13-1 **Court of the Lions, Palace of the Lions, Alhambra, Granada, Spain, 1354–1391.**

The Palace of the Lions, named for its fountain's unusual statues, is distinctly Islamic in the use of multilobed pointed arches and the interweaving of Arabic calligraphy and abstract ornament in its stuccoed walls.

13

THE ISLAMIC WORLD

The religion of Islam (an Arabic word meaning "submission to God") arose among the peoples of the Arabian Peninsula early in the seventh century (see "Muhammad and Islam," page 343). At the time, the Arabs were nomadic herders and caravan merchants traversing the vast Arabian desert and settling and controlling its coasts. They were peripheral to the Byzantine and Persian empires. Yet within little more than a century, the eastern Mediterranean, which Byzantium once ringed and ruled, had become an Islamic lake, and the armies of Islam had subdued the Middle East, long the seat of Persian dominance and influence.

The swiftness of the Islamic advance is among the wonders of world history. By 640, Muslims ruled Syria, Palestine, and Iraq in the name of Allah. In 642, the Byzantine army abandoned Alexandria, marking the Muslim conquest of Lower (northern) Egypt. In 651, the successors of Muhammad ended more than 400 years of Sasanian rule in Iran (see Chapter 2). All of North Africa was under Muslim control by 710. A victory at Jerez de la Frontera in southern Spain in 711 seemed to open all of western Europe to the Muslims. By 732, they had advanced north to Poitiers in France, but an army of Franks under Charles Martel, the grandfather of Charlemagne, opposed them successfully (see Chapter 16), halting Muslim expansion at the Pyrenees. In Spain, in contrast, the Islamic rulers of Córdoba flourished until 1031, and not until 1492 did Muslim influence and power end in the Iberian Peninsula. That year the army of King Ferdinand and Queen Isabella, the sponsors of Columbus's voyage to the New World, overthrew the caliphs of Granada. In the East, the Muslims reached the Indus River by 751, and only in Anatolia could stubborn Byzantine resistance slow their advance. Relentless Muslim pressure against the shrinking Byzantine Empire eventually caused its collapse in 1453, when the Ottoman Turks entered Constantinople (see Chapter 12).

Military might alone, however, cannot account for the relentless and far-ranging sweep of Islam from Arabia to India to North Africa and Spain (MAP **13-1**). That Islam endured in the conquered lands for centuries after the initial victories can be explained only by the nature of the Islamic faith and its appeal to millions of converts. Islam remains today one of the world's great religions, with adherents on all

MAP 13-1 The Islamic world around 1500.

continents. Its sophisticated culture has had a profound impact around the globe. Arab scholars laid the foundations of arithmetic and algebra and made significant contributions to astronomy, medicine, and the natural sciences. Christian scholars in the West during the 12th and 13th centuries eagerly studied Arabic translations of Aristotle and other Greek writers of antiquity. Arabic love lyrics and poetic descriptions of nature inspired the early French troubadours.

The triumph of Islam also brought a new and compelling tradition to the history of world art and architecture. Like Islam itself, Islamic art spread quickly both eastward and westward from the land once inhabited by the peoples of the ancient Near East. In the Middle East and North Africa, Islamic art largely replaced Late Antique art. From a foothold in the Iberian Peninsula, Islamic art influenced Western medieval art. Islamic artists and architects also brought their distinctive style to South Asia, where a Muslim sultanate was established at Delhi in India in the early 13th century (see Chapter 26). In fact, perhaps the most famous building in Asia, the Taj Mahal (FIGS. 26-1 and 26-6) at Agra, is an Islamic mausoleum.

EARLY ISLAMIC ART

During the early centuries of Islamic history, the Muslim world's political and cultural center was the Fertile Crescent of ancient Mesopotamia (see Chapter 2). The caliphs of Damascus (capital of modern Syria) and Baghdad (capital of Iraq) appointed provincial governors to rule the vast territories they controlled. These governors eventually gained relative independence by setting up dynasties in various territories and provinces: the Umayyads in Syria (661–750) and in Spain (756–1031), the Abbasids in Iraq (750–1258, largely nominal after 945), the Fatimids in Egypt (909–1171), and so on.

Architecture

Like other potentates before and after, the Muslim caliphs were builders on a grand scale. The first Islamic buildings, both religious and secular, are in the Middle East, but important early examples of Islamic architecture still stand also in North Africa, Spain, and Central Asia.

DOME OF THE ROCK The first great Islamic building is the Dome of the Rock (FIG. 13-2) in Jerusalem. The Muslims had taken the city from the Byzantines in 638, and the Umayyad caliph Abd al-Malik (r. 685–705) erected the monumental shrine between 687 and 692 as an architectural tribute to the triumph of Islam. The Dome of the Rock marked the coming of the new religion to the city that was—and still is—sacred to both Jews and Christians. The structure rises from a huge platform known as the Noble Enclosure, where in ancient times the Hebrews built the Temple of Solomon that the Roman emperor Titus destroyed in 70 (see Chapter 10). In time, the site took on additional significance as the reputed place where Adam was buried and where Abraham prepared to sacrifice Isaac. The rock that gives the building its name also later came to be identified with the spot from which Muhammad miraculously journeyed to Heaven and then, in the same night, returned to his home in Mecca.

As Islam took much of its teaching from Judaism and Christianity, so, too, its architects and artists borrowed and transformed design, construction, and ornamentation principles long applied in Byzantium and the Middle East. The Dome of the Rock is a domed octagon resembling San Vitale (FIG. 12-6) in Ravenna in its basic design. In all likelihood, a neighboring Christian monument, Constantine's Church of the Holy Sepulchre, a domed rotunda, inspired the Dome of the Rock's designers. That fourth-century rotunda bore a family resemblance to the roughly contemporary Constantinian

Muhammad and Islam

Muhammad, founder of Islam and revered as its Final Prophet, was a native of Mecca on the west coast of Arabia. Born around 570 into a family of merchants in the great Arabian caravan trade, Muhammad was inspired to prophesy. Critical of the polytheistic religion of his fellow Arabs, he preached a religion of the one and only God ("Allah" in Arabic), whose revelations Muhammad received beginning in 610 and for the rest of his life. Opposition to Muhammad's message among the Arabs was strong enough to prompt the Prophet and his followers to flee from Mecca to a desert oasis eventually called Medina ("City of the Prophet"). Islam dates its beginnings from this flight in 622, known as the *Hijra* ("emigration").* Barely eight years later, in 630, Muhammad returned to Mecca with 10,000 soldiers. He took control of the city, converted the population to Islam, and destroyed all the idols. But he preserved as the Islamic world's symbolic center the small cubical building that had housed the idols, the *Kaaba* (from the Arabic for "cube"). The Arabs associated the Kaaba with the era of Abraham and Ishmael, the common ancestors of Jews and Arabs. Muhammad died in Medina in 632.

The essential meaning of Islam is acceptance of and submission to Allah's will. Believers in Islam are called Muslims ("those who submit"). Islam requires them to live according to the rules laid down in the collected revelations communicated through Muhammad during his lifetime. The *Koran,* Islam's sacred book, codified by the Muslim ruler Uthman (r. 644–656), records Muhammad's revelations. The word "Koran" means "recitations"—a reference to the archangel Gabriel's instructions to Muhammad in 610 to "recite in the name of Allah." The Koran is composed of 114 *surahs* ("chapters") divided into verses.

The profession of faith in the one God, Allah, is the first of five obligations binding all Muslims. In addition, the faithful must worship five times daily facing in Mecca's direction, give alms to the poor, fast during the month of Ramadan, and once in a lifetime—if possible—make a pilgrimage to Mecca. The revelations in the Koran are not the only guide for Muslims. Muhammad's exemplary ways and customs, collected in the *Sunnah,* offer models to the faithful on ethical problems of everyday life. The reward for the Muslim faithful is Paradise.

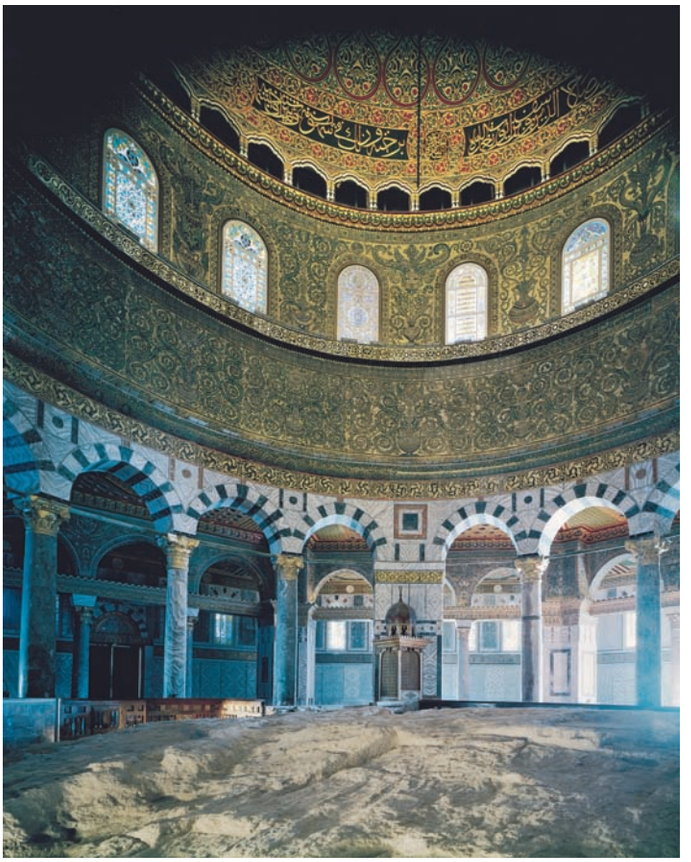
Islam has much in common with Judaism and Christianity. Its adherents think of it as a continuation, completion, and in some sense a reformation of those other great monotheisms. Islam incorporates many of the Old Testament teachings, with their sober ethical standards and rejection of idol worship, and those of the New Testament Gospels. Muslims acknowledge Adam, Abraham, Moses, and Jesus as the prophetic predecessors of Muhammad, the final and greatest of the prophets. Muhammad did not claim to be divine, as did Jesus. Rather, he was God's messenger, the purifier and perfecter of the common faith of Jews, Christians, and Muslims in one God. Islam also differs from Judaism and Christianity in its simpler organization. Muslims worship God directly, without a hierarchy of rabbis, priests, or saints acting as intermediaries.

In Islam, as Muhammad defined it, religious and secular authority were united even more completely than in Byzantium. Muhammad established a new social order, replacing the Arabs' old decentralized tribal one, and took complete charge of his community's temporal as well as spiritual affairs. After Muhammad's death, the *caliphs* (from the Arabic for "successor") continued this practice of uniting religious and political leadership in one ruler.

*Muslims date events beginning with the Hijra in the same way Christians reckon events from Christ's birth, and the Romans before them began their calendar with Rome's foundi ng by Romulus and Remus in 753 BCE. The Muslim year, however, is a 354-day year of 12 lunar months, and dates cannot be converted by simply subtracting 622 from Christian-era dates.

13-2 Aerial view of the Dome of the Rock, Jerusalem, 687–692.

Abd al-Malik erected the Dome of the Rock to mark the triumph of Islam in Jerusalem on a site sacred to Muslims, Christians, and Jews. The shrine takes the form of an octagon with a towering dome.



13-3 Interior of the Dome of the Rock, Jerusalem, 687–692.

Tiles from the 16th century adorn the exterior of the Dome of the Rock, but the interior's original mosaic ornament is preserved. The mosaics conjure the imagery of Paradise awaiting Muslims.

mausoleum later dedicated as Santa Costanza (FIGS. 11-11 and 11-12) in Rome. The Dome of the Rock is a member of the same extended family. Its double-shelled wooden dome, however, some 60 feet across and 75 feet high, so dominates the elevation as to reduce the octagon to function merely as its base. This soaring, majestic unit creates a decidedly more commanding effect than that produced by Late Roman and Byzantine domical structures (FIGS. 12-2 and 12-6). The silhouettes of those domes are comparatively insignificant when seen from the outside.

The building's exterior has been much restored. Tiling from the 16th century and later has replaced the original mosaic. Yet the vivid, colorful patterning that wraps the walls like a textile is typical of Islamic ornamentation. It contrasts markedly with Byzantine brickwork and Greco-Roman sculptured decoration. The interior's rich mosaic ornament (FIG. 13-3) has been preserved and suggests the original appearance of the exterior walls. Islamic practice does not significantly distinguish interior and exterior decor.

GREAT MOSQUE, DAMASCUS The Umayyads transferred their capital from Mecca to Damascus in 661. There, Abd al-Malik's son, the caliph al-Walid (r. 705–715), purchased a Byzantine church (formerly a Roman temple) and built an imposing new mosque for the expanding Muslim population (see "The Mosque," page 345). The Umayyads demolished the church, but they used the Roman precinct walls as a foundation for their own construction. Like the Dome of the Rock, Damascus's Great Mosque (FIGS. 13-4 and 13-5) owes much to Roman and Early Christian architecture. The Islamic builders incorporated stone blocks, columns, and capitals salvaged from the earlier structures on the land al-Walid acquired for his mosque. Pier *arcades* reminiscent of Roman aqueducts frame the courtyard (FIG. 13-5). The minarets, two at the southern corners and one at the northern side of the enclosure—the earliest in the Islamic world—are modifications of the preexisting Roman square towers. The grand prayer hall, taller than the rest of the complex, is on the south side of the courtyard (facing Mecca). Its main entrance is distinguished by a facade with a pediment and arches, recalling Roman and Byzantine models. The facade faces into the courtyard, like a Roman forum temple (FIG. 10-12), a plan maintained throughout the long history of mosque architecture. The Damascus mosque synthesizes elements received from other cultures into a novel architectural unity, which includes the distinctive Islamic elements of mihrab, mihrab dome, minbar, and minaret.

An extensive cycle of mosaics once covered the walls of the Great Mosque. In one of the surviving sections (FIG. 13-4), a conch-shell niche "supports" an arcaded pavilion with a flowering rooftop flanked by structures shown in classical perspective. Like the architectural design, the mosaics owe much to Roman, Early Christian, and Byzantine art. Indeed, some evidence indicates that the Great Mosque mosaics were the work of Byzantine mosaicists. Characteristically, temples, clusters of houses, trees, and rivers compose the

13-4 Detail of a mosaic in the courtyard arcade of the Great Mosque, Damascus, Syria, 706–715.

The mosaics of the Great Mosque at Damascus are probably the work of Byzantine artists and include buildings and landscape elements common in Late Antique art, but exclude any zoomorphic forms.

The Mosque

Islamic religious architecture is closely related to Muslim prayer, an obligation laid down in the Koran for all Muslims. In Islam, worshiping can be a private act and requires neither prescribed ceremony nor a special locale. Only the *qibla*—the direction (toward Mecca) Muslims face while praying—is important. But worship also became a communal act when the first Muslim community established a simple ritual for it. To celebrate the Muslim sabbath, which occurs on Friday, the community convened each Friday at noon, probably in the Prophet's house in Medina. The main feature of Muhammad's house was a large square court with rows of palm trunks supporting thatched roofs along the north and south sides. The southern side, which faced Mecca, was wider and had a double row of trunks. The *imam,* or leader of collective worship, stood on a stepped pulpit, or *minbar,* set up in front of the southern (qibla) wall.

These features became standard in the Islamic house of worship, the *mosque* (from Arabic "masjid," a place of prostration), where the faithful gathered for the five daily prayers. The *congregational mosque* (also called the *Friday mosque* or *great mosque*) was ideally large enough to accommodate a community's entire population for the Friday noon prayer. A very important feature both of ordinary mosques and of congregational mosques is the *mihrab* (FIG. 13-8, no. 2), a semicircular niche usually set into the qibla wall. Often a dome over the bay in front of it marked its position (FIGS. 13-5 and 13-8, no. 3). The niche was a familiar Greco-Roman architectural feature, generally enclosing a statue. Scholars still debate its origin, purpose, and meaning in Islamic architecture. The mihrab originally may have honored the place where the Prophet stood in his house at Medina when he led communal worship.

In some mosques, a *maqsura* precedes the mihrab. The maqsura is the area generally reserved for the ruler or his representative and can be quite elaborate in form (FIG. 13-12). Many mosques also have one or more *minarets* (FIGS. 13-5, 13-9, AND 13-20), towers used to call the faithful to worship. When buildings of other faiths were converted into mosques, the Muslims clearly signaled the change on the exterior by the erection of minarets (FIG.12-2). *Hypostyle halls,* communal worship halls with roofs held up by a multitude of columns (FIGS. 13-8, no. 4, and 13-11), are characteristic features of early mosques. Later variations include mosques with four *iwans* (vaulted rectangular recesses), one on each side of the courtyard (FIGS. 13-22 and 13-23), and *central-plan* mosques with a single large dome-covered interior space (FIGS. 13-20 and 13-21), as in Byzantine churches, some of which later became mosques (FIG. 12-4).

The mosque's origin is still in dispute, although one prototype may well have been the Prophet's house in Medina. Today, despite many variations in design and detail (an adobe-and-wood mosque in Mali, FIGS. 15-1 and 15-8, is discussed later in the context of African architecture) and the employment of modern building techniques and materials unknown in Muhammad's day, the mosque's essential features are unchanged. All mosques, wherever they are built and whatever their plan, are oriented toward Mecca, and the faithful worship facing the qibla wall.

13-5 Aerial view of the Great Mosque, Damascus, Syria, 706–715.

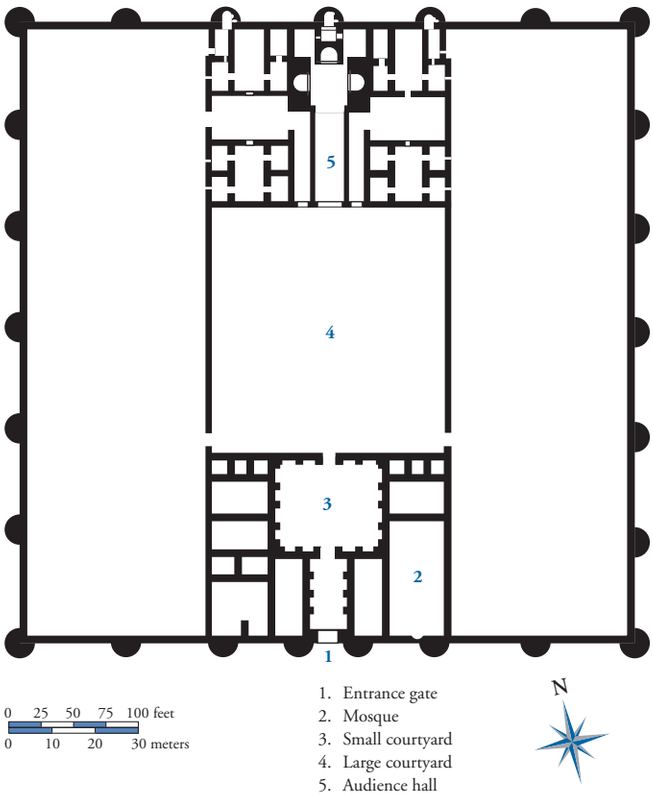
The hypostyle type of mosque most closely recalls the layout of Muhammad's house in Medina. Damascus's Great Mosque also owes a debt to Roman and Early Christian architecture in its plan and decoration.

pictorial fields, bounded by stylized vegetal designs also found in Roman, Early Christian, and Byzantine ornament. No zoomorphic forms, human or animal, appear in either the pictorial or ornamental spaces. This is true of all the mosaics in the Great Mosque as well as the mosaics in the earlier Dome of the Rock (FIG. 13-3). Islamic tradition shuns the representation of fauna of any kind in sacred places. Accompanying (but now lost) inscriptions explained the world shown in the Damascus mosaics, suspended miragelike in a featureless field of gold, as an image of Paradise. Many passages from the Koran describe the gorgeous places of Paradise awaiting the faithful—gardens, groves of trees, flowing streams, and "lofty chambers."

UMAYYAD PALACE, MSHATTA The Umayyad rulers of Damascus constructed numerous palatial residences throughout their domains. The urban palaces are lost, but some rural palaces survive. The latter were not merely idyllic residences removed from the congestion, noise, and disease of the cities. They seem to have served as nuclei for the agricultural development of acquired territories and possibly as hunting lodges. In addition, the Islamic palaces were symbols of authority over new lands as well as expressions of their owners' wealth.

One of the most impressive Umayyad palaces, despite the fact that it was never completed, is at Mshatta in the Jordanian desert. Its plan (FIG. **13-6**) resembles that of Diocletian's palace (FIG. 10-74) at Split, which in turn reflects the layout of a Roman fortified camp. The high walls of the Mshatta palace incorporate 25 towers but lack parapet walkways for patrolling guards. The walls, nonetheless, offered safety from marauding nomadic tribes and provided privacy for the caliph and his entourage. Visitors entered the palace through a large portal on the south side. To the right was a mosque (FIG. 13-6, no. 2; the plan shows the mihrab niche in the qibla wall), in which the rulers and their guests could fulfill their obligation to pray five times a day. A small ceremonial area and an immense open courtyard separated the mosque from the palace's residential wing and official audience hall. Most Umayyad palaces also boasted fairly elaborate bathing facilities that displayed technical features, such as heating systems, adopted from Roman baths. Just as under the Roman Empire, these baths probably served more than merely hygienic purposes. Indeed, in several Umayyad palaces, excavators have uncovered in the baths paintings and sculptures of hunting and other secular themes, including depictions of dancing women—themes traditionally associated with royalty in the Near East. Large halls frequently attached to many of these baths seem to have been used as places of entertainment, as was the case in Roman times. Thus, the bath-spa as social center, a characteristic amenity of Roman urban culture that died out in the Christian world, survived in Islamic culture.

A richly carved stone frieze (FIG. **13-7**) more than 16 feet high enlivens the facade of the Mshatta palace. Triangles contain large rosettes projecting from a field densely covered with curvilinear, vegetal designs. No two triangles are exactly alike. Animals appear in some of them. Similar compositions of birds, felines, and vegetal scrolls can be found in Roman, Byzantine, and Sasanian art. The Mshatta frieze, however, in keeping with Islam's disavowal of representing living things in sacred contexts, has no animal figures to the right of the entrance portal—that is, on the part of the facade corresponding to the mosque's qibla wall.



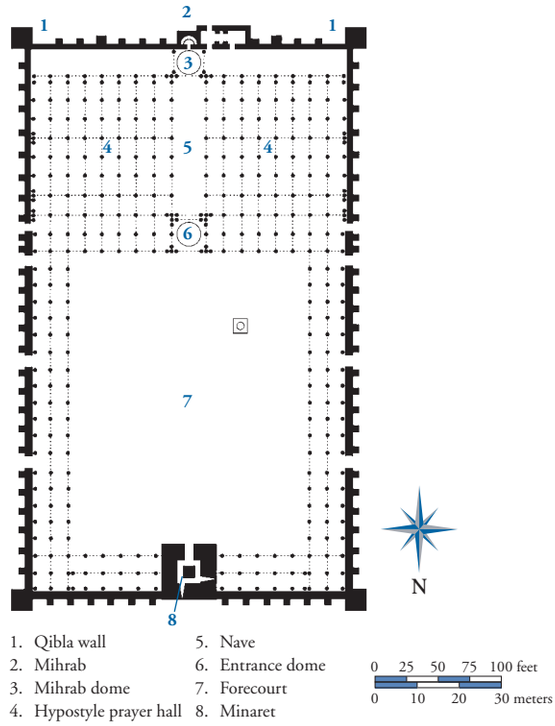
13-6 Plan of the Umayyad palace, Mshatta, Jordan, ca. 740–750 (after Alberto Berengo Gardin).

The fortified palace at Mshatta resembled Diocletian's palace (FIG. 10-74) at Split and incorporated the amenities of Roman baths but also housed a mosque in which the caliph could worship five times daily.

BAGHDAD In 750, after years of civil war, the Abbasids, who claimed descent from Abbas, an uncle of Muhammad, overthrew the Umayyad caliphs. The new rulers moved the capital from Damascus to a site in Iraq near the old Sasanian capital of Ctesiphon (FIG. 2-27). There the caliph al-Mansur (r. 754–775) established a new capital, Baghdad, which he called Madina al-salam, the City of Peace. The city was laid out in 762 at a time astrologers determined as favorable. It

13-7 Frieze of the Umayyad palace, Mshatta, Jordan, ca. 740–750. Limestone, 16′ 7″ high. Museum für Islamische Kunst, Staatliche Museen, Berlin.

A long stone frieze richly carved with geometric, plant, and animal motifs decorated the facade of the Mshatta palace. No animals appear, however, on the exterior wall of the palace's mosque.



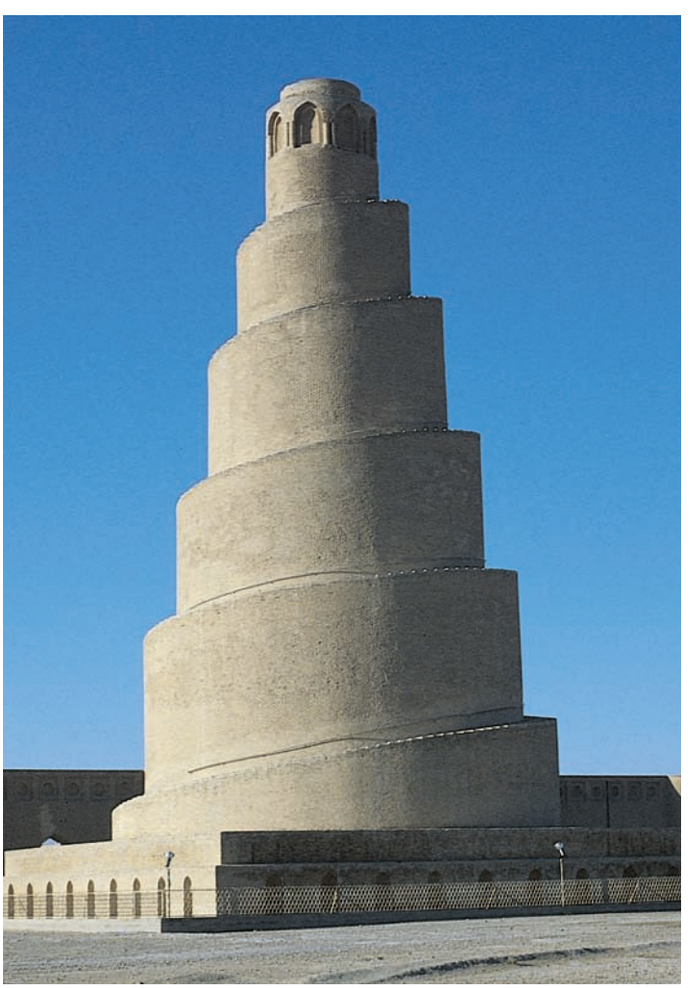
13-8 Aerial view (*left*) and plan (*right*) of the Great Mosque, Kairouan, Tunisia, ca. 836–875.

The arcaded forecourt in front of the hypostyle hall of the Kairouan mosque resembles a Roman forum (FIG. 10-43), but it incorporates the distinctive Islamic elements of mihrab, mihrab dome, minbar, and minaret.

was round in plan, about a mile and a half in diameter. The shape signified that the new capital was the center of the universe. At the city's center was the caliph's palace, oriented to the four compass points. For almost 300 years Baghdad was the hub of Arab power and of a brilliant Islamic culture. The Abbasid caliphs were renowned throughout the world and even established diplomatic relations with Charlemagne in Germany. The Abbasids lavished their wealth on art, literature, and science and were responsible for the translation of numerous Greek texts that otherwise would have been lost. Many of these works were introduced to the medieval West through their Arabic versions.

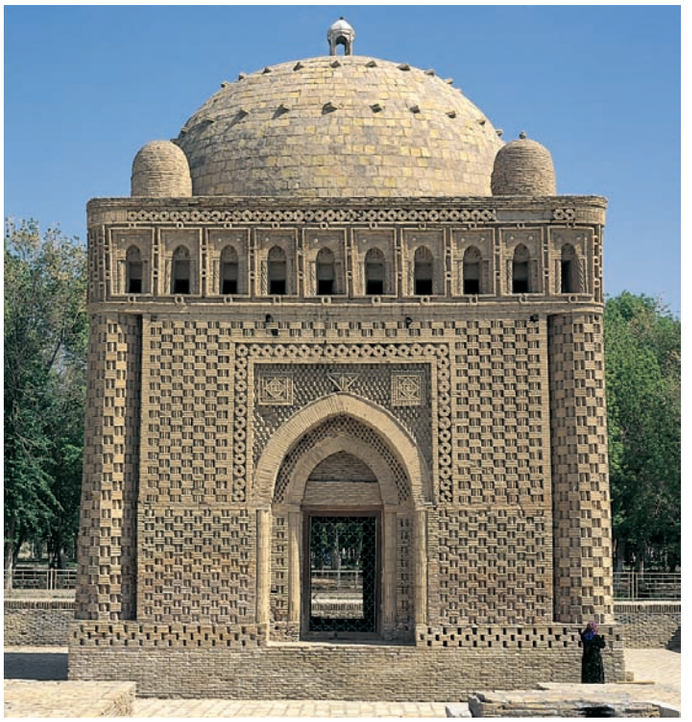
GREAT MOSQUE, KAIROUAN Of all the variations in mosque plans, the hypostyle mosque most closely reflects the mosque's supposed origin, Muhammad's house in Medina (see "The Mosque," page 345). One of the finest hypostyle mosques, still in use today, is the mid-eighth-century Great Mosque (FIG. **13-8**) at Kairouan in Abbasid Tunisia. It still houses its carved wooden minbar of 862, the oldest known. The precinct takes the form of a slightly askew parallelogram of huge scale, some 450 × 260 feet. Built of stone, its walls have sturdy buttresses, square in profile. A series of lateral entrances on the east and west lead to an arcaded forecourt (FIG. 13-8, no. 7) resembling a Roman forum (FIG. 10-43), oriented north-south on axis with the mosque's impressive minaret (no. 8) and the two domes of the hypostyle prayer hall (no. 4). The first dome (no. 6) is over the entrance bay, the second (no. 3) over the bay that fronts the mihrab (no. 2) set into the qibla wall (no. 1). A raised nave connects the domed spaces and prolongs the north-south axis of the minaret and courtyard. Eight columned aisles flank the nave on either side, providing space for a large congregation.

MALWIYA MINARET, SAMARRA The three-story minaret of the Kairouan mosque is square in plan, and scholars believe it is a near copy of a Roman lighthouse, but minarets can take a variety of forms. Perhaps the most striking and novel is that of the immense (more than 45,000 square yards) Great Mosque at Samarra, Iraq, the largest mosque in the world. The Abbasid caliph al-Mutawakkil (r. 847–861) erected it between 848 and 852. Known as the Malwiya ("snail shell" in Arabic) Minaret (FIG. **13-9**) and more than 165 feet



13-9 Malwiya Minaret, Great Mosque, Samarra, Iraq, 848–852.

The unique spiral Malwiya (snail shell) Minaret of Samarra's Great Mosque is more than 165 feet tall and can be seen from afar. It served to announce the presence of Islam in the Tigris Valley.



13-10 Mausoleum of the Samanids, Bukhara, Uzbekistan, early 10th century.

Monumental tombs were virtually unknown in the early Islamic period. The Samanid mausoleum at Bukhara is one of the oldest. Its dome-on-cube form had a long afterlife in Islamic funerary architecture.

tall, it now stands alone, but originally a bridge linked it to the mosque. The distinguishing feature of the brick tower is its stepped spiral ramp, which increases in slope from bottom to top. Once thought to be an ancient Mesopotamian *ziggurat,* the Samarra minaret inspired some European depictions of the biblical Tower of Babel (Babylon's ziggurat; see "Babylon, City of Wonders," Chapter 2, page 48). Too tall to have been used to call Muslims to prayer, the Malwiya Minaret, visible from a considerable distance in the flat plain around Samarra, was probably intended to announce the presence of Islam in the Tigris Valley. Unfortunately, in 2005 the minaret suffered some damage during the Iraqi insurgency.

SAMANID MAUSOLEUM, BUKHARA Dynasties of governors who exercised considerable independence while recognizing the ultimate authority of the Baghdad caliphs oversaw the eastern realms of the Abbasid Empire. One of these dynasties, the Samanids (r. 819–1005), presided over the eastern frontier beyond the Oxus River (Transoxiana) on the border with India. In the early 10th century, they erected an impressive domed brick mausoleum (FIG. **13-10**) at Bukhara in modern Uzbekistan. Monumental tombs were virtually unknown in the early Islamic period. Muhammad opposed elaborate burials and instructed his followers to bury him in a simple unmarked grave. In time, however, the Prophet's resting place in Medina acquired a wooden screen and a dome. By the ninth century, Abbasid caliphs were laid to rest in dynastic mausoleums.

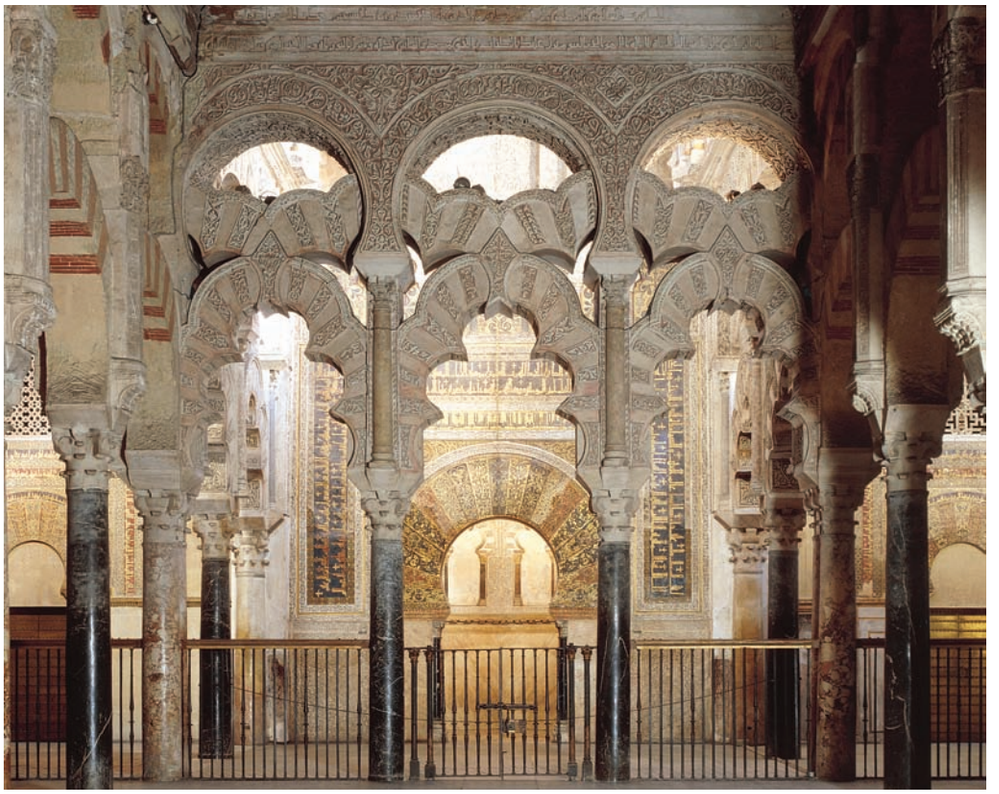
The Samanid mausoleum at Bukhara is one of the earliest preserved tombs in the Islamic world. Constructed of baked bricks, it takes the form of a dome-capped cube with slightly sloping sides. With exceptional skill, the builders painstakingly shaped the bricks to create a vivid and varied surface pattern. Some of the bricks form *engaged columns* (half-round, attached columns) at the corners. A brick *blind arcade* (a series of arches in relief, with blocked openings) runs around all four sides. Inside, the walls are as elaborate as the exterior. The brick dome rests on arcuated brick *squinches* (see "Pendentives and Squinches," Chapter 12, page 315) framed by engaged *colonnettes* (thin columns). The dome-on-cube form had a long and distinguished future in Islamic funerary architecture (FIGS. 13-18 and 26-1).

GREAT MOSQUE, CÓRDOBA At the opposite end of the Muslim world, Abd al-Rahman I, the only eminent Umayyad to escape the Abbasid massacre of his clan in Syria, fled to Spain in 750. There, the Arabs had overthrown the Christian kingdom of the Visigoths in 711. The Arab military governors of the peninsula accepted the fugitive as their overlord, and he founded the Spanish Umayyad dynasty, which lasted almost three centuries. The capital of the Spanish Umayyads was Córdoba, which became the center of a brilliant culture rivaling that of the Abbasids at Baghdad and exerting major influence on the civilization of the Christian West.

The jewel of the capital at Córdoba was its Great Mosque, begun in 784 and enlarged several times during the 9th and 10th centuries. It eventually became one of the largest mosques in the Islamic West. The hypostyle prayer hall (FIG. **13-11**) has 36

13-11 Prayer hall of the Great Mosque, Córdoba, Spain, 8th to 10th centuries.

Córdoba was the capital of the Umayyad dynasty in Spain. In the Great Mosque's hypostyle prayer hall, 36 piers and 514 columns support a unique series of double-tiered horseshoe-shaped arches.



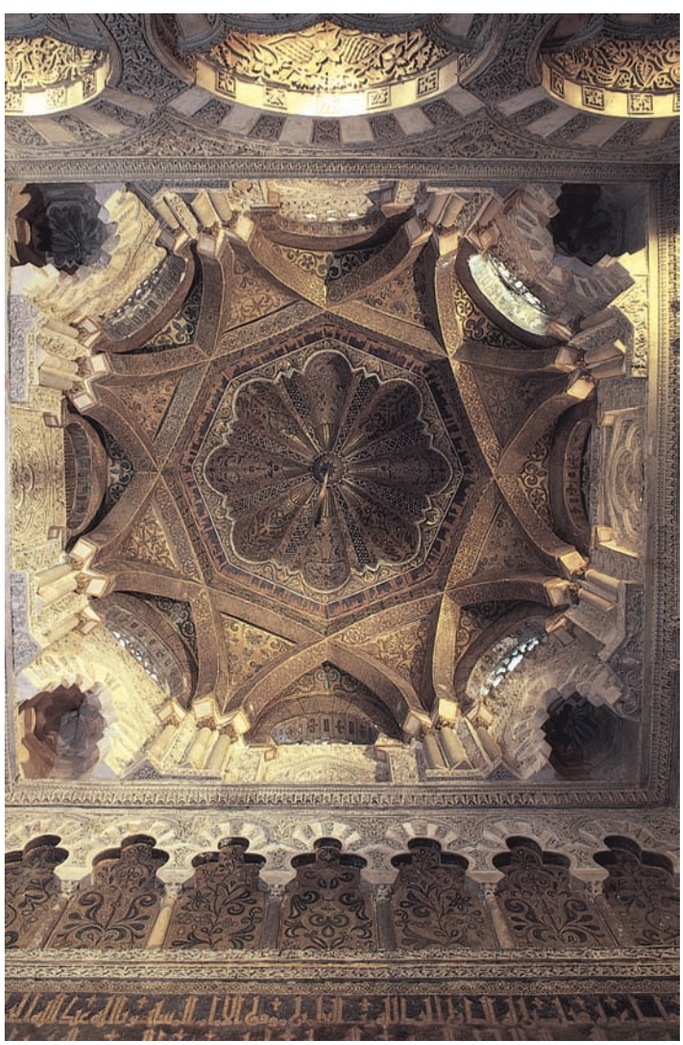
13-12 Maqsura of the Great Mosque, Córdoba, Spain, 961–965.

The maqsura of the Córdoba mosque was reserved for the caliph and connected to his palace. Its design is a prime example of Islamic experimentation with highly decorative multilobed arches.

piers and 514 columns topped by a unique system of double-tiered arches that carried a wooden roof (later replaced by vaults). The two-story system was the builders' response to the need to raise the roof to an acceptable height using short columns that had been employed earlier in other structures. The lower arches are horseshoe-shaped, a form perhaps adapted from earlier Near Eastern architecture or of Visigothic origin (FIG. 16-10). In the West, the horseshoe arch quickly became closely associated with Muslim architecture. Visually, these arches seem to billow out like windblown sails, and they contribute greatly to the light and airy effect of the Córdoba mosque's interior.

The caliph al-Hakam II (r. 961–976) undertook major renovations to the mosque. His builders expanded the prayer hall and added a series of domes. They also erected the elaborate maqsura (FIG. 13-12), the area reserved for the caliph and connected to his palace by a corridor in the qibla wall. The Córdoba maqsura is a prime example of Islamic experimentation with highly decorative, multilobed arches. The builders created rich and varied abstract patterns and further enhanced the magnificent effect of the complex arches by sheathing the walls with marbles and mosaics. The mosaicists and even the tesserae were brought to Spain from Constantinople by al-Hakam II, who wished to emulate the great mosaic-clad monuments his Umayyad predecessors had erected in Jerusalem (FIG. 13-3) and Damascus (FIG. 13-4).

The same desire for decorative effect also inspired the design of the dome (FIG. 13-13) that covers the area in front of the mihrab. One of the four domes built during the 10th century to emphasize the axis leading to the mihrab, the dome rests on an octagonal base of arcuated squinches. Crisscrossing ribs form an intricate pattern centered on two squares set at 45-degree angles to each other. The mosaics are the work of the same Byzantine artists responsible for the maqsura's decoration.



13-13 Dome in front of the mihrab of the Great Mosque, Córdoba, Spain, 961–965.

The dome in front of the Córdoba mihrab rests on an octagonal base of arcuated squinches. Crisscrossing ribs form an intricate decorative pattern. Byzantine artists fashioned the mosaic ornament.

Luxury Arts

13-14A Pyxis of al-Mughira, 968.

The furnishings of Islamic mosques and palaces reflect a love of sumptuous materials and rich decorative patterns. Muslim artisans skillfully worked metal, wood, glass, and ivory into a great variety of objects for sacred spaces or the home. Glass workers used colored glass with striking effect in mosque lamps. Artisans produced numerous ornate ceramics of high quality and created basins, ewers, jewel cases, writing boxes, and other decorative items from bronze or brass, often engraving these pieces and adding silver inlays. Artists employed silk and wool to fashion textiles featuring both abstract and pictorial motifs. Because wood is scarce in most of the Islamic world, the kinds of furniture used in the West—beds, tables, and chairs—are rare in Muslim buildings. Movable furnishings, therefore, do not define Islamic architectural spaces. A room's function (eating or sleeping, for example) can be changed simply by rearranging the carpets and cushions.

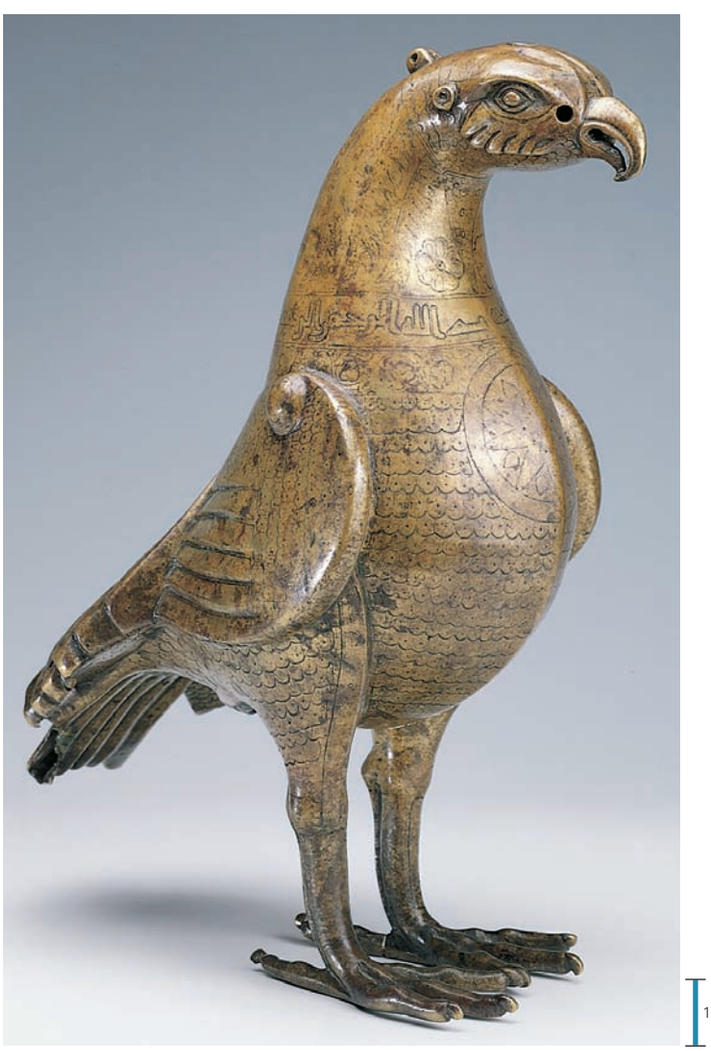
SILK Silk textiles are among the glories of Islamic art. Unfortunately, because of their fragile nature, early Islamic textiles are rare today and often fragmentary. Silk thread was also very expensive. Silkworms, which can flourish only in certain temperate regions, produce silk. Silk textiles were manufactured first in China in the third millennium BCE. They were shipped over what came to be called the Silk Road through Asia to the Middle East and Europe (see "Silk and the Silk Road," Chapter 7, page 188).

One of the earliest Islamic silks (FIG. **13-14**) is today in Nancy, France, and probably dates to the eighth century. Unfortunately, the textile is fragmentary, and its colors, once rich blues, greens, and oranges, faded long ago. Said to come from Zandana near Bukhara, the precious fabric survives because of its association with the relics of Saint Amon housed in Toul Cathedral. It may have been used to wrap the treasures when they were transported to France in 820. The design, perhaps based on Sasanian models, consists of repeated medallions with confronting lions flanking a palm tree. Other animals scamper across the silk between the *roundels* (*tondi*, or circular frames). Such zoomorphic motifs are foreign to the decorative vocabulary of mosque architecture, but they could be found in Muslim households—even in Muhammad's in Medina. The Prophet, however, objected to curtains decorated with human or animal figures and permitted only cushions adorned with animals or birds.

METALWORK One of the most striking examples of Islamic metalwork is the cast brass ewer (FIG. **13-15**) in the form of a bird signed by SULAYMAN and dated 796. Some 15 inches tall, the ewer is nothing less than a freestanding statuette, although the holes between the eyes and beak function as a spout and betray its utilitarian purpose. The decoration on the body, which bears traces of silver and copper inlay, takes a variety of forms. In places, the incised lines seem to suggest natural feathers, but the rosettes on the neck, the large

13-14 **Confronting lions and palm tree, fragment of a textile said to be from Zandana, near Bukhara, Uzbekistan, eighth century. Silk compound twill, 2′ 11″ × 2′ 9½″. Musée Historique de Lorraine, Nancy.**

Early examples of Islamic silk textiles are rare because of their fragile nature. This fragmentary fabric from Uzbekistan features animal motifs that were common in secular contexts but shunned for mosques.



13-15 **SULAYMAN, Ewer in the form of a bird, 796. Brass with silver and copper inlay, 1′ 3″ high. Hermitage, Saint Petersburg.**

Signed and dated by its maker, this utilitarian bird ewer resembles a freestanding statuette. The engraved decoration of the body combines natural feathers with abstract motifs and Arabic calligraphy.

1 in.

13-16 **Koran page with the beginning of surah 18, "Al-Kahf" (The Cave), 9th or early 10th century. Ink and gold on vellum, $7\frac{1}{4}'' \times 10\frac{1}{4}''$. Chester Beatty Library and Oriental Art Gallery, Dublin.**

The stately rectilinear Kufic script was used in the oldest known Korans. This page has five text lines and a palm-tree finial but characteristically does not include any depictions of animals or humans.

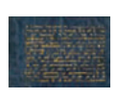
medallions on the breast, and the inscribed collar have no basis in anatomy. Similar motifs appear in Islamic textiles, pottery, and architectural tiles. The ready adaptability of motifs to various scales and techniques illustrates both the flexibility of Islamic design and the relative independence of the motifs from the surfaces they decorate.

CALLIGRAPHY In the Islamic world, the art of *calligraphy,* ornamental writing, held a place of honor even higher than the art of textiles. The faithful wanted to reproduce the Koran's sacred words in as beautiful a script as human hands could contrive. Passages from the Koran appeared not only on the fragile pages of books but also on the walls of buildings, for example, in the mosaic band above the outer ring of columns inside the Dome of the Rock (FIG. 13-3). The practice of calligraphy was itself a holy task and required long and arduous training. The scribe had to possess exceptional spiritual refinement, as attested by an ancient Arabic proverb that proclaims "Purity of writing is purity of soul." Only in China does calligraphy hold as elevated a position among the arts (see "Calligraphy and Inscriptions on Chinese Paintings," Chapter 27, page 726).

Arabic script predates Islam. It is written from right to left with certain characters connected by a baseline. Although the chief Islamic book, the sacred Koran, was codified in the mid-seventh century, the earliest preserved Korans are datable to the ninth century. Koran pages were either bound into books or stored as loose sheets in boxes. Most of the early examples feature texts written in the script form called *Kufic,* after the city of Kufa, one of the renowned centers of Arabic calligraphy. Kufic script is quite angular, with the uprights forming almost right angles with the baseline. As with Hebrew and other Semitic languages, the usual practice was to write in consonants only. But to facilitate recitation of the Koran, scribes often indicated vowels by red or yellow symbols above or below the line.

13-16A Dish with Arabic proverb, 10th century.

All of these features can be seen on a 9th- or early-10th-century page (FIG. 13-16) now in Dublin that carries the heading and opening lines of surah 18 of the Koran. Five text lines in black ink with red vowels appear below a decorative band incorporating the chapter title in gold and ending in a palm-tree *finial* (a crowning ornament). This approach to page design has parallels at the extreme northwestern corner of the then-known world—in the early medieval manuscripts of the British Isles, where text and ornament are similarly united (FIG. 16-8). But the stylized human and animal forms that populate those Christian books never appear in Korans.



13-16B *Blue Koran,* ninth to mid-10th century.

LATER ISLAMIC ART

The great centers of early Islamic art and architecture continued to flourish in the second millennium, but important new regional artistic centers emerged, especially in Turkey and South Asia. The discussion here centers on the later art and architecture of the Islamic Middle East, Spain, and Turkey. Developments in India are treated in Chapter 26.

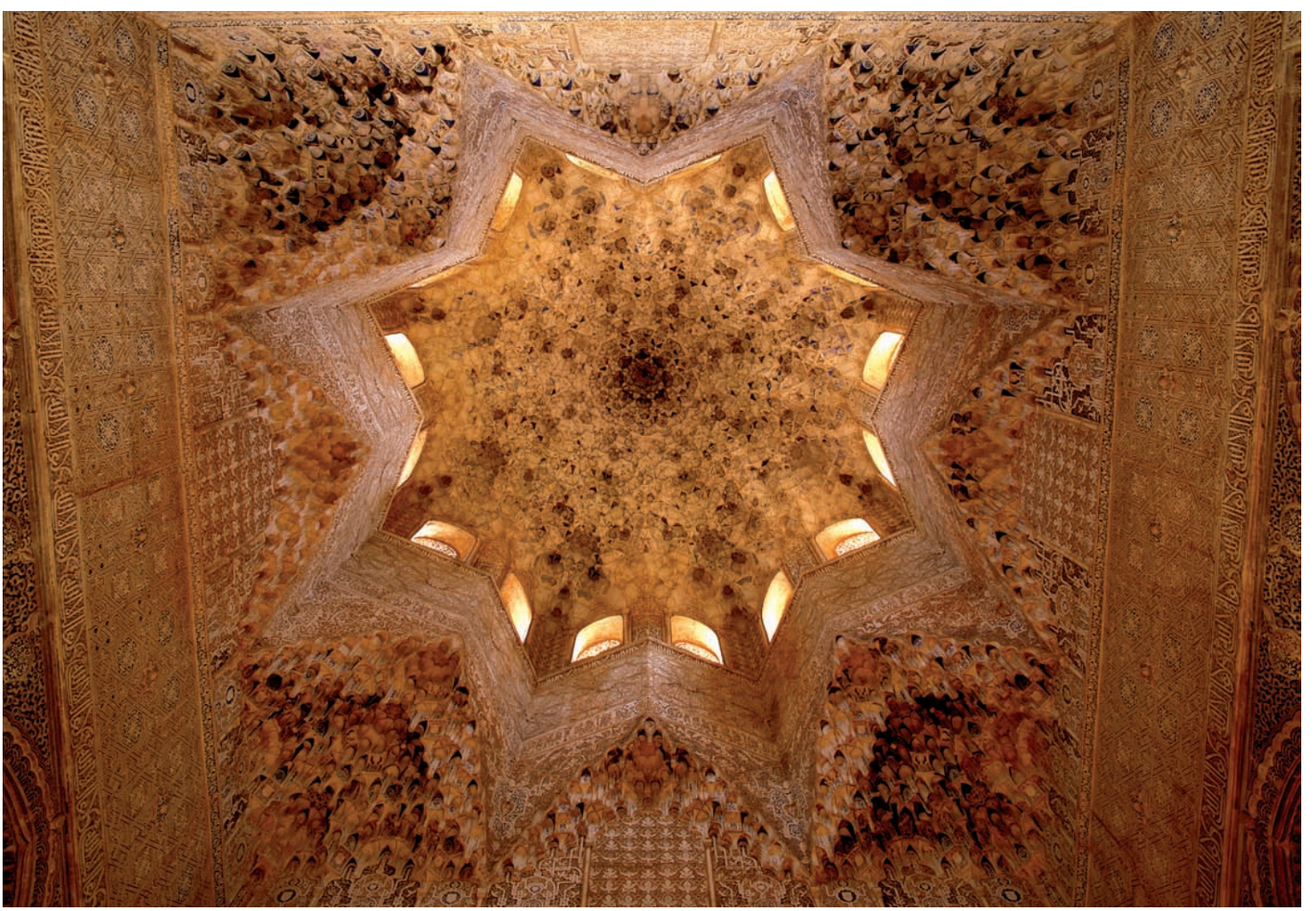
Architecture

In the early years of the 11th century, the Umayyad caliphs' power in Spain unraveled, and their palaces fell prey to Berber soldiers from North Africa. The Berbers ruled southern Spain for several generations but could not resist the pressure of Christian forces from the north. Córdoba fell to the Christians in 1236. From then until the final Christian triumph in 1492, the Nasrids, an Arab dynasty that had established its capital at Granada in 1230, ruled the remaining Muslim territories in Spain.

ALHAMBRA On a rocky spur at Granada, the Nasrids constructed a huge palace-fortress called the Alhambra ("the Red" in Arabic) because of the rose color of the stone used for its walls and 23 towers. By the end of the 14th century, the complex, a veritable city with a population of 40,000, included at least a half dozen royal residences. Only two of these fared well over the centuries. Paradoxically, they owe their preservation to the Christian victors, who maintained a few of the buildings as trophies commemorating the expulsion of the Nasrids. The two palaces present a vivid picture of court life in Islamic Spain before the Christian reconquest.

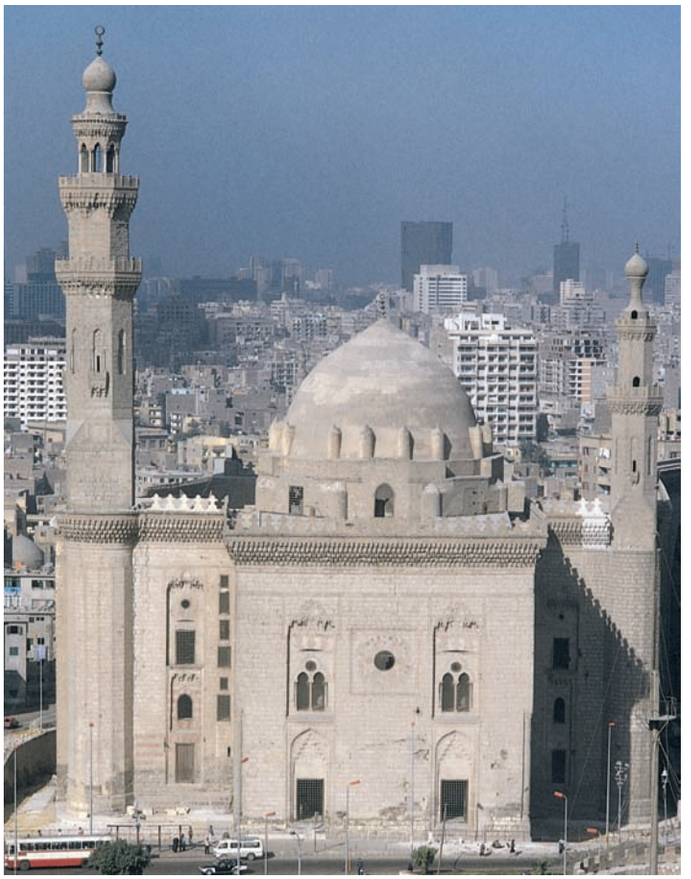
The Palace of the Lions takes its name from its courtyard (FIG. **13-1**) that boasts a fountain with marble lions carrying a water basin on their backs. Colonnaded courtyards with fountains and statues have a long history in the Mediterranean world, especially in the houses and villas of the Roman Empire (see Chapter 10). The Alhambra's lion fountain is an unusual instance of freestanding stone sculpture in the Islamic world, unthinkable in a sacred setting. But the design of the courtyard is distinctly Islamic and features many multilobed pointed arches and lavish stuccoed walls in which calligraphy and abstract motifs are interwoven. The palace was the residence of Muhammad V (r. 1354–1391), and its courtyards, lush gardens, and luxurious carpets and other furnishings served to conjure the image of Paradise.

The Palace of the Lions is noteworthy also for its elaborate stucco ceilings. A spectacular example is the dome (FIG. **13-17**) of the so-called Hall of the Abencerrajes. The dome rests on an octagonal drum supported by squinches and pierced by eight pairs of windows, but its structure is difficult to discern because of the intricate carved stucco decoration. The ceiling is covered with some 5,000 *muqarnas*—tier after tier of stalactite-like prismatic forms that seem aimed at denying the structure's solidity. The muqarnas ceiling was intended to catch and reflect sunlight as well as form beautiful



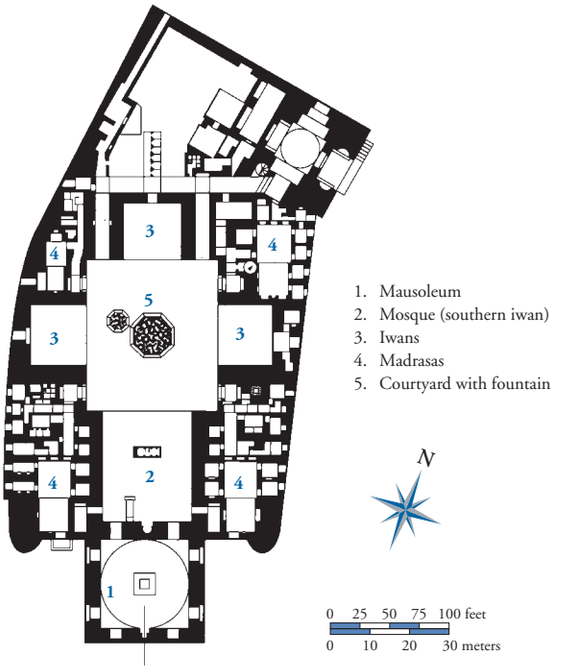
13-17 Muqarnas dome, Hall of the Abencerrajes, Palace of the Lions, Alhambra, Granada, Spain, 1354–1391.

The structure of this dome on an octagonal drum is difficult to discern because of the intricately carved stucco muqarnas decoration. The prismatic forms catch and reflect sunlight, creating the effect of a starry sky.



13-18 Madrasa-mosque-mausoleum complex of Sultan Hasan (looking northwest with the mausoleum in the foreground), Cairo, Egypt, begun 1356.

Hasan's mausoleum is a gigantic version of the much earlier Samanid mausoleum (FIG. 13-10). Because of its location directly south of the complex's mosque, praying Muslims faced the Mamluk sultan's tomb.



13-19 Plan of the madrasa-mosque-mausoleum complex of Sultan Hasan, Cairo, Egypt, begun 1356.

Sultan Hasan's complex comprised four madrasas as well as a mosque, his tomb, and various other buildings. The plan with four iwans opening onto a central courtyard derives from that of Iranian mosques.

abstract patterns. The lofty vault in this hall and others in the palace symbolized the dome of Heaven. The flickering light and shadows create the effect of a starry sky as the sun's rays glide from window to window during the day. To underscore the symbolism, the palace walls bear inscriptions with verses by the court poet Ibn Zamrak (1333–1393), who compared the Alhambra's lacelike muqarnas ceilings to "the heavenly spheres whose orbits revolve."

MAUSOLEUM OF SULTAN HASAN In the mid-13th century, under the leadership of Genghis Khan, the Mongols from east-central Asia (see Chapter 27) conquered much of the eastern Islamic world. The center of Islamic power moved from Baghdad to Egypt. The lords of Egypt at the time were former Turkish slaves ("mamluks" in Arabic) who converted to Islam. The capital of the Mamluk *sultans* (rulers) was Cairo, which became the largest Muslim city of the late Middle Ages. The Mamluks were prolific builders, and Sultan Hasan, although not an important figure in Islamic history, was the most ambitious of all. He ruled briefly as a child and was deposed, but regained the sultanate in 1354. He was assassinated in 1361.

Hasan's major building project in Cairo was a huge madrasa complex (FIGS. 13-18 and 13-19) on a plot of land about 8,000 square yards in area. A *madrasa* ("place of study" in Arabic) is a theological college devoted to the teaching of Islamic law. Hasan's complex was so large that it housed not only four such colleges for the study of the four major schools of Islamic law but also a mosque, mausoleum, orphanage, and hospital, as well as shops and baths. Like all Islamic building complexes incorporating religious, educational, and charitable functions, this one was supported by an endowment funded by rental properties. The income from these paid the salaries of attendants and faculty, provided furnishings and supplies such as oil for the lamps or free food for the poor, and supported scholarships for needy students.

The grandiose structure has a large central courtyard (FIG. 13-19, no. 5) with a monumental fountain in the center and four vaulted iwans opening onto it, a design used earlier for Iranian mosques (see "The Mosque," page 345). In each corner of the main courtyard, between the iwans (FIG. 13-19, no. 3), is a madrasa (no. 4) with its own courtyard and four or five stories of rooms for the students. The largest iwan (no. 2) in the complex, on the southern side, served as a mosque. Contemporaries believed the soaring vault that covered this iwan was taller than the arch of the Sasanian palace (FIG. 2-27) at Ctesiphon, which was then one of the most admired engineering feats in the world. Behind the qibla wall stands the sultan's mausoleum (FIGS. 13-18 and 13-19, no. 1), a gigantic version of the type of the Samanid tomb (FIG. 13-10) at Bukhara. The builders intentionally placed the dome-covered cube south of the mosque so that the prayers of the faithful facing Mecca would be directed toward Hasan's tomb. (Only the sultan's two sons are buried there, however. Hasan's body was not returned when he was killed.)

A muqarnas cornice crowns the exterior walls of the complex, and marble plaques of several colors cover the mihrab in the mosque and the walls of Hasan's mausoleum. But the complex as a whole is relatively austere, characterized by its massiveness and geometric clarity. It presents a striking contrast to the filigreed elegance of the contemporary Alhambra (FIGS. 13-1 and 13-17) and testifies to the diversity of regional styles within the Islamic world, especially after the end of the Umayyad and Abbasid dynasties.

Sinan the Great and the Mosque of Selim II

Sinan (ca. 1491–1588), called Sinan the Great, was truly the greatest Ottoman architect. Born a Christian, he was recruited for service in the Ottoman government, converted to Islam, and was trained in engineering and the art of building while in the Ottoman army. Officials quickly recognized his talent and entrusted him with increasing responsibility until, in 1538, he was appointed the chief court architect for Suleyman the Magnificent (r. 1520–1566), a generous patron of art and architecture. Architectural historians have attributed to Sinan hundreds of building projects, both sacred and secular, although he could not have been involved with all that bear his name.

13-20A Tughra of Suleyman the Magnificent, ca. 1555–1560.

The capstone of Sinan's distinguished career was the Edirne mosque (FIGS. 13-20 and 13-21) of Suleyman's son, Selim II, which Sinan designed when he was almost 80 years old. In this masterwork, he sought to surpass the greatest achievements of Byzantine architects, just as Sultan Hasan's builders in Cairo attempted to rival and exceed the Sasanian architects of antiquity. Sa'i Mustafa Çelebi, Sinan's biographer, recorded the architect's accomplishment in his own words:

> Sultan Selim Khan ordered the erection of a mosque in Edirne. . . . His humble servant [I, Sinan] prepared for him a drawing depicting, on a dominating site in the city, four minarets on the four corners of a dome. . . . Those who consider themselves architects among Christians say that in the realm of Islam no dome can equal that of the Hagia Sophia; they claim that no Muslim architect would be able to build such a large dome. In this mosque, with the help of God and the support of Sultan Selim Khan, I erected a dome six cubits higher and four cubits wider than the dome of the Hagia Sophia.*

The Edirne dome is, in fact, higher than Hagia Sophia's (FIG. 12-4) when measured from its base, but its crown is not as far above the pavement. Nonetheless, Sinan's feat won universal acclaim as a triumph. The Ottomans considered the Mosque of Selim II proof that they finally had outshone the Christian emperors of Byzantium in the realm of architecture.

*Aptullah Kuran, *Sinan: The Grand Old Master of Ottoman Architecture* (Washington, D.C.: Institute of Turkish Studies, 1987), 168–169.

13-20 SINAN, Mosque of Selim II, Edirne, Turkey, 1568–1575.

The Ottomans developed a new type of mosque with a square prayer hall covered by a dome. Sinan's Mosque of Selim II has a taller dome than Hagia Sophia's (FIG. 12-4) and is an engineering triumph.

13-21 SINAN, interior of the Mosque of Selim II, Edirne, Turkey, 1568–1575.

The interior of Sinan's Edirne mosque is a fusion of an octagon and a dome-covered square with four half-domes at the corners. The plan features geometric clarity and precise numerical ratios.

OTTOMAN EMPIRE During the course of the 9th to 11th centuries, the Turkic people, of central Asian origin, largely converted to Islam. They moved into Iran and the Near East in the 11th century, and by 1055 the Seljuk Turkish dynasty had built an extensive, although short-lived, empire that stretched from India to western Anatolia. By the end of the 12th century, this empire had broken up into regional states, and in the early 13th century it came under the sway of the Mongols, led by Genghis Khan (see Chapter 27). After the downfall of the Seljuks, several local dynasties established themselves in Anatolia, among them the Ottomans, founded by Osman I (r. 1281–1326). Under Osman's successors, the Ottoman state expanded for two and a half centuries throughout vast areas of Asia, Europe, and North Africa to become, by the middle of the 15th century, one of the great world powers.

The Ottoman emperors were lavish patrons of architecture. Ottoman builders developed a new type of mosque with a square prayer hall covered by a dome as its core. In fact, the dome-covered square, which had been a dominant form in Iran and was employed for the 10th-century Samanid mausoleum (FIG. 13-10), became the nucleus of all Ottoman architecture. The combination had an appealing geometric clarity. At first used singly, the domed units came to be used in multiples, a turning point in Ottoman architecture.

After the Ottoman Turks conquered Constantinople (Istanbul) in 1453, they firmly established their architectural code. The new lords of Constantinople were impressed by Hagia Sophia (FIGS. 12-2 to 12-4), which, in some respects, conformed to their own ideals. They converted the Byzantine church into a mosque with minarets. But the longitudinal orientation of Hagia Sophia's interior never satisfied Ottoman builders, and Anatolian development moved instead toward the central-plan mosque.

SINAN THE GREAT The first examples of the central-plan mosque were built in the 1520s, eclipsed later only by the works of the most famous Ottoman architect, SINAN (ca. 1491–1588). A contemporary of the great Italian Renaissance sculptor, painter, and architect Michelangelo (see Chapter 22), and with equal aspirations to immortality, Sinan perfected the Ottoman architectural style. By his time, Ottoman builders almost universally were using the basic domed unit, which they could multiply, enlarge, contract, or combine as needed. Thus, the typical Ottoman building of Sinan's time was a creative assemblage of domical units and artfully juxtaposed geometric spaces. Builders usually erected domes with an extravagant margin of structural safety that has since served them well in earthquake-prone Istanbul and other Ottoman cities. (Vivid demonstration of the sound construction of Ottoman mosques came in August 1999 when a powerful earthquake centered 65 miles east of Istanbul toppled hundreds of modern buildings and killed thousands of people but caused no damage to the centuries-old mosques.) Working within this architectural tradition, Sinan searched for solutions to the problems of unifying the additive elements and of creating a monumental centralized space with harmonious proportions.

Sinan's vision found ultimate expression in the Mosque of Selim II (FIG. **13-20**) at Edirne, which had been the capital of the Ottoman Empire from 1367 to 1472 and where Selim II (r. 1566–1574) maintained a palace. There, Sinan designed a mosque with a massive dome set off by four slender pencil-shaped minarets (each more than 200 feet high, among the tallest ever constructed). The dome's height surpasses that of Hagia Sophia (see "Sinan the Great and the Mosque of Selim II," page 354). But it is the organization of the Edirne mosque's interior space (FIG. **13-21**) that reveals the genius of its builder. The mihrab is recessed into an apselike alcove deep enough to permit window illumination from three sides, making the brilliantly colored tile panels of its lower walls sparkle as if with their own glowing light. The plan of the main hall is an ingenious fusion of an octagon with the dome-covered square. The octagon, formed by the eight massive dome supports, is pierced by the four half-dome-covered corners of the square. The result is a fluid interpenetration of several geometric volumes that represents the culminating solution to Sinan's lifelong search for a monumental unified interior space. Sinan's forms are clear and legible, like mathematical equations. Height, width, and masses are related to one another in a simple but effective ratio of 1:2, and precise numerical ratios also characterize the complex as a whole. The forecourt of the building, for example, covers an area equal to that of the mosque proper. The Mosque of Selim II is generally regarded as the climax of Ottoman architecture. Sinan proudly proclaimed it his masterpiece.

GREAT MOSQUE, ISFAHAN The Mosque of Selim II at Edirne was erected during a single building campaign under the direction of a single master architect, but the construction of many other major Islamic architectural projects extended over several centuries. A case in point is the Great Mosque (FIG. **13-22**) at Isfahan

13-22 Aerial view (looking southwest) of the Great Mosque, Isfahan, Iran, 11th to 17th centuries.

The typical Iranian mosque plan with four vaulted iwans and a courtyard may have been employed for the first time in the mosque Sultan Malik Shah I built in the late 11th century at his capital of Isfahan.

13-23 Plan of the Great Mosque, Isfahan, Iran, 11th to 17th centuries.

In the Great Mosque at Isfahan, as in other four-iwan mosques, the qibla iwan is the largest. Its size and the dome-covered maqsura in front of it indicated the proper direction for Muslim prayer.

in Iran. The earliest mosque on the site, of the hypostyle type, dates to the eighth century, during the Abbasid caliphate. But Sultan Malik Shah I (r. 1072–1092), whose capital was at Isfahan, transformed the structure in the 11th century. Later remodeling further altered the mosque's appearance. The present mosque, which retains its basic 11th-century plan (FIG. **13-23**), consists of a large courtyard bordered by a two-story arcade on each side. As in the 14th-century complex (FIG. 13-19) of Sultan Hasan in Cairo, four iwans open onto the courtyard, one at the center of each side. The southwestern iwan (FIG. 13-23, no. 3) leads into a dome-covered room (no. 4) in front of the mihrab. It functioned as a maqsura reserved for the sultan and his attendants. It is uncertain whether this plan, with four iwans and a dome in front of the mihrab, was employed for the first time in the Great Mosque at Isfahan, but it became standard in Iranian mosque design. In four-iwan mosques, the qibla iwan is always the largest. Its size (and the dome that often accompanied it) immediately indicated to worshipers the proper direction for prayer.

13-24 Winter prayer hall of the Shahi (Imam) Mosque, Isfahan, Iran, 1611–1638.

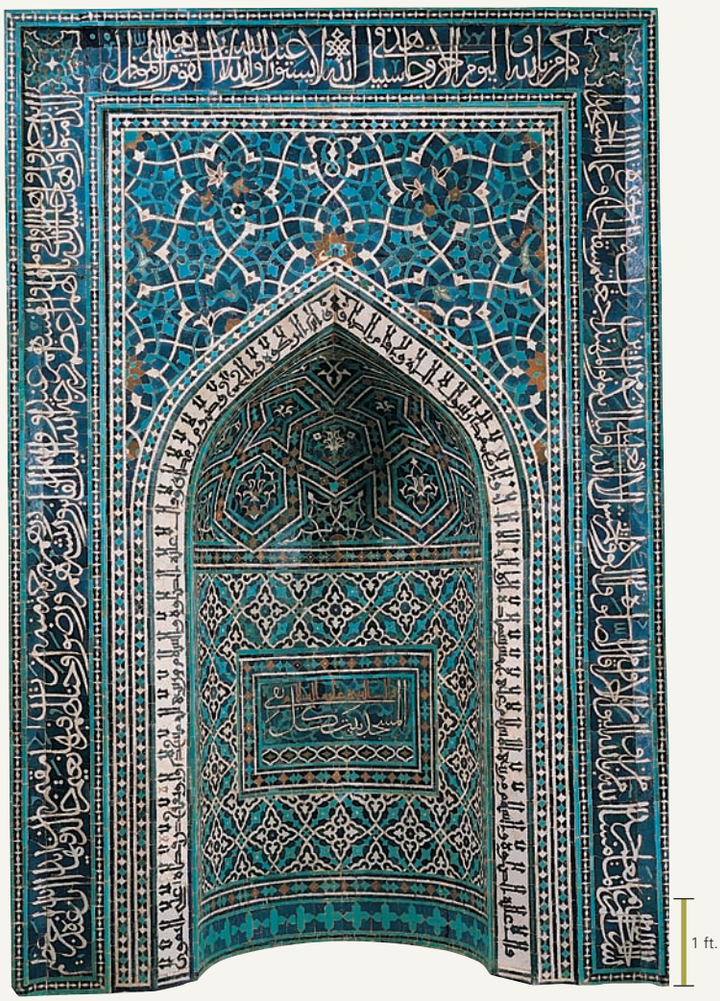
The ceramists who produced the cuerda seca tiles of this Isfahan mosque's winter prayer hall had to manufacture a wide variety of shapes with curved surfaces to cover the hall's arches and vaults.

Islamic Tilework

From the Dome of the Rock (FIGS. 13-2 and 13-3), the earliest major Islamic building, to the present day, architects have used mosaics or ceramic tiles to decorate the walls and vaults of mosques, madrasas, palaces, and tombs. The golden age of Islamic tilework was the 16th and 17th centuries. At that time, Islamic artists used two basic techniques to enliven building interiors with brightly colored tiled walls and to sheathe their exteriors with gleaming tiles that reflected the sun's rays.

In *mosaic tilework* (for example, FIG. 13-25), large ceramic panels of single colors are fired in the potter's kiln and then cut into smaller pieces and set in plaster in a manner similar to the laying of mosaic tesserae of stone or glass (see "Mosaics," Chapter 11, page 303).

Cuerda seca (dry cord) tilework was introduced in Umayyad Spain during the 10th century—hence its Spanish name even in Middle Eastern and Central Asian contexts. Cuerda seca tiles (for example, FIG. 13-24) are polychrome and can more easily bear complex geometric and vegetal patterns as well as Arabic script. They are more economical to use because vast surfaces can be covered with large tiles much more quickly than they can with thousands of smaller mosaic tiles. But when such tiles are used to sheathe curved surfaces, the ceramists must fire the tiles in the exact shape required. Polychrome tiles have other drawbacks. Because all the glazes are fired at the same temperature, cuerda seca tiles are not as brilliant in color as mosaic tiles and do not reflect light the way the more irregular surfaces of tile mosaics do. The preparation of the multicolored tiles also requires greater care. To prevent the colors from running together during firing, the potters must outline the motifs on cuerda seca tiles with greased cords containing manganese, which leaves a matte black line between the colors after firing.



13-25 Mihrab from the Madrasa Imami, Isfahan, Iran, ca. 1354. Glazed mosaic tilework, 11′ 3″ × 7′ 6″. Metropolitan Museum of Art, New York.

The Madrasa Imami mihrab is a masterpiece of mosaic tilework. Every piece had to be cut to fit its specific place in the design. It exemplifies the perfect aesthetic union between Islamic calligraphy and ornament.

IRANIAN TILEWORK The iwans of the Isfahan mosque feature soaring pointed arches framing tile-sheathed muqarnas vaults. The muqarnas ceilings probably date to the 14th century, and the ceramic-tile revetment on the walls and vaults is the work of the 17th-century Safavid rulers of Iran. The use of glazed tiles has a long history in the Middle East. Even in ancient Mesopotamia, builders sometimes covered gates and walls with colorful baked bricks (FIG. 2-24). In the Islamic world, the art of ceramic tilework reached its peak in the 16th and 17th centuries in Iran and Turkey (see "Islamic Tilework," above). Employed as a veneer over a brick core, tiles could sheathe entire buildings, including domes and minarets.

SHAHI MOSQUE, ISFAHAN The Shahi (or Royal) Mosque in Isfahan, now known as the Imam Mosque, which dates from the early 17th century, is widely recognized as one of the masterpieces of Islamic tilework. Its dome is a prime example of tile mosaic, and its winter prayer hall (FIG. 13-24) houses one of the finest ensembles of cuerda seca tiles in the world. Covering the walls, arches, and vaults of the prayer hall presented a special challenge to the Isfahan ceramists. They had to manufacture a wide variety of shapes with curved surfaces to sheathe the complex forms of the hall. The result was a technological triumph as well as a dazzling display of abstract ornament.

MADRASA IMAMI, ISFAHAN As already noted, verses from the Koran appeared in the mosaics of the Dome of the Rock (FIG. 13-3) in Jerusalem and in mosaics and other media on the walls of countless later Islamic structures. Indeed, some of the masterworks of Arabic calligraphy are not in manuscripts but on walls. A 14th-century mihrab (FIG. 13-25) from the Madrasa Imami in Isfahan exemplifies the perfect aesthetic union between the Islamic calligrapher's art and abstract ornament. The pointed arch that immediately frames the mihrab niche bears an inscription from the Koran in Kufic, the stately rectilinear script used in the ninth-century Koran (FIG. 13-16) discussed earlier. Many supple cursive styles also

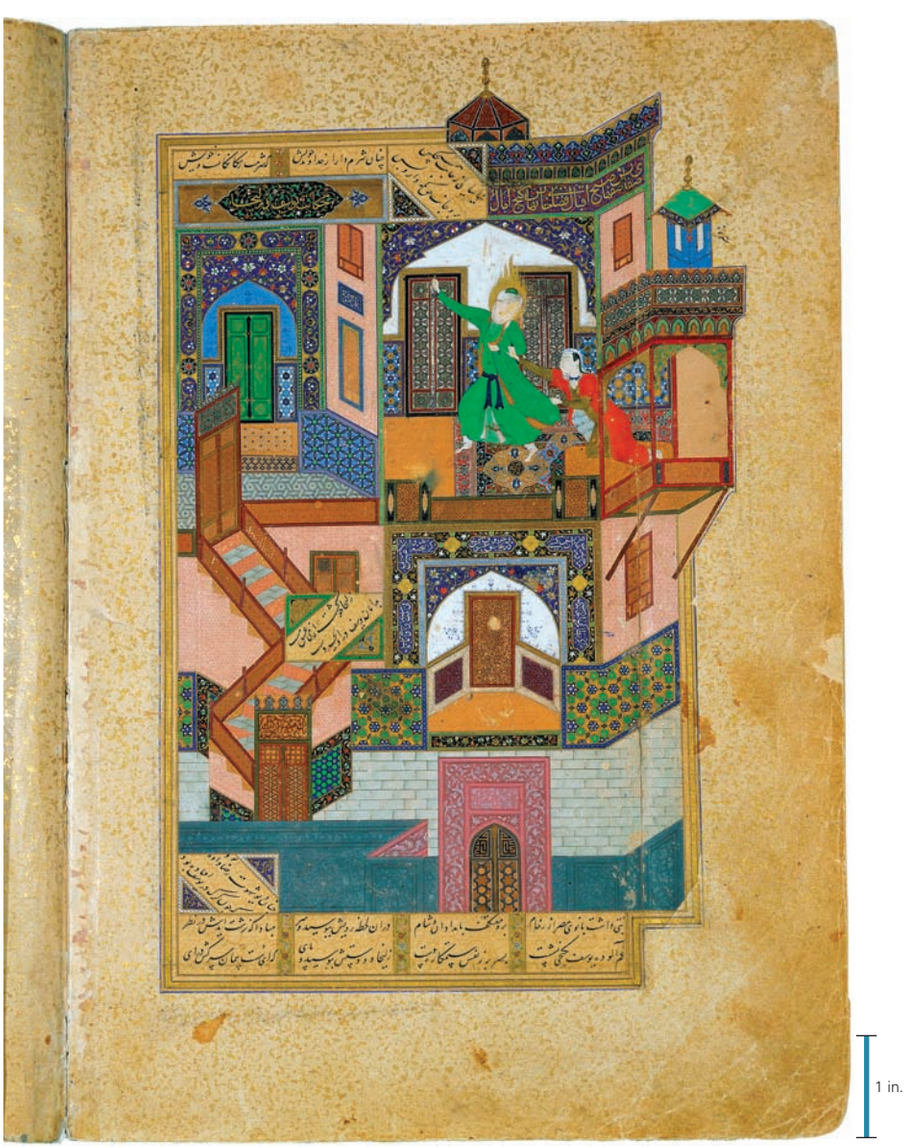
make up the repertoire of Islamic calligraphy. One of these styles, known as *Muhaqqaq,* fills the mihrab's outer rectangular frame. The mosaic tile ornament on the curving surface of the niche and the area above the pointed arch are composed of tighter and looser networks of geometric and abstract floral motifs. The mosaic technique is masterful. Every piece had to be cut to fit its specific place in the mihrab—even the tile inscriptions. The framed inscription in the center of the niche—proclaiming that the mosque is the domicile of the pious believer—is smoothly integrated with the subtly varied patterns. The mihrab's outermost inscription—detailing the five pillars of Islamic faith—serves as a fringelike extension, as well as a boundary, for the entire design. The calligraphic and geometric elements are so completely unified that only the practiced eye can distinguish them. The artist transformed the architectural surface into a textile surface—the three-dimensional wall into a two-dimensional hanging—weaving the calligraphy into it as another cluster of motifs within the total pattern.

Luxury Arts

The tile-covered mosques of Isfahan, Sultan Hasan's madrasa complex in Cairo, and the architecture of Sinan the Great in Edirne are enduring testaments to the brilliant artistic culture of the Safavid, Mamluk, and Ottoman rulers of the Muslim world. Yet these are only some of the most conspicuous public manifestations of the greatness of later Islamic art and architecture (see Chapter 26 for the achievements of the Muslim rulers of India). In the smaller-scale, and often private, realm of the luxury arts, Muslim artists also excelled. From the vast array of manuscript paintings, ceramics, textiles, and metalwork, six masterpieces may serve to suggest both the range and the quality of the inappropriately dubbed Islamic "minor arts" of the 13th to 16th centuries.

TIMURID *BUSTAN* In the late 14th century, a new Islamic empire arose in Central Asia under the leadership of Timur (r. 1370–1405), known in the Western world as Tamerlane. Timur, a successor of the Mongol Genghis Khan, quickly extended his dominions to include Iran and parts of Anatolia. The Timurids ruled until 1501 and were great patrons of art and architecture in cities such as Herat, Bukhara, and Samarqand. Herat in particular became a leading center for the production of luxurious books under the patronage of the Timurid sultan Husayn Mayqara (r. 1470–1506).

The most famous Persian painter of his age was Bihzad, who worked at the Herat court and illustrated the sultan's copy of Sadi's *Bustan* (*Orchard*). One page (FIG. **13-26**) represents a story in both the Bible and the Koran—the seduction of Yusuf (Joseph) by



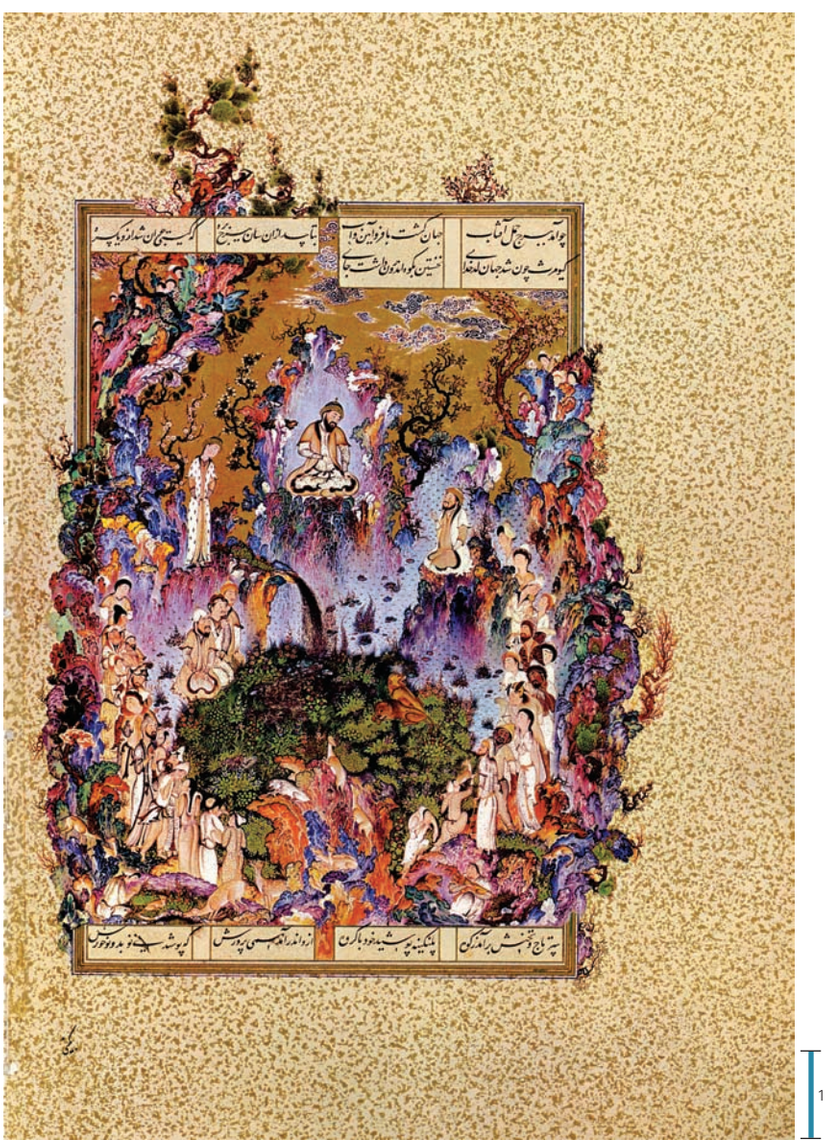
13-26 Bihzad, *Seduction of Yusuf,* folio 52 verso of the *Bustan* of Sultan Husayn Mayqara, from Herat, Afghanistan, 1488. Ink and color on paper, $11\frac{7}{8}'' \times 8\frac{5}{8}''$. National Library, Cairo.

The most famous Timurid manuscript painter was Bihzad. This page displays vivid color, intricate decorative detailing, and a brilliant balance between two-dimensional patterning and perspective.

Potiphar's wife Zulaykha. Sadi's text is dispersed throughout the page in elegant Arabic script in a series of beige panels. According to the tale as told by Jami (1414–1492), an influential mystic theologian and poet whose Persian text appears in blue in the white pointed arch at the lower center of the composition, Zulaykha lured Yusuf into her palace and led him through seven rooms, locking each door behind him. In the last room she threw herself at Yusuf, but he resisted and was able to flee when the seven doors opened miraculously. Bihzad's painting of the story is characterized by vivid color, intricate decorative detailing suggesting luxurious textiles and tiled walls, and a brilliant balance between two-dimensional patterning and perspectival depictions of balconies and staircases.

SAFAVID *SHAHNAMA* The successors of the Timurids in Iran were the Safavids. Shah Tahmasp (r. 1524–1576) was a great patron of books. Around 1525 he commissioned an ambitious decade-long project to produce an illustrated 742-page copy of the *Shahnama* (*Book of Kings*). The *Shahnama* is the Persian national epic poem by Firdawsi (940–1025). It recounts the history of Iran from the Creation until the Muslim conquest. Tahmasp's *Shahnama* contains 258 illustrations by many artists, including some of the most renowned painters of the day. It was eventually presented as a gift to Selim II, the Ottoman sultan who was the patron of Sinan's mosque (FIGS. 13-20 and 13-21) at Edirne. The manuscript later entered a private collection in the West and ultimately was auctioned as a series of individual pages, destroying the work's integrity but underscoring that Western collectors viewed each page as a masterpiece.

The page reproduced here (FIG. **13-27**) is the work of SULTAN-MUHAMMAD and depicts Gayumars, the legendary first king of Iran, and his court. According to tradition, Gayumars ruled from a mountaintop when humans first learned to cook food and clothe themselves in leopard skins. In Sultan-Muhammad's representation of the story, Gayumars presides over his court (all the figures wear leopard skins) from his mountain throne. The king is surrounded by light amid a golden sky. His son and grandson perch on multicolored rocky outcroppings to the viewer's left and right, respectively. The court encircles the ruler and his heirs. Dozens of human faces appear within the rocks themselves. Many species of animals populate the lush landscape. According to the *Shahnama,* wild beasts became instantly tame in the presence of Gayumars. Sultan-Muhammad rendered the figures, animals, trees, rocks, and sky with an extraordinarily delicate touch. The sense of lightness and airiness that permeate the painting is enhanced by its placement on the page—floating, off center, on a speckled background of gold leaf. The painter gave his royal patron a singular vision of Iran's fabled past.



1 in.

13-27 SULTAN-MUHAMMAD, *Court of Gayumars,* folio 20 verso of the *Shahnama* of Shah Tahmasp, from Tabriz, Iran, ca. 1525–1535. Ink, watercolor, and gold on paper, 1′ 1″ × 9″. Prince Sadruddin Aga Khan Collection, Geneva.

Sultan-Muhammad painted the story of the legendary king Gayumars for the Safavid ruler Shah Tahmasp. The off-center placement on the page enhances the sense of lightness that permeates the painting.

13-28 Maqsud of Kashan, carpet from the funerary mosque of Shaykh Safi al-Din, Ardabil, Iran, 1540. Knotted pile of wool and silk, 34′ 6″ × 17′ 7″. Victoria & Albert Museum, London.

Maqsud of Kashan's enormous Ardabil carpet required roughly 25 million knots. It presents the illusion of a heavenly dome with mosque lamps reflected in a pool of water with floating lotus blossoms.

ARDABIL CARPETS Tahmasp also elevated carpet weaving to a national industry and set up royal factories at Isfahan, Kashan, Kirman, and Tabriz. Two of the masterworks of carpet weaving that date to his reign are the pair of carpets from the two-centuries older funerary mosque of Shaykh Safi al-Din (1252–1334), the founder of the Safavid line. The name Maqsud of Kashan is woven into the design of the carpet illustrated here (FIG. **13-28**). He must have been the designer who supplied the master pattern to two teams of royal weavers (one for each of the two carpets). The carpet, almost 35 × 18 feet, consists of roughly 25 million knots, some 340 to the square inch. (Its twin has even more knots.)

The design consists of a central sunburst medallion, representing the inside of a dome, surrounded by 16 pendants. Mosque lamps (appropriate motifs for the Ardabil funerary mosque) are suspended from two pendants on the long axis of the carpet. The lamps are of different sizes. This may be an optical device to make the two appear equal in size when viewed from the end of the carpet at the room's threshold (the bottom end in FIG. 13-28). The rich blue background is covered with leaves and flowers attached to delicate stems that spread over the whole field. The entire composition presents the illusion of a heavenly dome with lamps reflected in a pool of water full of floating lotus blossoms. No human or animal figures appear, as befits a carpet intended for a mosque, although they can be found on other Islamic textiles used in secular contexts, both earlier (FIG. 13-14) and later.

MOSQUE LAMPS Mosque lamps were often made of glass and highly decorated. Islamic artists perfected this art form and fortunately, despite their exceptionally fragile nature, many examples survive, in large part because the lamps were revered by those who handled them. One of the finest is the mosque lamp (FIG. **13-29**) made for Sayf al-Din Tuquztimur (d. 1345), an official in the court of the Mamluk sultan al-Nasir Muhammad. The glass lamps hung on chains from the mosque's ceilings. The shape of Tuquztimur's lamp

1 in.

13-29 Mosque lamp of Sayf al-Din Tuquztimur, from Egypt, 1340. Glass with enamel decoration, 1′ 1″ high. British Museum, London.

The enamel decoration of this glass mosque lamp includes a quotation from the Koran comparing God's light to the light in a lamp. The burning wick dramatically illuminated the sacred verse.

is typical of the period, consisting of a conical neck, wide body with six vertical handles, and a tall foot. Inside, a small glass container held the oil and wick. The *enamel* decoration (colors fused to the surfaces) includes Tuquztimur's emblem—an eagle over a cup (Tuquztimur served as the sultan's cup-bearer). Cursive Arabic calligraphy, also in enamel, gives the official's name and titles as well as a quotation of the Koranic verse (24:35) comparing God's light to the light in a lamp. When the lamp was lit, the verse (and Tuquztimur's name) would have been dramatically illuminated.

BAPTISTÈRE DE SAINT LOUIS Metalwork was another early Islamic art form (FIG. 13-15) that continued to play an important role in the later period. An example of the highest quality is a brass basin (FIG. **13-30**) from Egypt inlaid with gold and silver and signed—six times—by the Mamluk artist MUHAMMAD IBN AL-ZAYN. The basin, used for washing hands at official ceremonies, must have been fashioned for a specific Mamluk patron. Some scholars think a court official named Salar ordered the piece as a gift for his sultan, but no inscription identifies him. The central band depicts Mamluk hunters and Mongol enemies. Running animals fill the friezes above and below. Stylized vegetal forms of inlaid silver fill the background of all the bands and roundels. Figures and animals also decorate the inside and underside of the basin. This Mamluk basin has long been

1 in.

13-30 MUHAMMAD IBN AL-ZAYN, basin (*Baptistère de Saint Louis*), from Egypt, ca. 1300. Brass, inlaid with gold and silver, $8\frac{3}{4}''$ high. Louvre, Paris.

Muhammad ibn al-Zayn proudly signed (six times) this basin used for washing hands at official ceremonies. The central band, inlaid with gold and silver, depicts Mamluk hunters and Mongol enemies.

Christian Patronage of Islamic Art

During the 11th, 12th, and 13th centuries, large numbers of Christians traveled to Islamic lands, especially to the Christian holy sites in Jerusalem and Bethlehem, either as pilgrims (see "Pilgrimages," Chapter 17, page 432) or as Crusaders (see "The Crusades," Chapter 17, page 442). Many returned with mementos of their journey, usually in the form of inexpensive mass-produced souvenirs. But some wealthy individuals commissioned local Muslim artists to produce custom-made pieces using costly materials.

A unique brass canteen (FIG. 13-31) inlaid with silver and decorated with scenes of the life of Christ appears to be the work of a 13th-century Ayyubid metalsmith in the employ of a Christian patron. The canteen is a luxurious version of the "pilgrim flasks" Christian visitors to the Holy Land often brought back to Europe. Four inscriptions in Arabic promise eternal glory, secure life, perfect prosperity, and increasing good luck to the canteen's owner, who is unfortunately not named. That the owner was a Christian is suggested not only by the type of object but also by the choice of scenes engraved into the canteen. The Madonna and Christ Child appear enthroned in the central medallion, and three panels depicting New Testament events (see "The Life of Jesus in Art," Chapter 11, pages 296–297) fill most of the band around the medallion. The narrative unfolds in a counterclockwise sequence (Arabic is read from right to left), beginning with the Nativity (at 2 o'clock) and continuing with the Presentation in the Temple (10 o'clock) and the Entry into Jerusalem (6 o'clock). The scenes may have been chosen because the patron had visited their locales (Bethlehem and Jerusalem). Most scholars believe that the artist used Syrian Christian manuscripts as the source for the canteen's Christian iconography. Many of the decorative details, however, are common in contemporary Islamic metalwork inscribed with the names of Muslim patrons. Whoever the owner was, the canteen testifies to the fruitful artistic interaction between Christians and Muslims in 13th-century Syria.

1 in.

13-31 Canteen with episodes from the life of Christ, from Syria, ca. 1240–1250. Brass, inlaid with silver, 1′ 2½″ high. Freer Gallery of Art, Washington, D.C.

This unique canteen is the work of an Ayyubid metalsmith in the employ of a Christian pilgrim to the Holy Land. The three scenes from the life of Jesus appear in counterclockwise sequence.

known as the *Baptistère de Saint Louis,* but the association with the famous French king (see "Louis IX, the Saintly King," Chapter 18, page 482) is a myth. Louis died before the piece was made. Nonetheless, the *Baptistère,* brought to France long ago, was used in the baptismal rites of newborns of the French royal family as early as the 17th century. Like the Zandana silk (FIG. 13-14) from Toul Cathedral and a canteen (FIG. 13-31) adorned with scenes of the life of Christ (see "Christian Patronage of Islamic Art," above), Muhammad ibn al-Zayn's basin testifies to the prestige of Islamic art well outside the boundaries of the Islamic world.

THE ISLAMIC WORLD

UMAYYAD SYRIA AND ABBASID IRAQ, 661–1258

- The Umayyads (r. 661–750) were the first Islamic dynasty and ruled from their capital at Damascus in Syria until they were overthrown by the Abbasids (r. 750–1258), who established their capital at Baghdad in Iraq.
- The first great Islamic building is the Dome of the Rock. The domed octagon commemorated the triumph of Islam in Jerusalem, which the Muslims captured from the Byzantines in 638.
- Umayyad and Abbasid mosques, for example, those in Damascus and in Kairouan (Tunisia), are of the hypostyle-hall type and incorporate arcaded courtyards and minarets. The mosaic decoration of early mosques was often the work of Byzantine artists but excludes zoomorphic forms.
- The earliest preserved Korans date to the 9th century and feature Kufic calligraphy and decorative motifs but no figural illustrations.

Dome of the Rock, Jerusalem, 687–692

ISLAMIC SPAIN, 756–1492

- Abd-al-Rahman I established the Umayyad dynasty (r. 756–1031) in Spain after he escaped the Abbasid massacre of his clan in 750.
- The Umayyad capital was at Córdoba, where the caliphs erected and expanded the Great Mosque between the 8th and 10th centuries. The mosque features horseshoe and multilobed arches and mosaic-clad domes that rest on arcuated squinches.
- The last Spanish Muslim dynasty was the Nasrid (r. 1230–1492), whose capital was at Granada. The Alhambra is the best surviving example of Islamic palace architecture. It is famous for its stuccoed walls and arches and its muqarnas vaults and domes.

Great Mosque, Córdoba, 8th to 10th centuries

ISLAMIC EGYPT, 909–1517

- The Fatimids (r. 909–1171) established their caliphate in Egypt in 909 and ruled from their capital in Cairo. They were succeeded by the Ayyubids (r. 1171–1250) and the Mamluks (r. 1250–1517).
- The most ambitious Mamluk builder was Sultan Hasan, whose madrasa-mosque-mausoleum complex in Cairo is based on Iranian four-iwan mosque designs.
- Among the greatest works of the Islamic metalsmith's art is Muhammad ibn al-Zayn's brass basin inlaid with gold and silver and engraved with figures of Mamluk hunters and Mongol enemies.

Muhammad ibn al-Zayn, brass basin, ca. 1300

TIMURID AND SAFAVID IRAN AND CENTRAL ASIA, 1370–1732

- The Timurid (r. 1370–1501) and Safavid (r. 1501–1732) dynasties ruled Iran and Central Asia for almost four centuries and were great patrons of art and architecture.
- The Timurid court at Herat, Afghanistan, employed the most famous painters of the day, who specialized in illustrating books.
- Persian painting also flourished in Safavid Iran under Shah Tahmasp (r. 1524–1576), who in addition set up royal carpet factories in several cities.
- The art of tilework reached its peak under the patronage of the Safavid dynasty, when builders frequently used mosaic and cuerda seca tiles to cover the walls and vaults of mosques, madrasas, palaces, and tombs.

Sultan-Muhammad, *Court of Gayumars*, ca. 1525–1535

OTTOMAN TURKEY, 1281–1924

- Osman I (r. 1281–1326) founded the Ottoman dynasty in Turkey. By the middle of the 15th century, the Ottomans had become a fearsome power and captured Byzantine Constantinople in 1453.
- The greatest Ottoman architect was Sinan (ca. 1491–1588), who perfected the design of the domed central-plan mosque. His Mosque of Selim II at Edirne is also an engineering triumph. It has a dome taller than that of Hagia Sophia.

Sinan, Mosque of Selim II, Edirne, 1568–1575