## THE ARCHITECTURAL RECORD

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Mural Painting by Harvey Dunn.
Created for the Lord and Taylor Centennial.
The city of Philadelphia commemorates the 150th anniversary of the Declaration of Independence of the United States of America by an International Exposition, for which the grounds, buildings, equipment and improvements necessary for the display of exhibits and the comfort, instruction and entertainment of millions of visitors will probably reach a total cost of more than $10,000,000. Additional sums will be expended by public and private exhibitors and concessionaires during the six months from June 1st to December 1st that the exposition will be officially open. Provisions of public utilities have been based on an approximate attendance of 200,000 persons daily.

The site of the exposition is in the southern part of the city of Philadelphia, adjacent to the U.S. Navy Yard at League Island, at the southern terminal of Broad Street which bisects the grounds. It covers about fifteen hundred acres of land that has been leveled to a height of three to fifteen feet above tide level, and includes about five hundred acres of the east and west League Island Parks, which had already been improved by the city with macadamized roads, trees, shrubs, lawns, lagoons, boat houses, pavilions and numerous other structures.

As all the highways, permanent park space, water supply, sewage systems, policing and some other important features are ex-
clusively under municipal control and ownership, the participation of the city with the administrative staff of the exposition association is very close, and no attempt is here made to differentiate between municipal and association initiative and execution, all of which is under the direction of the expert administrative staff of the association, headed by its President, Mayor W. Freeland Kendrick, and his Director of Public Works, George H. Biles.

As the undertaking progressed it was found necessary to have some one appointed to co-ordinate all the branches of the work, such as excavation, filling, grading, water-ways, dikes, sewers, etc., and therefore Mr. R. J. Pearse was appointed Director of Works, under the direction of the Director of Public Works, Mr. George H. Biles, to co-operate with the Supervising Architect.

ARRANGEMENT

The Broad Street approach passes beneath a monumental replica in heroic dimensions of the famous Liberty Bell, and continuing between double rows of trees, enters the enclosed grounds at the upper level where a great court, the Forum of Founders, is formed with the two largest buildings, Liberal Arts and Agriculture, on one side and several important buildings on the opposite side at the north and south extremities of the ramp and cascade leading to the court of Formal Waterways, beyond which is the 80-acre Gladway area for amusement purposes.

On the east side, the other League Island Park has already been devoted to the permanent municipal Stadium, with a seating capacity of 100,000 which is enclosed by lawns and shrubbery and forms an essential part of the exposition equipment. The League Island Park is bordered by several tracks of trunk line railroads which afford between their margin and the Navy Yard an ideal location for the enormous Transportation building at track level, entered from the southerly terminal plaza on its upper level. The main buildings will afford about 1,500,000 square feet of exhibition space besides that provided by state buildings, private interests, and many foreign governments, about twenty of the latter being located in the West League Island Park section of the ground.

PRELIMINARY WORK

Among the first important operations of exposition construction were the improvements of the principal adjacent streets serving the exposition. These were executed under city contracts aggregating nearly half a million dollars for about 200,000 square yards of new or resurfaced pavement with eight-inch slag foundation, sheet asphalt wearing surface and granite pavement adjacent to car tracks. This work required an average cut of about eight inches in depth, made with two power graders and two steam shovels. The pavement was laid at an average of speed of about 4,000 yards a day by a force consisting of about three hundred men, thirty trucks and six steam rollers.

At the beginning of construction operations the leased portion of the site was a very low swampy area. Extensive grading operations were promptly commenced to level the surface with a fill of about 2,000,000 cubic yards, chiefly derived from the North Broad Street subway excavation and delivered by trucks to storage piles whence it was reclaimed by about fifteen caterpillar traction steam shovels, distributed wherever needed with a maximum haul not exceeding 2,500 feet, leveled by six-foot and eight-foot scraper blades on tractors and compacted by five-ton steam rollers. Only about 500,000 yards of excavation at the site was required for the grading.

Two eight-inch suction dredges and a clamshell dredge were also installed to excavate about 100,000 yards of material for the Gladway lagoons, about four feet deep, with a surface of about 40,000 square feet in addition to the 120,000 square feet of the previously existing lake and wading pools in the League Island Park.

LANDSCAPE FEATURES

As there is no topographical diversity the landscape engineering necessarily emphasized tree planting, shrubbery, flow-
Sesqui-Centennial International Exposition
Mayor W. H. O. Post
Capt. Alice M. Baker—Director in Chief
R. J. Prace—Director of Works

General Plan

Consultant: George N. Rice, Architect

The Architectural Record
July, 1926
ers, statuary, water effects, foot walks and artificial lighting.

Broad Street, forming the main axis of the grounds, has been converted into The Forum of Founders, a mall 300 feet wide with avenues of five hundred European linden trees bordering its two seventy-foot center parkways and set in double rows on each side of the fifty-foot avenue between them, which is paved with asphalt and flanked with a twenty-foot pavement of the same on each side.

East of the mall, fronting the main exhibition palaces, are eight 65 x 130-foot sculpture gardens, planted with rhododendrons, evergreens, flowering trees and shrubs to form a setting for heroic examples of mythological and allegorical American sculpture. West of the mall the avenue has been given confinement and unity by an evergreen wall of 350 native red cedar trees, sixteen feet high, that form a background for the thirteen monumental columns of the Signers.

In the Forum of Founders, at the intersection of the mall with the transverse axis through the Tower of Light, are three great features of monumental statuary of heroic proportions. This grand court is enclosed by pine trees sixteen feet high faced with specimens of Japanese cedars. Near the Tower of Light there are two sculpture gardens with heroic statues of Washington and Franklin. On the opposite side of the Court are two fountains, thirty-two feet
Steel framework and wood furring for metal lath

high. Below the colonnade is the Gladway ramp, two hundred feet wide and three hundred and seventy-five feet long, surfaced with buff gravel.

At the foot of the Gladway ramp, are two 65 x 130-foot water gardens planted with many varieties of colored oriental water lilies that bloom day and night. The central feature of the Gladway is an electrical fountain and the illumination of the spray with colored lights. An additional feature is the 100 x 191-foot U-shape lagoon or water basin, with the legs three hundred feet apart in the clear. All of the banks are retained by wooden sheet piling surmounted by balustrades.

Owing to the probability of settlement in the recently filled grading it was deemed inadvisable to attempt any underground system of irrigation for the extensive lawns and planting, and it was decided to install various types of overhead and portable watering equipment.

LARGE BUILDINGS

The scheme of arrangement of the Exposition Plan, grouping of buildings, locations, style and details of construction were formulated and developed in the office of the City Architect, John Molitor, who was appointed Supervising Architect for the Sesqui-Centennial Exposition Association.

The Supervising Architect designed the following large Exposition Buildings: The Administration Building; Palace of Liberal Arts, Building No. 1; Palace of
Agriculture and Food Products, Building No. 2; The Auditorium, Building No. 3; Palace of Transportation, Machinery, Mines, and Metallurgy, Building No. 5; Palace of Education, Building No. 8; Palace of Fine Arts, Building No. 9; The Tower of Light, Building No. 25; The Colonnades, Band Stands and many other minor features, including the thirteen columns commemorating the Signers of the Declaration of Independence. He was assisted by his staff, headed by Mr. William S. Covell and Mr. J. Horace Frank, assistant architects; Mr. Louis Kahn, architectural designer; and Mr. De L. Dodge, colorist; and Mr. Giuseppe Donato, architectural sculptor.

**Types of Buildings**

Besides the entrance Pylons, Tower of Light, Liberty Bell, the fountains and a large amount of heroic sculpture, the construction consists chiefly of temporary and permanent buildings. The most important of them is a group of six great temporary buildings for Agriculture, Liberal Arts, Machinery, Education, Fine Arts and Transportation, which cover an area of about 1,500,000 square feet, and cost about $4,000,000, an average of about $2.50 per square foot. This group of buildings, plus the Auditorium Building, contain about 9,200 tons of structural steel and have wooden framework in all roof and wall spaces. They form a special class of structures with steel skeleton, secondary wood framework, reticulated steel and plaster covering, wood and composition roofs and wallboard linings. This type has been adopted for the Pennsylvania State Building and some of the other more important structures. Besides these, there are eleven temporary state buildings, costing more than $2,000,000, ten other state buildings of unknown cost, the Taj Mahal, built by India at a cost of about $200,000, and other important stuccoed buildings built by Spain, Persia, China, Roumania, Cuba, Argentina, and other foreign countries; permanent buildings for the administration and for Egypt, Sweden and a great number of temporary structures, pavilions, booths, etc.

All buildings that require more support than is afforded by mud sills or spread footings have foundations of wooden piles arranged singly and in clusters of two or more, the number being determined by the resistance to penetration. There were in all about 5,000 wooden piles from fifteen to fifty feet in length and averaging thirty-five feet in length, that were driven with drop hammers, to three-foot penetration in hard stratum.
THE PALACE OF AGRICULTURE AND FOOD PRODUCTS
Sesqui-Centennial Exposition, Philadelphia

Cross Section Through Building

Exterior

Interior

The Architectural Record
July, 1926
Erecting the
PALACE OF LIBERAL ARTS AND MANUFACTURES
With Caterpillar Mounted Whirley

Cross Section Through
PALACE OF LIBERAL ARTS

Diagram
Indicating General Plan of the
PALACE OF TRANSPORTATION,
MACHINERY, MINES AND METALLURGY

Sesqui-Centennial Exposition, Philadelphia

[8]
Enough of them were provided to reduce their loads to twenty tons per pile, as computed by the Wellington formula. The piles have concrete caps and grade beams that receive the pedestals of steel columns and the wooden sills of the wall construction.

The steel skeletons are all of standard light factory construction, erected in most cases by locomotive cranes or their equivalent, and having all the field connections bolted instead of riveted. All the structural steel work is exposed. The wooden roofs are covered with two to
four-ply composition and are lighted either by monitor or inclined flat skylights covering about 25 per cent of the roof areas.

Between the steel columns there is a wooden framework with vertical 2" x 4" studs, sixteen inches apart, with metal laths weighing 3.4 pounds per square yard covered with two coats of cement mortar-stucco applied by hand with trowels and carefully finished to a maximum irregularity of surface. The last coat is colored with integral pigments that give a contrasting rainbow effect in which salmon pink predominates, shading to pink and yellow.

The entrances doors are of 2 1/4-inch thick white pine or cypress. The large sash and window frames are generally of steel, and the ventilating panels in monitor and clerestories are electrically controlled.

Wooden cornices and other exterior trim are painted with two coats of white lead, properly tinted, and in some cases the structural steel had one shop coat and one field coat of iron oxide paint. In other cases the steel has two coats of cold water paint similar to that applied to the interior wall and roof boards. Most of the large floors are directly supported on the filled ground, which is thoroughly trimmed and rolled to a smooth surface and covered with eight inches of cinder concrete and a one-inch cement surface.

The second class of temporary buildings includes most of the others designed for exhibits and many of the state buildings and buildings erected for the concessionaires. They differ from the first class chiefly in that the skeletons are entirely of wood and have more architectural embellishment and ornate construction. The ornamental work, statuary and sculptured detail, when of large size, are all built on wooden frames and are treated to resist weather. Most of the roofs are guaranteed for two years.

The large buildings have very little architectural embellishment, their artistic effect depending largely on the imposing magnitude of their dimensions, tower and dome effects, large entrances and special color treatment at these points. The types and details have been developed to insure simplicity of construction, standard low priced material, ordinary workmanship, maximum speed and economy of construction, and harmonious general effects, coordinated with a rich and brilliant color scheme, and a durability sufficient for the services of the exposition without providing for undue longevity at increased cost. Equipment has been measured by the essentials of safety, comfort and convenience. All buildings are supplied with electricity, water and drainage and some have steam and gas.

**Official Buildings**

The largest of the exhibit buildings is the Palace of Agriculture and Food Products, nine hundred and seventy feet long, four hundred and sixty feet wide and thirty-five feet high, with a fifty-foot center longitudinal aisle and twelve
Section Through Court—Looking Toward Rotunda Entrance

Section Through Center of Building

Floor Plan
THE PENNSYLVANIA STATE BUILDING
Ralph B. Bencker, Architect
Sesqui-Centennial Exposition, Philadelphia

July, 1926
parallel side aisles thirty-four and thirty-five feet wide. The side aisles have alternately high level and low level roofs providing for twelve lines of clerestory illumination. The total cost was $949,000.

The Palace of Liberal Arts and Manufactures is of similar design, nine hundred and seventy feet long, and three hundred and ninety-two feet wide, covering an area of seven and three-quarter acres and costing $931,000. It has a sixty-foot centre aisle with clerestory windows and forty-four-foot side aisles with flat skylights having an area of 40,000 square feet. In the roof there are thirty-four and thirty-six inch ventilators.

The Palace of Transportation, Machinery, Mines and Metallurgy was originally designed to cover 489,000 square feet and costs $907,000. The main part, somewhat irregular in plan, is four hundred feet wide and eight hundred and eighty feet long with a sixty-four foot center aisle and eight parallel forty-two foot side aisles with a height increasing from twenty-eight feet at the exterior to fifty-six feet in the clear at the center, thus affording illumination through eight lines of clerestory windows with steel sash. The train shed extension has been superseded by platforms with umbrella roofs. Except for the stuccoed entrances the exterior walls are covered with painted asbestos board. The entrance tower is surmounted by a steel-frame dome covered with steel lath, plastered and guaranteed watertight for five years. The building is equipped with a fifty-ton girder crane of sixty-four foot span traveling on a track three hundred and
forty feet long, and also has a locomotive
turntable one hundred and sixteen feet
in diameter.
The Palace of Education is five hun­
dred and twenty-four feet long, two hun­
dred and eight feet wide, has an area of
109,000 square feet and its general con­
struction cost $348,000. It has four main
longitudinal aisles forty-four, forty-two
and twenty-four feet wide and is illumi­
nated by exterior windows and monitor
skylights. The 16 x 92-foot entrance
portal is flanked by a chapel and by an
auditorium with three hundred seats.
There is a basement provided with toilet
rooms and lockers for the public and for
the Sesqui-Centennial guard and police.
The main floor is carried by the steel
columns.
The main portion of the Palace of Fine
Arts is built around the 120 x 120-foot
center court and is about two hundred and
fifty-six feet square with two wings ex­
tending its front to a length of four hun­
dred and ninety-six feet. The steel
columns are generally spaced from seven­
teen to thirty-four feet apart and there
are no windows except for offices and
cloth is tacked to 4 x 11 inch wooden
strips supported on 5/8-inch steel rods
three-feet apart. The roof consists of
gypsum slabs haunched to the lower
flanges of the I-beams, and reinforced by
galvanized steel wires carried over the
tops of the beams as in the Metro­
politan type. The slabs are proportioned
to carry the dead load and forty-pound
live load per square foot with a factor
of safety of four. Total cost is about
$270,000.
The 426x250-foot Auditorium has an
area of about 105,000 square feet, and
cost $446,000. The Main Hall has a
150x400-foot auditorium flanked by two
fifty-foot parallel aisles, all of them
Nearly Completed Section
THE PHILADELPHIA MUNICIPAL STADIUM

being free from obstruction by columns.

The nave is spanned with steel arch trusses having a total height of more than sixty feet and supported on steel columns twenty feet apart longitudinally. The walls are of stucco and the building is equipped with steam heating system. A 50x100-foot stage has a large organ, and a radio broadcasting apparatus with amplifiers serves the more distant parts of the building.

PENNSYLVANIA STATE BUILDING

Conspicuous among the greater buildings designed by special architects is the unique and beautiful $450,000 Pennsylvania State Building; permanently located at one corner of the Forum of Founders, and designed by architect Ralph B. Bencker with rich coloring, ornate architecture, lavish illumination and heroic statuary to symbolize the glory, wealth and history of the Commonwealth of Pennsylvania.
Pennsylvania. The U-shape plan three hundred and thirty feet wide, and two hundred and twenty-five feet deep, encloses three sides of an open court one hundred and twenty feet square. The building has a general height of forty-three feet with a central tower seventy-five feet high whose steel framework is covered with plaster.

The great exhibition hall is lighted through monitor skylights, and the rotunda has a perforated concrete clerestory grill glazed with vari-colored glass. In the great niches of the front wall are heroic groups of sculpture representing Industry and Agriculture, and in the walls around the court are fourteen panels containing heroic bas-relief scenes from the history of the state, which together with the architectural embellishment are reflected in the large shallow concrete pool in the center of the court yard.

The exterior walls are trowelled stucco one-inch thick, applied in three coats and colored by spray. The stucco was applied to expanded metal lath on two
inch by twenty-six inch vertical studs, twenty-four inches apart, which were fastened to ten-inch horizontal channel girths. All of the columns are ten-inch H-beams except those seventy-five feet high that support the rotunda dome and that were designed at first to be made with twelve-inch steel pipe having joints shop-welded to inside sleeves and fitted with screwed flange bearings at the tops for supporting the beams.

In the clerestory, above the main roof, are 8x14-foot panels of reinforced concrete grills made up in 2x3-foot units, whose precut channel shape diagonals were assembled on a horizontal plane and filled with reinforcement rods wrapped in burlap, soaked in grout and forming together a half sash on which the glass was placed and secured by superimposing the corresponding upper half sash, which being cemented to the lower half, completed the unit. The parapets and the grills in the rotunda entrances are of similar character, but of different design.

The rotunda has a sixteen sided flat plastered roof fifty-feet in diameter which is just above the perforated exterior grill fourteen-feet high. A few feet below this grill the rotunda walls are enclosed by concentric inclined skylights beneath which there is a horizontal diffusing sash glazed with colored glass. Above the skylight reflectors illuminate the top of the rotunda tower and throw the light down through the skylight on the leaded glass. This type of illumination is repeated between the center and outer row of columns where the intermediate parapet changes from sixteen-sided to eight-sided at the main roof level, and the projecting angles are carried on wooden cantilevers fulcrumed on the intermediate columns.

**PERMANENT STRUCTURES**

Most important of all the permanent structures is the great Municipal Stadium which has just been completed by the City of Philadelphia, at a cost of over $2,000,000. It consists essentially of a vast reinforced concrete horseshoe seven hundred and twenty-one feet long by seven hundred and ten feet wide with a convex periphery of 1,852 feet.

The inclined open deck with seats for 100,000 spectators has a width of about one hundred and eighty feet and slopes up to a height of sixty-five feet above the level of the playing field. It is supported on ten concentric rows of concrete columns braced by three tiers of horizontal struts. Expansion and contraction of the great mass is amply provided for by its division into uniform 46x96-foot units of area bounded on all sides by cantilevered construction expansion joints.

Enormous quantities of materials were involved in the construction which required 30,000 yards of grading and filling, 7,000 yards of excavation 42,000 concrete foundation piles, 1,500 tons of reinforcement steel and 23,000 yards of concrete mixed in four plants and distributed by an aerial cable way system supported on six towers. Simon & Simon are the architects.

The permanent 40x200-foot Administration Building two stories high is of an ordinary office building type with colonial façades and cost about $70,000.

There are, in all, about forty-five major buildings, exclusive of those on High Street, and Treasure Island and the Gladway structures, besides which there are two hundred and fifty booths and stands distributed over the grounds. The states of Florida, New York, New Jersey, Illinois, Ohio, Oklahoma and Iowa will have buildings costing from $100,000 to $500,000 each, and the states of Delaware, California, Texas, Kansas, Washington, Oregon, Idaho, Vermont, Mississippi, and others will have less imposing structures.

**TOWER OF LIGHT**

The loftiest exposition structure is the steel-frame Tower of Light, about one hundred and seventy-five feet high. It is a twelve-sided structure with twenty-four inclined main columns each made with a pair of angles, above which the framework is extended about twenty-nine feet higher by twelve vertical columns carrying the uppermost or searchlight floor. The tower is braced by thirteen stories of horizontal and diagonal struts.

Like the buildings, the tower is enclosed by stucco and wire lath and is supported on wooden piles which have an
average length of thirty feet. On the top floor there is installed one of the largest searchlights in the world, with a 3,000,000,000 candle power searchlight sixty-two inches in diameter that weighs about 5,000 pounds.

**DRAINAGE, PLUMBING AND WATER SUPPLY**

The plumbing of the various buildings and comfort stations and the disposal of storm water drainage was computed, laid out and arranged by the Supervising Architect and his assistant Mr. W. J. Stephen, Chief of the Sanitary Division.

The storm-water drainage of the exposition grounds is entirely delivered to the lagoons. There is a complete sanitary drainage system based on a maximum flow of about one and a half million gallons daily that flows to two pumping stations where it is elevated about twenty-five feet by automatic electric centrifugal pumps, each of five hundred g. p. m. capacity, which deliver through one thousand feet of ten-inch steel mains to existing city sewers.

The sewer pipes, as well as the water and gas mains, are laid in trenches of a maximum depth of twenty-five feet, most of which were excavated by four power machines of the bucket and revolving wheel types.

The domestic water supply estimated at about one and a quarter million gallons daily is derived from many connections to the existing city mains and is delivered through cast iron pipes exterior to the buildings and through screwed interior pipes.

All of the regular water supply is filtered and one of the exhibitors has installed a commercial refrigerating plant of fifty-tons capacity to furnish all the ice required on the grounds. Installed on the grounds are about a hundred drinking fountains supplied with water cooled by automatic electric refrigeration.

**ELECTRICITY**

The lighting of the grounds and exposition areas, the illumination of the buildings both as to exterior and interior treatments, and the lighting effects of the Tower and of the Liberty Bell, were arranged under the direction of the Director of Works Mr. R. J. Pearse, assisted by Mr. L. C. Darrin, Chief of the Electrical Division, and by Mr. D. C. Atwater of the Westinghouse Lamp Co.

Commercial sources supply 12,500 K. V. A. of alternating 60-cycle three-phase 13,200 volt electric current which is reduced at transformer banks to 230-volt two-phase for lighting, and three-phase for power purposes.

The entire surface of the Tower of Light is illuminated by lamps of various colors, and the searchlight which surmounts it has three billion candle power. In the Gladway there is electric illumination for the fountains, and there are twenty searchlights, each of 1,600,000 candle power mounted on trucks. There are also here one hundred and nineteen 600-candle power lamps on ornamental posts twelve feet high. The lagoons are lighted from shore and the large buildings have flood lights of 500,000 candle power each, besides large quantities of 1,000-watt units suspended about thirty-five feet above the floor, three hundred and ten being required in building No. 1, and three hundred in No. 2. All the large buildings are illuminated to an intensity of about eight foot-candles.

In the city plaza fronting the main entrance to the exposition grounds, Broad Street is spanned by an eighty-ton steel structure 80-feet high, which consists of a pair of rectangular towers supporting a truss from which there is suspended a fabricated steel framework forming the skeleton on which there has been built up a replica 50 feet in diameter of the historic Liberty Bell in Independence Hall, Philadelphia.

The bell will be studded with 26,000 fifteen-watt incandescent lamps of amber shade, the rim of the bell being provided with white lamps to produce the high lights.

All the grounds are brilliantly illuminated by 500 and 1,000-watt flood lights concealed behind shrubbery and generally provided with clear glass globes. All electric cables are of the lead or parkway type and are buried. The larger buildings have several transformer banks.
More and more every year it is becoming to be recognized that many diseases and ailments hitherto considered surgical or neglected altogether can now be alleviated without surgery and with little medicine, by means which are called "treatments." The so-called "bath" departments of European hospitals include not only baths of water, steam, hot air, electric light, gas (CO₂), mud or peat, sand, etc., but sun baths, ultra-violet ray treatments, X-ray treatments, many forms of mechano-therapy, inhaling and pneumatic chambers, etc. These have been gradually introduced into this country, and today the careful student of hospital architecture will not dare to plan his buildings without providing facilities for these medical treatments which have come to be grouped under the term "physiotherapy."

It is not always necessary to provide an expensive outfit for all the elaborate processes of hydro-therapy; but room can be secured in almost every hospital for a small equipment—an electric light baker, a massage table, a small bath cabinet, simple, sometimes home-made devices. When these are provided, the progressive medical man or orthopedic surgeon will be pleased; a few years from now he will demand them.

Heat is an important therapeutic agent, whether it is applied as warm air, steam, electric light, or natural sunlight; scientifically applied, it is a recognized medium for benefiting man's ills.

The airing balcony provides sunlight for the medical as well as for the surgical patient. The simplest, and many times the most potent agency, sunlight, can easily be provided in every institution.

In designing a new hospital there should be set apart certain rooms to be reserved for physiotherapy, and equipped with proper electric and water outlets. Some of the best authorities recommend the following:

Ample outlets for electro-therapy.

For hydro-therapy, the douche may be omitted, but there should be one or more cabinet baths, of hot air or electric light or steam; usually a sitz bath; one or more tubs for continuous baths; tables for packs and for massage; a tank for fomentations, with wringer; and an accurate scale with measuring rod.

Apparatus for the application of dry heat; one light on an adjustable stand, and a small baker. These do not need special outlets, merely additional ones.

Outlets for light-therapy should be provided, since very many institutions are now using the "alpine" or "quartz" lamp, which produce the ultra-violet rays, i.e., artificial sunshine. [See Page 24.]

Mechano-therapy is advocated only if specially required and under a director, who will decide what installation is needed.

If portable apparatus is to be used in the wards, there should be convenient attachments provided for it.

The help given by scientific treatment to the so-called chronic invalids in some of the medical departments of the newer hospitals is referred to as little short of the miraculous.

In the Munich-Schwabing Hospital, Munich, Germany, the plan shown on page 20 contains rooms for X-ray therapy, inhalation room, pneumatic chambers (for rarefied or compressed air); for mud, peat and sand baths; for CO₂ and electric light baths, etc. There is a large hydro-therapeutic department, with sprays, douches, plunger, and continuous bath or water bed used in mania, extensive
burns, and some skin diseases. On the second floor is a large sun room, with a "water curtain" for reducing the temperature.

There are few hospitals in the world which have a more complete mechanotherapy equipment than the Massachusetts General Hospital, Boston, with its splendid Zander room, a photograph of which is reproduced above. The service is largely surgical.

In the St. Luke's Hospital at Jacksonville, about one-half of the second story of the administration building was set apart for medical treatment. This portion was not equipped, but was ready whenever the demand came and the funds necessary to equip it and maintain it were obtained.

In the Ross Private Pavilion of the Royal Victoria Hospital (page 22) a large section is set apart and equipped for medical treatment, consisting of a small psychopathic department, Roentgen-ray department, hydro-therapy, electric Nauheim, and continuous baths, rest and massage rooms.

The medical treatment department of the Ottawa Civic Hospital, Ottawa, Canada, the plan of which is reproduced on page 21, though not elaborate, is fairly complete. It has rooms for special tub baths, showers, sprays and douches, packs, massage, etc. There are comfortable rest and dressing rooms.

In the Cook County, Chicago, Psychopathic building (page 20) there is a good hydro-therapeutic department, with arrangements for continuous baths, packs, etc. Rest rooms are provided. There is also a room for surgical dressings here.

The Southern Pacific and the San Francisco County Hospitals, both at San Francisco, not only have very complete physiotherapy equipment but are using it constantly with the best results. (Plan on page 22.)

The Department of Occupational Therapy*

Departments of occupational therapy are now being established in sanitoria, psychopathic hospitals, and also in general hospitals. Certain facilities are necessary for them to operate successfully.

There will always be some work done by bed-patients and some by up-patients.

* The author is indebted for this material to Minnie Goodnow, R. N.
1. Roentgen therapeutics.
2. Physicians' room.
3. Dark room.
4. Light shaft.
5. Photograph laboratory.
6. Roentgen room.
7. Undressing room.
8. Waiting room.
9. Attendants' room.
10. Elevator.
11. Social room.
13. Segregated room.
14. Light bath.
15. Wash room.
16. Toilet.
17. Rest room.
18. Pneumatic room.
19. Examination room.
20. Physicians' room.
22. Douche room.
23. Hot air bath.
24. Warm air bath.
25. Vapor room.
26. Fango mud bath.
27. Mud bath.
29. Four-cell bath.
30. Electric water bath.
32. Salt water bath.
33. Sand bath.
34. Sand room.
35. Sulphur bath.
36. Female attendants' room.
37. Therapeutic gymnastics.
38. Massage room.
39. Rest room.
40. Hallway.

GROUND FLOOR PLAN, MEDICAL TREATMENT BUILDING, MUNICH-SCHWABING HOSPITAL, MUNICH, GERMANY
Richard Schachner, Architect

PSYCHOPATHIC BUILDING, COOK COUNTY HOSPITAL, CHICAGO, ILLINOIS.
HYDROTHERAPEUTIC DEPARTMENT ON TOP FLOOR.
Richard E. Schmidt, Garden & Martin, Architects.
FLOOR PLANS, ADMINISTRATION BUILDING, ST. LUKE'S HOSPITAL, JACKSONVILLE, FLORIDA
Edward F. Stevens, Architect; Mellen C. Greeley, Associate Architect

Medical Treatment Department
OTTAWA CIVIC HOSPITAL, OTTAWA, CANADA
Stevens & Lee, Architects
For the bed-patients, there should be storage space for materials and unfinished work near the wards in which they are; a shelf in the linen closet may be sufficient.

Up-patients usually prefer to go to a special occupation room. This should, when possible, be located near a group of wards, so that it may be easy of access. Very often the patients' sitting room or a sun-parlor may, with a little re-arrangement become also the occupation room.

With men patients, a part or all of the occupation room should be a shop, one which looks like a shop, with a floor that will not be injured by shavings and other debris. If basketry is done, by either men or women, a small tub of water will be needed; it is advisable, therefore that the table and floor should be composed of material not harmed by wetting.

If the occupation room or shop is at a distance from the wards, it should have near it a rest room furnished with a couch and easy chairs. Overdoing is always to be guarded against, and the teacher of occupation will need to have facilities for her patients to rest at proper intervals.

The occupation room or shop must have good light, preferably sunshine, and
Plain of Building Remodelled for Occupational Therapy.

THE STATE HOSPITAL, COLLINS, N.Y.

Plan of Men's Occupational Shops.

BLOOMINGDALE HOSPITAL, WHITE PLAINS, N.Y.
ample artificial lighting for dark days. Plenty of storage space for bulky materials is necessary in closets or cupboards with shelves, hooks, drawers or boxes for small articles. There should be a place to lock up small tools. In even a small department one needs a table or bench for woodwork, a large table for basketry and a table for painting. There should be space to store partly finished work, and a cupboard with lock for finished articles. In most institutions a display case will be placed in or near the main office, so that visitors may see the patients' work.

On page 23 we reproduce the plan of the men's occupational shops at Bloomingdale Hospital, White Plains, N. Y., where an elaborate program is carried out with mental cases. On the same page is shown the plan of a building remodelled for occupational therapy at the State Hospital, Collins, N. Y. Most mental hospitals are finding occupation a valuable curative agent and are providing more or less extensive departments for it.

Miss Susan E. Tracy, an authority on occupation, suggests that an occupation room may be a sitting room, veranda, roof garden, sun parlor, or any large room. She specifies as hindrances to satisfactory work basement rooms with poor light, noisy rooms, parlors or rooms with furnishings that are easily damaged, very small rooms or those reached by long corridors.

Most institutions which have established this work find that it quickly outgrows its original quarters. Space is therefore the great need, and rooms which are large enough for several good-sized work tables.
These are days when some Savings Banks are leaving the localities where they have built up their success. They are moving to new commercial centers in the city which appear to be more attractive.

It is a transmigration, inevitable, doubtless, but accompanied, none the less, by problems to be solved. There was a depositor in one such bank which had just entered upon its new and elaborate home. He changed his account to the Citizen’s Savings Bank, and when asked his reason answered, “It made me feel shabby and out of place going to so grand a building in my working overalls and covered with grease.” The contrast between the architecture and his small deposits and personal appearance was, evidently, too sharp.

That, in a nutshell, was the problem which had to be solved by the Citizen’s Savings Bank itself when the Directors decided that the time had come for improving their cramped quarters situated at the corner of the Bowery and Canal Street. Sixty years ago that old brown stone building seemed to be magnificent enough. But, now that the Bank had grown out of its early youth to a robust manhood, the brown stone looked as out of place as do the frontages of dwellings up town, when the modern apartment house makes its appearance next door. And it was decided that the Citizen’s Savings Bank must build again; this time with modern light colored granite.

But where should the building be situated? Since 1862, the Citizen’s Savings Bank had carried on its business at this particular corner. If the locality were changed, some of the more localized depositors might be tempted to withdraw their patronage. Also the corner was, in itself, strategic. It is at a central point in lower Manhattan. It faces the Manhattan Bridge Plaza and is on a main crosstown street which connects the arteries of traffic both of Manhattan and Brooklyn. To rebuild on the corner would be obviously an advantage. An adjoining twenty-five foot lot was bought and, with the existing property of fifty foot frontage, an approximately square corner site was ready for this purpose.

In 1923, Mr. Clarence Wilson Brazer was invited, as architect, to undertake the reconstruction. As the designer of several banking houses and having pre-
viously spent two years in the banking business he was well equipped to deal with such a problem. He had to handle a situation, at once psychological and practical. It was essential that nothing should be built which might offend the susceptibility of the small depositor. An elaborate or ornate building might cause the less thoughtful stockholder to ask “Why are you wasting our money on useless ornament?” Simplicity as well as dignity had to be the keynote of the problem.

Aesthetically, then, Mr. Brazer’s task was by no means so simple as it might appear at first glance. The Bowery, once upon a time, has been a picturesque street of New York. As the bronze tablet on the corner of the new building acquaints the passer-by, it was at this point that General George Washington in 1783 began his triumphal entry into New York on the city’s evacuation by the British at
the close of the Revolutionary War. But today, with the exception of the new bank, there is nothing in that immediate neighborhood worthy the name of architecture, except the Manhattan Bridge Approach across the Plaza which is conceived on a large monumental scale. To add to the difficulties, inherent in such an environment, the Third Avenue "L" runs along the Bowery, completely cutting off from view the first story of every building. In handling these factors, Mr. Brazer used simple elements. He adopted a single motive for his elevation which would be in harmony with the arched Bridge approach. By making the base of his building an important feature of the design he ensured that the structure of the elevated railway would not noticeably cut the design in half when viewed from the Plaza. To quote the Walrus and the Carpenter, "If this were only
cleared away,” they said, “it would be grand!” Some day, it is hoped, the elevated will become a thing of the past and the base of the bank will then take its due place with the remainder of the design. In the meantime, Mr. Brazer has overcome a discouraging eyesore in a most satisfactory manner.

The new building has a frontage of seventy-five feet on the Bowery by eighty-five feet on Canal Street, thus giving an almost square site. In the design of a Savings Bank, such dimensions are very desirable. They allow for centralization of control and plenty of room for public space. Most of the transactions are small; there are many of them; and it is most important that the depositors should not wait too long. In the Citizen’s Savings Bank, the vault has been placed at the rear and in full sight of any person entering. On either side are the offices for the President and other officers, and in front are the tellers’ cages in the form of a U thus permitting a maximum service for the large public space that surrounds them, a space which takes up two-thirds of the available floor.

The vault in itself is an interesting piece of design. Mr. Brazer has treated it in the manner of the small treasuries that have been found at Delphi and other Greek religious centres. This vault with its massive steel door advertises the strength and stability of the Bank as a financial institution.

As the main floor consists of this one banking room, it became necessary to express it on the exterior. Being a corner lot, Mr. Brazer has seen a great opportunity for getting away from the usual façade design that is typical of thousands of banks of a similar size in this country. He has set his building on a strong rusticated base of Florentine character, the only openings being the two doors on Canal Street and the Bowery and the small windows on either side of them. There was a practical reason for this strength in the base. The building is in the midst of an easily excited population and riots are not unknown. The bank is thus protected against such a mob and could hold out until help arrived.

Above the base, large arched windows on all four sides of the bank give adequate light to the working space. Those on the street sides are recessed between coupled pilasters which, with the Doric cornice of
excellent proportions, gives to the main body of the building the imposing dignity that should be the characteristic of a bank.

The building is covered with a dome set on an octagonal attic, a treatment rendered famous throughout the world by its use on the Library at Columbia University. Light Barre granite was chosen for the exterior stone. It has given to a beautiful design a sense of permanence. The dome is covered with terra cotta tiles which match the granite below and it is an outstanding feature on the skyline. At present there are no buildings taller than the bank in its immediate vicinity. As one comes off the bridge, the Bank thus stands in full view, the architectural pioneer of what could be one of the finest open spaces in the city.

A notable feature of the exterior is the clock on the Bowery façade reproduced on Page 32. It is set in a stone frame based on the bank’s seal between two stone beehives and is the work of Charles Keck, sculptor.

Roman Travertine and Golden-veined Famoso marble have been used for the interior. They give a warm, inviting look. The main banking space is octagonal with the four windows already mentioned on the main axes and small recesses on the other sides. The domed ceiling rises from pendentives between the arches of the windows to a gallery around an eye in the center. This acts as the means of communication between the various rooms in an upper floor at the level of the exterior attic.

Most of the success of the interior treatment is due to the use of handworked wrought iron in the banking screen, light fixtures and check desk equipment. Here we see work that machinery alone cannot
produce, and it is fitting that in a bank for men and women who toil all day long, such handwork as that of Samuel Yellin should have been available.

Besides the necessary mechanical equipment, for instance, boilers with their coal storage, ventilating equipment and elevator machinery, there are in the basement two additional vaults for storage purposes and for records. There is also a storage room for files, a pistol range, recreation rooms and the necessary locker and toilet facilities for both men and women employees of the bank.

The upper floor above the interior dome has been used for the more private functions of the Bank. Here is placed the Board Room with its attractive treatment of pilasters and panelling and with furniture in harmony. Adjacent to this room is a coat room and lavatory. There are also two dining rooms, one for the officers and the other for the clerks of the bank, and the necessary kitchen. There is still some unassigned space which could be used for future needs. The decoration of these rooms and their interior furnishing, all of which had the personal direction of Mr. Brazer, suggests a good club.

A word may be added about the construction of the Bank which is one of the noteworthy features of the building's story. The new edifice was built literally around, over and under the old building. Business never stopped, for as soon as half the new banking space was completed, the officers and clerks moved into it from what remained of the old building thus allowing for the complete demolition of the old building and the final completion of the new. And as the bank thus shed its old skin like a chrysalis and the new building grew around it, the depositors became more and more interested in the new home of their bank; thus the construction in itself served as an advertisement.
A RESIDENCE IN FIELDSTON, NEW YORK CITY
Dwight James Baum, Architect
A RESIDENCE IN FIELDSTON, NEW YORK CITY
Dwight James Baum, Architect
FIRST METHODIST EPISCOPAL CHURCH, JAMAICA, L. I.

Joseph Hudnut, Architect
First Floor Plan

FIRST METHODIST EPISCOPAL CHURCH, JAMAICA, L. I.

Joseph Hudnut, Architect

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FIRST METHODIST EPISCOPAL CHURCH, JAMAICA, L. I.
Joseph Hudnut, Architect
Basement Plan
FIRST METHODIST EPISCOPAL CHURCH, JAMAICA, L. I.
Joseph Hudnut, Architect

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Second Floor Plan

FIRST METHODIST EPISCOPAL CHURCH, JAMAICA, L. I.
Joseph Hairrut, Architect
NEW YORK FURNITURE EXCHANGE, 206 LEXINGTON AVENUE, NEW YORK

Buchman & Kahn, Architects
Detail of Cornice
NEW YORK FURNITURE EXCHANGE, 206 LEXINGTON AVENUE, NEW YORK
Buchman & Kahn, Architects
Entrance Detail

NEW YORK FURNITURE EXCHANGE, 206 LEXINGTON AVENUE, NEW YORK

Buchman & Kahn, Architects
RUTLEY RESTAURANT, NEW YORK CITY
Buchman & Kahn, Architects
Mack, Jenney & Tyler, Decorators
SHRINE, CHURCH OF ST. IGNATIUS, EIGHTY-SEVENTH STREET, NEW YORK

Cram & Ferguson, Architects
SHRINE, CHURCH OF ST. IGNATIUS, EIGHTY-SEVENTH STREET, NEW YORK

Cram & Ferguson, Architects
SHRINE, CHURCH OF ST. IGNATIUS, EIGHTY-SEVENTH STREET, NEW YORK

Cram & Ferguson, Architects
SAMUEL APPLETON BUILDING, BOSTON, MASS.
Coolidge, Shepley, Bulfinch & Abbott, Architects
SAMUEL APPLETON BUILDING, BOSTON, MASS.

Coolidge, Shepley, Bulfinch & Abbott, Architects
SAMUEL APPLETON BUILDING, BOSTON, MASS.

Coolidge, Shepley, Bullfinch & Abbott, Architects
8. PERIODICALS (Continued)

6. Allied (Decorative, Industrial) Arts.
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   Cornelius, Charles O. Duncan Phyfe Furniture, in *The Antiquarian*, vol. 1, no. 6, Jan. 1924, pp. 3-6, illus.
   Davis, Felice. Furniture of Duncan Phyfe, in *The Antiquarian*, vol. 4, no. 5, June 1925, pp. 7-11, illus.
   Dyer, Walter A. Duncan Phyfe Furniture, in *The House Beautiful*, vol. 37, no. 4, March 1915, pp. 120-123, illus.
   Fraser, Esther S. Painted Furniture in America in *Antiques*, vol. 5, no. 6, June 1924, pp. 302-6, illus.; vol. 6, no. 3, Sept. 1924, pp. 141-6, illus.
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c. Metalwork, Hardware, Lighting Fixtures.
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Footscrapers from Colonial Houses, in *House and Garden*, vol. 40, no. 2, Aug., 1921; p. 49, illus.
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d. Pottery
Knittle, Rhea Mansfield. Muskingum County Ohio, Pottery, in *Antiques*, vol. 6, no. 1, July, 1924; pp. 15-18, illus.
Tulip Ware, in *The Antiquarian*, vol. 3, no. 1, Aug., 1924; pp. 24-5, illus.
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Pennington, Jo. American Domestic Silver, in International Studio, Aug. 1925; pp. 352-6, illus.
Webber, John Whiting. Massachusetts Pewterer (Israel Trask, 1780-1867), in Antiques vol. 5, no. 1, Jan., 1924; pp. 26-8, illus.

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THE ARCHITECTURAL RECORD.

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7. Miscellaneous.

Howells, John Mead. Charles Bulfinch, Archi-
AGAIN THE NECROLOGY of a noble art, so mysteriously replete in the last two years, has received an illustrious name. First it was Sullivan, that flaming Lucifer who preferred to reign in the Hell of revolt rather than serve in the Heaven of conformity; then Anderson, the quiet, the powerful, who brought the majesty of Imperial Rome to surmount with its vaults and colonnades the turmoil of an American city; then Bacon, who plucked beauty in Tempe and the vales of Arcady and made it bloom again on the banks of the Potomac; then Goodhue, the darling of the Gods, into whose lap, like playthings, were heaped the arts; and now Howard Shaw. They are a glorious company, working, who can deny it? in a greater atelier.

When I see Shaw's work in the ensemble or examine it in particular three graces step forth hand in hand: Originality, Taste, Learning.

I remember years ago, in a more or less sophomoric essay on "The Chicago School," impressed by Shaw's originality, I listed his name with much fear and trembling, not of him but of my right to do so, with the other "incroyables" of that forlorn hope. When I called his attention to my temerity he made no objection other than to remark a little dryly, as I remember, that he feared he did not merit the distinction. This originality of his was so tempered by taste and knowledge that it attained at birth the distinction that properly belongs to old age. You didn't have to get used to it to like it. Perhaps one might say of him, "he was the most rebellious of the conservatives and the most conservative of the rebels." After all, his creation of things out of plain air was mostly restricted to detail. Howard Shaw loved detail and he was a great detailer. I have heard him say that no full-size detail ever left his office without his personal O.K. He made an effort, as Goodhue did in his latter years, to get away from detail. I think some such self-imposed penance was upon him when he achieved the chastity of the McKinlock court of the Art Institute. But the Goodman theatre, his last work, shows the same loving "flair" for an untried moulding (note the curious triglyphs in the lobby) and for the same whimsical courage in defying the law (see the variously sized and colored busts in the frieze of the same building). The Gothic style, with her love of originality and creative genius, would have opened her arms to him and it seems to me unfortunate that on so few occasions did he accept so alluring an invitation. In his collaboration with Cram in the Fourth Presbyterian Church and in the University Church of the Disciples of Christ, both in Chicago, his work is of the highest quality, not only in originality, but in that hardest of all things to achieve, the feeling of inevitability that the work of the Moyen Age possesses. Old Arnolfo himself couldn't have done better or for that matter as well with the masterly balconies and windows that grace the Donnelley printing building; here the spirit and the art of the guilds live again.

Perhaps we should not give Howard Shaw too much credit for his impeccable taste. Born, brought up and living in a community and among a circle of friends where the best that breeding, education and wealth can produce, was his pleasant portion in life, and vulgarity in his work would have been inexcusable. Furthermore, his clients were, for the greater part, people who had been blessed in like manner, so that the lack of money to incarnate the dream, a sordid lack that clips the wings of many an architect, was not with him an ever present shadow; but, on the other hand, he rose above the dangers that are present in such an apparently ideal situation. The point of view of people who count a beautiful house along with a debutante daughter, a Rolls-Royce and a membership in an unattainable club, a part of the accoutre-
From a bust in bronze made by Mr. Shaw's daughter, Sylvia Shaw Judson.
ments of social conquest; the know-it-all attitude of those who have sipped of the Pierian Spring only as it dribbles down the Rue de la Paix and Park Avenue; the dictatorship, so easily assumed by those accustomed to commanding valets and chauffeurs and, worse still, the précieuse and provincial attitude of those to whom beauty exists only in a ridiculous Ming horse or in a dilapidated Regence fauteuil—all these, to judge from his work, he must have combated and vanquished. I never can see, for instance, anything in Howard Shaw's residences but that which he decided to give his clients. Apparently he disliked French architecture, and what untold battles he must have fought when the spectral hands of the creators of Fontainebleau and Versailles reached across the sea to dominate our architectural modes. The same can be said of other architectural waves; the Italian villa, the Adam interior, the Norman cottage, all beat about him, but he continued to give his clients what he thought, and not they, constituted good architecture and good taste.

This does not mean that Howard Shaw saw nothing to emulate in the work of other countries or other men. Motives from the Georgian he constantly used. The reversed curves and plaques of the men of Munich and Vienna continually intrigued him; the Austrian influence, for instance, is very evident in the village square of Lake Forest. Perhaps the architect to whom he owed most is Sir Edwin Lutyens, for in composition, as well as ornament, is the influence of the creator of the Cenotaph often discernible. He greatly admired the work of Platt, and, in a delightful morning spent with him in the Freer gallery, he was unstinted in his praise of that little masterpiece. Undoubtedly the Freer gallery served more or less as a model for McKinlock court, and in this, I think, Mr. Shaw erred, as the polished perfection of his distinguished compeer was altogether too austere and modest a habit for the wayward Shavian fancy.

Underneath the native talent and brilliant environment was the firm foundation of thorough knowledge. A graduate of Yale in the class of 1890, and of the Massachusetts Institute of Technology in 1893, he supplemented this liberal and technical foundation with numerous trips to the Orient and Occident. As the servant of the mother of the arts he deemed it his duty or pleasure to become intimately acquainted with her children. Consequently, through his long service as a trustee of the Art Institute and a member of its Art Committee, and as a director of the Ferguson Fund for Sculpture, sculpture and painting were his constant companions; and at the Cliff Dwellers, of which society he was a devoted member, one heard his humorous, kindly voice raised at odd moments in those discussions of every subject of human knowledge or speculation, constantly on the air within this band of Humanists.

Against the background of so much talent, so much knowledge, and so much distinguished success it is especially significant to view Howard Shaw's modesty and simplicity. His own social and home life in beautiful Ragdale, if we had a right to describe it, would be the most eloquent example. He did his duty conscientiously to the State and to his profession, but he never sought preferment and, so far as I know, he never sought a job. I never heard him make a speech and I never read anything of his but once and that was delicious. If I wanted to find him at a convention of the Institute, of which he was a Fellow, I always looked for him in the back row. Nevertheless, the world beat a track to his retreat, gave him great commissions, took from him inspiration and example, gave him positions of honor and trust, and pinned upon his breast, as he departed for the greater work, the gold medal of the Institute.

THOMAS E. TALLMADGE, F.A.I.A.
Detail of Courtyard

HOUSE OF DIANE DE POITIERS, ORLÉANS

[74]
The so-called house of Diane de Poitiers, at Orléans, is more correctly though not so popularly known as the Hôtel de Farville or Cabut. As it is almost universally known as the House of Diane de Poitiers, however, even in Orléans, we may as well continue to call it by that name. It was built in 1542 by Michael Adam, of Jargeau, and is a beautiful example of French Renaissance domestic architecture. It is now carefully preserved as an historical museum and contains an admirable collection of French wood-carving, wrought ironwork and examples of the other allied arts, produced at the height of Renaissance excellence.

The house is built of beautifully dressed ashlar of limestone, although the walls in a portion of the courtyard are of brick, the dressings being carried out in limestone.

All the exterior stonework details are exquisitely wrought and their fashion and execution not only supply a valuable commentary upon the methods of contemporary French assimilation of Italian Renaissance precedents, but also show the source and prototypes whence were derived the various motifs that recur again and again in farmhouses and small manors in the neighboring country districts. Thus we can readily trace the immediate transmission of style, and the process of adaptation and simplification, from the nearest provincial center.

To see this process at work we need look no farther than the doorway of the little cottage at Saint Ay (page 80), published in company with the more exalted House of Diane de Poitiers. Scores of these little houses in the neighborhood of Orléans display a degree of urbanity that was certainly never derived from purely rustic and vernacular precedents. Oftentimes the humblest farmhouses, although their present condition can scarcely be considered inviting, show traces that unmistakably point to some potent refining influence that permeated the whole region. It is this quality that makes the country round about Orléans such a rich and satisfactory hunting ground for the architectural student who is willing, in some places, to shut his eyes to the abominations of tin verandahs, cheap metal shutters, panes of garish-colored nineteenth century glass, and a good deal of chronic squalor. Such little houses as the small farmstead at Sablon, near Orléans, (pages 83, 84 and 86), though not at first sight especially alluring, often yield rewards not to be despised upon close investigation. The door fittings and other wrought iron hardware to be found in this region will especially repay more than merely cursory notice. Brick and tile details, also, are worth looking into.

The more substantial houses of the vicinity, such as the house at Sablon, to be published in conjunction with Le Grand Moulin in the August issue, exemplify the eighteenth century fruition of chaste expression, in large measure traceable to the quiet influence of the architectural ideals implanted and cherished at Orléans, an influence that has continued to work through the centuries and has affected all local types of houses from the least to the greatest.
Street Door
HOUSE OF DIANE DE POITIERS, ORLÉANS

July, 1926.
Street Front Detail

HOUSE OF DIANE DE POITIERS, ORLÉANS

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The Architectural Record

Street Front

HOUSE OF DIANE DE POITIERS, ORLÉANS

East Courtyard

July, 1926
STREET DOOR AND CORNICE—COTTAGE AT ST. AY

[82]
DOOR AND DORMER DETAIL—SMALL FARM AT SABLON
Detail of Cornice


Sublon near Orleans.
Window
House of Diane de Poitiers, Orléans
The unveiling of a bust to Augustus Saint Gaudens in the Hall of Fame, brought vividly to my memory an eminent group of artists, architects, sculptors, painters, who worked together for the public good, persistently striving for the best.

You could not think of Saint Gaudens the sculptor without remembering Chas. F. McKim, the architect, F. D. Millet, the painter, and Richard Watson Gilder, the poet. Their team work for the Fine Arts was exceptional; while each excelled in his branch, together they did notable public service.

It is profitable for us to consider the reasons for their success, the influence they exercised in the fine arts, and the lasting service they performed for the country in the monumental character of their work.

Their influence persists. If we take a list of the prominent sculptors and architects of to-day we will find that they were either directly under Saint Gaudens or McKim, or else they were influenced by their example.

The name of Saint Gaudens recalls the successful efforts of that band of artists in the Columbian Exposition, Chicago, more than a generation past. This influence on art, which was nationwide, persists today. Let us thank the executive ability of D. H. Burnham, the guiding spirit of Chas. F. McKim in architecture, Augustus Saint Gaudens in sculpture and Frank Millet in decoration.

Saint Gaudens' name recalls the great work of the Washington Park Commission, which not only presented for the first time by good team work a practical plan for the artistic treatment of city development, but gave to this country the most artistic scheme the world has known for the development of the Nation's capital city.

Saint Gaudens by his sculpture, framed in the setting designed by Stanford White and Charles F. McKim, has contributed largely to the patriotic expression of the country's ideals. He depicts, with technical skill, Shaw, Farragut, Sherman and Lincoln, not only giving their physical aspect, but expressing in a wonderful way their individual spirituality. He endows them with the soul by which they were inspired.

When Roosevelt was seeking the most talented man, to give the United States an artistic coin, he selected Augustus Saint Gaudens, who set an example for future designers in the low relief models which he made for our coinage.

It would be profitable, I believe, for the present generation to recall or consider why the labors of that group of men had such far reaching and persistent results for good. While we must believe they had greater inborn genius than had been granted to others, they had, in addition, other qualities which we feel contributed largely to their success and to their usefulness.

They had an enthusiastic, absorbing love of their art; they had untiring energy and persistence; they were not deterred by failures or down-hearted because of mishaps; they fought for and obtained the best.

No one of this group was carried away by the wild wave of bizarre self expression which began with sculpture, is producing wild excesses in painting and in architecture, tends toward the Tower of Babel effects. Let us hope the results will not be as demoralizing.

These men never strove to attract attention by producing monstrousities, by mutilations, malformations, or crazy compositions. I feel confident that Saint Gaudens, the exponent of sane sculpture, will be remembered when Rodin, the exponent of eccentricity, will be forgotten.

This American group sought only the most artistic solution. No labor was great enough to deter them, no barrier strong enough to
The Art in Industry Problem

Few subjects appertaining to the practice of the arts have been so much exploited of recent years as the artistic development of American industries. Committees of manufacturers associations, societies under the patronage of ladies with wealth and gift-shop standards, and semi-official groups have expended unstinted verbal energy, directed to stimulating the producer to artistic achievement. Parties have been organized at which he had the privilege of meeting department store buyers; in fact, no stone in view has been left unturned. Commercial designers, school teachers, and the public at large have been exhorted and cajoled. But one group of individuals has escaped, namely, the artists. It was doubtless assumed that the long-standing antagonism of profession to trade is still rampant, and that any progressive movement in the artistic departments of industries must be initiated outside the atmosphere of the studio.

The tendency towards more decorative forms of expression which has invaded the fine arts, might have provided these well-meaning individuals with a subject for cogitation; but unfortunately this change in artistic direction is occurring outside their sphere of observation and contact. They do not stand alone amidst misconstrued signs; exponents of the fine arts who are gifted with the decorative sense might advantageously turn an eye to industries which could furnish them with welcome revenue, and opportunities for distinguished service.

Up to the present, the most marked improvement in the artistic manipulation of substance is noticeable in those trades which have contact with the practice of architecture, and when we see the field of interior decoration entered with professional credentials, we may expect a still wider sphere for cultural influence in the industries. The fine decorative hangings which James Monroe Hewlett has designed and executed, reveal an ornamental content which does not at present exist in the work of any industrial textile designer; the complete decorative adequacy of Yellin's work is in great measure due to the close contact which he cultivates with each architect for whom he works. It would appear that the desired results might be realized, could the commercial designer with his technical experience, take the artist's viewpoint of effect; the artist, on the other hand might acquire sufficient technical knowledge to express his ideas, and state his ideals, in terms of substance and process. Such technique is more easily acquired than artistry; for this reason we feel that external pressure has been misdireced, and opportunity and inducement might he extended to those artists who sense a capacity for creation of an industrial character; this is no less important than the subsidizing of abstract research. Enterprising manufacturers have frequently made the experiment of engaging a well-known artist to make models or designs, but this has almost invariably proven disastrous; the latter felt it compulsory to play down to a public, and the former imagined that the consciousness of technical restriction would be adverse to imaginative effort.

Our chief justification for optimism is the extinction of the influence from the French realistic school of the 90's, and the growing conviction in the art patron that, even when a picture has no decorative pretension, it should nevertheless perform a decorative function wherever it is hung. The growing taste for mural painting during recent years, and the prominent place which that branch of the painter's calling has acquired, is attracting many painters and illustrators to that particular field, with most promising results. With sculpture the progress in the decorative direction is most marked, mainly due to the influence of the more formal stylistic periods, and the employment of sculpture in architectural and monumental schemes.

We reproduce a model for a bronze lintel by Paul Jennewein, Fellow of the School of Rome, and one of the most prominent among the new generation. Throughout this exquisite design we find form and composition entirely subjected to meet a prescribed requirement, dictated by an architectonic sense of fitness; in every detail the character of the substance to be used has controlled contrivance of form, and technical means and purposes, which characterizes all true craftsmen, has actuated this sculptor throughout the creation of a distinguished work. That which strikes us as most significant is, that this bronze frame to a doorway has been taken as seriously as any design for a purely academic purpose. When we see architects allotting work of this de-
BRONZE PEDIMENT TO MUSEUM DOORWAY
Designed and modelled by Paul Jennewein
Zantzinger, Borie & Medary, Architects

scription to a sculptor of such calibre, instead of letting a bronze contract to a manufacturer with the obligation to furnish designs and models, and we find the sculptor regarding a simple architectural detail as an opportunity for concentrating his best effort, the day is not far off when the arts and trades will meet in cooperative effort.

Léon V. Solon.

The Boston Architectural Exhibition, 1926

The Boston Architectural Exhibition this year, given as usual under the auspices of the Boston Society of Architects and the Boston Architectural Club at the Rogers Building of the Massachusetts Institute of Technology on Boylston Street, would seem, from the point of view of both the profession and the public, to have been one of the most successful of recent years.

In the first place the arrangement was simple and consistent, the subjects grouping apparently naturally into related material. Next, fewer miscellaneous buildings, and also fewer uninteresting frames or drawings were shown than in past years’ exhibitions. Finally, the whole exhibit was restricted to architectural material, there being no student work nor landscape pictures this year, with the result that the whole effect of the hall was simpler and better in its general aspect.

It was perhaps to be regretted that so few of the practicing architects of the city seemed to be represented,—yet it was this that probably made it possible to hang all the material along two lines only, so that no pictures were too high and none too low to be easily studied. This also was helped by the fact that most of the photographic views were of large size, simply mounted or framed and often grouped upon a single large mat,—all this added to the simplicity and effectiveness of the whole showing.

Among the larger subjects were the Vanderbilt University Medical School and Hospital at Nashville, Tennessee; All Souls’ Church at Washington, by Coolidge and Shattuck; Trinity Church, Springfield; the new Universalist Church on the borders of the Fenway in Boston by Allen & Collens; and the group of buildings shown by Maginnis and Walsh, including the St. Paul Cathedral Sacristy in Minnesota and the new building for Boston College in Brookline that was given the Harleston Parker gold medal for excellence by the Society of Architects.

Several groups of “invited works,” including work by Delano and Aldrich, viz., the Smith College Music Building, Valeria House, New York, and Vincent Astor’s House on Long Island; John Russell Pope’s New York State Roosevelt Memorial, and some charming renderings from his office including the Syracuse Memorial Hospital, in collaboration with Dwight James Baum; and, finally, a series of photographs of “Viscaya,” Miami, by Paul Chalfin and J. Burrall Hoffman added, as usual, a more cosmopolitan aspect to the exhibit.

Cram & Ferguson showed some studies and details of St. John the Divine, with a model of the West Front, a new Chapel for the Choate School, and a group of photographs of some new residential halls at Exeter. Other dormitory subjects were for Tufts Col-
lege at Medford, by Andrews, Jones, Biscoe and Whitmore, the same firm also showing a design for one of the new Charles River bridges. The Saltonstall Memorial Gymnasium at Milton Academy, and a house in Milton and another at Haverford, Pa. were displayed by Shepard & Stearns; and another College dormitory, at Elmira, N. Y. was by Coolidge, Shepley, Bullfinch & Abbott.

Among office building designs were the new Statler Hotel and Office Building in Boston by George B. Post, shown in two lithographic renderings; some Montreal buildings by Brown & Vallance; others in Boston and Baltimore by Parker, Thomas & Rice; and the new Appleton Building in Boston. The design for a large hospital at Springfield by Stevens & Lee was shown and several views of details of the new Metropolitan Theatre recently opened in Boston.

Frohman, Robb & Little exhibited churches at Concord and Tampa, and some English type residences at Chestnut Hill, Brookline and Gloucester. Some refined Colonial and English house interiors by Howe, Manning & Almy in Cambridge and Brookline were shown, and some attractive housing dwellings for the Yale and Towne Co. by Perry, Shaw & Hepburn at Stamford, Conn. The interiors of the King Hooper Shop on Chestnut St. by Dana Somes, and some stores in Waban by Edward B. Stratton represented the smaller type of picturesque or suburban designs. Kilham, Hopkins & Grecley showed some colored sketches of small bank or store buildings. Some photographs and drawings of West Newton brick dwellings, and a sketch for a Suburban Golf Club were exhibited by Frank Chouteau Brown.

There were also two or three groups showing Spanish types of design, one near St. Petersburg, Florida, by Ritchie, Parsons and Taylor, including the Jungle Country Club and several dwellings; while Parsons and Wait showed other sketches for houses at Mountain Lake in Florida.

A water color of the design for a hotel for the corner of Arlington and Newbury streets by Strickland, Blodget & Law was given a prominent place in the hall, partly from the interest of its rendering by M. Jacques Carlu, largely for its interest of design, but probably also from the public interest that has been aroused by the added height allowed for this structure in giving it five stories more than granted by the recent law of zoning restrictions. This additional height was permitted by the ignorance of local authorities and courts of the true meaning and power of zoning legislation. It is likely to prove an unfortunate precedent locally—and perhaps even in some other cities—where the newly adopted laws have been as loosely drawn as was the case in the Boston code.

All in all, the best and most interesting exhibition that has been held in Boston for several years.

New York University Forms a "Division of Architecture"

The new Division of Architecture organized by the New York University promises to fill a long-felt want to students of architecture in this city. The general policy of the new division is similar to that of the Ecole des Beaux Arts in Paris and it aims to provide complete training for those students of architecture who are unable to spend five or six years in college.

The arrangements made by the Department of Fine Arts with regard to the location of the classes (East Forty-Second Street district) and the time (late afternoon and evening) will doubtless prove of immense benefit to hundreds of draughtsmen employed in New York. Direction of the new division will be under Prof. E. Raymond Bossange, for eight years Dean of the College of Fine Arts of Carnegie Institute of Technology, Pittsburgh, and at present director of the School of Architecture of Princeton University.

Great impetus to good design has been given in recent years by the ateliers of the Beaux-Arts Institute of Design in New York and by the competitions organized under its auspices. Henceforward there will be collaboration between the Institute and the Department of Fine Arts of New York University so that the one will supplement the work of the other in order to give the student such knowledge of Mathematics, Mechanics, Engineering, History of Architecture and Allied Arts, Freehand Drawing and Modeling which will fit him for the practice of architecture.

A diploma will be granted to those fulfilling the joint requirements of the two institutions.

Bulletins announcing courses to be given, etc., will be issued early in September.
DUTCH ARCHITECTURE OF THE XXTH CENTURY

Modern Dutch Architecture has been dominated by two men, during the second half of the nineteenth century by P. J. H. Cuypers, and after 1900 by H. P. Berlage.

Cuypers was the representative of the Neo-Gothic movement in Holland. It was he who brought about the adoption of a national system of building under the well-known watchword of Viollet-le-Duc: Toute forme qui n'est pas indiquée par la construction doit être repoussée.' But Dr. Cuypers was more than a worshipper of style. His work was a battle for rational methods of building at a time when architecture in Holland had fallen into a depressing medley of Renaissance with national shades—Dutch, German and French. Everyone imitated some “style,” frequently with iron and stucco. For centuries the preeminently Dutch building material had been brick; but in the nineteenth century this was regarded as unworthy and hidden behind plaster facing. It was Dr. Cuypers who brought the brick out from behind it again and thereby brought a revival of the fine characteristics of old Dutch architecture. He never wrote, but he produced buildings which were manifestations of the new conception. His work was done chiefly between 1850 and 1890, the period when Viollet-le-Duc in France and Ruskin in England were preaching Gothic so powerfully.

There was an intellectual revival in the latter part of the century, international, but peculiarly significant in Holland, where it is called “The Movement of 1880.” The blending of this movement with the influence of Dr. Cuypers produced a ferment among a group of young architects, who were prolific in writing and surprising in their theories. Not much building came of it until the Municipality of Amsterdam, in 1898, commissioned H. P. Berlage to build the New Bourse. (See page 92.)

Berlage’s influence, and the influence of this one building, was wider than that of Cuypers, which did not extend beyond the frontiers of Holland. The consideration enjoyed abroad nowadays by modern Dutch architects is due to the cosmopolitan character of Berlage’s first works. To the younger men of that time his creation (the Bourse) was the incarnation of their abhorrence and hatred of style imitation. In this building the forms adopted by Berlage were regarded as “New,” and they overrated the virtues of innovation. The younger Dutch architects of recent years have showed themselves capable of turning out a dozen “new” forms a day. Finding new forms is not in itself the creation of a new art. Berlage’s striving carried with it a purification, refinement and attention to every detail. He did not only renovate forms. He brought a new color into buildings, and improved the methods of construction—his are works of great imagination and power. Amid the glitter and excess of the younger architects, Dr. Berlage remains a personality apart.

The next significant figure after Berlage was K. P. C. de Bazel, whose Model Farm (Oud Bussum, Plates V, VI and VII), and the Netherlands Trading Company Building (Plates VIII and IX) made a considerable impression. His work was careful, finished and refined, rather than stimulating. These two men were the chief influence in Dutch architecture between 1900 and 1910.

After 1910 came other changes closely connected with the use of reinforced concrete. Viollet-le-Duc’s “Every form not
THE NEW EXCHANGE, AMSTERDAM, 1898-1903
H. P. Berlage, Architect
From Dutch Architecture of the XXth Century
suggested by the construction should be rejected now altogether disappears. The outside of a building as a mere shell in America is associated with structural steel. In Holland it seems to have been mainly associated with reinforced concrete. The brick covering has no structural function but is stuck on to the concrete columns. The changes in Holland were led mainly by three young architects who more or less collaborated. Van der Mey, Kramer and de Klerk, of whom the last seems to have been the most talented.

Architecture was originally an "art of piling," and became by the use of the arch, an "art of spanning" as well. The discovery of reinforced concrete in the nineteenth century again displaced these limits. In reinforced concrete constructions pure statics can be abandoned in favor of feeling. But the expression in ferro-concrete is entirely different from that of the iron work (steel) used in connection with stone or brick. In the latter the different constructions of stone and iron, appear separately. In ferro-concrete these two functions coalesce, and the projecting structures produce a feeling which may be indicated by the word "hovering." The outside shell becomes free for decorative fancy, and tends to run off into an architecture brilliant but meaningless, resplendent with excessive detail, arresting by its fantastic effect, but without any core.

In Holland, as in most countries, the late movements have produced a duelism, a conflict between two influences, the old national and the new international. In most countries the two tendencies took a normal and quiet course, but in Holland there was an actual revolution. The changes came too fast. De Klerk's work was always fresh and fanciful, and never fell into odious excesses. But imitation of it was dangerous because everything in it was the expression of feeling intuitively controlled. Intuitions cannot be imitated.

The still more recent work of J. J. P. Oud of Amsterdam is very intellectual and theo-
retical; colder and less fascinating than that of de Klerk, but, from the present day point of view, more natural and therefore stronger, more capable of being successfully followed by a school.

Whatever the diversity of modern Dutch architecture, every good Dutch building displays the genuine Dutch element of picturesqueness. The picturesque is in the Dutchman's blood. Cold classicism cannot thrive in the climate and landscape of Holland.

The above is largely a condensation of Mr. Mieras' account of the recent and very interesting architectural movements in Holland. The study of the plates seems to bear out most of what he says. One sees the charm and spontaneity of de Klerk. One sees that much of the work of other men suggests a great deal of theory, of logical deduction from premises. It does not, of course, follow because some features of the work of Berlage and his adherents—a certain square blockishness, certain peculiar curves—strike an old fashioned taste as "queer" and not quite certainly attractive, that there is anything "wrong" about them. It may be only custom is needed for their acceptance. On the other hand it does not follow that they are right merely because they are logical and seem "queer." It may be that the new builders, as well as the new painters are too self conscious, and that not very distant reactions against them are approaching.

Speaking of "queerness," there is some difficulty in assimilating the usual conception of Dutch national traits with the picture Mr. Mieras draws of a Holland given to rapid radicalisms and revolutionary logic.

It may also be suggested that until an architect has a longer acquaintance than Mr. Mieras presumably has, with American steel structural architecture, he is not in a position to theorize successfully on steel structural architecture. ARTHUR W. COLTON.


This book sets forth a method by which an understanding and appreciation of paintings may be secured. It is the fruit of a daily association with paintings which has lasted many years, and of an equally extended study of psychology, aesthetics, and the principles of education and scientific method. It aims to furnish a guide to discovery of the essentially plastic, that is, pictorial qualities in painting, and so to disengage what is central in art from the narrative and antiquarian aspects which in ordinary academic criticism and instruction receive so much attention.

The book contains a general account of aesthetic principles, a specific statement of those principles in the field of plastic art, and an application of them to the more important schools and individuals in painting, past and present, as well as to a large number of particular paintings. The conclusions are, so far as possible, reinforced by illustrations, of which there are more than a hundred.


There are arrangements and color schemes for each room in the house—living rooms, bedrooms, halls, etc.—everywhere, where one would expect and many that one wouldn't, such as kitchens, bathrooms, radio rooms, map rooms, flower rooms. There is also an outline of period furniture, showing various English, French and Spanish periods, together with a portfolio of "How to select and how to make."

At the end of the book there is a list of the decorators whose work has been shown, and a supplementary list of catalogues to be had for nothing and the books that many be bought or consulted.


In a recent review H. A. Aymar Embury III, says in part: "Mr. Denmark's book on the architecture of the old South is perhaps the best that has yet appeared. It is well printed, well bound, with illustrations of good size and a wealth of interiors, with so careful a choice of material that every house illustrated shows distinct personal quality and genuine architectural merit; it is a book which no one could afford to neglect."


The developments of style which took place with the passing of the centuries are made clear in the drawings especially prepared for these volumes by Mr. Hayward. In addition to general descriptions the illustrations include many decorative details such as staircases, chimney-pieces, panelling, ceilings, doors and door-cases, etc. The pictures are accompanied by an historical introduction and descriptive notes. The period covered is from 1066 to 1800 and the illustrated descriptions range from Norman and Gothic to Inigo Jones, Wren and Georgian work.


This book covers the making of good joints for practically every type of construction and will be a help to the manual training instructor and a guide to the draftsman and architect. The various types of joints are fully illustrated in the plates.


[These may be secured by architects on request direct from the firms that issue them, free of charge unless otherwise noted.]

Bronze Sash and Store Front Construction. Sheet of information regarding products of Davis Extruded Sash Company, Lincoln, Neb.


Interlocking Tile. "The Wall of Protection." A. A. File No. 3h 1926) A detailed account of the protecting features of Interlocking Tile against fire, heat, cold, shock and strain and moisture, with detailed data and specifications. Interlocking Tile Corporation, Union Trust Bldg., Cleveland, Ohio. 18½ x 11 in. 16 pp. Illustrated.


"Steel Casements." "How windows can make better homes." Pamphlet dealing with the importance of windows and advantages of Lupton's Steel Casements. David Lupton's Sons Co., 2209 E. Allegheny Ave. and Tulip St., Philadelphia, Pa. 3 5/8 x 7 in. Illustrated.


Hardware. Catalog No. A-3 of period hardware. Door handles and knockers, shutter holders, chimney ornaments, latches, casement fasteners and other builders' hardware in various finishes and period designs. Earle Hardware Manufacturing Co., 2369 East 51st Street, Los Angeles, Cal. 6 3/4 x 10 3/4 in. 156 pp. Ill.
