While the medium of mosaic, formed of small pieces, or tesserae, of stone, brick and sometimes glass, was employed extensively by the Romans to decorate the floors of elite private houses and public buildings, wall mosaics only began to be produced on a large scale beginning in the fourth century CE. Roman artists had begun to explore the potential of walls as zones for figural mosaic by the first century CE, most famously in the houses of the cities of Pompeii and Herculaneum, as well as in baths and imperial dwellings, including the emperor Nero’s notorious Golden House (Domus Aurea). Other Roman buildings certainly bore wall mosaics, but the early story of the medium is difficult to reconstruct, as the walls of most Roman buildings have collapsed over the intervening centuries, eliminating our access to their decoration.

Once the emperor Constantine legalized the Christian religion in the early fourth century, the medium appears to have become more popular than it had been previously, perhaps driven by the construction of monumental basilicas in Rome, Constantinople, and elsewhere, sponsored by Constantine and his sons. The emergence of wall mosaic as a major art form signaled the decline, though not the death, of opus sectile wall decoration, composed of marble pieces cut into shapes to create figural and floral or geometric motifs on the interior walls of buildings, as some of the last great extant works in the medium, such as the panels of the Basilica of Junius Bassus in Rome, date to the fourth century. Though mosaic was by far the more popular art form chosen for the prestige churches and chapels of the empire, it also did not wholly replace Roman traditions of wall painting, which were adapted as a vehicle for Christian images in catacombs as well as churches. While painting and mosaic programs were related in terms of their style and imagery, mosaics had particular effects on, and meanings for, their viewers because of their materials, typically glass tesserae and, especially in the later fifth and sixth centuries, gold-glass tesserae.

Walls as spaces for images

A major reason for the rise of walls and ceilings as zones for decoration was the new need for an adorned interior space appropriate for the Christian liturgy. The rituals associated with Greco-Roman pagan traditions typically took place outside of the god’s temple, in the surrounding sacred precinct (temenos) and next to the sacrificial altar. The Christian liturgy, however, required participants to enter and remain inside the church to take part in rites. Because of this, the walls and ceilings of church interiors became essential spaces for the display of...
Wall mosaics and creation of sacred space

figural images. The majority of early Christian wall mosaics are found in the interiors of sacred buildings, but some also appeared on the façades of churches. Few traces of façade mosaics survive, though textual evidence indicates that major churches did occasionally feature mosaics on their exteriors, including the church of Hagios Polyeuktos, built in Constantinople by the noblewoman Anicia Juliana in the early sixth century, whose façade bore a mosaic of the baptism of Constantine.6

From their beginnings, the schemes of early Christian wall mosaics appear to have been indebted to cycles of images used for the decoration of the floors of buildings. A third- or early fourth-century mosaic that survives from the Mausoleum of the Julii, located underneath St Peter’s Basilica in Rome, depicts a haloed figure riding into the sky in a chariot, a figure that may represent an early version of Christ whose iconography is derived from images of the Greco-Roman sun god Helios/Sol, often found in a similar format on pavement mosaics (Figure 6.1).7 In Rome, the figure appears in a funerary context with other “Christian” scenes (e.g., Jonah and the sea creature or ketos), on a golden background, revealing artists actively adopting Roman imagery for use in new Christian contexts.8

The wall mosaic program of Santa Costanza in Rome is one of the earliest surviving programs to reveal the influence of schemes from floor mosaics. The rotunda, located outside of the city walls within the complex of the church of Sant’Agnese, was built in the mid-fourth
century as a mausoleum for Constantine’s daughter, Constantina. The vaulted ceiling of the circular passageway bears traces of later restorations, but preserves much of its original decorative scheme: putti harvesting grapes for winemaking, floral/vegetal motifs, and images of luxury objects (silver and gold vessels, crowns) strewn about on a white ground (Figure 6.2). These panels most likely derive their formats, with their multiple perspectives, from those of floor mosaics, which require the viewer to walk around them in order to see the motifs head-on.

The artists who produced the mosaic panels created a lush environment for worship and for the remembrance of Constantina, mosaics that could be read as images of earthly wealth and privilege—the precious metal vessels, taken from the sphere of elite dining and bathing—as coded symbols of Christ and his self-proclaimed status as the “true vine” (John 15:1), or as allusions to salvation and the afterlife.

While the passageway vault derives its format and imagery from the repertory of floor mosaics, other spaces in Santa Costanza were decorated with different types of images. The dome over the central rotunda originally bore a complex program in which scenes from the Old and New Testaments were framed by large, elaborate plant candelabra, decorative motifs that emphasized the upward stretch of the dome towards its apex. The dome mosaics no longer survive, but the scheme is preserved in early modern watercolors that suggest that the biblical images were combined with classical motifs, including caryatids, a Nilotic scene with putti rowing boats, and extensive vegetal decoration.

Images of Christ in two different aspects appear in the two smaller apse conches off the circular passageway: as a triumphant young man standing on a hill from which the four rivers of paradise flow, handing an unrolled scroll to the apostle Peter, with Paul appearing to his other side (Figure 6.3); and as an older bearded figure seated on the globe of the world, handing a
scroll to an apostle. Influenced by earlier images of Christ among his apostles in catacomb paintings and in other media such as gold-glass, the mosaicists created scenes that celebrate Christ's relationship with his most important disciples (the scene of Christ giving the law to Peter, the so-called *traditio legis*) and cast him as the central figure to whom viewers' prayers should be addressed. These two types of images—biblical narrative scenes in the dome, and iconic images of Christ in the apses—reveal the range of functions that wall mosaics had in Christian interiors: narrative scenes could act as educational images for viewers, teaching or reminding the faithful of important episodes in the Bible, and images of the most important figures in the heavenly hierarchy such as Christ could serve as channels for personal and communal devotion. Both types of more explicitly “Christian” scenes also had important aesthetic functions, as their glass and metallic tesserae highlights created a brilliant backdrop for worship, whose blue and green hues produce a garden-like setting that may have evoked a vision of paradise for the viewer.

**Development of popular images**

As we have seen previously, the mosaics of Santa Costanza showcase fourth- and fifth-century artists exploring the use of different types of images in different spaces within the building. Over time, as the basilica became the primary architectural form for the church, the curved vault over the main apse, also called the apse conch, became the primary space for sacred images due to its location within the church interior, at the east end of the church over the main altar. As a cultic space—that is, a liturgical space, the setting for the celebration of the eucharist—the apse was a primary zone for the display of powerful images of Christ, the Virgin Mary, and the saints that may have been ill suited for other zones in the church, especially the floor.
Like that of early Christian wall mosaics generally, the story of the development of apse imagery is also one with many gaps, heavily inflected by accident of survival. In addition, virtually all extant wall mosaics are in situ in living, functioning churches, and have been restored many times over the intervening centuries, so their iconography and style must be considered with caution.\(^{17}\) Art historians have tended to treat western and eastern apse mosaics as belonging to entirely separate traditions, as mosaics from churches in the western regions of the empire, especially Italy, tend to depict Christ interacting with saints and, occasionally, with the patron of the building, while the few extant apse mosaics from churches in the east (Greece, Egypt) often show Christ appearing in more miraculous contexts, often referred to as theophanies.\(^{18}\) However, though eastern and western mosaics reveal different influences at work, the traditions intersected at different points as groups of mosaicists shared motifs with each other, traveled and saw mosaics firsthand, or perhaps as pattern-books circulated between groups of artists. This influence most often appears to have moved from east to west, as artists working in Italy began to include theophanic elements such as the four creatures (lion, ox, eagle, and winged man), symbols of the four evangelists but also of Christ’s return at the end of time as described in the Book of Revelation.\(^{19}\)

Unfortunately, one of the earliest western apse mosaics, the early or mid-fourth-century mosaic from the church of Old St Peter’s in Rome, does not survive, as the church was replaced in the sixteenth century by the church at the heart of the Vatican complex today. However, drawings made of the apse during the Renaissance provide at least an idea of what the early Christian program may have been, though they reflect thirteenth-century restorations.\(^{20}\) Strikingly, these drawings reveal an image not dissimilar to those in the small apses of Santa Costanza: Christ stands between the apostles Peter and Paul within a paradisiacal landscape setting, on a hill from which the four rivers of paradise flow, while below runs a band with twelve lambs (representing the apostles) processing out of the holy cities Bethlehem and Jerusalem towards a central lamb, the Lamb of God. The small apse mosaics of Santa Costanza, as well as those of other later apses in Rome and elsewhere, may have been influenced by the Old St Peter’s mosaic, an influence that makes sense given the importance of its setting, in the largest new church built by Constantine and his sons in the old imperial capital.\(^{21}\) Alternatively, the Santa Costanza mosaics may reflect a more complicated artistic development involving a larger set of ideas from the sphere of Christian funerary art.\(^{22}\)

Whatever its source, this Christocentric program continued to loom large in the minds of mosaicists and their patrons in the city of Rome, as the sixth-century apse mosaics of Santi Cosma e Damiano in the old Roman Forum reveal. In this later mosaic, commissioned in 526–530 by Pope Felix IV, a golden-robed Christ floats in a fiery sky, but is still flanked by Peter and Paul, who introduce the titular saints Cosmas and Damian and the patron, Felix, to him; below the apse conch runs another band of lambs processing towards the Lamb of God (Figure 6.4).\(^{23}\) These compositions emphasized Christ’s status as heavenly ruler, though using visual cues, including costumes, slightly different from those used in representations of Roman emperors.\(^{24}\) Similar compositions continued to be popular in Rome in the ninth century and beyond, allowing papal donors to connect themselves to their early Christian predecessors through wall mosaic commissions.\(^{25}\)

In other fourth- and fifth-century churches in Italy, Christ appeared in a range of guises as artists experimented with different visual strategies. In the apse of the church of Santa Pudenziana in Rome, executed around 400, the image of Christ instructing his disciples, a popular one in fourth-century catacomb paintings, has been transported to an urban setting that may represent the heavenly kingdom of Jerusalem over which Christ will reign after the Second Coming (Figure 6.5).\(^{26}\) Above his head hover the four creatures mentioned previously, as well as a
monumental jeweled cross that stands on the hill above Christ, perhaps a visual reference to the golden cross set up on the hill of Golgotha in Jerusalem by the emperor Theodosius, connecting the church to the holiest city in Christendom.

Other images of Christ instructing his disciples transplant this scene to alternate settings. In one of the late fourth- or early fifth-century apses of the chapel of Sant’Aquilino in Milan, Christ sits surrounded by his twelve apostles, who are arranged in a semicircle around him. This arrangement emphasizes his relative importance within the composition, but instead of stressing his status as a heavenly ruler, as does the Santi Cosma e Damiano mosaic, it highlights his role as teacher, a role made clear by his gesture and by the presence of a basket filled with scrolls at his feet (capsa). The inclusion of a gold background transports the scene from a realistic setting to a heavenly one, encouraging viewers to see Christ as a simultaneously accessible and distant divine teacher.

In the period, Christ also appeared in more symbolic guises, as in the early fifth-century mosaic in the pilgrimage church of Nola, near Naples in Italy. The mosaic does not survive, but its iconography was described by the bishop who renovated the church, Paulinus: in the apse, the Trinity is represented by a central cross surrounded by a wreath, with Christ depicted as a lamb, the Holy Spirit as a dove, and the voice of God the Father, most likely invisible in the mosaic itself, is described as descending from above, perhaps represented as a downward-reaching hand. While a more abstracted scheme, this mosaic reveals the influence of ideas present already in the mosaics of Old St Peter’s and Santa Costanza, including the presence of the Lamb of God.

Though Christ featured prominently in church apses, especially in Rome, other figures in the heavenly hierarchy also made appearances. After the Council of Ephesus in 431, at which
the Virgin Mary was proclaimed the bearer of God (*Theotokos*), the Virgin began to appear more prominently in church mosaics. In the fifth-century mosaics of the church of Santa Maria Maggiore in Rome, dedicated to Mary herself, the Virgin may have appeared in the apse originally, though we cannot be sure; the current apse mosaic of the coronation of the Virgin by Christ, purportedly based on the early Christian original, was created by the artist Jacopo Torriti in the thirteenth century. Whatever the original image in the apse, Mary does appear in the mosaics of the church’s triumphal arch, the arch-shaped zone above the apse, where she is presented as an imperial figure, dressed in the costume of a Byzantine queen during the Annunciation. Viewers may have connected Mary’s costume to the extra-biblical myth of her royal descent, as well as to her newly elevated theological status.

In the sixth century, the Virgin took pride of place in the apse of the church, in the churches of Kiti and Lythrakomi on Cyprus, and in the Basilica of Eufrasius at Poreč (Figure 6.6). In Poreč, she appears as she often does in sixth-century and later mosaics, dressed in a simple but richly colored purple robe, seated on a throne and holding the Christ-child in her lap. Rather than telling a specific story, as do the mosaics of the Annunciation and the Visitation on the side walls of the apse, the apse mosaic presents an iconic image of Christ and his mother surrounded by angels, saints, and donors, including the local bishop, Eufrasius. In the sixth century and afterwards, images of saints continue to grow in popularity in church interiors, exemplified by the seventh-century apse mosaic of the church of Sant’Agnese fuori le mura in Rome, in which St Agnes appears in the center against a golden ground, flanked only by two papal donors.
Wall mosaics and creation of sacred space

Unfortunately, very few wall mosaics survive in churches in the eastern provinces of the empire. While these mosaics share many similarities with those in western churches, they tend to illustrate miraculous appearances (“theophanies”) of Christ and other figures in the heavenly hierarchy more frequently. Extant mosaics from Greece, Cyprus, Egypt (Sinai), and Constantinople reveal the popularity of the gold ground, seen in the Poreč apse, which peaked in the sixth century. A series of mosaics from Thessaloniki in Greece showcases different mystical appearances of Christ and the saints: the fifth-century vault mosaics of the church of Hagios Georgios (St George), a rotunda originally built by the emperor Galerius, depict a series of saints standing in front of monumental architectural façades on a heavenly gold ground, while the late fifth- or sixth-century apse mosaic of Hosios David (St David) shows Christ appearing in a halo of light, surrounded by the four creatures and apostles, perhaps related to the apocalyptic imagery of the Book of Revelation. By depicting visions of Christ and the saints, these mosaics construct a distance between the viewer and the figures depicted, encouraging worshippers to perceive a distance between the space of the physical church and the heavenly space of the images.

While the apse was the key focal point in the church, images also adorned the walls of the nave and sanctuary. The lengthy expanses of the walls of the naves of churches in Rome,
including Old St Peter’s, were perfect zones for narrative cycles of images drawn from the Old and New Testaments. While these paintings do not survive, an extensive program of mosaics decorates the nave walls of the church of Santa Maria Maggiore, depicting Old Testament scenes and featuring important biblical figures, most notably Moses, who was seen by early Christians as a precursor, or type, of Christ. Framed in separate panels, these mosaics include large numbers of figures that are difficult to make out from the nave: for example, a panel with Moses, Aaron, and Hur fighting against the Amalekites, a nomadic people who settled in the Negev Desert (Exodus 17), presents a busy scene in which Moses and his companion stand on a hilltop facing the massed Amalekite soldiers (Figure 6.7). Impressionistically rendered, with alternating shades of white, blue, yellow, and orange tesserae used to differentiate parts of figures and create a sense of illusionism and motion, this panel is quite different from the sixth-century wall mosaics of churches in Ravenna, including the sanctuary wall mosaics of San Vitale, with its reduced cast of characters, in which an isolated Moses receives the law from the hand of God, while above the evangelist Luke holds an open copy of his Gospel (Figure 6.8). In this panel,
which reveals a much greater focus on the mountainous landscape in which Moses and Luke appear, the scenes have broken out of their strict square-paneled organization, stretching over more of the wall, while the outlines and contour lines of the figures are emphasized, breaking Moses’ body into different planes and foreshadowing the stylistic move towards increasing abstraction seen in the later sixth and seventh centuries.40

**Seeing and reading wall mosaics**

Tracing the changing images found in early Christian wall mosaics reveals evolving concepts of the nature of sacred images and spaces. However, Christian viewers did not view these works of art in isolation, but as part of the living fabric of the buildings to which they were attached. In the past decade, scholars have begun to consider the reception of mosaics as multifunctional artworks situated in sacred spaces. These new approaches give us additional insight into the

![Mosaic with Luke the evangelist and Moses receiving the law, San Vitale, Ravenna. Sean V. Leatherbury.](image-url)
different ways in which mosaics acted as powerful images within the context of early Christian religious life.

The relationship between mosaic images and the texts inscribed next to them was an important one. While images such as those that decorate the walls of Santa Maria Maggiore in Rome could act as “books for the illiterate,” wall and apse mosaics were sometimes paired with inscribed texts that served to guide viewers’ experiences and interpretations of these works of art. No surviving mosaic cycle is paired with inscriptions, often referred to as “titles” (tituli), but cycles of these typically short verse inscriptions are preserved through textual transmission. What is most interesting about these “titles” is that they do not typically offer novel theological interpretations of the scenes, but instead turn static, two-dimensional mosaics into active works of art by emphasizing the actions and movements of key characters in the scene. Apse mosaic inscriptions do survive in situ in greater numbers, especially in Rome. These texts, frequently written in verse either below or above the apse conch, praise Christ, saints, and the patrons of the church, their golden letters explicating the connection between the material and spiritual realms that worshippers were encouraged to perceive in the glittering church interior.

Wall mosaics also inspired lengthier verbal responses in the form of literary descriptions (ekphraseis). These descriptions, frequently performed out loud by the poet within the very church he purports to describe, are not particularly useful for the reconstruction of lost mosaic programs, but can tell us a great deal about the reception of early Christian works of art. One of the most frequently described monuments in the period is Hagia Sophia, Justinian’s great church in Constantinople, whose golden mosaics inspired sixth-century authors such as Procopius and Paul the Silentiary to compose lengthy ekphraseis. These descriptions do not dwell on the details of the geometric patterns of the mosaics, which appear to have been non-figural in the period, but instead convey the wonder that viewers must have felt when entering the church for the first time. Perceived according to their brightness rather than their hue, the mosaics encourage the eye to move around the building, embracing the shimmering golden tesserae that makes the church seem like a kind of heaven on earth, urging viewers to use the reflected light in the interior to contemplate the invisible light of the divine.

The images and texts of wall mosaics not only reinforced each other, but also emphasized the ritual and lived dimensions of the mosaics. In particular, mosaics with images of donors were experienced by early Christian viewers very differently than they are by modern viewers today. While we may tend to use donor images to clarify the historical specifics of the church’s construction, these images were in fact powerful visual arguments about the donor and his or her connection to the heavenly hierarchy and, by extension, his or her power and influence. Donors often appeared in the apses of western churches, including the apse of the Basilica of Eufrasius at Poreč, and in eastern wall mosaics, as in the late sixth- or early seventh-century pier mosaics of the church of St Demetrios at Thessaloniki, where two donors who were still alive (as indicated by their square haloes) are embraced by Demetrios, emphasizing their intimacy with the saint (Figure 6.9). The style of this panel is radically different from that of fifth- and sixth-century mosaics in Italy, and reveals changing aesthetic tastes in the period, most importantly an emphasis on spiritual bodies instead of physical ones: so Demetrios’ tunic and cloak hang straight down from his shoulders, as if his body has lost all of its physical form.

In their arrangements and their details, mosaic images and texts worked to encourage specific mental and physical responses, allowing lay as well as clerical viewers to connect their own experiences to the actions of Christ and the saints. The poses of biblical figures or saints
Figure 6.9  Pier mosaic with St Demetrios flanked by donors, church of St Demetrios, Thessaloniki. Image in the public domain, courtesy of The Yorck Project, Wikimedia Commons.

in mosaics might encourage congregants to adopt similar poses: for example, worshippers in the sixth-century church of Sant’Apollinare in Classe, just outside of Ravenna, could adopt the same orant pose of prayer as St Apollinaris does in the apse, connecting their bodies to that of the saint. Similarly, pilgrims to the Monastery of St Catherine on Mount Sinai could structure their experience in the church through its apse and triumphal arch mosaics, which lead viewers on a visual (and spiritual) ascent that parallels Moses’ ascent up Mount Sinai itself, depicted on the triumphal arch, as well as the companion scene in the apse, the apostles witnessing the Transfiguration. This connection between art and ritual actions in church is perhaps most clear in the context of baptisteries, whose walls and vaults often depict scenes related to the ritual of baptism. In the Neonian (Orthodox) Baptistery at Ravenna (Figure 6.10), the mosaic images and texts work together to structure the initiate’s experience of the ritual: the golden texts on the lower zone of the walls describe certain parts of the ritual, connecting the initiate’s experience to that of Christ’s baptism in the River Jordan, while the images in the dome above illustrate Christ’s baptism, surrounded by a ring of processing apostles who award crowns to Christ and to the newly baptized initiate.
Making wall mosaics

Closely examining how early Christian patrons and viewers looked at wall mosaics—as beautiful and educational images, as guides for ritual action—is essential to understanding how they functioned within their spatial contexts. However, we must also consider how these works of art were made. Wall mosaics were produced in multiple stages, beginning with the preparation of the “ground” with two or three layers of lime plaster of increasing fineness. Once the ground was prepared, an under-drawing (*sinopia*) was often made to guide mosaicists in setting the initial tesserae. Traces of surviving under-drawings give us a sense of artists at work revising their compositions. In the course of the restoration of the apse mosaic of the sixth-century church of Sant’Apollinare in Classe, outside of Ravenna, in the late 1940s and early 1970s, restorers found that the under-drawing beneath the mosaic differed from the final composition: instead of depicting a cross flanked by two figures, as in the underdrawing, the scene was reorganized to emphasize its vertical axis, placing the patron saint of the church, Apollinaris, immediately underneath the golden cross floating in the sky, highlighting his role as intercessor on the congregation’s behalf. Sometimes the plaster ground was painted more fully to emphasize tesserae colors: for example, gold tesserae were often set into a red-painted plaster ground to heighten their reddish gleam. Once the under-drawing was made, multiple artists would work on the program at once from scaffolding set up inside the building. Tesserae were set into their bedding carefully, taking into account their material properties: glass tesserae were often set in at an angle to maximize their reflective capabilities.

The materials of wall mosaics changed dramatically in the later fourth and fifth centuries. While earlier fourth-century mosaics such as those of Santa Costanza were made primarily of
stonetesserae, later fourth- and fifth-century mosaics feature increasing numbers of glass and gold and silver tesserae, creating the glittering effect for which early Byzantine mosaics are now famous. Wall mosaics of glass and metallic tesserae were not new in the fourth century, but became much more common from the late fourth century onwards. The mosaics of the highest quality that survive from the fifth century, including those of the “Mausoleum” of Galla Placidia (actually a small chapel) and the Orthodox Baptistery in Ravenna, are made almost entirely of glass tesserae, with mother of pearl as the sole non-glass material used for small but significant details.

Through their glazed materials, these programs testify to the great amounts of money spent on the decoration of these buildings by Placidia, noblewoman of the Theodosian house, and by the clergy in Ravenna. In the sixth century, mosaicists in Italy and the surrounding region appear to have begun to use other materials, such as stone and brick, more liberally, especially white marble (for faces and backgrounds) and pink limestone (for faces). However, glass remained the main material for wall mosaics, with stone and other materials used to supplement glass, or to replace glass if the required shades were difficult to produce or acquire (especially opaque white) or perhaps if money was tight. For example, the mosaics of two of the side apses of the Basilica of Eufrasius in Poreč, both of which depict Christ and saints, are made almost entirely of stone tesserae, suggesting that mosaicists ran out of glass tesserae while producing the mosaics of the main apse and triumphal arch. In the same period, mosaicists begin to reuse glass and stone tesserae to a much greater extent than they had previously, sometimes cutting tesserae down to the size required, or alternatively melting down older glass to create new tesserae.

In the past two decades, archaeologists and art historians have begun to study the make-up of early Byzantine glass in more detail. Scholars have begun to test the glass tesserae with which wall mosaics were made in order to get a sense of their chemical composition, and have constructed a database of glass mosaics in recorded archaeological finds of loose glass tesserae and references in primary texts to wall mosaics. Both efforts have yielded important insights. The glass used to produce wall mosaics was of the soda-lime-silica variety common in the Roman period, produced in furnaces using large quantities of natron (mineral soda) and silica, derived from sand. The production of raw glass in the period was centered in the Levant (modern Syria, Lebanon and Israel/Palestine) and Egypt, close to readily available sources of raw materials. After the raw glass was produced, glassworkers needed to add elements to the glass to make it opaque (often manganese, antimony or tin) and color it: for example, the addition of cobalt produced deeper shades of blue glass, while copper was used to create light blue or green glass. It is unclear whether these secondary processes were performed near the sites at which raw glass production occurred, or if they were undertaken near the job sites, the buildings themselves, though finds of tesserae from locations such as Sagalassos in modern Turkey suggest that secondary glass workshops sometimes were located at sites not far from the buildings in which the mosaics were to be installed.

The work of Liz James and her team has placed these scientific findings into an art historical and trans-Mediterranean context, supplementing extant in situ wall mosaics with fragmentary archaeological and textual evidence. James’ work, for example, has shown that while gold tesserae were expensive, the amount of gold foil necessary to produce them was extremely small, allowing even village churches to feature mosaics with golden backgrounds. Wall mosaics decorated not just the most significant churches in the major cities of the empire, but also small and “apparently insignificant” churches in small cities and towns. James’ database, as well as recent archaeological reports and museum catalogues, has drawn attention to fragments of wall mosaics that survive from a number of sites in the eastern Mediterranean.
While technical studies of mosaics can provide important information about stages of production and restoration, we still know almost nothing about the names, identities, and organization of the mosaicists themselves. A reference in the Edict of Maximum Prices issued by the emperor Diocletian in 301 indicates that different types of mosaicists were paid at different rates for their work: *tessellarii* could earn up to 50 denarii per day, while *musearii* were paid up to 60. However, it remains unclear whether these two terms referred to wall mosaicists (**musearii**) and floor mosaicists (**tessellarii**) or to specialists in different types of figural or decorative work. Scholars have proposed a variety of models for the organization of mosaicists, from workshops based in major cities of the empire (Rome, Constantinople, Alexandria) to itinerant teams of mosaicists that moved from site to site. It continues to be impossible to identify the origins of mosaicists that executed the major programs of churches in Rome, Ravenna, and Constantinople, just as it remains difficult to link the wall mosaics of early Islamic monuments such as the eighth-century mosaics of the Great Mosque in Damascus to specific groups of mosaicists, who perhaps traveled to Syria from Constantinople, Alexandria, or another location, and who may themselves have been Christian.  

**Notes**

5. Some temples, including mithraea (temples to the god Mithras), did feature wall mosaics from the second century onwards: see Sear, *Roman Wall and Vault Mosaics*, cat. nos 112–118.
12. The date of these two mosaics is debated, as both have been restored since their original installation in the late fourth or early fifth century: see David J. Stanley, “The Apse Mosaics at S. Costanza,” *Römische Mitteilungen* 94 (1987): 29–42; Herbert Kessler, “Bright Gardens of Paradise,” in *Picturing the Bible: The Earliest Christian Art*, ed. Jeffery Spier (Fort Worth, TX: Kimbell Art Museum, 2007), 115.
Wall mosaics and creation of sacred space


15 Kessler, “Bright Gardens of Paradise.”


17 For examples of restorations in Rome, see the diagrams in Guglielmo Matthiae, Mosaii medioevali delle chiese di Roma, 2 vols (Rome: Istituto Poligrafico dello Stato, 1967); recent examinations include Cetty Muscolino, Antonella Ranaldi and Claudia Tedeschi, Il battistero Neonianone: uno sguardo attraverso il restauro (Ravenna: Longo Angelo, 2011).


22 Spieser, Autour de la Traditio Legis, 67–69.

23 Ihm, Die Programm der christlichen Apismalerei, 5–41, 137–138.


25 Thunø, Apse Mosaic.


27 Ibid., 5–10, 158–159.

41 Herbert Kessler, “Pictures as Scripture.”
47 Schibille, Hagia Sophia; Kessler, “Bright Gardens of Paradise.”
55 Deborah Mauskopf Deliyannis, Ravenna in Late Antiquity (Cambridge: Cambridge University Press, 2010), 269.
56 James, Light and Colour.
58 James, Light and Colour.
59 James, “Successors of Rome?”
60 Tedeschi, “Mosaics and Materials.”
61 Ibid.
62 Terry and Maguire, Dynamic Splendor.
63 James, “Successors of Rome?”
65 James, “Successors of Rome?” 133.
67 Liz James’s database is accessible at www.sussex.ac.uk/byzantine/mosaic/.
69 James, Soproni and Bjørnholt, “Mosaics by Numbers,” 311.
Further reading