



THROUGH THE AGES

MARCH, 1925

Then marble, soften'd into
life, grew warm.

—POPE



THROUGH THE AGES



VOL. 2

MARCH, 1925

NO. 11

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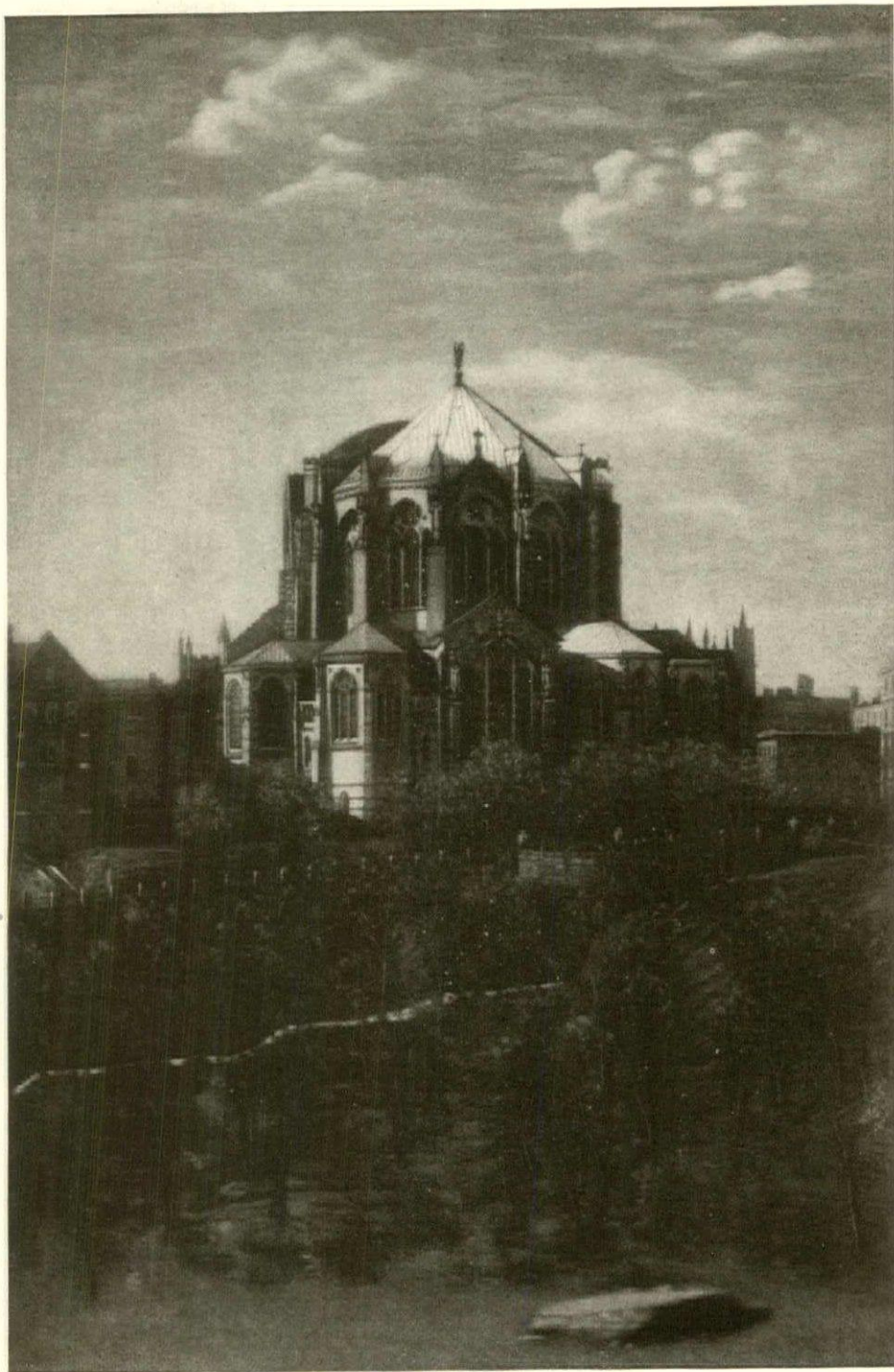
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"A cathedral," said Dean Robbins, "is a symbol of continuity of life through the ages." This illustration of St. John the Divine is from a drawing by M. Van Droskery, through the courtesy of the Edison monthly.

THROUGH THE AGES

A Monthly Magazine devoted to
the uses of Marble - its universal
adaptability, beauty, permanency
and economy.

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THE WORD IN STONE

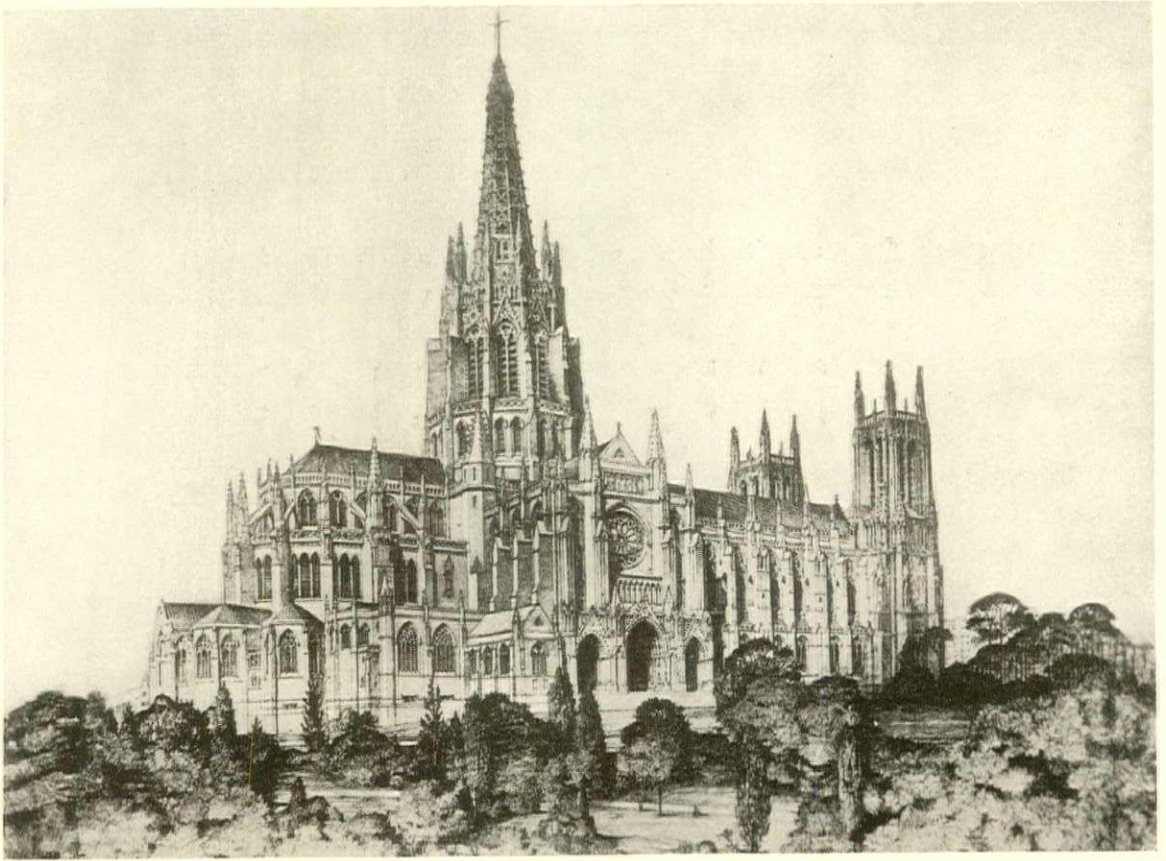
A Description of the Marbles in the Cathedral of
St. John the Divine, in New York City

A GREAT cathedral can never be comprehended by a glance of the eye. Certain features, such as its size or general plan, may be appreciated quite readily; but behind these obvious characteristics is a wealth of meaning which is only revealed by a closer study—the real soul of the edifice.

The Cathedral of St. John the Divine, in New York City, while as yet hardly more than begun, already gives evidence of a plan that will be a glorious expression of religion and art. The fragment that is already built—the seven Chapels of Tongues, the apse, choir and crossing—has been thirty-two years in the building—but steps for pushing the work to a more rapid completion have lately been taken and it is hoped that the next few years will see the fulfillment of the project. Some of the Old World churches have been 700 years in building. St. John the Divine is not a steel-frame structure, but is of massive masonry in the best traditions of the Gothic and its physical construction must of necessity be slow, if it is to stand for ages.

It is only fitting that New York, the chief

city of the Western world, should be the site of a church building that will be the embodiment of the finest impulses in our national life, a "fabric of surpassing beauty and infinite meaning, a sanctuary of our art, a temple of our God." The Woolworth Building, the Metropolitan Tower, the Grand Central Terminal reflect men's thoughts of trade and industry; the libraries, the schools, the museums reflect their thoughts of education; the imperishable stones of great cathedrals reflect their thoughts of religion. This New York edifice, moreover, represents the contributions of people of every religion, of every class. Though an Episcopal seat, the first large gift was from a Presbyterian, for \$100,000; a Quaker was another early benefactor; a craftsman who carved one of the figures which beautify the interior, refused to accept pay for his work. On Easter Eve, 1897, a box containing 1,000 cards, each recording a gift, was delivered to the Bishop's House. The donors were Jews, Protestants of twenty denominations, Roman Catholics and members of no church at all. So cathedrals have always been built,



The Cathedral of St. John the Divine as it will look when completed.
North elevation, from the architect's drawing.

the rich and the poor alike giving of their money and their labor.

The plan for a cathedral was first discussed in 1828, but only crystallized into a more tangible form with the granting of a charter, in 1873, by the New York State Legislature. In 1891, sufficient funds for a modest beginning had been secured and a site of eleven acres bought from the Leake and Watts Orphan Asylum, on Morningside Heights, between Cathedral Parkway (110th Street), Amsterdam Avenue, 113th Street and Morningside Drive, in the northern section of the city. The site commands a sweeping view over the trees of Central Park, with the columned Palisades of the Hudson River towards the west, on the New Jersey shore. Here, 100 feet above the level

of the adjacent Harlem Plain, was fought the battle of Harlem Heights on September 16, 1777, with Washington directing the troops in the engagement.

The grounds, called the "Close," contain, beside the Cathedral, the old Synod House, the Bishop's House and Deanery, the Choir School, the new Synod House and a Deaconess' Training School. The Close cost \$850,000, and the buildings, excluding the Cathedral, cost about \$1,000,000. So far, about \$5,000,000 has been spent on the church proper, and it is estimated that something like \$15,000,000 more will be required.

The total area of St. John the Divine will be 109,000 square feet, 8,000 more than contained in the Liverpool Cathedral in England. It will be 601 feet long and 315 feet

wide across the transept, the third largest in the world, St. Peter's at Rome being first and Seville second. The prevailing style will be French Gothic. The plan is cruciform, with the high altar facing the east. From the semi-circular apse radiate seven chapels, called the Chapels of Tongues. Two towers will be placed on the west front and over the crossing will rise a great central tower. In the design as considered at present, this will consist of a twelve-sided lantern, carried up from the square crossing in two stages of different dimensions, the smaller above, and the whole surmounted by a flèche or open-work spire. The cross at the apex of this spire will be 500 feet above the ground.

There have been several architects associated with the structure. Heins and La Farge were the first, in 1891; but after Mr.

Heins' death in 1907, Mr. La Farge remained in charge until the completion of the choir in 1911. Cram and Ferguson, the present architects, took over the duties at that time. Mr. Henry Vaughn was architect of three of the seven Chapels of Tongues, Carrere and Hastings of one, Heins and La Farge of two, and Cram and Ferguson of one.

The tentative design for the west front provides for three large and two small recessed portals, similar to the plan of the Bourges Cathedral. Two heavily buttressed square towers, 50 feet square, will rise at each angle over the north and south portals, with mullioned windows, and turrets at the four corners, 265 feet above the street level. Between these towers will be the nave gable, and across the front, above the large char-



Airview by Airmap Corp. of America, N.Y.

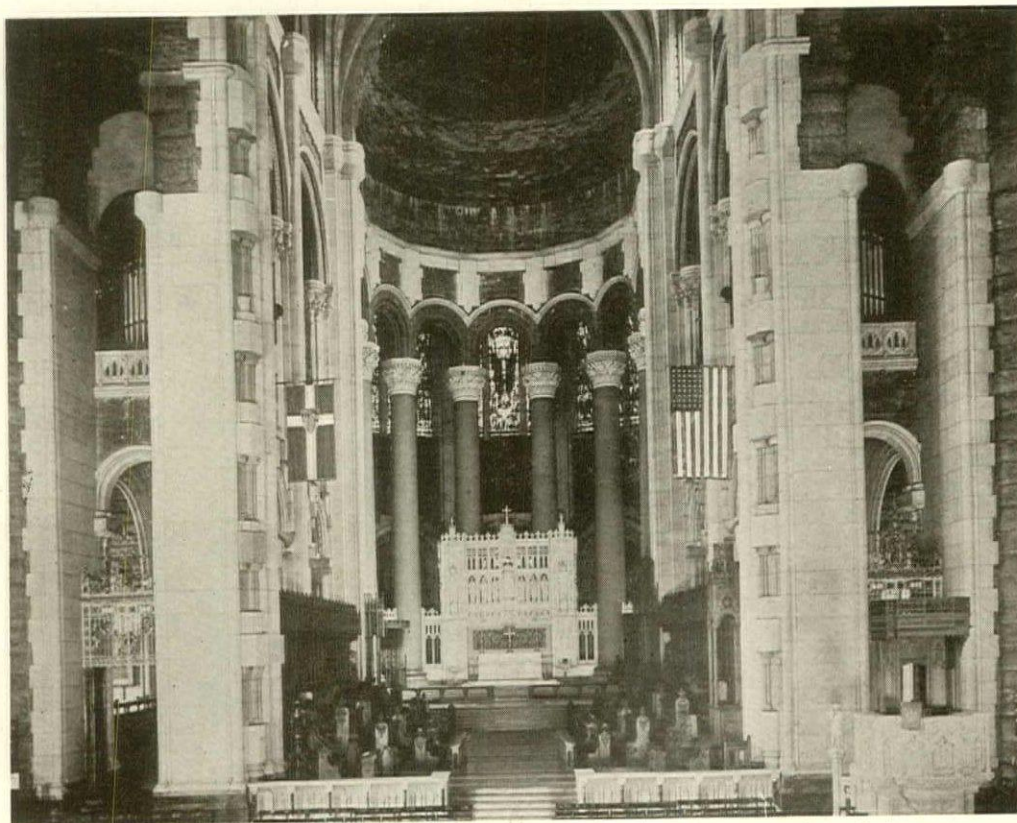
Aerial photograph showing site of the cathedral. The old building with the pillars standing beside the crossing will eventually be torn down.

acteristic rose window, will extend the equally Gothic gallery of niches, containing statues after the fashion of the Gallery of Kings in the Cathedral at Rheims.

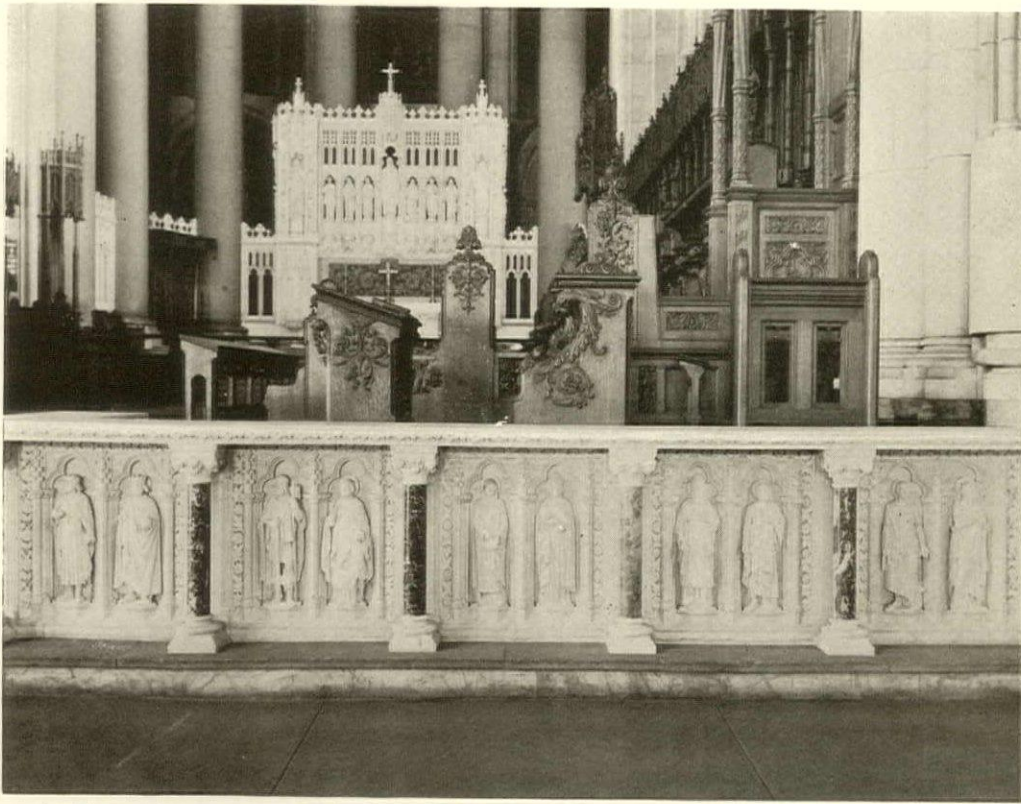
The nave will be built in pure thirteenth century Gothic adapted to the plan requirements. The central aisle will be flanked by the two narrower aisles, and instead of the columnar effect produced by so many churches of this style, the ingenious disposition of the relatively small number of piers and columns will produce an air of openness and spaciousness that is unusual. Two distinct departures from the type will be made. The clerestory will be erected on the line of columns nearest the side wall, modifying the exterior flying-buttress system; slender intermediate columns will be introduced in the primary row of piers, resulting in a nave system of four square double bays, instead of eight rectangular bays. The primary piers

and columns will not have to be shortened to support the clerestory, but will rise to the springing of the roof-arches. This arrangement, together with the rhythmical alteration of the great piers and small clustered arches, will allow more light and produce the desired effect of lofty aspiration. A triforium gallery will run beneath the aisle roofs, and thirty-two stained glass windows will help beautify the interior.

In the crossing, 100 feet square, are at present 1,500 seats for the congregation. To the east is the choir and ambulatory; to the north, west and south the spaces between the huge piers are filled with temporary windows and concrete walls, to be moved later when the nave and transept are built. These piers will be faced with stone, and their size may be judged by the fact that a single pair, with their connecting arches, weigh 4,000 tons. The dome of the cross-



The choir looking toward the high altar. At the sides are the entrances to the ambulatory. At the lower right is the pulpit.



The marble parapet at the entrance to the choir, south half. In the background is the high white marble altar.

ing, 162 feet above the floor, is faced with Gustavino tiling; the permanent vault will be 200 feet high.

One of the features of this portion of the structure is the pulpit, a memorial to Bishop Henry C. Potter. It is elaborately carved out of Knoxville, Tennessee, marble, a material favorable for fine work. On the newel posts of the stairs are the figures of two prophets, Isaiah and John the Baptist. The five larger Gothic niches are filled with scenes from the life of Christ; the eight smaller niches below contain the figures of the great exponents of the Scriptures. Various symbolical carvings are placed on other parts of this beautiful pulpit, which was designed by Henry Vaughn. Its cost is said to have been about \$30,000.

The choir itself, with its half-round arches, presents a late Romanesque style

with Byzantine influence, not inappropriate to this eastern end, and which will be a relatively local detail as the cathedral develops. There is even now, however, a plan for changing these to Gothic. At the base of the piers of the choir arch is a broad course of red jasper from South Dakota, recalling St. John's description of the Heavenly City. The green moulding above is of Pennsylvania serpentine. The floor has three principal levels, the highest supporting the marble altar with its three white steps. The parapet at the entrance to the choir is in two sections, each $18\frac{1}{2}$ feet long and 4 feet high. It is built mainly of Champville marble from France. The twelve marble columns, alternately green, red and yellow, are of Alps Green from Italy, Rouge de Rouce from the same country, and Numidian marble from Africa, respectively.

Between these columns are pairs of figures, representing nineteen men selected for their contributions to the development of Christian civilization.

The pavements of the ambulatory and choir, designed by La Farge in Romanesque and Byzantine motives, are symbolically related. The colors in the ambulatory are reddish or earthy; those in the three ascents to the choir progress through increasingly rich designs of greens and whites to greens, whites and blues, until they reach the pure white of the altar steps. The risers of the steps leading from the crossing to the choir proper are of Green Pennsylvania marble. The pavement of the choir is richly inlaid with Numidian, Swiss and other marbles and Grueby Faience tiles. The steps to the second level are of Hauteville. In the center of the floor of this level is a magnificent mosaic of tiles and marbles, 32½ feet long by 10 feet wide, with a center oval of Belgian Black surrounded by violet marble from Italy. Grecian, Numidian and other marbles form the rest of the design. The choir stalls rise in four tiers on either side of the choir. The organ, containing 700 pipes and a chime, has its console located in the gallery on the south choir screen.

The high altar is of white Vermont marble. The beautiful Gothic reredos is of Pierre de Lens, quarried in the neighborhood of the city of that name in the north of France, which was so ravaged during the world war. The central figure of Christ is 7 feet high; the other figures in the smaller niches are somewhat smaller. To the right side of the high altar is the credence table, supported by a shaft made of three gray Caen stones from the ruins of the old Abbey of Bury St. Edmunds, in England, in which the Barons met on November 20, 1214, when they swore to secure from King John

the liberties embodied in the Magna Charta.

A passage called the ambulatory, about 20 feet wide, leads entirely around the choir, and gives access to the seven Chapels of the Tongues. Opposite each chapel is an interstice formed by eight huge columns, each 55 feet high. The wainscoting between these massive pillars is beautifully colored marble from the Greek Island of Skyros. Between the fourth and fifth pillars is an altar tomb, such as is seen in many English churches. It is designed from studies of the tomb of Edward the Confessor in Westminster Abbey, and it contains the remains of Bishop Horatio Porter, of New York, founder of the cathedral.

Not the least interesting of the many features of the wonderful structure are the chapels mentioned above. The name is derived from the fact that they were intended for services in the languages of the principal ethnological groups of the world. All are separate gifts, memorials to various individuals. Beginning on the south side, these chapels are as follows:

The Chapel of St. James, of pure English Gothic of the 14th century, was designed by Henry Vaughn; it cost about \$200,000 and seats about 250 people. On the front of the altar of Gray Knoxville, Tennessee, marble is sculptured Da Vinci's Last Supper. Two clustered columns divide the south aisle into three bays, in the middle one of which is Bishop Henry C. Potter's tomb of Siena marble. The recumbent figure of the bishop, carved out of Serravezza marble by James E. Frazer, lies on top of the tomb, and the execution is so fine that even the texture of the lawn sleeves of his episcopal robes is apparent.

The Chapel of St. Ambrose, by Carrere and Hastings, is in modern Renaissance. Somewhat smaller, it seats 100 persons and cost a little over \$150,000. The floor is in-



Detail of choir parapet, south half. Shakespeare on right, Washington on left, seventeenth and eighteenth respectively in the series.

laid with gray Siena and red Verona marble, bordered with cream-colored Cenere marble. Rosato marble is used for the wall lining. There is a false perspective in the side walls similar to that in the sacristy of Siena. The ceiling is of white marble carved in low

relief. The altar is of alabaster decorated on the front with three golden ornaments.

Next comes the Chapel of St. Martin of Tours, from early 13th century Gothic types; designed by Cram and Ferguson, it cost about \$150,000. The lower half of the

walls is taken up with the Gothic arcatures and above these is a border of roses. The upper half of the side wall offers an unique feature in a sort of triforium gallery built in the thickness of the wall. Tennessee Pink marble appears in the pavement, bordered by Belgian Black. The altar, formed like a table and minus the reredos, is very simple; it rests on red marble pillars. The seven grisaille-work windows in geometrical patterns, three in the sanctuary and four in the clerestory, are by Charles Connick. A statue of Joan of Arc, by Miss Anna Hyatt, the sculptress of the equestrian statue of the Maid in Riverside Drive, was placed in the chapel in 1922. Near it are two rough stones from the Chateau de Rouen, in which the Maid was imprisoned at the time of her trial, just before being led to the stake.

The easternmost of the seven Chapels of Tongues is that of St. Saviour; it is in the English Decorated Gothic style after designs by Heins and La Farge. It seats 150 persons and cost \$4,000. The interior walls are of Minnesota dolomite; around the base runs a foundation course of red jasper with green serpentine moulding. The pavement is of Hauteville marble from France, with a mosaic border. Pink marble from Georgia was used for the sanctuary steps. The altar, carved by Mr. Schwartz, is of snow-white Carrara marble from Italy, and shows on its face and front the figures of six angels. The reredos is of polished red Siena marble, bordered with Venetian mosaic. Filling the end of the chamber is a stained glass east window, a magnificent work by the Englishman, Hardman. Statues to either side of the window fill the eight niches, with other statues on the north and south walls, and an array of angels, twenty in all, between the clustered columns of the great archway. All the statuary here was by

Gutzon Borglum, which is in itself assurance of their merit. The four lamp standards of Carrara marble, topped by Alabama bowls, standing in the four corners, are also worthy of more than passing notice.

The Chapel of St. Columbia, not so large nor so costly as St. Saviour, is by the same architects, but in the Norman style. Here again, Minnesota dolomite was chosen for the walls, but a moulding of yellow Verona marble separates this material from a base course of polished Mohegan granite. A fine-grained gray stone from Illinois is used for the pavement. The altar, without reredos, is of cream-colored Italian marble, a rather plain top supported by marble pillars. Mr. Borglum's statues, twenty in all, of representatives of successive stages of the development of Christianity in England, form the most interesting feature.

The Sixth Chapel, that of St. Boniface, is the work of Mr. Vaughn; it is a very pure specimen of 14th century English Gothic. It seats 100 and cost \$175,000. Tennessee marbles predominate here, a pink variety being used in the pavement and sanctuary steps, and a gray in the altar. A heavy black border of Belgian sets off the floor. The face of the altar contains three ornate panels; the reredos, too, is richly carved.

The last of the chapels, named after St. Ansgarius, is also the work of Mr. Vaughn, and like that of St. James, is in 14th century Gothic, but differs somewhat in plan, the bay east of the turreted stairs being thrown into the ambulatory, and the north side having only two bays. The cost, due partly to the difficulty in securing a firm foundation, was \$225,000. The pavement is of pink Knoxville, Tennessee, marble in combination with mottled Vermont. On the front of the gray Tennessee marble altar are carvings of the Madonna, St. Michael and St. Gabriel. Above the altar is a sculptured

reredos. In the left wall of the sanctuary is a niche made of stones from Worcester and Ely Cathedrals. Throughout the chamber are many statues executed by Mr. John Evans, of Boston. In a bay is a symbolic group, done in Caen stone by Miss Malvina Hoffman, entitled the Sacrifice, intended for Harvard University as a memorial of Robert Bacon, once U.S. Ambassador to France. This chapel has an independent organ played from a movable console.

One portion of the cathedral, the crypt,

located beneath the choir, now closed pending work elsewhere, will contain the collection exhibited at the World's Fair in Chicago and called the Tiffany Chapel. The top and retable of the altar are of Carrara marble; the front and sides are adorned with medallions of mother-of-pearl, a shield set with sapphires, topazes, and 150,000 pieces of glass mosaic. This crypt has a seating capacity of 500; and the vault contains already the bodies of several high dignitaries of the church.



The marble pulpit and one of the Barberini tapestries in the Cathedral of St. John the Divine.



Lobby of the Cooper-Carlton Hotel, Chicago

RICHNESS

Not only because of its age-long associations, but because of its inherent beauty, no material possesses so largely the power to suggest opulence and luxury as does marble.

An interior of marble conveys at once an impression of richness far beyond its actual cost.

A LIST OF THE WORLD'S MARBLES

By J. J. McClymont

Note—In a past issue, Mr. McClymont proposed, for the sake of convenience, to divide the different marbles into four groups. These arbitrary groupings were as follows:

GROUP A—Any marble or stone sold to the trade in fair-sized slabs or blocks of commercial size, rectangular shape and guaranteed by the seller to be sound, free from natural defects, that can be finished at a minimum cost, and sold to the consumer as sound marble.

GROUP B—Any marble or stone sold to the trade in slabs or blocks of fair or medium size, generally rectangular shape guaranteed to be sound and free from natural defects, the finishing of which, because of texture, the size of slabs, the shape and size of blocks, is somewhat more expensive than those in Group A.

GROUP C—Any marble or stone that cannot be sold as sound but contains a minimum amount of natural defects, such as dry seams, old fractures, partially or completely healed surface voids, etc., to be treated by the manufacturer in the most approved manner, reinforced where necessary by liners on back or metal inlays and sold to the consumer as semi-sound marble.

GROUP D—All marble, stone and so-called serpentine marbles, and Onyx, which, by their peculiar formation are known to be fragile, such as Breccias and nearly all highly colored marbles and serpentine, and that are sold to the trade in irregular shaped blocks or slabs without a guarantee as to their soundness, treated by the manufacturer in the most approved manner, reinforced where necessary by liners on back or metal inlays and sold to the consumer as unsound marble.

Laasee—See Laaser and Tyrolese Onyx.

Laaser—Group A.

Laasee Quarries near Laase, in the Valley of Vintschgau, Tyrol.

First quality: Pure white statuary, texture much inferior to the Italian Statuary. Takes good polish.

Second quality: White with a few gray veins, sometimes used for statuary.

Labrador

Quarried in Norway.

Mother of pearl, brilliant, lustrous granite, very sound.

Takes high polish.

Labradorite (Spar)

Quarried in Labrador.

Various tones of bright blue and green with veins and spots of greenish-gold; available in small sizes only.

La Cachemire Bois (Onyx)

Name given to one variety of Algerian Onyx.

La Capelle

Quarried near La Capelle, Lot, France. Reddish-brown.

Lacedaemon

Ancient name for Laconia, Greece.

La Cluse

Quarried at La Cluse, Doubs, France. Flesh color with bright red mottling. Takes high polish.

Laconia or Laconian Marble.

May mean Green Porphyry or Rosso Antico. Old-time writers mention White Laconian marbles, but we have no record of any white marble from this locality, although the name may have been given to Pentelic.

La Fare—Same as Fareau.

Lafayette Gray—See Carthage.

Lagny Alabaster—See Alabaster, French.

Lahn Quarries—See Edelfels, Estellante, Famosa and Pojizonazzo.

Lajas

One of the abandoned Mexican Onyx Quarries.

Lake Champlain Marbles

Generally this means Swanton Marbles, but properly should apply also to the Missisquoi Quarries, at Phillipsburg, Quebec, Canada, which are located on the Missisquoi Bay at the northern extremity of Lake Champlain. For marbles from this place see Missisquoi Marbles.

Lake Chiem

Ruhpolding Rose is quarried near Ruhpolding, on the River Traun, at a point midway between the Lake of Tegern and Salzburg and a little south of Lake Chiem, upper Bavaria.

Lake Geneve—See Villeneuve.

Lake Nyassa—See Steatite (from central Africa).

Lake Oroomiah—See Tabriz.

Lake St. Point

Jaune Lamartine is quarried near Molinges, not far from Lake St. Point.

Lake Tegern—See Tegernsee and Lake Chiem.

Lakonian Antico Rosso or *Laconia*—See Rosso Antico.

La Maladrerie Stone or *Caen Stone*
Group A.

Quarried at Bretteville Caen, and Venoix. Cream color.

Will not polish.

Lamartine—Same as Jaune Lamartine.

Lameiras—See Abancado Das Lameiras, and Lios Das Lameiras.

La Mesa Quarry

In Tenuacan District, Mexico.

Is the largest quarry in Mexico, the product being a variegated Onyx of rather inferior brilliancy.

Laminated

As applied to stone signifies their layers or stratification.

La Motte or *La Motte de Felines d'Hautpoul*—See Italian Griotte.

Lancashire Marbles—See Dapple Limestone and White Limestone.

Landelies or *Frederic*—Same as Breche Du Nord.

Landewednack

The Balk Quarry of Cornish Serpentine is near Landewednack.

Landon

Landon Quarry, Pittsford Township, Vermont.

Slightly bluish-white with medium to dark gray bands. (Vermont State Geological Survey.)

Takes medium polish.

Landscape Marble—Same as Cotham.

In England this term is applied to marble the markings of which resemble landscapes. Similar markings are designated as Ruin Marble by the Italians.

Langres

Marbles from this locality in the Upper Marne, France, are generally brownish-gray and contain numerous white semi-transparent fossils or small yellow shells.

Languedoc

Quarried at Figeac, Aude, France.
Green with red spots.

Languedoc

Quarried at Portes, Herault, France.
Fiery red, streaked with white and gray.

Languedoc

Quarried at St. Alban, Lozere, France.
Pale yellowish-green.

Languedoc—Sometimes referred to as St. Beaume.

Quarried at Alais, Gard, France.
Fiery red streaked with white and gray.

La Pedrara Quarry

Quarry located at Tecali, Mexico.
One of the most famous Mexican Onyx Quarries.
Not producing.

La Paoma

One of the non-producing Mexican Onyx Quarries.

Lapidosa

Statius gives this name to the Island of Skyros, hence this name as applied to marble means the same as Skyros.

Lapis Aequipondus—Same as Pietra Ne-fritica.

Lapis Aethiopicos—Same as Basalt.

Lapis Albanys—Same as Peperino.

Lapis Amianto or Amianto.

According to Pullen this ancient stone is nearly allied to the Serpentine, and of so singular a flexibility that the Romans are said to have made shrouds from it, for wrapping around the bodies burned on a

funeral pyre, so that the ashes of the dead might not mingle with those of the fuel.

The color may be white, yellowish or gray, and rarely green or red.

Lapis Anitanus—Same as Manziana.

Lapis Atricius—Roman name for Verde Antico.

Lapis Augustes—Also Lapis Tiberianus.

Name given to one or more Egyptian Serpentine probably Porphyry brought to Rome in the time of Augustus and Tiberius.

The marble of marbles to which this name was given is no doubt included in the list of Verde Ranocohias.

Lapis Basanites—Same as Basalt or Basalte Bronzino.

Lapis Croceus—Same as Green Porphyry.

Lapis Cyanus—Same as Lapis Lazzuli.

Lapis Gabinus—Same as Peperion and Sperone.

Lapis Hethiopicos—Same as Granito Nero.

Lapis Judaicus—Same as Granito Grafico.

Lapis Lacedaemonium or Lapis Lacedaemonius.

This name was probably given to Green Porphyry and also to Ross Antico, both of which came from Ancient Lacedaemon, modern Laconia, Greece.

Lapis Lazuli

Is found in Central Asia, Chile, China, Persia and Siberia.



A NEW USE FOR MARBLE

A New Hampshire Bank Covers Its Brick Building
with a Thin Marble Veneer

TO the casual observer, the building occupied by the Manchester National Bank, of Manchester, New Hampshire, may seem somewhat out of the ordinary. He sees a three-story structure of simple lines built, apparently, completely out of marble; the lower floor of Red Levanto, and the upper portions of Tennessee. Since the building is of modest size and its general style, except for certain minor details, reminiscent of the usual three-story brick business structure, the use of marble may seem to him to be unusually luxurious.

As a matter of fact, the marble is only a thin veneer applied over brick, and its ap-

plication to the exterior of a building in such a climate was an achievement which, so far as is known, was without precedent.

The original building was a brick residence over 150 years old, at the corner of Elm and Market Streets. When the bank first acquired the property, certain alterations, of course, were necessary in order to convert it into a place suitable for the transaction of their business. After some years, they thought they would like to have a marble building. After considerable discussion they decided, in 1919, upon the use of thin marble ashlar. Mr. C. R. Whicher was chosen as architect and work begun.

There were several coats of paint over the brick, and this paint first had to be removed by sand blasting. When the paint was cleaned off, both the marble and the brick were thoroughly dampened, after which the marble was set in cement against the brick and anchored to the brickwork with wire anchors. The length of the building was traversed on each course in this way, giving the cement time to set before repeating. The first story was finished in $\frac{7}{8}$ inch Red Levanto in 1919 and the second and third stories in 1920, in Tennessee $\frac{7}{8}$ inch thick with the exception of the window trims and cornices. The illustration is from a photograph taken in 1924. The building extends 50 feet on the front and 100 feet on the side, and today, after five years of exposure to the rigors of a climate as severe as the country affords, the surface looks as good as the day it was finished.

The success of this attempt to face a brick building with thin marble veneering (in this case $\frac{7}{8}$ of an inch thick) opens up considerable possibilities. Besides the numerous instances where exactly similar treatments would be desirable, there comes up the question of facing buildings of other types than brick. Suppose, for instance, it is desirable to finish the exterior of a steel frame building in a rich and attractive manner. The foundation question, as is so frequently the case, is a serious one, and

weight must be reduced to a minimum. In this case, the curtain walls could be built of hollow tiles and finished on the outside with a marble veneer after the method used in the Manchester Bank. The architect would, of course, provide for slightly thicker pieces around openings and at corners, so as to produce the appearance, where the returns are in evidence, of more massive treatment. The work could be so detailed that the marble slabs would cover all of the joints between the hollow tiles, thus insuring a degree of weather-tightness not often attained where brickwork or masonry is used.

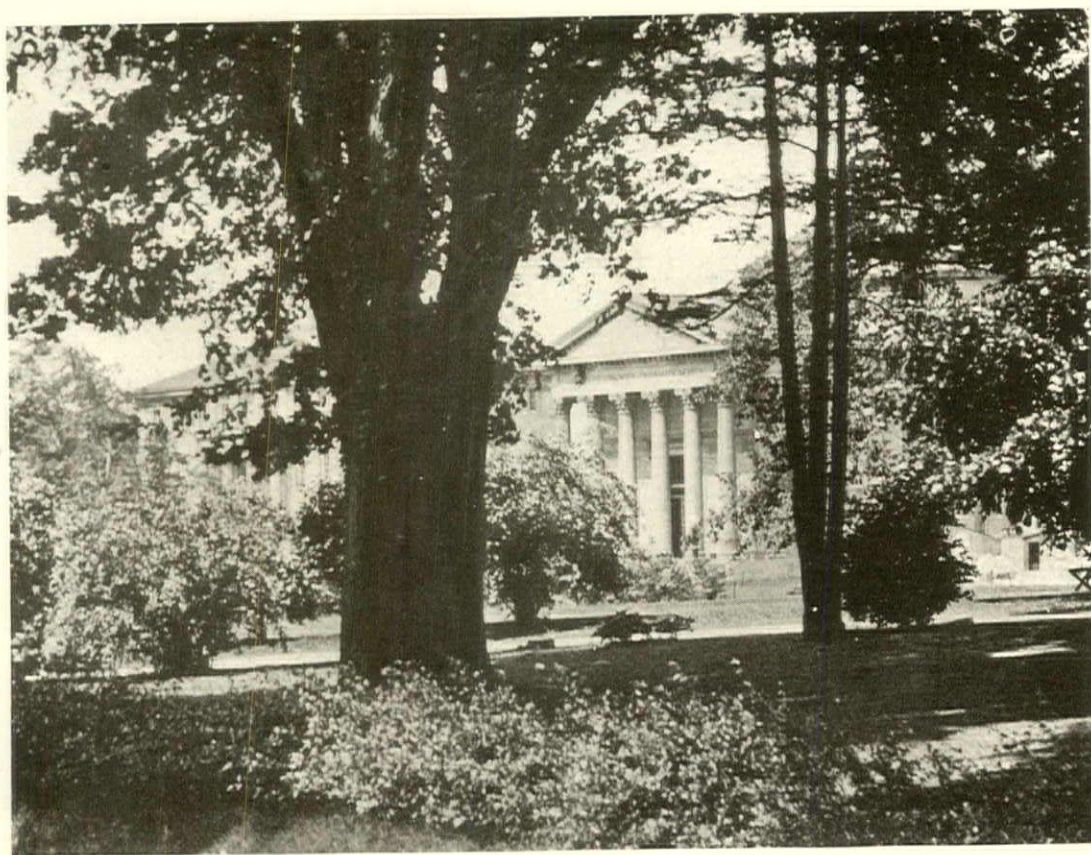
The total cost of a wall built in this way would probably be less than almost any other kind of construction that could be used, provided it compared at all in beauty with the marble veneering. Since it is entirely possible to use any kind of marble that would stand exposure to the weather—and that means a wide range of choice, since many different marbles have shown themselves adapted for exterior uses—effects could be obtained that are at present economically impossible.

Other material than hollow tile is suitable for walls, and these could be used equally as well with the thin marble veneering. The coalition of hollow tile and marble veneer, however, appears a combination of economy and desirable qualities that should strongly appeal to the architect or builder.

BOUND VOLUME NO. 2 WILL SOON BE READY

(See page 71 of this issue)

Of course you will want a copy of the second bound volume of *THROUGH THE AGES*. This beautiful book, full of practical information, is a valuable addition to your reference library. It will be ready for distribution shortly after the April issue comes from the press. The supply will be limited, so act at once. There's an order blank on the last page of this issue. Mail it today.



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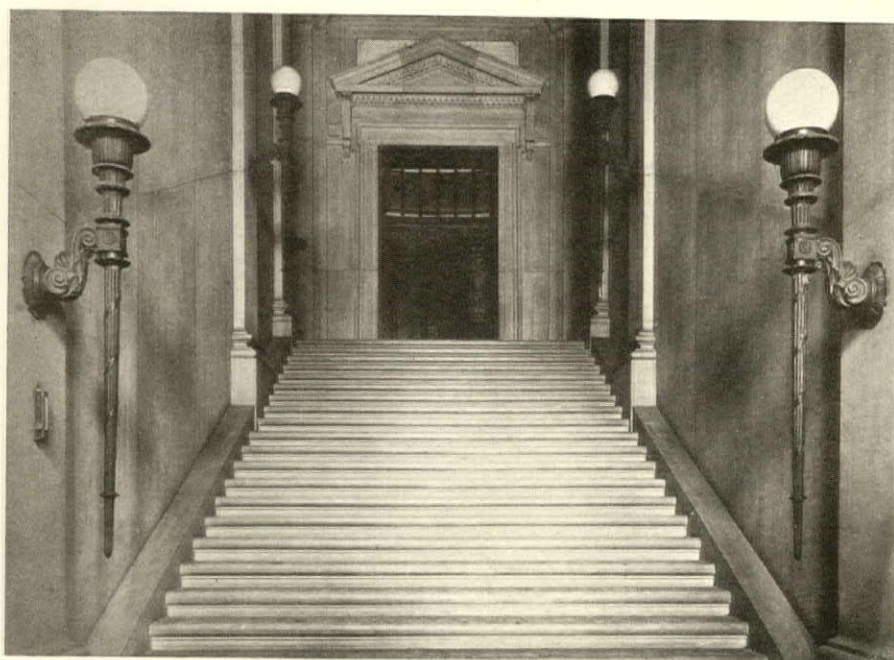
One of the Finest Examples of the Architectural
Genius of Stanford White

GOULD Memorial Library on the campus of New York University, New York City, has been spoken of by art critics as one of the most notable buildings in this country. Designed by the late Stanford White, it stands as a monument to his great architectural genius, portraying in classic terms the highest expression of his art. The cornerstone of the building—which was given to the University by Mrs. Finley J. Shepard, the former Helen Gould, in honor of her father, Jay Gould—was laid in 1895, but the structure was not completed until 1900.

The location of the library is almost with-

out comparison in the city, situated as the building is on the brow of a hill directly overlooking the Harlem River with the Hudson River and the Palisades but a short distance off across the valley. From the top of the Palisades the weathered copper dome of the library is one of the most conspicuous points to be seen in New York's famous sky line.

The style of Gould Memorial Library is suggestive of the Pantheon of Rome. The ancient memorial idea is carried out in the colonnade of the Hall of Fame encircling the building. The colonnade is dedicated to the illustrious dead of this country. The



Stairway leading from the main entrance to the reading room.

exterior walls of the building are constructed of terra cotta colored brick that (according to the original specifications) were made on Staten Island, New York. They are laid in Flemish bond and herring-bone panels. The color combination of the bricks is carried out in all the terra cotta work throughout the library.

Six massive columns of Corinthian order support the portico which forms the imposing entrance to the building.

Stairways lead from the basement entrance to the auditorium and from the main entrance to the reading-room of the library.

The main doors of the library have been made a memorial to Stanford White by his fellow artists. Covered with cast bronze figures in bas relief, models of which were executed by several sculptors, the doors typify an old world custom of grouping in one object the work of different artists. The grille above the great doors and the door sill are also of cast bronze.

The entrance hall is tiled with white mar-

ble mosaic, as is also the floor of the library and the corridors adjoining it. A vaulted stairway rises directly from the entrance hall to the library which is on the second floor of the building. Above the impost cornice in the rake of the main stairway is a large central panel of Cippolino marble; Pavonazzo marble is used over the doors at the ends of the corridors.

The library proper is an impressive and beautiful room that is enhanced by the sixteen Connemara marble columns that support the dome. These columns are especially large and beautiful specimens of the green Irish marble which comes from the Ballynachinch Quarries in Galway County. The main reading-room is surrounded by eighteen seminar rooms which are lighted by leaded glass windows; the light for the reading-room, however, comes from the wrought iron framed skylight within the vaulted dome surmounting the building. Keene's cement was used for the construction of the decorative squares and rosettes in bronze and gold effect which ornament

the inside of the dome and also the barrel vaulted ceiling over the central staircase and vestibule.

Additional shelving space in the library is provided for by a balcony which encircles the room. Spiral staircases of wrought iron lead up to the balcony, the railings and fastenings in very cunningly contrived designs. The library contains very notable examples of stained glass windows that are, strangely enough, not Gothic, according to Fiske Kimball, Morse Professor of the Literature of the Arts and Design at New York University.

Gould Memorial Library was built on sloping ground and the architects utilized this feature by constructing a large auditorium in the rear of the basement which, because of the incline of the land, is really a ground floor elevation. One of the most interesting features of the auditorium is its wide and flat vault which is self-supporting.

It is circular in shape with sixteen pillars that, for some curious reason, do not coincide in position to those in the library directly over head. The plain plinths of those columns are of black Belgian marble and the sills of white Vermont marble. The treads, risers and steps leading down to the auditorium are of Tennessee marble.

The colonnade of the Hall of Fame is a distinctly valuable addition to the architectural outline of Gould Memorial Library, the Hall of Philosophy and Language Hall, which buildings it also encircles. Bronze tablets and busts of distinguished men and women are placed within this American Westminster Abbey, after the recipients for the honor have been chosen by the body of electors which meets every five years. There is no longer any distinction made between native and foreign-born citizens; but no persons are eligible for election until twenty-five years after death.



Six of the sixteen Connemara Marble Columns in the Gould Library.



Ducal Hall, in the Vatican Apartments, Rome. This ornate decorative treatment was the work of Lorenzo Bernini, the Neapolitan, famous for his St. Peter's colonnade.

THE DECADENCE OF THE RENAISSANCE IN ITALY

A Period that Produced Many Works of
Originality and Life

IT is a difficult matter to treat of that period of the Italian Renaissance included in the latter part of the sixteenth century and all of the seventeenth without a constant comparison with the works of the half-century previous. Nor is the term "decadence" employed without a certain repugnance, for this epoch produced a quantity of really great works. The aberrations of a Borromini should not blind us to the brilliant achievements of Longhena nor to the merits of Fontana and Ponzio, nor to the talents of Fuga and Galilei of the following generation. We find such qualities of originality and life, even in their most mediocre works, that they at times ap-

proached genius, even though they never quite reached the heights.

We have already treated, in past articles, of Vignola, who had perhaps the most purely classic style that the period produced, and who was the first of the architects of the decadence in Rome; of Palladio, outside of Rome, who can justly be considered the father of modern architecture. We shall now mention briefly the names and works of the Lombard architects of this period; and refer as well to the outstanding architectural figures of the time at Venice and Genoa.

Domenica Fontana (1543-1607) was made the official architect of St. Peter's by Sixtus

Illustrations courtesy Thomas Machen, architect, Baltimore, Maryland.



Façade of St. Maria Maggiore, Rome, by Fuga. The church is isolated in a huge piazza and contains a striking display of marbles.

V and his astonishing energy justified the appointment. In the five years later, from 1585 to 1590, were built under his direction the Pope's palace at the Vatican, the Library, the Lateran Quirinal, a second Sistina chapel in S. Maria Maggiore, the restoration of two aqueducts, twenty-five fountains and various obelisks—surely a record of activity not often equalled even in these days of strenuous construction.

Maderna, the nephew of Fontana; the fantastic Borromini; the three Lunghi, Ponzio and Algardi—are all from the plains of the Milanese. Carlo Maderno (1556–1639) completed the nave and the façade of St. Peter's, and this is easily his

most important work, though it is a composition that lacks both character and real interest. Collaborating with Fontana, he designed, in 1611, the fountain on the Gianicolo, called the Acqua Paola; among his other works are the Palazzo Barberini and the church of St. Andrea della Valle, in both of which he shared the authorship with others.

Flamino Ponzio (1570–1620) was responsible for the Capella Borghese, the burial place

of Pope Paul V at Santa Maria Maggiore; the Palazzo Sciarra (1600), notable for a porch that is widely copied; and, in conjunction with Vasanzio in 1612, the very fine façade of San Sebastiano Church on the Appian Way, just outside the gates



Fountain of Trevi (1735–62), at Rome, the work of Ferdinando Fuga, but so bold in character that many critics assign it to Bernini.

of the Eternal City.

The Barberini Palace, mentioned above, was completed by Lorenzo Bernini, the Neapolitan sculptor (1599–1680), who is best known by his colonnade of St. Peter's, and less happily famous for his meddling with the church itself. His taste was rather theatrical, as exemplified in his decorative treatment of the Ducal Hall, and his bizarre perspective of the Scala Regia, in the Vatican Apartments. The Montecitorio is his work, as is the fountain in the Piazza Navona.

Borromini (1599–1667) was the author of many disfiguring additions or modifications to buildings of much worth. He superimposed orders and created a confusion of broken cornices in a manner hard to imagine unless the compositions themselves were actually seen. A lack of logic combined with a tendency to astound runs through his work. The interior decoration of the old church of St. John Lateran, a portion of the Barberini palace and the Santa Agnese church in the Piazza Navona are his best-known achievements. It is said of Borromini's work that "he seems to have gone by contraries; and to give truth the appearance of fiction, and the converse, seems to have been his greatest delight. Thus, for example, to a part or ornament naturally weak he would assign the office of supporting some great weight, while to one actually capable of receiving a great load, he would

assign no office whatever." No better characterization of his efforts could be given than this.

The famous Fountain di Trevi (1735) was designed by Niccola Salvi, after a sketch by Bernini. The great porch, in two stories, of St. John Lateran (1734) was by the Florentine Alessandro Galilei. These two are perhaps the best of the creations of the time. Almost as praiseworthy is the façade (1743) of the basilica of Santa Maria Maggiore, by Ferdinando Fuga, who also built the palace at Trastevere for Cardinal Neri Corsini.

At Venice it was Baldassare Longhena (1604–1675) who was responsible for that district being free, for so long a time, from the progress of the Barocco architecture. He it was who designed the church of La Salute, a building more often sketched by



The Palazzo Rezzonico, on the Grand Canal, Venice, the scene of Browning's death. The architect was Baldassare Longhena. It was built in 1650.



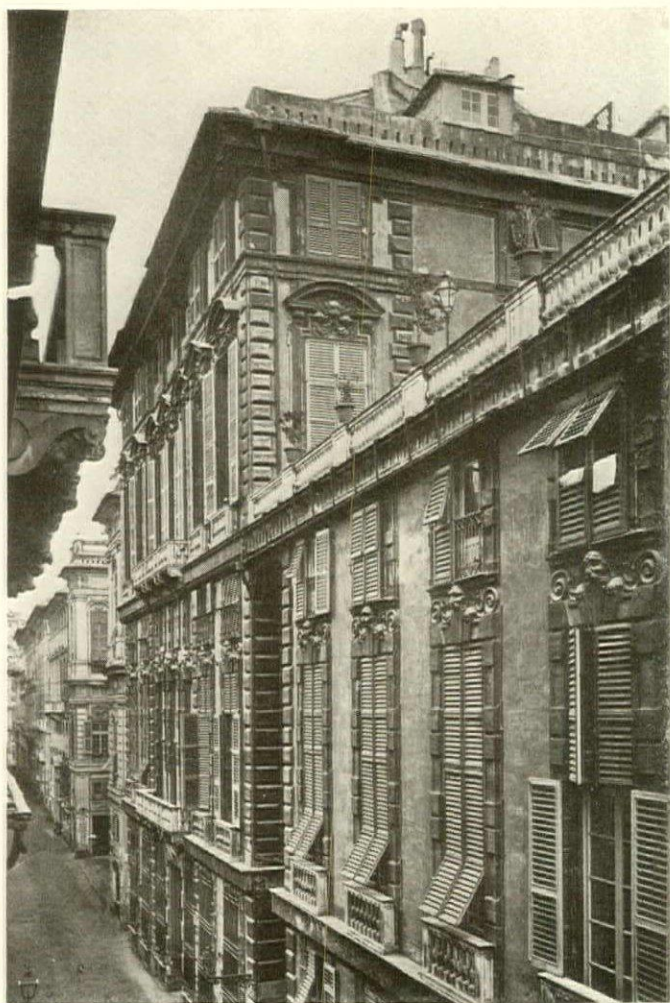
The Palazzo Pesaro (1679-1710), by Longhena, cost 500,000 ducats. It was built in Venice, for the Procurator of S. Mark's. It is now a gallery of modern art.

visitors to the city than any others. This graceful group of domes and towers stands at the entrance of the Grand Canal. The general plan is that of an octagon, the nave being surrounded on six sides by an aisle from which chapels project slightly. These chapels are pedimented and lead up effectively to the central octagon, above which is the great circular dome. A fine doorway opens on the side toward the Canal and the opposite side opens into a choir. This latter is covered with a smaller dome and swells on each side into a semi-circle. "This plan," says Jackson, "leading to something beyond and still to be seen, always excites the imagination and awakens interest in an interior view. It has been destroyed in many of our cathedrals by the removal of the choir screen, from a mistaken desire to get what is called a 'vista'."

The church gained its name from the fact that when, in 1631, an epidemic of special virulence came to an end, it was desired to erect at the entrance to the basin of St. Mark's a memorial dedicated to Santa Maria della Salute, our Lady of Health. The church has an interesting silhouette, and the dome shows a masterly touch. The way in which the eye is led up from the irregular shape of the plan to the drum by the bold brackets and thence to the circular dome, indicates close study and real ability. In the interior, Longhena placed a column at each angle, and raised it on a pedestal to give height to the arches and to disconnect the two orders—a bold step that resulted in a good effect. The chief criticism must be the use of the Corinthian pilaster beneath the impost, demanding a coupling of this member. The concave abacus of the



The Church of S. Maria della Salute, Venice, a combination of brilliant and daring originality on a monumental scale. It has a decidedly Oriental flavor.



The Palazzo Brignole, in Genoa, also called the "Rosso," from being painted red. The architect was Alessi.

Corinthian capital over the keystones is also a trifling absurdity.

The Rezzonico and Pesaro palaces were the "richest and grossest development of the Venetian domestic Renaissance, the last word of Italian art." Both of these are by Longhena, but the latter enjoys a deservedly greater reputation. It was founded on the Cornara della Ca' Grande of Sansovino; technically it is inferior to the Carnaro; in general distribution and proportion rather more pleasing. Figures appear in spasmodic action and these, together with the broken cornices over each column and the boldly

projecting diamond rustication, detract from its soberness. The angle-treatment, too, reflects the oddity of Sansovino, but this is in keeping with the characteristics of the period, when architects were seizing upon the weaknesses of the masters and striving to develop them into features of interest. The Rezzonico has its upper story treated in the same manner as the Pesaro, but it is generally more purely classical.

Genoa, beginning in 1550, had her period of splendor, which earned for that city the title of "La Superba." Most intimately associated with the architecture of the city of Kings was Galeazzo Alessi (1500-1572). A native of Perugia, where he had served his apprenticeship, it was Rome and Michelangelo who awakened his artistic genius and pointed out the way. Upon his return home, he perceived shortly that his own city offered but little scope for his talents; he went to Genoa, where as early as 1549 he negotiated a contract for the building of the hospital, chapter-house and church of S. Maria di Carignano. He it was who erected for the rich shipowners that series of palaces that line the two sides of the Via Balbi and Via Nuova. He was fond of placing above the ground floor an intermediate story, today called a mezzanine; then came a strongly projecting moulding above which was a very high story protected in its turn by an extremely bold cornice and balustrade. Even more characteristic of his palaces are the broad steps and the halls to which entrance is gained by a large gate, opening always in the center. The courts were narrow, but the magnificent vestibule, the part of the palace that could be seen best from the narrow

street, partly compensated for this. The one ramp steps (generally to the left) and the richer ones with two ramps were in harmony with the peristyle. Among the best known was the Durazzo Pallavicini palace, with its high cornice and the high entrance, surmounted by the coat-of-arms, and itself topped by the balcony. The Rosso and Zercara palaces are also above the others in merit; however, most of them are cold and do not rank with the Venetian work.

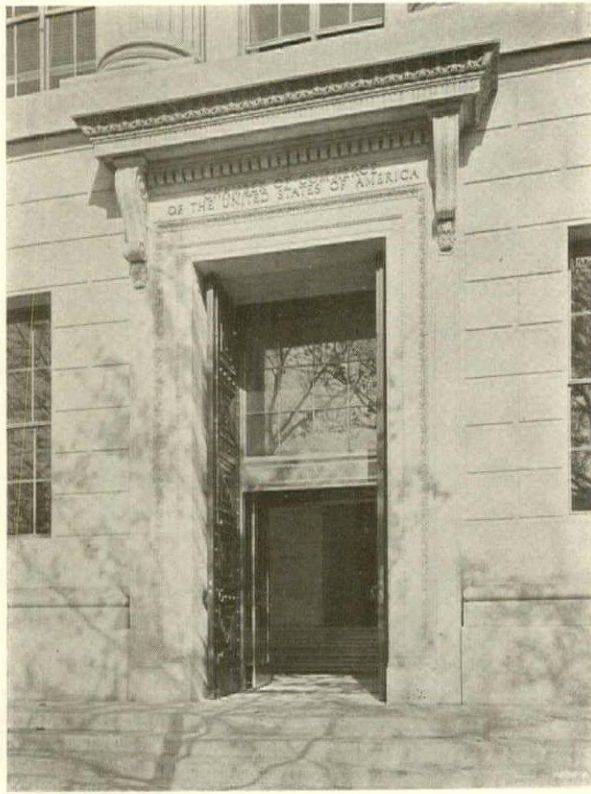
Alessi's principal church was the large church of Santa Maria in Carignano, mentioned above. In contrast with this disappointing structure is the splendid interior of the church of SS. Annunziata, built at the close of the sixteenth century by Giacomo della Porta. In this building single marble composite columns of large scale, inlaid on the flutings with another marble, stand on block pedestals and receive the pier arches without the use of entablature. Pilasters extend from the capital to the architrave. The nave roof is wagon vaulted and the small compartments have transverse vaults. The general design is late Roman, and might be classed as fifteenth century work except for some of the moulding profiles. In reality it is

more allied to the almost unclassifiable work of modern times.

The florid interiors of S. Salvatore and the chapels of S. Maria in Castello are notable, and in S. Siro (1575) the whole effect is admirable. Standing close together in a small piazza at the foot of the hill leading up to S. Maria di Castello are two small and relatively unknown churches, S. Giorgio and S. Torpete, with interesting domed designs, the latter especially of singular charm. S. Pietro dei Banchi is the most pleasing of the smaller churches in Genoa.



Interior of SS. Annunziata, Genoa, by Alessi. It is a mass of marble of every color.



A HOUSE UNSULLIED

The United States Chamber of Commerce Occupies a Site
Rich with Historical Memories

WE of the United States frequently express our pride in the mighty industrial power of our nation, and yet this country lagged behind many of the European countries in establishing a national chamber of commerce. It was not until 1912 that, at the invitation of President Taft and his Secretary of Commerce, 500 representatives of commercial organizations throughout the land gathered together in Washington for the twofold purpose of, first, founding a federation that should encourage trade and commerce between the states of the Union and between the United States and foreign countries; and, second,

securing united action upon national questions that affected the industrial, financial and commercial interests of the entire country.

Within the twelve years since the inception of the National Chamber, it has developed "from an intangible idea to an organization of more than 1,300 local chambers of commerce with an underlying membership of over 750,000 corporations, firms and individuals, and an associate membership numbering over 14,000." (Lambe, in the *Nation's Business*.)

That a representative home in Washington was sorely needed by such a rapidly growing power was seen by many fore-



Looking north across Lafayette Square. The White House is opposite.
The statue shown is that of Lafayette.

sighted men. Five years ago, Mr. Wheeler, the Chairman of the new Building Committee, said: "In my judgment, the business interests of this country will never come into proper relationship with the Government and all of its branches until we have been farsighted enough to take a leaf out of the books of other organizations whose influence and strength has been increased by such action, and have erected a suitable and creditable home for American Business in Washington, and there raise the physical standard around which American Business may rally and in which it may conduct its negotiations, keeping that house as unsullied by unworthy action and negotiations as we would keep a home of our own where

our family is housed."

Such a home has now been built. The site chosen for this temple of American Business was the northeast corner of Seventeenth and H Streets, a location rich with historical memories and once the heart of the most fashionable residential district of the Capital. An old red brick mansion, known as the home of Daniel Webster, occupied the corner, while adjoining the new building are the houses of John Hay and Henry Adams. Not far away are the Dolly Madison and the Cameron houses, and close by, across Lafayette Square, is the White House. The Treasury and the State, War and Navy Building are also opposite.

The fund for defraying the cost of the

building—nearly three millions of dollars—was contributed by thousands of business men scattered all over the entire country. Over three hundred trade associations and one thousand different cities are represented in the subscription lists. The architect was Cass Gilbert, of New York, who designed also the Internal Revenue Bureau Building.

It was desired, in planning this house for the United States Chamber of Commerce, to impress upon the visitor the substantial character of the organization as well as to provide a gathering place for the 1,300 members of the National Chamber. It was to be their joint headquarters at the National Capital. In addition, the building had to provide practical working quarters for the large clerical force necessary to the functioning of its activities. Finally, the archi-

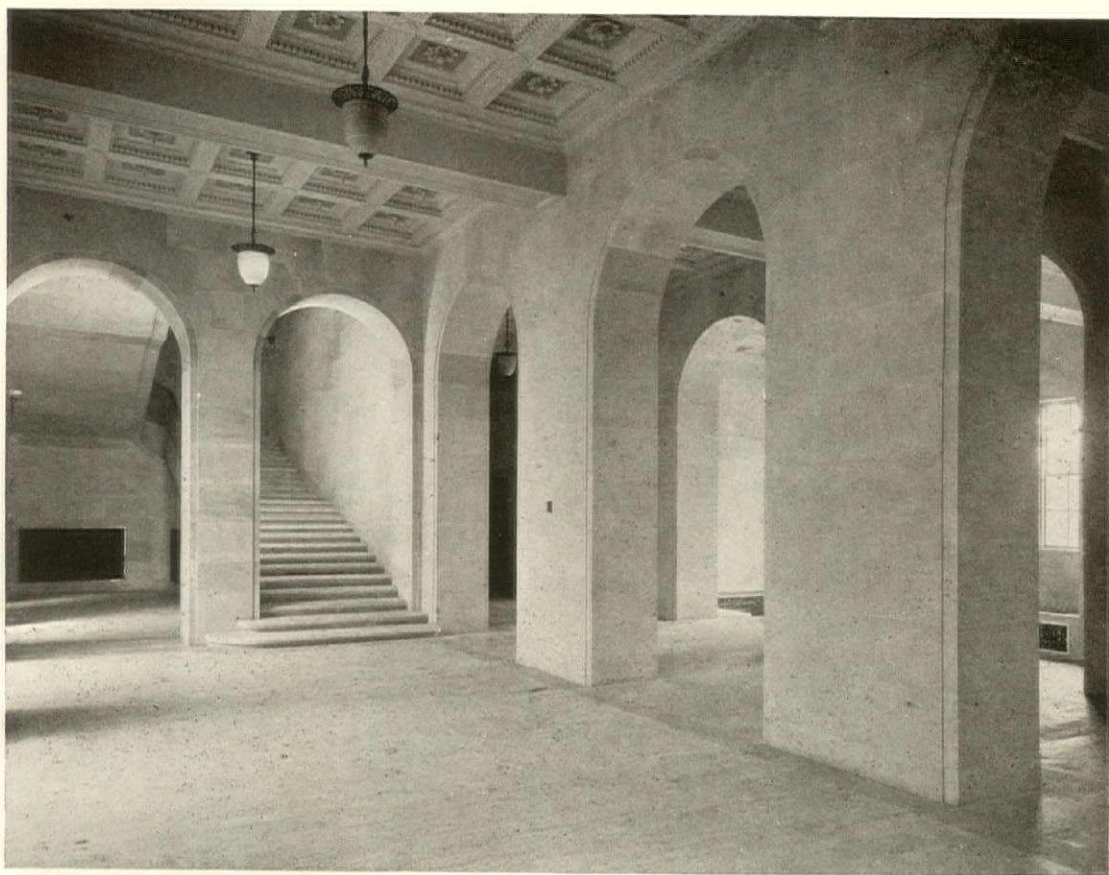
tectural style had to be in harmony with that of the Government buildings near by.

The height of the National Chamber was somewhat predetermined by the limit of 85 feet fixed during President Taft's administration by the Commission of Fine Arts. It has been so arranged, however, that by setting back from 15 to 20 feet from the front, two additional stories may be placed back of the balustrade to provide for future growth.

The exterior of the building is featured by rows of semidetached fluted Corinthian columns, ten to each side, which extend through three stories, beginning at the second. Extreme simplicity marks the development of this classic style, and the top is finished off by balustrades in the accepted manner. The ornamentation is conventional—in fact the



Board Room on the first floor. The border and base is of Levanto Marble. The ceiling is similar to that in the Council Chamber.



Stairway of the ramp and twist style, built entirely of Pouillenay Rose Marble.
A difficult construction problem.

entire façade offers nothing unusual. The effect is gained rather by its majestic scale and simplicity. The design is one agreed upon by the Federal Fine Arts Commission for all buildings of a public character to be erected around Lafayette Square.

The interior, however, differs from that of any other structure in Washington. Those features which are more generally noted by the public are on the ground floor. The main entrance on H Street to this floor opens directly into a Memorial Hall, which is lined with Pouillenay Rose marble from France, a stone of a soft gray tone. The floors are of Roman Travertine from Italy, and the ceiling is panelled and decorated in a handsome color scheme. It is intended at some future time to place in this hall tablets

and memorials in honor of those who served their country in the World War.

From this Memorial Hall, a flight of three or four broad steps of Roman Travertine leads up to the main transverse corridor, from which the elevator hall opens. The corridor leads, in one section, to the side entrance and various reception and ladies' rooms. The walls of this corridor are of the same material as used in the Memorial Hall. Its arches are imposing but graceful. Ascending from this transverse corridor is a splendid stairway; just opposite the main entrance and beyond these stairs is a vista showing through the main stair hall into the inner courtyard, open to the air and surrounded by the wings of the building. The stair hall is also finished in Pouillenay Rose marble. The

string, soffit, treads and risers are all of this material, the latter two being of solid pieces of stone. This stair is of the ramp and twist style, and the difficulties of constructing such a flight out of stone can be appreciated only by one familiar with the problem.

The courtyard is treated in a somewhat Spanish manner and forms perhaps the most distinctive feature of the building, if we except the National Council Chamber. It is about 60 feet square with arcades on the east and west sides. A series of small iron balconies are arranged on three of the four sides and their airy gracefulness gives a sprightliness to the scene that is increased by the fountain in the center of the court. This is of white Alabama marble, and with a jet of water falling into a low pool. It is planned to provide a certain amount of foliage, such as bay

trees, arbor vitæ and other plants that can be removed in winter or when the courtyard is to be used for large gatherings. Terra cotta roundels of polychrome are set in the north wall. These are life-size allegorical figures mounted on a blue background. Wide loggias are built on two sides, framed by arches of pleasing contours and illuminated by hanging lamps. Between the ceiling beams are stencils of conventionalized patterns done in color against a deep blue background. These depict the machinery and implements usually associated with trade and commerce.

At the third floor the walls of the court are widened, increasing the light angle, and a balustrade borders the terrace thus formed by this opening. This makes a sort of balcony, besides giving increased space for the



The National Council Chamber, a magnificent and unusual room
It seats over a thousand people.

accommodation of crowds. Around the four sides of the court is carved an inscription from one of Daniel Webster's speeches; it is a quotation that is strikingly apropos of the purpose that inspired the erection of the building, and reads as follows: "Let us develop the resources of our land, call forth its powers, build up its institutions, promote all its great interests, and see whether we also in our day and generation may not perform something worthy to be remembered."

The National Council Chamber is the most imposing room in the edifice. It is 60 feet wide by 110 feet long, and its ceiling is 35 feet high. Around the entire room runs a border of beautifully colored reddish marble, known as Italian Levanto, and this same material is used as a base for the walls. The walls up to the ceiling are of a golden yellow French stone called Crazannes Anteor. The ceiling is broken by huge encased trusses, decorated by the inscribed names of the States, of men famous for explorations and discoveries, and covered with apt quotations taken from the sayings of the sages

of old, as well as the more famous modern authors. The architrave over the stage opening is elaborately carved in a design similar to that on the ceiling. At night massive chandeliers flood the room with brilliance, and bring out the rich colors on the lesser beams and in the deep panels. The seating capacity is well over 1,000 people and when not in use as an assembly room, it may be utilized, in times of emergency, by the clerical force.

The Connecticut Avenue side gives easy access to several conference rooms, one of which seats 400 persons and may be used as a lecture hall. The upper portions of the building are without distinction except for the arrangement that provides large open spaces with few partitions. The corridors are wainscoted in marble, and the floors have borders of Roman Travertine. The staff is industriously engaged in the compilation of statistics, research work, and all the various activities incident to the collection and dissemination of information so necessary to the solution of the great economical problems of the country today.



Interior Court, U. S. Chamber of Commerce.



MARBLES IN COLORADO

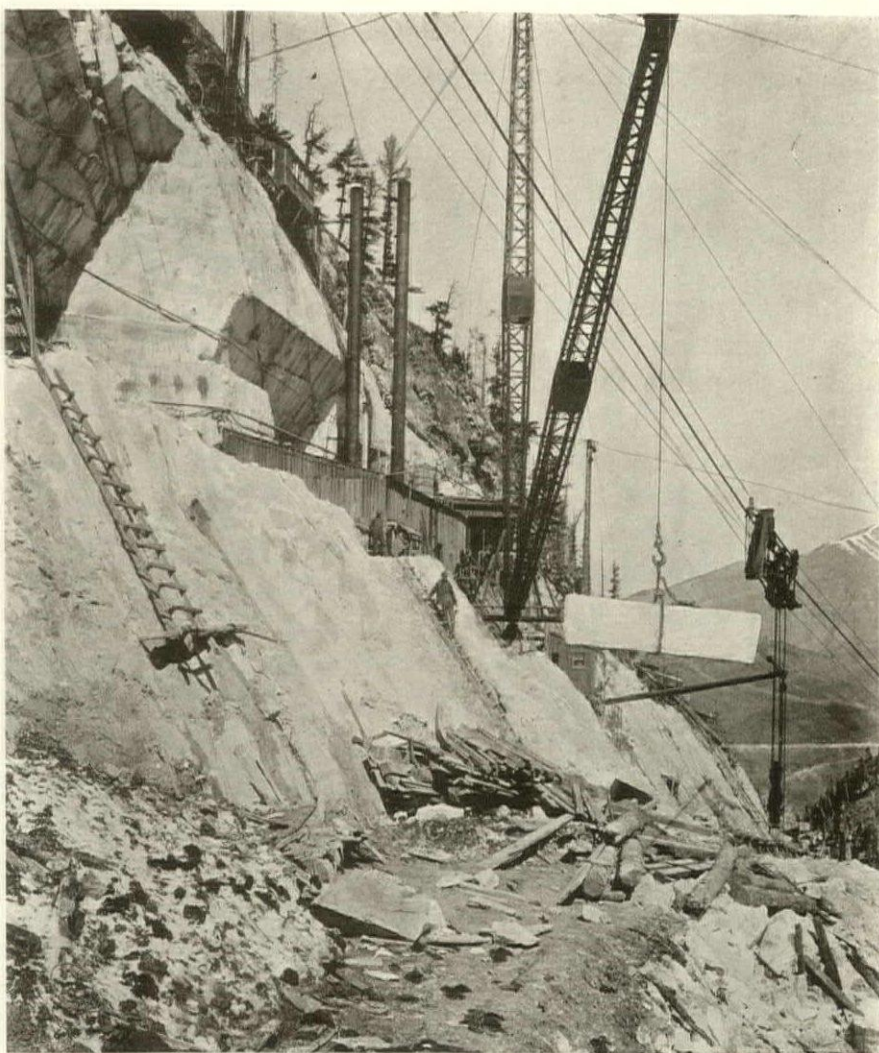
By R. D. GEORGE, State Geologist of Colorado

COLORADO is pre-eminently the mountain state of the Union. But many times in the geologic ages, where her mountains now stand, "hath been the stillness of the central sea." To this sea "through the ages" geologic the rivers carried the waste from the land, the waves, currents and tides spread it over the sea floor and from it were made the vast volume of shales, sandstones and limestones. Possibly the removal of such a great load of material from the land to the sea disturbed the balance of forces or stresses within the earth, and started those great earth movements of folding and upheaval which produced the Rocky Mountain system.

In these mountain-making processes the sediments of the sea floor were raised high above their normal position, were folded, compressed, squeezed, faulted, and otherwise deformed. Heat was developed and in

many places the common, dull gray unattractive limestone was converted into the beautiful white and mottled marbles which occur so abundantly in the mountains of Colorado, inviting the sculptor and the architect to practice their creative arts, to envisage the angel, the lily, and the temple in the lifeless stone, and by the magic of hammer and chisel call them forth to delight, instruct, and uplift.

Far beyond any present or immediate future are the vast stores of marble, largely concealed from view, but here and there outcropping on the mountain sides and in the canyon walls. There may yet return a less material age, a race creative of the beautiful, lovers of art, who will, as did the Greeks and Romans, hand down to future generations and races, ideals, imaginings and creations called into visible, symbolic being in marble from the Colorado mountains.



Beginning of a marble opening in Colorado that is now hundreds of feet deep into the mountains.

The only marble deposit of Colorado that has been worked extensively is that at the head of Crystal River Valley, located four miles from the town of Marble, Gunnison County. The deposit is of very great size, but prospecting has not gone far enough to prove its extent. As to the quality of the marble, the following varieties are recognized: First: A pure white marble which occurs in textures ranging from the finest statuary marble closely resembling the Pentelic of Greece and the Carrara of Italy, to a rather coarse textured and cleavage-mottled variety of very high crushing strength, admir-

ably suited for architectural purposes. The white marble occurs in such continuous and massive deposits that blocks of any desired size can be obtained. Second: A white marble delicately veined with golden yellow and ranging in texture as does the white. Third: A white product with dark clouding, which also occurs in a variety of textures. Fourth: A dove-colored marble of very fine texture and of excellent sculptural qualities. Fifth: A blue-gray marble more or less mottled with darker streaks of the same color. Any of these marbles can be secured in any desired quantity, but the first three are

regarded as the staple products.

The working qualities of the Yule marble have been demonstrated in every possible way, and the results have proved it to be an exceptionally high-grade product whether it is used in architecture, monumental work or statuary.

The quarries are fully equipped with all modern machinery for getting out the marble and carrying it to the mill at the town of Marble, four miles distant. The quarries have a working floor of over 30,000 square feet. The mill at Marble is up to date in every way.

At a short distance from the Colorado-Yule deposits at a point higher up on the mountains, there are many varieties of mottled marbles. These are developed from impure limestones and present in mottlings different shades of green, yellow, red, purple, pink, brown and black. A good serpentine marble also occurs. The deposits have not been prospected sufficiently to prove their extent, but there is good reason to believe that a very large quantity of high-grade decorative stone is available.

On West Castle Creek, in Pitkin County, there is a large deposit of marble which has been developed to a very limited extent by the stripping of the surface and a small amount of channeling. The work has shown the existence of two deposits of distinctly different rock. One is a dark blue marble which on polished surfaces has an almost black color tone. The other is a white marble comparable to the Yule marble.

Various estimates have been made as to the extent of these deposits, but there has not been sufficient development work to justify any statements except that they are of great size. A certain amount of core drilling indicates that the quality is constant.

Near this deposit is a very attractive brown to red mottled marble of excellent quality for decorative work.

A few miles northeast of the city of Salida, Chaffee County, there are deposits of white marble which have been opened to a limited extent, more by way of sampling than for commercial purposes. The marble is of excellent quality and includes a pure white



Channeling marble in one of the Colorado quarries.

and faintly yellowish variety and a mottled or veined variety.

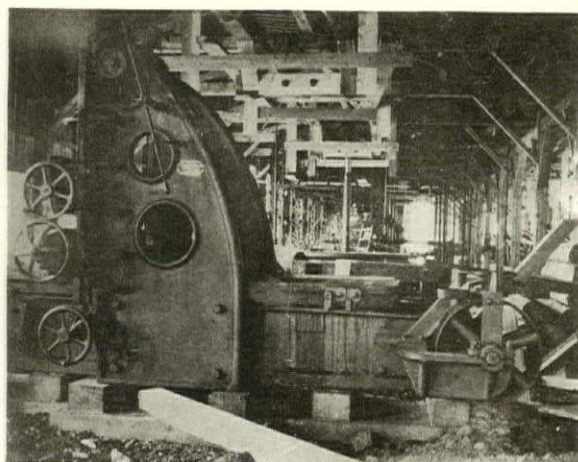
In the eastern part of Gunnison County, marbles are found in the Tomichi district on Stella Mountain to the west of Tomichi Creek; Porcupine Ridge; West Point and Lake Hill, near the mining camps of White Pine and North Star east of Tomichi Creek.

On the eastern side of the Continental Divide in Chaffee County, marble deposits occur near the mining towns of Monarch and Garfield in Taylor Gulch, and on Missouri Hill, north and east of the town of Garfield. These deposits are undeveloped, but some have been cut in mining operations, and while the volume of the rock is not known, it is believed to be large. The varieties include pure white marbles of a variety of textures, blue marble of rather fine texture, and a graphitic black marble of fine to medium texture. There is also a mottled serpentinous marble and a variety carrying considerable olivine in small grains. Ophicalcite occurs in small quantity. A number of these deposits are near enough to transportation to justify investigation with a view to development.

A few miles west of Pueblo an onyx quarry was opened up to secure decorative material for the interior of the Colorado Capitol Building in Denver. The onyx varies in color from a dark red to pink, brown, yellow, and gray. It is not regularly banded as is the Mexican onyx, and it is probable that the distribution of color is not due to deposition but rather to weathering and changes long since subsequent to deposition.

On the western border of Pueblo County not far from the Beulah, a quarry was opened some years ago in a deposit of excellent white marble of fairly coarse texture.

On Twin Mountain, five miles northwest of Canon City, in Fremont County, occurs a deposit of lavender colored marble, veined



Interior of a Colorado Marble Mill.

and clouded by deep red and a warm yellow, very similar to the Siena marbles of Europe. The deposit contains "many thick bodies of colored marbles of the finest quality. The most extensive occur in a series of benches or low spurs between gulches along the eastern base of the mountain." The deposit has a thickness of fifty to one hundred feet and extends along the base of the mountain for a distance of upward of two miles. Analyses show that the marble contains one-half the magnesium carbonate of a normal dolomite. This fact accounts for the superior hardness and good polishing qualities, and the excellent durability. It is harder and tougher than ordinary marbles. It is sound and flawless near the surface. The beds are one to several feet in thickness, and joints are far enough apart to afford large blocks. The quarried product can be let down by gravity to cars in the valley. No other deposits of this variety is known in Colorado. It can be safely said that the product compares with the most highly prized European marbles.

Many other occurrences of marble are reported but very little is known as to the size of the deposits or the quality of the stone. Among these the following counties are represented: Boulder, Fremont, and Larimer.



The Park Avenue Doorway, of Danby Marble.

A WOMEN'S CLUB HOUSE

Marble Plays an Important Part in the New Structure for the
Colony Club, in New York

THE stately proportions of the Colony Club's new home at the northwest corner of Sixty-Second Street and Park Avenue, New York City, have imparted a distinction to a neighborhood that already abounds with important structures. Delano and Aldrich were the architects of this building, which, from its very nature, demanded the solution of many problems which do not confront the architect in designing a club house for men. New York City often claims to have the "largest" this or the "tallest" that of any city in the

world. Very often it has. Certainly there is justification for its claim that it now has the finest club house, exclusively for women, in the world.

The president of the building committee was Miss Mary Parsons and associated with her among others were Mrs. Phillip Lydig, Mrs. Frank Griswold, Miss Mary Callender, Mrs. Egerton Winthrop, Miss Anne Morgan and Miss Carola de Forest, all of them of more than local reputation. It was expected that the new club house would be open sometime in 1924, but the delay in the

arrival of many parts of the decorations ordered in Europe, made it impossible to finish the building on time. Some of the crystal chandeliers ordered a long time ago in Germany were held up for a long time at Rotterdam. The brass fixtures on the windows were also long in arriving.

The façade of the new building is of the Colonial or Georgian period, and is representative of the best traditions of this school of architecture. There are six stories and a basement in the structure, but the effect from the pavement is that of four, the fifth being set back and partly obscured by the marble railing at that stage, and the sixth being included in the sloping mansard roof treatment. The main body of the structure from the second to the fourth floor is brick; the first floor is of white Vermont marble, and the fifth is shingled. However, since the window trim, pilasters, frieze course and balcony is of the same Danby marble, it is this material rather than the brick that really dominates the design.

The main front is the Park Avenue side, and here the round arched window design is admirably suited for the material employed. The doorway is of the same arched style, somewhat larger, with wrought-iron rails at either side of the three broad, round-edged steps. The chief feature of the Park Avenue façade is the treatment of the central portion, consisting of four columns extending from the second floor window-level through two stories and supporting an entablature, in reality the broken-out frieze course that is crowned by a pediment. The inner pair of columns are semi-detached, and the outer pair, square in shape, are similar in effect to the pilasters of the Sixty-Second Street side of the building. The tympanum of the pediment is of marble, and inset in the center is an oval window,

the lines of the opening continued in the graceful carving on either side. Between the columns are windows of casement type, with balconies of iron in front of the pedimented ones on the second floor, and evergreens on the sills of the round arched ones of the third story. All of this column and pediment design is of the Vermont marble mentioned above.

On the Sixty-Second Street side is another entrance, above which is a balcony of white marble on which are six evergreens whose verdant coloring is in striking contrast to the whiteness of the marble background. The windows back of the balcony, five in number, have alternate arched and pointed pediments, and they set one within each of the five panels formed by six pilasters running to the frieze course, in conformity with the plan of the main façade.

The main entrance for members is on the Park Avenue side of the building. Here on the first floor is the members' sitting-room. This is a large square room in the style of the eighteenth century in England. The panelled room is, indeed, from an old London house. It is painted in green and gold and there is in the furniture and other decorations such strict adherence to the styles of the period as the use of an old hob gate and mirror sconces. This is on the right side of the entrance, and here are the offices and telephone booths. On the left side of the entrance is the guests sitting-room, a beautifully situated apartment with the broad windows overlooking the Avenue and Sixty-Second Street. The walls of this room are covered with highly colored canvas panels taken from the walls of an old house in England.

The peculiarity of the group of rooms reached through the guests' entrance on East Sixty-Second Street is that they may be made entirely independent of the rest of



Considered the finest Club House, exclusively for women, in America. White Vermont Marble was used in combination with red brick. Delano & Aldrich were the architects.

the building. The rooms here are those used for general entertaining. As they are frequently hired by members of the club, it is convenient to have them altogether separated. The guests' entrance leads directly to the salon, ballroom, long gallery and supper room, which make up the ballroom suite. While these rooms may be separated from the rest of the building when they are needed for private entertainments, they are at other times used as an ordinary feature of the club.

The chief feature of the second floor of the club house is the main lounge which stretches across the Park Avenue front of the building. This room, which has seven broad windows on Park Avenue, with balconies in front of them, is panelled in butternut, with marble mantels at each end. The prevailing color of the hangings and furniture is blue. Next to the main lounge is the card room. This is panelled in green. The library is a large room with the walls in oak, with an ingenious arrangement by which it is possible to cover the books with blocks of panelling which so cover the spaces not occupied by books as to make it present the appearance of solid panelling. Next to the library are two private dining-rooms with old English wall paper panels of Chinese designs.

One of the novel features of the new club house is a series of dressing-rooms for members who may come into town from the country and desire to change clothing without taking a room.

The central feature of the third floor is the loggia which runs along the Park Avenue side. The two main dining-rooms are on this floor. Both are white panelled rooms with mirrors, sconces and other decorations. The room for guests, which is much the larger of the two, is on the Sixty-Second Street façade. The loggia is between

these two rooms. It is divided by seven arches and so arranged as to be open in the summer. Here in the winter time are windows in the open arches. The floor of this loggia is of Welsh quarry tile. The ceiling is vaulted and painted by Robert Chanler with exotic birds and the walls are covered with panels by the same artist. At one end of the room is a marble mantel and at the other a marble fountain, the work of Mrs. Harry Payne Whitney.

The fourth and fifth floors of the club are devoted in the main to bedrooms. On the fifth floor is the gymnasium, a two-story room with a gallery. There are dressing-rooms in opaque glass and iron, and a lounge for those who have been using the gymnasium.

There are sixty footmen employed in the house and these are quartered elsewhere, but there are welfare rooms for the men in the basement in which they may rest. In the basement is the swimming pool, which has also been decorated by Robert Chanler. It is said to be the deepest pool in the city and is built in accordance with the most modern ideas. Here are Turkish baths, as well as facilities for bathing in the manner of Nauheim and Aix. The pool runs along the Park Avenue front of the building. There is a special elevator which runs directly from the gymnasium to the pool.

On every floor there are pantries and several floors have kitchens. The halls of the building are finished throughout in Caen stone and plaster, with vaulted ceilings. The main staircase, which is wide, with iron railings, ascends to the fourth floor. For the other floors there are special staircases.

There are many novel features in the club and the women of the state may well be proud of this splendid structure built exclusively for women.

LIST OF QUARRIES AND MARBLE MANUFACTURERS

REPRESENTED IN THE MEMBERSHIP OF THE
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<i>City and State</i>	<i>Company</i>	<i>Representative</i>
Akron, Ohio.	Flower Marble and Tile Company	Jas. T. Flower
Atlanta, Ga.	Reeves Marble Company	Alex. Reeves
Baltimore, Md.	Hilgartner Marble Company	A. H. Hilgartner
Baltimore, Md.	Jos. B. Dunn & Sons, Inc.	Chas. Scheidt
Baltimore, Md.	P. B. and W. Marble and Tile Co., Inc.	Richard T. Salter
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Chicago, Ill.	Standard Mosaic Tile Company	C. R. Borchardt
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Cicero, Ill.	National Mosaic Tile Company	George Wilde
Cincinnati, Ohio	Cincinnati Marble Company	H. L. Pike
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Dallas, Texas	J. Desco & Son	J. C. Bruggen
Dallas, Texas	Southwest Marble Company	J. Desco
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<i>City and State</i>	<i>Company</i>	<i>Representative</i>
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Kansas City, Mo.	Kansas City Marble and Tile Co.	G. F. Keller
Kansas City, Mo.	Phenix Marble Company	Mastin Simpson
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Knoxville, Tenn.	Gray Eagle Marble Company	E. F. Klein
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Knoxville, Tenn.	Knoxville Marble Co.	John M. Ross
Knoxville, Tenn.	Ross & Republic Marble Co.	W. E. Moses
Knoxville, Tenn.	Salomone-O'Brien Marble Company	Walter O'Brien
Knoxville, Tenn.	Tennessee Producers Marble Co.	B. L. Pease
Little Rock, Ark.	Southwestern Marble & Tile Company	R. E. Overman
Long Island City, N.Y.	Clarendon Marble Company	Alexander Thomson
Louisville, Ky.	Peter & Burghard Stone Co.	Jos. E. Burghard
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Milwaukee, Wis.	Andres Stone and Marble Company	Edgar Andres
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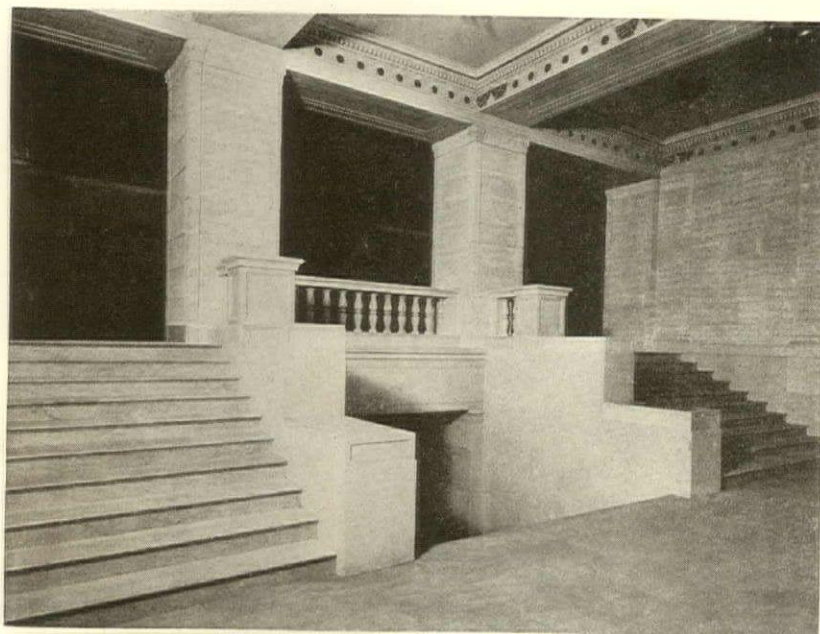
THE STATE NATIONAL BANK, HOUSTON, TEXAS

These views, from opposite ends of the main banking room, show the fine effect secured by using one material—Carthage marble—for banking screen, floors, wainscot, columns, caps and balustrade rail. Erected by us for the Lautz Missouri Marble Co. Alfred C. Finn, Houston, Texas, was the architect.

SALOMONE-O'BRIEN MARBLE CO.

KNOXVILLE

TENNESSEE



MAIN ENTRANCE LOBBY
in the
Scottish Rite Cathedral
St. Louis, Mo.



Throughout this splendid structure large quantities of marble were used—all installed by us.



THE BRADBURY MARBLE COMPANY
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PUBLIC LOBBY, KANSAS CITY LIFE INSURANCE BLDG., KANSAS CITY, MO.

WIGHT & WIGHT
Architects

COLLINS BROTHERS
Contractors



Floors of Gray Pink Tennessee with borders of Dark Tennessee and Levanto. Seats, counters and columns of Light Botticino. Walls and piers of Italian Travertine.

NORTHWESTERN MARBLE & TILE CO.
27TH STREET & 27TH AVENUE, SOUTH
MINNEAPOLIS MINNESOTA



INTERIOR of the Kent State Bank, Grand Rapids, Michigan, showing the combination of Travertine walls, Black and Gold counters and balustrade with Belgian Black bases, with Batesville in the floors. Holabird and Roche, of Chicago, were the architects. The marbles were installed by the McClymont Marble Co.

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