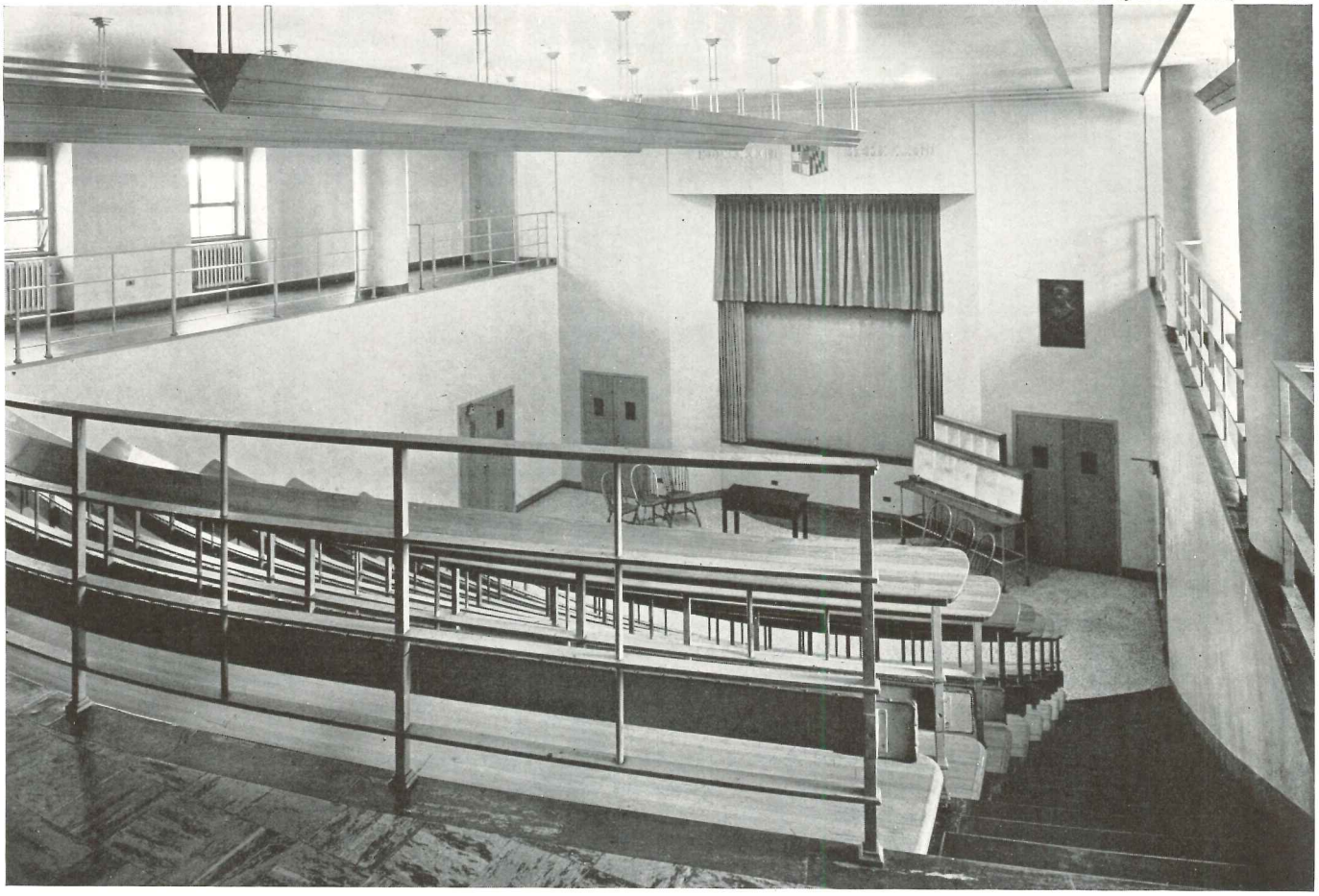
HERBERT G. CRISP, JAMES R. EDMONDS, JR., SMITH AND MAY
ASSOCIATED ARCHITECTS

ARTHUR J. LOMAS, M.D.
CONSULTANT

71 PRIVATE ROOMS
65 SEMI-PRIVATE BEDS
264 WARD BEDS

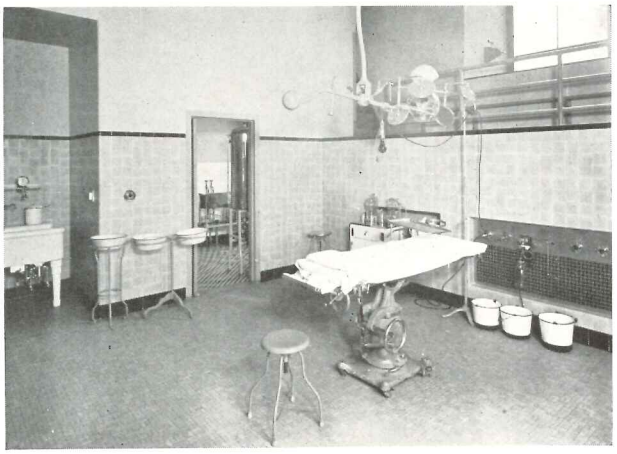
LECTURE ROOM

Interior Photos by J. H. Schaefer & Son

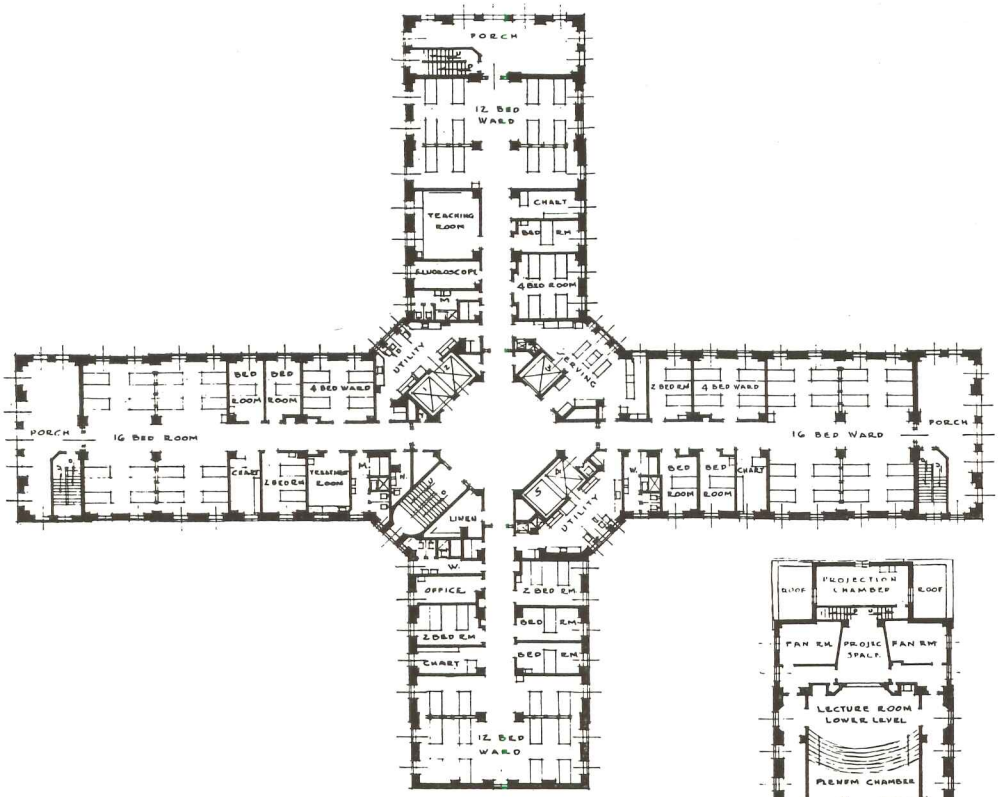


A GENERAL HOSPITAL – 400 BEDS 3

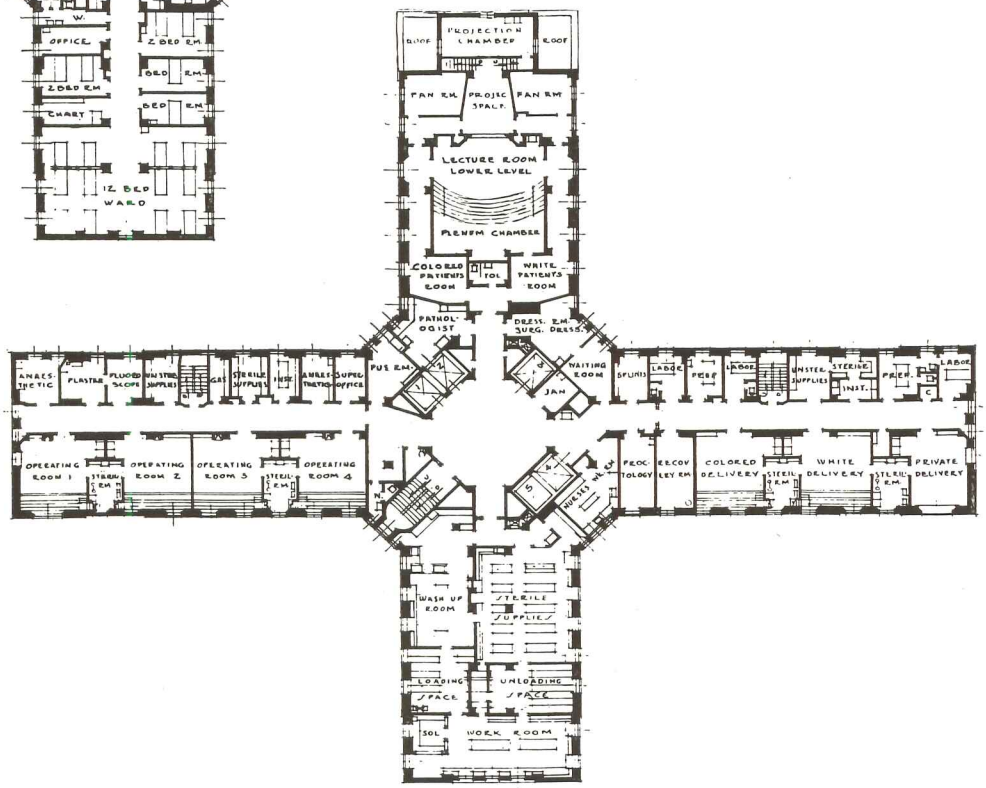
WARD



OPERATING ROOM



TYPICAL WARD FLOOR



OPERATING ROOM FLOOR

4 A SURGICAL OPERATING AND

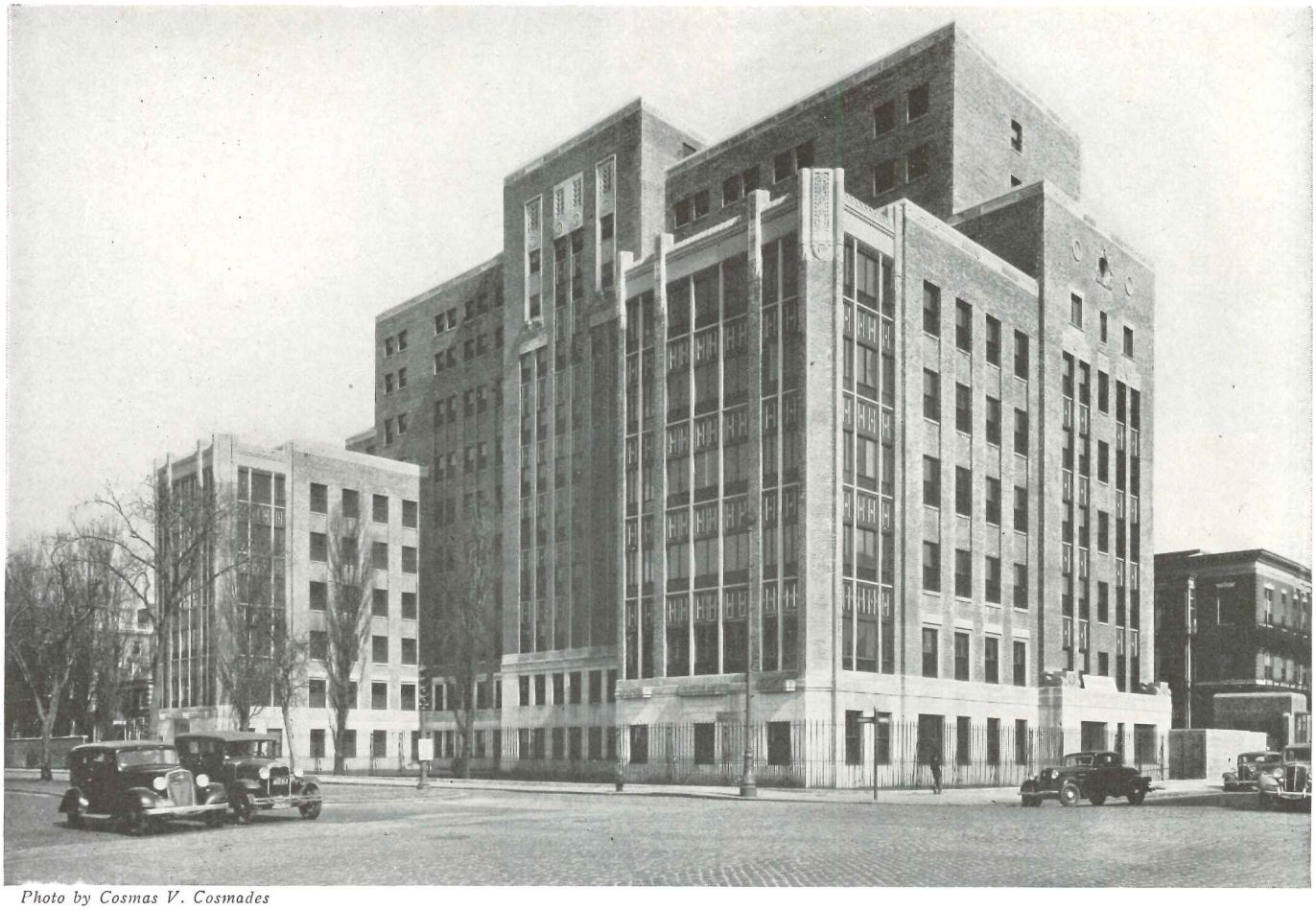
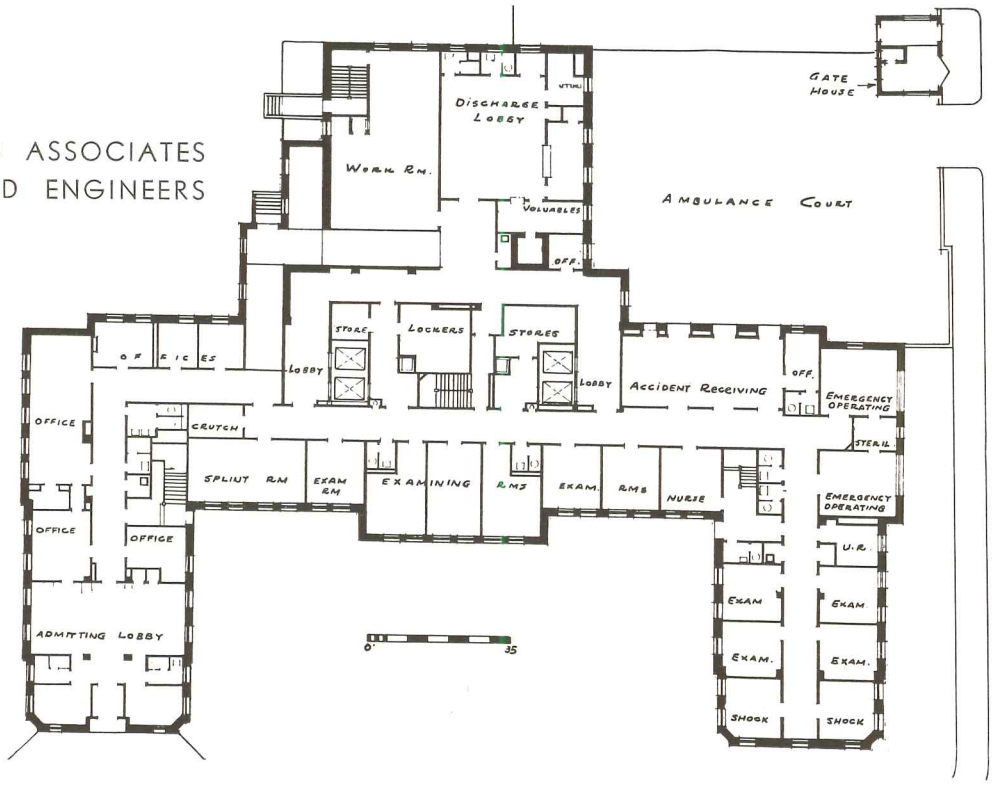


Photo by Cosmas V. Cosmades

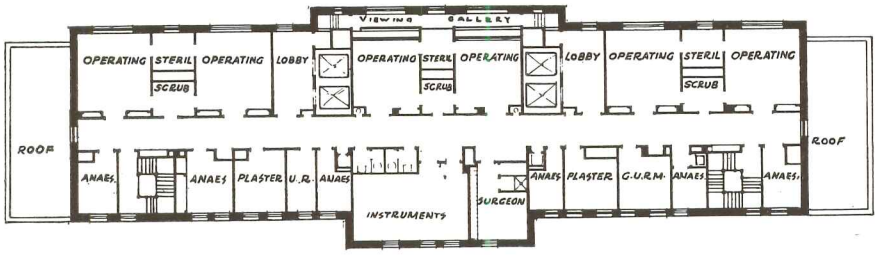
BOSTON CITY HOSPITAL, BOSTON, MASSACHUSETTS

JAMES H. RITCHIE AND ASSOCIATES
ARCHITECTS AND ENGINEERS

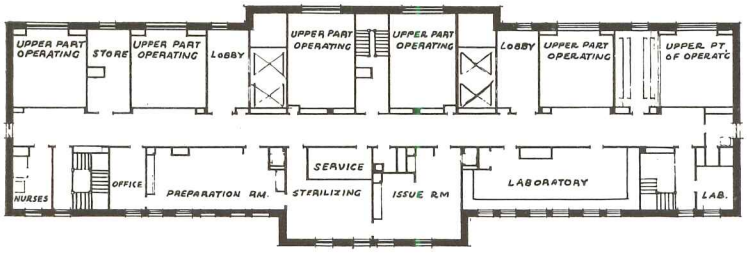


GROUND FLOOR

WARD PAVILION – 296 BEDS 4



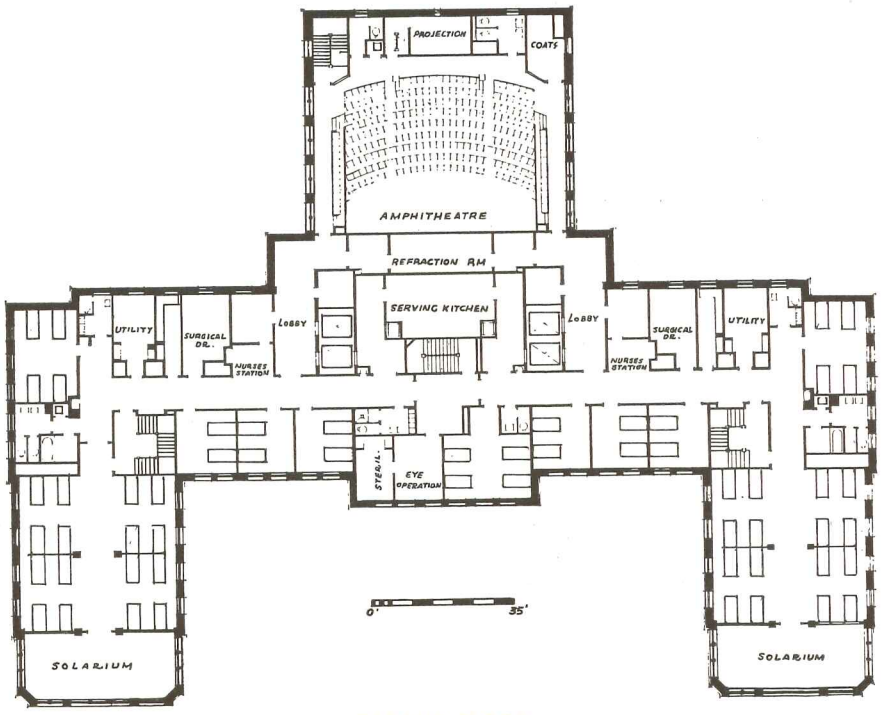
EIGHTH FLOOR



NINTH FLOOR

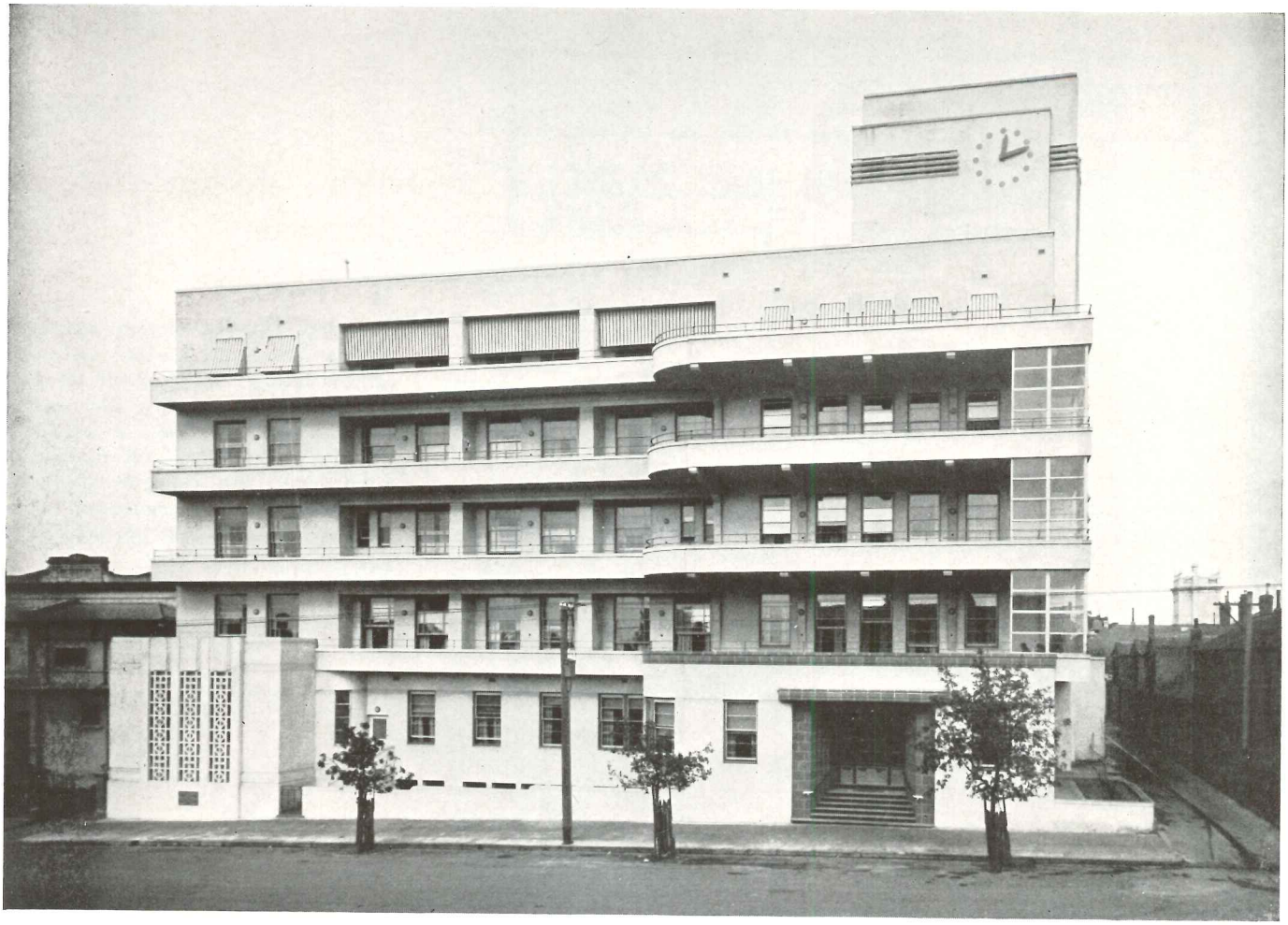
THE FIVE FLOORS directly above the ground floor each contain two ward units, a total of ten wards or 296 beds. An amphitheater seating 250 persons, with operating facilities, is located on the first floor and extends through the second floor. The eye operating service is located on the second floor. Above the five floors of wards are located the operating services.

THE GROUND FLOOR, which is connected by ramped underground corridors to all the buildings of the hospital, is used for the receiving and discharge of all patients in the entire hospital of 1,700 beds, all ambulance cases are admitted through the ambulance court, and all ambulatory cases through entrance of admitting lobby, the discharge lobby being entirely separate from the admitting and ambulance receiving lobbies.



SECOND FLOOR

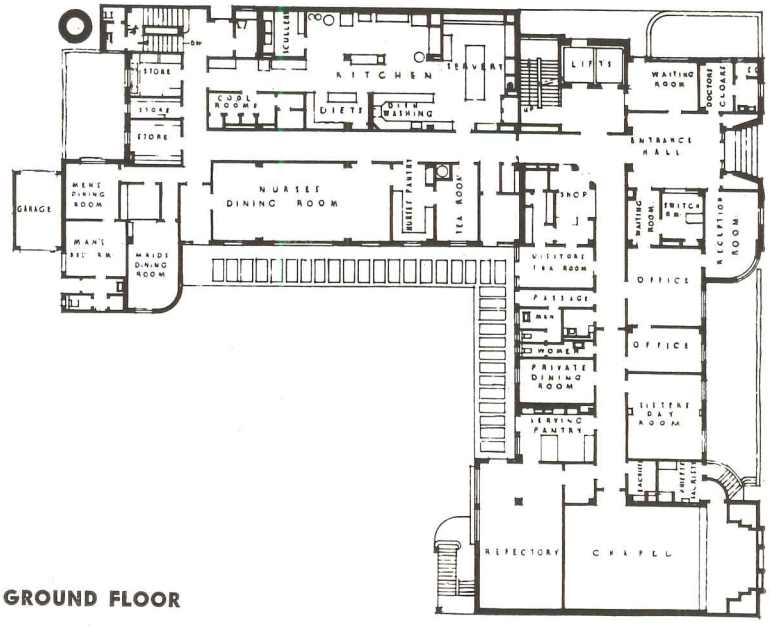
5 A GENERAL HOSPITAL – 120 BEDS



SISTERS OF MERCY HOSPITAL, MELBOURNE, AUSTRALIA

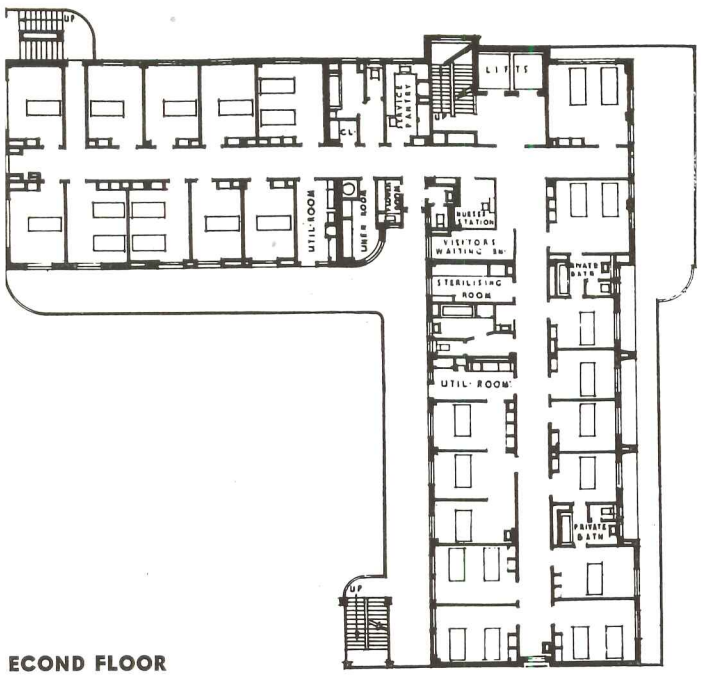
STEPHENSON AND MELDRUM
ARCHITECTS

A MODERN reinforced concrete structure. Cantilivered balconies surround its garden court and permit maximum light for wards and rooms. A disconnecting lobby isolates the operating suite from entry of unsterile persons, control being effected by the nurse stationed in the sterilizing room.

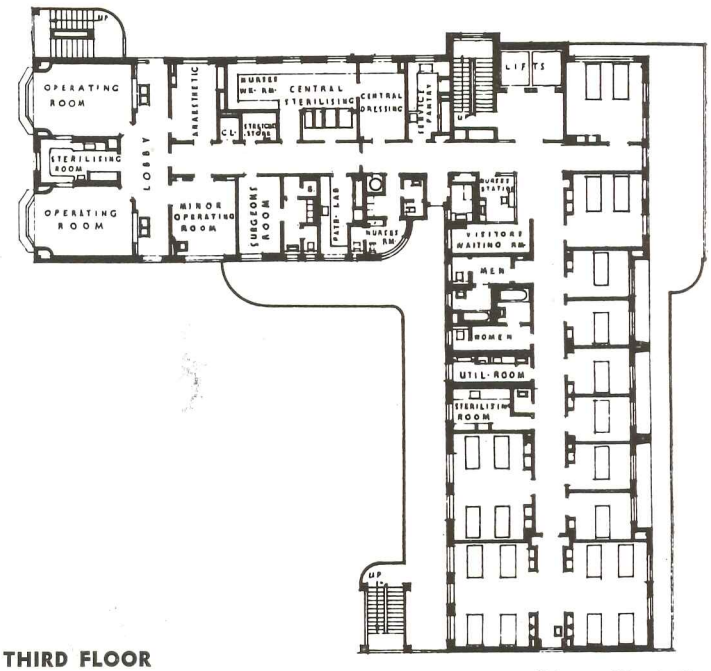


GROUND FLOOR

A GENERAL HOSPITAL – 120 BEDS 5



ECOND FLOOR

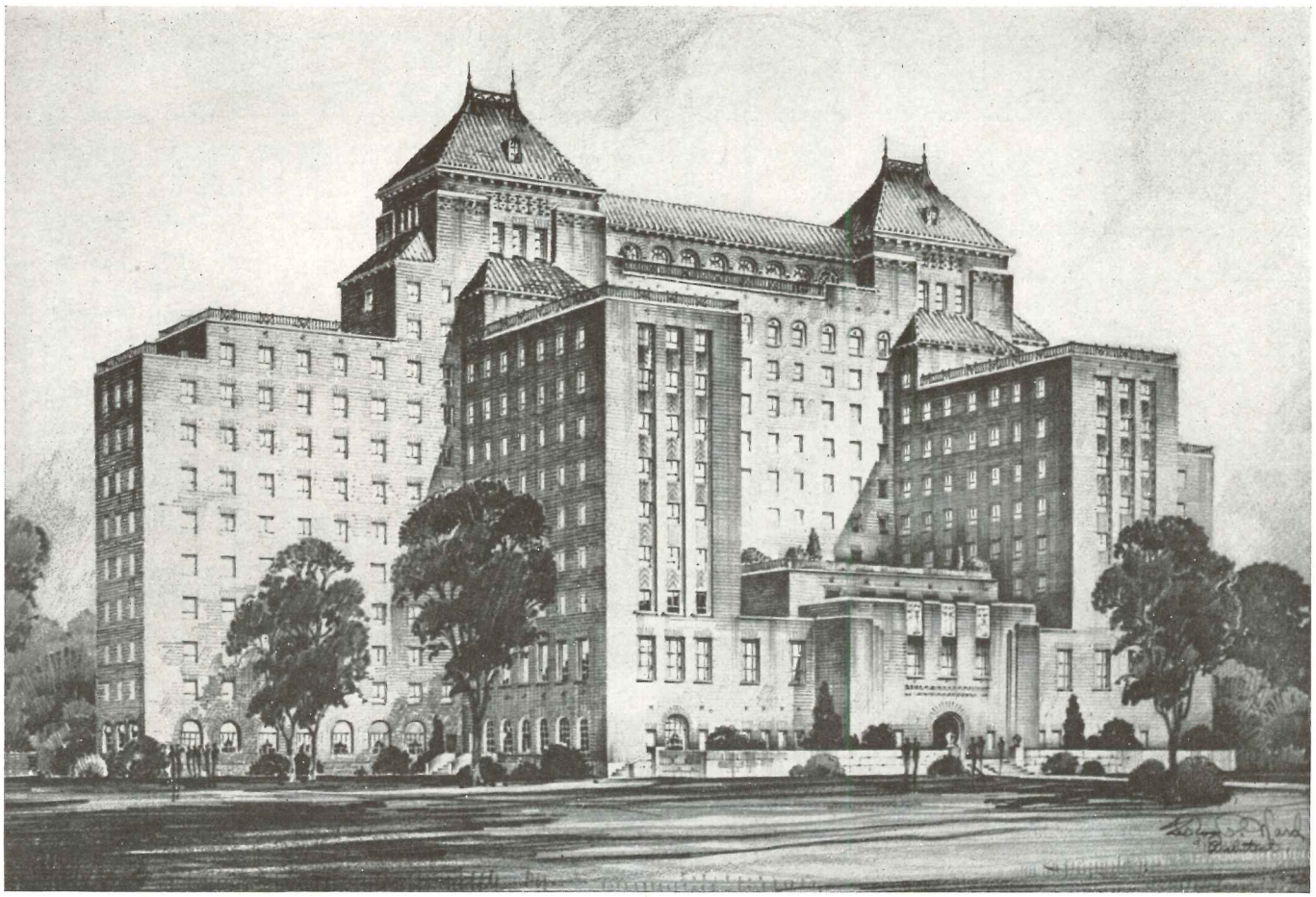


THIRD FLOOR

Plans courtesy "Modern Hospital"

Photos by Commercial Photographic Co., Ltd., courtesy "Modern Hospital"

6 A NURSES' HOME AND



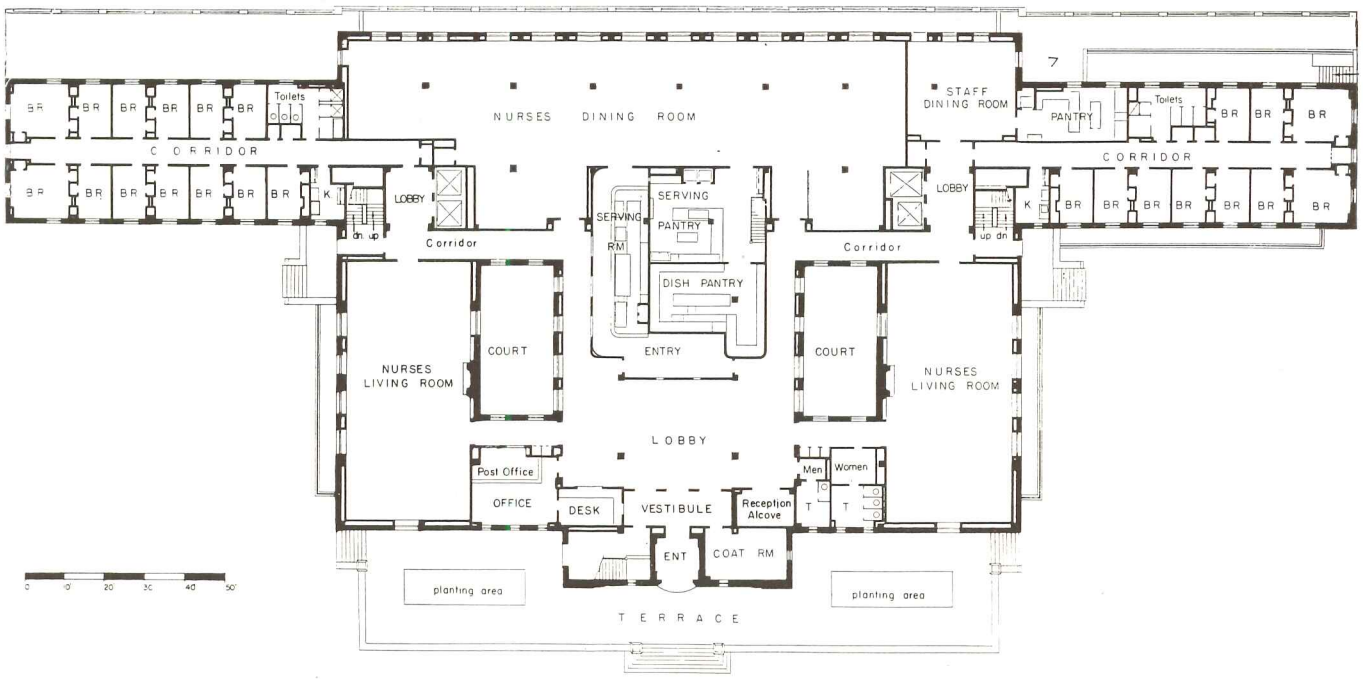
KINGS COUNTY HOSPITAL, NEW YORK CITY

LeROY P. WARD, INC., ARCHITECTS

SCHEDULE OF EQUIPMENT AND MATERIALS

FOUNDATIONS	Reinforced concrete
FRAME	Structural steel—cinder concrete arches
EXTERIOR	
Walls	Hand-made James River Colonial (face brick) Glass brick (kitchen wall at areaway)—Owens-Illinois Glass Co.
Trim	Granite (base course; terrace walls, steps and paving) Indiana Limestone (coping, cornice, sills, and panels) Encaustic Tile (panels over first floor arches)
Sash	Double-hung wood sash; steel sash (in stairways); bronze casement sash (in roof shelter and assembly room)
Metalwork	Galvanized wrought iron (grilles, railings) Ornamental hard lead (spandrel panels)
Roofs	Built-up asphaltic with quarry tile (flat roofs) Hand-made Italian roofing tiles (sloping roofs)—Ludowici-Celodon
Doors	Extruded bronze and wood
Waterproofing	Waterproofing oil added to mortar Ammonium Stearate added to concrete Asphaltic membrane spandrel waterproofing Copper and lead-coated copper flashings
INTERIOR	
Partitions	3″ and 4″ terra cotta tile
Floors and Base	Terrazzo; except: Quarry tile (kitchens and food preparation rooms, laundries) Quartered oak (living rooms) Maple (assembly room) Flint tile (toilets and cleaner closets) Rubber tile (panels of corridors and library) Colored ceramic tile (dressing and shower rooms) Cement (storage and mechanical rooms)
Wainscot	Faience tile (staff dining rooms) Glazed terra cotta (corridors)—Nat. Tile Co. Mahogany (lobby, assembly room, library, and study) Semi-matt colored tile (kitchens, toilets, cleaner closets)
Walls	White plaster—3 coats; except: Mosaic tile (entrance vestibule) Semi-matt colored tile (kitchens, food preparation rooms, pantries, and toilets) Glazed terra cotta or hollow tile (stairways, laundries, swimming pool and gallery)—Nat. Tile Co.

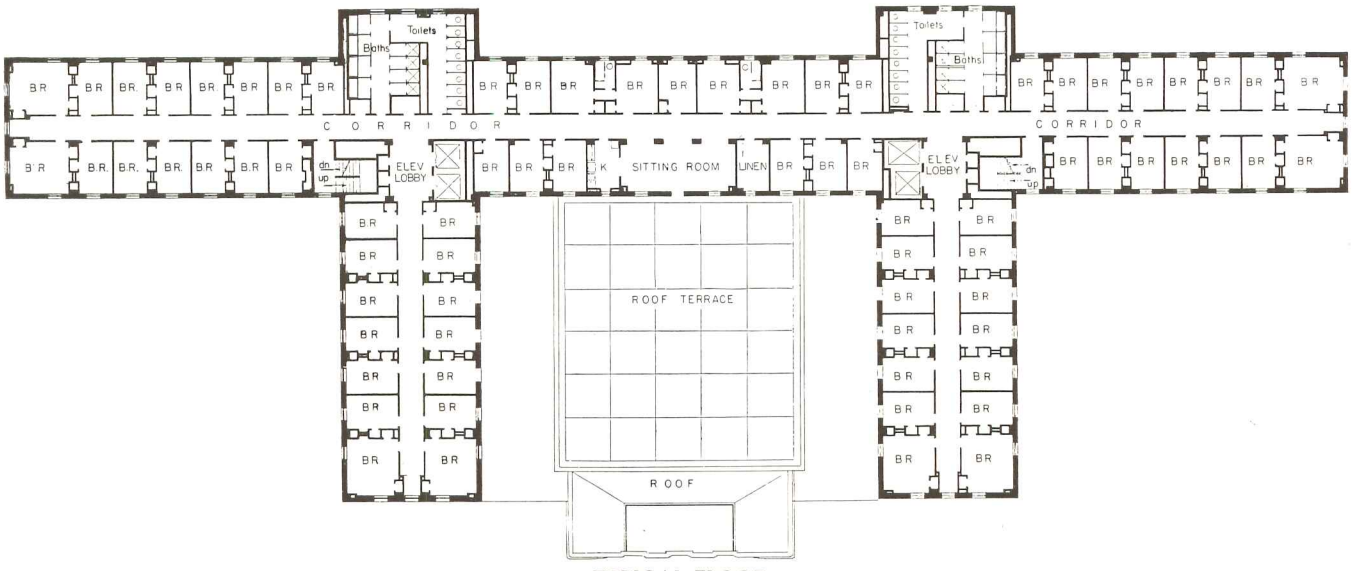
(Continued on page 157)



FIRST FLOOR

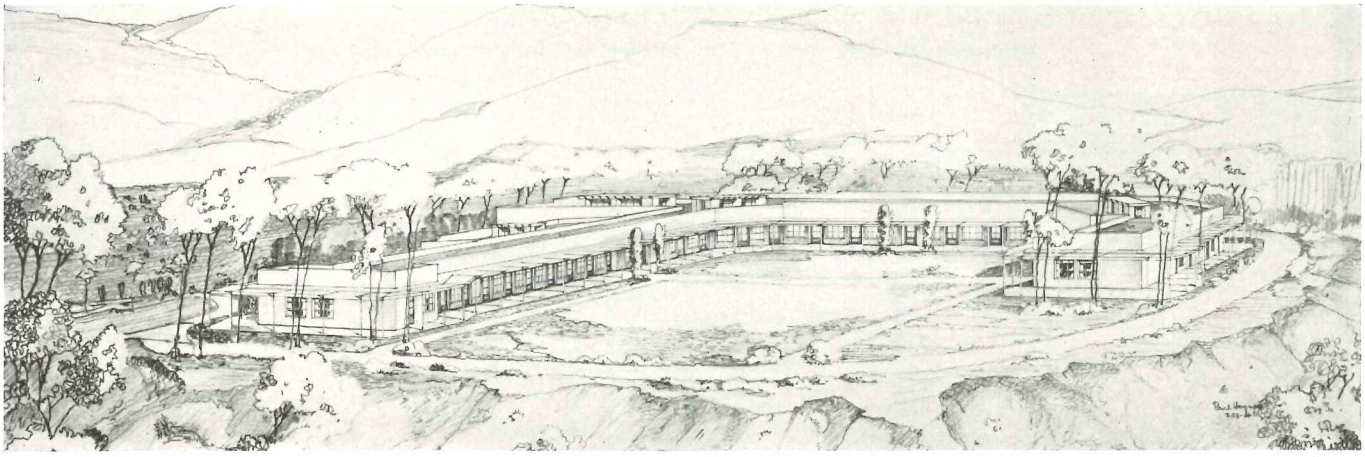
IN THE BASEMENT; the main kitchen, food preparation and food storage rooms, laundries, trunk storage room, various machine and mechanical equipment rooms, also a 20′x60′ swimming pool—9′-5″ greatest depth and 3′-6″ minimum. The pool is equipped with underwater lighting and controlled ozonator water purification apparatus. On one side of the pool is a small spectators' gallery; the other side provides access to a hair drying room, as well as to showers and dressing rooms.

ON THE SECOND FLOOR; training school facilities include various classrooms, a study seating 60 and a large assembly room seating 650. This room extends two floors—at one end a stage—at the other a small balcony on which can be placed a portable projection machine. The seating is removable for dances, small storage rooms being provided for the storage of the seats. The assembly room and stage are equipped with complete theatrical lighting.



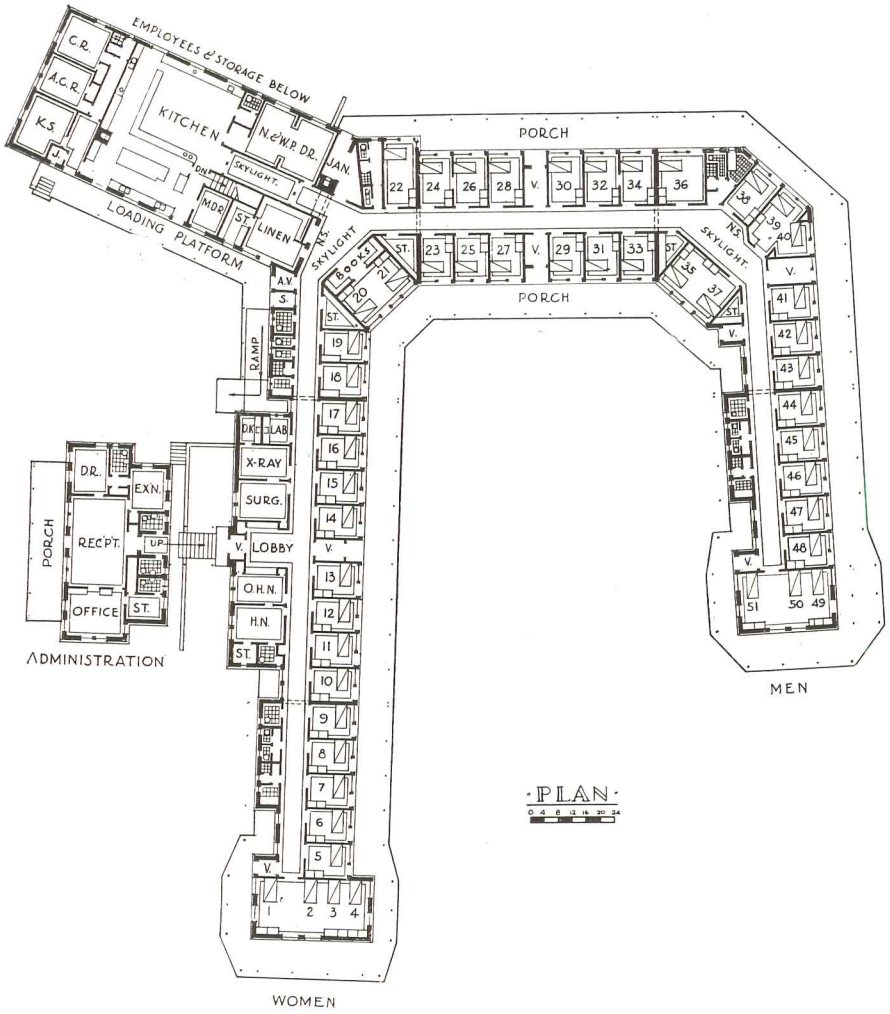
TYPICAL FLOOR

7 TUBERCULAR HOSPITAL—51 BEDS

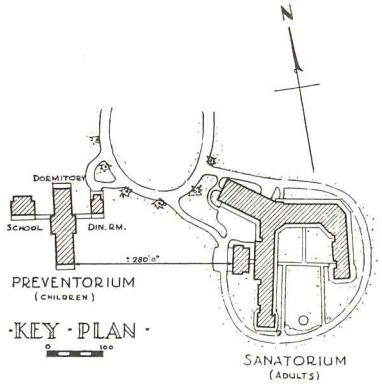


LA VIÑA SANATORIUM, LA VIÑA, CALIFORNIA

MYRON HUNT AND H. C. CHAMBERS, ARCHITECTS



A.C.R.—Assistant cook's room.
A.V.—Ambulance vestibule
C.R.—Cook's room
D.K.—Darkroom
D.R.—Doctor's room
EXN.—Examination room
H.N.—Head nurse
J.—Janitor's closet
JAN.—Janitor's room
K.S.—Kitchen storage
LAB.—Laboratory
M.D.R.—Men's dining room
N.&W.P.D.R.—Nurses' and women patients' dining room
O.H.N.—Office of head nurse
N.S.—Nurses' station
REC'P'T.—Reception room
S.—Stretcher
ST.—Stores
SURG.—Surgery
V.—Vestibule



Hospital Air Conditioning

By **VICTOR F. GRAHN**, *engineer, of Tenney and Ohmes, Inc., Consulting Engineers*

THE AMERICAN Hospital Association reports that in recent years air conditioning has increasingly been included as desirable hospital equipment. A survey has shown, as might be expected, that the majority of installations have been made in the southern states; and at the present time operating rooms and suites lead all other hospital areas in being air conditioned. This choice, where general air conditioning has not been within the means of the institution, is not difficult to understand because operating rooms, above all others, require conditions as nearly perfect and as completely controllable as can be obtained. Among the benefits cited for the patient, air conditioned operating rooms are said to result in less bleeding during an operation, greater post-operation comfort, and general freedom from possible discomfort or nervousness caused by excessive heat.

Mt. Sinai Hospital, in New York City, has demonstrated the decided preference of the doctors for an air conditioned operating room in which to work. In this hospital no air conditioning was originally provided for the operating theater and operating rooms—which were located on the top floor of the Administration Building and faced north. An expansion program obliged facing additional operating rooms of the new Semi-Private Pavilion to the west and due to this exposure the problem of heat absorption became acute. Provision was made for cooling of the air supply necessary to absorb this heat but no special refrigerating plant was provided, the load being taken from the central and general refrigerating plant. With this slight cooling effect a demand was made for lower temperatures, and two years later a central water-cooling system was provided and connected with the operating room units.

The operating rooms of the Semi-Private Pavilion were air conditioned while those of the older Private Pavilion were not. As a consequence, none of the doctors wanted to perform operations in the uncooled rooms—the cooled operating rooms were always at a premium. Undoubtedly all operating rooms of Mt. Sinai Hospital will, ultimately, be air conditioned.

The manner and design of the air conditioning plant as recently revised and now in operation at this hospital has been selected as a typical example for the air conditioning of operating rooms.

As will be noticed in the accompanying plan (fig. 1), the operating rooms are admirably located. The sterilizing room and the scrub-up room are placed between one unit consisting of two operating rooms. No sterilizers are located in the operating rooms.

Both the heating and cooling of the operating rooms could best be done by a central fan blast system. In addition a small amount of direct hot-water radiation was placed under the windows to prevent the entrance of cold drafts. All ducts for both air supply and exhaust are located in the hung ceiling over the sterilizing and scrub-up rooms. No ducts are installed over the operating rooms, thus allowing maximum ceiling height for these rooms.

All air supply registers are located on the walls between the operating rooms and the sterilizing and scrub-up rooms. The air supply is diffused across the whole room near the ceiling and exhausted through the sterilizing room and the scrub-up room, thus effecting a small amount of cooling in the latter rooms.

Since the operating rooms are located on the 8th and 9th floors of an eleven-story building, the central air supply apparatus was located in the penthouse (figs. 2 and 3), so as to eliminate taking in any considerable amount of dust from the street, as well as to insure the shortest possible run of ducts. The air is first filtered through a double set of standard air filters, and it is then heated to the desired temperature by passage over steam coils. The relative humidity of the air, which should range from 50 to 55% in an operating room, is also regulated to the desired extent by the tempering coils. The proper amount of humidity is of great importance in an operating room to prevent the explosion of a certain mixture of gases used during operations. As the outside temperature drops, additional heating coils are turned on, all of which are automatically controlled.

In the summer the air is passed over cooling coils in which chilled water, at a temperature of about 45° F., is circulated. The cooling coils are located beneath the heating coils. Each room is provided with a separate flue, having both a hot-air and a cold-air connection with a pneumatic damper on each. In this manner the warm air and the cold air can be mixed to any degree so as to obtain the desired temperature in each operating room. The exhaust fan is also located in the penthouse. In this case it was not necessary to create any additional space for this equipment, as the penthouse had to be built to receive the elevator machinery.

Each floor of six operating rooms has one central air supply unit, so as to cut down the operating cost to a minimum in case only one floor of operating rooms is in use at one time. To divide the central apparatus into smaller units was not deemed advisable, since additional space, which was not readily available, would have to be obtained, and since the cost of so many separate installations would have been prohibitive compared with the small saving in operation to be gained by such a layout.

On the other hand, each unit of two operating rooms has one exhaust fan, exhausting the air through the sterilizing and scrub-up rooms. These fans are operated by push-buttons located in the scrub-up rooms, so that they may be turned on and off at will. All of the fresh air brought into the operating rooms is exhausted to the outside. Recirculation of the air makes for economical operation, and it is hence very tempting to make such a provision, but it is undesirable in operating and treatment rooms, and it is doubtful if it is advisable in any room in a hospital.

As the building was designed and built in the best possible manner of fireproof construction, it was not necessary to provide any special insulation to make the air conditioning effective. All of the windows are weatherstripped.

To make the ventilating system effective the windows have to be closed at all times. Since it is normally desirable to keep the windows of operating rooms closed anyway, to elim-

inate dust, draft, and street noises, some mode of artificial ventilation is essential, even if the actual cooling of the air is not desired.

All equipment in connection with the central fan blast system was of standard make, similar to that used in all modern air conditioning installations. All ducts are galvanized iron, covered with nonconducting material to minimize heat losses, and to prevent any deposition of moisture which would cause corrosion of the ducts and dripping of water in the ceiling.

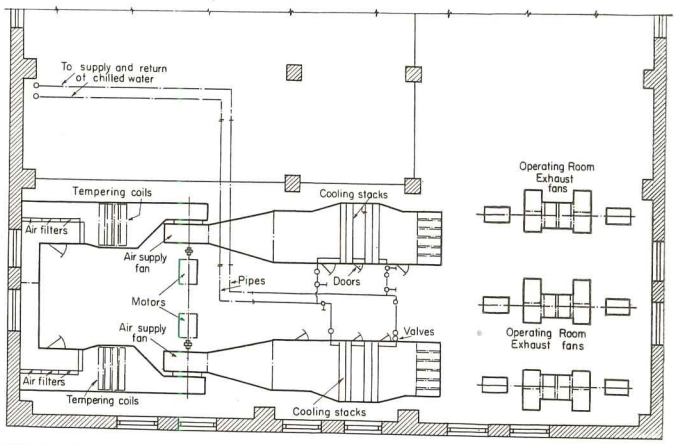
The type of refrigerating machine and the refrigerant to be used in the cooling coils is of the utmost importance in a hospital. The code in New York City prohibits certain refrigerants, and certain others are not desirable for this class of work because of their failure to conform to the necessarily high safety standard required. Brine and chilled water were the only cooling mediums that were considered. The capacity of the brine system for the refrigerators in the existing group of Mt. Sinai Hospital buildings was not sufficient to provide the proper amount of cooling in the operating rooms in addition to carrying the load imposed by the construction of the Semi-Private Pavilion. However, because it was at first uncertain that cooling of the operating rooms would be desirable, it was decided not to install any additional machinery at that time, but to overload the existing refrigerating machines for a trial period. After two summers, it was found that the small amount of cooling which could be obtained from the existing machinery was very beneficial, but that a greater amount of cooling was desirable. It was then considered advisable to install a new machine for air conditioning the operating rooms, as well as for possible future air conditioning requirements in present or future buildings. This machine is of the steam-jet vapor refrigerating type, producing chilled water at a temperature of about 45° F. The chilled water is then circulated through the cooling coils of the central air conditioning apparatus located in the penthouse of the Semi-Private Pavilion, as before described. The refrigerating machine is located with the existing power plant in the basement where it is under the constant supervision of the engineering force of the hospital. As the hospital has its own high-pressure steam boiler plant for the generation of electric current, as well as to fulfill the steam requirements of the kitchens, sterilizers, auxiliaries, heating system, etc., it was found most economical to operate the refrigerating machine and the circulating pumps by high-pressure steam, using city water for the condensers. After the water has passed through the condensers it is discharged into the domestic hot-water heaters, to save not only the water but also to utilize the heat from the condensers.

If the high-pressure steam were not available it would have been possible to install electrically-driven refrigerating machine and pumps. Instead of city water for the condensers, well water would have been very economical, had it been available. If the building had been located near a river, the water from the river could have been pumped through the condensers at a fraction of the cost of city water.

There are other departments in hospitals that are now being air conditioned, such as x-ray rooms, radiographic rooms, therapy rooms, darkrooms, rooms containing certain kinds of inoculated animals and, in general, all rooms where windows must be kept closed or where heat is being generated. If a number of such rooms are located in one group, a central ventilating and air conditioning plant will preferably be installed, such as used for Mount Sinai Hospital. But where such rooms are scattered or few in number, it is more desirable to install individual units in each room. Such individual units should be provided with fresh air connections through the outside wall, as well as a means for recirculation of the air within the room.

A few years hence not only operating and treatment rooms will be provided with air conditioning, but the bedrooms—where the different types of illnesses under treatment may require certain temperatures for best results—will also be conditioned. There will be many patients who will be glad to pay slightly more for a

FIGURES 2 and 3



MACHINERY ROOM FLOOR PLAN

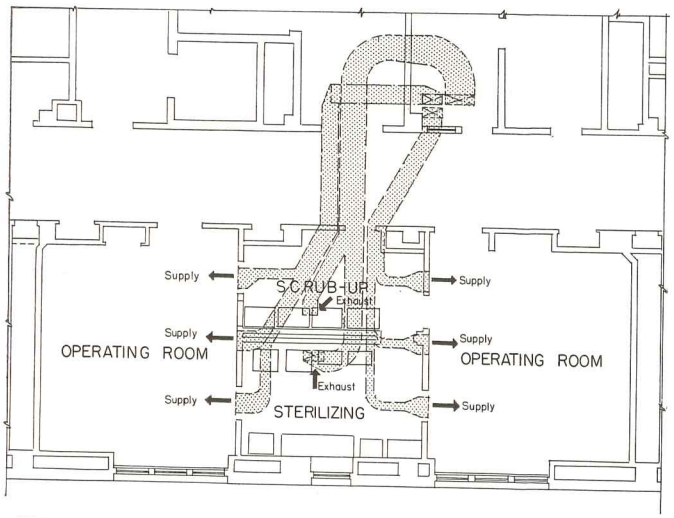
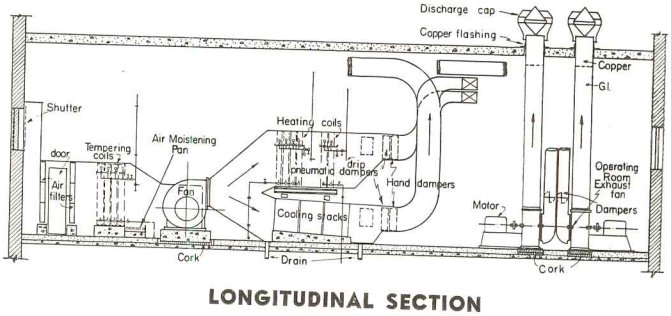


FIGURE 1 **PLAN**



LONGITUDINAL SECTION

room that will give them climatic comfort during their confinement in the hospital.

There are hotels now that have some of their guest rooms air conditioned, and the newly arrived guest is given the opportunity to select an air conditioned room at a small additional expense. These air conditioned rooms are always in demand. The time will soon come when the hospital patient will be given the same choice, which would be a boon not only to the patients and their visitors, but also to the income of the hospital.

As far as the workers—doctors, nurses, orderlies, etc.—are concerned, there is no question but that greater efficiency and reliability are obtained when working under comfortable conditions, particularly in the operating rooms, where work is done under great stress and where speed and accuracy are of paramount importance. It is a well-known fact that when work is performed in physical comfort, both mental and physical fatigue are greatly lessened.

Air conditioning has recently been found to be very helpful to business, and indispensable in many branches of manufacturing, but its adoption by hospitals has been slow mainly because of its installation and operating cost. Seldom is a hospital operated on a profitable basis and, usually, it has to depend upon the generosity of the public for its maintenance. It is, therefore, no wonder that all unnecessary expenses are prohibited. The Mount Sinai Hospital is to be congratulated on being among the first to take the initiative in trying out the innovation of air conditioned operating rooms. Its success has shown that air conditioning will have a very definite practicability and value in the hospital of the near future.

The Semi-Private Pavilion of Mount Sinai Hospital was designed by Robert D. Kohn and Charles Butler, architects, with Dr. S. S. Goldwater, Hospital Commissioner of New York City, and Dr. Joseph Turner, Director of Mount Sinai Hospital, acting as consultants.

Radiographic and Allied Equipment Facilities

By RICHARD SOBBAN and JAMES MOORE, *of the Picker X-Ray Corporation*

SINCE THE discovery of x-ray by Wilhelm Konrad Roentgen in 1895, the ever-increasing call for radiographic facilities in the modern hospital necessitates more and more careful planning of x-ray departments.

Location

First, where should the x-ray department be in relation to the rest of the hospital? This is a most controversial question. Most early hospitals had the x-ray in the basement because that was the only available space, and x-ray was in a stage of experimentation. Its use was primarily for fracture work and not of known value to internal medicine or the surgeon. Today this is not true; it is of primary importance.

Therefore, we must consider location with respect to the convenience of the medical staff and operating rooms as well as the hospital patients and out-patients or clinic.

The majority of house patients will require at least one visit to the x-ray department during their confinement, for either a radiographic or fluoroscopic examination or x-ray treatment. It is therefore necessary to locate this department within easy access to the wards and private rooms.

Out-patient or clinic days mean an influx of ambulatory cases. For this reason it is desirable to have the x-ray department within easy access to the out-patient department or clinic. It is not advisable to permit undue travel through the hospital by these patients; they get in the way and often are carriers of infectious diseases.

As for location with respect to the staff and operating rooms, as mentioned above, x-ray is of primary importance. Diagnosis for internal disorders, surgery and fractures is either confirmed or discovered by the x-ray examination. All doctors entering the hospital will, of necessity, spend some time in the x-ray department.

We also find that x-ray equipment is more satisfactorily installed and operated on floors other than the basement. In the basement there is often much piping (water, heat, electrical conduits, etc.); ceiling heights are low; there is apt to be dampness; light and ventilation are not the best; and it is usually not easily accessible.

To meet all the requirements is sometimes impossible and certain concessions must be made, but the x-ray department should not be an afterthought in making plans. It should be considered as an integral part of the original plan.

Size of Department

As in all new building plans, future expansion should be remembered. There should be sufficient floor space in the x-ray rooms; plenty of storage and filing facilities for films, case records and supplies; adequate waiting and dressing rooms for additional patients (x-ray is still expanding in its use and importance); and large consultation and viewing rooms.

The ceiling height in this department should be 10 feet if possible. The Bureau of Standards recommends a minimum clearance of the high-tension overhead from the floor of 7′-6″ and from the ceiling of 1′-6″, but 8′-6″ from the floor is necessary for absolute safety.

Required Rooms

This greatly depends on the size of the hospital, the number of patients and the type of cases to be treated. The roentgenologist or superintendent can give this necessary information and should be consulted.

Radiography and Fluoroscopy

There would definitely be radiographic and fluoroscopic rooms. There might be individual radiographic rooms for chest, head and sinus, routine, and cystoscopic work. The same could be true with the fluoroscopic room. There might be one for G-I work and another for fractures.

It is therefore apparent that the

hospital authorities must decide on the type of department and how complete this should be.

In laying out these rooms, manufacturers will be glad to supply templates showing the floor area required for various pieces of their equipment. It would be most desirable for the architects to consult with an engineering department which is maintained for their benefit and whose work is primarily drawing up proposed x-ray laboratories.

Besides the equipment itself, such as tables, transformers, controls, and tubestands, other details of construction must be considered. For example, if there is a cystoscopic room, the floor should be tiled and have a drain for water. There should also be a washbasin in this room.

In any fluoroscopic room, some means for lightproofing the windows should be considered. This could be done by opaque shades or lightproof shutters. Several companies manufacture these shades and shutters. There should be satisfactory ventilation in all of the rooms, but most particularly in the fluoroscopic room, because fluoroscopy is done in a room with doors and windows closed and doctors as well as patients sitting in one of these rooms for a considerable time appreciate good ventilation. There should also be facilities in this room for mixing barium. There are also many electrical connections to be taken into consideration and advice on these can be given by the x-ray companies in their layout of recommended equipment.

Darkroom

The darkroom should be so located that there is easy access to this from all the radiographic rooms. Adequate ventilation is necessary and the room must be lightproof. All darkrooms must contain a developing tank, a loading bench, a film safe, storage facilities for cassettes, racks for holding developing hangers, a washbasin, and some means for drying the films. There are several types of driers manufactured which are most advisable to consider for installing in the darkroom. Pass boxes are sometimes used for the transfer of cassettes to and from the radiographic and darkrooms. Two plans of darkrooms are illustrated showing means of entering, one by a maze and the other by a double door and light lock. If the maze is considered, some other means of entrance is necessary, because it would be impossible to take in and out the tanks, driers and other darkroom equipment. If this additional door or entrance is not available, it means breaking down the maze.

Therapy Room

In the therapy room we must consider whether 200,000 or 400,000 volts are to be used for deep therapy treatment. This room should be located so that it has as many outside walls as possible. A corner room is most advantageous. The reason for this is that in using high voltage, there must be lead protection to the operator and patients above, below and in adjacent rooms. Where we have outside walls, this protection is not necessary. We will speak more of lead protection later. This room should be as light as possible because patients being treated are usually very sick and anything that can be done to make them feel comfortable is essential.

Dressing Rooms

There should be at least two dressing rooms to every radiographic or fluoroscopic room with the exception of the cystoscopic. The dressing rooms should have two doors, one leading from the corridor and the other leading to the radiographic or fluoroscopic room. In this way a patient need not walk through the corridors and with two rooms there is no need to keep the roentgenologist or technician waiting.

Lavatory

There must be a lavatory in the fluoroscopic room (barium enemas are a part of the examination of the G-I tract), near the waiting room and near the consultation room and, if possible, others. Most x-ray departments that have been built in the past have certainly not had satisfactory lavatory facilities and this should be remedied in all new departments.

Consultation and Viewing Room

The size of the consultation and viewing room is more or less determined by the size of the hospital and the work which will be done in the department. In some of the smaller hospitals, the viewing room is also the filing room. In others, the filing room is separate.

Waiting Rooms

Regarding the waiting rooms, here again the size of these is determined by the x-ray department and whether the out-patient department or clinic is large. In any case waiting rooms should be large enough to accommodate patients on wheel chairs or stretchers who must await their turn for examination.

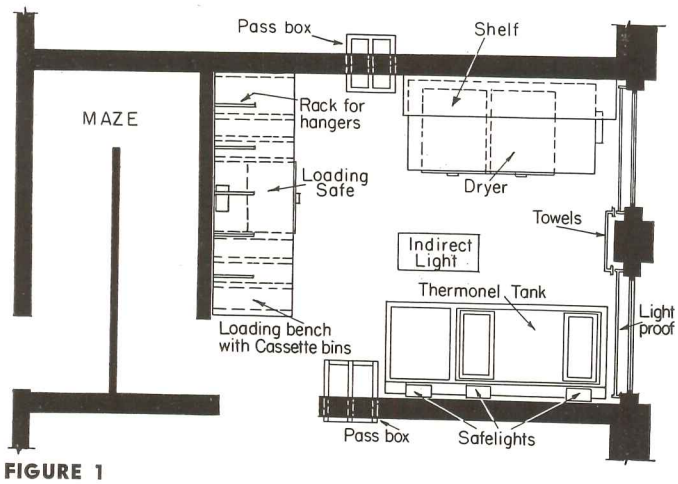


FIGURE 1

TYPICAL DARKROOMS

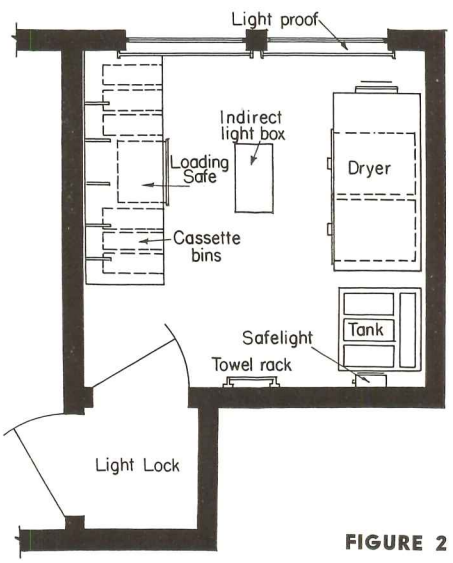
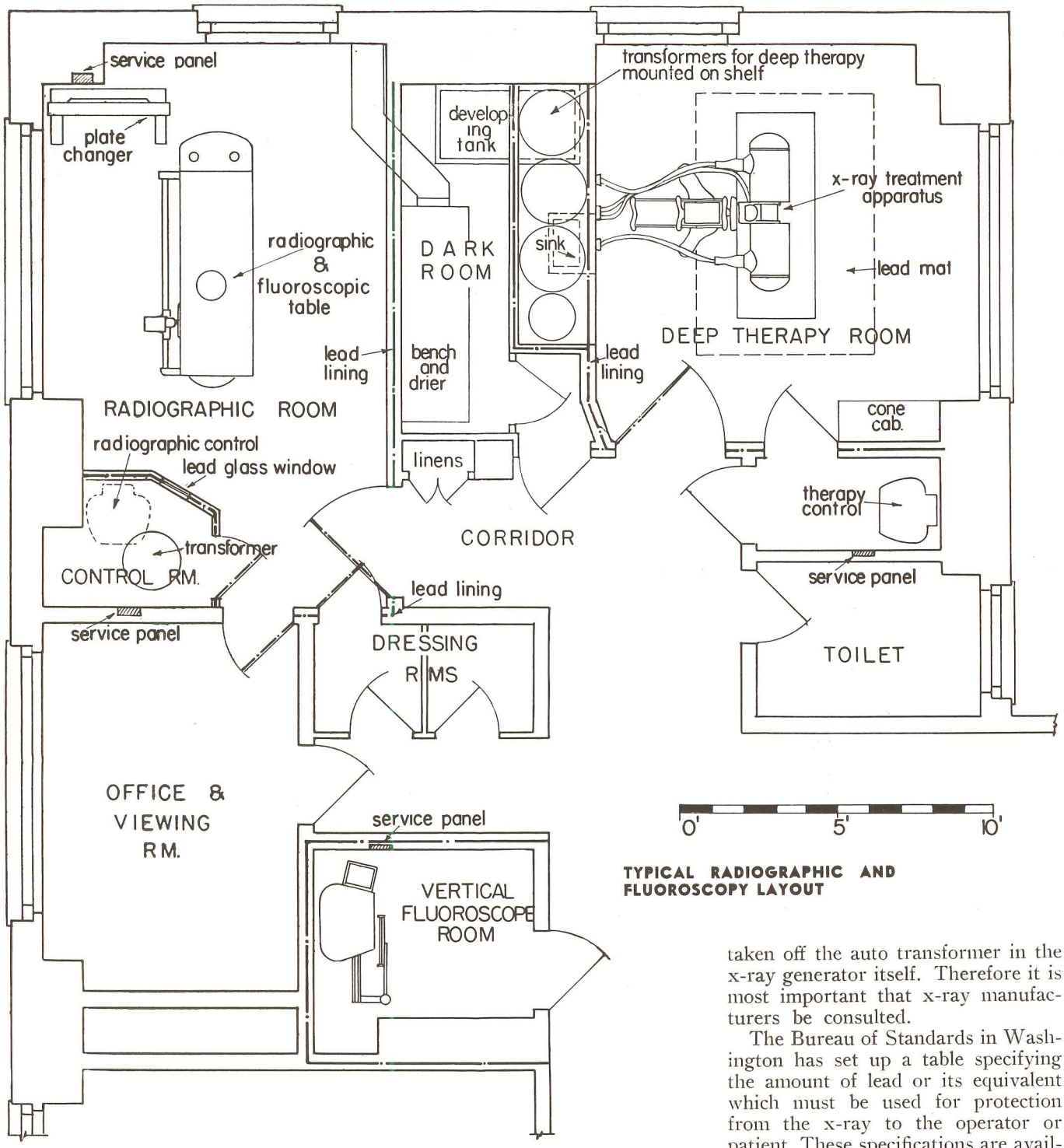


FIGURE 2

In figure 2, electrically-controlled lock strikes prevent both doors being open at the same time. An emergency key should be available within the light lock.



TYPICAL RADIOGRAPHIC AND FLUOROSCOPY LAYOUT

This gives some idea of the rooms necessary to be considered in the x-ray department. As can be seen, the roentgenologist or superintendent must be consulted.

Other considerations are plumbing, electrical connections, ventilation or air conditioning, and lead protection.

The majority of the plumbing will be in the darkroom where we should consider hot, cold and, if possible, ice water for the developing tank. There should be a drain in the cystoscopic room floor, water outlets in the therapy room, and sinks in the cystoscopic and barium rooms.

Practically all x-ray generators operate at 220 volts. This line should be apart from the rest of the hospital; that is, there should be no other power apparatus attached to it, such as elevators, kitchen equipment and laundry machinery. The line drop should be a minimum. Practically all of the accessory items, such as magnetic releases or room light controls, operate at 110 volts or else power is taken off the auto transformer in the x-ray generator itself. Therefore it is most important that x-ray manufacturers be consulted.

The Bureau of Standards in Washington has set up a table specifying the amount of lead or its equivalent which must be used for protection from the x-ray to the operator or patient. These specifications are available from the Bureau. The lead protection is of primary importance in the deep therapy room, around the control booth for the operator of all x-ray equipment, and in the darkroom for the protection of the films.

It is therefore apparent that in laying out a proposed x-ray department it is important to consider many phases. A well-designed department is one that has adequate facilities and is so arranged as to make for proficiency in operation for the hospital staff, patients, and x-ray technicians,

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(Continued from page 124)

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(Continued on page 154)

A Prescription the ARCHITECT Can Fill! . . .

Rx a cheerful room — plenty of light, properly diffused, without glare.

Nowhere is proper light so essential as in hospitals and institutions. To make sure your recommendation will provide soft, diffused, non-glaring light — to be certain of shades that will stand repeated scrubbings and hard abuse from sun, wind, rain and careless handling — specify Bontex Window Shade Cloth.

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(Continued from page 152)

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(Continued on page 156)

RIVERBANK

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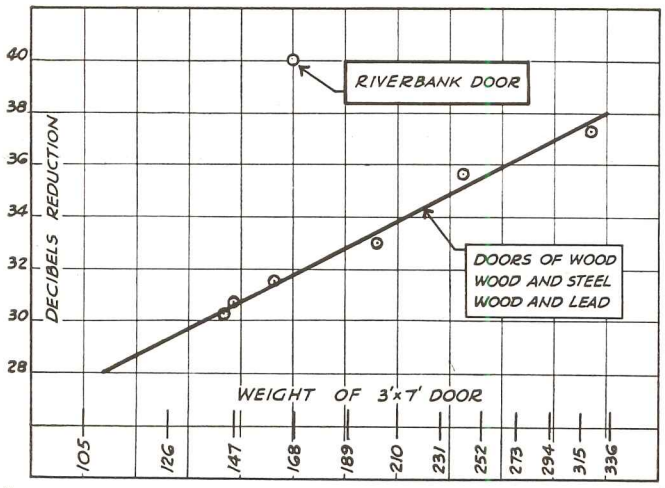
PARTICULARLY ADAPTED FOR THE HOSPITAL

A Higher Degree of Sound Insulation

This door embodies results of extensive research by Dr. Paul E. Sabine at the Riverbank Laboratories, Geneva, Ill., and is fabricated and sold by the HARDWOOD PRODUCTS CORPORATION, Neenah, Wis. It is built according to approved modern door construction in order to give a higher degree of sound insulation than has hitherto been obtained even in doors of great weight and thickness—and at much reduced cost.

PERFORMANCE: 40 Decibel Reduction

In the accompanying graph are shown the results of similar tests made on doors of different construction and weights built for sound insulating purposes made of wood, wood and lead, and wood and steel. The horizontal scale gives the weights, plotted logarithmically, and the vertical scale, the average reduction in decibels. Note that in these doors, weight is the important factor in sound reduction as shown by the fact that the plotted values fall very close to a straight line. The Riverbank door is shown on the same graph, and the acoustic merit of its design is shown by the fact that with decidedly less weight (168 pounds) the sound insulation is greater than that of the heaviest doors (336 pounds).



Sound does not *pass through* a solid wall or door as light passes through glass, or water through a filter. *What does it do?* Our Manual covering the "Principles of Sound Control As Applied to Doors" will give architect and owner the fullest information thus far published on this subject.

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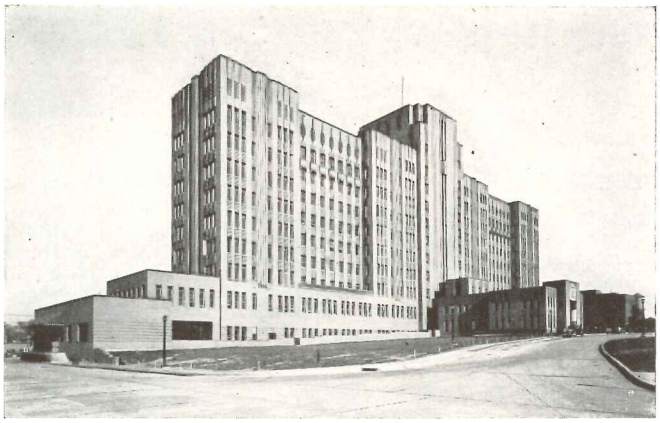

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Food Service Equipment by The John Van Range Co.

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(Continued from page 154)

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(Continued on page 158)

SCHEDULE OF EQUIPMENT AND MATERIALS

KINGS COUNTY HOSPITAL, NURSES' HOME

(Continued from page 144)

	Glass brick (portions of lobby and dining room) Cement plaster (storage and mechanical rooms)
Toilet Stalls	Napoleon gray marble
Window Stools	Black slate and wood
Doors and Bucks	Hollow metal
Hardware	Wrought or cast bronze—Sargent Co.
Glazing	Double-thick standard — Libby-Owens-Ford Gl. Co.
Ceilings (hung throughout)	White plaster; except: Sound-absorbent plaster (swimming pool area, dining and serving rooms)
PLUMBING Pipe	Hot and cold water lines—85% copper brass Vent and drainage lines—galvanized wrought iron Underground lines—X. H. C. I. Fire standpipe and gas lines—Stnd. Bl. Steel
Valves	Powell
Fixtures (John Douglas Co.)	White vitreous china (lavatories, water closets, drinking fountains, urinals)
Laundry Equipment	White enameled iron (bathtubs, sinks, cabinets)
Swimming Pool	American Laundry Equipment Co.
HEATING System	Equipped with water filters, heaters, and ozone water purifiers
Pipe	Two-pipe low pressure with vacuum return (steam supplied from central heating plant) Black steel—all over 2" welded LP-HP Brass (yellow) — all over 4" welded MP — Bridgeport
Radiators	Convection type, heavy copper fins and tubes—Trane C. I. Radiators by Pierce-Butler Radiator Corp.
Control	Thermostatic Pneumatic, public spaces only—Powers Regulator Co.
Valves	Radiator and traps—C. A. Dunham Co.
Ventilation	Mechanical ventilation (assembly room, toilets, kitchens, serving rooms, swimming pool and basement generally)
Refrigeration	Circulating brine system from central power plant — W. I. Pipe (Reading Pipe) — Jewett Refrigerator Co.
ELECTRICAL System	Direct current, 125-250 v., 3-wire
Conduit	Rigid conduit—General Electric Co.
Wire	Triangle Elec. Mfg. Co.
Switches	Bryant Electric Co.
Waterproof Fittings	Underwater swimming pool lighting—Russel & Stoll
Fire Alarm	Acme Fire Alarm system
Nurses' Call	Stanley & Patterson
ELEVATORS Type	Gearless traction—push button automatic control micro-self-leveling—350 fpm
Cars	6'x6' monel metal finish
ELECTRIC DUMBWAITERS	Sedgwick Dumbwaiter Co.

Hospitals . . . . Bibliography . . . . Hospitals

(Continued from page 156)

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MECHANICAL EQUIPMENT

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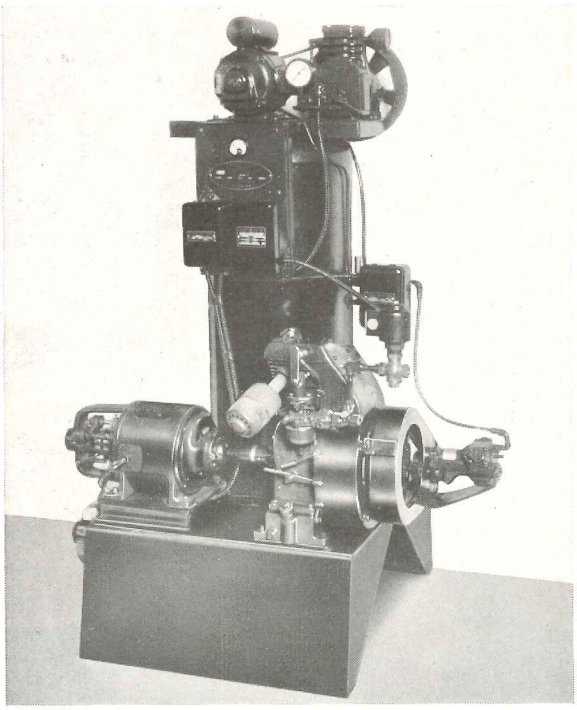
SCHEDULE OF EQUIPMENT AND MATERIALS

QUEENS GENERAL HOSPITAL

(Continued from page 126)

Control	Pneumatic Thermostatic control—Johnson Service Co. 1 Public spaces only 2, 3
Valves	Ohio Injector Co.; radiator valves and traps: Sarco
Boilers	4-389HP tube boilers—Union Iron Works
Oil Burners	Todd Pressure Atomizing System
Generators	2-250KW and 1-125KW DC generators and 4 valve engines—Elliot Co.
Refrigeration	Circulating brine system 2 45-ton CO_2 motor-driven compressors—Wittenmeir Machine Co. 3 brine circulating pumps
Ventilation	Mechanical supply and exhaust—corridors, toilets, kitchens, wards 1 Mechanical exhaust only: all except bedrooms 2 Gravity exhaust only: toilets 3, 4 Direct connected Northwestern Motors Lehigh Fan & Blower Co., fans Galvanized copper-bearing steel ducts
Plumbing	Fixtures, Standard: Soapstone sinks, tanks in laboratories (a) Laundry machinery—Troy Laundry Equipment Co.
Electric	3-wire direct current 115-230v lighting 2-wire direct current 230v power Rigid conduit @ Submarine cable, grounds lighting Clock system—Telechron Co. Nurses' call system—Faraday Doctors' paging system—Holtzer-Cabot
Radio	2 station master system—cone speakers in solaria and wards, 1, Stromberg Carlson

Emergency Lighting Plants *that need* NO BATTERIES



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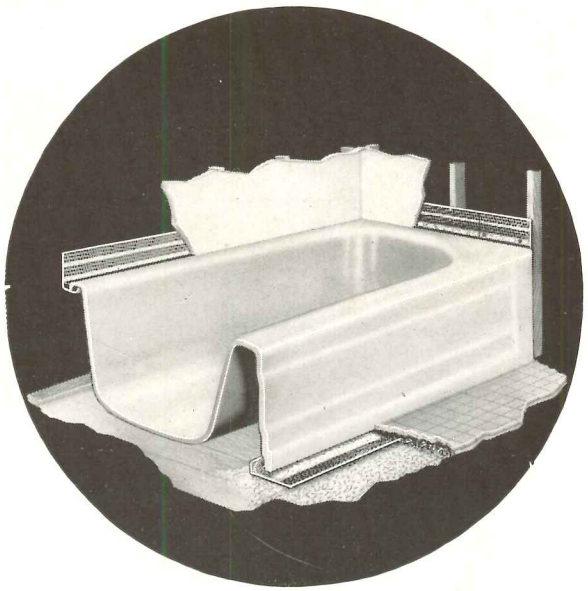

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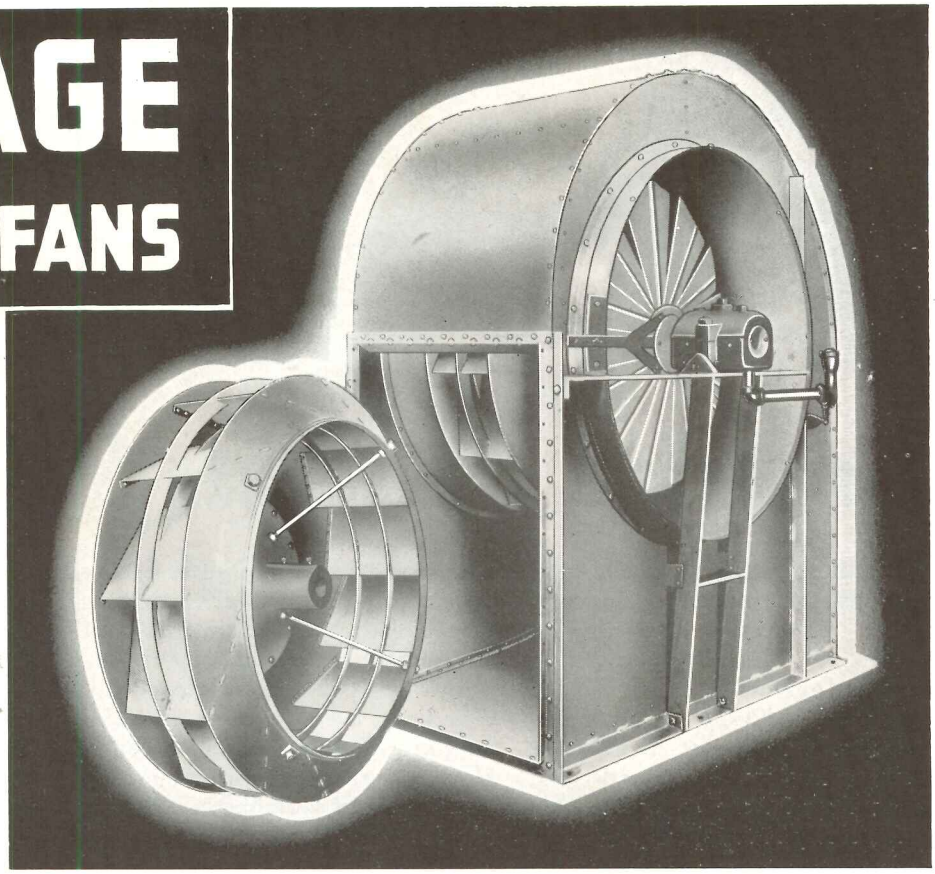

(Right) Illustrating large Type W Fan equipped with Clarage Vortex Control (in fan inlet), and standard wheel. The wheel is backward-curved-blade type with full self-limiting horsepower characteristic.

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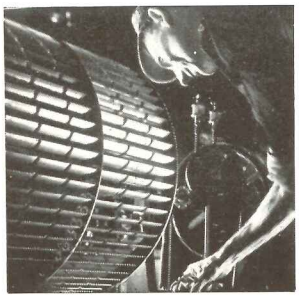

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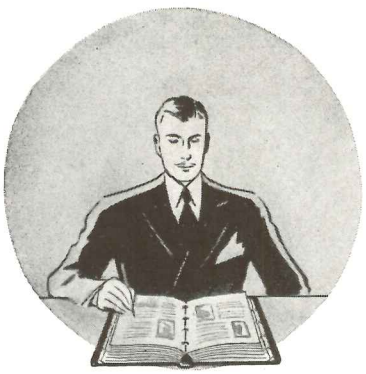

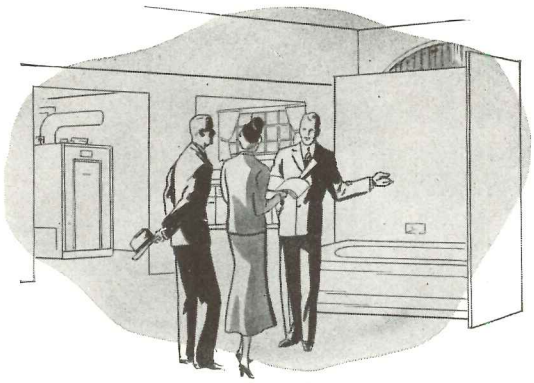

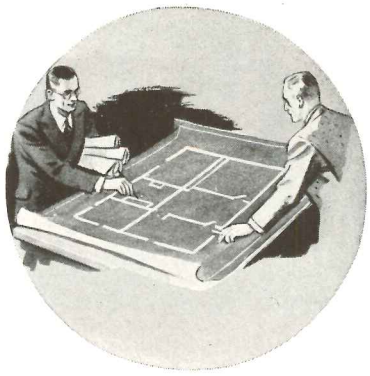

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The Crane Architect's Catalog is your complete source of information on every problem relating to plumbing and heating products . . . valves, fittings and piping . . . for every type of building, everywhere. Thousands of questions about plumbing and heating installations are answered here authoritatively . . . decisively . . . helpfully.

The Crane line is complete because it contains products at every price level for kitchen—bathroom—laundry—heating systems. There is a wide variety of choice in each division—and every product is backed by Crane's long-maintained reputation for better design, better workmanship and manufacturing integrity in every detail.

Crane offers you complete kitchen, bath and laundry planning service—each prepared by experts as a result of exhaustive research and scientific study. For your convenience, Crane maintains 110 Display Rooms throughout the country. Use the Crane Architect's Catalog—and the many other aids which Crane Co. offers to architects.

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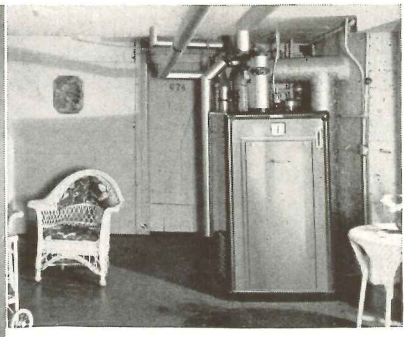

Among the seven types of Crane Boilers for hot water, steam, vacuum and vapor heating you will find exactly the right ones for the buildings you plan.

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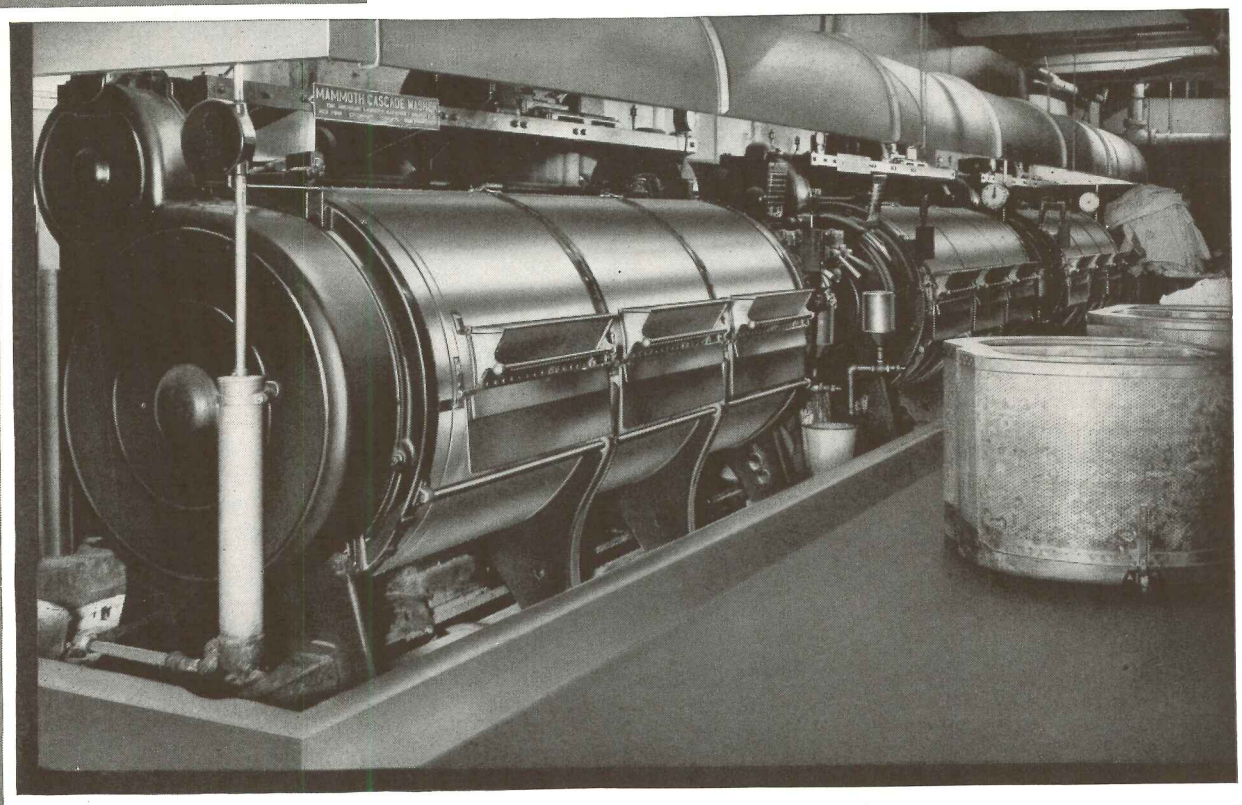

Two WHY'S for Washers of MONEL

MONEL* washers offer two definite improvements. Each important. But distinct and separate:

1. They cost less to operate.

Hundreds of users of Monel washers tell us "we use *less* water," "we use *less* steam," "we use *less* soap and supplies." The "why" of that is that Monel cylinders have more than twice as much open area. Result: more rapid washing. Better circulation. Also, a smaller clearance between cylinder and shell. That takes less water—and less supplies.

2. They do better work for more years. WHY?

Monel doesn't wear out. It is stronger and tougher than steel. It never rusts. Its smooth, solid surface is not corroded by soaps, sours, dilute bleaches. Hence—no rewashes, no snagged, torn fabrics with Monel. Many Monel washers to-day are turning out the same smooth work they did when first installed 10—15—even 20 years ago.

And for the same reasons, you get the same savings from Monel, in extractors, table tops, pails, and starching equipment. Write to-day for exact information.

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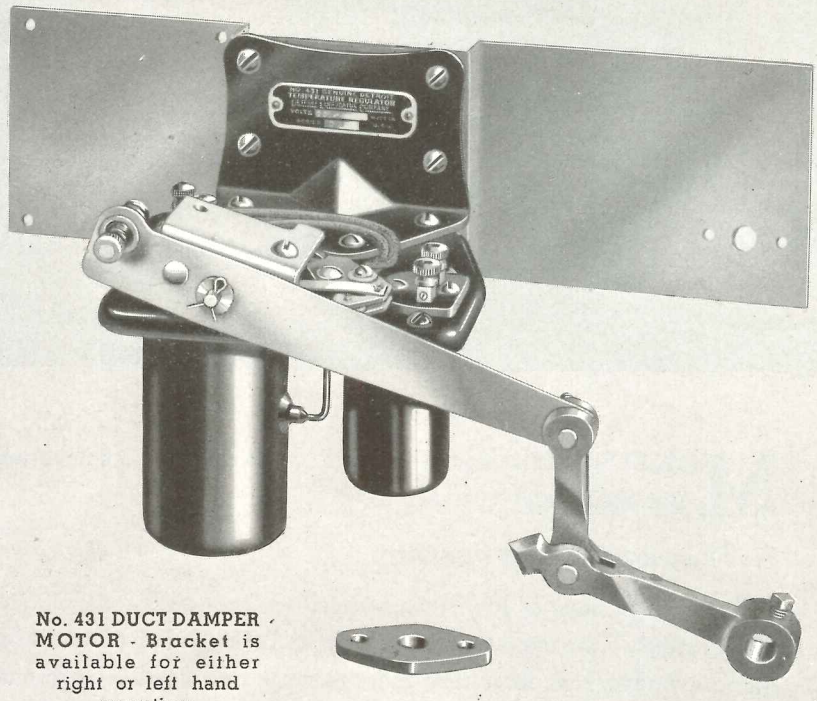
*Monel is a registered trade-mark applied to an alloy containing approximately two-thirds Nickel and one-third copper. This alloy is mined, smelted, refined, rolled and marketed solely by International Nickel.

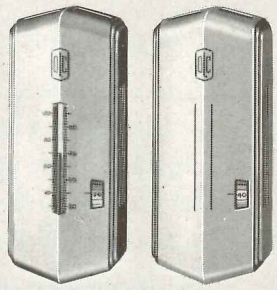
"GENUINE DETROIT" *Zone Control*

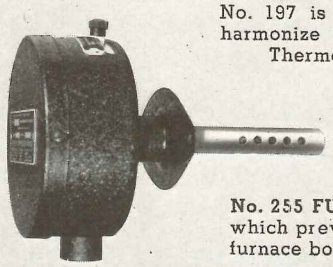
FOR FORCED AIR SYSTEMS



No. 431 DUCT DAMPER MOTOR - Bracket is available for either right or left hand mounting.

"GENUINE DETROIT" TWO-ELEVEN THERMOSTAT — the "brains" of the heating system, whether simple or zone controlled. The "Genuine Detroit" Humidistat No. 197 is styled to harmonize with the Thermostat.





No. 255 FURNACE LIMIT SWITCH, which prevents overheating in the furnace bonnet or plenum chamber.

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Residential buildings of the rambling type, those having critical exposures or definite divisions between living quarters, servants' quarters, etc., present a serious warm air heating problem.

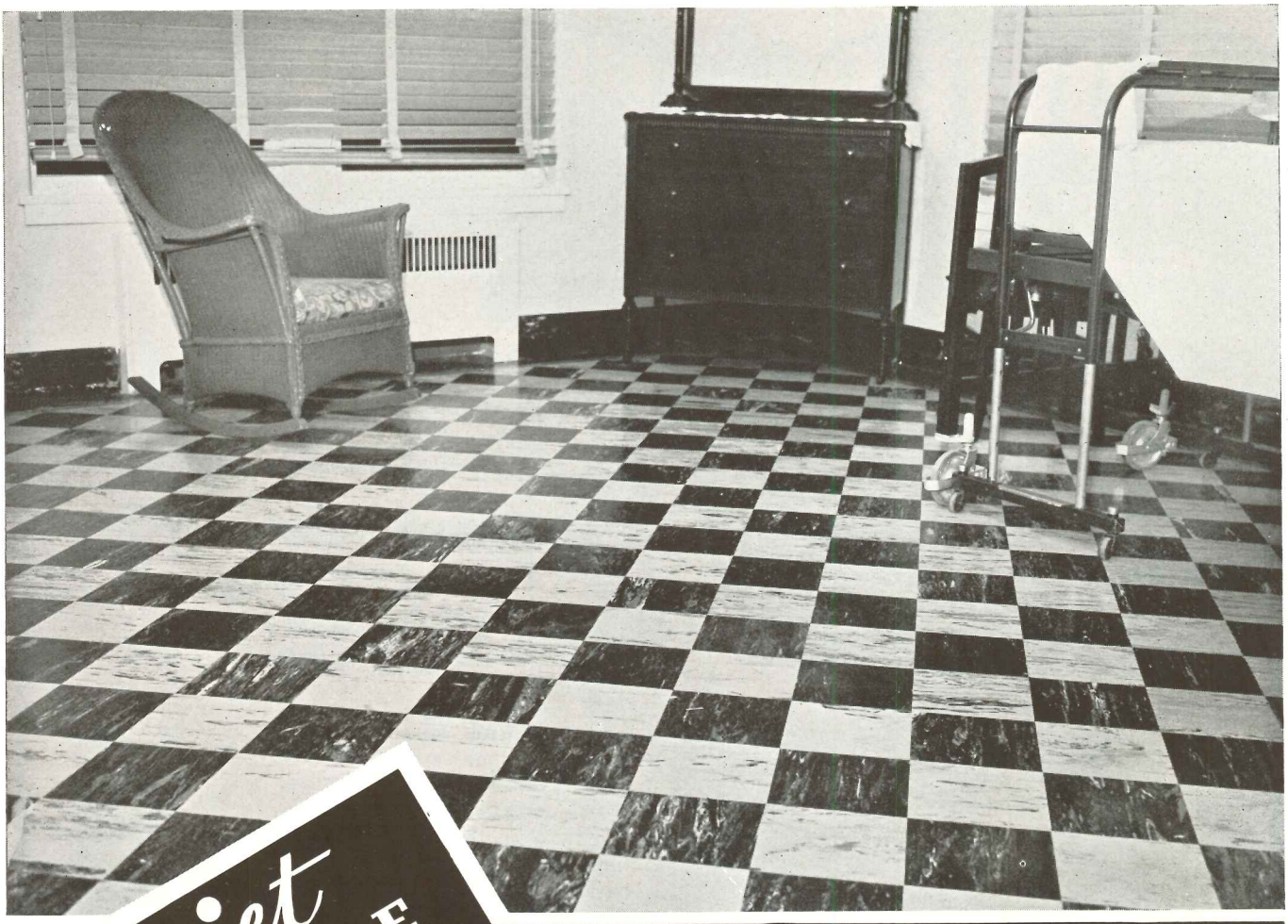
It is often impossible to hold uniform temperature throughout the building with a single thermostat. One part will overheat before another gets warm, and, as wind direction is likely to vary the condition from day to day, no amount of balancing of ducts will cure the trouble.

This type of structure needs "Genuine Detroit" Zone Control. The building is divided into two or more zones with a thermostat controlling each. A main duct with branches leads to each zone. Each thermostat controls a damper in its duct. When a thermostat calls for heat in its zone, it opens the governing damper, which in turn operates the main heating unit. Dampers to zones not requiring heat remain closed, though the heating unit does not stop until all zones are satisfied.

As thermostats are independent, *different* temperatures may also be maintained in different zones, if desired. Also, if day and night thermostats are used, one or more zones may be changed to day or night temperature independently of the others.

Each zone damper is actuated by a "Genuine Detroit" No. 431 Motor Unit. This is entirely noiseless, so is regularly mounted on the duct without danger of objectionable noise being telegraphed along the duct to rooms above. A No. 255 Furnace Limit Switch prevents overheating in the plenum chamber to which zone ducts connect.

Write for Bulletin 66 on the "Genuine Detroit" Zone Control. It is a thoroughly sound answer to the problem of heating many types of houses satisfactorily with warm air.



Private Room, St. Mark's Hospital, Salt Lake City, Utah

Quiet
DURABLE
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Floors of AMTICO RUBBER TILE provide all three

Partial Roster of Amtico Installations in hospitals.

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Floors of AMTICO RUBBER TILE are specified by leading architects and contractors as standard flooring equipment for hospitals and convalescent institutions where durability is essential and quietness and cleanliness are imperative. Pleasing and harmonious effects are achieved with Amtico's wide range of plain and marbelized colors.

Write for new color folder for your files or refer to Sweet's Catalogue for details and specifications.

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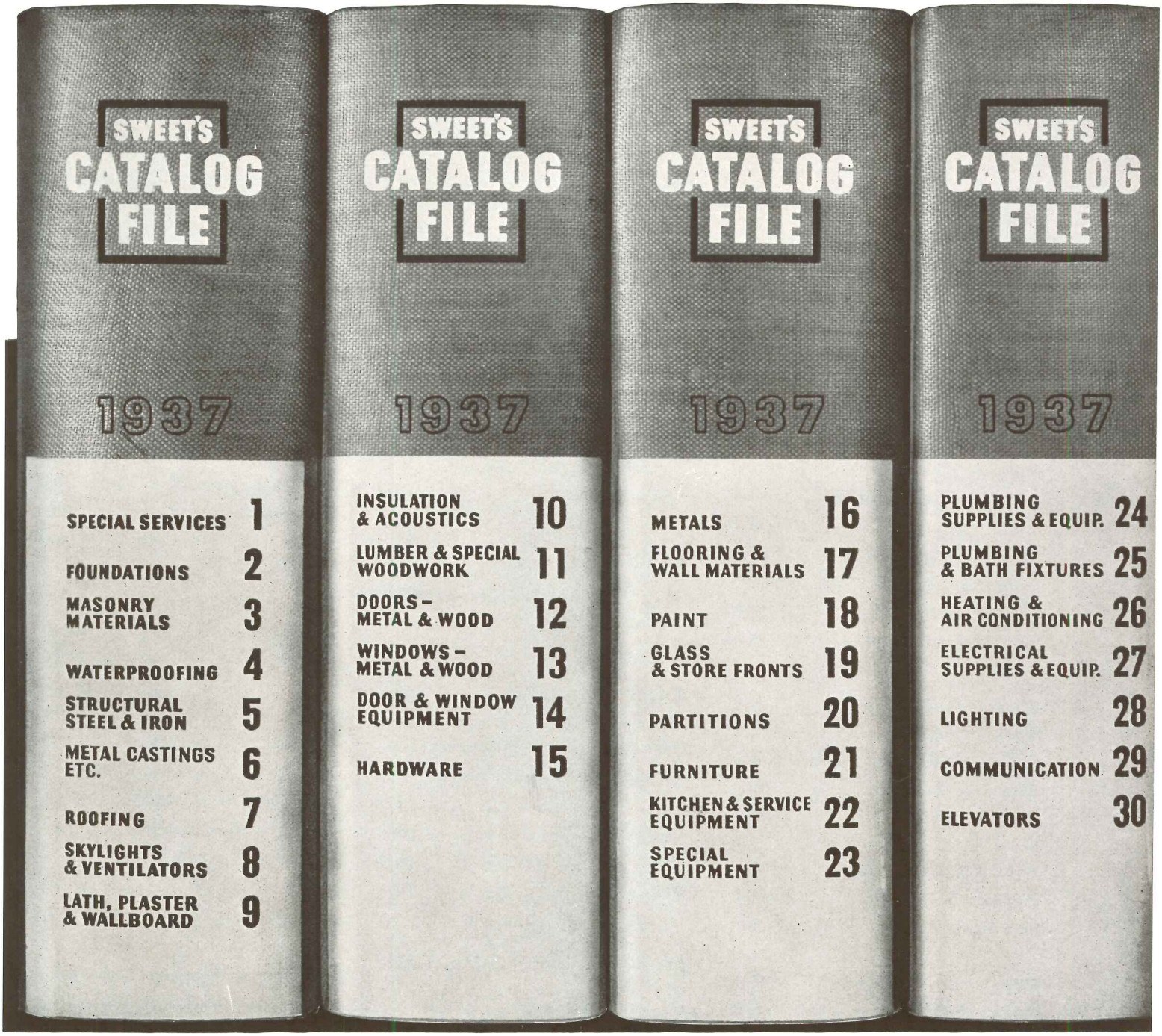

TOWARD PERFECTION

When architects say, as many have, that Sweet's Catalog File is perfect, we know that they mean *relatively* perfect. Perfection is a large order, in the filling of which we need the cooperation of every reputable building-product manufacturer. The pioneers have blazed the way. Their catalogs, designed to give you just the kind of buying information you want and need, occupy well over half of the Sweet's file. Each year they are joined by others who previously had taken but partial advantage of the Sweet's plan. Each year the perfection of their catalogs adds to the perfection of the file.

INDEX TO ADVERTISEMENTS

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Ballrooms, Too, KNOW HARD MAPLE as The Longest-Wearing *Comfortable* Floor

. . . Like
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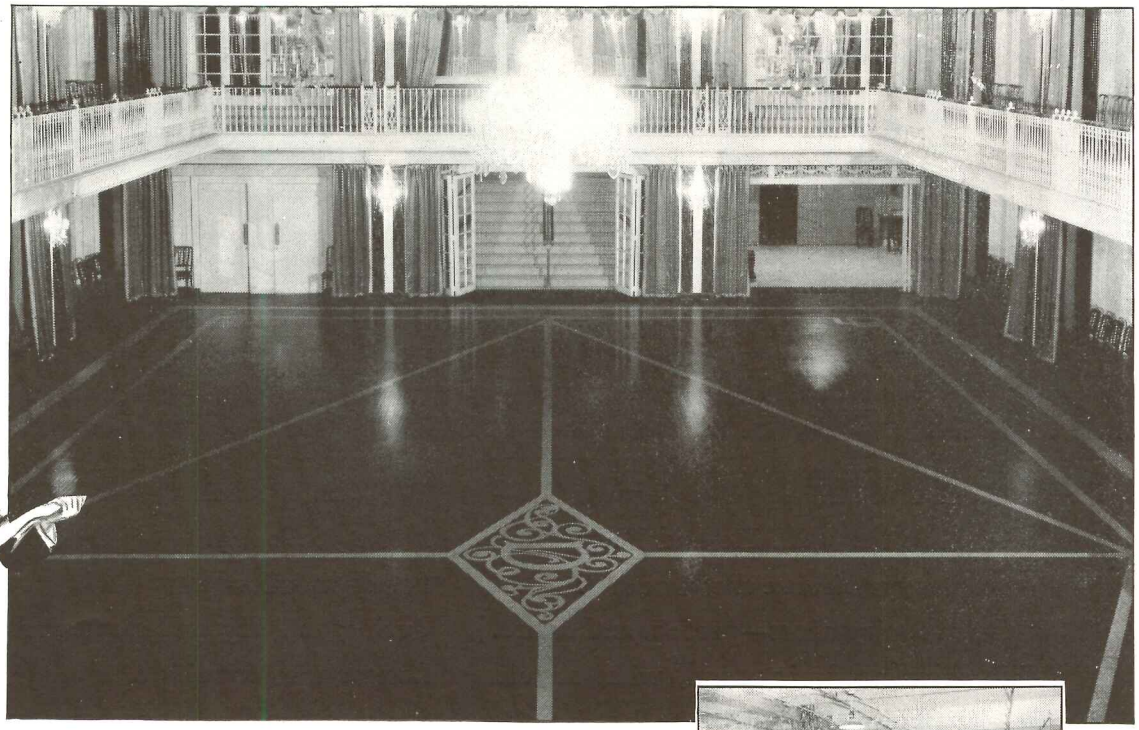


To visit the Main Ballroom at Chicago's Drake Hotel is to be struck by the beauty of the ebony-black floor, striped and scrolled in silver. To dance, is to be impressed by its velvety "feel" underfoot, so smooth that dancing seems effortless.

Like most ballroom floors, this floor is Northern Hard Maple, selected for three reasons: its beauty, its resilient smoothness, its remarkably long life.

The same three characteristics, combined so perfectly in no other flooring, explain Hard Maple's widespread use in factories, stores, schools and homes.

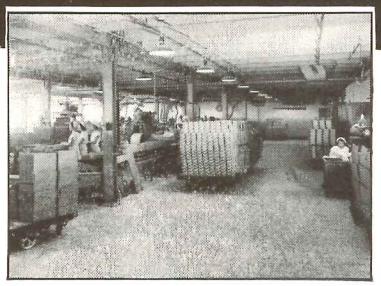
On a cost-per-year basis, Hard Maple offers unequalled economy. Outwears any other comfortable floor. So tough-fibred, tight-grained, its resistance to indentation and abrasion is remarkable. Does not splinter, sliver, or develop ridges. Speeds up traffic. Simplifies alterations, lowers maintenance costs.

Moreover, Hard Maple offers unsurpassed comfort in use. Warm, dry, resilient, sanitary, it reduces fatigue, aids efficiency. And always, its light cheery color presents pleasing appearance. With the heavy-duty finishes available, Hard Maple's beauty is maintained under most severe traffic. These penetrating finishes seal its surface, keep out dirt, eliminate scrubbing. In "natural" or colors, to match any decorative scheme.

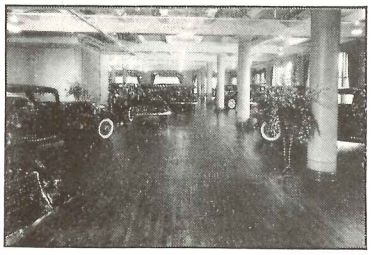
In buildings of *many* different types, **MFMA*** Northern Hard Maple is your insurance that your clients' flooring will give lasting satisfaction year after year. Write for A.I.A. File Size Grading Rules and complete specifications for laying and finishing.

MAPLE FLOORING MANUFACTURERS ASSOCIATION
1782 McCormick Building, Chicago, Illinois

See our catalog data in Sweet's, Sec. 17/66.
Write us for folder on Heavy-Duty Finishes.



No other flooring equals Hard Maple's versatility. In the Drake Ballroom, it offers a perfect floor for dancing; matches its surroundings in beauty. For the Cracker Jack plant, it provides foot comfort, remarkable resistance to the wear of heavy truck traffic.



For display rooms and stores, Hard Maple flooring is an ideal choice. It offers resilience, good appearance, cleanliness, sanitation, easy maintenance, durability, economy. This unique combination of qualities makes versatile Hard Maple equally suitable for factories, bakeries, mills, warehouses, schools, and homes.

Floor *with* Maple

MFMA Approved

***MFMA**—This trade-mark on Maple Flooring guarantees that it conforms to the exacting grade standards of the Maple Flooring Manufacturers Association. It protects you against species substitution and inferior grade. It assures you of *genuine* Northern Hard Maple. Look for it on the flooring you buy.

PROBLEM No. 8

Architect, JOHN J. KEIL, Lima, Ohio

Mr. Graves and Mrs. Graves have

OK'ed your plans for this house

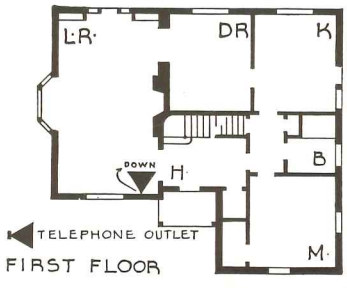
STUART GRAVES is a lawyer, and making out well. He and Betty asked you to design a house that would meet all of their requirements—present and future. With their needs in mind, what should the telephone arrangements be for the approved plans below?

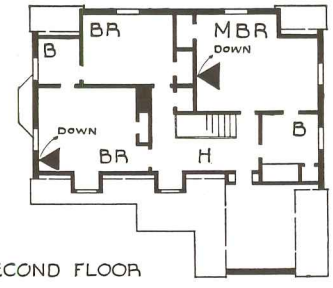
Telephone conduit in the walls, of course, to avoid exposed wiring and protect against certain types of service interruption. Leading to strategic points throughout the house, it will mean that the Graves can have their telephone arrangements changed easily and quickly without piercing walls or woodwork. For the present, one outlet in the master bedroom is ample for the second floor—to afford step-saving convenience during the day and protection at night. Later on, as conditions change, the outlet in the second bedroom may be equipped for use. Of course, an outlet in the living room for family use is an absolute necessity. It is located so that it may also be conveniently reached from the maid's room.

. . .

This is a suggested approach to a typical problem. Our engineers will be glad to help you in developing efficient, economical conduit layouts. No cost. No obligation. Just call your local telephone office and ask for "Architects' and Builders' Service."

what telephone provisions





will you recommend to them?