THE EVOLUTION OF THE CORNICE

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THE EVOLUTION OF THE CORNICE

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CHAPTER I

INTRODUCTION

Since the dawn of history, man has recognized three fundamental essentials for the maintenance and prolongation of human life: food, clothing, and shelter. Primitive man, seeking refuge from his enemies or from the mysterious forces of nature which terrified him, fled to caves, to the shelter of huge rocks, to the primeval forests, or to other natural retreats to be found in his local environment.

As mankind became more numerous upon the earth, natural shelter was found to be inadequate in quantity for the vast hordes of people who might desire to utilize it. Also the growing number of men upon the earth gave rise to tribal warfare. At the conclusion of the conflict those on the losing side who were not taken prisoners fled beyond the reach of their would-be captors, often establishing themselves in distant areas where natural shelters might be scarce or non-existent. At the same time, the migration of families or of entire tribes or clans in search of food or of loot might lead them far away where it was difficult to find caves or other forms of natural shelter. These migrations might also bring the people into regions where climatic and geographical conditions were somewhat different from those
to which they had been accustomed prior to their migration. In fact, conditions might be such that they needed shelter a great portion of the time, and if natural means of refuge from the elements were inadequate, they must look about for other sources of protection.

As a result of these various factors—operating sometimes singly and sometimes in combination—the need for man-made structures became apparent. This need was recognized even by ancient man. Still existing upon the earth are many evidences of the life lived by prehistoric man. Chief among the relics of these early-day peoples are implements of warfare and indications of the types of homes in which they lived.

Whole tribes or communities of people, desiring to maintain their tribal unity and at the same time provide shelter for themselves, sought means of sheltering the entire community as a unit. Thus we have the pueblos of the American Indians, and the ancient cliff dwellings of peoples in all lands. In locations where materials were not available for such huge community housing projects, or in instances where human ingenuity did not suggest such undertakings, there still existed the need for shelter; and, by common consent and by the unwritten laws of the tribe, each family undertook the task of providing its own means of protection from the heat of summer, the cold of winter, the storms of the springtime, and the rains of the wet season.
Early human dwellings were crude and unsubstantial in structure. Made of grass, bamboo, or sticks, they served as protection from the weather but they were not permanent buildings and had to undergo constant repair, since the materials used were largely perishable, especially in the rainy seasons. In all probability, the grass and bamboo houses found in primitive cultures today are essentially the same as those first developed by man thousands of years ago. A comparison of historical evidence with twentieth-century practices among primitive peoples indicates that social, religious, and military customs among these so-called unenlightened cultures have undergone little change throughout all the centuries of recorded history. Thus, in all probability, housing remains essentially the same as it was in the beginning.

In the Philippines and in other Pacific islands the writer has seen many native shelters and dwellings constructed of wooden or bamboo poles, with walls and roofs made of nipa (grass), which is long, pliable, and easily woven or thatched into appropriate bundles or wattlings for the purposes at hand. Even in England, with her scientific, modern culture, thatched roofs are to be found on a majority of the family dwellings, especially in the country and in small towns.

Perhaps the first cornices utilized in buildings were constructed of bundles of mats made of grass or bamboo, lodged at the top of the
wall immediately underneath the roof, in order to fill the space between roof and wall and prevent rain from blowing in where the two joined. Later, in the more elaborate architecture of Classical times, the cornice became a thing of beauty, carved from stone, and ornately embellished with symmetrical designs or bas-reliefs. Today in many public buildings such as post offices, libraries, railway terminals, city halls, and educational buildings, survivals or adaptations of the Classic cornice designs are widely in use.

However, for homes the modern cornice is, for the most part, only a board or a simple moulding placed in the corner between the upright wall and the projecting eave of the roof. Twentieth-century cornices are quite different from the older ones, and in the main they are adaptations and poor copies of Classical or semi-Classical designs. The cornice is no longer a thing of great beauty or utility; it is, instead, an architectural non-essential which continues to persist because buildings appear unfinished when the cornice is omitted.

The evolution of the cornice through the centuries has been the result of the ingenuity of man in his efforts to tie the roofs of buildings in with the walls, or to perfect a harmonious transition from the upright walls to the incline of the roof. Or, in the case of flat roofs like those typical of the Italian Renaissance period, the effort has been directed, in the cornice, to the beautification of the point at which the
vertical wall abruptly ceases. At the same time, in such buildings, the overhanging cornice served as a means of protecting the windows of the building from rainfall.

Whereas modern architecture has tended to lessen the cornice because, probably, of the high cost of building, it still possesses a high value as a beautifier. For the most part, public buildings today lack the cornice for two reasons, primarily: (1) The buildings ordinarily are flat-roofed and, seemingly, there is no functional need for a cornice. (2) Buildings of considerable height sometimes omit the cornice because the beautifying aspects of the cornice cannot be fully appreciated from the street level.

In arid regions of the world—even of the United States—the reason for the omission of the cornice is obvious: the roofs are usually flat, and there is little need for protection from rainfall. However, the protruding beam or rafter remains to beautify as would the cornice if it were incorporated into these structures. The adobe buildings of the southwestern states illustrate this point.

Purpose of the Study

The purpose of this study was to make an investigation into the historical development and evolution of the cornice as an element in architectural design. One of the oldest of all arts, one of the most
ancient of man's achievements, is that of building. Among the essentials of any man-made structure are foundations, floors, walls, and roofs. Another factor in any edifice is that of the cornice, which fulfills the function of bridging the abrupt transition from the vertical wall to the horizontal or inclined roof.

The problem undertaken in this study, then, was that of tracing, with as much accuracy as possible, the evolution of the cornice in architectural design and in functional purpose. A secondary consideration was that of attempting to discern wherein the cornices of past centuries have contributed to the cornice designs of the present day.

Limitations

This problem was limited to a study of the evolution of the cornice from the days of ancient civilizations to modern times. Although the cornice is predominantly the theme of this research, it became necessary to deal briefly with other phases of architectural design which, at times, were so closely related to the cornice that they could be separated from it only with extreme difficulty. For this reason, such details as friezes, entablatures, and columns—along with many others—will be mentioned from time to time in the ensuing pages.

The study was further limited and seriously handicapped by a comparative dearth of available information relating to cornices. However, in an effort to collect every bit of pertinent data that was
accessible to him, the writer examined many sources and gleaned from them such information as would contribute to the furtherance of this project.

**Definition of Terms**

At this point a simple dictionary definition will suffice in giving us a general idea of the meaning of the term "cornice." *Webster's Dictionary* states that a cornice is "the horizontal member (typically molded and projecting) which crowns a composition in architecture, as a facade; hence, the top course or courses of the wall when treated as a crowning member." The cornice has other meanings also, none of which is to be considered in this study. For example, the moldings at the tops of doors, windows, and arches are called cornices, whether on the exterior or the interior; and the wooden or stone moulding often seen in rooms in the angle between walls and ceilings is also a cornice.

Later in this study, more detailed definitions of the cornice will be presented in describing the cornice typical of various periods of architectural development, such as the Grecian, Roman, Gothic, and Renaissance.

**Sources of Data**

No comprehensive publication dealing with cornices is obtainable. For this reason, the writer examined every book available which might logically offer some information needed for this study, searching
tables of contents and indices for any possible references to cornices that might be contained therein. From various books and from encyclopedias the data were gathered for this study. Files of the Reader's Guide to Periodical Literature for the past half century were examined, but little of value was discovered in this source that would contribute to the present study.

Organization of the Study

Data collected for this study have been organized into five chapters, four concerning cornices and the last constituting a summary of the foregoing chapters. They trace the evolution of the cornice in sequence, as follows: (1) in the Orient, (2) in ancient Greece and Rome, (3) during the Gothic and Renaissance eras, and (4) in modern times.
CHAPTER II

THE EARLIEST CORNICES AS USED IN THE BUILDINGS OF THE ORIENT

Paleolithic man left no known traces of any other home than the cave, and there is no evidence that he had any buildings of any kind. In neolithic remains, however, are to be found such building devices as the ladder, the pulley, the lever, and the hinge, thus indicating that these prehistoric peoples possessed some degree of skill in the building of man-made structures, although no remains of actual edifices have come down to the present day. Those people living in the dawn of history known as the Lake-Dwellers were skilled carpenters, as excavations and archæological discoveries have revealed that they fastened beam to pile with sturdy wooden pins, or mortised them head to head, or made them stronger by means of crossbeams notched into their sides. Floors were made of clay, walls of twigs and branches covered with clay, the roofs of bark, straw, rushes, or reeds. The pulley and the wheel aided in the transportation of building materials, and thus great stone foundations were laid for entire villages.¹

The first things that man built can hardly be called architecture—and yet it is from his first rude attempts to shelter himself from the elements that he later evolved some of the noblest expressions of civilization and gave lasting form to the highest aspirations of the human race.

At first, no doubt, he lived in caves or rude lean-to shelters that involved little or no building; the nomadic peoples, who moved from place to place in season with pasturage for their flocks lived in portable tents of various forms, such as the wigwams of the American Indians. Always the pre-historic and primitive peoples used the materials most immediately at hand and most easy to work. One very early form of dwelling was the "wattle-and-daub," meaning a hut constructed by driving stakes in the ground, interlacing them, like a woven basket, with light branches or reeds and daubing both sides with mud or clay. . . .

Out of sun-dried clay primitive tribes made bricks and adobe, and thus dwelt, so to speak, in pottery. But this was, in reality, a comparatively late stage in the art of building, being something like midway between the mud hut of the savage and the brilliant tiles of Nineveh and Babylon. Some primitive peoples, like the native tribes of Ceylon, had no dwellings at all, being content with living upon the earth and under the sky, with such natural protection as might be afforded by the sheltering branches of trees. Other primitive races, like the Tasmanians, slept in hollow trees or upon large outspread limbs of forest giants. Some, like the natives of New South Wales, lived in caves; and others, like the Bushmen of Australia, built crude wind-shelters of branches and occasionally drove stakes into the ground and covered their tops with moss and twigs. When sides were

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later added to such wind-shelters, the hut evolved, which is still to be found in all primitive societies, ranging in size from very small structures to house two or more persons to large wood-and-thatch buildings to serve as living quarters for communal groups of thirty or more people. The nomad hunter or herdsman preferred a tent made of skins or of woven grasses, which he staked out wherever it was needed and which he could readily move with him in his constant search for pasture or food. Among the higher types of primitive peoples like the American Indian, building was often done with wood. The Iroquois, for instance, erected from logs huge, sprawling edifices five hundred feet long, which sheltered many families in the communal life common to the race. When the natives of Oceania began to make real houses of carefully cut boards, though they had only crude tools and instruments, the evolution of the wooden dwelling was accomplished. ³

The origin of the cornice is to be found in the mats of leaves or twigs which primitive folk placed on tops of the walls of their dwellings, to prevent rain from blowing into the house underneath the roof. Some early peoples began the practice of decorating the eaves of their huts and tribal halls, and others learned to fasten timber or cut boards along the projecting edge of the roof. Not long after this practice began, tribal artists and carvers set to work to decorate these

wooden eaves and projections. These primitive accomplishments were, in reality, the first cornices; and the earliest forms of the cornice among the so-called higher civilizations closely resembled in design these crude efforts of primitive man to keep out the rain and to beautify his buildings with his own artistic talents. However, like so many forms originating in structural devices, the cornice soon became primarily a decorative feature, independent of the eaves and even of the roof of the building.  

How did architecture begin? We can hardly apply so magnificent a term to the construction of the primitive hut; for architecture is not mere building, but beautiful building. It began when for the first time a man or a woman thought of a dwelling in terms of appearance as well as of use. Probably the effort to give beauty or sublimity to a structure was directed first to graves rather than to homes; while the commemorative pillar developed into statuary, the tomb grew into a temple. For to primitive thought the dead were more important and powerful than the living; and, besides, the dead could remain settled in one place, while the living wandered too often to warrant their raising permanent homes.

Archeologists have come to the conclusion that the world's first definite architecture was given form in Egypt; but exactly how far back into antiquity the Egyptians developed their skill as builders is not known.

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5 Durant, Our Oriental Heritage, p. 87.
6 Price, op. cit., p. 92.
Dwellings in Egypt in the days of antiquity were much the same as they are today— constructed of mud or sun-dried brick, occasionally adorned with some pretty woodwork such as a lattice or a well-carved portal. Roofs, usually of the same materials as the walls, were strengthened with the tough and pliable trunks of palms. Building stone, too, was employed in Egypt, though it was too costly for homes except those of the very wealthy and was consequently a luxury reserved chiefly for the priests and the kings, who put their greatest wealth and the best building materials into temples and tombs. Hence, the splendid palaces in which the nobility lived, situated in beautiful gardens overlooking the Nile, crumbled into oblivion before the days of recorded history, but modern man can still gaze in awe upon the magnificent remains of temples and tombs which were built three, four, and five thousand years ago.

... Here, perhaps, is an excess of pillars, a crowding of columns against the tyranny of the sun, a Far-Eastern aversion to symmetry, a lack of unity, a barbaric-modern adoration of size. But here, too, are grandeur, sublimity, majesty and power; here are the arch and the vault, used sparingly because not needed, but ready to pass on their principles to Greece and Rome and modern Europe; here are decorative designs never surpassed; here are papyri-form columns, lotiform columns, "proto-Doric" columns, Caryatid columns, Hathor columns, palm capitals, clerestories, and magnificent architraves full of the strength and stability that are the very soul of architecture's powerful appeal. The Egyptians were the greatest builders in history. 7

7 Durant, Our Oriental Heritage, pp. 184-185.
Bundles of reeds were used as reinforcements for the angles of Egyptian structures, and such bundles were also laid along the tops of the stone or brick walls, so as to form a rolled border, corresponding to what was later called a torus. When the weight of the roof was applied, these pliable bundles of reeds had a tendency to be forced outward to produce what was virtually a concave cornice along the top of the wall. This was the origin of the so-called "cavetto cornice," which became one of the marked distinctions of the Egyptian monumental style. In the temples and palaces in which stone was utilized as the building material, the same effect was produced, as indicated in Figure 1, on the following page, by carving the cornice in an outward-flaring pattern.

In the temples and palaces of the nobility, wall decorations were applied lavishly to both the interior and the exterior. They were produced by drawing patterns in the wet mud plaster of the walls and applying rich colorings later, after thorough drying. Thus the designs were inset, even their higher parts being in the same plane as the wall surface—a method distinctively mural which made projections unnecessary. On the remains of the great temples of Egypt, the brilliant colors have not yet entirely faded from the crumbling walls and the still-existing columns; and the designs, covering almost every inch of surface of both wall and column, are still readily traceable.
Fig. 1. -- Gateway in an ancient Egyptian wall, illustrating the characteristic cavetto cornice.  

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8 Drawn from illustration in Price, The ABC of Architecture, p. 97.
The avoidance of projecting members, except in the cornice, was a marked characteristic of the Egyptian use of the post-and-beam principle of construction, in contrast to its use by the Greeks and Romans, who employed sculpturing in bas-relief which often extended some distance beyond the plane of the wall.  

Walls of the most ancient houses in Egypt, like the huts of today, were usually built of a light framework of poles interwoven with reeds, thus forming a wickerwork upon which mud was plastered. (When sun-dried bricks were used, this framework was, of course, unnecessary.) Poles and reeds were bound together at the top of the wall, on the outside, by a horizontal pole fastened to the frame by thongs. When the roof-poles were placed on the mud wall with its frame, the ends of the reeds projecting above the cornice pole were pressed outward, the flat roof thus projecting slightly beyond the wall at its edges. "We have here, in all probability, the origin, the first remote suggestion, of the form and the decoration of the characteristic Egyptian stone cornice."  

In addition to the famous pyramids, Egyptians who could afford them used two other distinct types of tombs: (1) the building or mausoleum erected specifically as a burying place, and (2) the cave-like tomb excavated in vertical rock walls. At Beni Hassan is a collection

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9 Charles H. Caffin, How to Study Architecture, pp. 48-49.

of thirty-nine such tombs hewn from solid rock but ornamented at the front by porch-like stone structures, composed of columns supporting gabled roofs adorned with simple stone cornices, curved slightly outward in the characteristic Egyptian manner. Resting upon the cornices in these tombs are rows of projections or "dentils" resembling the ends of beams or rafters. The columns are polygonal, with eight, sixteen, or thirty-two faces, topped invariably by stone blocks, the abacus. These columns are regarded by some authorities as the prototype of the Doric column, which came into existence in Greece hundreds of years later, and for this reason they are usually classified as "proto-Doric" in type. 11

The characteristic Egyptian cornice, which apparently had no variations, has been described as "a high cavetto or fillet above a round bead or torus, probably derived from overhanging eaves of papyrus stalks and earth in primitive huts." 12 (A cavetto is a concave moulding, which may be either plain or ornamented.)

Although most students of ancient Egyptian architecture appear to accept the theory that the characteristic concave cornice of this early civilization resulted from the outward-bent reeds in the huts of the poor, there are some, however, who are not convinced that such


was the origin of the Egyptian cornice. Statham, for instance, has written:

... The characteristic crown moulding which caps all Egyptian work, ... at Karnak as elsewhere (including the great temples and tombs at Gizeh, 3900 B.C.), has ... been imagined to have originated in the curving ends of the reeds used in early mud and reed-built huts. Of this theory it can only be said that the proof is entirely wanting, and that the Egyptian cornice moulding, with its finely designed curve (the only detail in Egyptian architecture which approaches to the refinement of Greek work), is a feature of purely architectural and masonic character, and has as little as possible the appearance of having been derived from any imitation of work in an inferior material. 13

Whatever its origin, the Egyptian cornice was certainly characteristic of the civilization in which it flourished. Universally employed in all of the large and important buildings of the kingdom, this concave cornice is one of the most pronounced features still to be seen in all of the remains of ancient palaces, temples, and tombs in Egypt. This cornice, the lotus-topped and bell-topped columns, and the all-over, inset, and colorful designs on both columns and walls remain the distinguishing characteristics of ancient Egyptian architecture.

Eastward from Egypt flourished the Babylonian empire. Although in its greatness it appears to have been contemporary with the height of Egyptian civilization, Babylon attained its peak some hundreds of years later, during the era of the major Jewish prophets, in whose

eyes the growing power of the Babylonian empire appeared as a constant and ever-threatening menace to the national independence of the Hebrew people. The writings of such prophets as Isaiah, Amos, Jeremiah, Obadiah, and Hezekiah, as found in the Bible, deal with this constant threat to national integrity. Jeremiah had the distinction of warning the people against Babylon and then of writing of what happened when the hordes of the Babylonian army swept into the country and captured most of the Jews, taking them to Babylon for a seventy-year period of slavery. Jeremiah, although he remained in Jerusalem, carried on an extensive correspondence with the captives in Babylon, and much of his book consists of his advice to these people. Daniel, on the other hand, was one of the captive young exiles, and his writings recount something of the grandeur and splendor, as well as the tyranny and oppression, which characterized the Babylonians.

Babylonian architecture, judging from its remains, was virtually devoid of art. The buildings erected by these people were masses of straight lines, and were characterized by massiveness rather than by ornamentation. The Babylonians appeared not to have much sense of beauty, or else they lacked the talent for beautifying their buildings. Babylonian architecture was a heavy and prosaic thing, condemned to mediocrity by the materials it employed. Except for stone palaces, temples, and tombs, buildings were mostly made of adobe—clay mixed
with straw. Or, bricks still soft and moist were placed one upon the 
other and allowed to dry into a solid wall cemented by the sun. In 
these ancient days, some 2,000 B.C., it was observed that bricks in 
fireplaces or in cooking corners became harder and more durable than 
those which were sun-baked; consequently, the process of hardening 
bricks in crude kilns was developed in Babylon, and brick-making be-
came an important industry. Two or three projecting ledges of bricks 
were usually placed at the tops of the walls to serve as cornices. 
Usually these were made from bricks like those which formed the 
walls, but there is some evidence that some of the buildings possessed 
more artistic cornice mouldings produced by rounding the edges of the 
bricks or by shaping them in moulds with curved sides. The cheapness 
of brick corrupted Babylonian design; buildings could be erected 
quickly, and little time was taken for decoration or ornamentation, al-
though some use was made of glazes and tilework. With bricks "it 
was easy to achieve size, difficult to compass beauty. Brick does not 
leap itself to sublimity, and sublimity is the soul of architecture."¹⁴

As in Babylon, the scarcity and high cost of building stone made 
it necessary for the Assyrians to use brick in their construction proj-
ects. These people are distinguished by the fact that they employed 
brick as a building material more extensively than any other early

race. In fact, they were the pioneer brickbuilders of the world. They used both baked and unbaked, glazed and unglazed bricks. They were handicapped by a scarcity of fuel to be used in the baking of bricks, and for this reason most of the bricks used in walls and terraces were made of bricks that were laid while still in a plastic state and baked together by the heat of the sun. Bricks that were fire-baked and glazed were reserved for special uses, such as facings and the comparatively rare ornamentation practiced by the Assyrians.  

Apparently, the Assyrians aimed not at beauty but at grandeur, and sought to attain it by means of mass design. Brick was the basic material, as in Babylon, but the Assyrians used a considerable amount of stone facing on brick substructures. They inherited the arch and the vault from the Babylonians, and experimented with columns which led the way to the caryatids (draped female figures serving as columns to support an entablature) and to the "Ionic" capitals of the Persians and the Greeks. Buildings of Assyria were much more elaborate and ornate than were the simple brick structures of the Babylonians. Roofs were reinforced with massive beams, and roofs and beams usually projected far out beyond the walls to protect from the heat. Remnants of buildings still existing indicate that elegant mouldings or cornices were often placed in the angle between roof and wall. These might be

15 Price, op. cit., p. 103.
made from stone or, more commonly, from specially moulded brickwork incorporating curves and angles in order to avoid a sharp transition from the vertical wall to the flat or gently sloping roof.\(^{16}\)

One of the greatest architectural accomplishments of the ancient world was that of Dur-Sharrukin, whose ruins in modern times are called "Sargon's castle." Erected in the eighth century B.C., by King Sargon of Assyria, the structure covered about twenty-three acres, compared with 3.5 acres for the Capitol of the United States and eight acres for the British Houses of Parliament. Raised forty-eight feet above the surrounding level countryside, the platform on which the palace stood, made of sun-dried bricks and faced with cut stone, had the immense size of nearly a million square feet. Apparently, the palace contained no cornices as such. Towers were pierced near the top with loopholes and surmounted by battlements. All walls of the immense structure seem to have been battlemented, thus producing a modified cornice of a highly functional nature—that of warlike defense. Thus the palace was the stronghold of a militant chieftain as well as of a king. Around the entire structure appears to have been a great battlemented wall, devoid of windows, and pierced only occasionally with loopholes. Sargon's castle is one of the earliest buildings known to history in which the cornice was modified upward into

\(^{16}\)Durant, Our Oriental Heritage, p. 280.
battlements. Records reveal many walled cities of the ancient world thus protected with battlemented or loopholed walls, but the castle of King Sargon of Assyria was possibly the first building to be given this means of defense. It was by no means the last, however, as most of the medieval manor houses, together with the palaces and castles of the same period, were surmounted by battlements. Many such structures still exist today and are among the notable landmarks of Europe. 17

The Jewish people were not accomplished builders; they excelled in the pastoral occupations and in the search for truth. Their architectural attainments were solid, square-cornered edifices, resembling Babylonian and Assyrian structures, but made, in the main, of large stone blocks instead of bricks or adobe. The magnificent temple built by King Solomon for the worship of Jehovah, and the palace of King Herod, constructed probably during the lifetime of Christ, were the outstanding architectural achievements of the Jews, so far as records indicate; and the palace of King Herod was perhaps more characteristically Roman than Jewish. Jewish buildings usually had outcropping ledges of stone at or near the tops of the walls, which were the nearest approaches to cornices that the Jews attained. 18 I Kings, vi-vii, and II Chronicles, ii-iv, describe the construction of the temple erected

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17 Caffin, op. cit., pp. 67-68.

by King Solomon and mention many details to indicate its elaborateness and magnificence.

The builders of ancient Persia, like those of Babylon and Assyria, used both crude and baked bricks as building materials, the latter to a far greater extent than was possible in Assyria, because of the greater abundance of fuel in Persia. Walls were usually made of crude brick faced with baked brick enamelled in brilliant colors, or both moulded and enamelled to form colored pictures in relief, after the Babylonian plan. Stone was employed as an outer surfacing for walls, and it was the material from which columns were made. Also, jambs and lintels of doors and windows were often cut directly from stone. Architraves (the horizontal members resting upon the tops of columns) and ceiling beams were usually made of wood, and the small, inconspicuous, curved or flaring cornices might be either of wood or of specially moulded brickwork. 19

The mountains of Persia still abound with the remains of tombs of the kings who reigned many centuries ago. That of Darius, one of the greatest of Persian rulers, and who figured prominently in the Babylonian captivity of the Jews (Daniel, v-vi) after the Persians overran Babylon and took charge of the country, together with the thousands of Jewish captives, was typical and is today one of the best preserved

of these ancient tombs. Cut deep into the rock face of the mountain, it has an entrance carved to resemble a palace facade, with four slender columns flanking a modest portal. Over the door and resting upon the columns are the architrave and the pediment, supporting a stone inclined roof jutting out from the mountainside. An outcropping stone cornice extends horizontally across the entire width of the entablature, and also follows both sides of the roof to its central peak, as was later to be the plan in many of the Greek temples. 20

Persian cornices were very much like those of Egypt in character. They were cut in cavetto (concave) form, with graceful, curved moldings. The same type of cornice usually appeared over doors and windows, according to the evidence of archeological remains. 21

The so-called "Great Hall" of Xerxes I, part of the vast royal palaces of ancient Persia, was the masterpiece of Persian architecture, in so far as excavations have indicated. It covered more than 100,000 square feet of floor area. Still to be seen among the excavated ruins are by far the finest bas-reliefs yet discovered in Persia, and among the finest unearthed anywhere in the world.

. . . Thirteen of the once seventy-two columns of Xerxes' palace stand among the ruins, like palm-trees in some desolate oasis; and these marble columns, though mutilated, are among the nearly perfect works of man. They are


21 Hamlin, op. cit., p. 37.
slenderer than any columns of Egypt or Greece, and rise to the unusual height of sixty-four feet. Their shafts are fluted with forty-eight small grooves; their bases resemble bells overlaid with inverted leaves; their capitals for the most part take the form of floral—almost "Ionic"—volute, surmounted by the forequarters of two bulls or unicorns upon whose necks, joined back to back, rested the crossbeam or architrave. This was surely of wood, for such fragile columns, so wide apart, could hardly have supported a stone entablature. The door-jambs and window-frames were of ornamental black stone that shone like ebony; the walls were of brick, but they were covered with enameled tiles painted in brilliant panels of animals and flowers; the columns, pilasters and steps were of fine white limestone or hard blue marble. Behind, or east of, this Chehli Minar (Great Hall) rose the "Hall of a Hundred Columns"; nothing remains of it but one pillar and the outlines of a general plan. Possibly these palaces were the most beautiful ever erected in the ancient or modern world.  

Crumbling remains of these Persian palaces indicate that the cornices must have been sufficiently elaborate to conform to the grand scheme of the structures as a whole. Roofs evidently were flat or terraced, but fragments of both stone and brick mouldings which may have served as cornices have been found. Most of these mouldings are of sizeable proportions, and those of stone are usually carved into elaborate curves and angles, embellished with an abundance of geometrical, astrological, floral, and plant-and-animal designs. The brick mouldings are plain with the exception of concave or convex surfaces which apparently were built into the mould.

In the India of ancient days men did not bother to build magnificently for themselves, but dedicated their wealth and their art to their

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temples and gods. Today, of the many buildings erected by the kings, the princes, and their people, nothing remains but the temples. They are edifices of supreme beauty and magnificence. Symmetrical in design and elaborate in execution, they are gigantic masses of stone carved with the delicacy of lace. Most of the Indian temples have tall towers as their dominant feature. These towers rise, tier upon tier, each higher level being smaller than the one immediately below, and separated from it by wide, extended eaves, usually curving slightly upward at the outer edges like those of Chinese and Japanese pagodas. The eaves themselves are ornately carved, as are the mouldings (cornices) beneath them. Many temples of later date, especially those erected under Byzantine influence, omit the extended eaves and permit the towers to soar upward in dome-like symmetry—seldom round, however, but many-sided, with ledges of projecting stone or with rows of columns at the different levels. A typical example of Indian temple architecture is the Angkor Wat, shown in Figure 2 on the following page. Beneath the towers, wide cornices made up of several projecting ledges of stone are in evidence, and smaller cornices appear at different levels up the height of the towers.

For the most part, Indian temples were constructed of white marble, and must have been dazzlingly brilliant in the sunlight before the

\[\text{Ibid., pp. 598-606.}\]
Fig. 2. — The famous Angkor Wat in India, illustrating typical Indian temple architecture and emphasizing the many cornice ledges at various levels of the building and of the dome-like towers.  

24 Reproduced from photograph in Durant, Our Oriental Heritage, p. 606.
passing centuries turned the stone black or greenish-blue. Most of
the temples, on the exterior, are a maze of irregular pillars or columns,
joined with fanciful brackets to a more simple carved entablature.
Towering above the main roof is usually to be seen one or more marble
domes whose many niches are filled with an abundance of statuary
set up in stone lacework of almost unbelievable magnificence, although
much of it now is broken. 25

Later edifices largely reflect the influence of Moslem culture in
India, for most of the structures erected during the past fifteen cen-
turies have a distinctly Mohammedan tone. Notable among such edi-
fices is the famous Taj Mahal, often declared to be the world’s most
beautiful building. Built at the immense cost of $230,000,000, it re-
quired 22,000 workmen twenty-two years to complete. Its bulb-shaped,
round domes, capped by spires; its tall, wide archways, not quite
oval but coming to an almost imperceptible point at the top; its flat-
roofed expanse crowned by domes, spires, and minarets; and its elab-
orate carving and mosaic work—all are Moslem. In this and in other
Moslem buildings in India and throughout the Mohammedan world, the
main structure has no actual cornice—only a small projecting stone
ledge immediately below an elaborately carved marble banister at the
top of the wall. At the base of the main dome, projecting beaded stonew-
work and richly sculptured geometrical designs form a pseudo-cornice.

25 Ibid., p. 598.
Beneath the smaller domes, however, which rest upon octagonal colonnades, wide-extended stone eaves and cornices, elaborately carved and embellished, give the domes a bell-like effect (see Figure 3 on the following page). This same fundamental design, with minor variations, is repeated thousands of times in the Moslem world, but the **Taj Mahal** is one of the most magnificent of its manifestations.

In China, the master-builders who labored in past centuries have hardly left a name behind them, and apparently they enjoyed less prestige in their own day than was accorded to the great potters. Large structures have been rare in China, even those honoring the gods; old buildings are seldom found, and only a few pagodas date beyond the sixteenth century A. D. In 1103 A. D., Sung architects prepared eight handsomely illustrated volumes on *The Method of Architecture*; but the masterpieces depicted therein were all of wood, and not a fragment of them survives. Drawings on exhibit in the National Library in Paris, supposedly representing dwellings and temples of Confucius' time, indicate that, through its long history of over twenty-three centuries, Chinese architecture has been content with the same designs, and with the same modest proportions.

Through the centuries, Chinese architecture has suffered from the absence of three institutions present in almost every other great

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Fig. 3. --- The Taj Mahal, showing Moslem influences upon Indian architecture, including cornice designs. 27

27 Reproduced from a photograph in Durant, Our Oriental Heritage, p. 610.
nation of antiquity: an hereditary aristocracy, a powerful priesthood, and a strong and wealthy central government. In other countries, these have been the sources which in the past have paid for the larger works of art—temples, palaces, operas, great frescoes, and sculptured tombs. 28

The roof is the major part of the Chinese temple or home—that is, of the homes of the middle-class and wealthy people. The poor are likely to have only straw roofs on their huts. Chinese roofs make pretty pictures in their natural settings, and even in the turbulence of crowded city streets. Only residences of members of the royal family or of the highest nobility may have yellow-tiled roofs, as yellow was the official color of the Chinese ruling dynasty for centuries. Roofs on other buildings may be made of glazed green, purple, red, or blue tiles. Possibly the projecting bamboos of ancient tent-tops gave the Far-Eastern roof its graceful upward curve at the eaves; but more probably this celebrated form, so characteristic of Chinese and Japanese architecture and, to some extent, of Indian, resulted from the builders' desire to protect their structures from the heavy rains that are commonplace in those countries.

The massive overhanging roofs require sturdy support. Cornices, projecting several feet beyond the walls, were carved in graceful

28 Ibid., pp. 740-741.
curves to give shape to the upward turn of the roof at its edges. Stone rafters were made part of the cornice, and were ornately executed to please the eye. With the possible exception of the cornices of the Italian Renaissance period, those of old Chinese buildings are the largest cornices in the world, and many of them perhaps are the most elaborate. Particularly on temples, usually approached by means of a long steep stairway of stone, the cornices often bear carvings and sculpturings to represent the main events of human life; and often the god which is worshipped in the temple is made the subject of the cornice artwork. The wide projecting stone rafters hold an almost continuous succession of pictorial representations to prepare the pilgrim for worship as he climbs the stairway and peers upward to the underside of the massive overhanging roof.29 (See Figure 4a on the following page.)

The Chinese royal palaces now in existence were built by the royal family from six to eight hundred years ago. There are innumerable palaces and royal residences, but they hardly vary from one another, as though they all had been designed thoughtfully and painstakingly by the same architect who was unable to change his fundamental conception of what a palace should be. All of the Chinese palaces possess the same slender columns, the same pretty lattices, the same

29 Ibid., pp. 743, 766.
Fig. 4a. --- Typical Chinese architecture: the "Temple of Heaven" at Peking, showing massive roof and cornice structure. 30

30 Reproduced from photograph in Durant, Our Oriental Heritage, p. 786.
carved or lettered cornices, the same profusion of brilliant colors, and the same upward-curving eaves of the same massively tiled roofs (see Figure 4b on the following page).

For a time the Buddhist faith captured the Chinese soul, and sufficient of China's income to build the great temples whose ruins have been so lately discovered in Turkestan. Buddhist temples of a certain middling majesty survive throughout China, but they suffer severely when compared with the religious architecture of India.

More characteristic of the Far East are the pagodas that dominate the landscape of almost every Chinese town. Like the Buddhism that inspired them, these graceful edifices took over some of the superstitions of popular Taoism, and became centers not only of religious ceremony, but of geomantic divination—i.e., the discovery of the future by the study of lines and clefts in the earth. Communities erected pagodas in the belief that such structures could ward off wind and flood, propitiate evil spirits, and attract prosperity. Usually they took the form of octagonal brick towers rising on a stone foundation to five, seven, nine or thirteen stories, because even numbers were unlucky.

These pagodas have the same wide-extended eaves and the upward-curving roofs that characterize the more formal temples. Also, their cornices are just as elaborate, and curve upward much like the ribs of an inverted umbrella; for the stone rafters and the cornice proper are considered as a unit and are architecturally inseparable. Many of the pagodas are hung with numerous small bells, suspended from the outer extremity of the cornice. These bells, tinkling in the breeze, are thought to serve a double purpose: they frighten evil spirits away, and

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31 Ibid., p. 742. 32 Ibid., pp. 741-742.
Fig. 4b. --- Typical Chinese architecture: the approach to the main entrance of the magnificent "Summer Palace" of the royal family, near Peking, showing eave and cornice structure. 33

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33 Reproduced from photograph in Durant, Our Oriental Heritage, p. 766.
they remind the faithful of the presence of their god within the sanctuary of the pagoda. 34

Much of the Japanese architecture surviving from the past is somewhat older than the oldest extant structures in China. However, the styles and designs are very similar, and one can hardly distinguish Japanese architecture from that of China.

In 594 A.D., when the Empress Suiko ordered the building of Buddhist temples throughout her realm, she had to import from Korea and China priests, architects, wood-carvers, bronze founders, clay modelers, masons, gilders, tile-makers, weavers, and other skilled artisans, for the Japanese were not great builders and there were not enough skilled artisans in the kingdom to fill the land with temples, according to the Empress' decree. This importation of builders probably accounts, in large measure, for the similarity which Japanese architecture possesses in relation to that of China. From that date, Buddhist shrines and statuary filled the land. Although similar to those of China, the Japanese temples tended to be more richly ornamented and delicately carved, and roofs and cornices tended to project even farther beyond the walls and to have a more pronounced upward tilt at the eaves than did those of China 35 (note Figure 5 on the following page).

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34 Price, op. cit., p. 109.

Fig. 5. — Japanese shrine and pagoda, illustrating typical roof and cornice structure found in most of the older buildings of Japan.  

Today the Orient is a strange blend of the past and the present, architecturally speaking. In many of the larger cities the buildings have the appearance of Western structures, and for block after block in the more modern sections of the cities one might think that he was in New York, Chicago, San Francisco, or London. However, there are vast areas of the Oriental cities in which modern design has not yet penetrated, and there are other evidences of modern structures rising adjacent to centuries-old buildings that are so vastly different in appearance that they might have dropped from a distant planet. The old buildings are far more picturesque, in the main, than are the new; but the modern structures are more practical and functional.

Cornices on the old buildings tend to be elaborate, ornate, and highly carved and embellished; whereas the new structures are devoid of the cornice altogether or, perhaps, have simple, plain stone mouldings. In the great temples and palaces of India, China, and Japan, the cornice has the practical function of supporting the massive, weighty stone-and-tile roofs; but in addition to its functional purpose, it is also a thing of beauty and grandeur.

In the succeeding chapter a study will be made of the cornice in the civilizations of Greece and Rome.
CHAPTER III

THE CORNICE AS DEVELOPED BY THE
GREEKS AND ROMANS

Like that of Egypt, Greek architecture was a stone architecture, but the stone employed was marble, which was plentiful in Greece. Marble could be worked with greater refinement and elaborateness of detail than was possible with the limestone of the Egyptians.\(^1\)

The characteristics of the Greek people were reflected in the nature of the building which they accomplished, and in the type of civilization which they developed. Though they flourished far back in the days of antiquity, they developed one of the highest-ranking cultures recorded in history.

The Greeks were lovers of art, literature, philosophy, music and the drama; beauty and physical perfection were their ideals and much of their character is reflected in their great national athletic games and contests, and in the pageantry of their religious festivals.

In the year 650 B. C., five hundred years after the fall of Troy, the civilization that has been called "Hellenic" . . . was beginning to express the Classic Ideal in architecture and sculpture. This Classic Ideal, which has reappeared several times in the history of architecture and still exists, was simply the ideal of purity and refinement, of beautiful proportions and of freedom from the profusion that characterized the art of Egypt and Assyria. And it is

\(^1\) Price, op. cit., p. 111.
because the Greeks expressed the Classic Ideal that Greek architecture has always been given such an important place in all studies of art, and especially in all architectural training. 2

Among the Greek artisans, their elaborate system of temples and public buildings received rich decorations of color. The precise shades and tones employed by artists in those long-past days cannot be determined with certainty, but it is thought that triglyphs were painted blue and metopes red, and that all moldings were decorated with leaf ornaments, "eggs-and-darts," and fretwork in red, green, blue, and gold. Whether the walls and the columns were also colored cannot now be determined. 3

Perhaps the outstanding feature of Grecian architecture was the colonnade, which was made up essentially of four distinct parts:

(1) the column or pillar; (2) the architrave, laid horizontally from column to column and carrying the weight of the superstructure;

(3) a section of wall above the architrave, usually utilized for decorative treatment, and called the frieze in Ionic and Corinthian styles;

and (4) the cornice, which at the sides represented the overhanging brow of the roof, but which was also carried around the ends of the building, primarily for artistic reasons. At the same time, the cornice often became "raking" in character by its continuation with the slanting roof at the ends of buildings.

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2Ibid., p. 112. 3Hamlin, op. cit., p. 49.
Combined as one unit, the architrave, the frieze, and the cornice were called the entablature. The roof was invariably sloping, with low pitch and a central ridge extending for its entire length, like a backbone. Thus the sloping lines of the roof showed at each end of the building, usually with a cornice of their own rising from the horizontal cornice and thus forming the bounds of the "pediment," the triangular area between the architrave and the roof.

The following description of the Greek entablature is worthy of quotation at this point, as it is both definitive and concise:

The entablature is divided into three parts: architrave, frieze, and cornice. The architrave is the lowest member, being the actual lintel which spans from column to column. It is separated from the frieze above it by a plain, square moulding. The frieze is a broad, flat surface, which on the Doric order is decorated with triglyphs and metopes. The triglyph (meaning three-groove) is a projecting surface divided by two grooves and edged by two half-grooves. They occur over each column and centered between each two columns. The square spaces between the triglyphs are the metopes, and they are usually decorated with sculpture in high relief.

The cornice is the overhanging member of the entablature, protecting the face of the building from the drip of rain and casting a deep shadow. Its soffit, or under side, slopes upward slightly toward the building, and over each triglyph and metope is a block which has the appearance of a shallow bracket, called a mutule. The short vertical face of the projecting part of the cornice is called the corona. It is topped by a tiny moulding, and above it rises the cymatium, the uppermost member of the cornice. The contour of the cymatium is sometimes a cove, which has a hollow, rounded shape, and sometimes a full curve like the echinas; it is usually decorated.

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4 Statham, op. cit., pp. 81-82.
with a conventionalized honeysuckle motive. The cymatium is really the gutter, for the back of it is hollowed out to catch the rainwater, and frequent holes, decorated with lion's heads, let the water out.  

Pediments, and especially cornices, of the Greek structures were survivals, now sculptured in stone, of the wooden projections of timber roofs of the crude wooden temples of the earliest days of Grecian civilization. The grand sculptured stone cornices of the Greeks' greatest buildings had originally been, in their first conceptions, the timber edges and projections of an overhanging roof that was intended to convey rain-water from the roof to a point at which it might fall to the ground entirely free of the walls of the building.

A few definitions of the cornice may serve here to clarify its function and purpose, especially in the Classic age (the period of Grecian and Roman civilization). One source describes the cornice as a projecting horizontal feature at the top of a wall which serves to extend the roof so that water will drip away from the building. A somewhat different conception is the following:

The cornice of an entablature or of a wall is essentially an overhanging block or coping, the purpose of the cornice being not only to give a sense of finish and termination to the wall, or to the order, but to protect it from the weather.

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8 Warren, op. cit., p. 170.
Still another definition explains the cornice as the decorated portion at the top of a wall which is provided to throw off rain from the face of the wall or to ornament and finish the eaves. The term also applies to any projecting element which crowns an architectural feature. Specifically, also, the cornice is the top member of the entablature of a Classic order of architecture. In Classic architecture, the cornice is the crowning or uppermost member of an entablature; in general, it can be said to be the crowning feature of any wall construction, or of doors and windows.

The cornice, early in its existence, lost its structural significance and became a stylized decorative element. In the Greek and Roman eras it assumed almost inflexible standardized forms in the Classic orders which were retained, with modifications, through the period of the Renaissance and even into modern times. The Classic cornice was usually made of stone, with decorative tile forming the gutter as the uppermost portion of the cornice.

The essential feature of all cornices of the Classic type was the corona, the broadly projecting square-edged member which cast a

10 Caffin, op. cit., p. 483.
wide shadow, thus fulfilling one of the most important decorative functions of a cornice. A group of mouldings, known as the bed-mould, supported this overhanging cornice-shelf, which was usually surmounted by a cymatium, or a crown moulding, which ordinarily formed the front of the gutter or the eaves trough. 13

The term "order" has already been mentioned, but without definition. This term, "order," is applied only to Classic architecture; that is, to Greek and Roman. An "order" includes the base, the shaft, and the capital or head of columns, combined with the entablature, or that which rests upon the columns. The entablature—let it be repeated for emphasis—was further divided into three distinct parts: (1) the architrave, resting directly upon the columns; (2) the frieze, directly above the architrave; and (3) the cornice, forming the uppermost part. 14

The Greeks possessed great originality, but cared little for novelty. They were familiar with the arch, but we know of only one instance where they used it. They chose to develop the post and lintel system to the highest possible degree toward perfection. They devised three types of columns, and spent generations improving and refining them rather than inventing new ones. A column together with its entablature, which is the beam and other horizontal members resting upon it, is called an order. There are three Greek orders: the Doric, the Ionic, and the Corinthian. The design of each order became more or less standardized, and their use has continued on and off through the centuries until the present day. 15

The Doric was the most essentially Greek of all the orders in architecture. It never existed except on Greek soil or in areas conquered or colonized by the Greeks. "In its finest and culminating example, the Parthenon at Athens, it is the most abstract and intellectual example of the symbolism of architectural design which has ever been erected by man."\(^{16}\) It was called "Doric" for the Dorians, a strong tribe of warriors and pastoral people who overran most of southern Greece about a thousand years B.C. These people were not primarily builders, but somehow they gave their name to one of the most characteristic features of Grecian architecture.

The Doric order was the plainest of all the orders, and the only one without a base for the column. The capital or head of the column was made up of a flat, bowl-shaped member on top of the shaft, and above this a square, flat block—the abacus—on which rested the architrave. Although the architrave itself was perfectly plain, the frieze above it was divided into squares—metopes—by means of grooved blocks called triglyphs. The metopes, as in the Parthenon, were often sculptured or otherwise decorated, though they were quite often left plain. Here and in the pediment, and occasionally on the frieze, the Greeks did all of their sculpturing and bas-relief; they never covered walls and columns with designs, as did the Egyptians.

\(^{16}\)Statham, op. cit., p. 82.
The Doric cornice (Figure 6 on the following page) was a plain overhanging block of stone, with a stone gutter above it, surmounted by the roof, which rose at a slight incline. The roof was constructed of timber, overlaid with thin slabs of marble, often so transparent that the interior of buildings was adequately illuminated in spite of the fact that windows and artificial lighting were seldom present. The Doric cornice was split to run upward along the roof line at the ends of buildings, as well as to continue its horizontal course on all four sides of the building. Thus the great pediment of the Doric order was an elongated triangle bordered on all sides by the cornice, which was a plain overhanging block of stone, but which might be decorated more or less elaborately.

It is generally believed among students of the subject that the Doric frieze and cornice, in all their details, were derived from primitive wood construction in the prehistoric days of Greek civilization. The triglyph, for instance, suggested the grooved ends of cross-beams; the mutules, the sheathing of eaves; and the guttae (decorated surface of the gutter), the heads of spikes or trenails by which the sheathing was fastened in position. In the earlier stone temples, the metopes were left open, like spaces between the ends of ceiling-rafters.

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17 Price, op. cit., pp. 116-117.  
18 Ibid., p. 76.  
19 Hamlin, op. cit., p. 50.
Fig. 6. --- Cornice, entablature, and capital of the Doric order.  

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\[20\text{Drawn from illustrations in Statham, op. cit., p. 80, and Watterson, op. cit., p. 27.}\]
Doric cornices along the horizontal edge of the roof had ornaments of terra-cotta or marble, placed opposite the foot of each tile-ridge in the roof. 21 As protection from the drip of the roof, the cornice projected to a distance, usually about one third of the diameter of the columns. The "raking cornice" was carried up the two sloping edges of the roof, here being distinguished by an additional feature, the cymatium, or gutter. The triangle or gable thus formed by the three cornices—the horizontal cornice and the cornices along the roof's sloping edges—was called the pediment. 22

Until after the fourth century B. C. the sloping or raking cornice of the Doric order above the gable-end or pediment usually differed in height and mouldings from the horizontal cornice. In the Ionic cornice, dentils (elongated, oval-topped depressions cut into the stone, resembling teeth) were not placed under the raking cornice until about the end of the third century B. C., but the Ionic raking cornice was usually identical in form with the horizontal cornice. In the fourth century B. C., however, elaborate series of mouldings often appeared under the raking cornice, resembling those between the architrave and the horizontal cornice, except for the absence of dentils. In both Doric and Ionic, the raking cornice was almost always crowned by a continuous gutter, in early times made of terra-cotta, later usually of marble.

21 Ibid., p. 49. 22 Caffin, op. cit., p. 127.
Under the pediment the horizontal cornice needed no gutter, but along the sides of the building it often had one. The gutter was always pierced with holes to let out rain-water. These holes were not mere perforations, but were usually the mouths of carved lions' heads; but other forms occurred, also, including rams' heads and plain tubular spouts. These openings were ordinarily placed at frequent intervals along the length of the building, but in the earliest Doric temples there was only one lion-head spout at each corner. Obviously, such a small number of openings would not be sufficient to carry off large quantities of water that might fall upon the roof; hence, more such openings were added as the Greeks recognized the need for them.  

The entablature of the Ionic order (Figure 7 on the following page) differed from that of the Doric in that the architrave was split into three horizontal divisions, each projecting slightly above the other. The frieze was plain without the Doric triglyphs and metopes, but it sometimes was decorated with a continuous band of sculpture. The Ionic cornice was composed of a variety of typical Greek mouldings, usually decorated with characteristic ornamentation, including dentils, floral patterns, and fretwork.  

Evidently, the Ionic architrave might have two horizontal divisions instead of the usual three referred to above, for one authority states

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23 D. S. Robertson, A Handbook of Greek and Roman Architecture, pp. 48-49.

24 Price, op. cit., p. 121.
Fig. 7. — Cornice, entablature, and capital of the Ionic order. 25

25 Reproduced from a drawing in Statham, op. cit., p. 80.
that the architrave consisted of either two or three flat bands crowned by fine mouldings; a continuous frieze often sculptured in relief, but sometimes omitted entirely; and a simple cornice of great beauty. In addition to ordinary bed mouldings, there was often a row of narrow blocks or "dentils" under the corona, which was itself crowned by a high cymatium of extremely graceful profile, carved with a rich "honeysuckle" ornament. All Ionic mouldings, it seems, were carved with "eggs-and-darts," heart-leaf, or "honeysuckle" ornamentation. Details of the Ionic order were much more flexible and variable than was true of the Doric. The Ionic pediment was rarely adorned with sculpturing or bas-relief, but instead it was usually plain, or it might have fretwork or floral designs in simple arrangement. 26

In reality, the Corinthian was a late outgrowth of the Ionic rather than a new order. 27 Especially was the Corinthian cornice a thing of beauty and art, as it employed extensive use of dentils and modillions (Figure 8 on the following page). 28 The Corinthian cornice was enriched with carved ornamentation, the most characteristic of which were modillions, or brackets, which appeared to support the cornice and the roof, thus resembling the exposed ends of rafters. 29

26 Hamlin, op. cit., p. 52.
27 Ibid., p. 53.
28 Price, op. cit., p. 76.
29 Caffin, op. cit., p. 165.
Fig. 3. — Cornice, entablature, and capital of the Corinthian order.

The Corinthian order was very elaborate and highly ornamental, both as to capital and entablature, including the cornice. Highly ornamented with continuous leaf, floral, or geometrical designs, the architrave consisted of several bands of stone and three or four elaborately carved mouldings, each projecting slightly above the other. Although the frieze was plain, the cornice was most artistic. Its lower extremity was composed of a row of dentils, closely spaced, topped by a magnificent projecting moulding. Then, above this, were artistically executed and gracefully curved modillions at regular intervals, to represent the protruding ends of rafters. Above these were ornamental stone mouldings, with modified dentils and sculptured designs, usually in circular or oblong pattern, topped by an uppermost flaring moulding which was, in reality, the gutter, containing water spouts, usually lions' heads, spaced at regular intervals.  

The Corinthian entablature is a model of skilful and adequate proportions and aptly applied decoration. The architrave and frieze remained as in the Ionic form, but the cornice, the last, or "finishing" member of the building, was elaborated to form a crown, and logically terminate the entire composition. It was required to effect "interest" in diversified shadows, so the "dentil" course was made a part of the Corinthian cornice, and the various mouldings were decorated. Greater projection was required, in order to cast a strong shadow at the top of the building, but it was evident that a plain "overhang" of stone, far beyond the face of the frieze, would seem as though likely to topple down, no matter how securely it might actually be anchored into the masonry of the building.

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entablature. To correct this illusion, the "modillions" were introduced—light, graceful brackets, spaced at intervals, and seeming to take care of the overhang of the uppermost portion of the cornice. An additional ingenious expedient was the treatment of the underside of the overhang, in the spaces between the modillions, with sunken panels, or "coffers," the intention being to cause the projecting slabs both to be and seem lighter. 32

No evidence has yet been discovered that the Greeks used mortar of any type in their greatest architectural attainments. The great blocks of marble were so accurately squared and so finely finished that each stone grasped the next as if the two were one. Sections or drums of the great columns were bored in the center to permit a small cylinder of olivewood to connect them throughout the entire length of the column. Thus each drum could be rotated round and round upon the one below it until the meeting surfaces were ground so smooth that the divisions between the drums were almost invisible. The stone blocks of the horizontal members, such as the architrave, the frieze, and the cornice, were notched or dovetailed on their ends and sides to enable them to fit snugly without mortar. 33

In so far as is known, the Parthenon at Athens was the crowning achievement of Greek architecture. Certainly, it is still the world's outstanding example of the Doric order. Perhaps many other temples, palaces, and public buildings, erected in the Corinthian style, were more elaborate and artistic, as indicated by remains still in existence.

32 Ibid., pp. 76-77. 33 Warren, op. cit., p. 331.
But the fame of the Parthenon lies in the sheer simplicity of its beauty and grandeur. Figure 9 on the following page illustrates the world's only full-scale restoration of the Parthenon, erected years ago in Centennial Park, Nashville, Tennessee. Skilled architects and artists made careful study of the remains of the original structure in Athens, and supervised the construction of its replica in the United States. Even the sculpturings and bas-reliefs on the pediments and on the frieze have been reconstructed exactly as they appeared on the original, in so far as remains and contemporary literature gave information concerning the great temple in Athens.

Above the plain architrave of the Parthenon ran alternating series of triglyphs and metopes. The ninety-two metopes around the building contained high reliefs recounting the struggle of "civilization" against "savagery" in the wars of the Greeks and the Trojans, the Greeks and the Amazons, the Lapiths and the centaurs, the giants and the gods. Clearly, these slabs were the work of many hands and the products of unequal skills, as evidenced even in the fragments that still survive. Some of the work is like that of Da Vinci and Rembrandt, executed in stone; whereas much of it is much less well done. 34

The mouldings are among the most remarkable details of the Parthenon. Their profiles . . . are nearly all compound or conic-section curves, the only exception being the

Fig. 9. — Illuminated night view of the Parthenon in Nashville, Tennessee—the world’s only full-scale replica of the original building in Athens. 35

35 Reproduced from photograph in Benjamin Franklin Wilson, III, *The Parthenon at Athens, Greece, and at Nashville, Tennessee*, unpaged.
upper member of the raking cornice of the pediment, which . . . is a segment of a circle. Several of the mouldings show thin edges and small curves and hollows such as could only be adequately executed in fine marble. This refined character of the sections of mouldings is of the greatest importance, for there is no incident in a building which more emphatically proclaims rudeness or refinement in architectural taste than the sections of the mouldings. No barbarous people ever made good mouldings; and to this day coarsely profiled and commonplace mouldings are the mark of bad architecture. 36

In the gable pediments of the Parthenon were groups of statuary carved in the round and in heroic size. In the east pediment, over the main entrance, the brilliant sculpturing depicts the birth of Athena from the head of Zeus. To one side is a powerful recumbent Theseus, a giant capable of philosophical meditation and civilized repose. Also, there is a fine figure of Iris, the female Hermes; of majestic Hebe, the goddess of youth; and of the three "Fates" of the Greeks. In the left corner four horses' heads—"eyes flashing, nostrils snorting, mouths foaming with speed—announced the rising of the sun, while in the right corner the moon drove her chariot to her setting; these eight are the finest horses in sculptural history." 37 Figure 10 on the following page illustrates the east pediment of the Parthenon as reconstructed for the replica in Nashville.

In the west pediment Athena enters into a contest with Poseidon for the lordship of Attica. Here there are more horses, and reclining human

36 Statham, op. cit., pp. 88-89.

Fig. 10. — East pediment and architrave of the Parthenon as reconstructed for the replica in Nashville, Tennessee. \[^{38}\]

\[^{38}\] Reproduced from photograph in Wilson, op. cit., unpaged.
figures, whose identity can only be guessed at. "Perhaps the male figures are too muscular, and the female too spacious; but seldom has statuary been grouped so naturally, or so skilfully adjusted to the narrowing spaces of a pediment. 'All other statues,' said Canova, with some hyperbole, 'are of stone; these are of flesh and blood.'" 39 The west pediment, as reconstructed in Nashville, is illustrated in Figure 11 on the following page.

The cornices were decorated with careful detail, surmounted with terra-cotta gutters, and equipped with stone representations of various animals' heads for the purpose of carrying off the rainwater. Many parts of the temple were painted, not in subdued or modest colors but in bright tints of yellow, blue, and red, which may be seen, perhaps, in authentic detail in the reconstructed Parthenon in Nashville. The marble was washed with a stain of saffron and milk; the triglyphs and parts of the moulding were blue; the frieze had a blue background, the metopes a red; and every figure in them was colored. 40

More attractive, however, than the pediments or cornices or very brilliant colors of the Parthenon,

. . . are the men and women of the frieze. For 525 feet along the top of the outer wall of the cella, within the portico, ran this most famous of all reliefs. Here, presumably, the youths and maids of Attica are bearing homage and gifts to Athena on the festival day of the Panathenaic games. One part of the procession moves along the west and north sides,

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39 Ibid.
Fig. 11. — West pediment and architrave of the Parthenon as reconstructed for the replica in Nashville, Tennessee. 41

41 Reproduced from photograph in Wilson, op. cit., unpaged.
another along the south side, to meet on the east front before
the goddess, who proudly offers to Zeus and other Olympians
the hospitality of her city and a share of her spoils. Handsome
knights move in graceful dignity on still handsomer steeds;
chariots support dignitaries; while simple folk are happy to
join in on foot; pretty girls and quiet old men carry olive
branches and trays of cakes; attendants bear on their
shoulders jugs of sacred wine; stately women convey to the
goddess the peplos that they have woven and embroidered for
her in long anticipation of this holy day; sacrificial victims
move with bovine patience or angry prescience of their fate;
maidens of high degree bring utensils of ritual and sacrifice;
and musicians play on their flutes deathless ditties of no tone.
Seldom have animals or men been honored with such painstak-
ing art. With but two and a quarter inches of relief the sculp-
tors were able, by shading and modeling, to achieve such an
illusion of depth that one horse or horseman seems to be be-
yond another, though the nearest is not raised any farther
from the background than the rest. Perhaps it was a mistake
to place this extraordinary relief so high that men could not
comfortably contemplate it, or exhaust its excellence. . . . 42

From many points of view the two greatest civilizations of the
ancient world, perhaps of all time, were those of Greece and Rome.

But Greece was the originator; Rome, the borrower. Much of the
glory that had blessed Grecian civilization passed into the heritage
of Rome when Greece was subdued by the military flourishes of the
Roman armies. Most of the great thinkers, philosophers, and artisans
of Greece went to Rome, either through choice or through force; conse-
quently, Grecian culture was transplanted almost bodily into the heart
of the Roman Empire. Rome accepted it and revelled in it, and did
little to improve upon it. This was true of architecture as well as of

42Durant, The Life of Greece, p. 334, citing E. A. Gardner,
Ancient Athens, p. 338; and E. A. Gardner, Handbook of Greek
Sculpture, p. 324.
other phases of Greek culture. This is why the remains of the great buildings of these two civilizations look so much alike: they were alike. Fundamentally, the architecture of Rome was the architecture of Greece, transplanted, at first with little alteration, into the Roman way of life. The Romans were not builders, but they learned much from the Greeks, and eventually made some contributions of their own to the history of architecture; namely, the arch and the dome.

Artistically, though, Rome was swallowed up in the Hellenistic world. 43 The history of Roman architecture is the story of a conflict between the architrave and the arch. 44 At first the architrave of the Greeks was accepted and incorporated universally in Roman buildings, but at the same time the conception of the arch was taking shape in the minds of some architectural revolutionists. When, eventually, the arch appeared and came into general use, the Romans cut the apron strings that had bound them tightly to the Classic structures of Greece.

It must be recognized, however, that

A special misfortuneclouds Roman art: we come to it from Greek art, which seems at first its model and master. As the art of India disturbs us by strange shapes, so that of Rome chills us by the monotonous repetition of familiar forms. We have seen long since these Doric, Ionic, Corinthian columns and capitals, these smooth idealized reliefs, these busts of poets, rulers, and gods; even the astonishing frescoes of Pompeii, we are told, were copies of Greek

44 Ibid.
originals; only the "Composite" order is indigenously Roman, and it offends our notions of classic unity, simplicity, and restraint. 45

Although to the casual observer it may seem that the "orders" of Roman architecture are identical with those of the Greeks, the Romans did not copy the three original Greek orders exactly as they found them, but made many minor changes in proportions, and treated both column and entablature with far more ornateness than characterized the architecture of Greece. As already implied, the most significant development of the Romans in the field of architecture was that of the arch placed between two columns, as in the great Colosseum and in most of the Roman triumphal arches. Later, this arch was to be adopted enthusiastically by the builders of the Renaissance period. 46

Adopting the Doric and Ionic orders almost without change, the Romans eventually made some modifications in these Grecian developments. The Corinthian, however, inspired the ingenuity of the Romans, who made so many changes in it that the Roman Corinthian became known as a complete and independent order. At the same time, the so-called "Composite" order was a significant contribution of the Romans, who evolved it by combining into one capital portions of both Ionic and Corinthian orders, and developing a simplified Corinthian cornice. 47

47 Hamlin, op. cit., pp. 78-80.
In Roman architecture, the Doric cornice retained its triglyphs and metopes, its mutules and guttae that had been its characteristics in Greece. However, the mutules were used only over triglyphs, and were sometimes replaced by dentile. The corona became lighter than the Greek, and the columns varied in proportions. Cornices varied considerably in design, but usually they were less elaborate than those of the Greek Doric order. The Ionic order was adopted into Roman architecture practically unchanged. By the Romans the Corinthian was made into an independent order by the development of a new type of base for the columns, by changes in the capitals, and by the sumptuously carved modillions or brackets which enriched the cornice and supported the corona above a denticulated bed-mould (see Figure 12 on the following page). The Roman Corinthian capital, architrave, frieze, and cornice were truly things of beauty, splendor, and magnificence. As the Greek Corinthian had been the highest architectural attainment of the Greeks, so the Roman Corinthian became the most beautiful product of the Classic age. 48

When Roman civilization was enjoying its heyday, many artisans specialized in carving decorative cornices, usually in their shops, to be installed when finished on buildings for which they were especially

48 Ibid., pp. 80-81.
Fig. 12. — Cornice, entablature, and capital of the Roman Corinthian order. ⁴⁹

⁴⁹Reproduced from photograph in Hamlin, op. cit., p. 81.
designed. 50 Cornice makers were esteemed artisans and formed themselves into powerful guilds. In the days of Rome's greatest glory there was tremendous demand for the products of their skilled hands. Figure 13 on the following page, illustrating the Roman Composite order, indicates the highly intricate nature of the cornice, the entablature, and the capital in this Roman order. An examination of this illustration provides an understanding of the fact that the work of cornice makers became a highly skilled and painstaking trade which required extreme patience and capability.

Pediments of the Roman temples, palaces, and public buildings were adorned with terra-cotta palmettes, gargoyles, bas-reliefs, and statuary. 51 The Romans, though, never attained the skill in such decorative treatments as that possessed by the Greeks. In fact, the Roman adaptation of the Corinthian order was the only truly elaborate phase of architecture which the Roman artists were able to attain.

The massive immensity of the Colosseum, the most imposing of all the Roman ruins, and of many other structures reveals a certain coarseness, although undoubtedly the Romans were among the ancient world's most accomplished builders, but hardly among its most skilled artisans. "The Romans built like giants; it would have been too much to

50 L. Friedlander, Roman Life and Manners under the Roman Empire, II, 317, 330.

51 Durant, Caesar and Christ, pp. 347-348.
Fig. 13. — Cornice, entablature, and capital of the Roman Composite order. 52)

52 Reproduced from photograph in Statham, op. cit., p. 143.
ask that they should finish like jewelers." Hence the Romans built on a grand scale rather than on an elaborate or artistic one.

Durant, in his study of Roman architecture, read the works of Vitruvius, a leading architect of Rome who wrote a world classic entitled On Architecture about the year 27 B. C. The following quotation from Durant is pertinent:

The Romans, says Vitruvius, built with wood, brick, stucco, concrete, stone, and marble. Bricks were the usual substance of walls, arches, and vaults, and served as a frequent facing for concrete. Stucco too was often used as a facing. It was made of sand, lime, marble dust, and water, took a high polish, and was laid on in several coats, often to a thickness of three inches; hence it could keep its form for nineteen centuries, as in some parts of the Colosseum. In making and using concrete, the Romans were unrivaled until our time. They took the volcanic ash abounding near Naples, mixed it with lime and water, threw in fragments of brick, pottery, marble, and stone, and produced, from the second century B. C. onward, an opus caementicum as hard as rock, and capable of being poured into almost any shape. They cast it as we do, in troughs formed of boards. By this means they could cover large unsupported spaces with rigid domes free from the lateral thrust of an arched roof; in this way they topped the Pantheon and the great baths. Stone was employed for most temples and the more pretentious homes.

Durant continues by pointing out that many cornices were moulded from concrete by the use of moulds which contained artistic grooves and various types of designs which were thus reproduced in the hardened concrete. Cornices of this type, of course, could be turned out in quantity by mass-production methods. They were used, it seems, primarily

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53 Durant, Caesar and Christ, p. 361. 54 Ibid., pp. 356-357.
for private homes and shops and possibly for some of the less pretentious public buildings, baths, and temples. The more important temples, public buildings, and other types of edifices, however, utilized stone cornices which were painstakingly shaped and carved by the skilled hands of artisans.

During the fourth, fifth, and sixth centuries A. D., after the "fall" of Rome, Byzantine and Romanesque architecture flourished, especially in the countries along the eastern shores of the Mediterranean. These terms are applied, more or less synonymously, to the style of architecture which gradually developed in Constantinople (Byzantium) and throughout the eastern portion of the Roman Empire after Emperor Constantine transferred the capital of the Empire to Byzantium in 324 A. D. when he thought that such a move might strengthen the decaying Empire and perhaps avert a threatened invasion from the north, where barbaric Teutonic tribes were rebelling against attempted Roman rule and massing great strength which eventually would enable them to conquer Rome. The Byzantine-Romanesque style of architecture reached its peak during the rule of Emperor Justinian, between 527 and 565 A. D.

... Its distinctive features are the use of brick and stone in place of concrete; the use of impostes in connection with columns and arches; the character of the curved ornament applied to surfaces and, most important of all, a system of covering rectangular spaces with domes. 55

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Brickwork was the favorite material of the Byzantine builders, although fine building stone was at hand in adequate quantities. The bricks were one and one-half inches thick, like those used by the Romans, and they were laid between layers of mortar of similar thickness. The Byzantines developed real skill in the manufacture and adaptation of bricks for building purposes, moulding them in different shapes and sizes for different purposes. For instance, for cornices, the bricks were moulded according to the required contours, and when used for the shafts of columns they were circular in form.

Byzantine mortar was composed of sand, lime, and crushed pottery, tiles, or bricks. When marble columns were to be used, they were cut and set up by stonemasons, but all other preliminary work was done by bricklayers who constructed the entire "carcass" of the building. When this had dried and settled, masons and decorators completed the work by overlaying the walls, domes, and pediments with marble or mosaics. Usually the exterior was left plain, although in some instances the brickwork was covered with stucco or with marble slabs; and even the outer surfaces of the stately mosques were often inlaid with precious jewels and sometimes with designs executed in pure gold. Both the jewels and the gold could be seen sparkling in the sun for long distances. 56 For the most part, though, the Byzantines

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56 Ibid., pp. 202-203.
applied their artistic skills to the interior of their mosques and palaces rather than to the outer walls.

Mouldings in Byzantine architecture were weak and poorly executed when compared with those of Greece and Rome. The grand, vigorous profiles of the Classic cornices were only remotely suggested by the "characterless" aggregations of mouldings which took their places in Byzantine and Romanesque structures. In the Syrian-Christian and in Byzantine architecture the Classic types were greatly modified, entirely new orders were developed but were much inferior to those of Greece and Rome, and the column as the outstanding feature of architecture gave way to the arch, the alcove, and the majestic dome. Columns were still used extensively, but they were small and were usually subordinated to the more spectacular arch and dome. In such a plan, in which vertical walls usually curved inward to form arches or domes, the cornice gradually lost its function and practically disappeared in many buildings of this period. At best, cornices were insignificant parts of Byzantine buildings. They were small and unpretentious, usually plain stone or brick ledges, but sometimes carved with geometrical or floral designs. Modified cornices served as elaborate framework for accenting arches, domes, doors, and windows. These cornices were

57 Hamlin, op. cit., pp. 129-130.

usually constructed of different colors of brick or stone slabs, thus emphasizing their presence and lending bright colors to the drabness of the brickwork. The domes had little or no cornices. Sometimes, however, they were fitted with stone gutters at the base of the dome to carry off rainwater, and such gutters were supported by brick or stone mouldings which served as small cornices, as in the Taj Mahal (see page 31). Ordinarily the major portion of the roof was domed, and the part that was flat had little need for a cornice; though often, like the Taj Mahal, a small projecting ledge of stone marked the roof-line and separated the wall from the brick or stone balustrade which surmounted the roof on all sides of the building.

When cornices were employed in Byzantine-Romanesque architecture, they often took the form of interesting variations using patterns suitable to brickwork. This meant, of course, that they were not elaborate or artistic, but rather plain and square-cut.

In Byzantine-Romanesque buildings, an arcaded cornice was developed, resting upon corbels, or projections from the wall for the purpose of supporting weight. Such cornices might be used to give the effect of archways high up on the wall when, in reality, the arcaded cornice formed the only arches there. This type of cornice was

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60 “Cornice,” Collier’s Encyclopedia, II, 159.

purely for decorative purposes and had no other function. Except for these projecting, arcaded structures, the Byzantine-Romanesque cornice was of little architectural significance. Most of the buildings had no overhanging eaves, and the arid climate of the area in which this type of architecture reached its highest development made massive or elaborate cornices unnecessary.

In the succeeding chapter the Gothic cornice and the cornice during the period of the Renaissance will be discussed.
CHAPTER IV

FURTHER EVOLUTION OF THE CORNICE
DURING THE GOTHIC AND
RENAISSANCE ERAS

Once there was a charming myth abroad in Europe that the Gothic cathedrals with their high pinnacles and their tall columns in the interior, with their amazingly high vaulted ceilings and their massive towers thrusting skyward had been constructed in direct imitation of the tall, stately forests in which the Teutonic peoples of the Northland had spent so many generations before they invaded Central Europe and, in time, became so highly civilized that they gave to the world one of its most beautiful architectural styles—the Gothic. Whatever may have been the origin of the Gothic pattern, the architecture of this period has been called the logical result of the search for more light and greater space. "But the art of that entire period to which we refer as the age of the Gothic was really an effort to create a lovely fairy story in the midst of surroundings that were too brutal to be supported without some spiritual means of escape."¹

When one looks upon the towering masterpieces of architecture still to be seen throughout Europe north of the Alps, one would think

¹Hendrik Willem van Loon, The Arts, pp. 197, 199.
that the period in which they were constructed was one of perfect peace and of harmonious relationships in all aspects of human life. But such was far from the case. The Gothic era, ranging roughly from 1150 to 1500 A. D., was one of bitter turmoil throughout the continent of Europe. Financial and political difficulties, mingled with civil and international wars, created chaotic conditions upon every hand. This fact explains van Loon's statement that Gothic art was an attempt to create a "fairy story" in the midst of circumstances that were brutal and chaotic. The only noteworthy contribution of this entire period was that of Gothic architecture, which seems to have represented man's effort to build for himself something stable and inspiring in the midst of uncertainty and strife—something that would point him toward God through its beauty and awe-inspiring majesty.

Who was responsible for the creation of these unchallenged monuments to man's creative and artistic genius?

Before the year 1050 it was common practice for members of the clergy, and especially for certain orders of monks, to design and superintend the construction not only of churches and monasteries but of many secular buildings as well. But when the great cathedrals were built—all of them after 1050—the monks felt themselves unequal to the task, and it became necessary to employ professional architects. However, the architect was not be called "architect" until about 1563;
... his medieval name was "master builder," sometimes "master mason"; and these terms reveal his origin. He began as an artisan physically engaged in the work that he directed. In the thirteenth century, as wealth permitted greater edifices and specialization, the master builder was one who—no longer sharing in the physical work—submitted designs and competitive estimates, accepted contracts, made ground plans and working drawings, procured materials, hired and paid artists and artisans, and supervised the construction from beginning to end. 2

The products of these professional designers and builders were amazingly beautiful, although the ornateness and detail characteristic of the Gothic style seem to have been carried to extremes, almost to the point of gaudiness or showiness. Gothic architecture was never able to cross the Alps into Italy, largely because of the active opposition of Giorgio Vasari, Italy's most famous architect and painter of the period, who was at the same time one of the best-known pupils of Michelangelo. He traveled into Germany and France to study the new architecture that was springing up everywhere, and returned to Italy sickened and scornful. To him, all of the people who lived North of the Alps were "Goths," of whom he said:

These Goths, these barbarians, untutored in the true classics, have evolved a style of their own which is a mere hodgepodge of spires and pinnacles and grotesque decoration and unnecessary details which are completely lacking in the simple beauty of the classical world. 3

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3 Vasari, quoted by van Loon, op. cit., p. 197.
Gothic architecture, with its emphasis upon vertical lines, in secular buildings as well as in cathedrals, subordinated the cornice as an architectural feature. Gothic cornices, for the most part, were little more than groups of vigorous mouldings under a bevel-topped coping; but in some cases a deep hollow under the coping was filled with richly carved vines, leafage, or rows of crockets, which, in architecture, are very elaborately carved and stylized leaves and fruits or flowers.

Gothic builders placed their emphasis for beauty upon other features of the building rather than upon the cornice. Pointed arches, "flying" buttresses, stained-glass windows, intricate sculpturing in entranceways and on ledges—all these and other aspects of Gothic architecture tended to subordinate the cornice. By comparison, the cornice was insignificant as a phase of architecture. With all of these other features to attract the eye, there was no need for the cornice to be especially beautiful. Consequently, cornices, for the most part, were simple, and frequently no more than small ledges of carved stone. The steep roofs of the cathedrals created a very sharp angle where the extended eaves met the walls; hence there was little room for a cornice. But in many Gothic structures this situation was met by installing cornices in places other than at the roof-line. Simple ledges of stonework, often carved and ornamented, frequently extended across the fronts and transepts of cathedrals, marking divisions between
window levels and between architectural segments. The famed cathedral of Notre Dame in Paris, for instance (Figure 14 on the following page), has five such projecting ledges, all different in design, extending laterally across the main front of the structure, in addition to three other cornice-like ledges surrounding the tops of the two massive towers. 4

Among the outstanding characteristics of Gothic architecture were the pointed arch, tall spires, massive towers, "flying buttresses," carvings of saints one above the other on the walls of the great stone entranceways, gargoyles and other grotesque figures on the cornices and on stone ledges, beautiful stained-glass art-work in the great windows, and what were perhaps the most notable artistic attainments of all time—the huge and breath-takingly beautiful rose windows in the end walls of the main nave of the church. 5 In view of the elaborate stonework on wall and roof and tower, together with the graceful "ribs" of the flying buttresses, van Loon's description is strikingly vivid: "The average Gothic cathedral resembles a monstrous animal whose skeleton is all on the outside." 6

Gothic architecture might be defined as a localization and balancing of structural strains, emphasizing vertical lines, ribbed vaults, and pointed forms. It evolved through the solution of mechanical problems set by ecclesiastical needs and artistic aspiration. Fear of fire led to vaults of

4 Hamlin, op. cit., p. 216.
5 van Loon, op. cit., pp. 202-204. 6 Ibid., p. 203.
Fig. 14. — Typical Gothic architecture illustrating unique arrangement of cornices: Cathedral of Notre Dame, Paris.  

7 Reproduced from photograph in Durant, The Age of Faith, p. 347.
stone or brick; heavier ceilings necessitated thick walls and clumsy piers; the ubiquity of downward pressure limited window space, the thick walls shadowed the narrow windows, and the interior was left too dark for northern climes. The invention of the ribbed vault lessened the ceiling weight, allowing slenderer columns and localized strains; the concentration and balancing of pressures gave the building stability without heaviness; the localization of support through buttresses allowed longer windows in thinner walls; the windows offered inviting scope for the already existing art of stained glass; and the stone frames surmounting compound windows aroused the new art of pierced design or tracery. The arches of the vault became pointed to allow arches of uneven length to reach their crowns at an even height; and other arches, and window forms, became pointed to harmonize with the arches of the vault. Better ways of bearing pressure permitted higher naves; the towers and spires and pointed arches emphasized verticality of line, and produced the soaring flight and buoyant grace of Gothic style. All these together made the Gothic cathedral the supreme achievement and expression of the soul of man.  

In the carving of capitals and ornamentation of mouldings, artists of the thirteenth century and their successors abandoned completely the Classic models and traditions which still survived in the early twelfth century. For their designs, they resorted mainly to nature, especially plant life. Thus cornices, capitals, and mouldings were a mass of fruits, flowers, and leaves.  

... carvings of saints, apostles, martyrs, and angels, virtues and vices, allegories of reward and punishment, and an extraordinary world of monstrous and grotesque beasts, devils, and goblins filled the capitals and door-arches, peeped over tower-parapets, or leered and grinned from gargoyles and corbels.  

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10 Ibid., p. 200.
As has already been indicated, the steep roofs that were typical of Gothic buildings left little room for cornices, which usually were only small moldings of stone or brick. Often the steep roof flattened out slightly at the edges to make a slightly protruding eave. This, resting upon stone rafters or wooden beams, then constituted the cornice. Many Gothic buildings had stone cornices projecting from the walls to mark divisions between floors or to form the baseline of towers and parapets. 11

At the same time, though, it must be remembered that, although Gothic architecture had its origins in Germany, it did not remain there, but spread throughout western and northern Europe. In other countries it tended to be less elaborate and more practical in design, with fewer carvings, plainer towers and spires, and humbler conceptions throughout. Especially in England and France, and to some extent in Germany, much of the Gothic architecture had "bold cornices with machicolated (turreted) ornament." 12 Hence it is evident that the Gothic cornice was not in any way standardized. Other architectural features were similar in all Gothic structures, but the cornice varied from very plain and almost non-existent to highly ornate and very pronounced. In Gothic architecture the cornice tended to be not a true cornice at all,

11Ibid., pp. 224-225.

12Caffin, How to Study Architecture, p. 312.
but rather a means of marking off floors and segments of the building by means of protruding stone ledges, which might be rather plain or, on the other hand, elaborately carved. Almost universally, the Gothic cornice was characterized by the presence of hideous gargoyles (animal forms of various types) and grotesques (deformed and horrifying human representations) which served as water-spouts. Just why the Gothic builders chose to profane the majesty of their superb architectural creations with such horrible creatures, it is difficult to know.

The graceful structures of the Greeks and Romans had employed simple lions' or rams' heads as water-spouts; but the grandeur of the stately Gothic cathedral was marred by these leering, crouching, misshapen forms. Many American tourists, thrilling to the beauty of the Gothic church, have shuddered and been repulsed when suddenly their eyes met the stony gaze of these horrible creatures. Possibly the origin lies in the widespread belief in evil spirits that was prevalent in those days. Such spirits, hovering near the church, would be frightened away by the gargoyles and grotesques that surrounded the cathedral in rows of ominous ugliness.

... the Gothic sculptor, in the joy of his art, could scarcely touch a surface without adorning it. He crowded facades and cornices and towers with apostles, devils, and saints, with the saved and the damned; he cut his fancy into capitals, corbels, moldings, lintels, frets, and jambs; he laughed in stone with the whimsical or terrifying animals that he invented as gargoyles ("little throats") to carry
staining rain away from the walls or channel it into the ground through buttresses. Never elsewhere have wealth and skill, piety and lusty humor combined to provide such a feast of ornament as revels in the Gothic cathedral. Undeniably the decoration was sometimes too profuse, the tracery was carried to a fragile excess, the statues and capitals must have been too gaudy with the paint that time has cleansed away. But these are the signs of a vital exuberance, to which almost any fault can be forgiven. Wandering in these jungles and gardens of stone, it dawns upon us that Gothic art, despite its heaven-pointing lines and spires, was an art that loved the earth. Amid these saints proclaiming the vanity of vanities and the terror of the Judgment soon to come, we perceive the unseen but omnipresent medieval artisan, proud of his skill, joyful in his strength, laughing at theologies and philosophies, and drinking with relish, and to the last drop, the bubbling, brimming, lethal cup of life. [13]

Close upon the heels of the Gothic era came that period in European history known as the Renaissance. With regard to the architecture of this epoch one authority has said: "It would . . . be possible to call the whole of the Renaissance . . . a period of exuberant and incessant, visual ugliness." [14] At the same time, however, the Renaissance, which had its birth in Italy and soon spread throughout central and western Europe, revived the old Classic types, especially those of Rome, which had passed out of general use a thousand years before and which were now being rejuvenated. Never taking to the Gothic styles, the Italians seemed to realize that the old Romans' way of building was the best of all possible styles for their own social needs and for their own


landscape. So they returned to the Classic styles of a thousand years before, and Italy once more became the great artistic center of the Western World.  

Since it was in Italy that the Renaissance had its origin, it was in Italy, also, that those features characteristic of the Renaissance reached their peak of development. It should be remembered that the Renaissance was a "revival" of all learning, a "reawakening" in all areas of life: social, economic, political, cultural, artistic, and religious. As one phase of the Renaissance, architecture, too, underwent changes, and new developments evolved.

The important thing to remember about architecture in Italy during the Renaissance period is that the architects, though they were master builders, were not nearly so interested in structural problems or large effects as they were in detailed design and decoration. This fact explains the enormous variety of decorative mouldings, cornices, columns, capitals, panels, brackets, and other details that characterized the architecture of the period.

Great attention was bestowed upon all subordinate features; doors and windows were treated with frames and pediments of extreme elegance and refinement; all the cornices and mouldings were proportioned and profiled with the utmost care; and a new feature, the balustrade, for which there was

15 van Loon, op. cit., p. 227.

no antique precedent, was elaborated into a feature at once useful and highly ornate.  \(^{17}\)

Doors and windows were enclosed in richly carved frames, sometimes arched and sometimes square-cornered or pointed, and often made of large wedge-shaped stones of a different type or color from those composing the walls. Facades, in the main, were flat and unbroken, depending mainly for their effect upon the distribution and adornment of openings, mouldings, and cornices.  \(^{18}\)

The essential points in Italian Renaissance architecture were the emphasizing of the horizontal line, especially by the adoption of the Classical cornice, or a variation of it, as the crowning feature, and the employment of the columnar order as an element of decoration and expression in the design; and the merits or demerits of many of the Renaissance buildings turn very largely on the manner in which the columnar order is used.  \(^{19}\)

Italian Renaissance structures were even more nearly alike in design than were Gothic cathedrals. An examination of photographs of many of the great palaces and public buildings erected in Italy during the fourteenth, fifteenth, and sixteenth centuries revealed the fact that they all might have sprung from the hand of the same architect and been hewn from the same stone. All had—and have, for they are still standing and in use today—the same massive three- or four-storied walls, the same square-cut contours, the same flat roofs, the same arched doorways and windows surrounded by great wedge-shaped stone

\(^{17}\) Hamlin, op. cit., p. 301.  \(^{18}\) Ibid., p. 287.  

\(^{19}\) Statham, op. cit., p. 446.
framings, the same huge stone blocks for the walls of the ground floor, the same smaller stone blocks for higher floors, the same projecting cornice-like ledges separating the floors, and the same huge projecting cornices at the tops of the walls. The Riccardi palace in Florence (Figure 15 on the following page) was a typical example of scores of similar palaces and public buildings which were erected during the Renaissance era in that city and in all the other principal cities of Italy—Rome, Venice, Naples, Genoa, and so on.

All of these buildings had elaborate and massive cornices which projected eight, nine, or even ten or twelve feet beyond the walls. These cornices were proportional to the entire height of the wall, which often lacked columns. Mainly ornamental in function rather than practical, these wide cornices may have afforded some protection against the weather for the windows of the highest story of the buildings. Walls were constructed principally of large rectangular stones, and the whole masonry was usually rusticated, topped by a flat or (late in the Renaissance period) a gently sloping roof with its wide, massive, heavy, elaborate, overhanging cornice, characterized by great stone modillions, by rows of dentils, by huge carved crockets or supports (brackets) to support the overhanging cornice, and by intricate carving throughout to lend a touch of artistry to the ponderous box-like buildings which had little else to make them attractive.
Fig. 15. — Riccardi Palace, Florence, Italy, illustrating typical Italian Renaissance cornice and architecture.²⁰

²⁰ Reproduced from drawing in Nikolaus Pevsner, An Outline of European Architecture, p. 89.
It must be admitted that these great cornices are rather a piece of architectural braggadocio, since their projection is, of course, far greater than the thickness of the wall, and they can only have been made safe by cramping down in the rear; but of their grand effect there can be no doubt.  

It is interesting to compare the Italian idea of the cornice with that of the framers of the London Building Act, enacted by Parliament in the seventeenth century. Whereas the Italians and especially the Florentines had no legal limitations upon the size of the cornice and apparently wanted to experiment to determine how far the cornice could be extend beyond the walls without toppling off, the London Building Act limited the projection of a cornice within the city to a maximum of two and a half feet. This act was passed in order to combat the trend which was becoming common in England during the latter period of the Renaissance; namely, the use of the heavy projecting cornice that had its origin in Italy. Britshers were more skeptical than the Italians about the advisability of such weighty cornices extending out over sidewalks and streets, especially after some of them had fallen off and killed and injured several persons. Figure 16 on the following page indicates the manner in which the Italian Renaissance cornice was condensed by the London Building Act to less than half its average width as employed in Italy. The principal or most pronounced condensations occurred in the modillions, which in Italy were greatly expanded

21 Statham, op. cit., pp. 448-449.  
22 Ibid., p. 449.
Fig. 16. — Cross section of typical Italian Renaissance cornice (from the Riccardi Palace), illustrating how it was condensed in width by the London Building Act.  

\[\text{\textsuperscript{23}}\text{Reproduced from drawing in Statham, \textit{op. cit.}, p. 447.}\]
along a horizontal line but which in London were constructed, by the terms of the Building Act, according to an almost vertical pattern. At the same time, the uppermost mouldings were verticalized, and the stone blocks of the dentils were eliminated and replaced by a flat stone surface or facade. Thus the wide Italian Renaissance cornice was pushed together and greatly condensed in its expanse.

Whereas Statham referred to the Italian Renaissance cornice as "a piece of architectural braggadocio," Frank Lloyd Wright, perhaps America's greatest architect in modern times, was of a similar opinion. He said of the Italian Renaissance style: "... cornices were extravagant hats for buildings. ... they were the 'grand flourish' of architecture."

Certainly, during the Renaissance in Italy, the cornice attained its most ambitious proportions, being wider and heavier than at any time before or since, with the possible exception of the up-turned cornices of some of the temples and palaces of China and Japan. There is considerable room for doubt, however, as to whether the Italian Renaissance cornice was more beautiful—or even as beautiful—as that of the Classic period. To say the least, the Italian Renaissance cornice was an exaggerated architectural feature, the only really elaborate aspect of the great drab palaces that were built all over Italy

during that period. Inside the palaces, however, were ornateness and luxury beyond description. Probably the exteriors of such buildings required the exaggerated cornices with which they were adorned in order to redeem them from complete architectural dullness.

Beyond a doubt, the cornice of the Italian Renaissance was by far the largest and most elaborate of all Renaissance cornices. In France, for instance, the facades of castles, palaces, public buildings, and chateaux of this period were crowned by slight cornices and an open balustrade, above which rose a steep and lofty roof, diversified by elaborate dormer windows adorned with gables and pinnacles. This style later was to become highly popular in the United States among the wealthy as a design or pattern for their mansions, which in many instances were copied largely from some of the famous chateaux of France. One of the outstanding examples of French Renaissance architecture transported to America is that of the "Biltmore," a huge luxurious mansion near Asheville, North Carolina, built in the last years of the nineteenth century by George W. Vanderbilt at a cost of nearly eight million dollars (see Figure 17 on the following page).

Ordinarily, the French Renaissance style provided for a slight, usually plain stone cornice at the roof-line, but much wider and elaborate cornices were built in laterally to separate the floors of the buildings (note Figure 17). Usually these divisional cornices were
Fig. 17. — End view of the "Biltmore House," Asheville, North Carolina, illustrating American usage of French Renaissance architecture.  

25 Reproduced from photograph in illustrated brochure distributed by Biltmore Estate, Asheville, North Carolina.
semi-Classical, characterized by far-protruding coronas, below which were dentils and metopes in much the same manner as that of Greece and Rome. Often, no two cornice ledges would be alike, but each was identical all the way around the building. 26

German Renaissance architecture was characterized by elaborate gables and dormer windows, differing little from the Gothic. Cornices, both those at the roofline and those marking divisions between stories, were generally comparatively plain out-cropping ledges of stone. They did not extend far beyond the walls of the building. 27

In English architecture of this period the cornices were simplified in the great country houses and public buildings, but they marked every floor as well as the roofline. In the churches and cathedrals, however, such as St. Paul's and St. Martin's, both in London, cornices usually were very elaborate and massive, resembling those of the Classic era but extending much farther beyond the walls. 28

One trait was characteristic of Renaissance cornices in all nations of central, southern, and western Europe: not only did the cornice mark the roofline, but also it indicated the point in the exterior wall which separated floors or stories of the buildings. Everywhere except in Italy these mid-wall cornices tended to be more elaborate

26 Hamlin, op. cit., pp. 326, 332.
27 Ibid., pp. 357-359.
28 Ibid., pp. 344-349.
and larger than the cornice that topped the walls; but in Italy the wall cornices were dwarfed to insignificance in comparison to the huge, massive, overhanging cornice at the top of the wall. In fact, it has become more or less common practice to imply the gigantic, overhanging Italian cornice whenever reference is made to the cornices of the Renaissance era. So elaborate and massive was it that it was in a class by itself.

In the succeeding chapter a brief discussion will be offered of the modern cornice.
CHAPTER V

THE MODERN CORNICE

Since the period of Gothic and Renaissance architecture, little has been done that had not been done before. In other words, in more modern times there have been virtually no new styles, but only adaptations of patterns that were originated in the Classic or in succeeding eras. If this is true of architecture in general, it is certainly even more characteristic of cornices. Practically all cornices in the past three or four hundred years, both in Europe and in the United States, have been semi-Classic, semi-Gothic, or semi-Renaissance in nature. Very few new developments have been recorded in the evolution of the cornice, except the modern tendency to eliminate the cornice altogether in American architecture, about which more will be said in the course of this chapter.

However, early in the eighteenth century, the so-called "Queen Anne style" became popular in England, named for the ruling queen at that time. Walls were bound into solidarity "by laying the bricks in courses of alternate stretchers and headers—bricks, that is to say, laid, respectively, lengthwise with and at right angles to the outer
surface of the walls. A single projecting row of bricks was often used to mark divisions between stories, in much the same way that stone had been utilized for similar purposes in the architecture of the Renaissance period. Several rows of bricks, each projecting beyond the other, formed a cornice under the eaves of the tiled roof; or, in many instances, this arrangement might be replaced by a wooden cornice under the eaves. Needless to say, the "Queen Anne style" soon found its way across the Atlantic to American shores, and it became as popular here as abroad. In the older cities of the Eastern states are still to be seen countless brick or stone structures erected in the style of Queen Anne; and a comparison of these buildings with those in England of the same period reveals little difference.

The earliest buildings erected in America were constructed from the materials readily accessible to the builders—logs and unshaped stones. Before 1700, however, many persons who were financially able to do so were erecting homes of sturdy milled lumber, or quarried stone, and even of brick. Plans and designs were largely those of the country from which the people had come, especially England, Holland, and Germany. There was practically no difference in European styles and early colonial patterns. Colonial architecture, in fact, was medieval in many respects.

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1 Caffin, op. cit., p. 424.

2 Fiske Kimball, Domestic Architecture of the American Colonies and of the Early Republic, pp. 43-45, 50.
When one sees the miles of "row houses" that are still to be found in such cities as New York, Philadelphia, Boston, and Washington, most of them built from 150 to 200 years ago, one wonders why such a plan was utilized by the early Americans. With a whole vast continent surrounding them, why did they crowd their houses side by side, with no space between them and consequently with windows only in the front and rear? Why did each family have a house to itself, but lined up with others like a series of store buildings, instead of utilizing the abundant land area of America to have separate houses surrounded by plenty of lawn space? The answer lies in the fact that the customs of Europe were transplanted to these new shores, and the early Americans followed in their cities the building plan that would have been necessary in Europe, where space was at a premium. Consequently, the homes were jammed into narrow lots and were built three or more stories in height in order to afford the room that could have been obtained by spreading out the building over a wider area of space. Thus, not because of necessity but because of the force of custom and tradition, the early "row houses" in the "Queen Anne style" became popular in the growing cities of the Eastern coast of America.

Brick was largely employed in some of the older buildings of the East and Northeast, especially. Dressings or "facings" of harder brick and usually of slightly contrasting color were often used around
windows and doors in houses as early as the first decades of the eighteenth century. Moulded bricks were commonly used for water-tables, chimney-caps, and cornices. Many houses in Virginia, erected between 1700 and 1750, have such moulded brick cornices, usually quite plain but dignified and stately, with some evidence, here and there, of dentils, modillions, and other Classic features interpreted in moulded brickwork. ³

In Byzantine and Romanesque buildings, stones were often hewn with the rough, chipped treatment which classifies such masonry as "rock-faced." In many public and institutional buildings in America this same effect has been achieved in ornamentation, but by a different process. Since the last quarter of the nineteenth century it has been common practice to utilize special moulds for making brick in such a manner as to resemble "rock-faced" stone. These special bricks are widely utilized as cornices, string-courses, mullions, and other details, often with foliated capitals in unglazed terracotta. ⁴

After the American Revolution, cornices tended to become lighter in proportion to the total height of the building. About 1800 and for some time thereafter, cornices of extreme thinness were employed. Architects of the period contended that the height of the

³Ibid., p. 67. ⁴Price, op. cit., p. 112.
cornice could be decreased considerably without substantially affecting its appearance or that of the building as a whole, provided the width of its projection remained the same. The profile of the cornice remained of ordinary academic character until about 1800, and much later in the designs of some notable architects, including Jefferson, Bulfinch, and McIntire. At first, the only essentially novel feature was the use of dentils split at the top, producing a fret-like effect. Sometimes the brackets in the cornice were given fantastic outlines. In the William Gray house in Salem, Massachusetts, begun in 1801, the cornice had very flat modillions, a row of trumpet-shaped guttae (ornamentation on the gutter) instead of dentils, and a row of little spheres apparently strung on a rod, all executed in stone (see Figure 18 on the following page). This particular cornice set a fashion for several decades, and duplications of it are to be found on many homes from Maine to Georgia.

Although the general tendency, even in the North, was toward the more permanent materials, the desire for richer academic detail worked in the opposite direction. Cornices, window and door enframements in masonry houses . . . were ordinarily of wood, as was also the case in minor houses in England.

The new interest in composition of space, coupled with structural purism, tended to reduce the elaboration of wall surface, and to concentrate attention on individual members, chiefly of a functional character: doorways, windows, chimneypieces, cornices, the centrepieces of ceilings, the strings and hand-rails of stairs.

5Kimball, op. cit., pp. 230-232. 6Ibid., p. 68.
7Ibid., p. 239.
Fig. 18. --- Segment of the cornice from the William Gray house, Salem, Massachusetts, early nineteenth-century American.

Reproduced from photograph in Kimball, op. cit., p. 230.
In New England colonial architecture, the cornices were usually level, grooved-and-angled mouldings with more or less pronounced stone modillions. Some cornices, especially on houses with steep roofs, were very narrow and insignificant; whereas structures with flat or slightly inclined roofs often had wide cornices, usually rather elaborate and showy. In many of the finer colonial homes and business buildings the modillions used to enrich the cornice were elaborately carved, usually with leaf or floral motifs, and the whole modillion might be gracefully shaped and delicately curved in the Classic style, although thick and weighty in order to conform to the general appearance of over-all solidarity created by colonial structures.

When American colonial architecture is mentioned, what one thinks of depends upon the section of the country with which one is most familiar. To those living in the Northeastern states, colonial architecture means the typical New England, New York, or Pennsylvania house—square-cut, box-like, usually without columns, constructed of dark-colored brick or of heavy timbers, having an elaborate archway over the main door, with the framework often carved and highly ornamented. Cornices on these houses usually were supported by sturdy modillions (see Figure 19 on the following page). To the Southerner, however, colonial architecture means beautiful,
Fig. 19. — Typical colonial house of the Eastern and Northeastern states, illustrating wide cornice with prominent modillions, surmounted by a balustrade.\footnote{Reproduced from photograph in Kimball, \textit{op. cit.}, p. 209.}
stately, square or rectangular mansion, with tall graceful columns, either Doric, Ionic, or Corinthian, two stories in height, stretching across the entire front of the building (see Figure 20 on the following page). The main doorway was usually square-cut, though occasionally it might be arched as in the colonial houses of the Northeast. Cornices were likely to have Classic dentils instead of modillions.  

These two types of colonial architecture had their origin in definite areas of the United States, but today one may find adaptations of both forms in all areas of the country, both in homes and in public buildings. In the western portion of the country Spanish architecture has been widely adopted, since this was the typical style of building during the "colonial" period of the West. In very recent years, as well, the flat-roofed so-called "solar" house has come into wide range of usage in the West, pioneered by Frank Lloyd Wright. This modern type, with its flat roof extending for many feet beyond the walls, is designed for coolness and comfort in an area which often becomes uncomfortably warm. Utterly lacking in any type of cornice, this house is perhaps the only original contribution which America has made to architecture, except for the "skyscraper." The colonial houses of the Northeast and of the South are, seemingly, typically American; but they have borrowed the Classic cornice and those in the South,

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12 Kimball, op. cit., pp. 183, 207.
Fig. 26. — Typical Southern colonial house, illustrating American adaptation of Classic columns, entablature, and cornice.\textsuperscript{13}

\footnotesize{\textsuperscript{13} Reproduced from photograph in Kimball, \textit{op. cit.}, p. 183.}
the Classic column, and are therefore only adaptations of earlier styles. The solar house, though, has had no precedent in architecture.

It is significant that the man who, more than anyone else, has become the "father" of the cornice-less solar house—Frank Lloyd Wright—has called the cornice "the image of a dead culture." If that is his feeling, it becomes easy to understand why his architectural creations lack the cornice. He delivered, in 1930, a lecture at Princeton University on the subject, "The Passing of the Cornice," in which he asked, "Why have cornices at all?" He seriously questioned whether they are really beautiful or useful, or whether they ever have been. Saying that he could not see that cornices are particularly beautiful in modern structures, he admitted, however, that buildings look "strange" without them. But that is because people have become accustomed to seeing cornices on buildings, and any departure from the usual is considered to be revolutionary and "strange." Wright on many occasions condemned the widespread practice of adorning buildings with cornices, regardless of their lack of utility, simply to make the buildings look "familiar."

Wright's prejudice against the cornice had its origin early in his life when, as a young man, he witnessed the razing of the Capitol of Wisconsin, and was deeply impressed to see sections of the elaborate "Classic" cornice, partially torn loose, hanging down limply and
swaying in the breeze; for the cornice, which had appeared to be
beautifully wrought stonework, was nothing but an empty shell of gal-
vanized iron! From that day, Wright questioned the use of cornices
and looked upon them as hypocritical pretensions of a grandeur that
was non-existent.14

In his lecture at Princeton Wright became eloquent in his discus-
sion of the disappearance of the cornice from modern architecture.
As the following excerpt indicates, he was elated that the cornice is
losing much of its prominence as an architectural feature:

But, have you all noticed a change up there where the
eye leaves our buildings for the sky—the "sky-line, " archi-
tects call it? Observe! More sky! The Cornice has gone.
Gone, we may hope, to join the procession of foolish "con-
cessions" and vain professions that passed earlier. Gone to
join the "corner-tower," the "hoop-skirt," the "bustle,"
and the "cupola."

Like them—gone! This shady-shabby architectural
feature of our middle distance, the 'seventies, 'eighties, and
'nineties, has been relegated to that mysterious scrap-heap
supposedly reposing in the back-yard of oblivion. Look for a
Cornice in vain anywhere on America's new buildings high or
low, cheap or costly, public or private. You will hardly find
one unless you are looking at some government "monument." Go-

government, it seems, is a commitment, a rendezvous with
Traditions that hang on.15

van Loon seems to be of a similar opinion when he writes in the
following cynical manner of the government buildings in Washington,

D. C.:

14Wright, op. cit., pp. 47-49. 15Ibid., p. 50.
Take those Greek temples we have erected along the banks of the Potomac and many of which were built absolutely according to the Greek originals. They may have looked magnificent against a Greek background, but it takes a lot of patriotism to accept them amidst their new surroundings.  

Partially by accident and partially because of the skyrocketing buildings that are to be seen everywhere today, the cornice is going out of fashion. During the nineteenth century, however, the cornice was enjoying its greatest popularity in America, and during this time it attained its most elaborate development in this country, as well as its largest size. Many of the cornices placed upon buildings erected during that century were definitely Italian Renaissance in character, although not quite so huge and massive as their prototypes; and others were Classic in style. During the 1890's and the first years of the twentieth century, many of the hidden anchors holding these pretentious cornices in place began to rust, thus allowing portions of the cornice to fall to the sidewalk below. In Chicago, especially, there was an "epidemic" of cornice-falling, and many people were killed there and in other cities—some of them leading citizens. When this "assumption-of-virtue," the "pseudo-Classic Cornice," began crashing down into city streets, public sentiment demanded that something be done. Consequently, the cornice went out of fashion on new buildings, although all cities still have many older structures with heavy,

\[16\] van Loon, op. cit., p. 227.
overhanging cornices, constructed at what Wright calls "outrageous sums." 17

With his typical sarcasm and prejudice against the cornice, Wright has said:

There was a Graeco-Roman feature advocated by the American Institute of Architects to finish a building at the top. This authentic feature was called the Cornice. Not so long ago no building, great or small, high or low, dignified and costly or cheap and vile, was complete without a Cornice of some sort. You may see accredited Cornices still hanging on and well out over the busy streets in any American city for no good purpose whatsoever . . . really for no purpose at all. But to the elect no building looked like a building unless it had the brackets, modillions, and "fancy" fixings of this ornamental and ornamented pseudo-classic "feature." Cornices were even more significantly insignificant than it is the habit of many of the main features of our buildings to be. The Cornice was an attitude, the ornamental gesture that gave to the provincial American structure the element of hallowed "culture." That was all the significance Cornices ever had—the worship of a hypocritical theocratic "culture." Usually built up above the roof and projecting well out beyond it, hanging out from the top of the wall, they had nothing in reason to do with construction—but there the Cornice had to be. 18

Wright has gone so far as to say that all of the cornices known to the world today are Greco-Roman in origin—that there have been no completely new developments in cornices since the Classic era. Developed to its most amazing proportions during the Renaissance, the cornice has been essentially "pseudo-Classical" since it was first developed as an artistic feature of buildings by the ancient Greeks.

17 Wright, op. cit., p. 51. 18 Ibid., p. 50.
In the United States it has become known as the "American pseudo-
Classic" cornice. 19

Whereas there is, at the present time, a tendency to eliminate
or to minimize the cornice as an architectural feature of modern build-
ings, there is also an apparent interest in utilizing pseudo-Classic or
semi-Classic cornices in many instances, especially in public and in-
stitutional buildings of various types. However, there is no evidence
of a "Classic revival" in modern architecture; and most of the evidences
of Classic influence are not purely Classic at all, but modern adapta-
tions of the Classic ideal. Architecture of today has been derived
from that of the past, but it is not a reproduction of it. This is the
justification for the terms "pseudo-Classic" and "semi-Classic." In
modern architecture,

... Classic derivations are everywhere apparent, and al-
most invariably in such monumental buildings as are desired
to express qualities of dignity and permanency, such as cap-
tols, post offices, libraries, museums, banks, and the larger
railroad stations. 20

Although Frank Lloyd Wright concedes the fact that cornices are
still rather expected on all types of buildings, especially those of a
public or governmental function, he at the same time becomes elated
that there is, in modern times, a definite trend away from the cornice.

As to the possibility that the cornice will return to favor and be

19 Ibid., p. 54. 20 Price, op. cit., p. 78.
incorporated once again as an essential part of modern architecture, Wright makes the following interesting comments:

Shall we see the stagey, empty frown of the Cornice glooming against the sky again? Has this cultured relic served its theatrical "turn" or are appearances for the moment too good to be true? Periodic "revivals" have enabled our aesthetic crimes to live so many lives that one may never be sure. But since we've learned to do without this particular "hangover" in this land of free progress and are getting used to bareheaded buildings, find the additional light agreeable, and the money saved extremely useful; and as, especially, we are for "safety first," we are probably safe from the perennial Renaissance for some years to come. 21

In the warmer portions of the United States there is a tendency, in modern times, to give the cornice a great overhang to protect the walls and interiors from the heat of the sun. In the contemporary solar house there is actually no cornice as such, but a large overhang of the roof is so arranged as to protect the walls and openings from the sun in the summer but to admit the solar light and heat in the winter. In carpentry, the open cornice is one in which the roof rafters are left exposed. In the boxed cornice, the rafters are covered on the outer ends and undersides with boards and moldings to give some similarity to the Classic cornice. On modern skyscrapers, where they cannot serve their function and where they are too far removed from the street level to be seen readily, cornices are usually omitted as unnecessary. 22

21 Wright, op. cit., p. 51.

Thus, in the present-day city, which has been referred to as "the built-up terraces of the living Stone Age,"\textsuperscript{23} the cornice is rapidly going out of fashion as a non-essential feature of architecture.

What to do about the cornice on the huge buildings of the modern city constituted a problem for architects when the skyscraper was coming into existence. At first, these tall buildings were adorned with gigantic cornices, patterned after the Renaissance design, which protruded for some distance beyond the walls at a height so great above the street level that they appeared to be either ridiculous or pathetic.

In regard to these early skyscrapers,

\ldots The crowning folly—hardly a glory—was the cornice which, like a huge lid, closed down on this gigantic box as though to prevent the escape of even hope itself.

This cornice was as big a puzzle to the enchained architect as the base. If it were proportioned to the entire height of the building it would have to be some fifteen feet or more in height and project an equal distance—obviously impossible. On the other hand, if the distracted designer proportioned it to the upper order, then it would be so small that it could hardly be seen from the street.\textsuperscript{24}

As the best solution for this dilemma, the cornice has been, for the most part, eliminated from the tall buildings of the present day, and from many of those not at all tall. When cornices are employed, they are usually modern adaptations of either Classic or Gothic types, and sometimes are a combination of the two, plus some modern touches.

\textsuperscript{23}Sitwell, \textit{op. cit.}, p. 1.

\textsuperscript{24}Thomas E. Tallmadge, \textit{The Story of Architecture in America}, p. 254.
as well. Thus, after all the intervening centuries,

\[\ldots\] The struggle between the Classic and the Gothic styles still rages in our churches and schools, our marts and capitals, while a new and indigenous architecture, bolder even than the Gothic, rides the sky.\textsuperscript{25}

\textsuperscript{25}Durant, \textit{The Age of Faith}, p. 894.
CHAPTER VI

SUMMARY

Cornices in some form have been employed almost from the beginning of man's efforts to erect edifices for his own shelter or for his tribal or public affairs. The earliest known form of the cornice was the outward-bent reeds of the wall which assumed this curve when the weight of the roof was placed upon the reeds or bamboo poles of which the wall of the primitive hut was constructed. This style of cornice was incorporated by the ancient Egyptians in their temples, palaces, and walls, though carved in stone. Thus executed in permanent form, it became the "cavetto" cornice so characteristic of Egyptian architecture. Later it was to be found also in the civilizations of Assyria and Babylon.

The Assyrians began the process of moulding cornices in order to produce special designs in brickwork. But it was in ancient India, China, and Japan that the cornice first became a thing of beauty and of artistic execution. The great Indian temples and palaces had elaborately carved cornices which contributed toward making these structures so rich in design and detail. At the same time, the upward-curving cornices of China and Japan are perhaps the most amazing
developments in the entire history of the cornice. Extending far beyond the walls of the temple or pagoda, these wide, curved projections had the appearance of vast saucers placed one above the other at intervals of twenty to twenty-five feet, and each one slightly smaller than the one immediately below. The cornice beams—which in Classic architecture were to be called modillions—were massive and weighty, and covered with many types of carving and sculpturing.

At the height of Grecian civilization the cornice, too, attained its peak of simple dignity and beauty. Among the Greeks, cornices were standardized according to three orders—the Doric, the Ionic, and the Corinthian. The designs for these styles varied hardly at all, the Doric being simple and somewhat plain, possessing a stately beauty that was inspiring and magnificent; the Ionic was slightly more elaborate, adorned with dentils and carvings on frieze and mouldings; but the Corinthian was of intricate design and of incomparable beauty.

When the Romans inherited Greek civilization, they inherited, also, the architecture of Greece. The Doric and Ionic orders they utilized with scarcely any changes except in size and proportion; but in the Corinthian they added new features to make it even more elaborate and intricate than the Greek Corinthian had been. In addition, the Romans developed the Composite order, which was a combination of the Ionic and the Corinthian to form a singularly beautiful order.
In the main, however, the Romans borrowed their cornices from the Greeks with little alteration.

The domes, minarets, and multiple arches of Byzantine and Romanesque architecture left little need for cornices, especially since most of the roofs were flat except where they were thrust upward into domes and vaults. Hence the principal cornice in these architectural patterns was the specialized stonework which framed arches, alcoves, and windows, affording them special beauty and outstanding prominence.

Whereas during the period of Grecian civilization the cornice had attained its peak of simple beauty and grandeur, it was during the era of the Italian Renaissance that it reached its most majestic proportions. Extending from five to ten feet beyond the walls, these huge cornices were massive, weighty, and spectacular. To otherwise drab and uninteresting buildings, such cornices contributed beauty and artistic design. They were, however, exaggerated in size, and seemed to lend an appearance of top heaviness to the buildings which they adorned. Renaissance cornices in other nations were not so huge or so elaborate as those in Italy. One peculiar feature of Renaissance architecture in all countries of central, southern, and western Europe, was the use of cornice-like projections on the outer walls to mark the floor lines between different stories of buildings. Usually no two such cornices on any one building were alike, but each one was identical all the way around the structure.
With its primary emphasis upon spires, towers, vaulted arches, and sculptured figures, Gothic architecture subordinated the cornice to other features such as those mentioned. Here, as in the Renaissance period, cornices were often used to mark divisions between stories, and these wall cornices were usually much larger and more elaborate than those at the roofline. One peculiarity of the Gothic cornice was the use of gargoyles and other grotesque sculptured figures as water-spouts.

In more modern times, since the Gothic and Renaissance eras, little has been done toward furthering the evolution of the cornice. Elements of the Classic, of Gothic, and of Renaissance cornice designs are to be found in wide use today; and often the cornices that one sees are a combination of features taken from several older designs. Thus, in the present day, the cornice is undergoing a transition period. Its use is a hodge-podge of earlier styles, and no definitely modern cornice has come into existence, unless it be the wide overhanging roof of the solar house, which actually has no cornice at all as such. Many buildings today are being constructed without cornices, or with only a semblance of a cornice. Most of those being employed are pseudo-Classic or semi-Classic in style and pattern. On skyscrapers cornices are impractical, and there is a definite tendency to omit them from other buildings as well. Cornice styles are confused and inter-mingled, and there is no real beauty in the modern cornice such as was
to be found in the Classic cornice or even in the Renaissance style, exaggerated though it was in size.

Only the distant future will reveal whether any definite style in cornice design will evolve from the modern era.
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