

characteristics infused themselves in both art and philosophy. As Arabs on the fringes of the geographic limits of the Eastern Empire grew wealthier and more influential, they began to settle within the boundaries of the empire and erect their palaces. Eastern Christianity itself retained more of the mystical qualities characteristic of Asia Minor. Constantine and his successors, incidentally, had very little trouble retaining at least part of the feeling of divinity historically accorded Oriental rulers. They established themselves at least on the level of the apostles and are frequently depicted with halos in art works.

The gradual erosion of the naturalism of the Hellenistic style eventually produced a distinctly flattened composition in which the figures, background, and decoration were all established on the same plane. This lack of three-dimension (in the Greek and Roman sense) had, of course, been typical of all Eastern art since the Egyptians. Several decorative elements and compositional motifs can be traced from as far east as India. The human figure was flattened out too. Stylistically this fit with the compositional system, but it was also related to the "other world" quality of Eastern mysticism present in the Byzantine church. This quality can be seen in the Greek Orthodox icons, as already mentioned, and reached its finest flowering in the Russian churches of the fifteenth and sixteenth centuries. Naturalistic space, found in good quality Greek and Roman relief, gave way to space which was not only flattened but totally filled. As figures became more abstract to fit with the non-figurative elements and decoration, the distinction between positive shape (figures) and negative space (background and decoration) became almost impossible. This is and always has been a defining characteristic of the Persian style. Persia, more and more, became a major influence on Byzantine art. Because of Persia's ancient and refined culture and art, it became the fountain for Moslem art beginning in the seventh century. The Persian drilled (instead of carved) column capital is an example of one major ornamental element to enter Byzantine architecture (and subsequently Western Romanesque). The Consular Diptychs from the very early years of the sixth century and the Sidamara Sarcophagus, as well as several examples of book illumination, illustrate the growing influence of Oriental motifs.

We are at a disadvantage in trying to find examples of many of the lesser arts from the First Golden Age (c. 532-726) because so much of it was destroyed in the Iconoclast Controversy, which lasted until 843. In the year 726 Emperor Leo issued a ban on imagery (iconography). The edict came as the result of control by strict fundamentalists, influenced to some extent by Hebrew scholars, who interpreted the laws of Moses (and other references in the Old Testament) with regard to idolatry to mean that art images were heresy. If the mosaics and decoration in churches built prior to the controversy can be taken as examples of the art of the First Golden Age, a great deal of very high quality work was destroyed. These mosaics were whitewashed during the period of the controversy (and once again during the reign of the Ottoman Turks, who were Moslems also opposed to imagery).

The full flowering of the First Golden Age can be seen best in two locations in the middle of the sixth century--Byzantium (in later years

called Constantinople after the Emperor Constantine) and Ravenna. In both cases, the outstanding examples are churches and their magnificent decoration in the form of mosaics, multi-colored marble, and glass.

Hagia Sophia (Holy Wisdom), begun in 537, is one of the most daring monuments of architecture in history. It was commissioned by Emperor Justinian, the greatest ruler of the Byzantine Empire, who was able not only to fight off the barbarians from the north but also to recapture portions of the old Roman Empire as far west as Venice and Ravenna. According to legend, his empress, Theodora, was a Greek prostitute who had been converted to Christianity and elevated by the emperor to a status almost equal to his own (both her status and her appearance in art works is unique for this era).

The architects of Hagia Sophia were Greeks from Miletus on Asia Minor named Anthemitus and Isidorus. Most monumental buildings evolve from sources which are traceable, but no known precedent for Hagia Sophia exists. It was, in truth, an experimental building--a venture seldom attempted on such enormous scale. There is some record of imperfections in the original design which caused a series of disastrous accidents and a consequent redesigning of the support elements. Some changes can be seen by engineers who know what they are looking at. The dome has collapsed twice, and the present dome, higher and pierced with forty arched windows at its base, was built in the ninth century.

The construction principle of Hagia Sophia is known as the pendentive support system. The floor plan itself is essentially a square with short arm crosses off the main vault. Four massive pillars support the inward curving pendentive upon which the dome rests. The dome is 107 feet in diameter and 180 feet off the floor. It is partly buttressed on each side by two half-domes at lower levels. At each corner, buttressing the two half-domes, are still smaller half-domes, lower still in profile. At the gallery level are four cross-vaults on each side of the lateral mass of the domes. The contained interior space is vaster than that of the Pantheon, which was the greatest domed structure up to that time. More than space, the effect of the color and light contribute to the marvelous quality of the church. The altar once rested in the traditional apse section but was removed when the church became the Mosque of the Holy Wisdom in the fifteenth century, at which time the minarets were also added. After six centuries it was designated a museum by the Turkish government, and the restoration of the once great church has just been completed.

Two other important churches were built in Ravenna, Italy, during the reign of Justinian--Sant Apollinaire Classe and San Vitale. Ravenna was the fortified western outpost of Byzantine (located about eighty miles south of Venice). Built in land-filled swamps, it had become a refuge for deserting officers of the Roman army when the barbarians sacked Rome in 476, and it was later captured by Theodoric the Goth, an Arian Christian. Sant Apollinaire had been built originally by Theodoric. After Justinian's army recaptured Ravenna, the church was rebuilt and enlarged to its present state, and all references to Theodoric and Arianism

(declared to be heresy in about 330) were stripped to make room for new mosaics in the Byzantine style.

San Vitale is a lovely central-plan church with an octagon dome supported by an equal number of piers and an extraordinarily complicated vaulting system that form a double-decked octagon of arcades. There is no explanation as to why the exterior porches and abutments are off symmetry. As was the case with Hagia Sophia (indeed with all Byzantine churches), a strong part of the total effect is achieved by light and the use of rich color in the form of mosaics of uneven surface to fragment the light.

After the close of the Iconoclast Controversy--during which artists had to content themselves with totally abstract designs inspired by organic forms, some of them Egyptian inspired--the Second Golden Age began. We are deprived of a full-scale display of a great deal of art from this period too because of the vast amount destroyed by the Moslems (and stolen by the Crusaders in 1204). But as is the case in the First Golden Age, mosaics and religious paraphernalia in the churches give us a major clue to the sum of the style. The Second Golden Age is the period of small churches, many of them missions, scattered throughout the empire (Middle East, Balkans, western Russia, etc.).

The pendentive style church was replaced by the four-columned one, which, although small in area, was much taller and had high, narrow-diametered domes. A main structure vault, supported on three corners against the buttressed wall and on the interior corner by a column-pier, held a pendentive-like curve on which the dome rested. With narrow vaults, sufficiently piers, many lightweight small domes could be raised. This feature was evidently most attractive to the Russians, who built many multi-domed churches.

The last major architectural monument of the western regions of the Byzantine Empire is the Cathedral of St. Mark in Venice. It was begun in 1063 on a plan of an equilateral cross with pendentive vaults to support its five domes. All five domes are smaller unengaged domes, unlike Hagia Sophia, and all have clerestory windows. St. Mark's is rich in mosaic and gold panel decoration. The narthex and porch with its onion-shaped Islamic arches were added in 1215 (faced with marble and limestone looted from the Mosque of Cairo, which had been, in turn, stripped from the pyramid of Cheops). By 1204 Venice had severed its ties with the Eastern Church and had become aligned firmly with Rome, but the character of St. Mark's preserves its more ancient ties to Byzantium.

Stylistically, the mosaics of the Second Golden Age do not vary much from those of earlier times, but there is a fascinating change in the treatment of some subject matter. In many instances Christ seems to be installed as an emperor in royal attire, with a majesty heretofore afforded only kings. Most notably, he is frequently depicted with an expression of wrath, even harsh brutality. This is quite inconsistent with earlier images of the gentle savior or the good shepherd. Christ has become the unwaivering judge and all-powerful ruler in the potentate

tradition which was part of the centuries old Oriental heritage. This attitude prevailed mostly in the East but spread up through the Balkans into the Holy Roman Empire, perhaps with refugee monks during the controversy. Elements of it remained in some Romanesque and Gothic sculpture until the time of Francis of Assisi.

From about 700 the Byzantine Empire experienced a succession of minor Moslem invasions which chipped away at its eastern borders. A major thrust by the armies of Islam pressed almost to the gates of Constantinople in 717 but was turned back. In 1204 the Normans, allied with the Venitian navy, diverted from their original purpose--to carry the Fourth Crusade to the Holy Land to free Jerusalem--and sacked Constantinople. Byzantium was seriously weakened when the alliance installed a western king on its throne. The event also drove the wedge between the Orthodox and the Roman Church even deeper. In 1453 Mohammed the Conqueror, an Ottoman Turk, succeeded in unifying the armies of all Islam and captured the city, and the Byzantine Empire fell. The Byzantine style in the arts, however, continued to prevail in the West, where it was incorporated with Italian styles in a form which would not be displaced completely until the Renaissance in the fifteenth century.

The Art of the Barbarians and the Medieval West

Strictly speaking, the term *barbarian* is Roman in origin and was used by them to denote any non-Romanized people. In terms of art it really applies only to styles by people with whom the Romans had little or no contact--the wandering warrior tribes from the north and east. The first waves of wandering peoples seem to have appeared in western Europe around 200. The period of migrations (c. 200-c. 700), though a fascinating one, has posed problems for historians and anthropologists for a long time. The origins of these wandering peoples are not completely clear, and they eventually intermixed. For the most part, they probably did not come to war with the Romans but to settle within the boundaries of the Roman Empire. The Romans fought them off and they moved on. They also fought each other. The Vandals, for example, were driven, first by the Goths and later by the Romans, from eastern Europe down through France and Spain clear into North Africa, where they eventually mixed with the Moors and Arabs to threaten Spain in the tenth century. In 378 the Visigoths, mistreated by the Roman frontier army on the Danube, rose up against them and defeated them in the battle of Adrianople. With this defeat the Roman army, many of whom were barbarians in Roman service as mercenaries, gave up, and the tribes roamed at will from then on. Best known of the early barbarians were the Huns and their brilliant leader, Attila. For many centuries the marauding Vikings terrorized Europe; in their ships they ranged from Scotland to Malta and, of course, westward to Iceland, Greenland, and North America.

Actually, several of the barbarian peoples had been converted to Christianity before the Edict of Milan. In some cases it was to varieties of Christianity later to be declared heresy by the Roman council. One of the strongest sects was known as Arianism. Bishop Arius of Alexandria

had been exiled from Roman lands for preaching against the accepted doctrine of the "oneness of Jesus and God" by proclaiming that God was indeed the only divinity and Christ was a mortal. The last of the barbarians to become Christians were the Vikings in the eleventh century.

The theme of Christianity does not enter into the art of the barbarians to any extent. Generally, art was confined to ankle and arm bands, pins to hold their clothing (called *fibulae*), weapons--as was the case with the art of the non-Christian tribes. Barbarian ornaments are highly abstract, non-figurative, and Eastern in character. Certain jewelry forms and the art of cloisonne (enamel inlaid within metal or wire shapes that become part of the linear quality of the design) have been traced to China. The main emphasis of barbarian art is on the linear rather than on shape. Three-dimensional qualities are totally ignored in favor of strong, flat pattern. They knew the technique of soldering and bronzing as well. The extremely intricate and involved designs frequently depict demons, animals (real and imagined), and organic patterns. Many of the design elements are combined with the more sophisticated, but equally abstract, forms of Byzantine art in the early book illumination style known as Merovingian.

Occasionally, among the slightly more permanent and wealthy tribes, carved caskets were used. In areas influenced by the Vikings, such as Scotland and the east coast of England, the ritual of the ship funeral has provided very rich grave sites. The most famous are Sutton Hoo, England, and Oseberg, Norway. Spectacular examples of carving come from the ship graves.

With the political and social chaos in the West, the establishment of monasteries became very significant. The most active of the early missionary orders was that founded by Benedict. The Benedictine Order, organized in 529, established south of Rome at Monte Cassino, is often called "the keeper of the flame of early Christianity." From this home monastery the Benedictines had, by the ninth century, stretched their influence into Switzerland, France, and southern Germany. In monastic libraries, such as that at Monte Cassino, the slender thread of Western humanistic learning from the Greco-Roman period was kept alive--ignored officially but preserved until the advent of the Renaissance once again made such things relevant.

It is difficult to imagine how much culture and art would have been lost forever during those difficult days were it not for the monastic libraries. Copying ancient manuscripts preserved Roman painting as well as Roman and Greek treatises on science, philosophy, medicine, etc. Skills, trades, technology, and the crafts were kept alive and, perhaps most important of all, the arts of reading and writing themselves may well have been preserved by their system of education, however narrow in concept.

When the development of the leafed codex replaced the scroll around 450-500 in France, legions of monks were set to the task of copying off the scrolls onto flat leaves, which were then bound. The artist-monk now had specific boundaries of space, delimited by the dimensions and shape

of the flat page, to deal with.

Manuscripts were produced in nearly all places where monasteries existed. They had been essential during the migration period to the conversion of the barbarians. Their early style, which persisted until the time of the Carolingian period (c. 750), is known as Merovingian. Two extremely important schools of manuscript illumination developed during this period. The first was the Celtic-Anglo school of the British Isles and the second, the Germanic school.

When Patrick of Auxerre was made Bishop of Ireland, he assembled a group of monks and set sail for Ireland in 431. Building upon several sects of unorthodox Christianity for thirty years, he was able to unify the British Isles under a single monastic structure and spawn the Golden Age of the Irish style. During the Iconoclast Controversy in Byzantium, many refugee monks joined the monastic centers at Kells, Lindisfarne, Durrow, and other locations along the Northumbrian area of East Britain. The result was a remarkable blend of native Celtic restless dynamism and the sophisticated pattern of Byzantine. It combined the complicated interwoven eccentricities (non-symmetrical) of the native barbarian style with the flat decorative characteristics of Byzantine. It was definitely anti-classical for these reasons. Balance and repose, so often admired in classical art, seemed to be consciously avoided by the Irish manuscript illuminators. One often hears the term *woven* with regard to the pattern of the Celtic-Anglo books. Often frontispiece and monogram pages are referred to as "carpet" pages and do resemble Persian carpets in appearance.

The Irish monks penetrated the continent in the regions of southern France and Switzerland and even made inroads into Italy itself as missionaries in competition with the Benedictines. It was inevitable that they would come into conflict with the Benedictines, whose northern monasteries were producing books in the style known as Germanic. In part this was over doctrine, and Rome was on the side of the Benedictines. The Irish Church was always suspect because of its incorporation of barbarian elements declared to be unorthodox, if not downright heretical. Gradually, primarily because of the strong influence of Bishop Windred (later St. Boniface), Papal Apostle to the Germans, spheres of Irish control defected to the Germanic monasteries, including Lindisfarne (where the Book of Gospels made fifty years earlier presents a brilliant example of Irish illumination) and Canterbury. The leadership of Augustine, first Archbishop of Canterbury, was also an important factor in the realignment.

Perhaps the most magnificent example of Irish manuscript painting is the famous Book of Kells of the late eighth century. The beautifully painted monogram page with its design woven around the flawless script of the letters *CHI* (the first three letters of *Christ*) is the climax of the Golden Age.

Other examples of the barbarian-Byzantine blending of style can be seen in the many roadside stone crosses that survive. Irish architecture

is not monumental. This is no doubt due in part to the lack of urban centers such as were found on the continent, but some of the reason also lies in an element of Irish character. The Irish just plain did not see the purpose of large buildings. As monasteries and schools grew, instead of building a larger church they just built another small one. There were seven at the monastery of Glendalough. Furthermore, the plans defied all of the accepted rules of architecture, at least as far as the Romans were concerned. The writer Tacitus wrote that he simply could not accommodate himself to Irish architecture, which was not arranged or conceived with any kind of plan. He speaks of the symmetry and order of Roman architecture, conceived with a plan--the leveling of the site, the alignment of the axis, and the regularity of the construction. These seem to have been not only missing in Irish churches but not missed either.

The climax of Irish genius came about 780, and a gradual decline had set in by the time of the first Viking raids in 800. By 860 forays with as many as two hundred ships literally wrecked Ireland, and the Golden Age came to a sudden close. Almost everything around the coast was obliterated, and much destruction took place inland as well. For the next two hundred years the Vikings were the scourge of Europe and the Middle East.

The Germanic manuscripts carried some barbarian stylistic elements in the earliest period, about 450, but by the seventh century had become Italianized, and the late Hellenistic forms prevailed. This is especially true in depictions of figures. Some attempts are made at shadowing, and the use of perspective, while crude, suggests some third dimension and containing space. Germanic illumination does not show as much originality as Irish because the Benedictine Order (and others with strong ties to Rome) was quite strict and very specific as to what and how scriptures should be illustrated. This led to copies of copies of copies of original books considered to be authoritative.

Under Charles the Great (771-814) western Europe was finally organized into a central government. He was a tough old warrior who thought of himself as heir to Caesar and who sought to impose the old Roman order on his kingdom. The Carolingian kingdom reached from the Pyrenees north, including the old Frankish lands (except Burgundy), to Denmark and parts of present-day Germany and Austria, and south to just above Rome. In a political move to prevent his own destruction, Pope Leo made an alliance with Charles in 800. On Christmas Day in the Basilica of Old St. Peter's, Charles was crowned Emperor of the Holy Roman Empire and took the name Charlemagne.

Charlemagne, scarcely literate himself, surrounded himself with artists and scholars to foster a cultural revival to fit his dreams of a rebirth of the grandeur of the Roman Empire. Among his most illustrious scholars was Alcuin of York, who lived only four more years after Charlemagne's coronation, but in that time established the education system among the monastic towns of the empire and brought the best illuminators in Europe to the court of Charlemagne at Aachen. Some aspects of Irish illumination held their own in the polyglot of styles that is characteristic of the Carolingian period because Alcuin had brought Irish monks from York to

Aachen with him. Actually, Carolingian manuscripts display a bewildering range of styles and trends. Although some beautiful examples have come down to us, they, like a great deal of illumination, show very little originality at times. After all, the business of the artists was to reproduce, not create, and their books were utilitarian. Of special interest, however, are the artistic aspects of book covers such as those of the Bible of Charlemagne and the Coronation Gospels.

There is one major Carolingian illuminated manuscript that towers above all others--the Utrecht Psalter (c. 830), some 108 vellum leaves of psalms, canticles, and parts of the mass. The illustrations are in brown ink and are not only about the text material but also include an enormous amount of contemporary material: men working, landscapes, tools and machines, birds and beasts. It was very famous in its own time, and many copies were made of it (as late as the seventeenth century). For this one time, the artist was given (or took) the freedom to make an original contribution. Even the style is non-traditional--almost impressionistic. It is primarily linear in feeling, and the lines are broken and given weight so as to create an almost cursive sketch quality. Its unknown creator must have been trained in the Irish tradition, from which his marvelous linear manipulations obviously spring. The narration is of a "continuing" kind--successive built-up visual experiences. Irish or not, the artist was also familiar with late Hellenistic, or Roman, art because, unlike most Celtic-Anglo examples, his illustrations display knowing use of negative space to create a setting rather than just a flat pattern.

Charlemagne also encouraged the revival of Roman engineering principles and the use of stone. With the abundance of wood, stone was not used much except for permanent fortifications (which did not utilize Roman building principles). Examples of structures built by the Romans during the days of the empire still existed and were probably admired, but Roman engineering was not understood by the barbarians or their immediate successors. Charlemagne went to Rome to recruit architects and also hired architects from Ravenna (by now a Frankish kingdom having been captured by his father, Pippin the Short, around 760). Central plans, such as that used for San Vitale, impressed him very much, and he requested a similar plan for his palace at Aachen. Thus important aspects of Roman engineering, such as vaulting, arcade systems, dome supports, etc., were brought into the West and became the starting point for the Romanesque style.

Certainly the most fascinating architectural plan of the Carolingian period was for a large, self-sufficient monastery at St. Gall, Switzerland. It was never built, but a copy of the plan survived in Charlemagne's library. The unique feature of the complex was the shifting of some of the traditional forms of the basilica. The atrium was moved to the south side of the church, and there was an apse with a raised gallery at each end. Built around the atrium (now called a cloister court) were the storerooms, kitchens, and refractory. It was abundantly clear that the church was to be the nerve center of the monastery. The plan is dated 819. Other monastic churches, such as St. Denis, retained the

atrium, or courtyard, in front but often made use of the double apse feature with bell towers. Later Carolingian churches, as well as those pre-Romanesque churches from the transitional period known as Ottonian (900-c. 1000), lengthened the east apse and moved the altar almost into the transept. This feature would be present in Romanesque and to a greater extent in Gothic building. The abbey church of St. Michael at Hildesheim, Germany, is a fine example.

ROMANESQUE ART

Around the year 900 the political and social character of western Europe underwent a sudden change. Europe's population increased rapidly and the economic resources to meet the needs of more people were developed. As main trade routes became established, towns were strategically located on those routes. Every town had its church, and every town of major size had its cathedral. There followed a resurgence in building, and since sculpture, mosaics, glass making, and other crafts were part of architectural expression in this time, these arts also flowered.

The Romanesque period (c. 975-1150) saw the climax of two important social forms: feudalism and monasticism. The former preserved strong local control (sometimes in defiance of kings), and the latter preserved the single unifying authority existing in Europe at this time, the Catholic Church. Even so, the administrative rule, both religious and secular, of Rome was challenged from time to time as new orders arose to purge and replace the power of older ones. The theology of the Church was seldom challenged in this period even though its secular power often was. In any self-serving administrative organization, such as that developed by the Catholic Church by this era, there is bound to be corruption and struggle for power. The powerful Benedictines, accused of worldliness and corruption, splintered into new reform orders--the Dominicans (Black Friars), the Cluniacs, and later, the Cistercians. It was a time of considerable religious fervor and, until the Gothic period (c. 1150), each reform of the monastic system gathered its strength from the ideal of retreat from the world to practice self-denial, poverty, and seclusion. In Gothic times, the inactive life of prayer would be replaced by the active life of positive Christian deeds with the support of God's intercession.

Other important phenomena of the period were the Crusades and the endless pilgrimages from Europe to the Holy Land. In some towns large churches were constructed to accommodate the travelers to Palestine, and sections of monastic abbeys were built for the same purpose. The holy orders became wealthy from the "tourist trade" as well as from substantial gifts and large feudal land holdings. By funds from these sources, architecture and the arts were supported. In the towns, soon to become major city states, the great banking families of Europe began to build their fortunes. Families such as the Medici of Florence made their money first on trade and then later on lending money. France's participation

in the last Crusade was financed by the Medici at 125% interest. It was the Medici wealth that would almost single-handedly finance the Florentine artistic expression in the Renaissance.

Until recently, the Romanesque period was misunderstood primarily because nineteenth century scholars used interpretations from the Age of Reason and the Renaissance as their sources. For a long time the Romanesque period was considered to be very little more than a phase, or transitional interlude, that set the stage for the Gothic period. Nothing could be more misleading. The art and architecture of the period are highly individual and among the most expressionistic in the history of art. Even the name does the style a great disservice since it implies a much greater connection with and dependence upon Roman art than actually existed. Upon close examination the art of Romanesque is more often anti-classical than not. The only important connection between Roman and Romanesque architecture is the fact that the medieval builder began to utilize the engineering principles of the bay vaulting systems of the Romans, but most often in much more adventurous and satisfying ways. Early medieval builders must have admired Roman structures extant in their areas but simply lacked the technical understanding and the confidence to build a true vault. Instead, wooden beam roofs were used on top of Roman arcades and towers. The recovery of the principles of bay vaulting and support systems and the subsequent development of more complicated forms of it, such as the groin (cross or ribbed) vault, allowed both higher and larger unencumbered interiors than did wooden trusses and beams. The vault, of stone or brick, also made buildings safer from one of the scourges of the Middle Ages--fire.

Apart from their common anti-classicism and the fact that Romanesque engineering did predestine Gothic architectural developments, the two art styles are quite divergent and reflect rather different environments. The Romanesque world, not quite yet ordered, was a time of great tension and uncertainty. Fear of the unknown caused, at times, a fanatical brand of religion, beautifully displayed in the sculpture of the period. There was really no central government, and the enforcement of monastic law was harsh and final. The concept of purgatory as a means of achieving redemption had not yet emerged, and the only alternatives were heaven or eternal damnation. Furthermore, in this period the class system was given theological justification.

To tie Romanesque too closely to classical art also overlooks the very important contributions of Byzantine and barbarian styles. Many elements of Romanesque architecture and sculpture more nearly resemble those found in churches in Syria, Armenia, and other Eastern areas than in Roman buildings. In 977 Otto III had married a Byzantine princess who brought a large retinue of artists with her into Saxony. In truth, Romanesque is a fusion of some surviving elements of Roman art with barbarian expressionistic vigor and Byzantine characteristics. Where late Roman art and even early Christian art in the West had developed with a measure of the rational, the unsettling conditions of the Romanesque period found the dynamicism of the barbarian style together with the other-worldly qualities of Byzantine mosaics and painting the perfect form for expression.

It should also be remembered that tenth and eleventh century Byzantine borrowed many Islamic motifs. Certainly one of the defining characteristics of Romanesque is its irrationality. This irrationality and lack of codified form accounts for the tremendous variation in architectural style. Romanesque churches vary in style as much as the towns or abbeys in which they were built varied in their tastes and needs. Romanesque architecture is a highly individualistic art.

In general, there are several somewhat reliable characteristics that serve as a basis for classifying a church as Romanesque, but they are related more in terms of construction than in appearance. One characteristic is the round vaulting system. The earliest and smaller examples are tunnel-vaulted. In later examples the tunnel vaults are broken into bays seated in very heavy piers faced with either pilaster columns or clusters of round columns. To carry out the round vaults, traditional round arches are most often used. There were, of course, exceptions; St. Lazare Autun has slightly pointed arches, but their spring does not bear the stress to the same extent that the true Gothic pointed arch does, nor do the arches achieve the great vertical feeling of Gothic. Romanesque seems low and heavy by comparison. Another typical Romanesque architectural element is the compound window. This is a double window within one rounded arch. Romanesque churches usually make use of the splayed arch on the main doors for placement of sculpture. The splayed arch is considerably expanded in Gothic. Most abbey churches made use of several towers and spires, with the tallest one located over the crossing of the transept and nave. The choir was expanded to accommodate the clergy, and several chapel apses were added in many of the larger churches.

Romanesque architects were not yet prepared to take risks to attain heights and interior spaces, and they usually relied on geometry rather than on a complete understanding of stress in building with heavy stone. In all large-scale churches they used a principle known as the *square schematism* in which each bay measured one-half the crossing bay and each aisle bay measured one-quarter.¹

Although contemporary architects do not agree, it is possible that complete working plans and drawings for early Romanesque buildings did not exist and that there actually was no regular construction procedure used as there was in Roman times and is today. This would certainly account for the eccentric character of the architecture of the period. Other scholars suggest that this eccentricity was intentional and spontaneous and that it was part of the temperament of the times with no rational explanation. Many elements must have evolved from the whim of the master builder who had, no doubt, arrived at some of his engineering solutions by trial and error. In some respects large churches seem more daring because of ideas only partially understood.

¹ See Helen Gardner, *Art Through the Ages*, rev. by Horst De La Croix and Richard G. Tansey (New York: Harcourt Brace Jovanovich, Inc., 1970), pp. 304-05 for a more detailed explanation.

Local conditions and history accounted for some regional differences. In northern France churches took on some of the ponderous appearance of Norman fortifications, while in other areas buildings were lighter and airier in feeling.

One of the earliest important Romanesque churches of any size was St. Sernin at the old Roman-French city of Toulouse (1080-1120). It is in the form of the Latin cross with a massive vault at the crossing to support the tall octagonal tower and spire. The nave is a series of round bays constructed according to the square schematism of proportion. The builder did not dare risk using a clerestory (which would not provide exterior support for the outward thrust of the bays), but the nave vaults are, nevertheless, impressive in their height. Neither was the builder willing to construct large-sized rib or groin vaults. The groin vaulting is reserved for the much smaller and lower side aisles (two on each side of the nave). Another distinctive feature of St. Sernin's is the introduction of the space adjacent to the outer wall of the apse called the ambulatory. Its major purpose is to provide niches for sculpture and the display of relics. The ambulatory will be significantly enlarged in Gothic cathedrals. The church also has spacious upper galleries, known as tribunes, which accommodated large numbers of pilgrims (mostly from Spain) on their way to the Holy Land or to Rome. The tribune was borrowed from the First Golden Age Byzantine churches. In terms of engineering and architecture, though conservative and to some extent overbuilt, the building is a monument to the Romanesque style. If it has a fault, it is one common to most Romanesque churches--it is quite dark because of the lack of window space owing to the demands of the support system.

German, or Lombard, early Romanesque churches are also of considerable scale. The Cathedral of Speyer in the Rhineland is a good example. In its original form the building was a decked arcade with a wooden beamed roof (which later burned). In 1060 the walls were reinforced, and the side aisle arcade was buttressed to support a groin-vaulted roof. The basic floor plan is Ottonian with four massive square corner towers and no crossing. In 1620 an apse was completed, making the now traditional transept and crossing.

Most often the purest examples of Romanesque churches are those which fit, generally, into the style known as Norman. Most important of these are St. Etienne at Caen (1115-1120) and Durham Cathedral in England, completed about twenty years earlier. In Durham the groin vaults of the choir are slightly pointed. As has been mentioned, Autun Cathedral in Burgundy (c. 1120-1132) makes use of arches that are pointed in order to support a blind gallery (replacing the tribune) massive enough to allow a clerestory on the third, or upper, level of the nave. The blind gallery recalls the triforium of the old Roman basilicas, except that its surface is broken by three arches per bay instead of mural decoration.

The third general area of Romanesque architecture is found in Tuscany, the finest examples of which are the Cathedral of Pisa and San Miniato al Monte in Florence, the latter being a small but very colorful and ornamental church. The Islamic influence at Pisa is unmistakable although