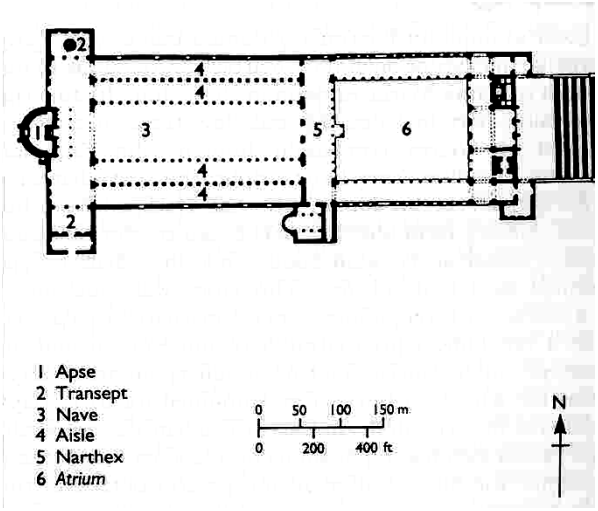
Excerpted from Adams, *A History of Western Art.* New York: McGraw-Hill, 1997, 166-7, 193-5, 206-7, 247-9

Basilicas

The Early Christians worshiped in private homes until the early fourth century C.E. But when Constantine issued the Edict of Milan in 313, they were suddenly free to construct places of worship. From that point on, Christianity was legally protected from persecution, and it soon became the official religion of the Roman Empire. New buildings were needed to accommodate the large and ever-growing Christian community. Unlike Greek and Roman temples, whose main purpose was to house the statue of a god, Christian churches were built so that crowds of believers could gather together for worship. With the active support of Constantine, many churches were constructed in very few years—in Constantinople (the new name Constantine had given to Byzantium, now known as Istanbul), in Italy, in the Holy Land, and elsewhere in the Roman Empire. Churches were modeled on the Roman basilica because of the need for space. The Early Christian basilica was to become the basis for church architecture throughout western Europe.



10.2 Plan of Old St. Peter's Basilica, Rome, CE 333 – 390. Interior c. 368' long. Old St. Peter's was the largest Constantinian church and became the prototype for later churches. Besides being a place of worship, it was the saint's **martyrium** (a building over the grave of a martyr)—his grave was under a marble canopy in the apse.

None of the Early Christian basilicas has survived in its original form, but an accurate floor plan of Old St. Peter's Basilica (figs. 10.2 and 10.3) still exists. The architectural design of the Christian basilica conformed to the requirements of Christian ritual and especially to the role of the altar, where the Mass was performed, as its focal point. The movable communion table used in Christian meeting places before 313 was replaced by a fixed altar that was both visible and accessible to the worshipers. Both altar and apse were at the eastern end, and the narthex (vestibule) at the western entrance became standard in later churches.

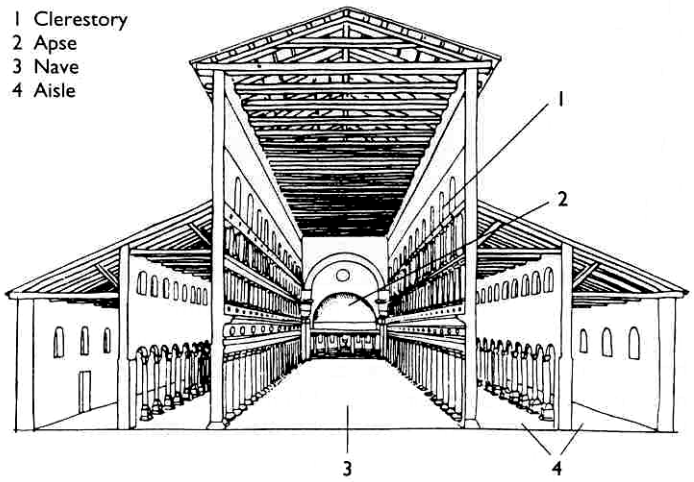
The altar's location at the eastern end of the basilica served a symbolic as well as a practical function. It generally supported a crucifix with the image of Christ on the cross turned to face the congregation. Just as Christ's actual Crucifixion took place in the east (in Jerusalem), so the Christian basilica and most later churches are oriented with the altar in the east. According to tradition, Christ was crucified facing west, and therefore the altar cross usually faces the main western entrance of the church building.

Another symbolic aspect of church design was the new use of the apse. In Roman basilicas apses had often contained statues of the emperors, and they were also the location of legal proceedings. In Early Christian apses, therefore, the image of Christ as Judge was particularly appropriate. It referred both to the Roman law courts and to the Christian belief in a Last Judgment when Christ will determine the eternal fate of each human soul.

An important new feature in Old St. Peter's was the addition of a transept to the Roman basilica. It consisted of two transverse spaces, or cross-arms, placed at right angles to the nave, and separated the apse from the nave. The transept provided extra space for the congregation and isolated the clergy from the main body of the church. With the transept the building forms the shape of a cross, hence the adjective cruciform to describe basilicas with this feature.

The altar and apse at Old St. Peter's were framed by a huge triumphal arch—a regular architectural element of Early Christian basilicas. The architects thus assimilated the Roman triumphal arch and transformed its meaning to refer to the triumph of Christ rather than the emperor.

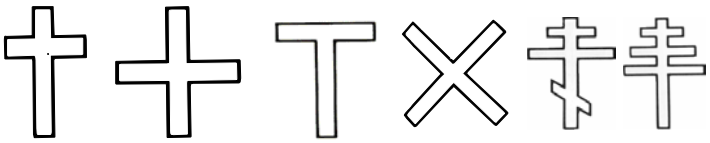
The exterior of Old St. Peter's, and of similar churches, was plain brick. The interior, on the other hand, was richly decorated with mosaics, frescoes, and marble columns. Their purpose was not only to exalt the deity, but also to teach and inspire the worshipers. Unlike Classical Greek temples, which were designed to be seen mainly from outdoors, Early Christian churches were meant to be seen from both inside and outside.



10.3 Reconstruction diagram of the nave of Old St. Peter's Basilica. Old St. Peter's is similar to the pagan or secular basilica of pre-Christian Rome in having a long nave flanked by side aisles, clerestory windows on each side, an apse, and a wooden **gable** roof. Unlike pagan basilicas, which typically had an apse at each end, Old St. Peter's had a single one opposite the entrance. The whole building was demolished in the sixteenth century when work on the New St. Peter's began.

The Cross

The cross is the main symbol of the Christian religion. Its principal representations are: (1) the *crux immissa,* known as the **Latin** (or Long) cross, whose base arm is longer than the other three (the one most familiar to western Christians); (2) the *crux quadrata,* or **Greek** cross, with four arms of equal length; (3) the *crux commissa,* known as St. Anthony's cross or the Tau cross (after the Greek letter); and (4) the *crux decussata* (named after the decussis, or Latin numeral ten), known as St. Andrew's cross. It is generally believed that Christ was crucified on a Latin cross, although some think it was a Tau cross. Derivations from these types are (5) the Russian cross, (6) the Papal cross.



St. Peter

St. Peter was Christ's first apostle. In Matthew 16: 13- 20, Christ gives Peter the keys to Heaven with the words, "On this rock will I build my Church." That statement became the basis for the pope's authority, although it is unclear grammatically whether "rock" refers to Peter or to his faith. The name Peter comes from the Greek *petros* (meaning "rock"), from which comes the English word "petrify," meaning "turn to stone." Rock is also a metaphor for something strong and lasting, as in "solid as a rock" or "Rock of Ages," and here denotes the solid and enduring character of faith.

St. Peter was the first bishop of Rome. Since that office later became the papacy, he is considered to have been the first pope. The basilica of Old St. Peter's became the proto-typical papal church, although it was in fact an exception to the traditional Christian orientation of churches toward the east. During the Renaissance, St. Peter's was rebuilt by several architects, and it is still the seat of papal power today.

Romanesque Architecture and Sculpture

Scholars have noted that Romanesque architects had to construct churches that were big enough to accommodate the pilgrims. At the same time, churches had to be structurally sound and adequately illuminated. The availability of materials often presented problems because of the great increase in building activity. More subjective considerations, such as esthetic appeal, also had to be taken into account. These might be influenced by the wishes of a local religious order or wealthy patron.

12.1 (opposite) Aerial view of Sainte-Foy, Conques, France. c.1050- 1120. Apart from two nineteenth century towers on the west facade, Sainte-Foy, begun in about 1050 and finally completed around 1120, stands today as it did in the twelfth century. It has a relatively short nave, side aisles built to the full height of the nave (so that there is no clerestory lighting), and a transept. The **belfry,** or bell tower, rises above the roof of the **crossing.**

Sainte-Foy at Conques

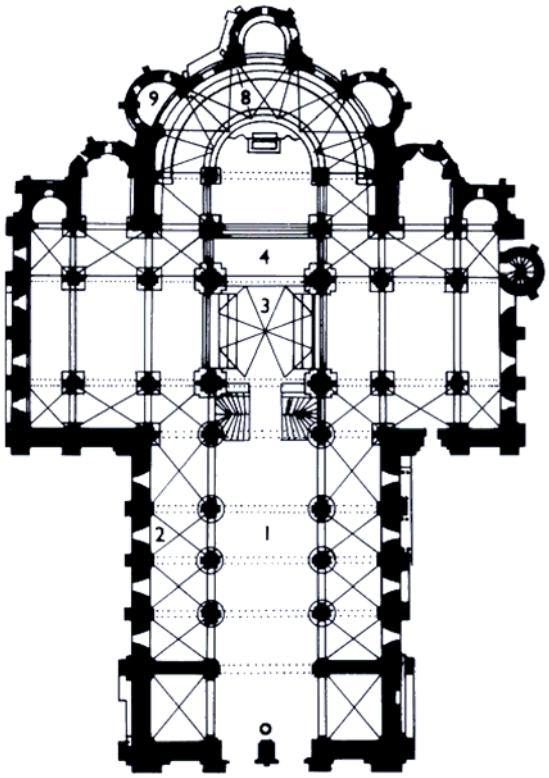
Communication along the pilgrimage routes must have been constant, with pilgrims, masons, and other craftsmen continually moving back and forth. It is thus not surprising that many Romanesque churches had similar features. The earliest surviving example of the pilgrimage church (figs. 12.1, 12.2, and 12.3) is dedicated to Sainte-Foy, a third-century virgin martyr known in English as St. Faith. It stands in Conques, a remote village on the route from Le Puy in southeastern France.

The builders of Sainte-Foy, and indeed of all pilgrimage churches, had to solve the problem of accommodating large crowds without interfering with the duties of the clergy. The monks, for example, required undisturbed access to the altar and the areas surrounding it. The plan in 12.3 shows how the traditional basilica was modified by extending the side aisles around the transept and the apse to form an ambulatory, or continuous walkway. Three smaller apses or **radiating** chapels, protrude from the main apse, and two chapels of unequal size have been added at the east side of the transept arms. The continuous ambulatory allowed pilgrims to circulate throughout the church, stopping to venerate relics in the radiating chapels without disturbing the monks.

An important new architectural development in Romanesque churches was the replacement of wooden roofs with stone barrel vaults (fig. 12.2). This change provided better safeguards against fire and improved the acoustics. Music, particularly Gregorian chants, had become an indispensable feature of the Christian service. Better acoustics also improved communication with the worshipers. The stone vaults required extra support, or buttressing, to counteract the lateral thrust, or sideways force, they exerted against the walls. At Sainte-Foy, diaphragm, or transverse, arches cross the underside of the vault. They are supported by piers, which mark the corner of the groin-vaulted bays of the side aisles.

12-2 Tribune and nave vaults, Sainte-Foy, Conques, c. 1050 – 1120. Romanesque builders solved the problem of supporting the extra weight of the stone by constructing a second-story gallery or tribune, over the side aisles as an **abutment**. Structurally, the gallery diverted the thrust from the side walls back onto the piers of the nave. It also provided an extra interior space for the pilgrims.

Those who designed the churches had another way of improving communication with the worshipers. Most of the population of medieval Europe was illiterate and had to rely on stories or images for their knowledge of the Bible and other Christian texts. Romanesque artists conveyed the Christian message to the faithful mainly through the sculptural programs that adorned architectural elements of the church, and by large mural paintings. Tapestries, most of which are now lost, often hung along the aisles, adding color and warmth to the interior.

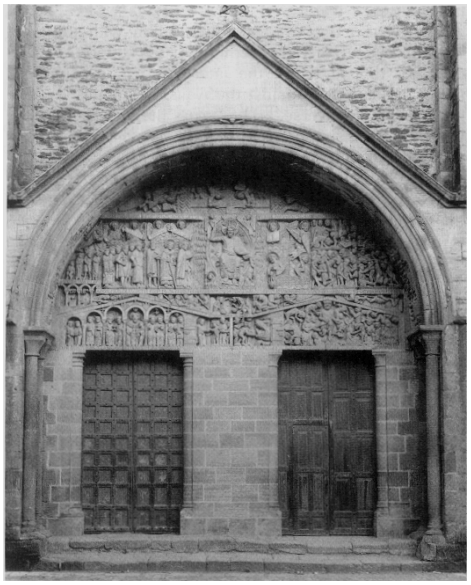


12.3 Plan of Sainte-Foy, Conques, c. 1050-1120.

1 Nave
2 Aisle
3 Crossing
4 Choir
5 Transept
6 Chancel
7 Apse
8 Ambulatory
9 Radiating chapel

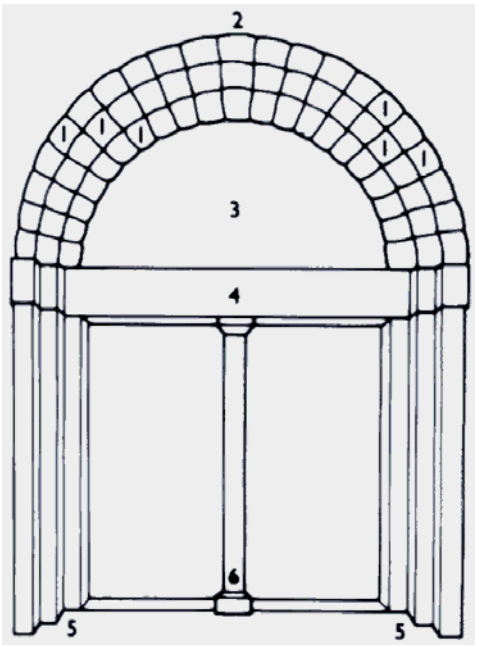
Sculpture

Perhaps the greatest impact on the Christian world was created by the images carved in relief at the church entrance. The primary purpose of such images was to attract attention and encourage worshipers to enter. The area immediately around the doorways, or **portals**, would have contained the first images encountered by the worshipers as they approached the church. The layout of the architectural sections around the portals is fairly consistent in medieval churches, and is diagramed and labeled in figure **12.4**. What varies from building to building is the **program**, or arrangement and meaning, of the subjects depicted on each section.



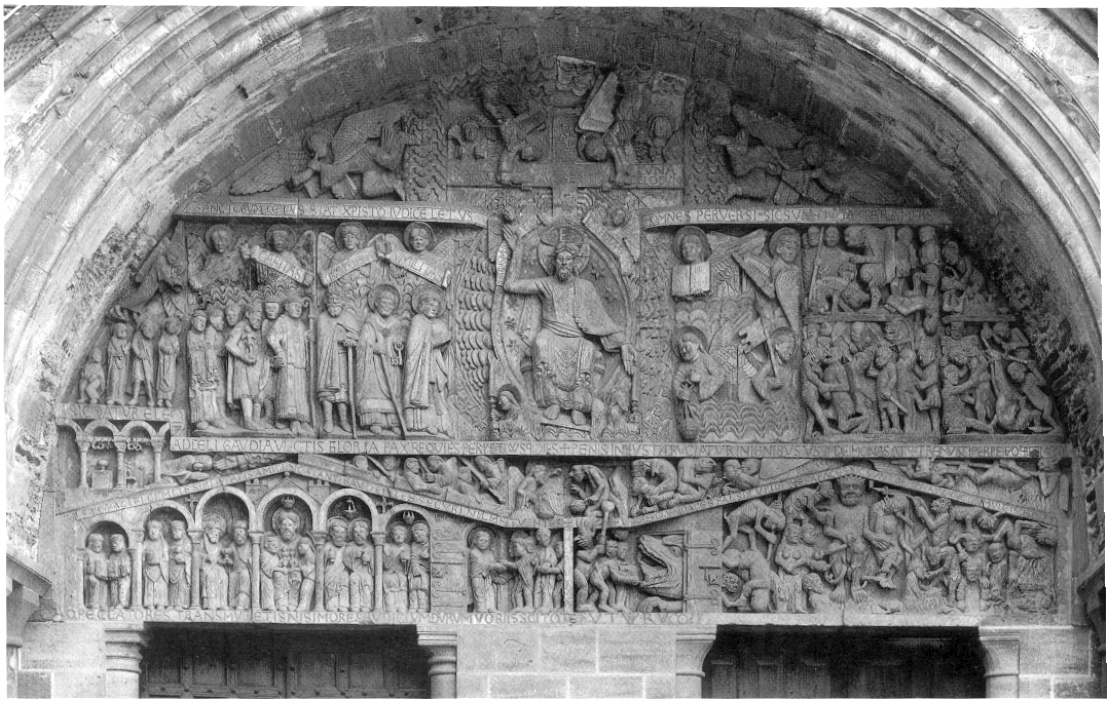
12.5 West portal with tympanum, Sainte-Foy, Conques. c. 1130. Stone, c.12 x 22 ft.

At Conques, the relief sculpture on the western portal (**fig. 12.5**) is confined to the tympanum and the lintel. The scene is the *Last Judgment* (**fig. 12.6**), in which Christ the Judge (**fig. 12.7**) determines whether souls will spend eternity in Heaven or Hell. It conforms to the iconographic norm in its overall arrangement. The figures on Christ's right (the viewer's left) and on his level are saints and churchmen. Above them, angels hold arches made of scrolls. Below, also on Christ's right, are figures framed by round arches. Christ's left hand is lowered, toward Hell, which lies even lower down. His gesture directs the viewer's attention to the damned souls falling and being tortured by devils. In the center of Hell, on the viewer's right, is the crowned figure of Satan. He and his company of



1 Voussoir
2 Archivolts
3 Tympanum
4 Lintel
5 Door jamb
6 Trumeau

12.4 Diagram of a portal



12.6 *Last Judgment,* tympanum of west portal, Sainte-Foy Conques. Christ is both the central and the largest figure. He is surrounded by a **mandorla,** an oval of light (an eastern motif), and his halo contains the cross. He raises his right hand, reminding the viewer that the souls on his right will be received in Heaven—a visual rendition of the advantages of being "on the right hand of God."

devils, together with the damned, are entwined by snakes. They are symmetrically opposite the figures under round arches on the left side of the lintel. Note that the saved souls on Christ's right are neatly arranged under framing devices, whereas the damned, on Christ's left, appear jumbled and disordered.

At the center of the lintel, directly below Christ, the traditional right-left Christian symbolism prevails. Two individual scenes are divided by a vertical. On Christ's right, angels welcome saved souls into Heaven. On Christ's left, a grotesque devil with spiked hair and a long nose brandishes a club at a damned soul. The latter bends over as if to enter the gaping jaws of a monster, which pokes its head through a doorway. This image combines two traditional Christian metaphors: the "Gate of Hell" and the "Jaws of Death."

12.7 *Christ the Judge,* detail of tympanum of west portal, Sainte-Foy, Conques.

Images of Heaven and Hell vary as Christian art develops. The basic arrangement of the *Last Judgment,* however, is fairly constant. It is intended to act as a reminder of the passage of time. The world, it warns, as well as individual human existence, is finite. Ultimately, there will be an accounting and a judgment.

Capitals

A unique development in Romanesque architecture is the use of the capital as a new surface for sculptural decorations. These might include abstract ornament, narrative scenes, or individual figures. A famous Romanesque capital—from the French Cathedral in Autun, Burgundy—represents a scene from Christ's childhood: the *Flight into Egypt* (**fig. 12.8**). In this image the Holy Family flees the edict of King Herod, which decreed the death of all male infants under the age of two. Joseph leads a lively, high-stepping donkey which is carrying Mary and Christ out of Bethlehem into Egypt. On the Autun capital, decorative foliage covers the background, and design-filled circles support the figures. The open and closed circle designs are repeated in the borders of the draperies, on Joseph's hat, on the halos, and in the donkey's trappings. This taste for elegant surface design is a characteristic of Romanesque sculpture. Also typical are the repeated curves representing folds. These are carved into the draperies more for their patterned effect than to define the organic quality of the figures. In

Joseph's tunic, the surface curves enhance the impression of backward motion, as if the cloth had been blown by a sudden gust of wind.

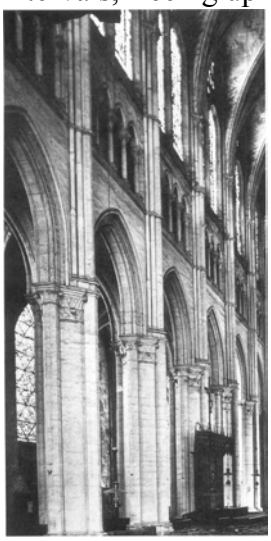
The Romanesque artist's disregard of gravity is evident in the figure of Christ. Facing front, with his right hand resting on a sphere held by Mary, he is suspended between Mary's knees, with no rational support for his weight. He is depicted as a *homunculus* ("little man"), babylike only in size, having neither the physique nor the personality of an infant. This depiction of Christ as a child-man, partly a reference to his miraculous character, is a convention of Christian art before 1300.

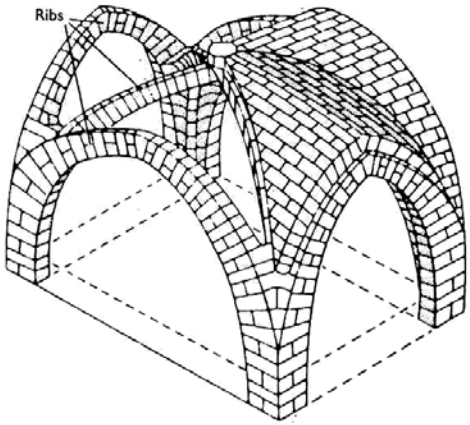
12.8 Gislebertus, Capital with *Flight into Egypt*, from Autun Cathedral, France, c. 1130. At Autun we encounter the only sculptor to inscribe his name in the tympanum of a Romanesque church. Little is known about Gislebertus, but his distinctive artistic personality influenced other sculptors considerably.

Elements of Gothic Architecture

None of the individual architectural devices that Abbot Suger (soo-ZHAY) and his builders used was new. They can all be found in the various regional Romanesque styles of the preceding centuries. It was Suger's revolutionary synthesis of these elements that created the Gothic style.

Ribbed Groin Vaults In Gothic architecture, the ribbed groin vault (**fig. 13.3**) supersedes the earlier barrel vaults. The advantage of the groin vault is that it requires less buttressing. The barrel vault exerts pressure along its entire length and so needs strong buttressing. The weight of the groin vault, however, is concentrated only at the four corners of the bay. As a result, the structure can be buttressed at intervals, freeing up more space for windows. The addition of ribs also enabled Gothic builders to reinforce groin vaults and to distribute their weight more efficiently. The ribs could be built before the intervening space (usually triangular or rectangular) was filled in. Because of the weight-bearing capacity of the ribs, the vault's surfaces (the **web**, or infilling) could be made of a lighter material.





13.3 Diagram of a ribbed groin vault. A groin vault is created by the intersection at right angles of two barrel vaults, thus forming four bays.

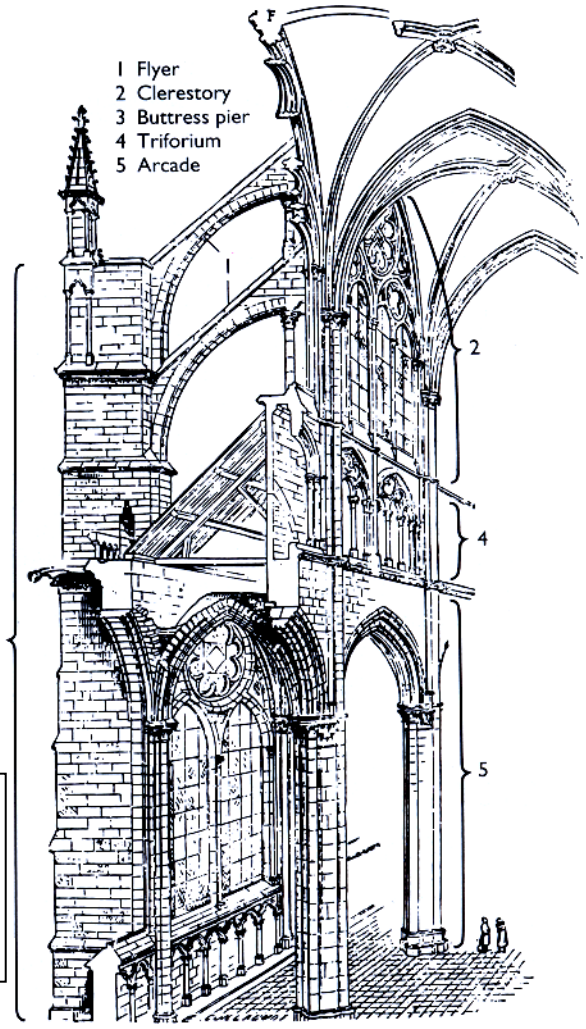
Piers As the vaults became more complex, so did their supports. One such support is the **compound**, or **cluster, pier** (**fig. 13.4, left**). Although compound piers had been used in Romanesque buildings, they became a standard feature of the Gothic repertory. The ribs of the vaults formed a series of lines which were continued down to the floor by **colonnettes** (thin columns) resting on compound piers.

With this system of support, the Gothic builders created a vertical unity that led the observer's gaze upward to the windows, the architectural source of interior light. The pier supports, with

their attached colonnettes branching off into arches and vaults, have been compared with the organic upward growth of a tree.

Flying Buttresses In Romanesque architecture walls performed the function of buttressing. This reduced the amount of available window space and therefore light. In the Gothic period, builders developed the flying buttress, an exterior structure composed of thin half-arches, or flyers. This supported the wall at the point where the thrust of an interior arch or vault was greatest (**fig. 13.5**).

Pointed Arches The pointed arch, which is a characteristic and essential feature of Gothic architecture, can be thought of as the intersection of two arcs of non-concentric circles. Examples are found in Romanesque, but in a much more tentative form. In figures 13.4 and 13.5 all the arches are pointed. Dynamically and visually, their thrust is far more vertical than that of a round arch. The piers channel the downward thrust of the pointed arch, minimizing the lateral thrust against the wall. Unlike round (semicircular) arches, pointed arches can theoretically be raised to any height, regardless of the distance between their supports. The pointed arch is thus a more flexible building tool, with more potential for increased height.



13.5 (right) Section diagram of a Gothic cathedral (after E. Viollet-le-Duc). The **elevation** of the Gothic cathedral illustrates the flyers, which transfer interior thrusts to a pier or exterior buttress. Since the wall spaces between the buttresses were no longer necessary for structural support, they could be pierced by large windows to achieve the desired increase in light.

The Skeleton The features described above combined to form what is called a "skeletal" structure. The main architectural supports (buttresses, piers, ribs) form a "skeleton" to which non-supporting features, such as walls, are attached. Thus, Gothic builders had, in effect, invented a structure that biologists would describe as exo-skeletal. An exo-skeletal creature is one, such as an armadillo or a crab, whose skeleton is on the outside of its body.

Stained Glass Windows Finally, the light that had so inspired Abbot Suger required an architectural solution. That solution was the stained glass window. Suger was not seeking natural daylight, but rather light that had been filtered through colored fragments of glass. Light and color were diffused throughout the interior of the cathedral, producing a quite different effect from Early Christian and Byzantine buildings. The predominant colors of Gothic tend to be blue and red, which are more subdued than the brilliant gold of mosaics.

Early Renaissance Architecture

Brunelleschi

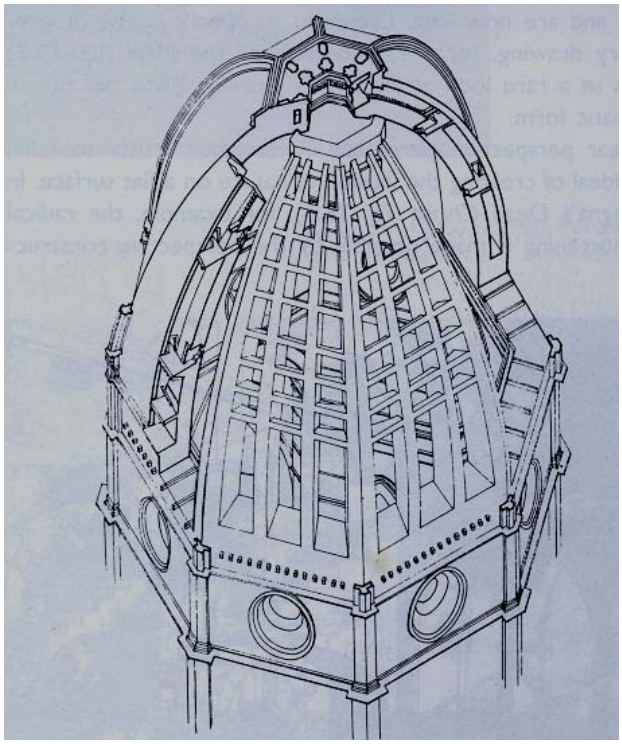
Brunelleschi was the seminal figure in Renaissance architecture. After losing the Baptistery competition to Ghiberti, he was said to have given up sculpture. He moved for a few years to Rome, where he studied ancient buildings and monuments. The sixteenth-century biographer of the artists, Giorgio Vasari, records the effect of Rome on Brunelleschi:

"Through the studies and diligence of Filippo Brunelleschi, architecture rediscovered the proportions and measurements of the antique.... Then it carefully distinguished the various orders, leaving no doubt about the difference between them; care was taken to follow the Classical rules and orders and the correct architectural proportions...."

The roots of Brunelleschi's early architecture can be traced to Classical precedents. In contrast to the complexity of Abbot Suger's search for perfect mathematical ratios based on musical harmonies, Brunelleschi's concept of architectural beauty lay in strict, but simple, proportions. Shapes such as the circle and square and simple ratios formed the basis of his designs. He constructed round, rather than pointed, arches, which were supported by Classical columns instead of Gothic piers. In introducing these systems, Brunelleschi contributed to the Renaissance revival of Classical forms and to the rejection of the Gothic.

The Dome of Florence Cathedral. On returning to Florence about 1410, Brunelleschi became actively involved in the design and execution of the dome of Florence Cathedral (**fig. 15.3**), across the way from the Baptistery. The dome of the cathedral had been a perennial problem for the Florentines. In 1294 they had decided to rebuild their old cathedral and in the course of the fourteenth century they had enlarged the original design. By the fifteenth century the cathedral required a dome to surmount an octagonal drum (already in place) measuring 138 feet (42 m) across.

15.3 Exterior of Florence Cathedral. According to Vasari, Brunelleschi's rivalry with Ghiberti did not end with the Baptistry doors. Ghiberti's political connections won him a commission to work with Brunelleschi on the dome of Florence Cathedral for equal credit and equal pay. Brunelleschi found fault with Ghiberti's work and ideas, but his protests fell on deaf ears. It was not until he took to his bed, feigning illness and refusing to advise on the project, that Ghiberti was removed—although he was allowed to keep his salary.



15.4 Axonometric section of the dome of Florence Cathedral. The dome has a total of twenty-four ribs. Eight primary ribs, approximately 11 by 7 feet (3.35 x 2.13 m), taper upward, one from each of the corners of the octagonal drum. These are visible from the outside, but the two secondary vertical ribs that lie between each pair of primary ribs are not. The overall height of the dome is slightly over 100 feet (30.48 m), compared with a radius of less than 70 feet (21.34 m), making the dome pointed rather than perfectly hemispherical.

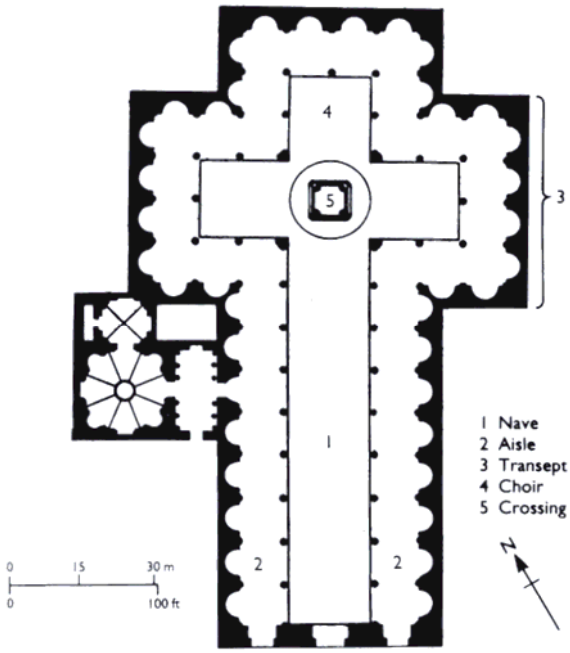
In Rome, Brunelleschi had learned from the Pantheon—whose hemispherical dome was 142 feet (43.28 m) in diameter—that it was theoretically possibly to span an opening of this width. However, the design of Florence Cathedral did not lend itself to Roman building techniques. The octagonal drum in Florence was too weak to support a heavy concrete dome, and it was also too wide to be built with wooden centering, as in the Middle Ages. Between 1417 and 1420, Brunelleschi developed his proposal for a horizontal construction plan based on a system of vertical ribs to strengthen the dome (**fig. 15.4**). He reduced the weight of the structure by building two thin shells, comprising a single dome and connected with horizontal ties placed at intervals. He also constructed the walls of the dome at a steep angle, so that they rose 58 feet (17.68 m) before needing support from below. Brunelleschi's plan was accepted. This undertaking was to last until 1436, and

Brunelleschi died before the cupola, which he also designed, could be completed. The end result was nevertheless a triumphant success, as figure **15.3** shows the cathedral dominating central Florence today.

Vasari's *Lives*

Giorgio Vasari (1511–74) was a Mannerist architect and painter (see p.275). Born in Arezzo, he lived and worked in Florence for the Medici family. Cosimo I commissioned him to design the Uffizi Palace. This was originally a building for the government judiciary, but is now the most important art museum in Florence.

Vasari's architecture and painting are overshadowed by his writings. His major work, *The Lives of the Most Eminent Italian Architects, Painters, and Sculptors*, is the first full account of Renaissance art. The first edition of 1550 began with Cimabue and ended with Michelangelo, a friend and contemporary of Vasari. A second edition gave more prominence to painting, and included Vasari's own autobiography. Although Vasari's facts are not always accurate, he is a major source of information about art and artists in the fourteenth, fifteenth, and sixteenth centuries. Vasari believed that medieval art was an inferior product of the Dark Ages, which were no more than an unfortunate interlude between Classical antiquity and the Italian Renaissance.



15.8 (left) Filippo Brunelleschi. Plan of S. Spirito, Florence (after R. Sturgis). The depths of the choir and transept arms are equal. The perimeter forms a continuous ambulatory, which, apart from the western end, is ringed with semicircular chapels—forty in all.

15.9 Filippo Brunelleschi, Interior of S. Spirito, Florence, facing east. Begun 1436. Each double bay of the nave forms a large square equivalent to four modular squares. The larger square is repeated in the crossing bays, the transept arms" and the choir. The semicircle of each chapel is one half the size of a circle that would fit exactly into the square module. If the larger squares were cubed and placed one on top of another, they would exactly match the height of the nave. The height of the side aisle is exactly half that of the nave.

Santo Spirito, Florence. In his church architecture, Brunelleschi rejected medieval, and especially Gothic, style and reverted to the relative simplicity of the Early Christian basilica. The Church of Santo Spirito, begun in the early 1430s, illustrates the basic principles of his architecture—simplicity, proportion, and symmetry. Spatial units are based on the square module formed by each bay of the side aisles, and the whole geometry of the structure is based on a series of interrelated circles and squares.

The plan (**fig. 15.8**) is a Latin cross whose four arms are similar in size, except for the greater length of the nave. The semicircular arches in the nave and the side aisles, supported by Corinthian columns (fig. 15.9) reduce the size and height of the church to humanistic proportions. As a result, there is much less space in the structure for stained glass or the luminous quality characteristic of Gothic cathedrals.