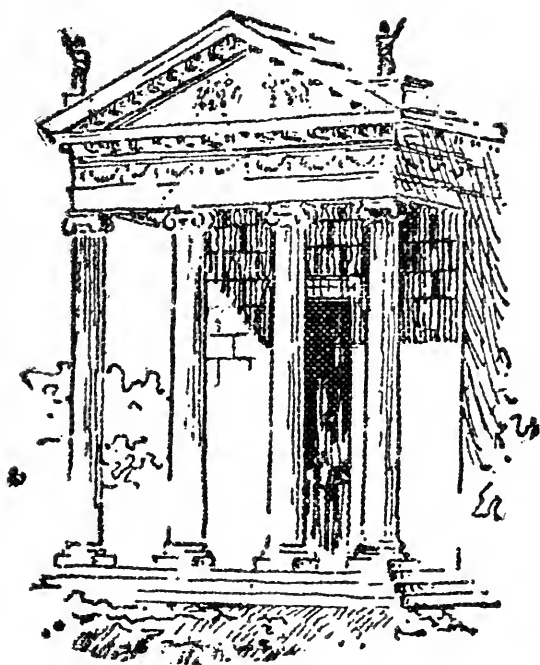


Historic Architecture

for the

Home-Builder



Walter J. Keith

HISTORIC ARCHITECTURE
for the
HOME BUILDER.

By WALTER J. KEITH

(ILLUSTRATED)



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BOOKS BY WALTER J. KEITH.

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THE HOME BUILDER.**

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"Out of the old fieldes,
Cometh al this new corne."
—Chaucer.

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PREFACE

The purpose of the author in offering this résumé of historic architecture to the public, is not so much to present a compendium of facts and theories, as to awaken an interest in these splendid monuments of the past for their intrinsic beauty and value. It is not intended here to expound the principles of vaults, thrusts and pressure, nor the use of the flying buttress. All this is in the text books and discussed by standard authorities. Nor is a minute history of each architectural period, with the part played by this or that nation in its development, attempted. Our only aim is to arrive at some portion of the spirit and meaning of the architectural efforts of the centuries, and to perceive that this spirit is the

quickening impulse of all we have or strive for in the architecture of to-day.

The author hopes therefore that the non-technical outline presented will prove of interest to all home-builders, to the end that their sympathy and enthusiasm, awakened by the beauty and loveliness of these ideals, may inspire the architect to his best endeavors.

Such a condensed view of so extended a subject would be impossible except for the assistance obtained from authors who have treated the different branches of it exhaustively. The number and variety of the works thus consulted make any specific acknowledgment of the indebtedness of this volume, other than this general one, impracticable.

In conclusion, the author hopes that this modest volume may open to the reader new sources of interest and pleasure, in tracing the connection between the buildings of to-day and the historic architecture of the past.

W. J. K.

Minneapolis, Minn., January, 1905.

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Part I

HISTORIC ARCHITECTURE

Introduction

The architectural work of the present is ever linked to that of the past; and because of this we find absorbing interest in a study of those glorious examples which have come down to us, whether preserved from the ravages of the centuries or restored by the skillful and enthusiastic architect of to-day to their original form.

A knowledge of the history of architecture is helpful in all the arts of modern civilization, for the world's progress and development is written in the architecture of the nations.

"To build, to build!

That is the noblest art of all the arts."

But the art of architecture is as far above mere building as Henry Irving's acting of Othello is

beyond the performance of a local stock company. For merely to enclose space is the least function of architecture. But to enclose a given space so that the various divisions of it shall be arranged to best meet their uses, to invest the outer walls with beauty and a harmonious disposition of parts, to add to this appropriate lines and members and refined decoration, and above all that artistic feeling, which though indescribable yet pervades true architecture like the perfume of the flower—these are—faintly indicated—the features of the *art* of architecture.

In those marvelous creations of the past, in the perfect harmony of the Grecian temple, in those Gothic towers of stone and light lit by “vast lanterns of delicate tracery,” we find the most wonderful of man’s wonderful inventions.

And while we enjoy these beautiful ideals, we may also glean from them much of practical service for our own needs. For true architecture concerns itself with the unpretentious dwelling of the home builder, as well as the Grecian temple or the glorious ecclesiastical cathedral.



Sphinx and Pyramids

1

EGYPTIAN ARCHITECTURE

It is a far cry from Cheops' tomb to a modern Twentieth Century home. An exhaustive history of the art of building from earliest times would be wearisome to the average reader and require volumes. In a resumé of this nature it is possible to touch only the more salient points in tracing the connecting links.

Of prehistoric architecture, if we may call it by that name, nothing remains to tell the story; nor are those rudimentary beginnings of man's first efforts to provide for himself shelter and a dwelling, of interest except to the scientist and the student.

We will begin our story therefore with the earliest records of architecture worthy the name—the tombs and pyramids of Egypt. These wonderful structures were not the work of primitive

man, but of a nation far advanced in civilization, and with a constructive knowledge in some directions which is unsurpassed at the present day. On the banks of the Nile still are standing those colossal structures, though "washed by the passing waves of humanity" for more than 5,000 years.

Will any work of modern architects show such endurance? We trow not. For grandeur and massiveness the Egyptian monuments have never been equalled in any age or by any people. The great pyramid of Cheops, the oldest of the pyramids, covered an area of 13 acres, twice the size of St. Paul's at Rome, and 100,000 men were twenty years in building it. Marvellous ingenuity is displayed in solving architectural problems; such for instance as strengthening the roof of the chambers within, so as to withstand the crushing weight of the mass overhead. Many of the blocks of stone weigh as much as 50 tons, yet they are worked into place with the greatest exactness. The polished granite slabs that line the interior are so perfectly fitted together that the joinings are imperceptible. Egypt has well been called the cradle of architecture, and the achievements of these ancient builders continue to interest and mystify engineers of the present day.

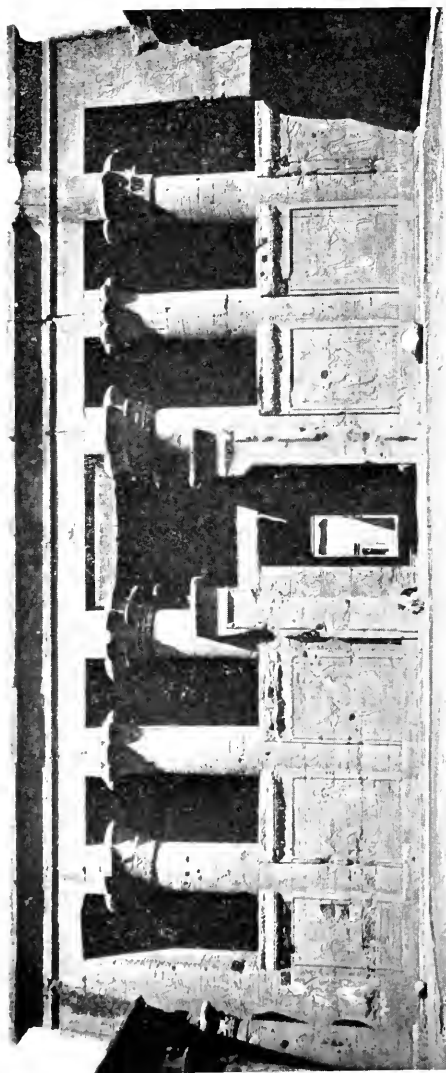
How they were able to quarry those immense granite blocks and to transport them to great distances, how they raised them to such heights as would stump our engineers with their best tackle, how they contrived to cover large surfaces of polished granite, that most stubborn of all ma-

terials, with figures and hieroglyphics of the most minute kind and highest finish—furnish interesting types for speculation. With the best modern tools of tempered steel it is difficult and costly to carve even plain letters in granite, and it is impossible to imagine how they accomplished these delicate carvings.

Familiar as are the forms of the Pyramids and the Sphinx, they form a group which is always full of interest.

The Great Sphinx has long ranked as one of the wonders of the world. It was probably built even before the pyramids that flank its sides. With the exception of the paws, which are of masonry, and the small temple or sanctuary that was built between them, the whole gigantic monument is carved out of solid rock. A drill 27 feet deep has been passed into the shoulder and it has been found solid to that distance. The height from the platform or base to the top of the head is 100 feet. The total length is 146 feet. The face of this gigantic sculpture, though battered through the centuries and the excavator's pick, still looks out over the valley with its wonderful, awe-inspiring smile.

There is much about Egyptian architecture to interest the general reader. Its character was largely influenced by the religious beliefs of the nation. The Egyptians were a deeply religious people, with a firm belief in the resurrection of the body. Hence their custom of embalming, and the solidarity and strength of the granite structures in which their dead were deposited. This desire for immortality expressed itself in the



Egyptian Temple at Edfou

Sphinx and the pyramids and gave its impress to all forms of Egyptian ornamentation, a part of the subject we shall mention later.

The Egyptian columns were of several orders, in their later development from the first square post or pillar used to support the lintel of their tombs. A form of column similar to the Greek Doric, with fluted shaft, tapering outline and square abacus, was used in the tombs at Karnac, but they made little progress in perfecting its form. Square outlines remained the characteristic of their work and were never softened into rounded or arched lines. Their neglect of the arch is a curious feature of Egyptian builders, though it is evident they were familiar with its principles, as is shown in the magnificent brick vaulting of some of the kings' tombs lately excavated.

The grandest architectural work of the Egyptians is in their built temples, ranging in antiquity from about 2000 B. C. The most beautiful and perfect specimen we have of these, though not the largest, is the temple at Edfou in upper Egypt. Though small compared to Karnac the whole edifice covers about as much ground as St. Paul's, London, and the facade measures 250 feet, 70 feet more than St. Paul's. Recent excavations have revealed it in almost its original grandeur, although,—“Whoever enters that gate crosses the threshold of the past and leaves two thousand years behind him. In these vast courts and storied halls all is unchanged. Every pavement, every column, every stairway is in its place.” Even the roof, with the exception of a

few stones, is perfect. The magnificent pylon in front is absolutely perfect. The plane of the temple displays the national peculiarities. The grand form of the propylea in front shows the inclined outline which pervaded every structure, and between them the doorway or grand entrance to the columned courts within. The peculiarly Egyptian type of architecture, which depends for its effect upon the inherent impressiveness of outline alone, is here perfectly illustrated. The sculptured enrichment over the doorway shows the symbolic form of vultures wings outstretched. The covered portico within the entrance measures 110x44 feet and consists of three rows of six columns, each 34 feet high, and opens to an inner court also composed of rows of columns. These columns display the general features of Egyptian columnar composition. They are perfectly cylindrical, have no fluting but a series of grooves and are inscribed with hieroglyphics. The principal ornamentation of the capitals consists of lotus flowers. The spaces between the columns are enriched with exquisite taste in a simple but elegant lotus motif. The entablature of the portico consists of an architrave and a coving, which is divided into spaces by vertical flutes, and which has been thought to be the origin of the Doric frieze. The spaced compartments between the flutes are enriched with hieroglyphics, except in the center, where a winged globe is sculptured. This beautiful example of Egyptian architecture displays its principal features; the unbroken continuity of outline, the pyramidal tendency of composition, the boldness and breadth of every part,

and the simplicity and dignity of the enrichment.

More impressive still in its immensity is the wonderful temple of Karnac. Like the mediaeval cathedrals of Europe this temple was the work of successive kings, and the inscriptions that cover its walls are the sources of history and a knowledge of the people. The immensity of this temple can be realized by comparing with St. Peter's at Rome, which covers only half as much ground. Its Hypostile Hall, familiar to all travelers in Egypt, is the most wonderful apartment in the world. In length it is 340 feet and width 170, its massive roof carried by 16 rows of columns, 9 in each row and 43 feet high, the shafts of the two central rows rising to the lofty altitude of 62 feet and carrying capitals which measure 22 feet across. So vivid a description of this wonderful structure is given by Ferguson, that it is here reproduced. "No words," he writes, "can convey an idea of its beauty, and no artist has yet been able to reproduce its form so as to convey to those who have not seen it an idea of its grandeur. The mass of its central piers, illumined by a flood of light from the clerestory and the smaller pillars of the wings gradually fading into obscurity, are so arranged and lighted as to convey an idea of infinite space; at the same time the beauty and massiveness of the forms and the brilliancy of their colored decorations, all combine to stamp this as the greatest of man's architectural works, but such an one as it would be impossible to reproduce except in such a climate and in that individual style in which and for which it was created."



Columns of Egyptian Temple at Karnac

The columns of this tremendous portal cast a shadow twelve feet in breadth, such as a tower might cast, and are crowned by capitals which might support the heavens. The capitals are carved lotus flowers full blown, and it would require a hundred feet of tape line to measure around the curving petals of those stupendous lilies. They still glow with color laid on four thousand years ago, color as fresh as if put on yesterday.

It is indeed a place too wonderful for words. So vast, so awe-inspiring, that no words can convey an idea of it.

Karnac the wonderful, Karnac the magnificent! There is indeed no building in the world to compare with it. "The Pyramids are more stupendous, the Coliseum covers even more ground, the Parthenon is more beautiful; yet in nobility of conception, in vastness of detail, in artistic beauty of the highest order, the Hall of Pillars exceeds them every one."

We have noted that the Egyptians were the originators of the column, and this temple, as well as their later ones, show how important a feature it became. Its usefulness in conveying a feeling of mystery and awe in addition to the constructive effect, was early recognized by them and later by all cathedral builders. The chief forms of capitals they used were the bell-shaped—the clustered lotus bud and the palm capital. The bundles of reeds tightly bound together and plastered with mud, which may be seen at the present day in use as columns in Egyptian buildings, were undoubtedly the origin of the clustered

and banded lotus column, and were probably copied first in wood and then in stone. So beautiful a motif appealed to the Grecian architect, who elaborated it into the flowing lines of their fluted shafts.

Some mention must be made of the Egyptian obelisks, which were mostly monoliths of red granite, the face of the stone highly polished and covered with carvings. The Roman emperors transported many of these across the sea and set them up at Rome, and it is of course well known that one of the finest of these obelisks, Cleopatra's Needle, graces our own Central Park in New York.

These slender shafts, eight and even twelve times the diameter of their base in height, were set in front of every great Egyptian temple, their tapering forms rising against the deep blue of the Egyptian sky and casting long shadows across the white sand of the pavement.

Color was a chief resource of the Egyptian builder, who used it in profusion upon the walls and columns of his structures. In the dim light of the temple interiors, carving and mouldings—which they scarce employed at all—were at a disadvantage. Hence brilliant coloring was resorted to for decoration. The Egyptian colorist used the primary colors in all their intensity. The atmosphere of the dry climate and the color-destroying quality of intense sunlight, to a certain extent modified this intensity and brought into harmony the vivid blues and scarlets that would be intolerable in the north.

In their decorations their religious beliefs were

expressed, and their symbolism was of a high order. It subordinated the physical to the ideal, and their ornaments, whether delicate or grotesque, express sentiments purely spiritual.

The Lotus, or Lily of the Nile, was their favorite illustration of divine energy in the resurrection; and the vulture, the emblem of the soul triumphant in death, embodied the idea of the vulture's power to create living substances out of dead and decomposed matter. Vultures were frequently embalmed with the bodies of dead kings and with equal solicitude. The long wings of the vulture enclosing the body adapt it effectually to decorative art, and it is the first example of the wing decoration so profusely used upon Egyptian temples. Other frequently recurring emblems were the winged globe or Good Demon, and the Scarabæus or beetle.

The wealth of ornament and decoration lavished upon every Egyptian building can only be touched upon here. Every surface was a field for decoration and their wonderful skill in the use of gorgeous color, the motifs of their decorative detail which they drew from nature, the play of light and shade from the overhanging cornice and sloping walls, ever continue to interest the architectural student. Nor have they ever been equalled for grandeur of conception, dignity and massiveness.



Winged Griffin—Assyrian Wall Decoration

ASSYRIAN ARCHITECTURE

Assyrian architecture, though next in point of antiquity to the Egyptian, has few points of resemblance. They made little use of the column, which occupied so important a place with the Egyptians. Their halls showed none of those columnar forests, no grand pylons, no cloistered court, and they used sun-dried brick in place of the huge stone blocks of the Egyptian. Their sphynx is the winged bull, which guarded the portals of the palaces. These human-headed animals with the body and legs of a bull, with enormous wings projecting from the shoulders, stood in pairs on each side of the doorways of

palaces, which it is thought had no doors or lintels but were open to the roof and protected by curtains. Some of these figures were 20 feet high and had delicately carved garlands of leaves and roses encircling their heads. The illustration shows an ancient Assyrian wall of sun-dried brick with sculptured bull. How they accomplished these reliefs on such a surface is still a matter of speculation, as nothing remains but fragments. There are, however, enough of these to show that ancient Assyrian art attained a high degree of refinement.

The plans of Assyrian buildings differed from the Egyptian in the immensely greater length of their rectangles. Eastern architects used this rectangular outline to a great extent, and gave grace and beauty by carrying up a minaret or a dome, an octagon or a circle from an ordinary square hall. These excavated sculptures show that this was sometimes done by the ancient Assyrian builders. The sculptured slabs which lined the lower walls of their palaces are all that are left of them; but these tell us much. They even tell us that the private houses were several stories high, the ground floor only having a door. The roofs were flat and fire-proof, thick layers of earth on strong beams, and on one of the sculptured slabs which represents a town on fire, the flames are stopped by the roofs and are forced out of the windows. These sculptured slabs are so numerous that in one place alone there are over two miles in length of them. They represent in low relief the national history and domestic life of the people.



Bull Capital. Palace of Artaxerces

PERSIAN

Of ancient Persian art or architecture we know little. That it was developed at the same time as the Grecian we know, but on utterly unlike lines. Though the remains of their edifices are columnar in form, they bear no resemblance to the Greek temples, and their capitals are crowned by the human-headed Assyrian bull, instead of the refined forms of the Greeks. There are ruins of one or two palaces, from one of which has been copied the illustration, showing the double bull's heads with the singular volutes beneath. The little we know of their architecture shows a style unlike any other, though with a certain grandeur, as indicated by the design of their columns and their gigantic size, the capital alone from which the illustration is taken being 28 feet high.

INDIAN ARCHITECTURE

The ancient architecture of East India has little interest for the western mind. The peculiar and fantastic forms of their pagodas and temples seem to have no foundation in true principles of art, and their decorations, though profuse, are unmeaning and grotesque.

In some districts, however, recent investigations disclose architectural remains of more dignity and character. Some of these are illustrated in the photograph shown, taken from a model of an ancient temple in Camboja, India, which was exposed at the Paris World's Fair in 1900.

The picture affords us a strange peep into a civilization now in the profoundest decay, the



Temple of Camboja, India. Interior

temple being supposed to be about 50 A. D., when Camboja enjoyed a period of great splendor.

Inside the temple are grouped reproductions of the most precious specimens of Hindoo sculpture and architectural decoration. In the center, the sacred legendary lion stands on a pedestal between two massive and richly decorated pillars, which are extremely interesting as displaying a Roman-Doric character, as also the ovolo moldings of the beautiful cornice. Leaving to archaeologists the discussion of their origin, the great beauty and dignity of this ancient temple appears to fully justify the extravagant accounts of some travelers, and may easily be classed as one of the most extraordinary architectural relics in the world.

The later architecture of India possesses some very beautiful examples of pure eastern art, perhaps the most noted being the exquisite Taj Mahal at Ogra, India, so often described by travelers, a composition showing strong Saracenic influence, being an extension of the Moorish type of architecture into the southern Orient. No photograph can do justice to the white beauty of the marble structure standing upon a platform of white marble and crowned by its matchless dome, "bathed in wondrous light, such as might dwell in the windings of a pearl shell."

At each corner of the marble platform rise dainty marble minarets, each composed of four marble columns, which complete the simple beauty of this architectural pearl. Beneath the marble dome rests the tomb, enclosed by an ex-

quisite screen of trellis-work in white marble, a masterpiece of the Indian artist. The only light admitted to the enclosure comes through the interstices of the marble trellis-work, producing a soft and chastened gloom inexpressibly impressive.

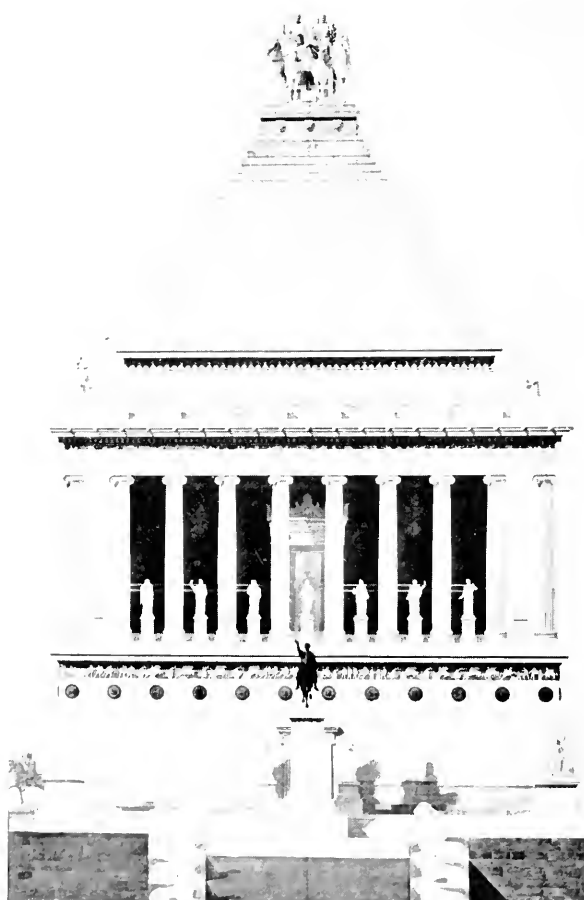
The architectural details of this graceful sepulchre are enriched with precious stones, agate, bloodstone, jasper, etc., used with a taste and judgment almost equal to the design itself.

Near the Taj Mahal is the Motf Masjid, or Pearl Mosque, the most elegant mosque of India. The court yard is of white marble and the mosque proper is entirely of white marble inside and out, except for a frieze bearing an inscription inlaid in black marble, from the Kōran—the sole ornament, beside the exquisite lines of the structure itself.



*"Greek Architecture is
the flowering of geometry."*

—Emerson



Mausoleum at Halicarnassus

2

GREEK ARCHITECTURE

From the dim and mysterious twilight which envelops the strong but primitive architectural conceptions of the ancient Egyptians to the refined and æsthetic construction of the Greeks, is a long step in history. For the Parthenon, that glorious building which is the familiar example and exponent of classic Greek architecture, was built less than 2,500 years ago. Nor have we now so much of the original structure standing to tell the story of its own beauty, as can be seen of the great Egyptian temple at Karnac of a date two thousand years earlier. How long this masterpiece of Greek art might have defied Time's spoiling alone, we cannot tell, for the more brutal and savage hand of man destroyed it. For two thousand years the Parthenon preserved most of its original glory, at least its outlines, but in 1687 it was rent asunder by an exploding bomb, and is now but a ruin. Fortunately, before its

destruction, drawings of most of the different details had been made, so that we have in the present a complete knowledge of this masterpiece of the past—"That mingles Grecian grandeur with the rude wasting of old Time."

All architecture may be resolved into the two primary constructive methods of inclosing space, viz., the lintel and the arch.

The straight beam or lintel across supporting columns was the earliest and simplest method of building, the method used by the Egyptian builders. The stability of the lintel type appealed to them, was adopted by the Greeks and blossomed into the classic beauty of the Grecian temples. The Greeks took from the Egyptians the main features of construction, but expressed them in terms of beauty rather than grandeur, and in exquisite refinement of detail. The sculptural perfection which is so marked a feature of Greek architecture was in part the expression of the national love of physical perfection, a national ideal so strong as to be part of their religion. The Greek shrine or temple was the setting for these wonderful sculptured statues, and was itself adorned with sculptural details of idealized beauty. Nor is the harmony and proportion of the classic style altogether an inherent part of the style itself, for we too often see sad abuses of it; the taste and judgment of the skilled architect are needed to determine the proportions of the columns and of the entablature, in order to secure harmony of composition.

The Greek architect laid stress on columns and horizontal lines, and obtained from his admirable

arrangement of them, together with the breadth, fitness and beldness of every part, those peculiar qualities of simplicity and harmony which are the distinguishing features of Greek architecture. His judicious arrangement of moldings to produce effects of light and shade, heightened by the fluting of the columns and the peculiar forms of the columnar capitals, were only second to the graceful and elegant outlines of the structures which are such wonderful compositions of beauty and harmony.

The most important feature of Greek architecture is the use of the three principal orders—the Doric, Ionic and Corinthian, with the different capitals and moldings pertaining to each.

The Doric was the earlier, and was no doubt suggested to the fertile imagination of the Greek by Egyptian edifices and use of columns. The Doric column was a tapering shaft divided generally into twenty flutes, and crowned with a simple capital which supported a broad, square abacus that projected a deep shadow on the moldings below.

The entablature is supported by these columns and a distinguishing feature of the Doric order is the triglyph or vertically channeled plate which divides the frieze of the entablature and forms sunken panels to receive sculptured ornament.

The characteristics of the Doric order are dignity and strength, imitating, says the ancient architect Vitruvius, "the naked simplicity and dignity of the man," while the Corinthian order imitates "the delicacy and the ornaments of a woman."



Temple of Neptune at Paestum

For all the higher architectural effects, the Doric order, though wanting the grace and delicacy of the later Ionic and Corinthian orders, is perhaps unrivalled. It is evident Milton held it most impressive, for in his description of the building of Pandemonium, the marvelous city created by Satan out of a hill of gold, which he exhausts even his wonderful vocabulary in describing, he speaks of the "Doric pillars overlaid with golden architrave."

The best preserved example of ancient Greek Doric, on the whole, that remains to us, is the temple of Neptune at Paestum, which is supposed to date at least 500 B. C. The earlier Doric columns were much more massive than later examples like the Parthenon, and in this temple they have a diameter of 6 feet 10 inches at the base, but tapering markedly at the top. The columns have each twenty-four flutes, and are crowned by deeply projecting capitals, which sup-

port a massive entablature. This entablature, though massive, is well upborne by the columns, which rest on a horizontal and spreading basement, for the fitness and proportion of every part was the crowning quality of Greek architecture.

The temple was constructed of a coarse, calcareous stone from the neighboring hillside, but completely covered both inside and out with a fine, hard stucco, formed of lime and pounded white marble, which took a high polish and was not distinguishable from real marble. Veneer construction was, however, not characteristic of the Greeks, though much in use by the Roman builders. The Greek architecture, with its pure and severe outlines, did not invite shams or pretense. And this temple is almost the only instance where the construction was not solid. The work was, however, of a high order, and the glistening marble surface relieved by color decoration and carving as in all Greek temples.

The Theseum, as it stands today on the Acropolis at Athens, is a conspicuous example of Greek Doric architecture modified by Byzantine influence. The temple in fact for many years in Byzantine times served as a Christian church, and is now occupied as a museum for antiquities. The Theseum was built of Pentelic marble, which now has taken on a golden brown hue from centuries of exposure to the elements, the date of its erection being fixed at 500 B. C. The coffered marble ceiling still survives, and the temple is probably the best preserved example of ancient Greek architecture.

Without the abundant quarries of fine white marble that were stored in every Attic hillside, the wonderful sculptures of those columned temples would probably never have been attempted.

The Parthenon—that exponent of architectural perfection—was built from the finest marble, quarried near Athens. It represents the highest expression of Greek art, and displayed every refinement known to the Greek architect. The Parthenon, literally interpreted, means “maiden’s chamber,” and was the stately shrine for the colossal statue of the goddess Athene, forty feet high and made of carved ivory and gold. This statue was the work of the matchless sculptor Phidias, as also many of the sculptures of the building. The temple itself was built of marble, and raised on a foundation platform. The distance from the platform to the point of the gable was but sixty feet, yet it is considered the most exquisitely proportioned building in the world.

The long, low, sloping roof was an architectural result of climatic conditions. No steep, storm-shedding roof was needed in that sunny isle

“Where the winds of the north becalmed in sleep,
Their conch shells never blow.”

and the projecting cornice was all that was needed as a shield from the weather for the beautiful frieze below.

The gable ends—the pediments—were filled with sculptured reliefs, and the frieze referred to continued around the columned arcade. The building was profusely decorated with color and gold ornaments, used to relieve the too dazzling



Temple of Theseus—Athens

whiteness of the marble in that brilliant sunshine. Color indeed was a feature of the Greek temple whose exterior as well as interior decorations were rich with color, while the walls and columns were toned down to a yellowish ivory like the softening tint that time gives.

With this slight general outline of the edifice, we may proceed to examine the different features, for in the Parthenon we have the noblest example of Greek classic architecture of the Doric order. The long, unbroken lines of the columns rise directly from the stone platform without a base, and taper toward the top—not in a straight line but with a slight, subtle curve or swelling of outline, which was one of the refinements of Greek architects, and used to counteract the tendency of a long, perfectly straight column to look hollow in the middle. This curve created an optical

illusion, being too slight to be noticeable to the eye, varying only three-fourths of an inch in a height of thirty-two feet. Another device of these ancient architects was to remedy the appearance of a "sag," or droop in the center of a long, horizontal line, by slightly curving upwards the architrave, or beam across the top of the columns—towards the center, so that it appears to be perfectly straight, while in reality curving upwards to the extent of three inches. Another subtle correction was applied to the setting of the columns, because vertical lines have an apparent tendency to "spread" or diverge at the top. So the columns are set with an inclination inward, so slight that the eye does not detect it, but an effect is given of perfect repose. All these refinements of construction are made use of by the modern architect of culture, who bestows care and thought upon his designs.

The tapering fluted shafts were crowned with capitals of simple beauty, beneath a broad, square abacus which threw a deep shadow on the column below. This play of light and shade, and the deep shadows cast by the insulated columns, is one of the enchanting effects of Greek architecture.

Above the plain architrave, or supporting member of the entablature, ran the frieze, in the Doric order, divided into square panels separated by slightly projecting blocks which were grooved. These blocks occurred over each column and once between, and this regularity of repeat is a feature of classic design. The spaces between the blocks or "triglyphs," were filled with sculptured reliefs.

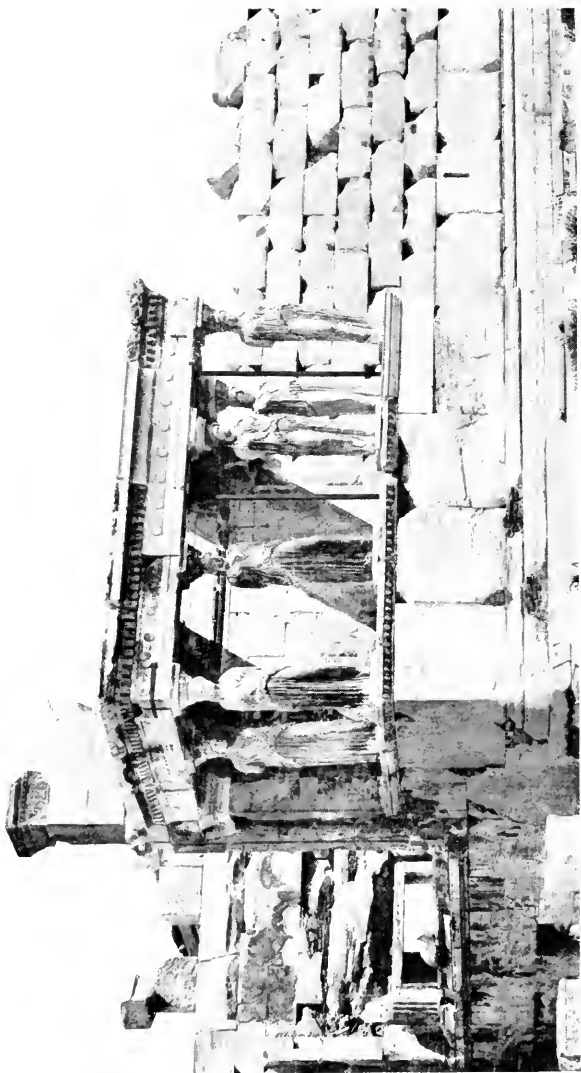
The celebrated frieze of the Parthenon is a band of relief four feet in width around the temple, within the colonnade. The sculptures upon it represented the processional in the grand festival of the goddess Athena, whose temple and shrine the Parthenon was. At this festival was yearly



Parthenon—Restored

presented to the goddess a new robe, woven by the most skillful high-born ladies and carried by the noblest daughters of Athens. In the procession were all the statesmen and generals, the crowned victors of the sports, the chariots and sacrifices, the flower of Athens, on horses with brilliant trappings. All these were reproduced in this beautiful frieze, which told the story of the great festival in honor of its goddess in the wonderful bas-reliefs sculptured upon it.

Above the frieze is the cornice, the lower portion carried along horizontally over the frieze while the upper members follow the sloping lines



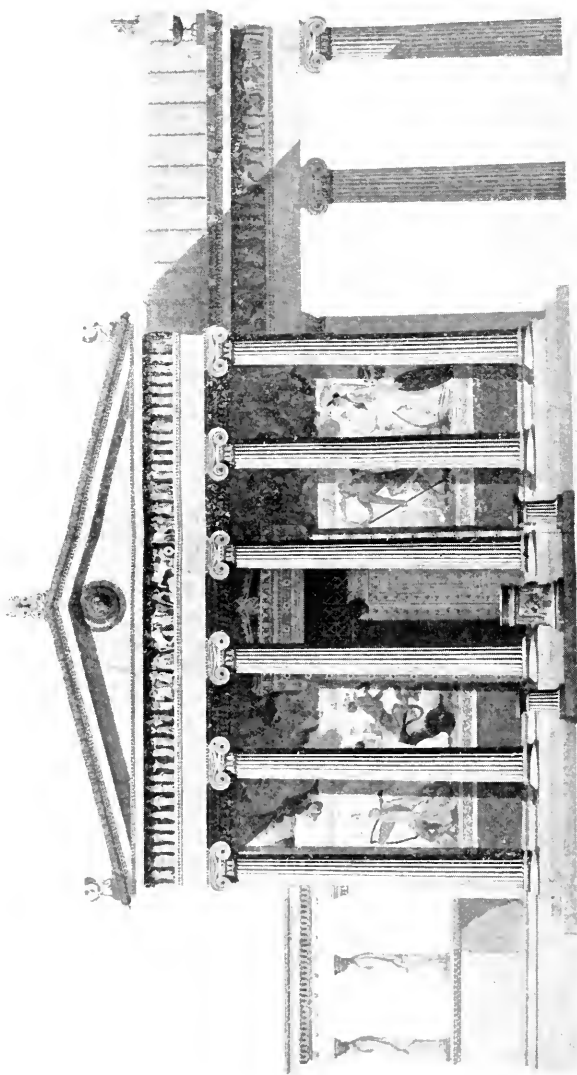
Ruined Portico, Erechtheion, Showing Caryatides

of the roof ; the triangular space thus enclosed is called the pediment, and this pediment is a very telling architectural form for which we are indebted entirely to the Greeks. No suggestion of it is found in Egyptian architecture, but it is the crowning feature of every Greek temple. Like many other things which seem so simple after they have been done, it has been incorporated in much of our modern architecture, and resulted in the grand gables of our Gothic architecture. The pediment of the Greek temples was a leading architectural feature, and contained the finest sculptures. It has been said that "to study the execution of the Parthenon pediments, is the liberal education of artists ; to imitate it, the despair of sculptors."

These sculptures were the work of Phidias himself, among them the noble statue of the reclining Theseus. With other of these fine sculptures this statue belongs to the Elgin collection in the British Museum. The back of the Theseus has been called the finest thing in the world, and serves to show the surpassing excellence and religious care, of Greek workmanship ; for the statue was fifty feet above the ground, and moreover its back was turned towards the wall, where no one could possibly see it, and serves to exemplify the painstaking labor of those workers, when

"In the elder days of art
Builders wrought with greatest care
Each minute and unseen part."

Another fine example of the Doric order of Greek architecture is shown in the temple of Theseus, at Athens the Theseus whose sculptured



Oriental facade of Erechtheion. (Conjecturally Restored)

back was so fine. Here the shafts are slender and the molding refined. The leading features are similar to the Parthenon; indeed, although great stress is laid upon the different "orders" of Greek architecture, and the correct carrying out of the detail belonging to each, there was but this one main type—that of the pedimented temple with its colonnade. This form was worked out by the Greeks in a manner never surpassed, and the details with which they adorned the form have a perennial charm from their chaste and exquisite beauty.

Besides these three principal species of columnar arrangement, the Greeks employed another, in which the statues of women took the place of columns. These columnar figures were called Caryatides, and the only existing example is the ruined south portico of the Erechtheion at Athens, here finely photographed.

This famous Caryatidean portico was a projecting wing of the principal Ionic structure and shows square plinths supporting six majestically draped, female figures upon which rest the entablature.

The Erechtheion appears to have been designed as a foil to the stern severity of the Parthenon which it faced, for the east facade of this triple temple is extremely light and graceful in character, showing oriental influence in the decorations within the portico. Rising on the brow of the Acropolis,

"where in Legend tinted line
The peaks of Hellas drink the morning's wine,"
with its delicate Ionic columns terminating in

"golden curls," oriental fret work and brilliant frescoes, it presented a striking contrast to the stern beauty of its vis-a-vis, the Parthenon. The temple was built entirely of white Pentelic marble, except the frieze, which was of black marble. At the left we have a glimpse of the Caryatidean portico as restored.

The Erechtheion, while very beautiful in itself, is an exception to all rules, and forms altogether one of the most heterogeneous compositions to be found in ancient architecture. The modern church of St. Paucias, London, is a modified copy of the Erechtheion.

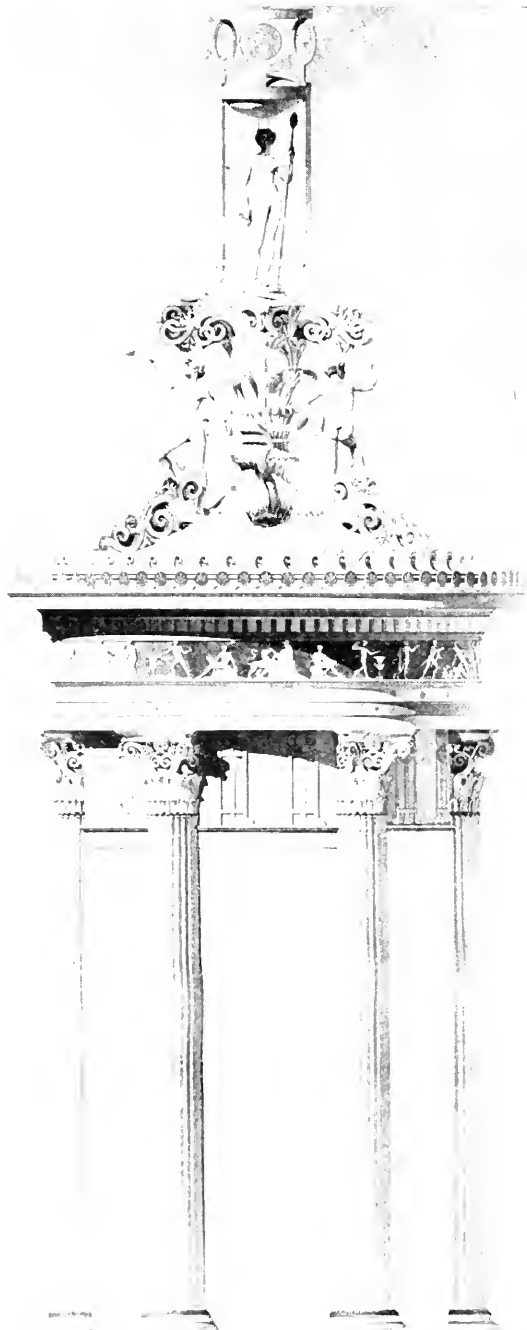
The Doric order of structure gradually developed the more delicate type of the Ionic and Corinthian styles, in which appeared the added features of a happily designed base to the column, the carved moldings of the entablature and the beautifully designed and ornamented capitals of the columns. The Ionic capital is richer and more elaborate, terminating on each side in a feature like a scroll called the "Ionic volute." The column is more slender and more deeply fluted; the frieze has no separating triglyphs, but is either plain or enriched with an uninterrupted design carved in relief. The projecting cornice was treated with "dentils," a detail in common use in all modern design. The general characteristics of this order appear in fact frequently in present day architecture, and one sees the interesting capitals and flutes everywhere, even in the detail of furniture design.

The most notable examples of Greek Ionic are the temples of Wingless Victory and the Erec-

tion at Athens. The latter has already been alluded to as refined in composition, though showing much variety of detail and considerable irregularity of plan.

Although in Egypt the grandest structures next to their mighty temples are the tombs, in Greek architecture these are of little interest. Quite the finest among them was the tomb of Mausolus at Halicarnassus, from which our word "mausoleum" is derived. It consisted of a lofty base, on which stood an oblong Ionic edifice surrounded by 36 columns, and surmounted by a pyramid of 24 steps. The whole structure, 140 feet in height, was crowned by a chariot group in white marble. Up to the tenth century this edifice was in perfect condition, but was then destroyed and is here conjecturally restored.

The Corinthian capital, or third order, was the creation of the later period of Greek architecture. The bell-shaped capital was surrounded by two rows of acanthus foliage, which developed into spiral volutes at the angles, and combined to form an exquisite decoration. The honeysuckle was another favorite form of the foliated capital. An example of round foliated capital—less common than the square—is given in the beautiful little structure called the Choragic monument of Lysicrates, at Athens, which has been restored, and is the only example of this pure Grecian order remaining. In those capitals one-third of the space is occupied by calices and tendrils supporting a honeysuckle against the abacus. This small structure is considered one of the most beautiful compositions in its style ever executed.



Choragic Monument of Lysicrates

The bold and simple base, admirably proportioned to the rest of the structure, the columnar ordinance, the richly ornamented dome, are all arranged with the most exquisite harmony of composition. It is simple without being poor, and rich without being meretricious.

In nothing is Greek architecture more distinguished than in the beauty and grace of its moldings and ornaments. The general outline of the moldings is curved and flowing, the Hogarthian line of beauty, in effect, though of Greek moldings Hogarth could have known nothing. The familiar egg and dart molding comes to us from the ancient Greeks. A technical description of these features does not lie within the scope of the present work, which aims more to present the general composition of the historic style, as the foundation underlying all our modern architecture.

The domestic architecture of ancient Greece would be a most interesting study if we had any data on the subject. But unfortunately no remains of their domestic structures exist, and our only knowledge of them is derived from the allusions of contemporary writers. It is probable they were modeled after the fashion of the houses excavated at Pompeii, a city largely influenced by Greek ideas, though probably the Greek house was less luxurious. That it was characterized by the same beauty of form and perfection of finish which pervaded not only their public buildings, but even their implements of war and articles of domestic use, seems a foregone conclusion.

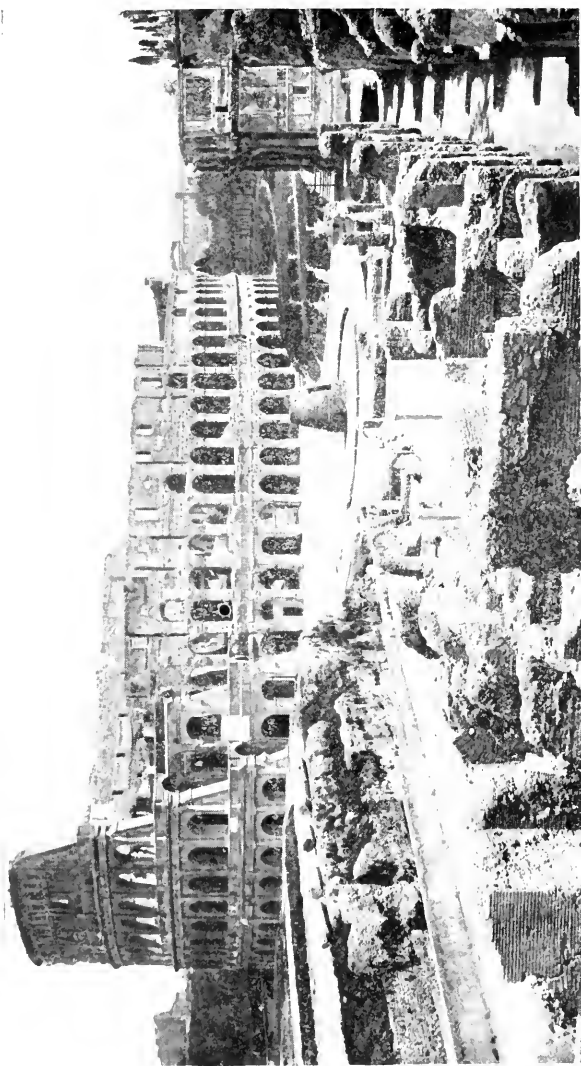
*“While fancy brings the vanished piles to view,
And builds imaginary Rome anew.”*

3

ROMAN ARCHITECTURE

In tracing the architectural development of the Roman people, without going back to the early Etruscan period of which but few records remain, it is well to consider the character of the nation and the contrast between its civilization and that of the Greeks. For although Roman architecture was, speaking broadly, the architecture of the Greeks, the former was practised by a strong and virile race, and into it was grafted a new constructional principle—the principle of the arch.

The Roman was practical, hard headed, ambitious. With conquest had come great wealth and power. He developed a great love for luxury, pomp and show. With none of the esthetic Greek's love of beauty for itself alone, he imported Greek architects to design for him, just as he gathered spoil of every sort from all the world. Neither did the religion of the Roman exert any decided influence over his architecture as in the case of Egypt, for he was not religious. He had his gods it is true, and offered them perfunctory honors and sacrifices.



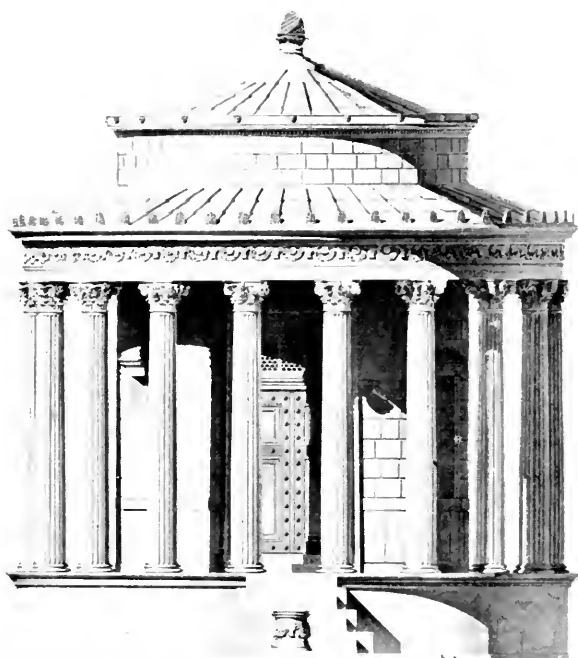
Ruins of the Colosseum at Rome

but even the temples appear to have been utilized for other purposes than that of worship. The public life of the Roman centered in the great baths, the theaters, in the lofty basilicas where public business was transacted and which afterward were remodeled into the churches of the early Christians.

Rome was a great commercial center and required large and lofty buildings. It was the demand for vast structures adapted to the business and pleasures of a commercial and amusement-loving people that evoked the arch, the vault and the dome. A great area is not easily covered by the horizontal beam and the column. The great temples of the Egyptians were forests of columns and divided into comparatively small compartments. Immense concourses of people could not assemble in such an interior, and so the flat lintel of the Greek temple was superseded by the Roman arch. Temples, palaces, amphitheatres, basilicas, rose at the bidding of great wealth, and were made possible by this new constructive invention, which moreover enabled the builders to utilize inferior material. Almost all these vast theaters, baths, aqueducts and palaces were built of brick, though many were faced with stone or marble and have marble porticos and columns. They also made great use of stucco as a surface for decoration. In short, they built for utility and for show, caring little for artistic feeling, though excelling in the practical inventions and possessing a thorough knowledge of construction, as attested by their great aqueducts, roads and theaters still in existence.

The building materials of the Romans and the manner in which they employed them are very interesting. At first the volcanic conglomerate of ashes, sand and charcoal called "tufa," was used for the main walls, while at points of pressure, such as piers or arches, the harder "pepperino" was inserted. The Colosseum is a particularly elaborate example of this mixed construction. Some of the volcanic products which lie in immense beds under and around the city of Rome when mixed with lime form a very strong hydraulic cement of enormous resistance and durability, in many cases exceeding the most massive stone masonry.

Although the Roman builders used blocks of stone in their walls, sometimes as much as 8x15 feet in size, they fastened them together by iron clamps, only setting them in cement to obtain a smooth and level surface. The concrete material so much employed in their construction was extremely hard and durable, and faced above the foundation walls with brick or marble, or stucco. When stucco was used, they studded the face of the wall before the concrete was hard, with iron or bronze nails, to give a hold for the stucco. The marble slabs used in such profusion as linings to walls were fixed to them by long clamps of metal hooked at the ends, so as to hold in a hole made in the marble slab. The quantity of rich marbles brought into Rome from Greece and other countries is beyond calculation, so lavishly were buildings enriched with them. Enormous quantities of Libyan marble, of a rich yellow color deepening to orange, and



Circular Temple of Vesta

even pink, were used for wall-linings and columns and even pavements. Six large columns of the Pantheon are of this marble. Another variety was blood red in color, and employed on small cornices and interior moldings. There were many varieties of mottled marble, and some having wavy stratas, of white and pale green. A semi-transparent and beautifully marked oriental alabaster, very hard, was used in enriching the baths and elsewhere. It was the boast of Augustus indeed that he "found Rome brick and left it marble."

With this glance at Roman character and materials, let us return to the earlier period when Greek influence dominated construction. That the Greek temple type prevailed extensively in early Roman architecture is attested by the many ruins scattered throughout Italy and other portions of the Roman empire. One of the most interesting of these is the little circular temple of Vesta at Tivoli, the circular, inner cell surrounded by an outer circle of beautiful Corinthian columns, each 32 feet in height, the circle being 156 feet in circumference.

The classic roof of this temple, originally covered with Syracusan bronze, is long since gone and has been replaced by a wretchedly incongruous one of red tile. No shrine in Rome was so sacred as this little circular building which contained the sacred fire that if allowed to go out would have endangered the existence of the city itself.

The original temple was destroyed about 500 B. C., and has been conjecturally restored from the columns, cornice sections and other fragments of the architectural features found in the excavated Forum.

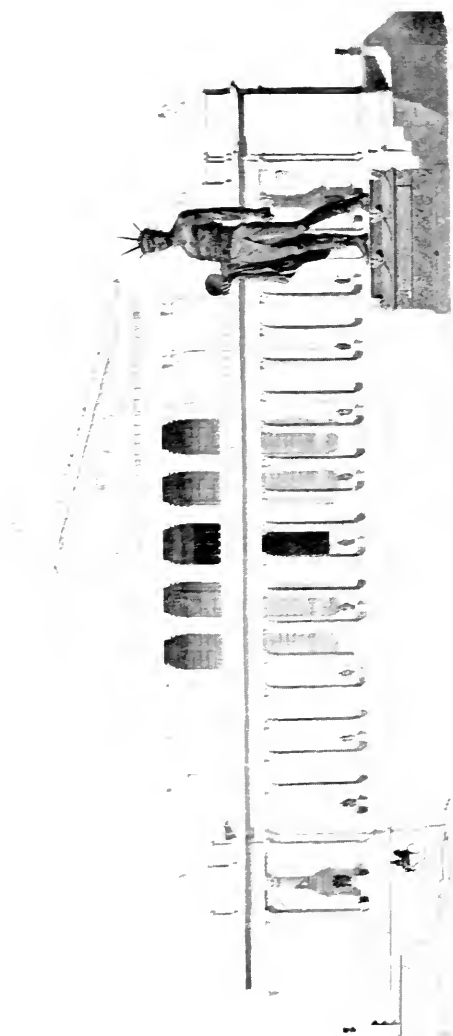
Near the temple itself stood the house of the vestals, containing beside the three chambers for the six vestals, a bath-room, bake-house and servants' offices. The rooms proper and the bath are lined with polished marble of great beauty and rarity and the floors are of tessellated mosaic of porphyry and marble, showing in many places the clumsy patchings of restorations in the fourth and fifth centuries.



Corinthian Capital. Temple of Mars

The excavations of recent years have laid bare the remains of this very interesting building, which appear in an unusual state of preservation in spite of the erection of later buildings over them. The concrete walls were faced with brick and decorated with colored stucco; the columns were also stuccoed and colored crimson, while the stone gutters along the roof were bright blue. The inner walls were paneled and decorated in simple designs of leaves and wreaths. Though the last vestal disappeared in the fourth century, this building continued to be occupied for several hundred years later, but was finally blocked up and buried under the accumulated rubbish of Rome's many conflagrations.

The illustrations show the temple of Vesta as



Temple of Venus and Roma, Rome. (Conjecturally Restored)

restored, and a restored capital of a column of Mars. These temples were situated on the Capitoline Hill, that mass of architectural magnificence gathered from the spoils of the whole Hellenic world. The photograph is a fine example and gives us a very clear idea of the beautiful Roman Corinthian capital crowning columns having twenty-four semi-circular flutes. The capital is composed of two rows of acanthus leaves, each row consisting of eight leaves ranged side by side, but not in contact, with tendrils and foliage. The abacus has molded faces and is enriched with a rosette or flower in the center of each face overhanging the tendrils of the capital. Unlike the Greek Doric and Ionic each example of the Roman Corinthian is a law unto itself, and differs from every other in the distribution of its various parts. Besides the Corinthian proper, the Romans used many other varieties based upon that order; one called the Composite appearing frequently in their triumphal arches. They had still others, in which human figures and animals, with a variety of foliage and other peculiarities were introduced. The Corinthian was the favorite order of the Romans who cared little for the simple severity of the Doric, and preferred the richer ornamentation of the Corinthian.

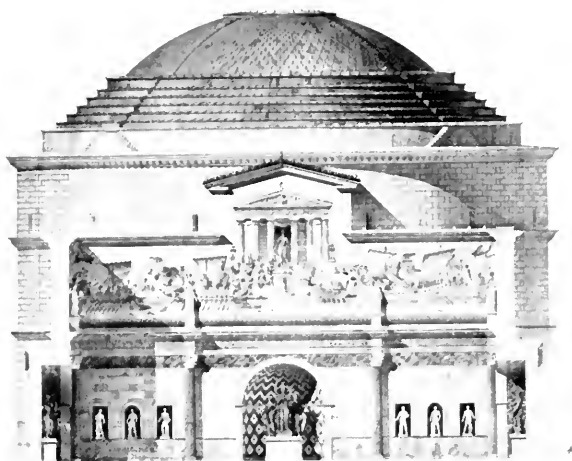
The photograph shows the beautiful temple of Venus and Rome, as conjecturally restored from fragments remaining of the cornice and columns and descriptions of contemporaneous writers. The temple was originally planned by the Emperor Hadrian, that ancient dilettante and

connoisseur in fine arts. He showed his design with proud satisfaction to Apollodorus the architect of Trajan's Forum, who remarked that "the deities, if they rose from their seats must thrust their heads through the ceiling." We can imagine what happened to Apollodorus.

This magnificent temple 400x200 feet was built of brick with columns of gray granite, and richly embellished with statuary and carvings.

In front of it stood the colossal bronze statue of Nero, its head surrounded by rays that it might represent Apollo. It required forty-two elephants to move this colossal statue to another position.

The most splendid of the temples of *old* Rome, and indeed the only structure which has come down to us in a fairly perfect state of preservation, is the Pantheon, that model of ancient architectural beauty, which even now excites the admiration of every beholder. The Pantheon presents more characteristic features of the ancient Roman style, than any other one building, and its interior is called by Ferguson one of the sublimest in the world. Its immense circular window at the top, some 30 feet in diameter, "that one great eye opening upon heaven" says the same authority, "is by far the noblest conception for lighting a building to be found in Europe." The structure was built of concrete covered with brick and then veneered with marble. Many theories have been advanced as to the part played by these tiers of brick arches, but the thickness of the concrete—20 feet, while the brick facing scarcely averages 6 inches—seems to show their

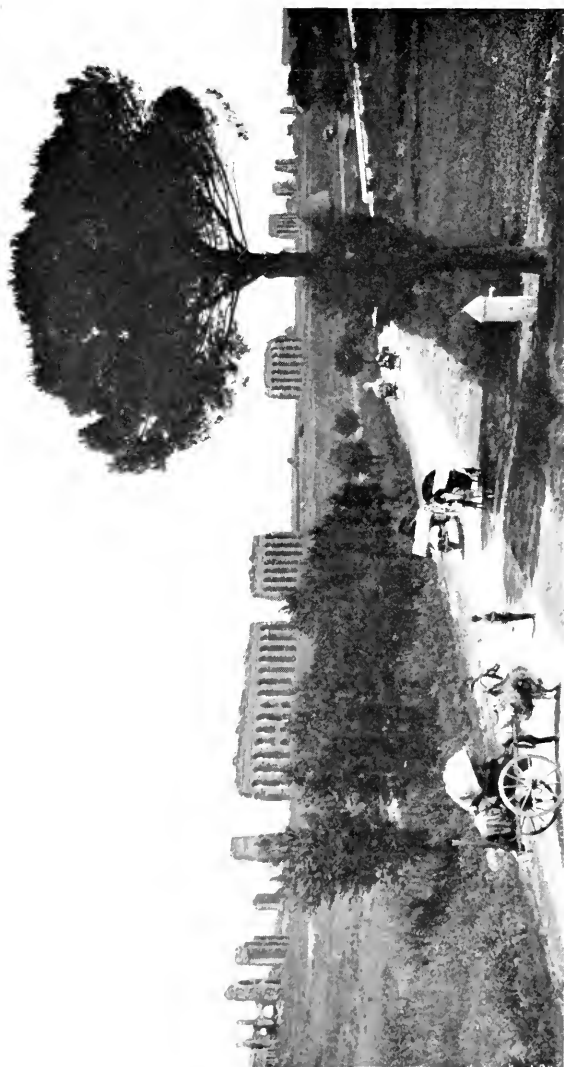


The Pantheon. Rome

superficial character. As the concrete itself formed an excellent surface for the marble veneer, it is difficult to see why the brick was employed. The bricks were triangular in shape, and the Pantheon is the earliest instance of the use of burnt bricks, which before this were sun-dried. This ancient temple whose

“Arch and vault without stain or fault, by
hands of
Craftsmen we know not, reared.”

is a perfect type of Roman architecture. The great dome, rising with majestic dignity from the circular wall, crowns a rotunda 142 feet in diameter and 143 feet high. Though the same size as the dome of St. Peter's, it appears of vaster proportions. Against the circular wall is built an immense portico with a front of over 100 feet,



Ruined Arches of Roman Aqueduct

supported by 16 Corinthian pillars of red granite with marble capitals 36 feet high, and a pediment above ornamented by glorious bas-reliefs.

The portico with its beautiful vista of white marble pilasters formed a vestibule and was approached by a flight of six marble steps. Within the portico were immense doors of solid bronze which still remain, and which opened to an interior whose sides gleamed with polished marbles and whose roof glittered with sculptured silver and bronze.

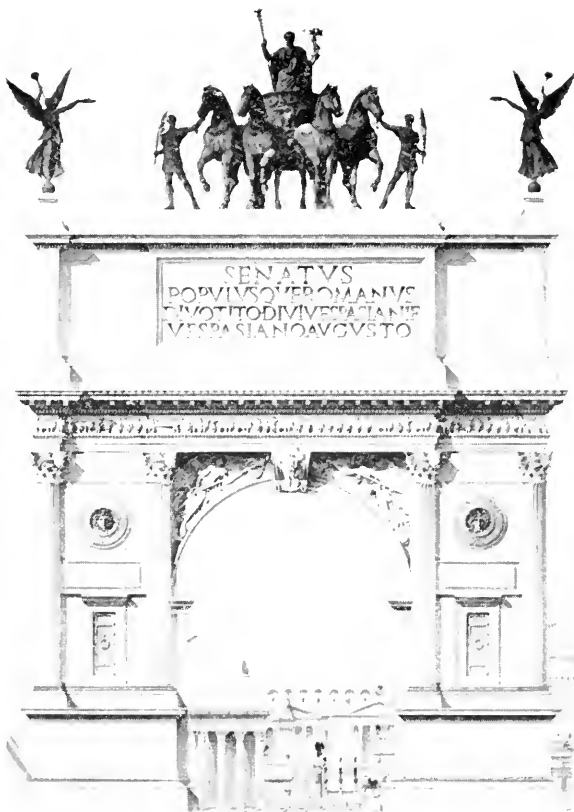
× All around the interior, in the recessed panels where once were beautiful marble statues, are now the tawdry ornaments and gilded, paste-board figures of the Papal church; rust and grime have dimmed the precious marbles on the walls; the gleaming vault above has been stripped and plastered and daubed, yet it is still the most beautiful of pagan temples.

“Here underneath the great porch of colossal Corinthian columns,

Here as I walk, do I re-people thy niches, * *

With the mightier forms of an older, austerer worship.”

The ruined Colosseum has been the theme of many a traveler and poet. Doubtless the remains of this vast theater—the largest ever erected—are impressive, especially if the imagination be stimulated by a moonlight view. But the great stone circle was remarkable as a constructive achievement rather than for beauty even in the days of its ancient magnificence. A curious feature of the construction of this vast amphitheater is seen in the remains of the walls, which are honeycombed with large earthen jars,



Arch of Titus, as Conjecturally Restored

inserted in the concrete mass of brick and mortar and evidently used as a sort of arches, perhaps to economize material.

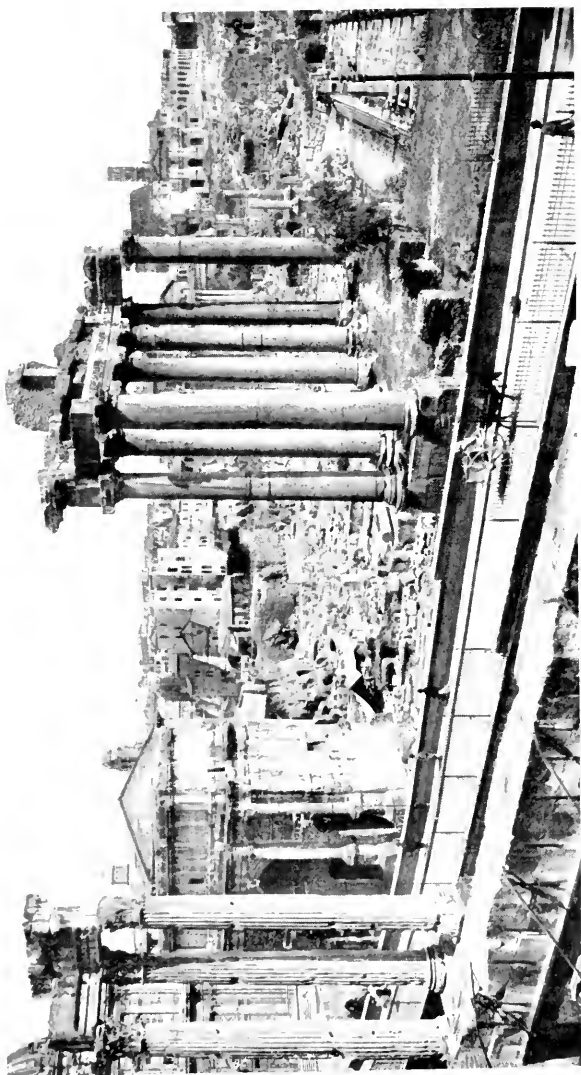
Between 80,000 and 90,000 people could gather within that immense inclosure, to witness the games and spectacles demanded by the pleasure loving populace.

The Colosseum, though showing the free use of the column in its construction, which consists of arches with decorative columns of all three orders in the successive tiers, has little of interest architecturally, except its immensity. The exterior, with its endless repetition of arches and useless columns is monotonous; and the canvas roof could have had no beauty.

The ruined arches of the Roman Aqueduct, which once stretched from the cool fountains of the Sabine hills to the great, teeming city, are also monuments of constructive energy which even in their ruins excite our astonishment. Though they do not rise to the level of architectural beauty, their immense length and size and the obstacles surmounted in their construction give them interest aside from their picturesque quality. The most famous of these aqueducts was 62 miles long, twice the length of our famous Croton aqueduct in New York, and in places the arches rose to a height of 180 feet, and had a span of 75 feet.

At regular intervals, reservoirs were built to enable repairs to be made at any point, the walls covered with a cement so hard as to resist any tool.

Triumphal arches in commemoration of Roman victories, were a striking feature of their architecture. As late as the second century, A. D., there were about forty of these structures in Rome. Restored by Pope Pius VII to almost its pristine elegance, the Arch of Titus is one of the best known of these magnificent relics of Rome's luxury, power and art, and one of the



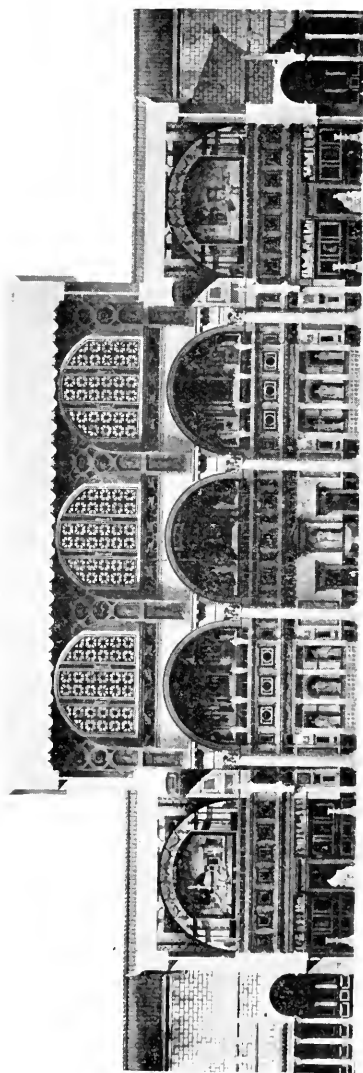
Remains of the Roman Forum

most beautiful. Upon its white marble pillars are represented in bas-reliefs the conquering emperor in his chariot, bringing home to Rome the costly spoils from the conquered Jerusalem, borne by slaves and soldiers. A superb spectacle the old Roman Forum surely presented, filled with these triumphal arches, statues, and beautiful temples, when

"The Forum, all alive,
With buyers and sellers,
Was humming like a hive."

Until the beginning of the last century the site of the old Trojan Forum was buried twenty feet deep under the rubbish of the adjacent hills. Only an occasional column projecting beyond the surface gave indication of what might be beneath. It was in fact a grazing ground for cattle and called the Campo Veccino—cow pasture. A space about a quarter of a mile square is now excavated, and most of the public buildings comprising the Forum have been located. The Via Sacra, which led from the Forum, was bordered all the way by handsome temples and public buildings, whose ruins now resemble city blocks after a great fire. The Via Sacra passed under the Arch of Titus with its famous sculptures, showing a procession of captive Jews with the table of shew-bread, trumpets and seven-branched candlesticks, spoils of the great Temple of Jerusalem.

From all the hills around, handsome structures looked down upon this ancient Forum in its prime. But Rome outgrew it; and other fora were added by successive emperors, and these

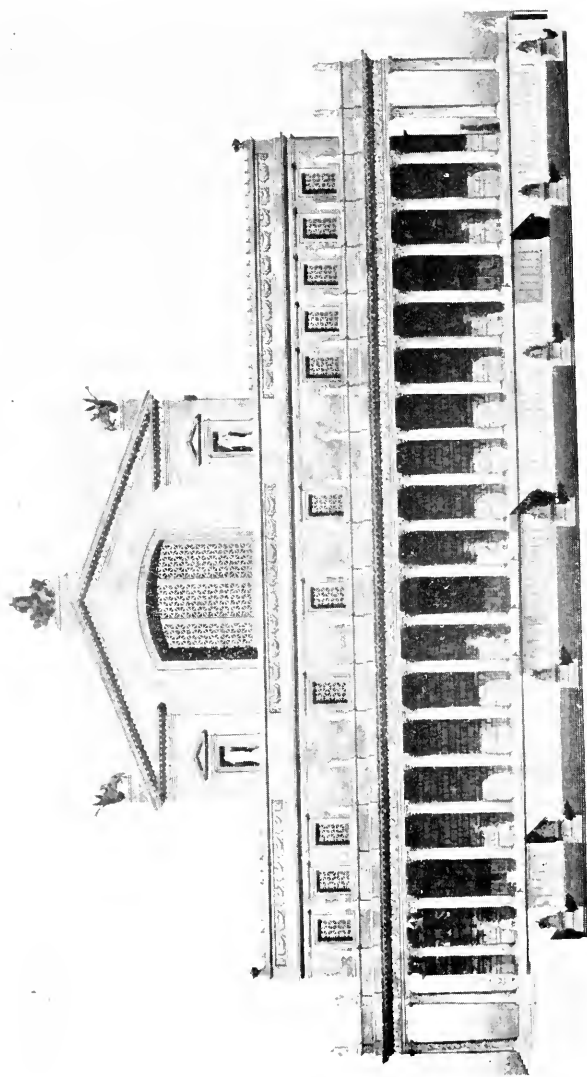


Section of Baths of Titus. (Restored)

in turn buried. The Frieze shown is from the famous Forum of the emperor Trajan, enriched with exquisite sculptures in relief depicting his victories.

Only a brief reference can be made to what was at one period a conspicuous feature of Roman architecture—its magnificent baths. These vast structures, comprised public and private baths of all kinds as well as rooms for refreshments, libraries, lecture rooms, amusement rooms, gardens and fountains, and were fitted up with more luxury and lavish adornment than the most luxurious of modern clubs. They appear to have been built by the different emperors to curry favor with the people, as the price of all this luxury was the smallest coin of the realm. Though only roofless ruins are left of these vast structures,—great fragments of arches and walls and lofty shattered ceilings,—one may still define the long halls and apartments and see patches of the elegant mosaic floors with beautiful designs in color wrought into them. Some of the splendid marbles, vases and great porphyry tubs of the private baths, with portions of the carvings and frescoes that enriched these baths, are now in the Vatican at Rome. A restored section of the baths of Titus is shown in the illustration, giving the detail of the facade facing the Colosseum. The main walls consisted of red and orange-colored brick work. The columned arcade with recessed niches filled with statuary and stucco decoration above the arcade, made an extremely brilliant and decorative facade.

These immense buildings covered sites a quar-



Palace of the Cæsars. Rome.

ter of a mile square, and one, we are told, enclosed an open swimming bath in which a thousand people could bathe at once. The hot baths were heated by a system of pipes or flues leading from furnace vaults beneath.

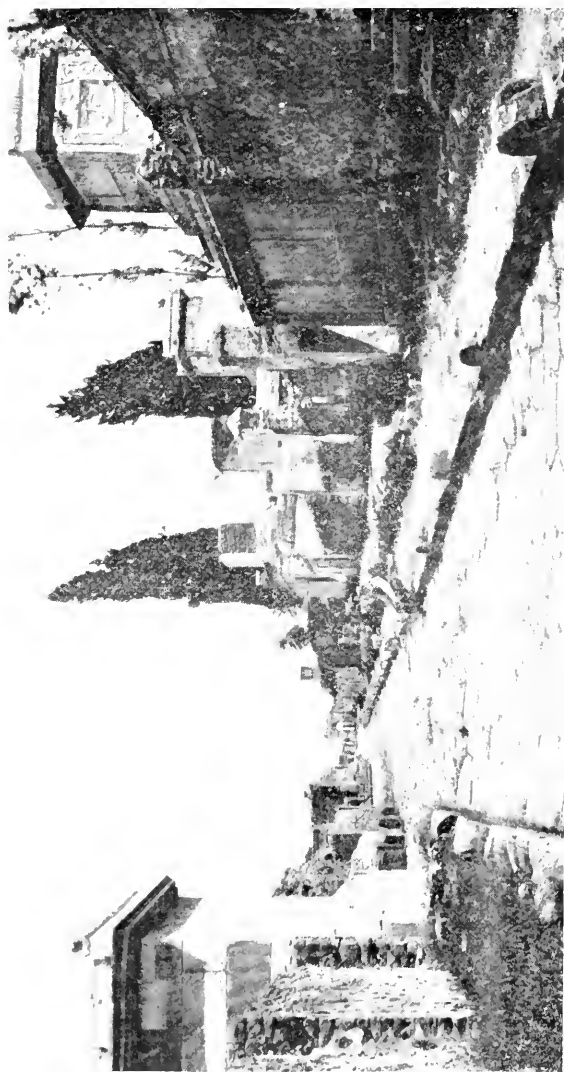
The interesting ruins known as the Palace of the Cæsars, are upon the very foundation and site of the city of Romulus and Remus, and far down beneath them are the enormous blocks of masonry of the old Roman wall, built of lava rock, portions of which have been excavated.

The photograph shows a portion of the palace conjecturally restored, from descriptions of Tacitus and other historians.

The wonderful, excavated streets of Pompeii tell us most that is known of old Roman household architecture. The Roman house consisted of two parts; the public part or rooms facing the street used as shops, and the quite separate rooms for the family life, opening upon an inner court.

In the private portion in wealthy houses, the large inner court was uncovered in the center, while the roof of the "peristylum" around the sides was supported by columns of the finest marble. The peristyle, now coming to be such a feature of modern houses is derived from these ancient Roman ones, but adapted to our use. Leading off from this peristylum, was the dining room, an important room to the old Roman, who was apt to have two or three, so that he could suit his view to the season or his temper.

What records exist of their house architecture appear to show that little attempt at exterior effect was made and every thing lavished upon



Street of Tombs. Pompeii

interior adornments. The exterior walls were plain, generally of brick—even the columns, which were covered with a coat of stucco. Even the villa of Hadrian, which is the most extensive Roman house having any considerable remains, notwithstanding its size and general magnificence, has no indication of windows or of stairs, and the moldings and ornaments are small and insignificant. The mural decorations of the interiors of the better class were, however, very beautiful, and were of a high degree of artistic excellence. In the humbler houses the walls were simply painted flat in one color, but in the more pretentious, the wall-spaces were divided into panels by painted columns, and the panels frescoed with graceful and highly finished human figures, landscapes or arabesques. The walls of Pompey's house were painted to look like a forest with trees and birds, a style of decoration we have seen imitated to a degree in modern houses. Frequently the plinth or lower portion of the wall was painted black or very dark, and above this a deep red or blue or yellow. So that our modern decorators with their decorative "upper thirds" their panels and divided walls are only proving once more that there is nothing new under the sun. But although ancient Roman houses were profusely adorned with paintings and statuary, busts, vases, candelabra in bronze, marble and gold, though the floors were of exquisite mosaic work, and their columned courts musical with the plash of fountains and the songs of birds—yet we would think little of them, with our modern ideas of comfort. Not

only had they no doors,—only archways sometimes curtained,—but no windows except occasionally small slits in the upper story, and their mosaic floors were cold.

Even in that land of the fig and the olive, of vineyards ripening in the sun and

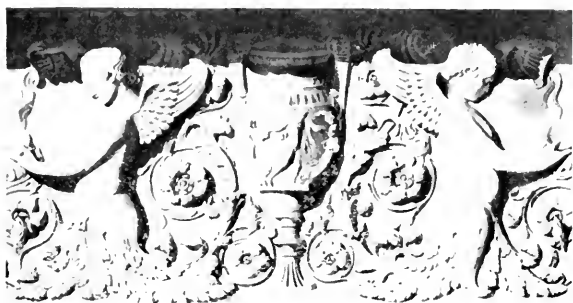
“Tuscan trees that spring
As vital flames into the blue.”

the Roman householder—for all his frescoes, must have been a—cold. Such furniture as they had, was mostly of bronze or marble. The ancient historian Pliny, mentions the dining room of an old Roman villa, as having an alcove of white marble pillars shaded by vines, and furnished with marble benches and “a marble basin or fountain which served as a table, the larger dishes being disposed around the edge, while the smaller swim about in the form of vessels, or little water fowl.”

The abundance of easy building material ready to the hand of the ancient Roman builder was not an unmixed blessing. It produced a crude masonry, which though standing like a rock, was unpleasing to the eye, and so necessitated the make-believe of veneer.

Their architecture became debased, a heterogeneous mixture of the Greek classic orders with Tuscan traditions. They transferred the Grecian columns and capitals to their brick and stucco buildings without preserving their purity.

One exception may be made, in the case of the Corinthian capital, which in Rome assumed a new and not less beautiful form and character, imparting such variety to its enrichment that



Frieze of Trajan's Forum

each example differed from every other, but without the loss of its original and distinctive character.

Let us remember too, that to the Roman we are indebted for the constructive principle of the arch, which opened to the architect unlimited possibilities. Though their architecture was made up of borrowings from all the world, and its overloaded ornament and vulgar display are but the mirror of the national character, we must not forget that he made possible, some of the grandest forms of later architecture.

*“What seemed an idol hymn, now breathes of Thee,
Tuned by Faith’s Ear to some celestial melody.”*

4

EARLY CHRISTIAN AND BYZANTINE.

We now come to a period when we shall have no temples or theaters or public buildings to describe, where all these forms disappear, and for nearly 700 years ecclesiastical forms, churches and cathedrals occupy the sole attention of the architect. Even dwelling houses are utterly neglected; and until the castle of the Norman baron arose, of which we shall speak later, there was nothing built but churches.

Religion has ever been a chief factor in stimulating the art of architecture; and just as pagan Egypt, Greece and Rome embodied their loftiest conceptions in their temples for worship, so with the Christian faith, there arose forms of beauty that culminated in the glorious cathedrals of the middle ages.

As the early Christians grew numerous and powerful, they came out of their catacombs and hiding places, and began openly to erect places of worship. At last came Constantine, and decreed the Christian religion to be the religion of the Empire. Then began the building of the basilicas, some of which were remodeled Roman



St. Clement's Basilica, Rome

theaters, and columns, rich capitals, marbles and mosaics appropriated for the new ones. The exteriors of these buildings possessed little architectural merit, nor were their builders concerned about styles. Space was what they wanted, and to meet the demand for extra accommodation, the first rude transepts were formed by slightly widening the space between the apse and the end of the nave. Thus was foreshadowed the cruciform plan of the mediaeval cathedrals, while the division into nave and aisles of these early basilicas, has been handed down to the present day.

While little attention was given to architectural form in these Early Christian churches, the interiors were enriched with veined marbles and golden mosaics that are still undimmed. The floors were inlaid marbles and the walls rich with

pictures worked out in small brilliant glass cubes. The illustration shows the interior of one of these early basilicas, St. Clement's, at Rome, which though rebuilt in the eleventh century, retains the old plan, with its peculiar features in a good state of preservation.

And so we see that this early Christian plan and arrangement of a church interior was the germ of the established forms of later building, and a type that widely influenced succeeding generations.

Byzantine Architecture

Just where the line should be drawn between the Christian basilica and the early Byzantine structures is not easy to define. The divergence appears in the use of the dome, which was the distinguishing feature of Byzantine architecture, and which resulted in the square or Greek cross form of interior instead of the long rectangle of the Early Christian basilicas.

Instead of covering the circular wall of the Roman temples with a dome as the Pantheon, the Byzantine architect placed his dome upon four arches enclosing a square.

In viewing a typical Byzantine structure the eye at once observes the broken sky line formed by dome rising upon dome and culminating in the great central dome. Such a spectacle is the magnificent church of St. Sophia at Constantinople, considered the grandest specimen of Byzantine art. Just as Greek architecture has the Par-



Interior of St. Sophia. Constantinople

thenon as its grandest exponent, Egypt the wonderful temple at Karnac, and Rome the Pantheon, so this vast interior with its series of vaulted roofs and brilliant and costly decorations, represents the highwater mark of Byzantine architecture.

Possessing little outward beauty, it is unrivalled in the grandeur of an interior never equalled for rare, brilliant yet harmonious decoration, and in the masterly treatment of broad masses and minor details.

Like some ocean grotto, it seems bursting with every imaginable revelation of light and color; with its marbles of many hues, cornices, friezes and historic pillars, mosaics of precious stones and crosses of gold,—every surface glittering with prismatic gleams. Byzantine art was essentially one of incrustation, the surfaces of build-

ings being covered with marbles and mosaics, of which quantity appeared to be the characteristic rather than quality.

The many influences affecting Byzantine architecture produced a great variety of design. The Italian seaports came strongly under Byzantine influence, and the church of St. Mark's, in Venice, was its most beautiful result. Rebuilt in the latter part of the tenth century, except for some minor details, it is purely Byzantine in form. So admirably does Ruskin, in his *Stones of Venice*, describe this "vision out of the earth" that a portion is here quoted.

"A multitude of pillars and white domes clustered into a long, low, pyramid of colored light; * * * hollowed beneath into five great vaulted porches, ceiled with fair mosaic and set with sculpture of alabaster clear as amber and delicate as ivory,—sculpture fantastic and involved, of palm leaves and lilies and grapes and pomegranates and birds clinging and fluttering among the branches, all twined together, and in the midst of it the solemn forms of angels, sceptred and robed to the feet: * * * And round the walls of the porches there are set pillars of variegated stones, * * * the shadow, as it steals back from them, revealing line after line of azure undulation as a receding tide leaves the waved sand; their capitals rich with interwoven tracery—drifting leaves of acanthus and vine, and mystical signs all beginning and ending in the cross: * * * until at last, as if in extacy, the crests of the arches break into a marble foam, and toss themselves far into the

blue sky in flashes and wreaths of sculptured spray."

St. Mark's stands without a peer among the churches of the world in respect to its unequalled richness of material and decoration, arising from the fact that it was constructed from the spoils of countless other buildings from the fourth century down. The church as it now stands is wholly different from the early edifice built in the tenth century, which was much smaller and



St. Mark's Church, Venice.

of plain red brick undecorated. But constant enlargements were made and every Venetian doge, down to the time of Napoleon, added rich decorations, until by degrees the whole walls, inside and out, were completely veneered with colored marbles or glass mosaics on gold grounds, the plain white marble being reserved for statuary, and then thickly decorated with gold.

We can scarcely conceive the splendour of effect, as the whole wall surface of the interior

is now thickly incrustcd with dirt, but the general plan of the decoration was an alternation of richly colored marbles arranged in broad, upright bands so that each color enhanced the effect of its neighbor. The bands of colored marbles were relieved by intervening panels of pure white marble, sculptured in panels, string courses and the like, and by moldings of white marble.

The exterior is as magnificently enriched as the interior, with its sculptured arches, marble screen work and wonderful collection of columns of porphyry and precious marbles. As many as five hundred of these costly columns are used to decorate the church, especially the west front. A volume might be written about this magnificent building; but space will not permit further description.

St. Mark's is a mixture of Greek, Roman and Byzantine architecture. The spoils brought by ancient Rome from classic Greece, are mingled in the details of the decoration with those from the Orient. Alabaster carvings stripped from classic buildings were mingled with the gorgeous and fantastic Oriental peacocks drinking from a cup, which form part of the painted decoration.

Its great, arched, Roman doorways, the vast mass of elegant marble columns with their classic capitals, the great Byzantine dome, with the smaller domes over each arm of the building—all present a composite type, unique among the world's great buildings.

Such a "confusion of delight" was the Byzantine type of architecture, a mingling of Roman

grandeur, Greek taste and Oriental passion and color. Its characteristics were unique, interesting and unusual, and though it had little influence in Western Europe, it had a glory of its own which left its impress upon the domed mosques of its moslem conquerors.

Saracenic architecture is one of the most fascinating divisions of our subject. The story of the Mohammedan era, down to the fall of Granada, is like a fairy tale, "crystalized in architecture, ornament and design;" a tale which space will not permit us to follow.

By no means new in its constructive details, Saracenic architecture added to the arch and the dome borrowed from the Romans and the pillars of the Greeks, a use of ornament and color entirely its own. To the lavish use of color was joined a stucco ornamentation of lace-like character, unique and exquisite, and like nothing else in the world. The Moslem structures, at first small and insignificant, became, as the faith grew and spread, rich and imposing.

The mosques were beautiful domes and groups of galleried minarets, with a fore-court in front surrounded by a colonnaded arcade. The court contained a fountain for their frequent ablutions, and gardens of orange trees and roses.

The domes were finely shaped and decorated externally with an intricate interlacing of geometrical designs, and shone in the sun like a great inverted silver bowl. Within they were highly colored and gilded, with many aisles and forests of columns in whose arches swung gold and silver lamps.

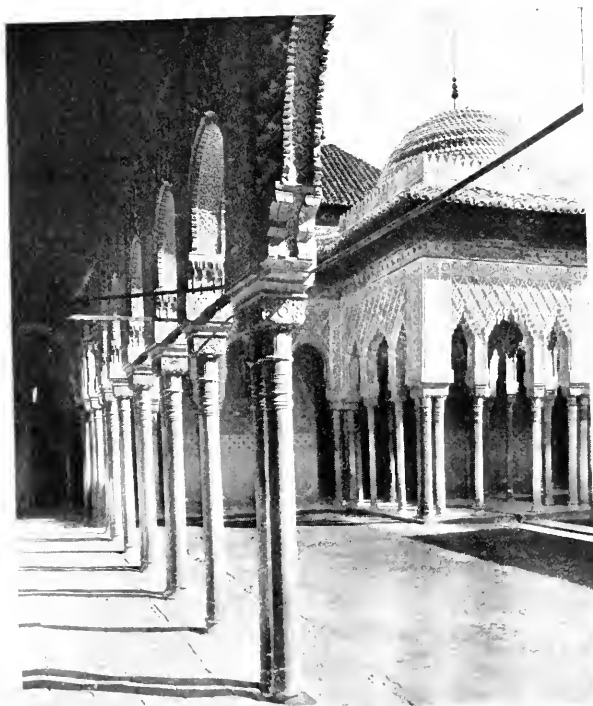


Bronze Doors, Armenian Church

A form of ornamentation peculiar to the Saracens and constantly used by them was the honeycomb detail, by which they brought together points of juncture. Sometimes this honeycomb work was extremely intricate, covering niche-heads and roofs. Its use appears in the photograph of the Alhambra, on the arches of the court.

The Saracens employed very high, square and recessed doorways, but brought down the actual doors to the size required for use by elaborate work over them. The workmanship of these doors was often exquisite and the bronze hinges even, were often chased in most beautiful designs. The carved woodwork was of the same delicate and beautiful character.

The exquisite workmanship exhibited in the illustration showing the doors of the sanctuary in the Armenian church, is characteristic of Sar-



The Alhambra. Granada

acenic architecture, which lavished intricate and elaborate decoration upon the building and its fittings. The delicate piercing and embossing of outer doors of bronze was a feature of their art, and Michael Angelo may well have said of these beautiful examples what he did of the bronze doors of the Duomo—that they were “worthy of being the gates of paradise.”

Saracenic architecture indeed reflects the luxuriance and splendor of Moorish power at its zenith, as well as the culture of a people devoted to scholarship and learning, the romance of chivalry and the Oriental love of color which was its Arabian birthright.

We think of mosques and minarets in speaking of the Moorish style, and these were the early features of the type. The famous mosque of Cordova, in Spain, is the most important example of their religious architecture, with its columned forest and the wonderful vistas of its arched aisles. Its glory has almost vanished, and little remains of its original grandeur. Nor have time and fate been kinder to that “pearl of Moorish art,” the Alhambra, for most of its delicate and enchanting decoration has been defaced or destroyed by vandals, though portions were restored by Isabella, of Spain, in 1665. A section of this famous “citadel palace” is here illustrated, though doubtless pictures of it are familiar to most.

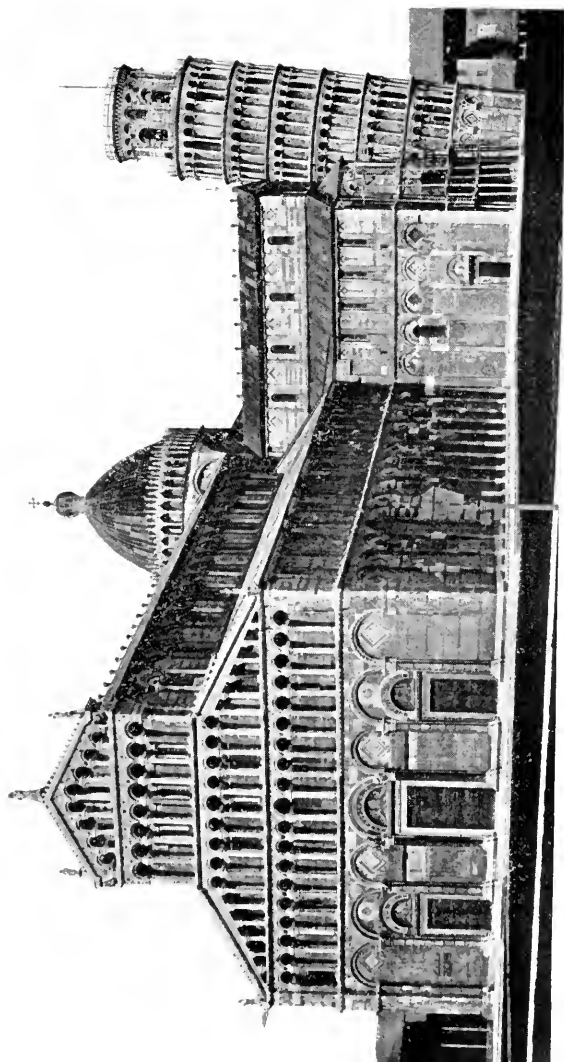
Externally its towers of red brick present the appearance of a fortress, severe and forbidding. It is the wonderful interior, which has been happily likened to a casket of jewels, which

gives it distinction. The domed roof of one of the halls is treated in a honeycombed stalactite manner, nearly 5,000 pieces entering into its construction. In the Court of Lions the light Arabian arcades of open filigree work are supported by slender pillars of white marble. Here, the fairy fretwork of the dome, and the slender, fragile colonnade, are as fresh and unshaken as if just created. The charm of the delicate ornamentation is enhanced by Oriental coloring of remarkable beauty. Everywhere are evidences of the delicate taste and artistic luxury of the Moors.

Pages could be covered with a description of these exquisite effects, but they are familiar to most readers. Not so well known, perhaps, is the Moorish legend of the origin of this exquisite conception. Thus it runs: The great architect had roofed the courts of the fortress with a plain dome, as others had done before him; but dissatisfied, and wanting something, he sat praying to Allah for inspiration. Just then a troop of slaves came dancing in, and began to pelt each other with handfuls of snow from the great basketfuls brought but then from the mountains. The snow fell on the black faces, and lay like wreaths of down, and on the fairer faces it hung like ice-drops. They tossed hundreds of snow-balls aloft, trying who could make the most snow cling to the roof of the dome. Suddenly they fled, and the good architect looked up at the hanging tufts and pendants of snow and smiled, for Allah had answered his prayer.

*“There was a stern round
tower of other days.”*

—Childe Harold



Cathedral and Leaning Tower of Pisa.

5

ROMANESQUE ARCHITECTURE

We must now return to Rome and the early Christians, whom we left building their basilicas, while we traced the architecture of the East.

We are now entering the historical period known as the Dark Ages; and the transitional period in architecture from the basilica type of churches to the mediæval cathedral.

As in the far off dim past, we find the religious feeling of the peoples dominating architectural composition and the church its chief expression. A new style of church architecture was developing, arising from the spread of monastic and ecclesiastical influence westward and northward, which was the result partly of new climatic and local conditions. In the forests of the north were no ruined Grecian or Roman temples to convert into Christian basilicas. The monastic architect of France and Germany and the abbey builder of England, modified the Roman methods of style by the materials of

his particular territory, and the unskilled labor at his command. The new architecture, based upon the traditions of Rome, kept to its heavy masonry and round arches, and added towers of imposing strength. Naturally it received the name of Romanesque, a term, however, which may cover broadly many interesting buildings showing variant features. The term Romanesque is used broadly to include all those phases of architecture up to the thirteenth century which were more or less based upon Roman work. Its general character is one of great dignity mingled with many picturesque features.

Speaking generally, the Romanesque type began its development in Italy in the tenth century, extending over England and the continent in examples of steadily increasing refinement till it was merged in or supplanted by the period called Gothic; although Gothic architecture is in reality only the progressive development of the Romanesque, dependent upon the discovery of the new principle in roofing, of ribbed vaulting, which solved so many difficulties of the Romanesque architects. So that under the term Romanesque is often understood all the round-arched Gothic, which represented a great group of churches in Northern France before the introduction of the true Gothic, and the Norman buildings of England.

Roman art, pure and unadulterated by Byzantine or Spanish influence, was the general foundation of Romanesque building. Looking first therefore at the Italian development of Roman building, the Cathedral of Pisa, with its



St. Zeno. Verona

leaning bell tower and circular baptistery, is a much quoted example. The cathedral facade is of black and white marble, and is a lavish arrangement of wall arcades and galleries, the tendency to monotonous effect of the repeating arches being happily overcome by skillful and varied treatment of the different tiers. In the tower, which is of white marble entirely, this varied treatment is lacking; and the constant repetition of tiers of arcades all of equal height from the base to the summit, is wearisome and ugly, in spite of its wonderful construction. Whether the obliquity of the tower was intentional with the Pisan architects, or came about in the course of construction, has been much disputed. The total amount of inclination from the base to the cornice is 13 feet 8 inches. The walls at the base are 13 feet thick, at the top about half as much, and are of solid marble.

Ruskin, in his Letters, inquires of the Pisan architect, as to why he built "his walls with the bottom at the top and the sides squinting," and says that he couldn't look at the north side without being sea-sick. Many other people have a similar feeling.

The old church of St. Zeno, at Verona, is an interesting example of Italian Romanesque, the plain surface of the facade broken by a series of arcades filled in with slender columns, and by arcaded corbels carved under the slopes of the gable. In the center of the gable is a beautiful rose window—a Romanesque feature—and beneath this a projecting portico, the columns resting upon the backs of crouching lions. These

"Porch pillars on the lion resting,
And sombre, colonnaded aisles—"

are typical of the Italian style of this period, which was inclined to sternness, though elaborate carving over the entrance and the slight projection of the columned arcades with their play of light and shade, relieved the severity of the design. These arcaded galleries are a constant feature of Italian architecture, employed in every possible situation and sometimes, as in the case of the palaces, almost covering the facade. St. Zeno shows also the campanile, so important a feature of Italian mediaeval style, occurring in connection with most of the churches.

The beautiful twelfth century Cloisters of St. John the Lateran, are the only other examples



Cloisters of St. John, the Lateran

we will give of Italian Romanesque. The Lateran derives its name from the rich patrician whose palace was the site of the basilica erected on it by the first Christian emperor, Constantine, who labored upon it with his own hands. The Church itself has been many times rebuilt; but the cloisters are as originally erected, in 1127. These beautiful cloister

“Centurial shadows, cloisters of the elk”—are formed in square bays, the vault arches enclosing arcades in groups of five or more openings. The arches are supported on exquisitely inlaid and twisted columns, with a lovely frieze above of colored marbles. The court thus enclosed is a garden of roses. The beautiful, jewel-like, mosaic decorations of the frieze, and the slender, marble columns richly inlaid with



Notre Dame La Grande at Poitiers

bands of glass mosaic in delicate and brilliant patterns of light and dark greens and creamy tints of pale rose, are the interesting features of these cloisters, and the work of a family of famous architects and sculptors of that period.

The French buildings of this period appear to have been strongly influenced by the remains of the temples, amphitheaters, etc., left by Roman occupation, which were scattered through the country. They are marked by the heavy walls, massive round arches and decorated doorways of these Roman types, with ornamented capitals and sculptured enrichments borrowed directly from classic models.

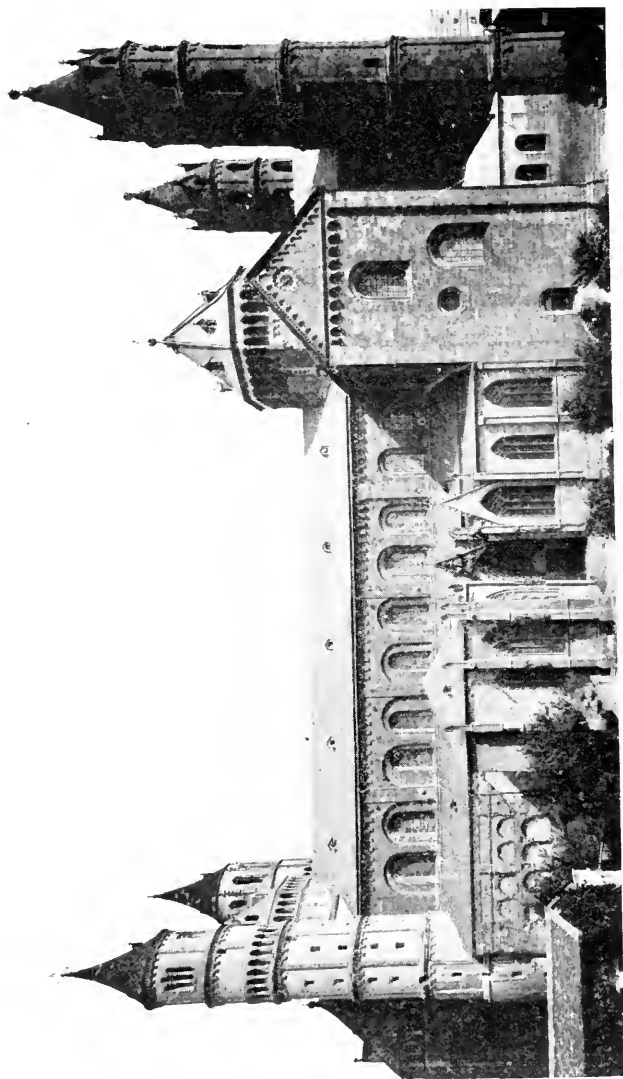
The town of Poitiers, for example, contained many extensive Roman remains of baths and an immense theater. The church of Notre Dame du Poitiers is an excellent and typical ex-

ample of eleventh century French Romanesque. It has a richly sculptured facade, in which the colored lava, of which it is constructed, is used with striking effect. The exterior presents the interesting feature of a group of small chapels ranged round the end of the cathedral, forming what the French called a *chevet*, the planning of which was the crowning glory of the French mediaeval school, and the feature which displayed conspicuously the wonderful ingenuity and skill of French architects. To design a simple rounding apse instead of the square end of English churches, was easy enough, but when this was surrounded by an arrangement of small chapels again, the difficulties became great. Often these chapels around the apse produce a crowded effect, but when, as in some of the cathedrals, only three were used, with unoccupied bays between, the effect became beautiful.

The full development of the *chevet* of which we see the beginning in Notre Dame du Poitiers, will be seen in the later churches of the Gothic period.

The very interesting Romanesque structures of Normandy, are intimately related to the Romanesque period in English architecture, which is considered at some length in the general division of English architecture.

Probably there is no more striking example of the Romanesque period, than the great German cathedral at Worms. It is picturesque in outline and in mass, while the details show a fine decorative quality of design. Its four round towers, two large domes with a choir at each end,



Cathedral at Worms

give an imposing exterior, heightened by the color of the red sandstone of which it is built. The natural color of the stone appears in the interior also, and adds to its dignity and simplicity. Only the lower part of the western towers are as originally built in the eleventh century, the other portions being added later, and the elaborate south portal as late as the fourteenth century.

The ornamentation of the older parts is in the simple, almost rude, style of the early Romanesque, yet the whole effect is dignified and imposing. The arrangement of the Rhenish cathedral, the picturesque grouping of octagonal turrets, and the open, arcaded galleries under the gable ends, the unusual treatment of the openings in the upper portion of the towers and the arcaded recesses of the lower walls, was extremely decorative, and gave a special individual character to the design.

Interesting as are these European examples, it is in England we find the complete charm of the Romanesque style, a style embodying the rugged temper of its tumultuous Norman builders. In the castle-like towers of Ely and Durham cathedrals, we shall find on English soil Romanesque types which surpass in interest even the Norman structures from which they sprang.

"The Gothic cathedral is a blossoming in stone, subdued by the insatiable demand of harmony in man. The mountain of granite blooms into an eternal flower, with the lightness and delicate finish of vegetable beauty."

—Emerson.

6

GOthic ARCHITECTURE

The period known as the Gothic era was a time of unparalleled activity and architectural creativeness.

Wonderful as we have found the ruined halls of Karnac, the perfection of the Parthenon, the domes of pagan Rome and the brilliant decoration of the East—the Gothic period is the very flower of advancing civilization; when the world began to shake off the chains of ignorance and superstition, when petty tyrants no longer held men down with an iron hand, when all its sister arts took on fresh inspiration, and architecture put forth its rarest and most perfect blossom.

The suggestion of aspiration, inherent in Gothic architecture, the tall, slender spires and gables of the new type,

“Still climbing, luring fancy still to climb”.
are the expression of a great uplift, of feelings long pent up in the misery and hopelessness of the dark ages.

The Gothic type is not alone the discovery of a new constructive principle, or a balancing of

thrust and counter-thrust. It is the crystallization of religious fervor, and of a passionate devotion that drifted all before it like the wind. A great outburst of effort and a splendor of creative energy, followed the awakening of mediæval freedom, and the era of the great cathedral builders is the grandest in the world's history.

Technically speaking, the Gothic type was the result of the revolution in building methods following the application of ribbed vaulting to the principle of the arch.

The question of roof treatment, the question which was the burning problem of the mediæval architects, was happily solved by the discovery of a new principle—that of ribbed vaulting; and it was this principle of *ribbed vaulting* which produced the pointed arch, the structural basis of the Gothic style. With this form of construction, the roof became lighter, and could span larger areas. The pressure being concentrated upon the points of support from which the ribs spring, it was necessary only to strengthen the wall at these points instead of making it thick and massive throughout, and it could be opened up in the form of windows. The walls of Gothic cathedrals became in fact little more than frames for the great traceried windows filled with richly colored glass. For this reason the Gothic cathedral has been not inaptly called “a roof of stone with walls of glass,” a felicitous description of its peculiarities. Traceried windows, such a feature of Gothic architecture, those marvels of “foliated tracery through slender shafts of shapely stone”—may be broadly divided

into the geometrical and the flowing. The latter division includes both the flowing and perpendicular or lancet forms in England, and the flamboyant in France, and all may be grouped together under the general term of Decorated. The minute distinctions between the various modifications of these forms, as they differed in different sections of Europe and as the details were varied in the transitional stages when one style was becoming merged into the succeeding one—are too complicated to be of interest to the general reader. It is sufficient to say that during the whole period of time when the simple lancet window was being superseded by the more confused perpendicular, window detail was steadily verging toward the pure Gothic.

It is usual to consider the pointed arch the characteristic feature of the Gothic style. But the supplanting of the Romanesque by the Gothic was not merely the substitution of the pointed arch for the round. The pointed arch is really as old as the round and is found in some of the earliest attempts of the arch in both Greece and Rome. It was in use by the Saracens long before the so-called Gothic era, and borrowed from them by the Italians as early as the eleventh century.

The Saracens, though using the pointed arch, never developed a style of ornamentation in harmony with it; and this the architects of France and England did. Under their skillful hands grew the light, clustered pillars, the mullions and the graceful tracery.



Notre Dame, Paris

French Gothic

There is no country richer in architectural examples than France. While all Europe has its Gothic gems, and England takes second rank with none in a series of mediæval structures of unparalleled impressiveness, Northern France is the royal domain of the Gothic style. A series of churches there exist within a comparatively small radius, of incontestable superiority, and so nearly equal in merit that it is impossible to say which should have the preference.

Queenly as rises the cathedral church of Our Lady of Paris in her gray beauty above the housetops of the city, the spires of Chartres upon the hilltops, and the magnificent west front of Amiens, are powerful rivals, while a host of smaller churches, scarcely less inferior, claim our homage.

The picture of Notre Dame at Paris shows one of the earliest French churches marked by Gothic influences. In the middle of the twelfth century first

"Uprose this poem of the earth and air,
This mediæval miracle of song."

With its richly sculptured triple western portals, immense central rose window flanked on each side by lateral, arched openings in the two great, square towers, the lofty gallery of open arches supporting on its delicate columns the crowning platform, row of twenty-eight statues filling the niches over the entrances and innumerable details of carving and ornamentation,—this famous facade remains today one of the grandest in Europe.

The "great grey beauty," despite her scars and wrinkles, joint injuries of time and man—is still the queen of cathedrals. Before it suffered from the ravages of the Revolution, Notre Dame was compared with the Greek temple of Diana and found more excellent. The cathedral is not, however, a pure type, but a specimen of the transition stage from the Roman to the Gothic. Begun in the twelfth century, the massive pillars of the nave were set before the Crusaders brought over the pointed arches, which rest upon the broad Roman capitals intended to support round arches. Between the sixteenth century Gothic delicacy of detail, and the pillars of the nave, centuries intervene. All great buildings are necessarily the work of time, and seldom is the original design carried out in its completeness. Notre Dame is a marked instance of the grafting of the Gothic type upon a Roman foundation; the pointed upon the circular arch.

The famous Abbey church of St. Ouen, built in the fourteenth century in Rouen, is an interesting example of French early Gothic.

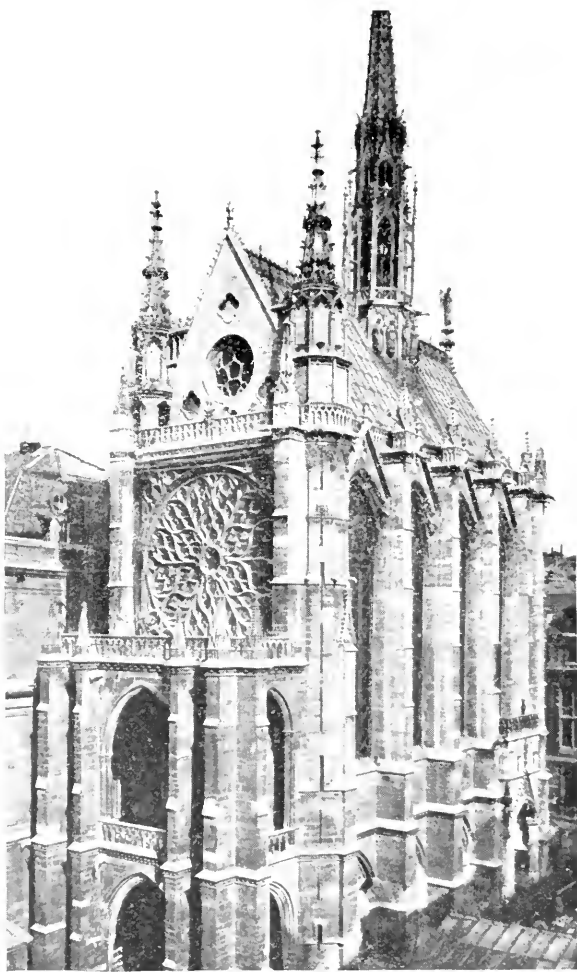
Though the theory of Gothic design was completely understood in France a century earlier, there was a continual progression toward lighter pillars and larger window surface, with rich geometrical tracery. The Gothic of this century has more resemblance to the English, with much the same treatment. St. Ouen was one of the few churches begun and completed in one century, and has therefore more unity of design than most of the great buildings. In St. Ouen we have an instance of the lantern feature introduced



Church of St. Ouen, Rouen

on French cathedrals and which took the place of a central tower. The row of six small chapels along the side walls, between the buttresses, is another feature peculiar to French cathedrals of the fourteenth century. Each chapel has its pyramidal roof and each its large window. Small chapels also circle the apse at the east end. Such an arrangement of chapels with flying buttresses on several stages rising from among them, is called a *chevet*, and presents a most picturesque and striking appearance. Some of these churches seem indeed to be a perfect forest of flying buttresses, pinnacles and spires.

The graceful church of Sainte Chapelle at Paris may be instanced as a fine example of first pointed construction in France and one of the earliest churches where stained glass is found in its per-



St. Chapelle, Paris

fection. Besides the great rose window over the entrance, the side walls are but frames for pictures of glass, which it must be confessed oft obscure "With painted saints and paraphrase of God" not only "The soul's east window of divine surprise"—but the natural eyesight itself.

A French cathedral rarely shows to such advantage as the English of the same style, because of its situation in the heart of cities, crowded and jostled by other buildings, so that much of its beauty of outline below the roof is lost.

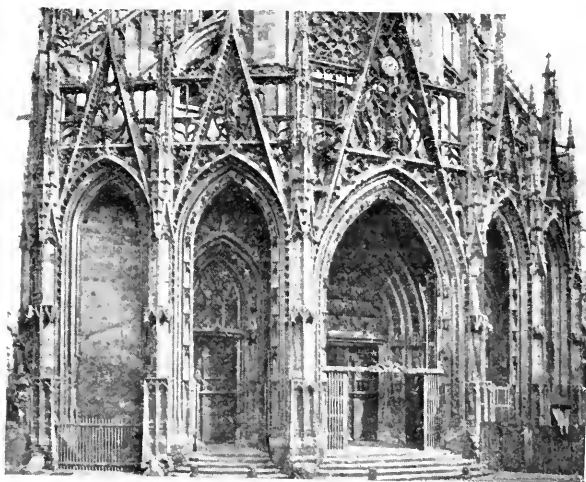
Of somewhat later date is the church of St. Maclou, built also in Rouen, and while hardly rising to the dignity of St. Ouen, is justly celebrated for the beauty of its stained glass and its organ loft, reached by a beautiful open staircase. The building is not large, built of stone laid up in a curiously irregular manner. It is said, indeed, that all the countryside round Rouen came

"to give votes for God
Each vote a block of stone securely laid
Obedient to the master's deep-mused plan."

St. Maclou is a fine instance of the extreme development of tracery as a principal architectural feature, and of the slenderness of construction which may be said to have reached its utmost tenuousness in the fourteenth century. Further, it could scarce be carried though becoming more general. The slender gables over the arches of St. Maclou are mere triangles of tracery, as delicate as window tracery, only not filled with glass. Designed exactly as window tracery is designed, they have an equal value as ornamentation, and are unsurpassed even by the

lace work of the Alhambra in their peculiar charm. The staircase to the organ loft before alluded to is ornamented with extremely delicate sculptured designs of later date, which are as rich in fancy and as delicate in execution as an Oriental ivory.

The beautiful rood screen of the church of La Madeleine, at Troyes, is of later date than the church itself, and is an illustration of the late fifteenth century Gothic which received the name



Church of St. Maclou, Rouen

of "flamboyant," from the flame-like shapes into which the tracery of the heads of windows was thrown. While this form of Gothic is far from being as dignified or refined as the late English Gothic, and exuberant richness of detail was carried to extreme lengths both in decoration and



Screen of the Madeleine, Troyes

general design, there are many instances which show a truly artistic feeling.

In the choir of St. Madeleine we have one of these instances; for though over-florid, with none of the restfulness of great architecture, it is a brilliant and rich piece of decoration. It may be said that St. Madeleine is perhaps one of the best productions of the gay and meretricious style of the flamboyant period, a style which relied wholly upon ornament for effect, and not upon design.

In France, as has been said, we find

"The minister's vast repose

Silent and gray as forest-leaguered cliff,"

rising from the heart of bustling city life, in contrast with English seclusion. Again, in comparing French with English Gothic, we find the French cathedrals distinguished for their lofty vaulting, while the English churches are longer and lower. One reason for this difference is that many of the English churches were enlarged and

worked over from the original building in the Romanesque style, not primarily intended for a cathedral, but an abbey church attached to a monastery. They have quiet surroundings, and while less ambitious in design, the greater mass and lower height, permit such pictorial effects as the lofty spire of Salisbury and the central tower of Lincoln. Such effects were impossible on the lofty French cathedral which was designed for interior spectacular effect.

Besides these noted examples, there are many smaller and scarcely inferior. Nor was the Gothic expression of the art in France confined to cathedrals. In some of the towns fine specimens of the later Gothic houses are still to be seen with their high gables and steep over-hanging roofs, moulded beams and brackets, picturesque and interesting.

ITALIAN GOTHIC.

It is impossible not to feel that the Gothic of Italy is as a stranger in a far country. The Italians never took kindly to the style, which they regarded as the production of Goths and barbarians. It was, moreover, not in harmony with their classic traditions nor with their climate or building materials. While, therefore, some Italian Gothic possesses much charm, it never achieved the same brilliant success as in Northern France and England.

In Italy, the use of the pointed arch was accepted as an unpleasant necessity but with no enthusiasm. They constructed pointed arches, it is true, but with such ill grace that they would

scarce have stood for a day but for the iron rods that held them together; and their window traceries are but indifferent copies of Northern examples. In the period when the Gothic style was almost exclusively practiced in Northern Europe the Italians made but little progress in it, and gladly responded to the first bugle call of the Renaissance. The Italians never really understood the Gothic style and so never cared for it; they never let go of their round arches and their love of color.

Still there were some Gothic beauties produced, and the queen of them is easily the beautiful Campanile, or bell tower, of the Florence cathedral, which Ruskin said was so perfect that it ought to be kept in a glass case. In the orderly proportion of its lines, accurately adjusted, and unbroken vertical effect, it is perhaps unequalled, though the cathedral cannot be said to be a complete composition, taken as a whole. Originally designed as a Gothic structure, the cathedral, whose general lines are on that order, is crowned by a dome modeled after the Roman Pantheon. The exterior of the Duomo itself is of red, green and white marble, arranged in panels. The cathedral was two hundred years in building, and for a long time it was supposed the diameter of space was too great to vault. The lofty dome, indeed, was added two hundred years after the commencement of the building, and from it Michael Angelo modeled the great dome of St. Peter's at Rome. It is said that when he left Florence to go to Rome for that purpose, he looked back tenderly



Il Duomo, Florence

to his beloved Duomo, and cried out: "A larger dome I may build, perhaps; but one more beautiful I never can." "Il Duomo," as the cathedral is always called, is considered the most beautiful church in Italy. The walls are adorned externally with inlays of colored marbles and windows have stained glass—a rare thing in Italy.

The campanile of Italian churches is altogether different from the bell towers of other lands. It almost never forms a part of the church edifice proper, but is usually quite detached and frequently placed at an angle with the main walls. The tower of Il Duomo is covered with panels of variously colored marbles, from its base to its summit, and enriched with sculpture. Slightly projecting piers at the corners increase the appearance of strength. The windows are not large in the lower stories; but in the upper story

each face of the tower is pierced by a magnificent triple window.

It was intended in the original plan to terminate the tower with a spire, but a deep and elaborate cornice crowns it instead. Longfellow's tribute to this campanile is so beautiful that we give it here:

"In the old Tuscan town stands Giotto's tower,
The Lily of Florence blossoming in stone,—
A vision, a delight and a desire—
The builder's perfect and centennial flower,
That in the night of ages bloomed alone."

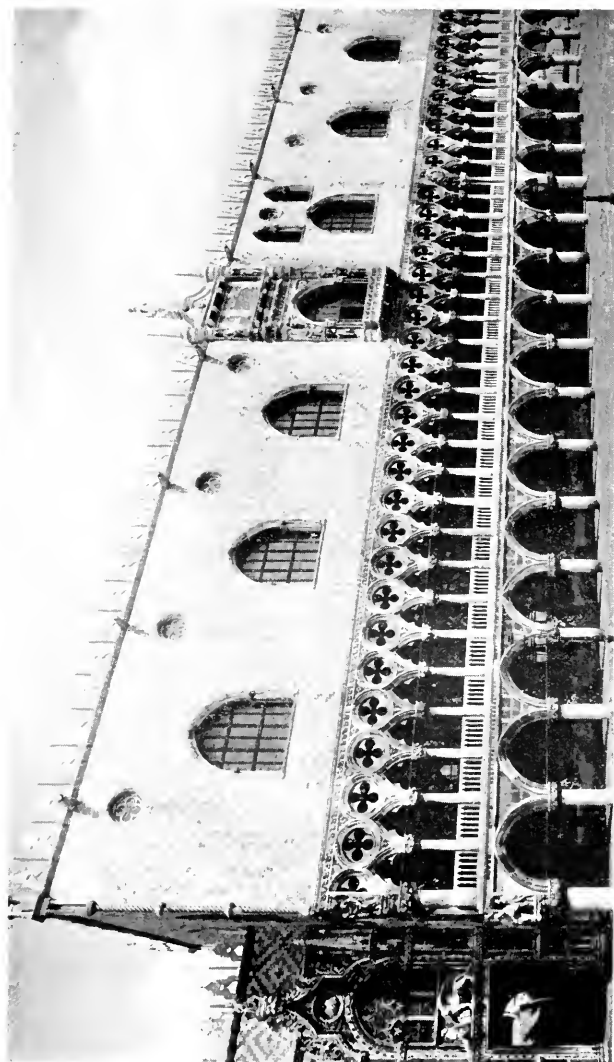
As compared with the churches of Northern Europe, Italian Gothic churches were smaller and simpler, and retain many features of the basilica type from which they sprung. Nor do the interiors resemble Northern Gothic, consisting of a large hall only, with a chancel for the choir.

In secular buildings, the Gothic architects made frequent use of an inner, arcaded quadrangle, and relied upon these cloistered arches for their principal effects. The famous arcade of the Doge's Palace at Venice is the single instance of external arcades, which are so splendid as to be alone sufficient to make the building famous.

The upper part is carried on a pillared gallery by means of a novel but very successful modification of Gothic window tracery, which would seem too massive but for its manifest purpose and intention. This unusual application of decoration resulted in the most successful piece of civic architecture in Europe, and one which has been widely copied.

Like all the Venetian palaces, it rises straight from

"The level, quivering line
Of the water's crystalline,"



The Doge's Palace—Venice.

without a break or projection of any sort, since they must admit of gondolas coming straight under the wall.

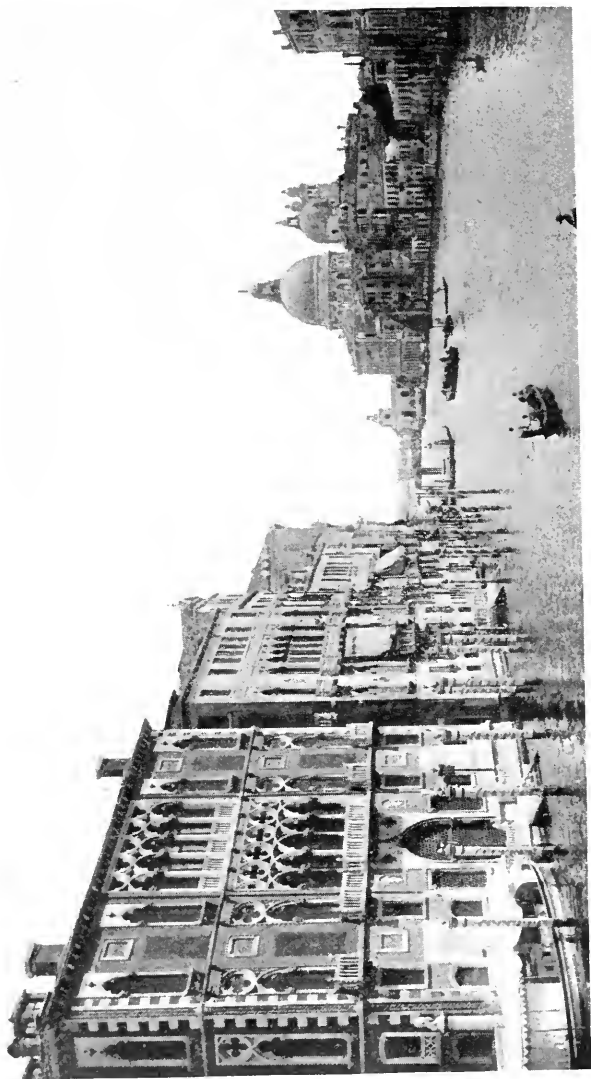
This beautiful palace presents two fronts, one facing the sea, and the other looking over the lagoon. About half the height of each front is composed of two series of arcades.

“Windows just with windows mating,
Door on door exactly waiting.”

—Browning.

The lower story is bold, but simple and strong, the upper lighter and terminating in a mass of tracery. The walls above are faced with alternate slabs of white and rose-colored marble, are pierced by large, pointed windows, and crowned by a parapet. The colonnades are of solid Istrian limestone, a very beautiful cream-colored stone of extremely fine and close texture and taking a high polish. Though not really a marble, this stone has all the beauty of the finest white marble, and turns a lovely golden russet color with age. Its extremely fine grain permits the beautiful carving of cameo-like delicacy, which is profusely lavished over the whole facade. The carving of all the capitals is very elaborate. In front of the west or sea facade are placed two great monoliths of Egyptian granite, one red, the other grey, which were brought as trophies to Venice in the twelfth century. From between these pillars sentences of death were read in those ages of Venetian craft and cruelty. The whole building is enriched with sculptured statues of great beauty, and makes an ineffaceable impression.

The Gothic palaces were arranged and designed



Houses on the Grand Canal, Venice

chiefly for a front view, as the houses standing in rows side by side were only observed in front. A large proportion of the openings were grouped together in front, while balconies, corner-windows and other minor features invested these Venetian houses with great interest.

The walling of these old palaces was always of fine brick, usually of a beautiful red color, but though so beautiful, it was seldom left exposed, but covered with a veneer of marble slabs or else coated with stucco profusely ornamented.

The abundance of beautiful colored and costly marbles thus used gave the Venetian buildings a wealth of magnificent color that is found nowhere else in the modern world. The facades of the Venetian palaces were entirely covered with these splendidly colored marbles, and in addition, an even greater splendor was given by gold and color decoration. One can but recall the city of Irak, in the Arabian Nights, whose walls were built of alternating bricks of silver and gold.

Frequently, all of the sculpture enrichment on the more magnificent palaces, both frieze, panels and capitals, was thickly covered with gold leaf, the flat ground being colored a deep ultramarine blue, so as to throw the relief into greater prominence. The less pretentious houses were covered with a fine, hard stucco, and this surface was brilliantly decorated in color, especially blue, which they used lavishly. Often the entire surface was covered with a minute diaper pattern in red, yellow and brown ochres, as in the case of the upper story of the Doge's Palace.

Their employment of color is indeed so lavish



Bell Tower, Cathedral at Siena

as to startle the eye accustomed to the grey sombreness of English architecture. But it is part of the southern style, and their more restrained use of moldings is probably an offset to the mosaics and frescoes that cover the wall surfaces. Then, too, the fineness of the white marble surface upon which the Italian sun makes the smallest molding effective, tends to greater flatness of treatment. This flatness, it was the effort of the colorist to overcome, the decoration of the various moldings having the effect of bringing them into more prominent relief from the main surface.

In modern times these old houses, while externally preserving their magnificence, are, most of them, whited sepulchres of decay inside. They are made to do duty as apartments, and six

floors arranged where formerly there were three, and one window made to light two rooms. The magnificent saloon is cut up into several small rooms, and the walls covered with cheap paper instead of the magnificent paintings of the past. The doors and windows refuse to shut, and neglect and decay take the place of the old stateliness and grandeur. The floors, of marble or brick or *terrazzo*, are very cold, and unless the brick is painted, the red brick dust that covers them is very disagreeable. The *terrazzo* floors made by imbedding bits of colored stone and marble in a thick layer of plaster, are very good and pleasing.

In that oldest of Etruscan cities, Siena, where the Italian sun

"Touches the Tuscan hills with golden lance"—stands a fine specimen of pointed Gothic, the Communal Palace in the Piazza del Campo. It was designed by noted Italian architects of the thirteenth century and is built of white marble, with occasional courses of dark gray or black marble. The light and elegant tower soaring from one side of the palace, was added a century later, and is striped like the church, in alternate black and white marble. A rich and delicately arcaded gallery binds the tower to the church on each side.

The roofs of buildings which the Gothic style in other countries made steep and sharply pitched, in Italy, even in the Gothic period, remained flat, often finished with a parapet, either plain or ornamental, which quite concealed it. Nor did they emulate the Northern Gothic architect in the



Cathedral at Burgos

great traceried windows of which he was so fond, filled with brilliant stained glass. The brightness of the Italian sunlight made this feature unattractive to them, and tended to keep Italian Gothic essentially different from other nations. Still the great artistic taste of the Italian character has furnished many instances of softened, refined and beautified Gothic, which are well worth careful study.

SPANISH GOTHIC

The early Gothic work of Spain was developed directly from the Romanesque, and shows much purity and dignity. It can hardly be said, however, to possess a national character, as its architects were almost universally foreigners and brought with them their local characteristics.

Strange to say, the Saracenic school of art, which was concurrent in Spain through the greater part of the Gothic period, appeared to leave little impress upon Gothic buildings. The Moors built their famous mosques and the palace of the Alhambra alongside — chronologically speaking — of the Gothic cathedrals of Milan and Seville. In the parts of the country where the Moors held sway, Gothic architecture obtained no footing; but there were many portions of Spain never conquered by the Moors, and here some very interesting Gothic buildings were erected. "In old Castile" we find the most noted example of Spanish Gothic, in the cathedral at Burgos. The cathedral was begun in 1221, but not finished till 300 years later.



La Giralda, with view of the Alcazar, Seville.

The view shows the two towers of the western facade with their openwork spires and the richly treated "lantern" in the background. The cathedral approaches very closely to the French type of Gothic, having an effective horizontal termination of arcades over the central portion on the lines of the facade of Notre Dame, Paris. The beautiful openwork tracery of the spires is worthy of special attention.

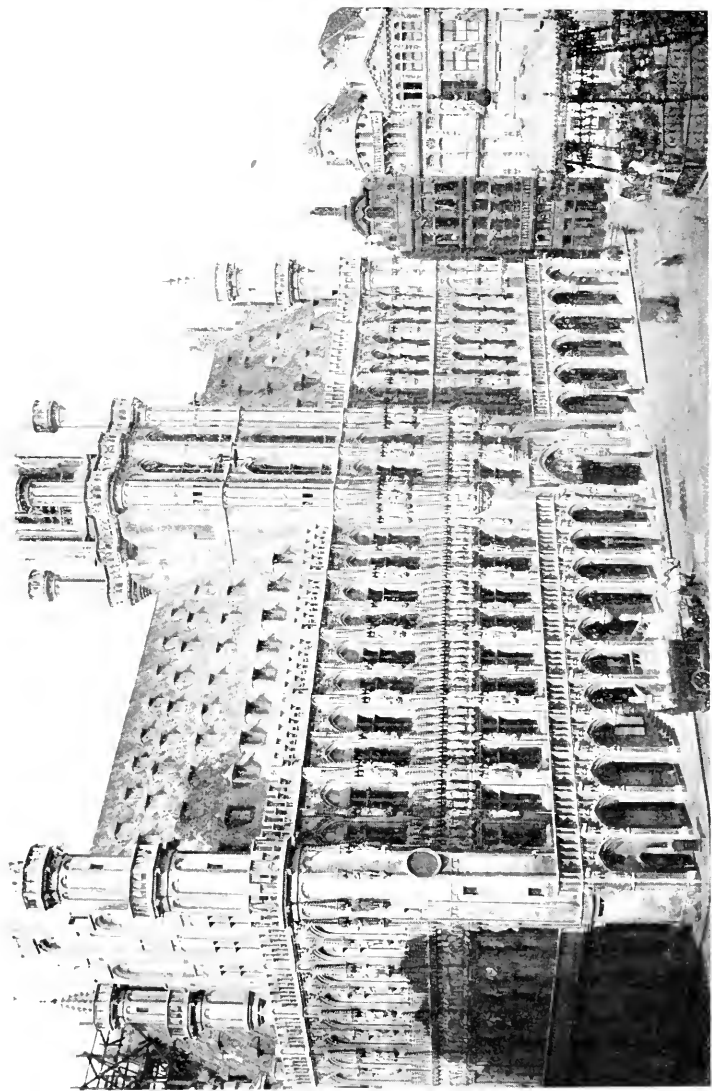
Burgos is steeped in Spanish romance; and an interesting bit of it in connection with the cathedral is the famous coffer of the Cid, which is here kept in a groined and vaulted chamber. Whether the sand with which he filled it when he bargained with the Jew still weighs it down, tradition saith not. Perhaps, of all that

"Fair land of chivalry, the old domain

Land of the vine and olive, lovely Spain"—

no part is more steeped with romance and the glamor of the past than Seville. On the banks of the Guadalquivir, famed in song and story, is this old Castilian town, so long under Arab rule, that even now the aspect of the town is essentially Moorish. Seville contains treasures of art and architecture, which are of special interest. The great cathedral of Seville is second only to St. Peter's, and larger than Cologne.

At the northeast corner of the cathedral stands La Giralda, a bell tower of Moorish origin, 275 feet in height, and a most interesting example of the Moorish-Gothic type of building met with in some parts of Spain. The town is of Moorish origin, the lower 185 feet having been built in the twelfth century by the Arab chieftain, Yusuf.



City Hall. Brussels

The original Moorish fountain in the courtyard below is still preserved. The upper part and the belfry were added three hundred years later by the Spaniards, as also the bronze statue surmounting it. The exterior is incrustated with delicate Moorish detail, and is quite the finest specimen of pseudo Moorish-Gothic in Spain. As the eye is uplifted to this beautiful tower—

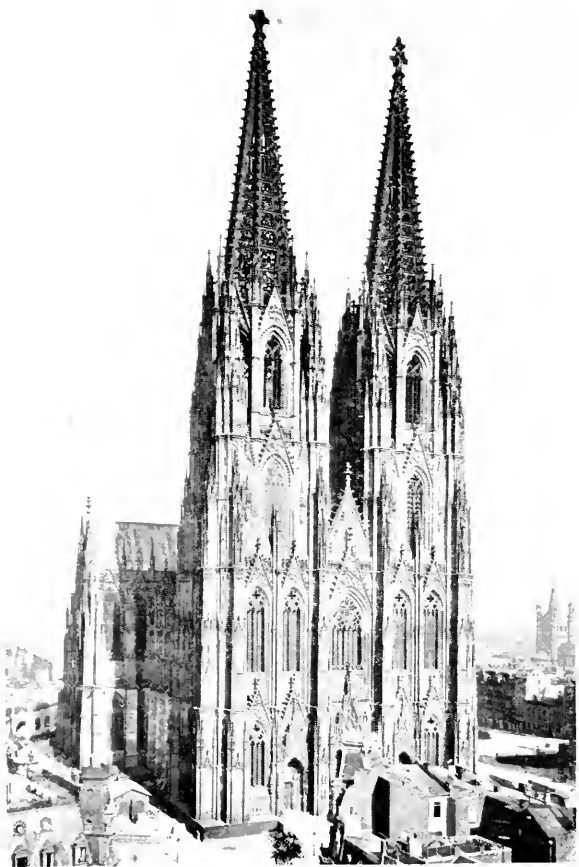
“Illuminate seclusion swung in air”—

the wonder grows, that such finished grace of execution could have been the work of a race we are accustomed to think of as barbarians—the wild and warlike Moors. La Giralda itself is a massive, square, rose-colored tower, diapered with fretwork and relieved by light balconies. The solid, grey base and graceful superstructure impart a mingled feeling of stability and lightness.

The foreground of the picture is occupied by a portion of the Alcazar of Seville, a palace excelled in beauty and interest only by the Alhambra, but greatly injured by Charles VIII in his zeal for alterations. Restorations in later times have in a measure restored the Moorish work of which it is now a very fine example.

BELGIAN AND GERMAN GOTHIC

The architecture of Belgium is essentially German in spirit, both the general style and detail all showing the same Teutonic character. Both Belgium and Germany borrowed their Gothic from France, Belgium coming most under French influence by reason of its close proximity.



Cathedral at Cologne

The richly treated town halls of Belgium are interesting subjects, well worth the attention. The general aspect of these buildings is noble and bold in the mass and rich in ornament. The famous Town Hall of Brussels offers an excellent illustration of Belgic fifteenth century Gothic.

The possession of a "belfry" was an important privilege of the mediæval Belgian town, and the tower at Brussels is one of the finest of these belfries. The tower is set nobly into the building, and its angles are marked by slender turrets.

The main building presents several stories, the lower one carrying an open arcade and the two upper filled with fine windows and profusely decorated with statuary. The steep roof carries up the eye to a lofty ridge and is crowded with dormer windows in several tiers.

The belfry tower rises from the center and is finished by a richly ornamented spire. The gable ends are adorned by recessed arches and by pinnacles, but the long side of the building is considered of chief importance.

The Gothic style in Germany is largely influenced by the national character. It bears general points of resemblance to French and English Gothic, but no more, and except for one or two glorious exceptions it is impossible to treat it with the enthusiasm inspired by the beautiful examples described. The German mediæval architect delighted in towers and spires, and plenty of them. These spires became extremely elaborate and consisted almost wholly of open tracery. Their ornamentation was profuse but rarely elegant. There was a tendency to cover all

surfaces with many lines and intricate and unmeaning tracery, more confusing than pleasing. The value of the plain surfaces as contrasts to the openings was often destroyed by a superfluity of mouldings and ornaments of various sorts.

The later Gothic work of Germany is far less attractive than the earlier when German Gothic bore a close resemblance to the French. The magnificent Cologne cathedral, the greatest Gothic cathedral of Germany is an illustration of this resemblance, and has been styled the "grown-up daughter of Amiens."

The plan of Cologne is one of the most regular and symmetrical of the mediæval cathedrals, and has been carried out with scarcely any deviation from the original plan, though it has never been completely finished. The structure is of stone, vaulted throughout and surrounded by a forest of flying buttresses with spires. Through centuries

"The stone to conscious beauty grew"
in the building of this wonderful cathedral.

The magnificent boldness of the design and its orderly regularity, with the delicacy and beauty of the tracery, have caused it to be ranked as the queen of Gothic cathedrals, though its uniform color gives it a somewhat cold and uninteresting appearance to many. This coldness of color has, however, been greatly relieved by the numerous beautiful windows presented to the cathedral at various times.

*"The hasty multitude admiring entered;
and the work, some praise, and some the ar=
chitect."*

—Milton.

7

RENAISSANCE ARCHITECTURE

The mediæval era saw the development of that "miracle of song," the Gothic type of architecture to its greatest perfection. A change, however, was coming over the restless spirits of men, and new fashions in buildings as in other things were imminent.

Under the more favorable conditions of social life as the pall of mediæval ignorance and superstition lifted and the iron hand of despotism relaxed, men in general awakened from their stupefied condition, and letters and culture were revived. The study of Greek and Latin became the fashion, bringing with it a knowledge of the Greek classic design, in use centuries before.

The strain of old blood, the devotion of their ancestors to classic ideas, reappeared in these sixteenth century Italians, and they sprang back into the forms of fifteen centuries earlier.

The Renaissance style is, therefore, a mixture of Greek and Roman forms, in which both the Greek lintel and the Roman form appear; in

which the column is freely introduced, but rather as an embellishment than structurally. That is, the columns could be removed, and the structure still stand.

The plan of buildings became uniform and symmetrical, as the picturesqueness of the Gothic was abandoned. The architrave and pediment were constantly employed, with classic porticoes, and small pediments over windows. Lofty pilasters, running through two and even more stories of a building, were introduced by a noted Italian architect, Palladio, who combined the different orders in the most daring manner, and who was imitated by a host of less skillful designers with disastrous results.

Openings were both square and semicircular at the top, and much attention was given to the treatment of windows, which in the facades of the Italian palaces or wealthy houses were admirably disposed for effect.

In general the roof was low, the parapet alone often forming the sky line, the pediment and the dome being depended upon for effectiveness in outline. The dome was, in fact, the crowning feature of Renaissance architecture.

The sculpture of the Gothic period was but little used on exteriors, except in the greatly debased form of the seventeenth century; the architects relying upon richly colored marbles, molded tracery and arcades, for the splendor of their facades. The constant use of the column for decorative as well as constructive purposes was characteristic. They used it in the jambs of doorways and in the place of the mullion in trac-



St. Peter's Church at Rome

eried windows. They relieved the harshness of angles by employing columns as ornaments and in many other ways. The doorways were often very beautiful, and sometimes sheltered by elegant and graceful porticoes. Round-headed openings were ranged alongside pointed ones, both being used in the same building.

Balustrades were employed in various situations, most commonly on upper stories before windows or as parapets on the tops of buildings. Pilasters were much used, in fact, almost taking the place of columns on some buildings, and fluted like columns. They are composed with bases and capitals likewise, and support entablatures just as columns do, being often used as an excuse for applying an entablature.

It is seen, therefore, that symmetry, uniformity and constant repetition, are leading principles in Renaissance design, which admits both of simplicity and elaboration. The earlier and purer examples are marked by the former, while grandiose effects characterize the later period.

The most conspicuous example of Italian Renaissance is, of course, the church of St. Peter's at Rome. It was intended to surpass any cathedral in Europe, and in vastness at least the project was carried out, though the tremendous scale of the building fails of entire appreciation, owing to the front facade cutting off the lower part of the great dome, so that to form a just idea of the magnitude of the building it is necessary to view it from the rear.

It was said by Goethe of St. Peter's, that "In this church one learns how art as well as nature

can set aside every standard of measurement." But all authorities are not agreed as to the nobleness of the resulting product. On the one hand observers go into raptures of delight and bestow on St. Peter's the foremost place in ecclesiastical structures; while many critics consider it distinguished not more by its magnitude than by its deformities, and the total absence of harmony in the connecting parts, "while gorgeousness and poverty are the characteristics of its detail."

It is universally agreed, however, that architecture has never produced a more magnificent object than the wonderful dome, which was Michael Angelo's masterpiece and the realization of his boast that "he would take the dome of the Pantheon and hang it in mid-air." The last eighteen years of his life were spent in creating this wonderful dome, a work of the greatest beauty of design and boldness of construction.

He did not live, however, to complete the general design, and the present basilica is the result of centuries of work by many artists, each to some extent undoing the work of his predecessor, and to a great extent destroying the simplicity of the original grand design.

The magnificent dome, which is the chief glory of the exterior, is also the redeeming feature of the interior, its sublime concave adorned by beautiful frescoes from the same great master. The impressiveness of the massive piers and arches and prodigious vaulting, is marred by the inappropriate and mixed character of the decorations, which include every period of the Italian Renais-

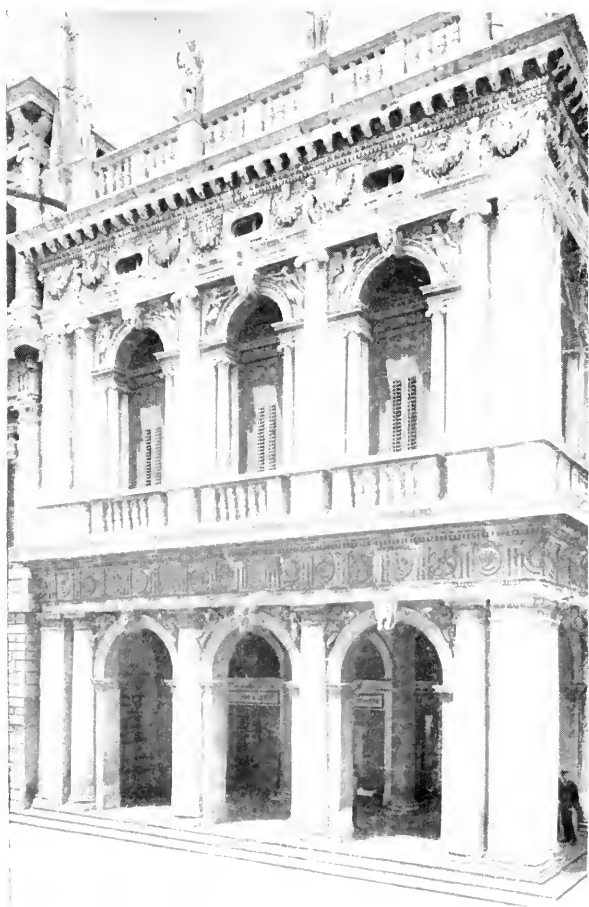


The Farnese Palace, Rome

sance, and are utterly out of place in a sacred building.

The Farnese Palace, also at Rome, is to the last degree an orderly and regular Renaissance composition, executed in brick walling, with travertine dressings taken from the Colosseum. Columned pilasters appear as frames to the windows, which have shallow pediments as headings. The angles of the building are rusticated, and there is a great height of unpierced wall above each story of windows, and each story is marked by well defined string courses. The whole is crowned by a bold and highly enriched cornice which was a special feature of the design and an unusual one at Rome.

The building is a dignified and impressive mass, and a fine example of the noble, palatial mansions erected in the sixteenth century, before the principles of Roman architecture were turned



St. Mark's Library at Venice

topsy turvy by later architects. The Farnese Palace is considered to be in Michael Angelo's best and most restrained style.

The next great group of Renaissance buildings is to be found at Venice, where the style for a long time, however, retained many Gothic elements. As time went on, these were lost sight of, and the style matured into one of great richness, not to say ostentation.

Facing the Ducal Palace, on the west side of St. Mark's Square, is the beautiful Library of St. Mark, the work of a prominent sixteenth century Venetian architect, and considered by many the finest thing of its time. The superb front which faces the square is repeated on the facade facing the sea. The design of this facade has been rather closely followed in some nineteenth century buildings, notably the Carlton Club front, Pall Mall, London.

The main motive is seen in the entablatures over engaged columns of the Doric order in the lower story and Ionic in the upper, combined with an arrangement of arcades between the columns, the spaces so filled with beautiful sculptured reliefs that almost no plain wall surface is visible. The upper story repeats the design of the lower and the entablatures are profusely enriched.

In the second story the Ionic columns are raised upon pedestals, and the smaller impost columns on each side, from which the arches spring, are raised likewise. The wide frieze—three feet in width—of the entablature above these columns is thickly set with beautiful sculptured reliefs.

Even the volutes of the capitals are filled with foliage, and the keystones of both arcades represent sculptured heads, lion and human heads alternating.

Though modern ideas have reacted from the decorated facade, and inclined to plain, severe treatment, it is impossible to view these masterpieces of European architecture without feeling the impressiveness of elaborate carving upon important buildings. It cannot be denied that these beautiful examples of ancient art belong to a higher and nobler order of architecture than our plain, undecorated buildings.

St. Mark's Library is beautifully proportioned, and the use of order over order with large arched voids in the spaces between the columns produces a fine pictorial effect. The parapets and statues crowning the top of the facade are in the style of the period. The later Renaissance architects, however, made but little use of statuary, and even sculptures became rare except for the fantastic and inferior decoration of the gilded Rococo style, so marked a contrast with the delicate and refined sculpture of the early Renaissance.

The period of Italian style just alluded to, and known as the Rococo style, was a debased application of Renaissance principles. It consisted of exaggerated and badly designed detail, columns placed in front of pilasters and cornices made to break around them. Other features are broken and curved pediments and twisted shafts of columns. Excessive ornamentation without regard

to fitness or suitability and much gilding were characteristics of the interiors.

The series of beautiful palaces and villas which were erected in Florence, the suburbs of Rome, and along the Grand Canal in Venice, bear the impress of a high order of artistic design.

The severe Florentine palaces belonging to the early period of the style, displayed much plain wall surface, and the classic orders were used in a restricted, unobtrusive way and with pilasters in preference to columns. They were the work of the famous Florentine, Bramante, and are distinguished for great dignity and impressiveness.

At Venice, an almost endless series of palaces and houses are to be seen, all of them rich, though not of great size, for land was costly. The Ducal Palace on the Grand Canal has been already referred to, which while embodying Gothic elements was rebuilt in part in the Renaissance spirit. The marble front of the facade facing the inner court is a wilderness of elegant carving, statues, wreaths, columns, delicately wrought balustrades and beautiful bas-reliefs. The paneling of the great outer staircase is of beautifully wrought marble of every hue, and everywhere decoration is lavished with a prodigal hand.

In the architecture of these Venetian palaces one sees first a row of Corinthian columns upholding a richly ornamented frieze, while Gothic arches form an arcade within the pillars and are repeated in the second story.

The difference in style between the severe and simple stateliness of the buildings in Florence and Rome and the exquisite delicacy of Venice



Villa Medici, near Rome

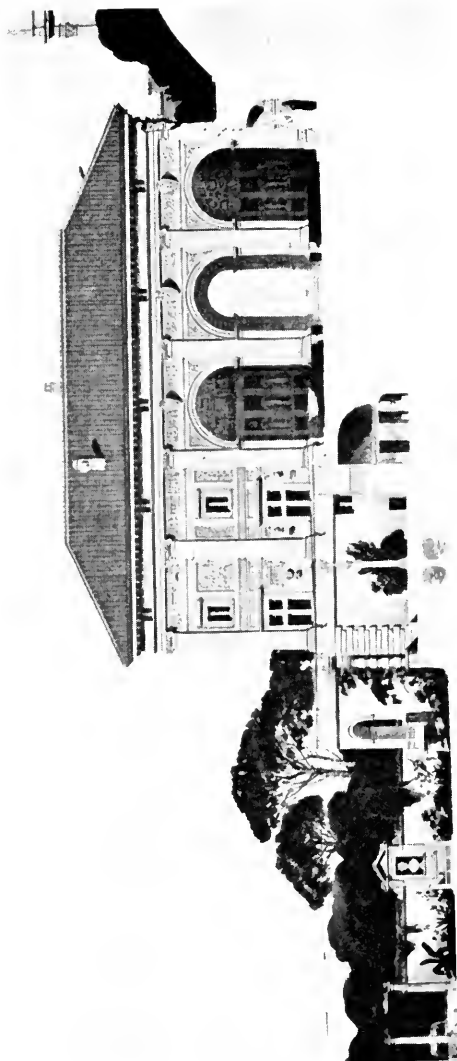
is a noticeable feature. The beautifully carved balconies and cornices of the latter, with their rows of arcaded windows, are familiar pictures.

It seems passing strange that the Italian Renaissance architect, while laying so much stress upon the use of the classic orders, should have ignored completely the stately Greek portico, which is scarcely known in the Italian national architecture, though widely adopted in other countries by architects practicing the Italian style. In the Villa Medici there is a suggestion of insulated columns in the entrance, but they are so meager and so widely set as to produce a weak effect not in keeping with the imposing front of the building.

As the ancient Roman patrician had his villa outside the city walls, so the wealthy Italian nobles of the middle centuries built themselves pleasure houses in the suburbs. The Villa Medici on the Pincian Hill, near Rome, may be illustrated as among the most architecturally worthy out of the many suburban villas of Rome. The "hill of gardens and villas," as Ovid calls the Pincian, so thickly was it set with the old Roman pleasure places, was a favorite location for the villas of the Italian Renaissance, and the Pincian Hill, the site of the Medici Villa, is now, as then, the favorite promenade of the Roman aristocracy. There may be seen "a fashionable halo of sunsets and pink parasols," in the broad walks and drives of the terraces, and far in the distance a silver line marks the sea melting into the horizon.

Here in the days of imperial Rome was the famous villa of Lucullus, where he gave his celebrated feast to Cicero and Pompey, for which he ordered the menu by merely mentioning to a slave that he would dine that night in the hall of Apollo. The banquet is said to have cost a sum equal to \$10,000.

How extensive were these ancient villas we may conjecture from Pliny's description of his own, in which he describes forty-six rooms. He tells us of dressing rooms with hot and cold water, swimming pools and plunges, bathrooms with suites, porticoes and galleries, and a large pleasure place enclosed by plane trees and vines, with fountains and marble summer-houses. The Renaissance architects prided them-



Villa Madama, near Rome

selves on accurately copying all these features of their patrician ancestors, and their villas have served as models in all other lands where wealth has attempted poetic surroundings. Not a few modern American country seats are copied from these Italian models.

The Villa Medici fronts on a beautiful garden, its facade—said to have been the design of Michael Angelo—richly adorned with panels, and niches filled with classic carvings excavated from the ruins of old Roman temples. The brilliancy of its yellow walls is relieved by the white marble panels and softened by the shadows cast by the wings and the portico.

The Villa Madama was another of the creations of Italian Renaissance. Though the building as it now stands consists of only the eastern loggia and adjoining rooms, the decorations of this interior have made it famous.

The Villa Madama is situated upon the slopes of the Monte Mario, one of the highest and boldest of the hills lying about Rome. A winding carriage road brings one to this now deserted villa, an architectural gem built from designs by Raffaello. The neglected halls contain beautiful frescoes and arabesques, by celebrated artists of the period, which fortunately have been engraved before being hopelessly lost. The frescoes consist of a series of beautiful pictures representing the sports of Satyrs and their loves, while a deep frieze on one of the deserted chambers still shows angels, flowers, caryatides, etc. The entire surface of the walls, pilasters and vaulting, are covered with decoration in plaster relief and in



Chateaux Blois, Wing of Louis XII

fresco. One pilaster, for instance, is carved all over with ears of wheat, some standing upright, some gracefully drooping. Another is covered with a network of strawberry leaves, interspersed with birds in different positions. These reliefs have all the charm of free-hand work, though in reality they were executed from moulds.

Raffael, painter and sculptor, was also an architect of distinction, a pupil of the best of Florentine architects—Bramante. The architect of the Villa Madama was a pupil of Raffaello's in turn, hence the charming frescoes. The Villa Madama was designed to reproduce the features of a Roman villa in the Renaissance style, and is the perfection of simple beauty in the Doric style even in its ruined condition. The recessed and arcaded facade facing the garden is especially beautiful. It is impossible to convey in words, the charm of these remains of an art and a social life long since passed away. But they are still fruitful models and an inspiration to the architect of every age.

FRENCH RENAISSANCE.

Not till the new style had become well established in the land of its birth did it reach France, nor was it there received with much acclaim. Not easily did French architects let go of their beloved Gothic vaults, flying buttresses and tracery windows, and even when Renaissance features began to appear, the Gothic forms and principles were retained, producing a transitional

style, in which steep roofs and lofty towers were mingled with rows of arcades and mullioned Gothic windows with Renaissance pilasters, and "statues, motley as man's memory."

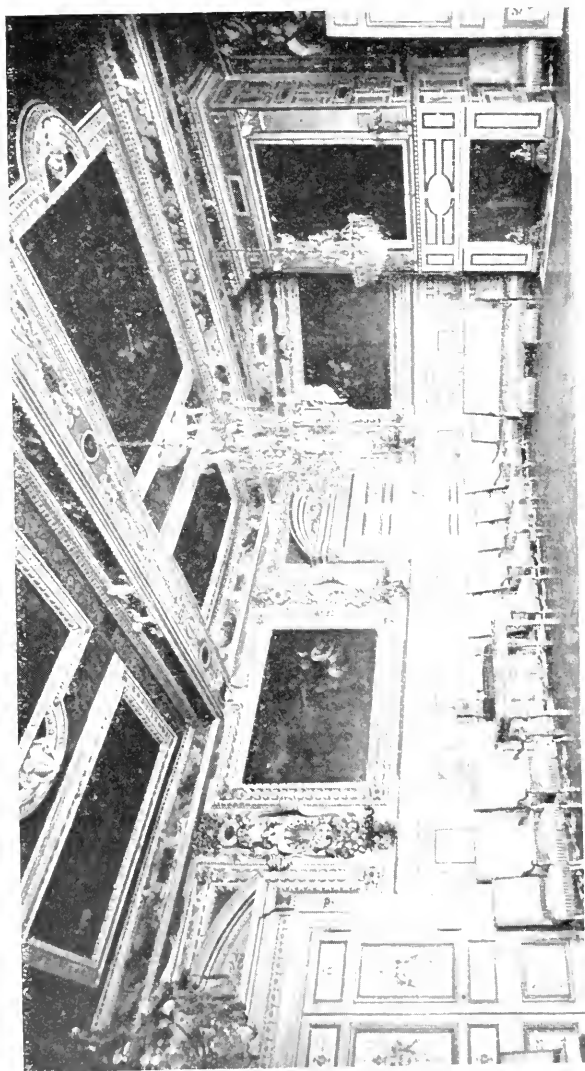
The reigning monarch of the sixteenth century was Francis I., noted for his literary and artistic acquirements. The Italian style appealed to him and he made it fashionable. The buildings of this early Renaissance were chiefly chateaux for the nobility, and it is probable that the picturesque country environment of these dwellings or castle-houses had an influence in the retaining of so many Gothic features. Unlike the Roman and Venetian palaces where the facade alone was of chief importance, these noblemen's houses were seen from every side, and accordingly picturesque effects were more sought than regularity. This phase of architecture is illustrated in the famous Chateaux of Blois—an immense castle, parts of which were executed in three different periods of French architecture. The exterior of the early part shows extreme picturesqueness of outline almost amounting to wildness; while on the side fronting the inner quadrangle, in the early Renaissance period, the parts are designed symmetrically. Both the individual features of the wing and their combination are graceful and pleasing. The elegance of some of the carvings is unsurpassed; the beautiful shell ornament which is such a feature of Venetian decoration being freely employed. The rich, crowning cornice, and the dormers are elaborately carved, as also the shafts of alternate columns of the arcade. Pilasters are introduced between square, mullioned windows in

each story of the facade. The brick walls are profusely dressed with stone at the angles and around the openings. The dormers, high and sharply pointed, have little pilasters and rose windows in the center of the gables.

These French chateaux, which are in truth irregular Gothic castles with a coating of Renaissance detail, are among the most interesting examples of the architecture of the early French Renaissance.

Many of the most interesting chateaux of this period are to be found in the southern part of France and are subjects of special interest and admiration to travelers. Meantime another style was making headway, as Italian architects were imported to superintend buildings constructed after Italian classic design. These imported architects were responsible for the earlier buildings, notably the palace of Fontainebleau, on which three or four Italian architects were engaged, among them the celebrated Vignola, who appears to have had a more correct taste than perhaps any other Italian architect of the sixteenth century. The best part of French Renaissance was due to his influence, and in his designs we find a more modest use of the orders, a limitation of one order of columns or pilasters to each story, rather than the extravagances of the later French school. The plan at Fontainebleau appears, however, to have been extremely irregular, and it is chiefly interesting for the sumptuousness of its interiors, one of which is here presented.

The gables and dormers which had so persistently held their own now gave way to pediments

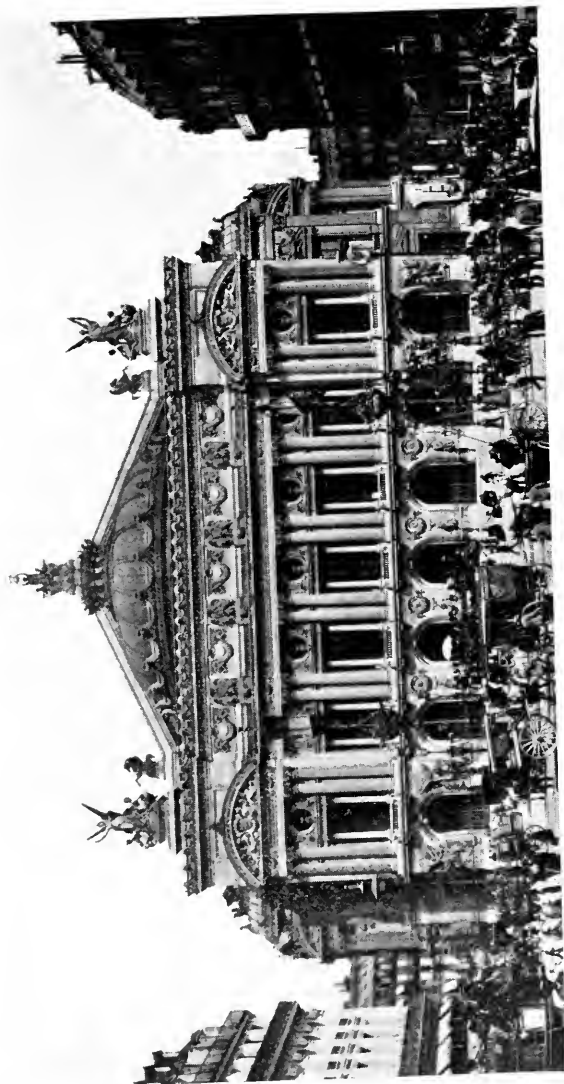


Interior at Fontainebleau

and balustrades. Vertical coupling of windows replace the Gothic mullions, with horizontal entablatures. The roofs remain high in French architecture, and that peculiarly French feature, the Mansard roof, was introduced at this period. These high roofs allowed of dormers, a feature quite unknown to Italian Renaissance, and these dormers were treated with classic details, such as pilasters and arched or broken pediments surmounted by carved figures. Columns were used, each story having its own order. Sculpture was much employed in external enrichment, and though often luxuriant, is usually in good taste. Interiors of lavishly decorated wood and stucco, treated in white and gold, were a feature of the later French style in the Louis XIV. period, in place of the carved wood paneling of the Gothic period and of the early Renaissance. In France, gilding and mirrors took the place of the stucco work and costly mosaics of Italy. This style of decoration is to our eyes painfully extravagant and in wretched taste. In the succeeding century these ideas became greatly modified however.

Renaissance buildings of a domestic character in France are distinguished from the Italian by their large extent and ample environment. Narrow fronts like the Venetian palaces with open arcades are replaced in France by more variety of treatment, the surface of the walls being much broken up and conveying an impression of large space.

The domestic work of the French Renaissance is in truth of more value and interest than the great palaces of the period, as Versailles, which



Opera House, Paris.

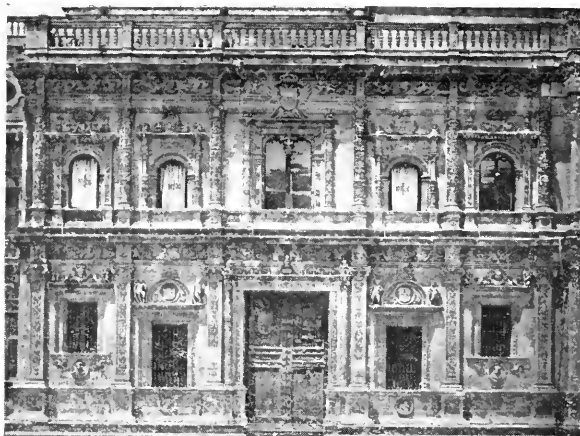
though of vast size, possesses no architectural features of merit or interest.

As an example of the later work of the style, the Opera House of Paris must be included, though some delicate and pleasing effects are obtained with a combination of marble, bronze and gilding, slightly sprinkled with enamel, in the detail of the facade.

SPANISH RENAISSANCE.

In Spain this style was introduced near the beginning of the sixteenth century, and was marked by the three phases of progression which have been described in other countries. The early style retained many essentially Gothic features, such as pinnacles, gargoyles and parapets, and resembled the French fusion of classic and Gothic. While the general design was simple, it was overloaded with extravagant ornamentation, which, however excellent in workmanship, imparted a crowded and overladen appearance to the structure.

To this order of Spanish Renaissance belongs the Town Hall of Seville, built in 1559, which is, however, one of the handsomest if not the handsomest municipal building in Spain. The exterior is almost covered with a mass of sculptured ornament, not only the capitals, but the shafts themselves of the columns being profusely carved with an extraordinary variety of fanciful ornament. The photograph gives the principal facade of this building, in which, while well treated in the mass, the individual features have been loaded with an extravagant amount of ornament. The



Town Hall, Seville

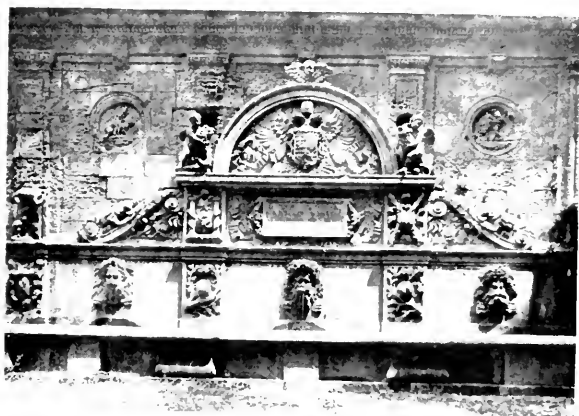
stone work is profusely carved and the columned pilasters slight and fanciful in form, combining baluster-shaped columns as if of wood turned in a lathe, with Ionic and Corinthian capitals. The same forms appear in the balustrade of the parapet. The pilasters themselves are decorated in low relief, and fanciful sculpture of doves and cupids is abundantly used in the frieze over each division of the front and the openings. The iron *Rejas* or grilles in the lower story are effective features.

To this phase succeeded a style marked by plain and simple dignity, modeled on the best examples of Italian Renaissance, and which produced many notable buildings, such as the Escorial palace at Madrid and the Alcazar of Toledo. The uncompleted palace of Charles V. exhibits this sixteenth century style. The plan of the

palace was a square, 205 feet each way, and inclosing a court 100 feet in diameter, where appears the fountain shown in the photograph, which was a feature of the inner quadrangle wall opening on a court.

To construct this palace, Charles V. had the poor taste to tear down a great portion of the Alhambra and build in the Renaissance of the period a structure which never was completed. Imposing in style, it is too cold and forbidding to be linked to the lightness and grace of the Moorish palace and its unfinished and roofless condition presents a scene of extreme desolation.

The treatment of the external facade, which was two stories in height, was with columns of the Ionic order above the lower story of rusticated stone. Bull's-eye windows were introduced above are arched openings in both stories. The palace was built of a golden colored stone, with the center of each facade enriched with colored marbles,



Fountain of Charles V. Granada



Pellerhaus, Nuremberg

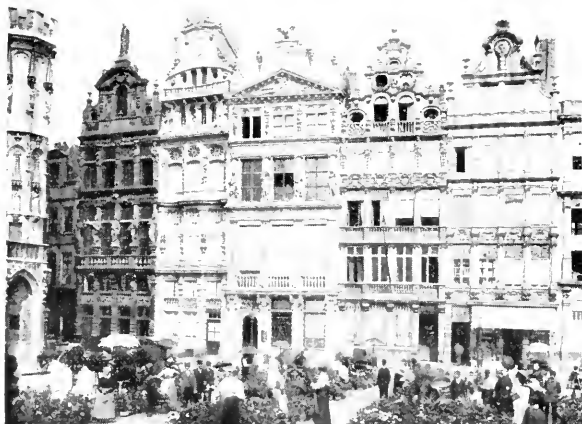
with fine sculpture. Though never roofed in or occupied, the building is considered the purest type of Renaissance design in Spain, and an important specimen of the style.

The correct style of this middle period was, however, too cold to suit the Spanish taste, and later architects introduced the debased rococo style of the seventeenth and eighteenth centuries, in which fantastic and exaggerated forms are employed without reference to good taste or suitability. There are many interesting though scattered examples of the Spanish architecture of this period, chiefly in detached features of the smaller churches and municipal buildings.

GERMAN AND BELGIAN RENAISSANCE.

Probably few European cities retain their mediaeval aspect to so marked a degree as the city of Nuremberg, which is still surrounded by its ancient feudal walls and moats. The general type of its architecture is Gothic, but the rich details are usually borrowed from the Renaissance. Most of the private dwellings date back to the sixteenth century, and even the new houses imitate the lofty peaked gables, oriel windows, red-tiled roofs and stone balconies of the old dwellings.

The almost single exception to this picturesque style is the Peller-haus, an edifice in the Italian style erected in the seventeenth century, and an example of rich domestic architecture, showing also the richly treated stepped gable of the roof, in fantastic German style of this period. The French method of an inner court-yard is here



Row of Houses at Brussels

adopted, and oriel windows running through both stories above the arcade below. The stories are marked by richly decorated cornices.

Buildings of pure Renaissance type are scarce indeed in Germany, though there are some picturesque buildings that present a curiously blended mixture of regular classic forms, but very irregular in their proportions and positions; such as fluted pilasters with capitals and a pediment, with mullioned windows and high pitched gables, and dormers breaking into the roof. The large roofs, containing many stories, are indeed the prominent feature of German town houses of this period, displaying many tiers of dormer windows rising one above the other.

This feature is illustrated in the row of town houses in Brussels, Belgium. Such architecture possesses little interest for the seeker after beauty of proportion and chasteness of detail.

*"And now thou bids't me view each lofty aisle,
Then mid the solemn grandeur muse awhile.
These clustering pillars raised with wondrous
toil,
The pointed arch and column well combine;
A grove-like, long perspective thus to give,
Where statued niche and blazoned panel line
The massive walls."*

ENGLISH ARCHITECTURE.**London Tower**

In England, as in other lands, we find religious feeling dominating its architecture. In this sea-girt isle of our ancestors, the history of architecture begins with the building of churches, and therefore we must use churches and cathedrals to trace its progress.

The first buildings of the kind were small and rude, and of these almost no examples remain, though fragments and details are preserved in some of the rebuilt churches. In fact, the history of architecture in England is a pulling down

of the style of one period to replace with the incoming fashion.

Of many of the noblest English cathedrals it may be said—

“Here once there stood a homely wooden church
Which slow devotion nobly changed for this.”

The Norman form of Romanesque came in about the eleventh century, and the great abbey church of Westminster was first built in that style by Edward the Confessor.

“In Norman strength that abbey frowned
With massive arches broad and round.”

The main features of the Norman style were massive piers, round-headed arches, small and narrow windows and projecting buttresses. The necessities of the times, rough and turbulent, when bands of marauders were continually marching up and down with sword and torch—gave the character of the fortress to all buildings, both church and castle. Norman castles were military posts as well as residences, and planned to serve both ends. There was always a central tower or “keep,” protected by a moat of water. The “White Tower”—the central tower of the mass of buildings known as London Tower—was thus erected by William the Norman in 1078, and the present tower retains the appearance of plainness, though not rudeness, which characterized that ancient fortress and prison of state. An interesting recent discovery within its walls may here be mentioned. In making some repairs the pick of the masons brought to light the well of water, long centuries buried, which supplied the original fortress with water. When opened up

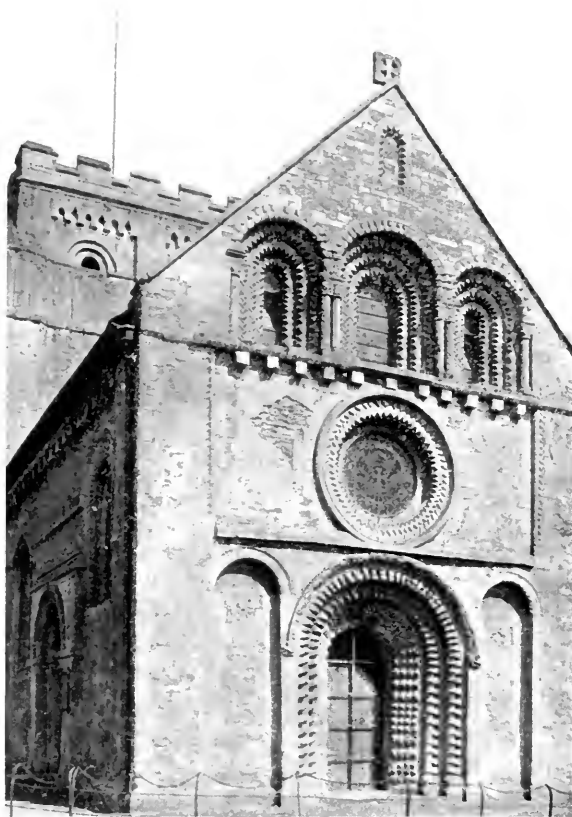
the well was found to still carry 30 feet of sweet spring water. It has heretofore been a matter of much speculation as to how the fortress was supplied with water.

Besides the great abbey churches, such as Westminster and Canterbury, many smaller parish churches were built, and a fine example of these is shown in the picture of Iffley parish church in Oxfordshire, with its square, massive Norman tower and its rose or wheel window over the entrance; a perfect type of early Norman ecclesiastical architecture, with its

“Massive arches broad and round,
On ponderous columns short and low.”

Iffley church is wonderfully preserved considering its age, which must be about eight centuries, though little is known of its history. It bears, however, strong early Norman characteristics. It is peculiarly rich in doorways, having three of great value, each different from the other. The southern doorway is enriched with sculptured flowers, an unusual feature in Norman architecture; it contains also rudely carved imitations of Roman centaurs.

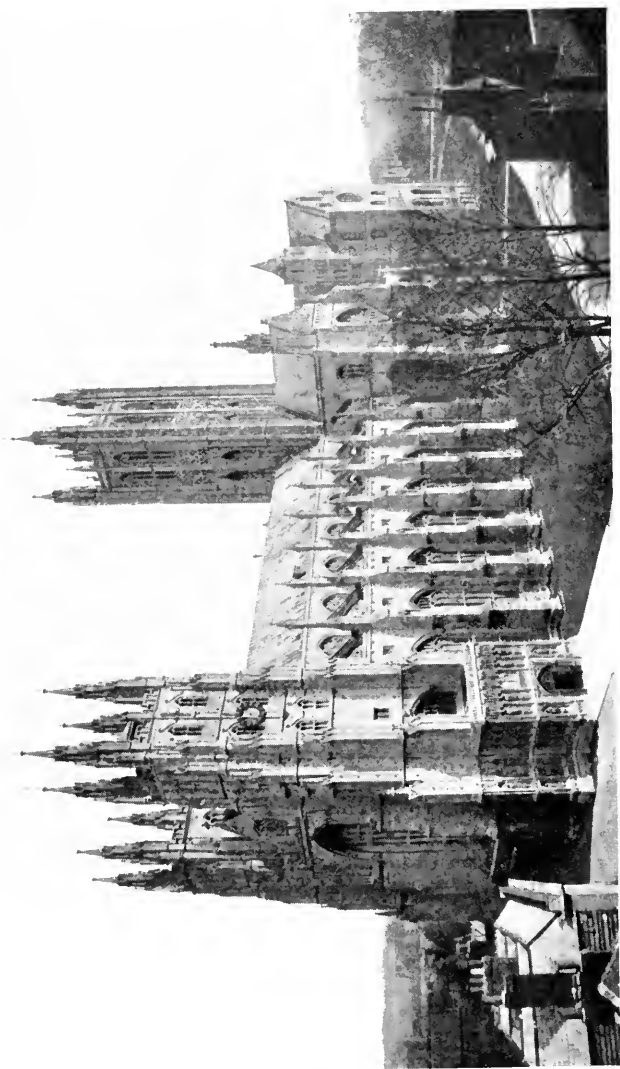
Norman piles—“grim with the Northman’s thought”—have an interest all their own. By the end of the eleventh century most of the early great churches had been rebuilt in the Romanesque style, though retaining, as has been mentioned, many of the characteristics of the early primitive structures, their massiveness and strength, with even less of ornamentation. No style in fact needed ornament less, and none could better depend on simple stateliness and solemnity



Iffley Parish Church. Oxford

or outline. The architecture of London Tower shows how the early Norman style could be wrought into perfectly finished forms, though devoid of ornament.

The early Norman has been called "the primer of architecture in stone." Certain it is that the



Canterbury Cathedral!

amount of thought and contrivance evinced by these early builders is truly wonderful; and their steady progress from the rudeness of necessity and limited skill to the beauty, delicacy and richness of the later Romanesque is a most interesting study. The pronounced individuality and originality of the Romanesque style have found appreciation and admiration among modern architects, who have adapted its salient features to the details of modern construction with great skill, and obtained many fine effects.

THE GOTHIC ERA

We now come to the story of the rise and fall of the Gothic type in England, which is one of fascinating interest.

To know anything of Gothic architecture one must go to the cathedrals and churches; for in their— “branching windows,

Pillars of clustered reeds, and traceried glass”—

shines the story of the true Gothic, and no where is the story invested with more absorbing interest than in the unrivalled series of buildings of that era to be found on English soil.

The Gothic type found here its most congenial home, with a home-loving people, whose instincts prompted to a less formal style than the architecture of southern lands.

“Something more friendly with their ruder skies;
The gray spire, molten now in driving mist,
The carvings touched to meanings new with
snow.”

The first application of Gothic on a large scale is found in the celebrated Canterbury cathedral,

which as we have seen, had already been destroyed and rebuilt several times. Of its first original structure nothing now remains except some rough stones and clinging cement, part of the masonry of the early Briton foundation. But "Statlier still,

Grows the hoary, grey church, whose story silence utters, and age makes great."

The effect of the great cathedral towers in warm gray seen through a long vista of dark street is wonderfully grand. Its total length is 514 feet and the length of the choir 180 feet. The central tower is 235 feet in height, the west tower 152 feet.

The interior conveys a wonderful effect of lightness and grace for so vast a space. The "glorious choir" is the first important example of the early Gothic style in England. At certain points, the new work abuts against the old, and a plain Norman capital supports on one side the sturdy round Norman arch with its roughly axed zig-zag cutting and on the other the pointed Gothic arch with its more delicate ornamentation. One who was an eye witness of this transition work, describes it thus: "The pillars of the old and new work," he says, "were alike in form; but in the old capitals the work was plain; in the new ones exquisite in sculpture. There the arches and everything else were plain or sculptured with an ax and not a chisel; but here, almost throughout is appropriate sculpture. No marble columns were there—but here are innumerable ones. There, was a ceiling of wood, decorated with excellent painting; but here is a

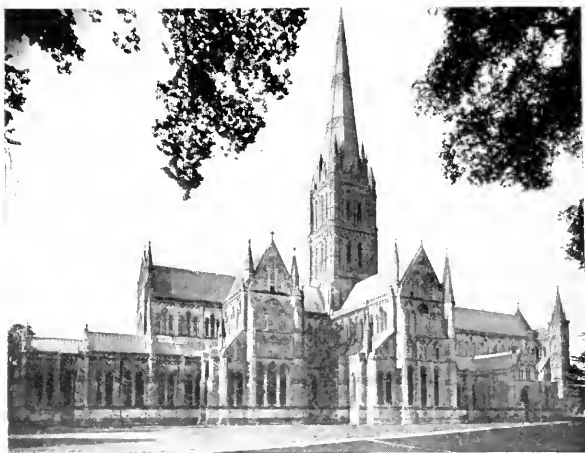


East Window, Lincoln Cathedral

vault beautifully constructed of stone and light tufa."

The cathedral was brought to its present form about the time Columbus discovered America.

Lincoln Cathedral is one of the most noted examples of the Early English or Pointed style in the middle of the thirteenth century, and it, too, is the work of successive builders. The central



Salisbury Cathedral, England

portion still retains traces of the early Norman church, though the middle arch was subsequently raised and pointed. A band of curious sculpture runs across the front, representing Bible scenes, a peculiarity of Norman decoration, and the interior also shows remains of Norman origin. The font particularly is very ancient and a fine example of the Norman period. It is built of black basalt, square in shape with grotesque monsters carved on its sides. Over the central entrance is a row of royal statues; among them is placed a statue of the Swinherd of Stowe, who, tradition says, gave a peck of silver pennies to the building of the cathedral.

The Central tower, the finest in England and the highest, was formerly capped by an immense timber spire, covered with lead, which rose to a

height of 524 feet. The spire was destroyed by a tempest; but its lofty site and tower, considered the grandest and most majestic in the modern world, requires no spire.

The great East window is a fine example of the decorative tracery of the Lancet style before it changed from the Geometrical to the Flowing. Its arches, supporting circles repeated on different planes, show the richness and freedom of detail of this early lancet work, and surpass in beauty the more elaborate design of later styles.

The whole eastern part of the church is perfect in its way, and it has been said that "English Gothic sprang into being in the Choir of Lincoln." It seems quite true that the English Gothic is distinct from any other style, and a true original creation, with qualities entirely separate from the continental Gothic—a native craftsmanship, so to speak.

A description of Early Pointed would be incomplete without showing the famous cathedral of Salisbury, which has often been quoted as a model of this style, because, more than the other great churches, it represents it from one end to the other, though in cotemporary portions, it is far surpassed by parts of Lincoln. The reason for this unity of parts lies in the fact that it enjoyed the rare advantage of being begun and finished within a period of forty years, from 1220-1260.

It is purely English in character, and Ferguson declares it to be "the best proportioned and most poetic design of the Middle Ages.

Unlike Lincoln its most conspicuous feature is the richly adorned Central Spire which is the loftiest in England—406 feet, and dominates the whole design.

The cloisters, of—

“Red brick and ashlar long and low,
With dormers and with oriels lit”

are of later date than the body of the cathedral, and of rare charm.

Salisbury is so well known a subject, that we pass to the charming cathedral of Wells, in the venerable city of that name, the three abundant fountains of pure water giving the town its name, springing to the surface near the east end of the cathedral.

The delightful surroundings of Wells strongly emphasize a marked point of difference in the idea of the English as contrasted with the French cathedral. The latter was designed to be imposing in a city, among other buildings; while the English chose quiet and sequestered spots, away from the turmoil of life. These different ideas found architectural expression and influenced the character of the design.

A feeling of devotion breathes from the cloistered court of Wells and recalls the beautiful lines

“Oft have I seen at this Cathedral door,
A laborer pausing in the dust and heat,
Lay down his burden and with reverent feet
Enter and cross himself.”

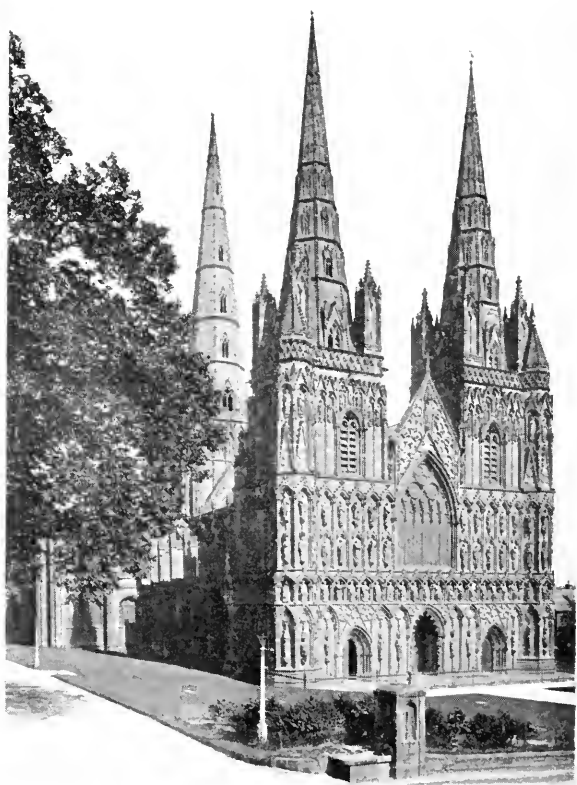
The West front of Wells has been called the most imposing facade in England, not only for its square and massive strength but unique de-



Side View of Wells Cathedral

sign and harmonious effect. In a small plate it is impossible to convey the richness of detail, with its wonderful mass of sculpture and decoration. The front is 235 feet in breadth, and in the decorated niches are said to be 600 sculptured figures, half of them life size.

These sculptured stories were the public libraries of the multitude at that time who had neither prints nor books, but read their Bible stories from these carvings—"a sign language in stone." The towers of the west front in the Perpendicular style were added in the fourteenth century and are not a part of the real construc-



Litchfield Cathedral

tive design, as they stand outside the aisles of which they appear to form the end. The grouping of the three well proportioned towers is, however, considered as one of the finest architectural effects in England.

The very beautiful west front of Litchfield cathedral is perhaps the most perfect specimen of

English Decorated Gothic. The artistic value of towers and spires can hardly be estimated. Their position varied, but a favorite and effective placement was a pair of towers at the west end of the building as shown in the picture of Litchfield. This front shows the excessively rich ornamentation of the Decorated period.

It is divided into three stages; the lower one occupied by the three doorways, the center one being in effect a deeply recessed porch. The hollow mouldings on either side are filled with exquisite sculptured foliage.

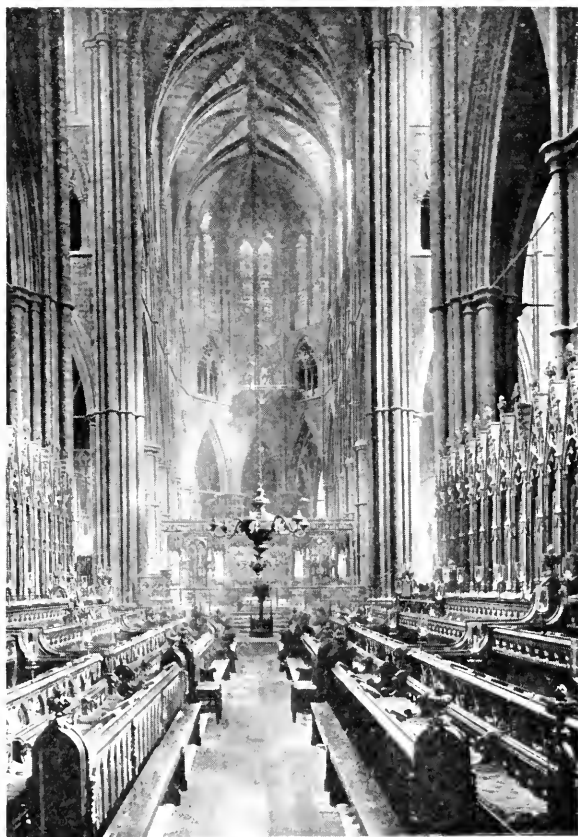
Above this lovely doorway is set the beautifully decorated central window, flanked each side by a series of arcaded niches, filled with carved statues and having pierced and trefoiled heads with projecting canopies.

The flowing tracery of the gable above the lofty spires divided into many stories and filled with canopied windows, the angle pinnacles and ornamented parapets of open stone work—all make up an effect of unsurpassed elegance.

Westminster Abbey is full of exquisite examples of window tracery in the form chiefly employed in Early English Gothic. The splendid arcade of windows which forms the triforium of the choir is shown in the photograph of the choir. The beautiful vaulting—

“The lift of high-embowered roof,
The clustered stems that spread in boughs dis-
leaved,”

is a fine architectural study in the open roof construction of Gothic churches. The vault was indeed a feature of prime importance, often in-



Choir, Westminster Abbey

volving great structural difficulties, and such marvels of workmanship, and composed of such an infinite number of parts, as to fill the beholder with unending wonder.

Not until this period were there any seats in the churches. The early Church knew not seats, except for the bishop or the preacher; the laity stood. If any were physically unable to stand, such as delicate women or invalids, the floor was the alternative. Even in the present, the churches of the East, have no seats nor are they permitted except as an extra accommodation for which one must pay. In the fifteenth century the sitting posture became recognized in English churches, and oak pewing, often of a beautiful character was introduced.

The study of English Gothic, from the Romanesque churches to the grand cathedrals of the middle centuries, is one of the most interesting periods of architectural study. No other period shows such unparalleled activity in construction, and such ardor in design. But Italian architecture, which never had taken kindly to the Gothic, began strongly to revive classic styles.

Fashion sends forth her mandates in other affairs than dress, and a new fashion in architecture was now decreed.

"Hence, doomed to hide her banished head
Forever, Gothic architecture fled."

New masters in architecture had arisen who "knew not Joseph" and who sent forth their royal edict—

"That Gothic is not Grecian, therefore worse."



Radcliffe Library, Oxford

By the middle of the seventeenth century, Gothic architecture had yielded completely to continental influence and the Renaissance was thoroughly established on a firm footing. This it has retained through succeeding generations, though in modified form and not to the exclu-

sion of other styles. Many notable buildings were erected in England under its influence, among them Radcliffe Library at Oxford, which is a type of the later Renaissance of the eighteenth century. The building is a handsome rotunda, embellished with columns and surmounted by a dome resting on an octagonal base. It was built in the period of the revived Italian, and is considered by some authorities the grandest of all the English-Italian designs of this time.

The great dome of St. Paul's was the result of the revived Italian then dominant, when the cathedral was re-built after the fire which destroyed it in the seventeenth century. It was constructed of white marble, but is now black with age and soot.

The present edifice, though imposing, cannot be said to possess the charm and poetic interest of the old St. Paul's. It is said to occupy the exact site of an old Roman temple, and truth to say looks more like one than a church. Though the interior has now become the mausoleum of soldiers, statesmen and poets, and is filled with great monuments, the tomb of the architect, Sir Christopher Wren, the first apostle of English Renaissance, was for a long time the only one. On it was the famous epitaph—“*Si monumentum quæris circumspice.*” (If you seek a monument, look around.)

The vast expanse of the mighty dome covered with fresco, seems bald and bare, unbroken by shadow and unsoftened by the dim light of the Gothic vaulted arch. The dome was in fact the distinguishing feature of public build-



St. Paul's Cathedral

ings in the Renaissance, and took the place of the tower, both in churches and secular buildings. The celebrated dome of St. Paul's cathedral, so familiar to all readers and travelers, was the first important instance of the new style. Far more attention was, however, given in the Renaissance period to buildings of a secular character.



The Royal Exchange

The Garden Front of King's College, Cambridge, illustrates the features of the style in its earlier period, and the Royal Exchange Building in London, its later development.

Large country houses of Italian design were also built, many of them extremely incongruous and unsatisfactory. The great cornices and classic porticos with pediments, were better fitted for sunny Italy than the cold, grey skies of England, and these stately but cold buildings at their best, were much inferior to the picturesque and home-like dwellings of the earlier architecture. There was a general demand for making everything Greek, and before the middle of the eighteenth century the picturesque element had completely disappeared from the English architecture of the period. The two views given of Hampton Court, the royal pleasure-house of the sovereign, well illustrate the design of this period.



Garden Front, King's College

Lord Bacon's description of an Elizabethan mansion, which he says "should have two several sides of a great stately tower in the midst of the front"—is well illustrated in the first view. It contains good examples of both early and late brick-work. The brick is laid in an orna-

mental diaper design. The west front, with its great arched entrance flanked by towers, is imposing and feudal in character, and shows to advantage the charming oriel over the entrance which was such a marked feature of the time.



Hampton Court, West Front

The great eastern and southern quadrangle was added in the Renaissance period and is the work of its most famous architect, Sir Christopher Wren. The quadrangle forms an arcade opening upon a beautiful garden and is built of red brick with stone dressings. The range of windows preserved through the three stories form its distinctive feature.

A free use was made of plaster, both outside

and inside, not merely to cover surfaces but to form architectural features. Rough walls were faced with fine stone in important buildings and with plaster in cheaper ones. In fact the concealment of construction and interior arrangement by a uniform facade was a feature of Renaissance architecture, in direct contrast to the



Eastern Quadrangle, Hampton Court

frank display on the outside of the works within which characterized the previous English style.

Columns and pilasters so large as to appear to support the building, were used purely for dec-

orative purposes, a practice which is not unknown at the present time.

In many cases the detail of the Renaissance style is not at all suggested by the material, and is quite independent of the construction. Cornices and pilasters and columns are "put on" purely as ornaments and look it, while facades are "Of brick, mock-pious with a marble front."

It is, in fact, as Ruskin has called it, "The architecture of pride;" it expresses aristocratic feeling—the pride of birth or of wealth. It is, however, capable of refinement and reserve, and of expressing that real aristocracy which is of feeling and high born courtesy, instead of the vulgar pride of possessions. No style affords more room for skill in planning than does the Renaissance, or repays such skill with better results. It, therefore, commends itself in many of its features to the modern architect, who finds a fertile field for clever treatment of its possibilities.

The classic elements of Renaissance architecture have given it permanence; and symmetry, strict uniformity and constant repetition of features intended to correspond, are qualities that distinguish the purer examples of the style, and have obtained for it a firm footing in modern construction, in spite of the abuses into which it has so often fallen and which have been so fiercely denounced by its critics.

The earlier efforts of our own American architects were patterned after the Renaissance types, and the colonial houses of the pre-revolutionary period were echoes of the English Renaissance. Some of the most dignified of American public buildings are examples of the better characteristics of modern Renaissance, which is not so much a style in itself as a system of decoration, in which a great variety of detail is applied to every kind of material. It is, indeed, the most widely known and best comprehended of all methods.

ENGLISH DOMESTIC ARCHITECTURE



Haddon Hall

In England, the artistic character of dwellings began much earlier and developed more freely than on the Continent. The old manor house shown is Haddon Hall, one of the most noted specimens remaining of early English domestic architecture. The building is of various periods of architecture, the view given is the wing of the early Norman period. Other portions are additions and alterations of later periods. Even this part of the building partakes more of the domestic than the castellated style. The whole

building is a very fine exterior, but the interior, with the exception of hall, drawing room and dining room is little better than a chaotic mass of small, inconvenient and huddled apartments. It is, however, a most interesting specimen of early English domestic, and the arrangement of terraces to suit the rapidly falling ground of the site, is indescribably charming and picturesque.

Houses increased in size, convenience and decorative character; chimneys were provided instead of the hooded fireplace with possibly a rude flue up through the first story. The houses of the better middle class had a small, wooden porch over the entrance. The center hall had openings to right and left, leading to the kitchen and other offices which were now separated from the living hall. Walls were now plastered, in lieu of the windy arras which formerly hid the roughness. The beautiful wall tapestries, however, of silk, wrought in thread of gold, which had grown out of the primitive "wall-cloths" of the Saxons, were far too decorative to discard, but continued to be used in lieu of wainscoting until the end of the fifteenth century. The richly worked tapestries of Arras and Brabant replaced the needle work of the mediæval chatelaine, and commanded large sums of money. Eventually, however, the rival village of Worsted, produced a fabric which came within the means of the middle class, and of great beauty. A certain class of woolen goods has ever since gone by the name of the town.

Before the advent of chimneys in private houses a chafing dish was used to warm chambers. In this connection the plaint of an old



Lodge Entrance in Old English

writer in the seventeenth century, after the general introduction of chimneys—is significant to us luxury-pampered, hot-water-heated moderns. He says—"Now we have chimneys; yet our tenderlings complain of rheum, catarrhs and poses—colds in the head. Then, had we none but reredorses, and our heads did never ache."

The outside stair was, with the advent of chimneys, replaced by an inner staircase, which

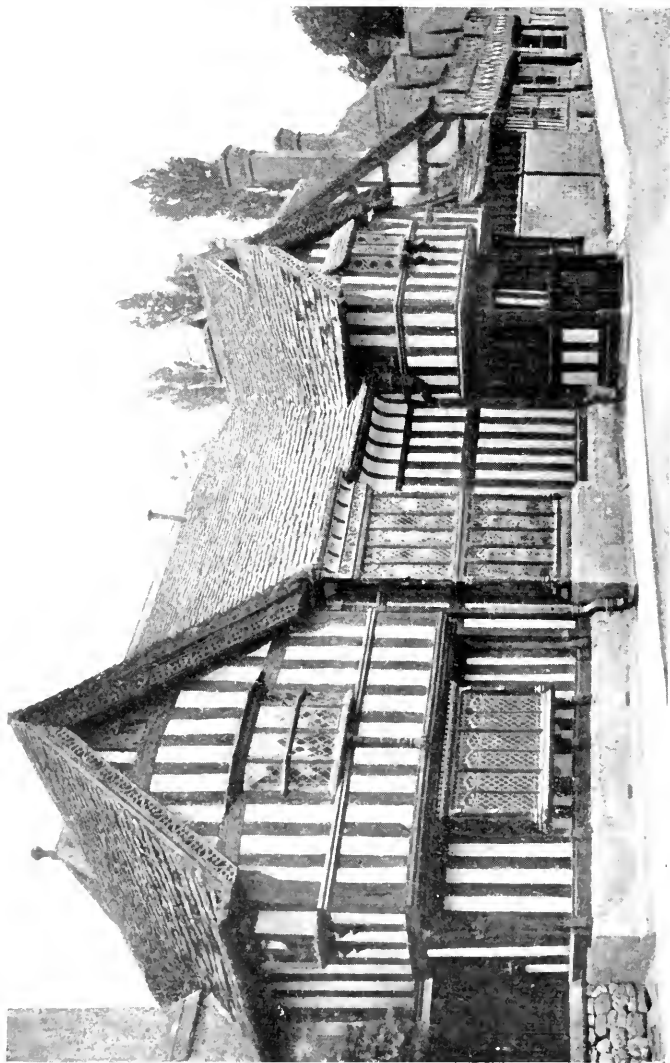
gradually came to assume great dignity and character and the small and winding stair became rectangular and spacious. The steps were of oak, the balustrades richly carved in grand houses, the chimney-piece richly paneled above the opening.

Even the barns were now invested with architectural interest, the gables and doorways often artistically treated and the roofs wonders of carpentry. Some fine examples of these fifteenth century barns are still extant.

The charming antique given here, in the Early English style, was the lodge entrance to a fine estate, the owners having had the good taste to preserve the original features and keep the building in repair. For picturesque outline and proportion this old lodge may well serve as a model for a building of its kind.

It is interesting to note the method of construction in this early practice of half timbered work. Although it would be considered primitive and unscientific by our builders, it had the quality of permanence and a certain rugged charm. In constructing the "post and petrel" work—as it was called—the interstices between the studs were filled in with a mixture of clay and chopped straw, plastered on to willow withes, with wattles introduced as a core. When the core was fairly hard, clay and lime were smoothed on both sides and both timbers and panels colored in distemper and carved more or less elaborately.

This quality of permanence is a feature of these old houses which modern builders might imitate to advantage. Here are dwellings built



Example of Vertical Treatment

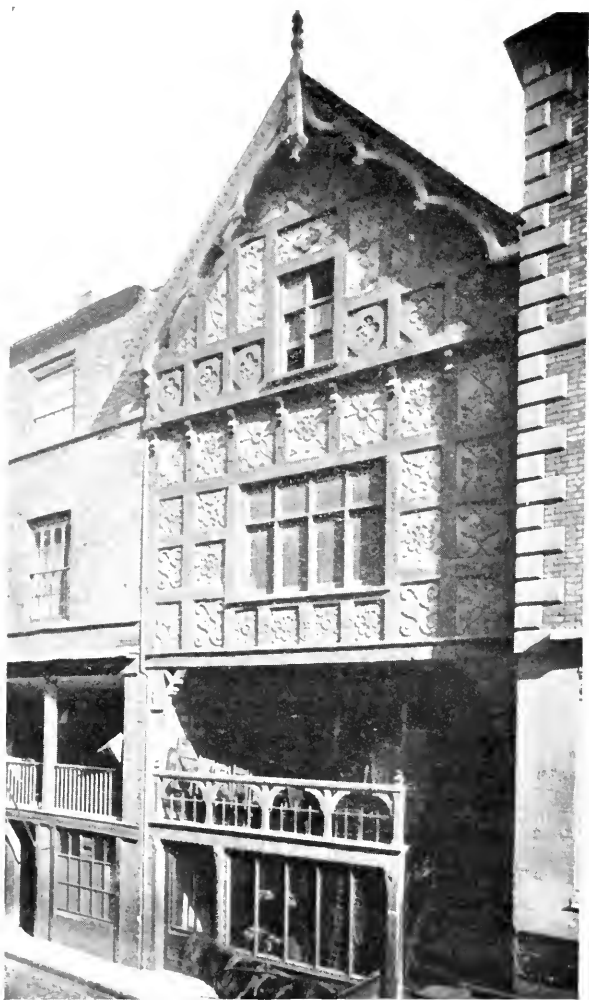
three and four hundred years ago, yet well preserved both as to exterior appearance and habitability. It is true the climate of England is favorable to such preservation, inasmuch as the violent extremes and the fierce winds and suns of our climate are unknown there.

The illustration shows an old half timber house built in 1500, but in excellent condition and let out to families.

These gabled cottages with tall chimneys are most unpretending, yet their charm is undeniable, and their style far superior to the dreary, square block-houses that have replaced them in modern times, which even, so far as real convenience is concerned, have little advantage.

Strange to say, these excellent examples of substantial construction afforded by the early builders and right before their eyes appears to have little influence upon the character of English present-day methods, from which the glory of other days seems to have utterly departed. Within the last decade, there has been an improvement in the construction of English houses of the middle class, but previously to this modern English houses, unless of some pretension, have been of the flimsiest construction and of poor material. Poor brick, bad mortar and careless workmanship have been the common custom, resulting in walls that would justify the prophet's gibe—"If a fox go up he shall break down their stone wall."

Far from resembling the mortar of their ancestors, which was almost invulnerable to the blows of the pick, "I did not see in England"

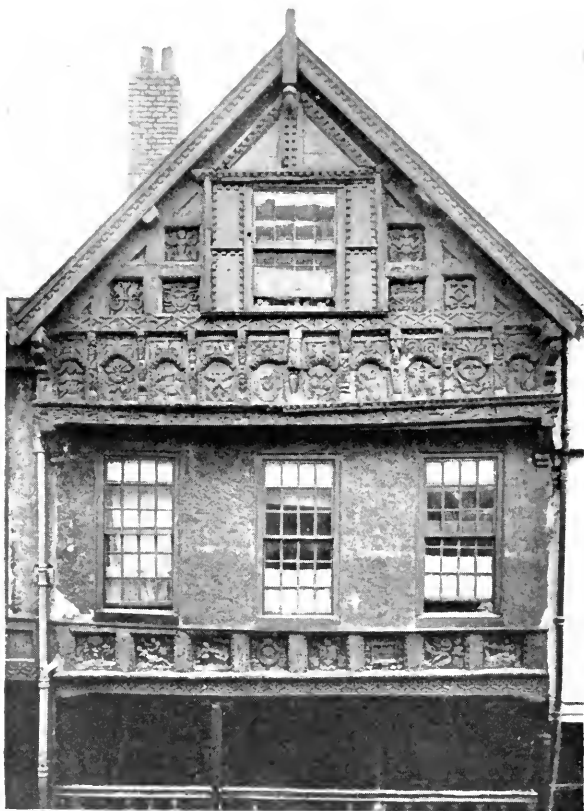


God's Providence House

remarks a traveler of much perception a few years ago—"in a new private building of moderate pretensions, any mortar worthy of the name." Not only so, but small and badly joined beams, weak and clumsy tenon and mortise work, appear to have been the rule and not the exception.

In the fifteenth and sixteenth centuries great changes took place in domestic architecture. The beautiful perpendicular style of ecclesiastical structures of that period began to influence dwellings in all directions, with ever-varying and luxuriant beauty. The architecture of the period was, of course, adapted in domestic buildings to their different uses. Thus, square windows in a dwelling were more convenient than pointed, except in situations of special dignity, and were therefore used. The projecting bays and oriels were also strictly features of domestic architecture. The great oriel window of an upper hall was a marked feature of this period as, also, many little windows with diamond shaped panes, with gable ends facing the street filled with carving. The beautifully carved woodwork of the gables in sixteenth century houses is one of their architectural features, and extended even to the stables of great houses. The charmingly designed group here given of these old timber houses, might serve as a model and an inspiration for many a picturesque architectural effect of the present time. Indeed this faculty of making dwellings picturesque was better understood by these old builders than our own.

Note the simplicity of the constructive lines



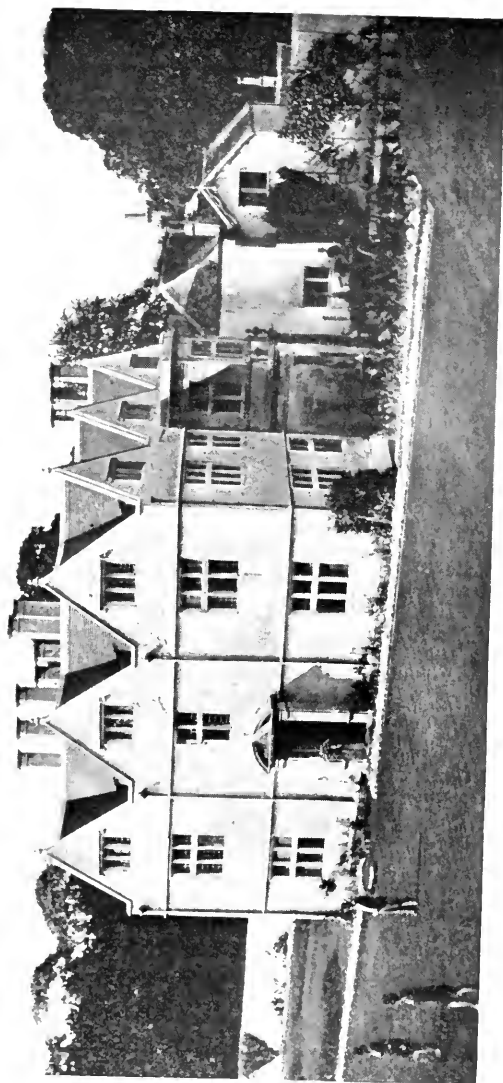
The Bishop Loyd House

and the skill with which the details, the timbering of the gables, the oriel windows filled with delicate, latticed panes set in quaint and unusual places, producing an extremely ornamental facade, yet in good taste. Infinite pains were taken with these details, and the carving in the black and white gables of these old English houses may

well be studied by the modern architect. The gable boards and cross beams, were favorite places for the display of the beautiful wood carving which was the pride of the English artisan. The excellent examples given are pictures of some of these carved gables in old Chester, noted for choice specimens of the ancient work. God's Providence House, the first example given, and so named in grateful commemoration of immunity from the plague in the seventeenth century, was built in 1652. Two hundred years later it was carefully repaired, preserving the style and as far as possible the original material. The old builders applied many coats of tar as a preservative, and whitened the plaster from time to time, resulting in the black and white appearance of the houses.

Much the same style of work is shown in the Bishop Loyd House, also in Chester, with its richly carved and targetted front.

In this connection it is interesting to speculate on the means the old designers used to attain such satisfactory results. That they worked from drawings is evident because in many cases these are extant; but that they carefully tested the workings of their drawings and altered and amended them from the various points of view, seems also evident to produce such almost universally satisfactory effects. So marked and palpable is this universal beauty of form in the work of the old designers that much research has been expended and old records explored, to find out, if possible, some ancient code of rules that may have guided their operations.



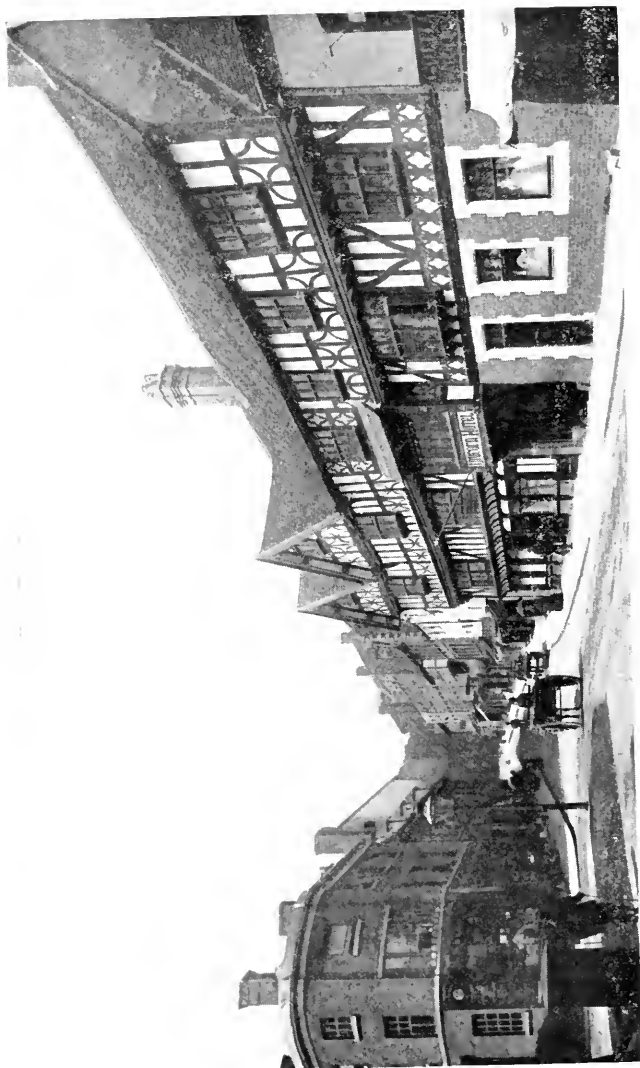
Gorch House. Early Elizabethan



Dorfield Hall

The brick houses of the middle centuries are another interesting field for exploration and study. "Bricks, and especially red bricks," says an interesting writer, "are almost always mentioned with great disrespect in connection with architecture." While not so readily handled by the ordinary architect, bricks are a material which it would be almost impossible to dispense with, and capable of varied and interesting effects in skillful hands.

The illustration shows how well brick work was understood at this period, the gable and chimney well broken up into light and shadow and well proportioned. Ordinary, rectangular brick, unmolded, are the only medium here employed; even the coping being contrived by ingeniously overlapping one brick upon another. This fine old mansion of Dorfield Hall in Cheshire, is a



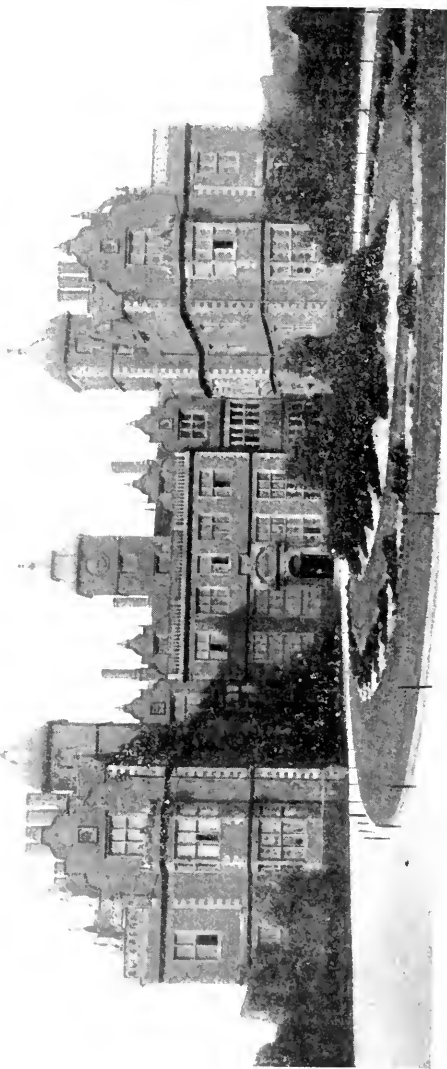
Old English Inn at Shrewsbury

handsome specimen of Elizabethan brick, relieved only by the stone quoins of the angles. The entrance is given special prominence by the stone flanking of the angles.

In some parts of England there was a felicitous combination of timber with brick, as in the old inn shown in the picture, which shows brick decorated with quoins around the openings, and elegant black and white work above.

Many of the brick chimneys of this period would make excellent copies for modern dwellings. Some of these appeared to be octagonal in shape, an effect produced by simply taking off the angles at the corners. The courses of brick project at the top and form a battlement and are striking and happy in effect at small expense.

Brick and stone, to a great extent, superseded timber, as the Gothic style was supplanted by the Renaissance. In that curiously broken classic called the Elizabethan, brick was extensively used. The photograph of Aston Hall shows a fine old mansion of the Jacobean form of Elizabethan, and was built in 1618. It is constructed of deep, red brick, with ornamental designs worked out in still darker brick upon the facade. The large bays and the ornaments of the parapets are of stone. The porch is on the Doric order, and shows the curious mixture of style of the period, which has so often been imitated in cheap, poorly designed modern dwellings. Aston Hall consists of a center, with projecting wings enclosing three sides of a court. The exterior is rather plain, but the lofty towers of the angles and the carved gables, impart a picturesque and



Aston Hall, Example of Jacobean Style.

imposing appearance. Some quaint verses are carved on one of the stones over the entrance. This stately mansion was seventeen years in building, and has been well preserved. The interior decoration is worthy of special notice. In the great library is a sculptured stone frieze, 3 feet 8 inches in depth, and a cornice above, 12 inches deep, with a projection of 14 inches. One division is seven feet in length, with arabesque relief, and separated by slightly ornamented arches, each containing the figure of a Roman knight in armour.

The Elizabethan period, combined with its picturesque and telling style, great incongruity of form, it is true, and a mixture of Gothic and classic which was sometimes deplorable; but there is a fascination in its play of fancy and romantic feeling. This style, variously denominated Tudor, Elizabethan and Jacobean, was produced by an admixture of Italian details on a Gothic foundation before the entire abandonment of the Gothic for the full-fledged Renaissance. It was characterized by high roofs with gables taking the place of dormers and by the excessive use of windows, making the plain walls beautiful, when

"Shafts of sunshine from the west
Paint the dusky windows red."

The Tudor street architecture was also far more interesting and picturesque than the later style. The high gables, the over-hanging stories, the angle posts, the tracery and carving, gave an interest and charm to town as well as country, sadly lacking in the monotonous and dreary rows of modern street fronts.

Nor was the practical wanting, for at this time

we have the introduction of lead piping laid along roof copings to carry off rainwater. The spirit of ornamentation extended even to these gutters, and on handsome houses both the pipe and the end pieces then used were profusely decorated.

The interior of an Elizabethan house of importance was full of romantic charm. No better idea of them can be gained anywhere than from Scott's novels, especially *Ivanhoe* and *Kenilworth*, where are described the stately galleries, the carved friezes and panellings, the stained glass and enrichments of every possible description. Magnificent staircases became a feature of Elizabethan interiors. Before this, the stairs were usually placed in turrets, winding round and round a central newel, and were small and cramped. They now occupied a prominent position in the great hall, were square with many landings and guarded by a rising balustrade of oak, enriched by elaborate carvings. The staircase in Aston Hall before referred to had treads six feet in length and risers of six inches only, and the hall ceiling was thirty feet in height.

It will easily be seen what a magnificent feature such a staircase would be. The chimney pieces also rose to the ceilings and were carved in rich arabesque designs and foliage. Ceilings were richly decorated, and furnishings grew sumptuous. The oriel windows which added such interest to the exteriors were equally charming inside, increasing comfort and convenience by giving light where otherwise it could not be obtained, and affording opportunity for stained glass enrichments.

*"Following the sun, westward the march of
power,
The rose of might blooms in our new world mart;
But see, just hursting forth from bud to flower
A late, slow growth, the fairer rose of art."*

MODERN ARCHITECTURE

Let us now attempt to indicate the application of the historic forms of design which we have briefly considered, to the architecture of our own land and our own time.

The American architecture of fifty years ago was a revival of all the various styles in a medley of them all. A disinterested and impartial use of Greek, Italian or Egyptian ideas in public buildings prevailed, while private houses ranged the gamut from Italian villas capped by Chinese turrets, through Greek columns and classic porticoes, to French Mansard roofs and Queen Anne bric-a-brac, in miles of the hideous abominations when that caricature of style was the rage. How then, can we apply the beautiful old forms we have been studying to modern design, under conditions and requirements so different from those which dictated the old architecture?

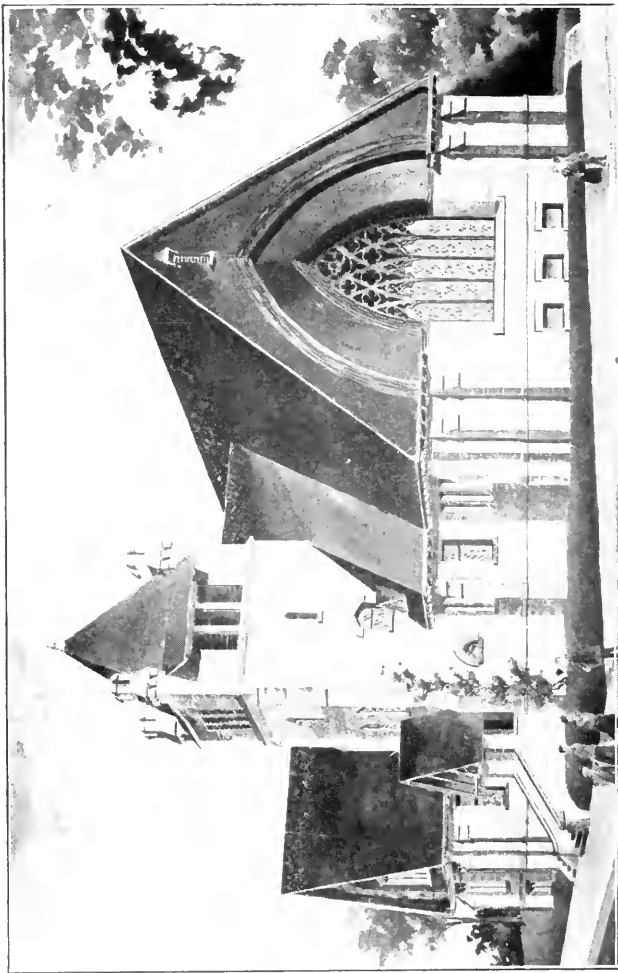
A noted architect has told us how, when he says that "out of the critical use of past tradition, we must build up a tradition of our own." Not a blind and indiscriminate use of these old forms, but an adaptation of features, and forms of detail suitable to the position in which they are used and to the material employed. This is

in fact just what the Renaissance architects did in regard to classic style. The modern architect may employ the same method, not only with reference to Greek and Roman forms, but from all the great styles he may select details or general resemblance, grouping and combining these in the endless possibilities of design.

Many of our notable public buildings are frankly copies or adaptations of the old forms and motifs which have been described in former pages. Madison Square Garden, in New York, for instance, is adorned by a tower modeled upon the beautiful La Giralda tower at Seville, illustrated in a former chapter.

We cannot, of course, look for a distinctly original or national type of design; nor is there anything to be regretted in that present condition which permits us instead to make use of the highest forms of design the world has known.

The great periods of Greek and Gothic architecture will always consciously influence design, and the best work of modern architects is devoted to adapting them to modern structural demands and the uses of the buildings, while giving to these an appropriate local expression. To thus secure a harmonious whole, in which the masses, the proportions and the detail each have their proper value, to give public buildings a character suited to their objects, and to make dwellings home-like, domestic and refined—these are fields affording scope for the highest order of architectural skill and satisfying the noblest ambition. The scope of this volume will not permit an extended application of historic



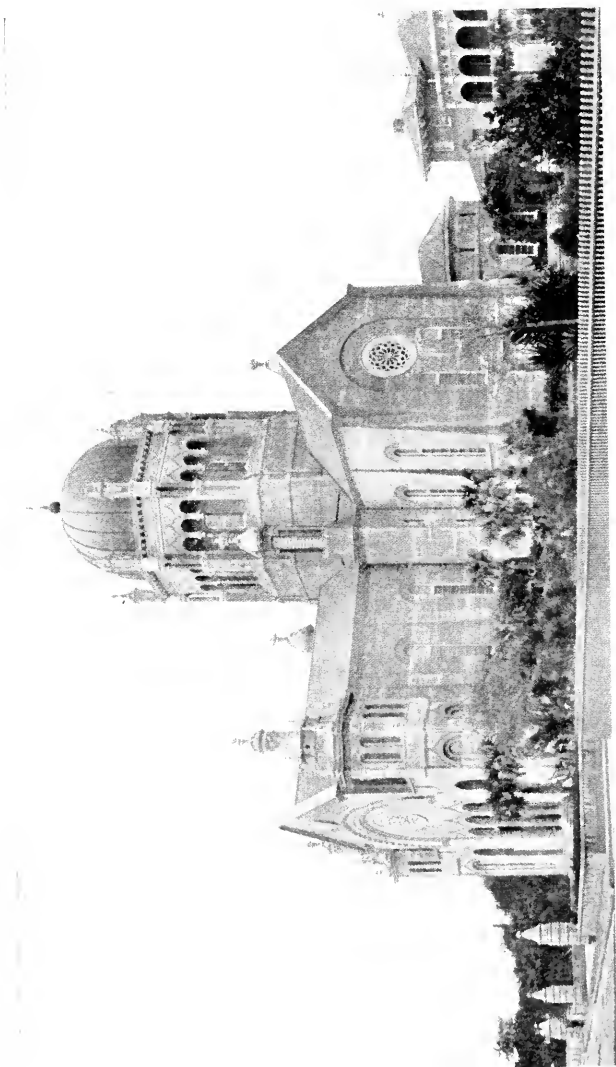
Trinity Church, Minneapolis. Fig. 1

forms, to the public buildings or church architecture of today. The home-builder's interest is chiefly centered in dwellings and domestic subjects. To these will be devoted the greater part of these closing chapters with only a brief and cursory glance at buildings of a public character.

In modern times, church building has become quite a secondary matter compared to the prominence given it in the middle ages. We no longer spend millions of money and centuries of time in rearing vast cathedrals. Nevertheless it may be stated that in general, church architecture is still most influenced by the Gothic or Mediæval style. It is true there are instances of the Renaissance or domed type of church, but the Gothic is after all felt to be the more ecclesiastical style, and architects in general look for their inspiration in church architecture to the middle ages. Experiments have been tried in attempts to impart a more secular character to church edifices, but they are never a success.

The range is a wide one, under which we may include examples of Gothic design in modern churches, without fear of contradiction, and it is not here proposed to illustrate the more noted and costly buildings. The great mass of readers are interested in moderate cost structures; therefore we shall instance a few coming within this category.

The design shown in Fig. 1 is an example of adequate Gothic feeling expressed in a building treated in a free and modern manner. The tower is a simple and solid shaft of great plain-



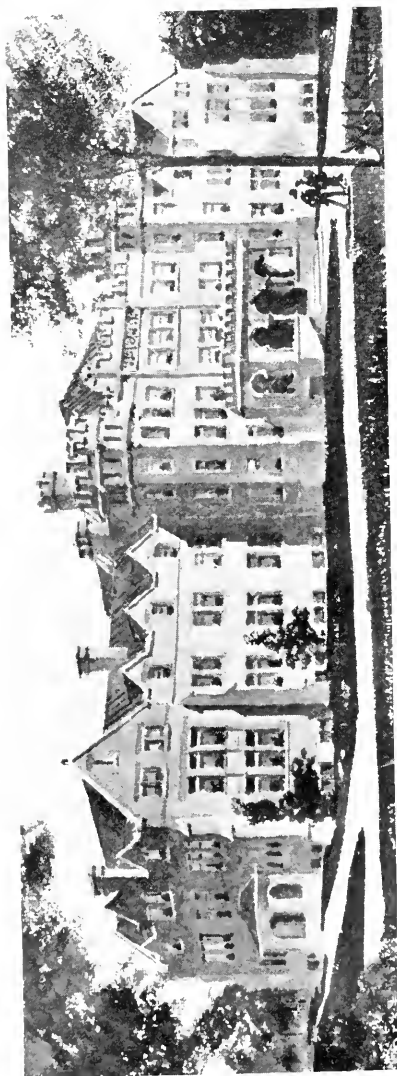
The Flagler Memorial Church, St. Augustine. Fig. 2

ness, yet it impresses us with its churchliness as well as its beauty. In the west front the great "Painted windows, breaking gloom with glow Dusking the sunshine which they seem to cheer" are worthy of some mediæval cathedral. The type is pure Gothic, expressed with simplicity yet with dignity, and conveying a decided religious sentiment.

In the Flagler Memorial Church at St. Augustine, we trace a strong feeling of the period when the English Gothic was fused into the Renaissance. On a reduced scale, we have the dome of St. Paul's, while pointed gables and pinnacles, vertical openings and rose windows are skillfully woven into a telling design of much grace and distinction.

Glancing briefly at modern secular buildings of a more public character, we are chiefly impressed with their numerousness.

Great as was the architectural activity of mediæval times, it was as nothing compared with the vast number of both public and private buildings constantly going up at the present day. The great increase in population, commerce and wealth, results in a vast amount of building, and we may well be interested as to what manner of building this is to be. Everywhere are rising up structures to meet the demands of modern civilization—colossal hotels, flat buildings, civic buildings, the private residences of millionaires—to say nothing of long street fronts, business blocks and the like, and the private dwellings of the middle class. Instead of the slow growth of centuries as in the past, towns spring up over



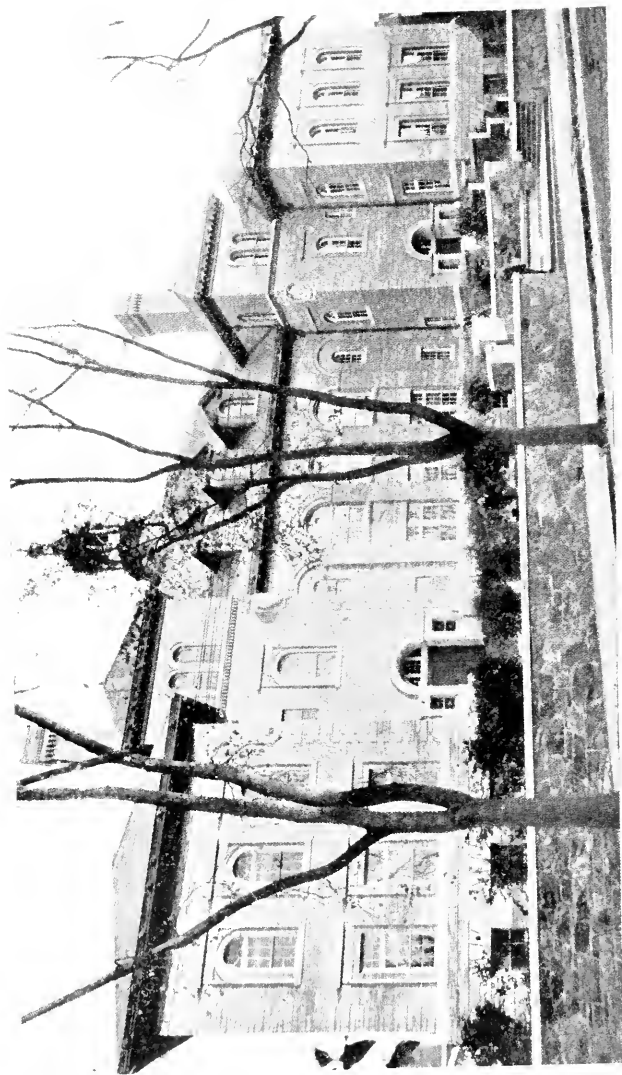
Design for College Building. Fig. 3

night, consisting of long, straight rows of small uninteresting dwellings, with here and there a church and a school house. Too often in the past school house and university buildings have been given the character of a factory or a jail, and an aspect of baldness and ugliness most repellent.

"There is red brick which softening Time defies
Stand square and stiff, the Muses factories."

is a description that will apply to a large number of school buildings, and if not red, the brick is a dirty, nondescript, called by courtesy, cream. A building which is to be the home of children and youth for the great part of every day, could very properly assume a semi-domestic and picturesque character. In the sketch from the architect's wash drawings here presented for the main building and dormitories of a college, we can see how this expression of domesticity has been successfully incorporated in the design which mingles happily features which might easily have been inspired by the stately type of old Tudor architecture which accompanies the design.





Design for School Building. Fig. 5

The Tudor style is a favorite one for collegiate work and our modern architect has here naturalized his Tudor lintels and English Collegiate Gothic into a home-grown product that is well fitted to its setting.

One can scarce travel anywhere without finding modern buildings modeled upon or even copies, of these old forms. Well—and is this a crime? Can the world hope to invent anything better than these ideals of beauty, grace and refinement which have been handed down the centuries? Why should we not copy after a good model rather than adopt singular and startling effects in the search after something new. It is only at rare intervals in the world's history that *ideals* are created. The average man must copy the ideals.

Says a recent writer—"I should say without qualification that adaptation is the soul of architecture; presupposing the highest kind of talent, most extended education and artistic susceptibility." Of course this means that the adaptation must be an intelligent one, a selection of what is best in the great architecture of the past and fitting it to the conditions of modern life. So shall we not be
"Foreclosed of beauty by our modern date."

When we speak of Romanesque as applied to modern architecture, we find the resemblance for the most part to exist in external details rather than the design as a whole. The entrance is the feature of a building where a typical style usually expresses itself most strongly. The

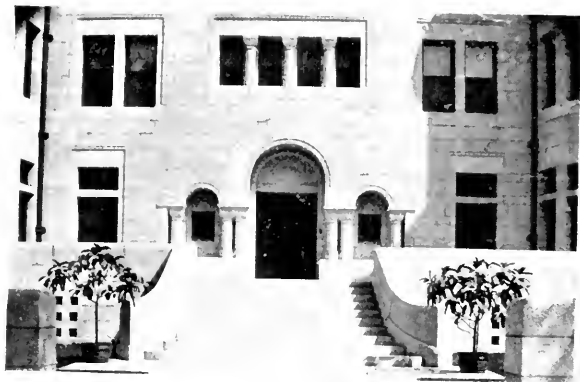


Church Doorway. Fig. 7

corner doorway of a Boston church shown in Fig. 7 is one of several features which give a decided Romanesque feeling to the edifice.

In the facade of Fig. 8 we have the feeling still further emphasized by the employment of the short, and heavy columns so distinctly Romanesque in connection with the round arches of the entrance, and repeated in the opening above. A truly Richardsonian facade.

Figs. 9, 10, 11 illustrate the manner in which the exquisite stone carving of the middle ages is reproduced in the ornamental detail of



A Romanesque Facade. Fig. 8

entrances to modern buildings, though usually it is modeled and not carved. The entrance is the feature which dominates the whole building, and the feature by which it is always sought to convey the type of design. Sculptured figures of



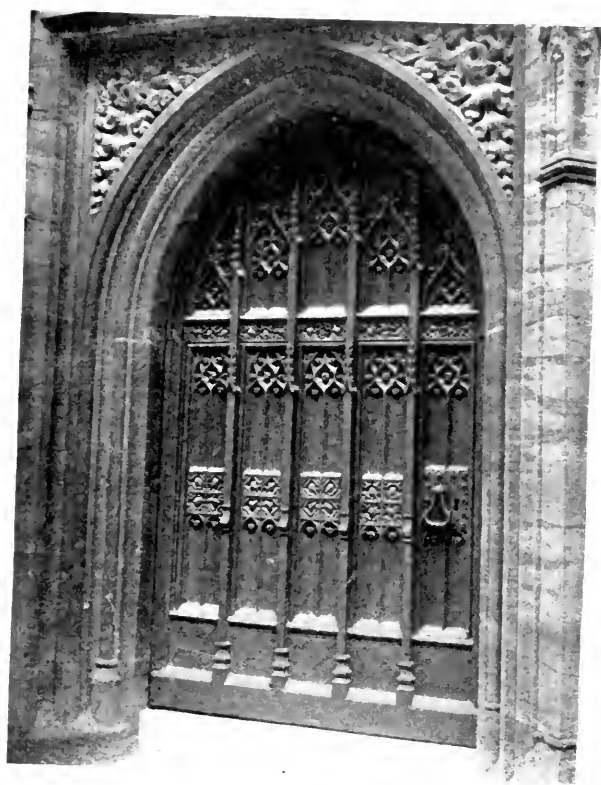
Stone Carving of Entrance. Fig. 9



Carved Newel for Staircase, Fig. 10

animals played a large part in the decorations of buildings in the middle ages. To us, they seem not specially appropriate to churches, but the great cathedral of Notre Dame at Paris is a mass of such carvings in stone, strange forms of beasts from earth and sea and sky stretching open-mouthed from every corner. These "stories in stone" were part of the beliefs and imaginations and superstitions of those times; but though often grotesque and almost horrible, they represented the utmost skill and cunning of the carver's art.

Other instances of the application of historie



forms to the present time are the modern exchanges, bank buildings, office buildings of the large cities, in which modern architects have achieved such admirable results. Take, for instance, the model public library building illustrated in Fig. 12, which is in its way as admirable as a Greek temple. It is indeed easy to see that the building has been modeled upon classic design and is inspired by classic feeling, yet it is adapted to modern uses and is in har-



Library Building Modeled on Greek Doric. Fig. 12



mony with its surroundings. The ease and grace with which the details of the Doric order are handled, the refinement, simplicity and reserve shown, are admirable. While far from reaching the same level of architectural merit, the facade of the small bank building Fig. 15 yet shows how even an inexpensive and small building may be redeemed from hopeless commonplaceness and inferiority by a treatment which introduces detail originally applied to higher purposes. It is true that the designer has his orders somewhat mixed, and that the Ionic columns of the entrance are flanked by engaged pillars at the angles of Byzantine type—but that is no more than the ancient Romans themselves did, and the little front is distinctly pleasing.

MODERN DOMESTIC ARCHITECTURE

"I would have then our dwelling houses built to last, and built to be lovely; as rich and full of pleasantness as may be within and without; * * * * with such differences as might suit and express each man's character and occupation."
—Ruskin.

In the historic architecture of the past which we have been considering, dwellings played but a small part. It is true the ancient Romans had some notion of combining interior comfort and luxury with architectural effects, but even their houses were principally made up of many small compartments ranged round an open court, and wall decorations were the chief furnishings.

A modern house is very different from this; privacy and comfort are the foremost things to consider and architectural effect is secondary. Even so late as the eighteenth century English houses we have illustrated, much less importance was attached to having everything comfortable and convenient than is now the case. Nowadays an architect gives much thought to the conveniences of the working part of the dwelling; planning kitchen, pantries, basement, so that the household machinery may be run with the least labor. In the old days such a thing as "saving steps" was never thought of.

In ancient architecture, attention was given

almost wholly to exterior effects, and the "plan" was little more than the principal walls, with their adornments. But the "plan," under the requirements of modern complex civilization is an entirely different problem, and like the play—"the plan's the thing!"

Nothing can be more complicated than the internal detail of a modern home. One has but to go through a modern house in process of erection, to view the network of flues and pipes and wires that represent the complete and systematic treatment of heating, lighting, drainage and ventilation problems—to wonder how one head could ever contrive that all these should be exactly placed, should fulfill what was expected of them, yet not interfere with the artistic appearance of the rooms when completed. Those people who imagine they have "planned" a house when they have laid out the various rooms of a floor, labeled them respectively and marked the "openings," have little conception of the real work of the architect, who must bring all this together and make provision for each practical requirement.

THE COLONIAL TYPE

What is known as the "Old Colonial" style, is a type of domestic architecture which has had a decided Renaissance of its own in recent years, and offers a fertile field for the application of the classic forms before described. Its prototype is, of course, the English Georgian of the seven-teen century, brought over by the early colonists, but carried out in its new environments with a certain simplicity which invested it with a char-



Examples of Modern Colonial Treatment of Brick. Fig. 14

acter of its own. Historic associations doubtless have quite a share in the favor with which this type of building has been received, and it has influenced the style of dwellings even where there is no attempt at a direct revival, showing itself in a quite unconventional and indirect use of Georgian detail such as porch columns and rounded window heads upon cottages and the like, without pretension to any serious style. The great majority of modern American brick houses are modifications of either the Georgian or the Jacobean types. These historic styles are peculiarly appropriate to brick construction, and are moreover adapted to the comparatively modest dimensions of the majority of dwellings. The improved forms of American hydraulic pressed brick with their beautiful coloring and resistance to the weather, have made this an extremely popular material.

The stately mansion in Fig. 14 composed from red brick with trimmings of white wood, is a fine example of the richness that is possible in the severely pure Colonial style with modern treatment. Certainly it is

"A noble pile
Baronial and Colonial in its style."

The feature of the building is the classic treatment of the porte-cochere and entrance. The stately portico in front is carried up to the second story; the supporting columns are of the Ionic order while a deep entablature and dentiled cornice runs entirely around the building. This is crowned by a light and graceful balustrade. The ends of the building are similarly treated, and the whole forms an exceedingly impressive facade characterized by absolute symmetry of design in all its parts.



Old Mansion in Salem, Mass. Fig. 15

Fig. 15 is an example of a genuine Jacobean front, a photograph of an old brick mansion in Salem, Mass. The dominating feature is plainly the entrance, repeated and emphasized in the detail of the balconied window directly over it

in its arched and embrasured setting. Possibly this door was imported direct from the mother country, as the handsome mahogany doors of such a house of this period were quite apt to be. Certainly the classic features then in use in England were adopted in this New England mansion with fine architectural effect, in the grouping of the entrance with the windows, the beauty of the proportions, the simplicity of the entablature and the grace of the Ionic columns, their repeat in the framing pilasters of the doorway and the window above, the use of the shell ornament and traceried glass—all are features of Colonial architecture at its best. Our ancestors paid more attention to their doorways than do their descendants, and both design and detail were invested with more of interest. The doorway reproduced is an example of such treatment. Although Colonial work in New England differed in many particulars from that in Pennsylvania and the South, the felicitous treatment of the entrance was common to all sections, and instances are scattered all over the country. It was indeed a happy chance that brought our English forefathers sailing over seas to their new home at the period of the classic revival in England. They brought the memories of the Georgian mansions with them, and straightway proceeded to adapt these beautiful forms to the plentiful wood of the virgin forests instead of confining them to brick and stone. Vignola's two-story columns were indeed sometimes formed of selected trees, of suitable size, and the flutes chiselled out by hand. These early architects were able to carry the spirit and detail

of the simpler classic forms into wood, with grace and fitness. It was a style well adapted to the river banks or forest glades chosen by the Colonists for their homes. The "white pillared houses of the South" were extremely architectural in composition and adapted to the southern climate. The column feature of the Greek revival became exceedingly popular, and it is reported of Thomas Jefferson, who was a devoted admirer of the classic style, that he employed all five of the classic orders in the architecture of his own dwelling. The veranda—so distinctive a feature of American houses of today both North and South, was originated in the South and was a necessity of that climate. It developed into double galleries, and gave opportunity for the lofty pillars so dear to the Southern heart. The veranda has grown to be a feature of dwellings in all sections, and is a large part of family life in the heated term. Of late, an effort has been made by would-be purists in architectural circles, to do away with this delightful adjunct to the dwelling. It is true the veranda has been greatly abused and often the house made a mere attachment to the piazza, while interiors have suffered from lack of sunlight and been rendered gloomy and unsanitary from the heavy shading of many porches. But anything can be carried to the extreme and reach the point of abuse instead of use, just as correct and logical reasoning can be pressed so far as to become the "*reductio ad absurdum*." The veranda is quite too sensible and delightful a feature of dwellings to dispense with, and will die hard. It has, on the contrary,



Semi-Colonial Cottage. Fig. 16

been exported from America to the Continent, where it appears upon many of the recently built dwellings.

While porches offer great opportunity for the use of classic features, sometimes the full order, with pedestal, column capital and pediment being employed, with a crowning balustrade or parapet, these stately effects are not the only ones possible. Much skill and ingenuity is shown by architects in the use of posts and columns on the smaller houses, in a manner entirely orthodox yet not out of place in a mixed design, and with a touch of lightness more consistent with less important work. Such a method of employing Colonial models without a strict adherence to the style is shown in the semi-Colonial design, Fig. 16, where much charm is given to a simple cottage exterior by the slender columns with Ionic capitals, by the classic pediment over the porch cornice and by the repeat of the half circle in the front gable.



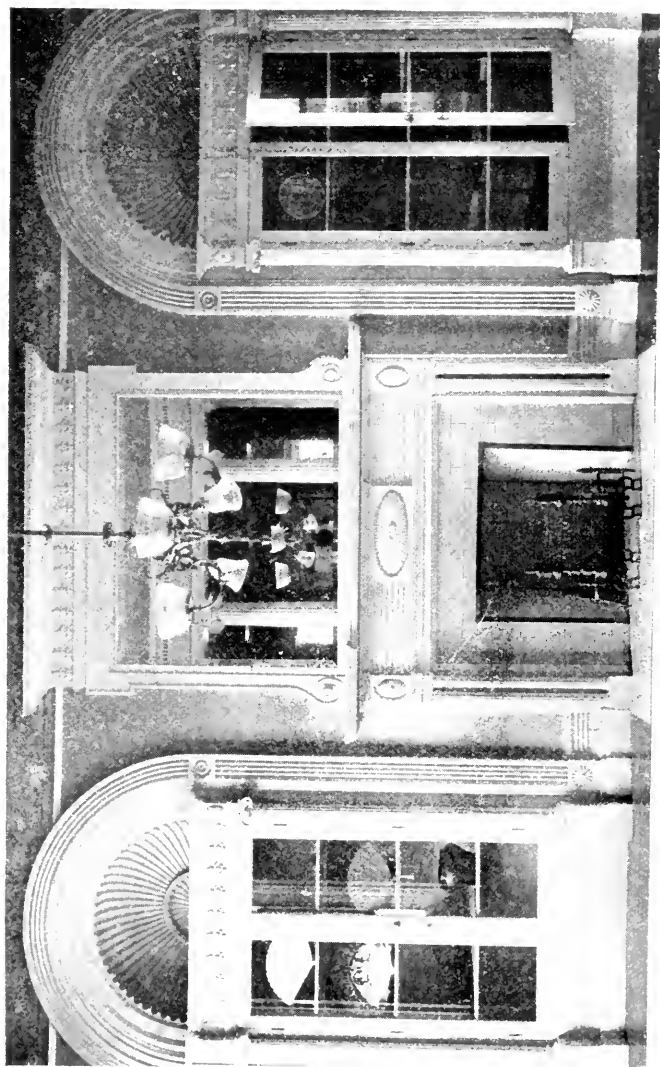
The Added Portico. Fig. 17

Figs. 17 and 18 show us a genuine old colonial house of the Georgian type, a brick house built at Bardstown, Kentucky, one hundred years ago and recently restored by new owners who have been careful to preserve all the original features both of exterior and interior. Owing to its excellent state of preservation, and possession of that quality of permanence before alluded to—a quality as excellent in houses as in Shakespeare's "low voice in women"—this was easily accomplished. The small cut shows the house as originally built, and through snowy branches



Built in 1806. Fig. 18

we get a glimpse of the restored facade with the added portico supported by Corinthian columns, a feature frequently occurring in Southern Colonial work though rare in the East. The roof lines are unbroken except for a low pediment containing a half circle window—a repeat of the circular door head below. The photographs of the interior presented are very interesting, as the detail of the woodwork is a fine example of the best Georgian interior treatment of that period. Whatever of primness and severity may

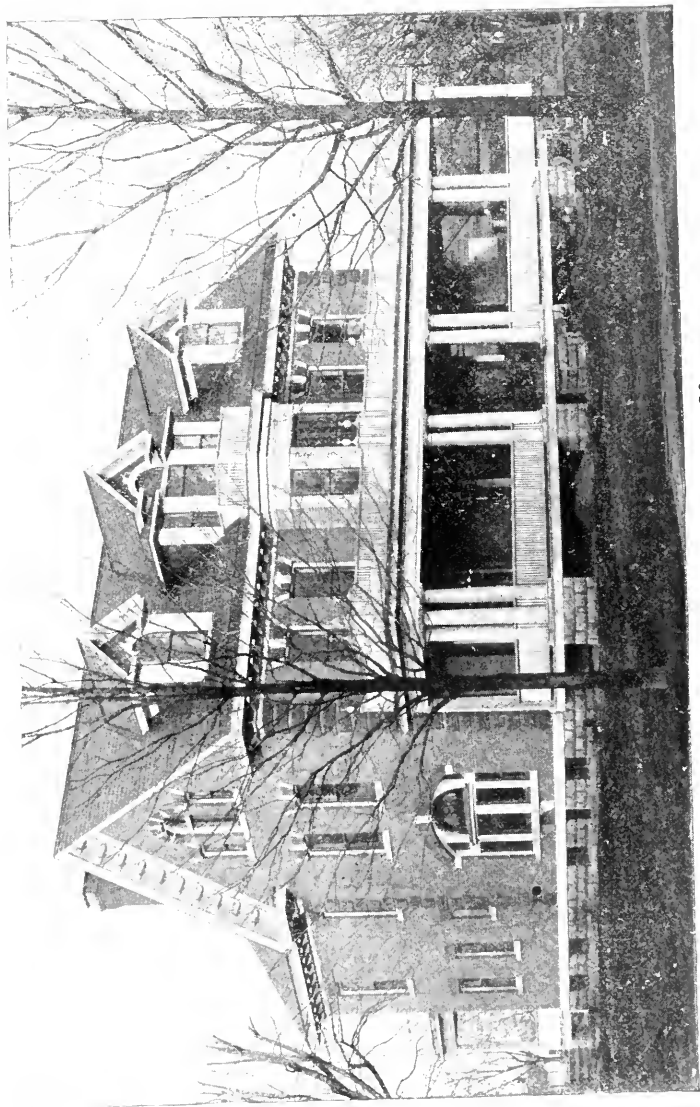


A Georgian Interior. Fig. 19

have characterized the exterior of a seventeenth century brick colonial house, in this one at least it did not extend to the interior. Formal and cold may be the entrance:

“But behind it, where’s a trace
Of the starchiness and reserve
And formal lines without a curve.”

The curves of the arched and recessed niches on either side the drawing room mantel and the grace of the beautiful Palladian window in the dining room are representative of the refined working out of classic forms in the entire detail of the interior. The eye rests with quiet satisfaction on the beautiful mouldings, the wealth of hand-carved flutes and beads and the delicate modeling of the mantel detail showing the terminating gold scrolls on either side the mirror which were a favorite decoration of the period. The fireplaces with their mantels carried up to the ceiling, were among the main features of Colonial interiors. Niches, however, do not often occur in Colonial work though a common decorative device of the period in England. In the instance before us they have been treated with fine effect, the fluted shells in the arched head touched with gold. This use of gold in connection with white woodwork was a Georgian feature of choice design imitated from the enrichment of Greek temples. In old Colonial houses, the remains of this gold leaf ornamentation still show on the woodwork of parlors or drawing rooms. All the carving and ornamentation of the interior detail is hand work, whose perfection is a silent protest against the cheap

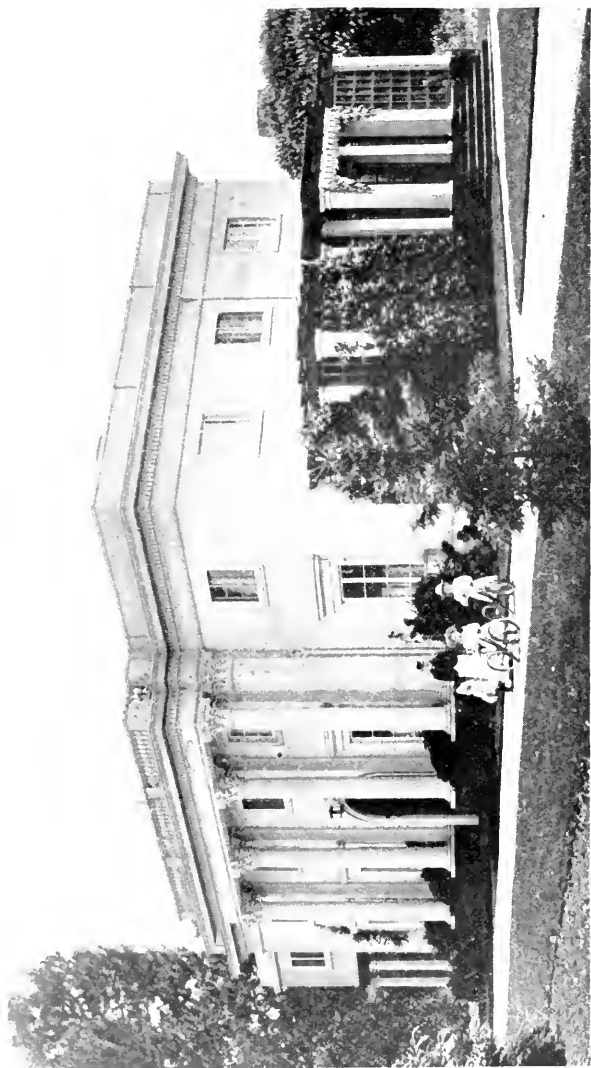


A Colonial Design. Fig. 20

and meretricious machine work of the present time. In Fig. 20 we have an adaptation of New England Colonial to modern requirements, having the merit of good proportion and pure design. The effect of similar treatment of parts varying in size and importance is happily illustrated in the three roof dormers, which together with the central projecting bay of the second story form the dominant feature of the design. The windows are effectively placed and classically treated. The triple cluster of pillars at the angles of the porch, are instances of carefully followed detail. The "white pillared porch" and trim are relieved against the buff brick and gray stone with excellent effect.

Fig. 21 shows similar treatment of Colonial design. The application of classic motifs to plaster construction, is a new departure in design, but the photograph of this beautiful California home in San Mateo, proves it to be an entirely successful conception. One of the ancient Greek temples crowning the Acropolis, could scarce be purer in design than this severe and stately country house, so admirably suited to its setting of classic groves—"Sequestered among trees—a noble pile."

The dominant form is the rectangle, the exterior having all the rectitude of classic design in the treatment of its main feature—the lofty columns of the portico, terminating in Roman composite capitals of beautiful workmanship and supporting an entablature and cornice of chaste and simple design. A light balustrade crowns the front projection and is continued in the



An Italian Villa, near San Francisco. Fig. 21

rather severe and unbroken line of the parapet around the rest of the building. Below the cornice is the sole ornamentation of the wall—a continuous band of laurel leaves, beautifully molded in relief.

The sole criticism upon this charming design would be the paucity of the windows and their inferior treatment, which is not in keeping with the nobility of the general design.

The Dutch gambrel roof offers another type of Old Colonial design which possesses in large measure that essential charm of "hominess" which appeals to a home loving people. It is plain that the fine lines of these old roofs, with the fascinating Dutch hoods at the eaves, have been understood and appreciated by the architect of this beautiful modern home, while all the subtle refinements of modern detail have been added. When to these is added the color effect of modern stains in the soft and velvety brown of the shingles relieved by the deep cream of cornice and trim, we have an irresistible combination of old beauties and new.

It is surely a happy thing to have been like Holmes, in his delightful essay,

"Born in a house with a gambrel roof—
Standing still, if you must have proof—

It has not the "presence" of the stately old Georgian palaces—that seem to hold themselves far aloof from common clay. But its unpretending lines give assurance of a kindly welcome, holding out a friendly hand to all. Nor does it lack dignity and a certain nobleness of aspect.

It is peculiarly adapted to the less pretentious



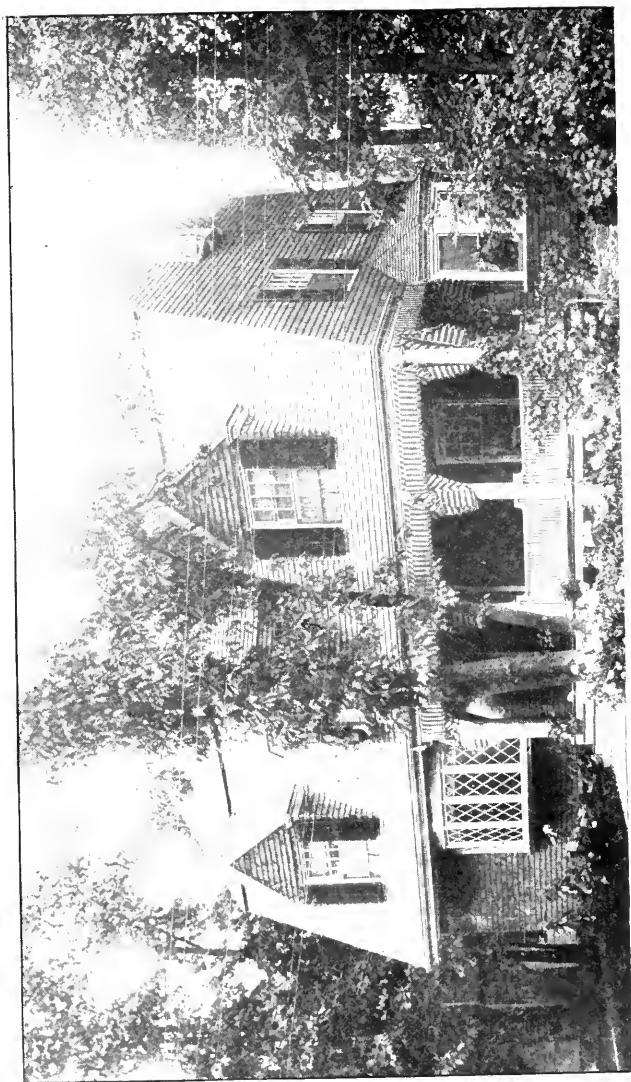
Picturesque Treatment of the Gambrel Roof. Fig. 22

cottage architecture, and many and varied are its applications. The gambrel roof type lends itself admirably to picturesque locations and the unconventional character of a country house. The charming example shown crowns a wooded knoll with a view of blue water, and though fifteen miles out of the city is the owner's all-the-year-round residence. The house is substantial and rugged, but not assertive or aggressive. The basement walls of many-hued cobblestone, meet the low sweep of the roof of mossy green, and both together softly melt into the landscape. The grey roughness of the stone is softened by clinging vines and projecting balconies add interest, as well as the Colonial treatment of the windows. Such a house is a fit expression of taste and feeling for quiet lovers of country lanes and byways not too remote from other firesides. The sort of place that is

"Town, yet country too; you felt the warmth
Of clustering houses in the winter time,
Supped with a friend and went by lantern home;
Yet from your chamber window you could hear
The tiny bleat of new-weaned lambs, and see
The children bend beside the prederous bank
To pluck the primrose."

The overhang of the second story which is such a feature of old English houses, grew out of the desire to preserve the wall below from the weather. The modern adaptation of this feature considers its picturesque quality rather than its preservative, and the additional space gained on the upper floor.

In this pleasing cottage, both the gambrel roof



The Over-hang of the Second Story. Fig. 23

and the over-hang of the second story are used to produce a feeling of quiet comfort at small expense. Such a house makes one think of an old-time garden, with syringa bushes and a clump of lilacs; of gilly flowers and sweet-williams, and all the rest of old fashioned associations.

Probably no type has been more abused than the Colonial. All the box-like structures—"four square to the winds of heaven"—with a porch and a few white posts clapped against the front, are painted either white, or buff with white trim, and dubbed Colonial.

The last few years have seen an era of Colonial Renaissance. Everything Colonial is revived—not only architecture but furniture, wall paper, dress—everything but the courtly manners. There is indeed no form of domestic architecture which appeals so strongly to the American mind. The Colonial home had an atmosphere that no other style excels, and moreover represents the period dearest to the American heart, of the struggle for freedom. The simple, straightforward designs of early American homes were modeled on a pure style and so possessed permanent value; a style which when correctly carried out and not depreciated by meaningless and ostentatious ornament—never fails to please.

The style itself is not responsible for the vagaries of architects and their clients, though these have contributed not a little to bring it into disrepute.



A Plaster and Wood Combination. Fig. 24

SPANISH-AMERICAN

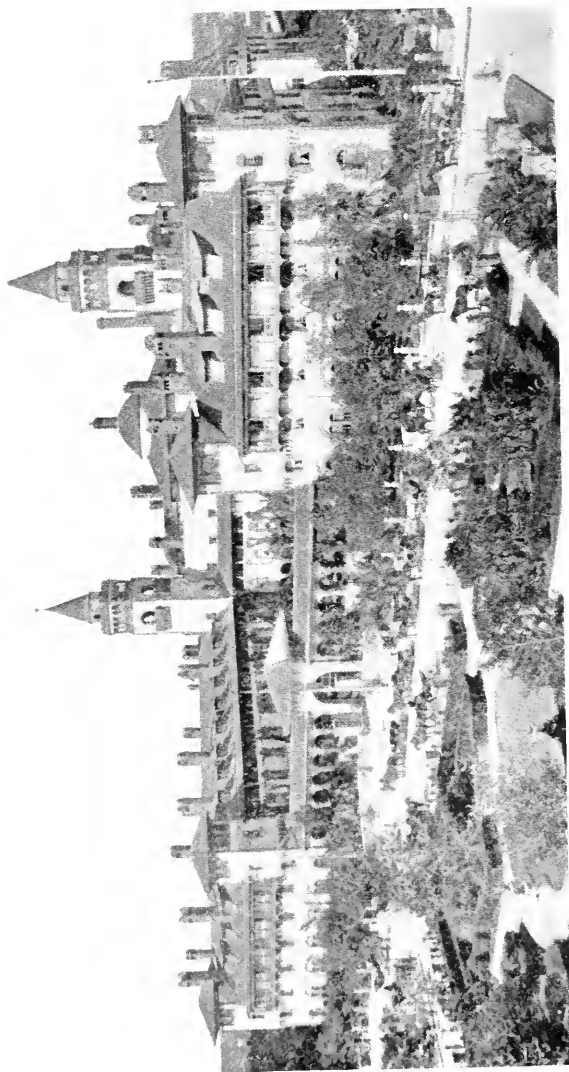
Some of the best of our modern American design has been inspired by the semi-Spanish style of buildings transplanted to Mexico and southern California by the ancient Spanish Dons and the Mission Fathers.

The steady warmth and brilliant sunshine of that section was exceedingly favorable to such a style, and its beautiful forms and vivid coloring are in perfect harmony with its local environment.

The class of house architecture evolved from the rather primitive forms of the original quasi-Spanish buildings of this section, show extremely thoughtful and intelligent work, and is in a high degree artistic and interesting.

The principal material used in this style of construction is plaster or cement, which is sometimes partially combined with wood, as in the example shown in Fig. 24. The Spanish-American style is, however, best and usually expressed in strictly cement construction, except, of course, the necessary framing of the openings. And a most effective medium it is for expressing this fascinating Moorish type.

In the Ponce de Leon hotel at St. Augustine, Fla., we have probably the finest example of Moresque design in the country, as applied to a large building. Hotel architecture is too often an ugly hodge-podge of the more worthless forms of design. Nobody seems to care how these great caravansaries look except to have them make a show. French characteristics of the more florid sort are frequently adopted for hotel



Ponce de Leon Hotel. Spanish-American Style. Fig. 25

design and even intensified, in meaningless decoration. This beautiful southern building, while engaging and festive in style, has real merit in design. Two views are given, one showing the building as a whole with the splendid pleasure grounds in front, and the other, the inner court behind the arcaded entrance. In the latter view we have a glimpse of the central dome rising

“Fair as the domes of Kubla Khan,”

and of the upper arcaded gallery used for a promenade. The photograph, however, fails to reproduce the elegance of the ornamentation, the delicately sculptured wreaths and arabesques over the entrance arches of the arcade, the detail of the window framing and the light and graceful balustrades.

The building itself is of cream colored plaster with dressings and enrichments of light red terra cotta and roof of red tile, a coloring admirably suited to the gay and festive character of the structure and its environment of odoriferous gardens filled with glowing bloom and sparkling fountains. If the famous Spanish adventurer for whom the hotel is named could come to life under these graceful arches some moonlight evening, surely he would imagine himself at home in old Granada, perchance in the beautiful garden of Lindaraxa. Perhaps no feature of this example of Spanish Renaissance is more faithfully reproduced than the central tower, with its hanging balconies and arcaded openings of the top story crowned with a light and graceful balustrade and red-tiled spire.

Within the building, everything contributes



Quadrangle, Opening on Court. Fig. 26



Fresco Decoration. Fig. 27

to render the interior an abode of Oriental magnificence. The walls are frescoed with the spirit and grace of mural decoration in the days when Michael Angelo and his pupils executed their wonderful frescoes on the villas of Roman patricians. A small section of one of the frescoes in the Ponce de Leon is illustrated.

The Hotel Cordova while illustrating a different phase of this architecture, is another instance of the successful transplanting of ancient Spanish ideas to Western soil. One might almost fancy they were gazing upon the Lonja of old Cordova itself, to look up at the grey, massive tower, and that some dark eyed beauty looked down from the deep embrasures of the Moorish openings. The tower is most skillfully lightened by the cornice decoration and the horizontal treatment of its divisions.

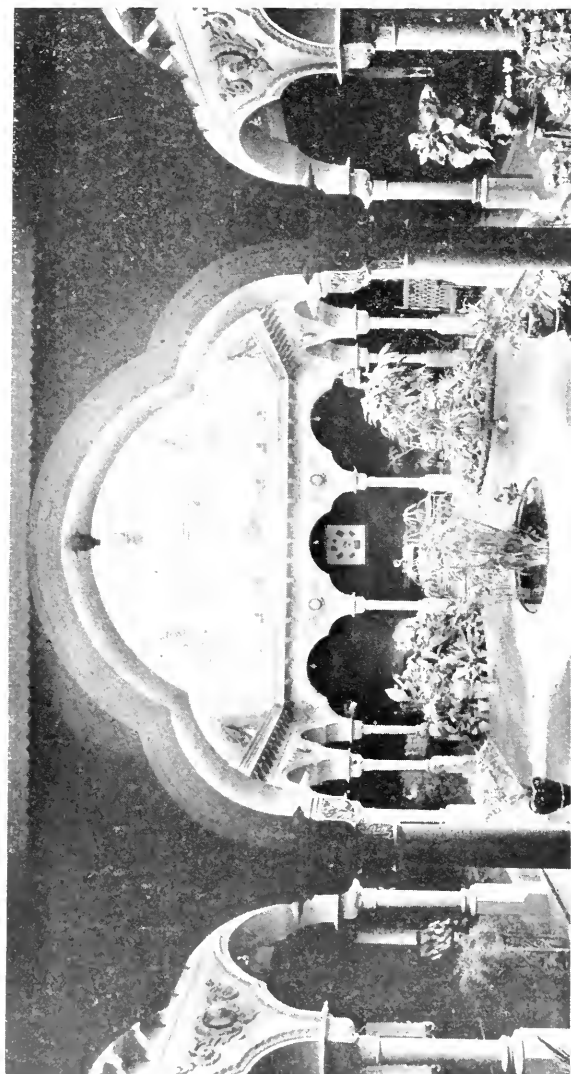


Hotel Cordova with Moorish Tower. Fig. 28

The Saracenic influence which pervaded Spanish architecture finds a wide field in the Spanish-American type, and its graceful and elegant forms are marked features of the modern designs. Looking at the example of this type in Fig. 29 one might well fancy oneself in Spain, among the groves of dark cypress on the mountain side, looking down upon this Moorish palace in its setting of rich valleys enamelled with olive orchards and orange groves and vineyards, with the notes of some *arrafia*—Moorish flute—faintly heard in the distance.



California House Saracenic Features. Fig. "29



Modeled on Alhambra Motifs. Fig. 30

Here, too, we have the typical "patio" or inner court, a charm never absent from Moorish palace or humbler dwelling. Against the gray plaster walls, the creepers cling like lace, with the ruby blossom of passion flowers gleaming among them and jasmine stars hanging in long, swinging sprays. Luxuriant vines half conceal the grey arches, and scarlet Poinsettias flame in the angles. All the living rooms open from this court, and the doorways thereto are filled with wrought iron screens worked out in a scheme of open work rosettes, floral lines and conventionalized flower motifs, in true Saracenic style. The floors are of ornamental tile, and the interior walls have oriental decoration in color.

Certainly the Spanish prototype of this equally fascinating Moorish design could not have been fairer than these soft cream-colored walls, with the graceful arabesque outlines of the roof treatment and enriched with decoration in relief. Even the chimney caps are shaped like flower cups. The characteristic red tile of the roof, repeated in the hood over the main entrance gives sufficient color relief, and the slender pillars supporting the Majava arches of the arcade are typical Moorish features.

While entirely different and more fanciful in its architecture from the preceding example, this residence is a fertile field for the study of Spanish-American design.

The charming view of the *patio*, or inner court, might easily have been modeled upon the famous Court of Lions in the Alhambra, such a dream of delicate beauty does it appear. Here,



With Slender Arches and Square Moorish Tower. Fig. 31

indeed, is the same light and fragile colonnade, its fretted arches supported by slender columns, and ornamented with arabesques in relief and fine stucco work. Here, as in its Spanish prototype, the light falls from a lofty, vaulted dome, and the brilliant sunshine gleams along the colonnades and sparkles over the fountain and the rare flowers. It needs but little fancy to conjure up some black-eyed, Andalusian Dolores reclining on the couches and ottomans of the arcade, behind the sheltering foliage, enjoying the pure breezes from the mountains, the musical drip of the fountain, and the scent of roses and myrtles.

Similar in character but not so elaborate in treatment is Fig. 31, with the square Moorish tower so frequent a feature of old Spanish architecture, projecting from the center. The graceful outline of the roof coping, the delicacy of the columns, the slender bending arches, the elegant filagree work, the grouping of the openings, the balconies and traceried windows are felicitous adaptations of Saracenic motives.

Thus in "our Italy,"—or Spain, as you will—Moorish types of architecture have found a congenial home. It is an architecture fitted to a background of mountains rugged and deeply serrated in outline, mysterious with purple shadows and snowy peaks and an atmosphere suffused with sunshine. The plaster walls, either in their natural soft, creamy white or more deeply tinted by artificial processes, appear to belong to the scene.

Several examples of this type of architecture



The Red Tiled Spanish Roofs. Fig. 32

are given here, the one in Fig. 32 showing the plaster wall ornamented in Saracenic style with an elaborate diaper pattern. The roofs, generally of tile a light red in color, are another marked feature of this construction; though sometimes the plaster walls are combined with shingle roofs.

Fig. 33 shows how the Saracenic forms of decoration may be applied in the interior of a modern home, being the window treatment of an outdoor sitting room, a sort of "observation car" adjunct, opening upon a lovely garden. The effect obtained by the circle of arcaded windows filled with delicate tracery and divided by slender pilasters with ornamental capitals, and its choice and sequestered situation along the little garden, are strongly suggestive of Moorish fancy, and might belong to the bower of some Moorish sultana.

The broad, low and simple lines of this example of frame construction are extremely restful and pleasing, and indicate how the feeling which is so marked in pseudo Spanish plaster dwellings may to a certain degree be imparted to a less sympathetic material by the general lines and the treatment of the openings, the hanging balcony over the entrance and the air of seclusion conveyed by simply recessing the entrance to a sort of loggia effect. In the small one story cottage, quite a Moorish feeling is effected by the outline of the roof gable and the arched openings.

The Spanish Fathers who came to Christianize New Mexico, as it then was, remembered well their lessons in architecture taught by the Moor



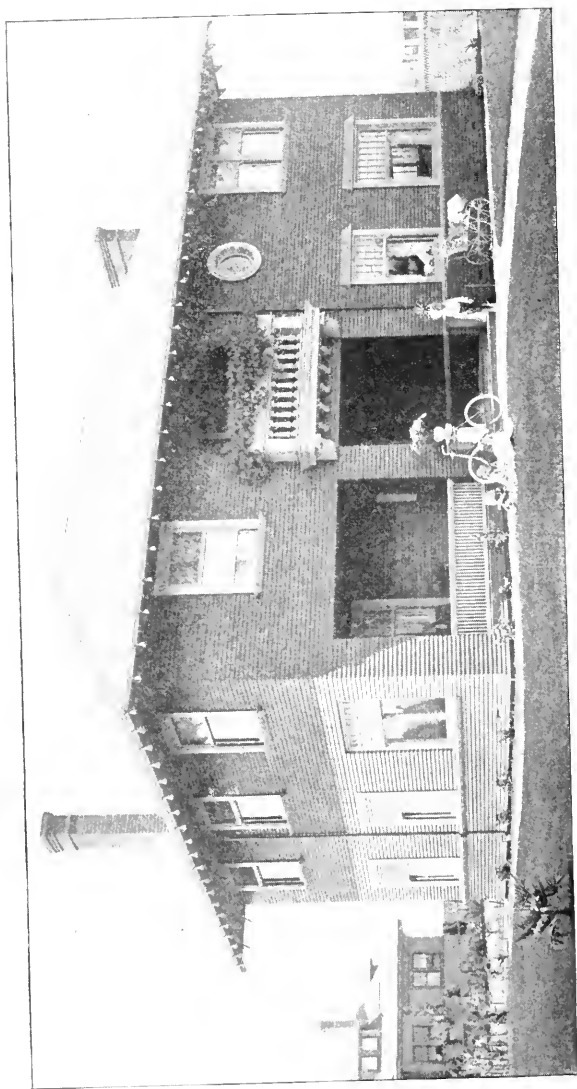
Openings Treated in Saracenic Style. Fig. 33



Plaster Cottage. Fig. 34

ish conquerors of Spain, and used them when they came across seas in the serrated cornice lines, long facades, thick walls, red tiled roofs, and other striking features of the California Old Missions. Modern architects have been quick to seize the poetic beauty of these forms and fuse them into a most attractive and unique Spanish-American type. That the type is capable of much elasticity in application, is shown by the accompanying photograph, so attractive that one is seized with an immediate desire to build such a house. It is, of course, a very free use of a few Moresque features: such as the treatment of the openings, which together with the soft cream colored plaster and red tiles give a slight Saracenic feeling to the design, yet enough to make it perceptible, while the wide eaves and low walls impart a homelike atmosphere as surely as the thatched roof of an English farm house. Altogether, the simplicity of outline and of detail in this example of plaster construction, make it one of the happiest instances of use of these motives.

The pseudo-Spanish type of architecture, light,

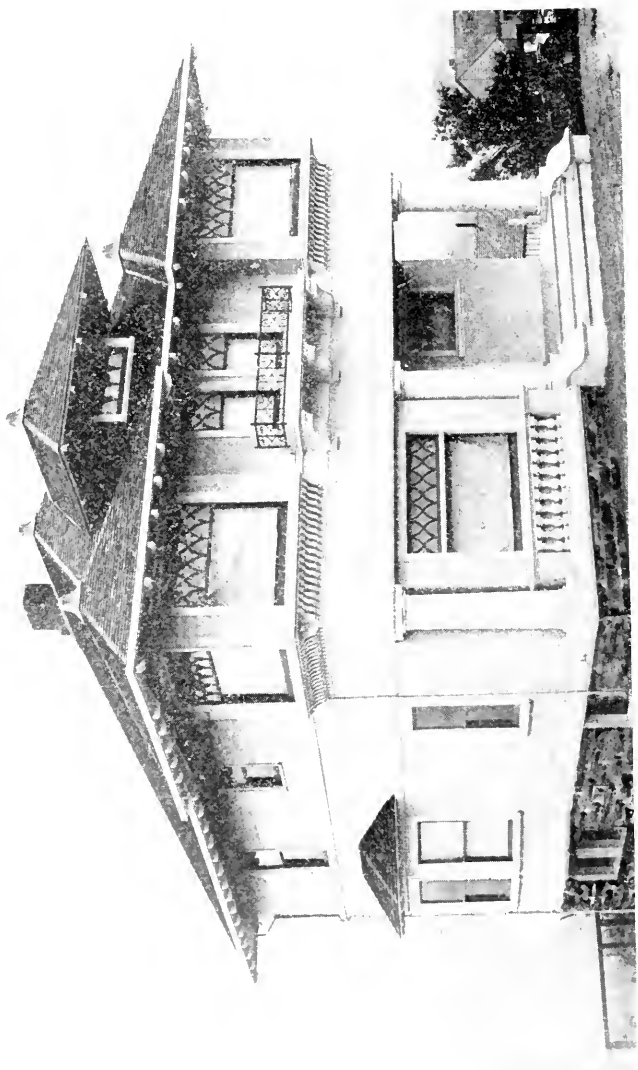


Plaster Motifs Applied to Frame Construction. Fig. 35

gay and graceful—is well suited to domestic work, and beside being quite unlike any other is a perfectly legitimate architectural style.

The Moors were a noble race, who for eight centuries held their footing in Spain and adorned the land they had conquered not only by widely encouraging art and learning in every field, but with a beautiful architecture which could never have been conceived by Europeans. Only the poetic fancy of the Orient, full of splendour, with a fascinating use of color, could conceive it. In those southern lands, the bright sunlight brings out each fine detail of the ornamentation, and each deep shadow from molding and cornice is clear cut and sharply defined. The use of wrought iron in window gratings and balconies was simple but effective, and an effect easily transferred to modern uses.

The patio or court, always a feature of the Moorish dwelling, found instant welcome and sympathetic treatment in an American Spain. The easily worked stucco offered a tempting field for decoration, and is imperishable in that climate. The old Spanish haciendas and patios of near-by Mexico were an additional inspiration. The use of colored washes, changing the natural grey or white of the cement to deep, soft, yellowish creams, or suffusing it with a sea-shell pink, or cooling it to tender greens—added to the warm, rich red of the Spanish tiled roofs—imparted an interest, when handled with skill, which becomes an object lesson in the use of color in architecture. Such an object lesson is one of the municipal buildings in Mexico City.



A Free Use of Moresque Features. Fig. 36

which is tinted a pale violet color with white stucco decoration. There too you may see a more reserved coloring in the shops, the fronts colored a rich maroon with stucco ornaments in the same color. The late Banister Fletcher, an architect of note, designed a business front in Oxford street, London, where the rustications were of bronze green enameled clay, and the front enriched by dull gold ornamentation on the pilasters.

The great Puritan movement of the seventeenth century took all the color out of life and out of architecture, though before that it was freely employed. "The world grew gray at its touch," nor has it ever recovered from that benumbing influence.

Even now we are shocked at any departure from the cold and colorless exterior of what is considered correct architecture. The one exception, appears in the gayly painted wooden houses—birdcages, we should rather call them—which are the hall mark of an uncultivated taste, and certainly no argument for an artistic application of color in architecture.

Cement is a medium which may within a limited range, be modified or accentuated by certain earth colors, such as yellow ochre, burnt sienna, raw umber and the like, which when incorporated with this material may be combined with the fine, creamy white of pure cement in more or less elaborate design to produce unusual but extremely artistic effects. These lowered tones of color are appropriate where the bold, glowing but refined color compositions of sunnier lands, would be impossible without the atmosphere that brings them into harmony.



A Design Adapted to the Site. Fig. 37

HALF TIMBER WORK.

The matter of picturesque outline in houses, is either too little regarded in modern building or else it is completely misunderstood. Irregular or picturesque effects are, of course, best adapted to a country site, as the limitations of city lots and street architecture afford little room for the play of fancy. Picturesqueness does not, however, necessarily imply irregularity, though that appears to be the conception of its meaning by many so-called architects who to quote a brilliant writer, conceive the picturesque, as "anything which may be likened to a 'pig with one ear.'"

* * These are the men who stick chimneys in odd corners where they are sure to smoke, put dormers on roofs where they are not wanted, throw out oriels to bathrooms and corbel out balconies to closets."

Far from irregularity per se being synonymous with picturesqueness, the note of repose, must never be wanting. A dwelling is picturesque, when the various simple forms are contrasted in such a way as to please the eye, and the design adapted to the site, the surroundings and the necessities and materials of construction.

In building chimneys, for instance, what picturesque effects may be produced by simple variations in the management of common brick. Any laborer could lay them up, but it takes an artist to devise the forms.

Compared with an English cottage or rural home of red brick or mellow tinted stone, or black beams and white plaster, with pitched roofs and softened outlines, how inferior in beauty,



Eaton Hall. Neo-Gothic Design. Fig. 38

though they may be more economical to build. More and more these old English models are being employed. That modern English architects themselves appreciate the charm of their own ancient forms, is shown by the revival of half timber design in this peculiarly home-like mansion of Eaton Hall, Cheshire, Eng., a fine specimen of neo-Gothic work of recent times, and showing to a marked degree the influence of the old work surrounding it. The building is also interesting as an example of vertical method, undisturbed by any diagonal features of design.

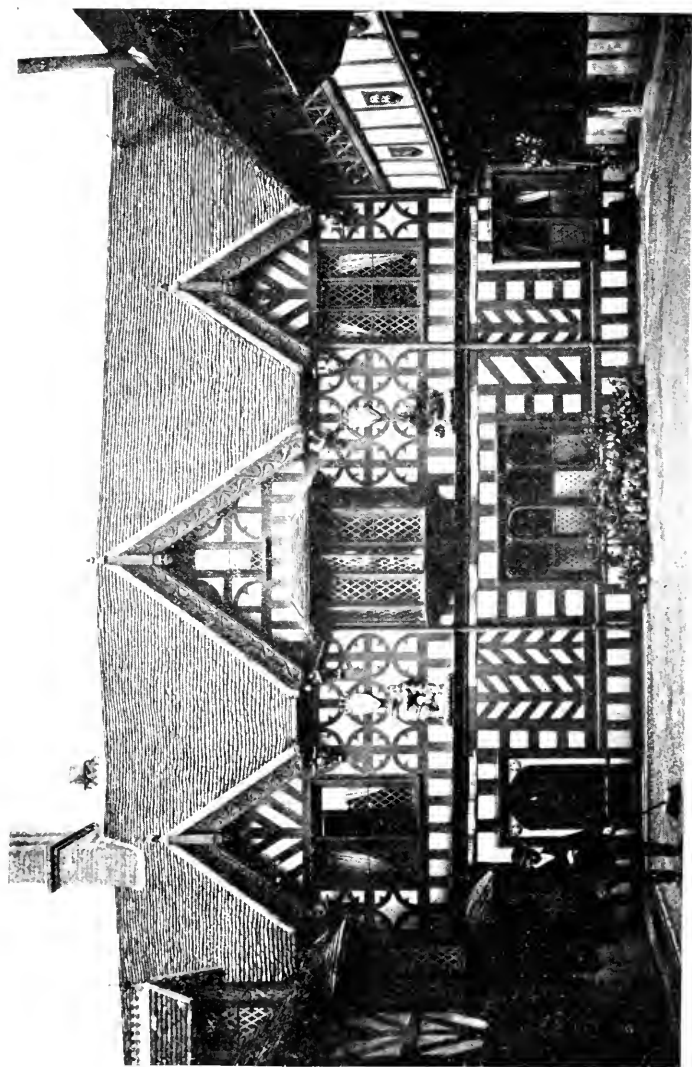
The essentially English character of the type is indeed a subtle factor of influence in its favor with Americans, who are but Englishmen transferred to America; and who feel unconsciously the tie of blood and kinship.

It is not, however, mere sentiment alone, nor yet the mellowing touch of time, that gives to these old dwellings their peculiar charm, a charm so often missing from modern work. Some one

has defined architecture as "The poetic translation of material into structure," and it is this which we somehow feel in the old work. The spirit of our own age is not poetical; show and ostentation are prevailing influences, and are expressed in much of our modern building; but the modest charm of these old houses will appeal to many, who prefer the home sentiment to show.

While, perhaps, we may not care to copy exactly this distinctively English architecture, there are certain characteristics which can readily be incorporated with advantage in our wood construction. The modern architect, it is true, uses his timber work for effect and not for constructive value; but he continues the spirit of the ancient style though he may go about it by new methods.

There still remain fortunately many specimens of the fine old domestic English architecture which prevailed in the fifteenth and sixteenth century. Could it be revived in its old purity, free from the hybrid forms foisted upon it by importations of foreign styles, we would possess far more interesting and individual dwellings. Probably we shall never return to the workmanship of those days when honesty and not sham, characterized construction. Then, walls were built to stand and chimneys were so strong as to defy the picks of the workmen in later centuries who were taking them down. The carving in these old gables is as perfect after 300 years as when originally executed, and the oaken window frames, stairs and floors as solid, apparently, as when first set in place. The house was originally



Old English Decorated Front. 15th Century Work, Fig, 39

built in the fifteenth century but has been repaired in later times. The quaint, half timbered building with its picturesque quadrangle contains a Saxon chair 1,000 years old, but sturdy and strong; the Spanish cedar beams of the hall look as well as if put up yesterday. In a recent issue of a building magazine there appeared an account of a six-room house begun and completed from chimney to foundation stone, plastered, painted and all—in one day. The man who compassed this truly remarkable feat plumed himself greatly thereon, and delivered a congratulatory address to the crowd of workmen who did the job. It seemed to us a sad commentary on the feverish “rushing” of building contracts, which is deadly to any true worth in architectural work.

There is no denying that permanency is not a characteristic of modern architecture, even in expensive public buildings. The three qualities insisted upon by the ancient Greeks as essentials in architecture were permanence, beauty and convenience; and however much we may pride ourselves upon excelling our teachers in the last quality, we certainly cannot compare with them in the first. The fault, however, lies with the builder, not the architect, who must design to suit the taste and purse of his client.

The half timber example in Fig. 40 is a proof that modern architects are quick to seize the salient features of this fascinating style. The house is studied from one of the beautiful old manors of the half timber period, which, beginning about fifty years before Elizabeth's reign,



A Rugged and Picturesque Site. Fig. 40

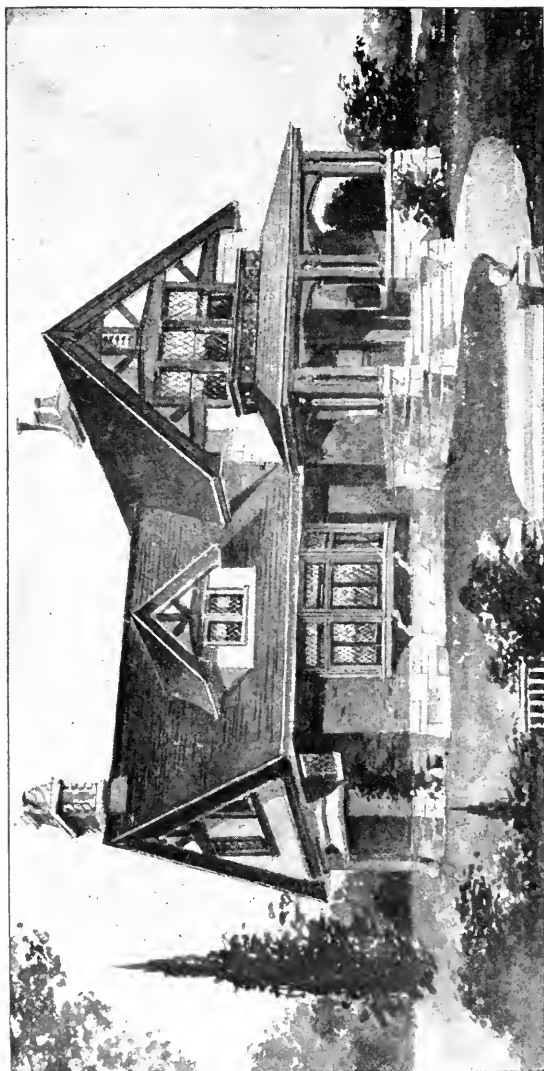


Modern Elizabethan Design. Fig. 41

extended to fifty years after. No better type could have been chosen for the rugged and picturesque character of the site.

While the modern architect is learning lessons from the old builders in sincerity of workmanship and in attention to picturesque outline, he far surpasses them in the comfort and convenience of his interiors. Picturesque as the English farmhouse is at a distance, our clapboarded and painted boxes are at least dry and warm, with abundance of light and cheer within, and this cannot be said of the often leaky roofs and damp brick floors of the English cottages.

The pleasing example of modern half timber construction shown in Fig. 41 combines the picturesque charm of the old post and petrel



American Half Timber Design. Fig. 42

work with modern ideas of convenience, practicability and comfort in a felicitous manner.

Observe how all the features which give charm to this style of dwelling, are incorporated in the exterior of the design—the long, sloping roof with its sharply pointed gables treated with post and petrel work, the delightful oriel window, below, and bay of the front gable filled with small diamond panes, the whole design expressing that essentially English character of domesticity and picturesqueness referred to, yet with the added beauty and comfort of the porch composed in perfect harmony with the feeling of the house, and a floor plan embracing every modern comfort besides being admirably arranged. A design which adds to the practical plan, the artist's touch.

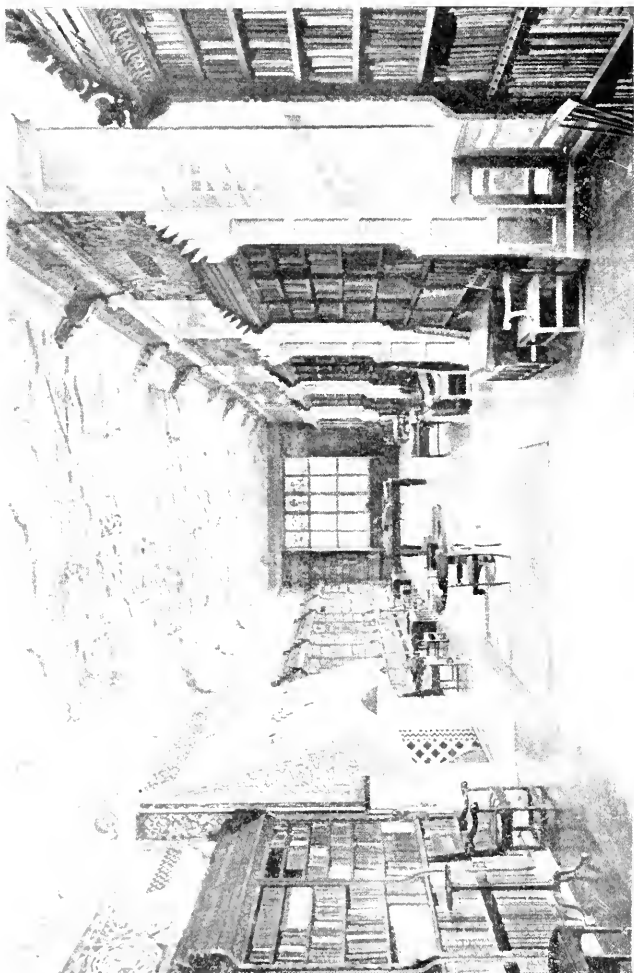
Many modern houses which are comfortable enough in their interior arrangements, appear to have had little intelligent thought given to an appropriate and well proportioned external effect.

Some one has said "it is a solemn thing to build the *outside* of a house;" and truly the feelings of our neighbors and the passers-by are worthy of consideration, even if architectural merit makes no appeal to us.

It is not infrequently the case that modern homes of wealthy people are modeled upon the typical Elizabethan mansion set with

"Gables and dormer windows everywhere
And stacks of chimneys rising in the air."

The great hall of the English mansion is faithfully reproduced in the interior even to the carv-



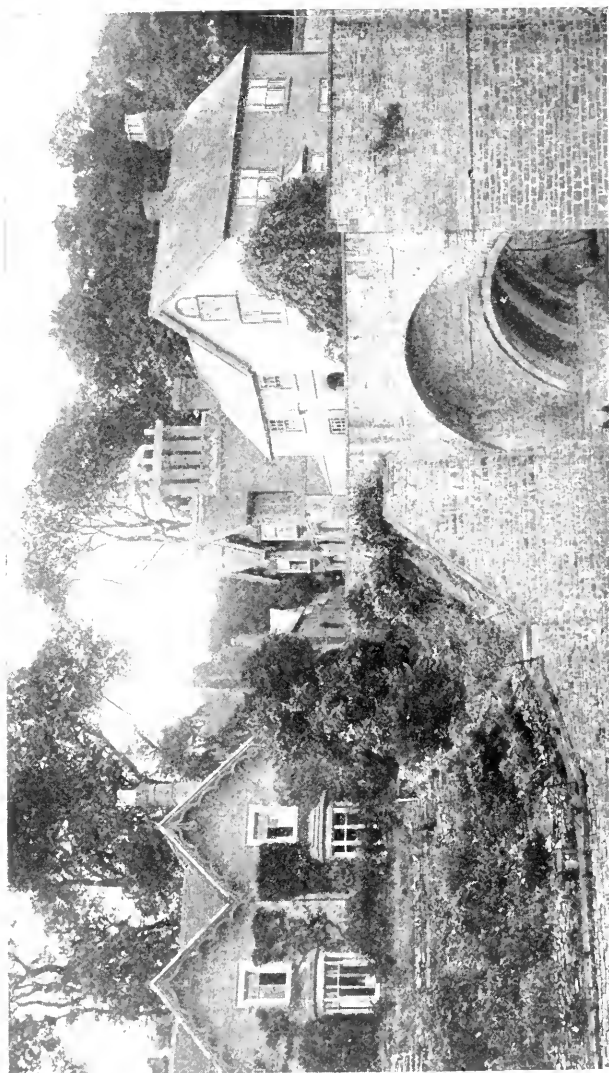
A Stately Jacobean Hall. Fig. 43

ing of the wainscoting and the panelling of the ceiling.

"Within, unwonted splendors met the eye
Panels and floors of oak and tapestry."

These great halls, or "chambers" as Shakespeare called them— are the prototypes of our modern notion of a "living or reception hall." The English house of high degree, never lacked these great halls with lofty roofs and windows set high in the wall. The picture given of one of these "great chambers" shows the fascinating mullioned windows, walls panelled up to the ceiling which is elaborately treated with decorations in relief. It shows, too, how these old halls were converted into the stately libraries of Elizabethan and Jacobean times. American millionaires have been quick to appreciate the stateliness of these ancient halls and have attempted to revive the old features in their modern homes. They have reproduced the great mullioned windows with their hundreds of small, square panes and stained the wood so skillfully that it cannot be distinguished from the genuine, ancient article.

The old Colonial halls extending from front to rear through the center of the house, were reminiscences of these old English halls in great houses. They frequently extended up through to the third story, the lofty, vaulted effect adding great dignity to the interior though it must be confessed, at the expense of comfort. No greater contrast to the "bat rack welcome" of the cramped vestibule which does duty for a hall, can be imagined, than the generous hospitality expressed in those wide Southern Colonial halls.



Picturesque Old Houses. Fig. 44

While no one would attempt to reproduce mediæval architecture, or to imitate it even, at the present time, it is not necessary to make an exact copy of a style in order to express some of its beauties. We cannot go back in our habits or tastes to the middle ages—heaven forbid. But we can recognize the charm of much of its architecture, and produce something which shall embody these fine features and be in harmony both with them and with the requirements of the twentieth century. These old buildings afford valuable study objects for both the architect and the home-builder. For the latter, because unless he knows something of their beauties and of the correctness of the principles underlying the work of these old builders—it would be of little use for the architect to present styles modeled upon them. He would be dubbed a crank and full of erratic ideas; therefore he returns to the ordinary and the commonplace, because that is what his clients would understand.

Demand regulates supply, and if the people want dreary rows of houses, one just like another, they will get them. But the people will not want them, if only these fields of study so rich in architectural suggestions can be brought to their attention and open their eyes to the possibilities of beautiful and picturesque form.

To be sure it is not every architect who, even if he were desired, would be capable of designing anything so picturesque as these old houses. For to do this he must have the artist nature as well as the draughtsman's pencil. To combine in a quaint and pleasing manner plain, structural lines



The Egyptian Library

and simple details, to produce with taste and discretion work which, while treating a design in a picturesque manner, shall avoid fantastic eccentricities on the one side or mere conventional correctness on the other—this is what constitutes the difference between the architect who is also an artist and the mere maker of floor plans.

An interesting example of the adaptation of historic forms to modern uses, is illustrated in the Egyptian library, to which, however, the photograph does scant justice. Egyptian

symbols and motives of decoration are employed by the architect not only in the detail finish of the woodwork, but introduced in the furnishings. Carved Egyptian heads form the supporting corbels of the mantel, and the andirons below stand like the solemn pylons of an Egyptian temple. The lotus motif, and the wavy lines representing water appear on the wood detail and the furniture, as also the reed columns.

Outspread vulture's wings, the Scarabeus the flabella, and other emblems appear extensively in the stained glass and frieze and are even carried into the embroidered pillows and draperies in which care has been taken to employ the brilliant coloring used by the Egyptians, modified to suit modern taste. The deep royal blue, peculiar to their colorists is employed on the furniture coverings, while the frames and the wood finish are enameled dark green. The owners of this artistic room have found these historic motifs and the significance of the symbols used, a fascinating study.

The trouble is, the modern architect gets little encouragement and less time to make a study of design. His client is always in a hurry, and after taking months to make up his own mind, when at last he does, wants his plans drawn over night. Then he wants "to get bids" and move in by Christmas, though the cellar be not excavated till just before snow flies. He cares much about his plumbing and his "space" but very little about the design. The architect has very little chance to think about that, for he must

see first and foremost to the mechanical detail, and he must do it quick—the practical part of the business. It is well—nay it is vital—that the architect should know brick and shingle, sand and lumber; should thoroughly understand heating and ventilating systems and just where to run the network of pipes in a modern house to ensure the health and comfort of its occupants. He must know whether sixteen inch centers or twenty foot studding are needed in a frame dwelling and he must understand and take into account in his plans all the laws and variations of heat and cold, dryness and dampness, radiation and tenacity and their effect on all the metals and other materials that enter into construction. Yea, verily, these are intricate problems and the architect to whom we confide our hopes must be equipped for their solving.

But beside all this, there is needed a cultivated and trained taste, the artistic perception that recognizes beauty of form wherever found, and the ability—the ingenuity if you will—to adapt suggestions from the architecture of all periods, to modern requirements.

For such an architect and for such clients, a great wealth of beauty exists in the architectural records of the past. For them, suggestions are gleaned from the faultless regularity and repose of a Greek temple or the delicate carving and traceried windows of a mediæval cathedral; from the quaint gables of an English Elizabethan house “with dormers and with oriels lit,” or the reeded pillars of an Egyptian tomb.

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