Divine Constructions: A Comparison of the Great Mosque of Cordoba and Notre-Dame-du-Chartres

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Divine Constructions: A Comparison of the Great Mosque of Cordoba and Notre-Dame-du-Chartres

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INTRODUCTION

Rising above the French countryside, with high towers ascending into the sky and graceful buttresses soaring over the ground, the Cathedral of Notre-Dame-du-Chartres cuts a magnificent profile against the French horizon. It is unmistakable, commanding the eye for miles, sitting on the hill like a queen upon a throne. An elegant symphony of glass and stone, the cathedral bridges earth and sky, both literally and symbolically. A miracle of engineering, the cathedral is a testament to human creativity and divine majesty.

One thousand miles to the south, the white streets of Cordoba twist and turn until, as if by accident, they stumble upon a magnificent sand colored building hidden behind a grove of trees. The mosque does not rise vertically but stretches horizontally, low to the ground, except for the tall minaret that casts its shadow over the courtyard. Seemingly infinite numbers of arches, buttresses, domes, and columns weave complex rhythms within the façade. It is a sight both exotic and familiar,
However different the two buildings may be the impulse to create them was the same. The glittering stained glass windows of Chartres share something with the elegant Kufic inscriptions in Cordoba. Beneath the cathedral’s delicate stone tracery and the mosque’s floral decorations in stucco there is a common bond. Though separated by time and space, both buildings are examples of European sacred architecture in the medieval period. Both artistic styles trace their development back to Rome, both religions back to Abraham. Both constructions were built not only to satisfy a religious function, but a social and political one as well. Most interestingly both buildings are human attempts to describe the divine and its relationship with humanity through the three dimensional forms of architecture. How those attempts played out illuminates much about each religion’s ideas about God, man, and paradise.

Christianity and Islam are connected religions, that trace their origins back to the same religious tradition: Middle Eastern monotheism, specifically Judaism. Traditionally, the beginning of monotheism in the Middle East is marked by the revelation of God to Abraham and the covenant between them. This story is recounted in the Torah, the Old Testament, and the Quran. Judaism, Christianity, and Islam all regard Abraham as the father and founder of their religion, and the spot where Abraham prepared to sacrifice his son Isaac is a sacred place for all three faiths.

The first digression from traditional Judaism was in the first century C.E. in Jerusalem with the appearance of Jesus Christ. His crucifixion by the Roman
authorities marked the formation of the Christian faith and its differences with Judaism. Christianity originated directly from Judaism - the first Christians were Jewish people who believed Jesus to be the promised Messiah. As Christianity spread it acquired non-Jewish followers. The teachings of Jesus de-emphasized the role of ritual and law in religion and emphasized good actions toward others and faith in God as paths to salvation. Christianity, while acknowledging the other faith’s belief in the same God and many of the same principles, considers itself to be the only true faith because only Christians acknowledge Christ as the Messiah. Like Islam, and unlike Judaism, Christianity is focused on the afterlife and believes that the purpose of earthly life is to act in a manner that will ensure the soul’s eternal life in paradise after earthly death.

The third Abrahamic religion, Islam, originated in the Arabian Peninsula in the seventh century. Early inhabitants of the region, who were polytheists, would have been familiar with Judaism, Christianity, and Zoroastroism (an early monotheistic religion unconnected to the Abrahamic religions) through merchants and traders who traveled through the area. The founder of Islam was Mohammad, a prophet to whom God spoke through the angel Gabriel. These revelations were later recorded into the Quran. After Mohammad overthrew the polytheistic authorities in The Mecca, Islam became the dominant religion of the region. The history of Islam is a history of revelations from God to his people through chosen prophets (Abraham, Moses, David, Jesus, Muhammad, etc), with each revelation refining humanity’s understanding of God. Islam considers the
other religions legitimate but incomplete and considers itself not as rejection of the Judaic and Christian traditions, but as a perfection of them.

The two societies were connected not only religiously, but culturally and artistically as well. Born in the Mediterranean region, a cross-cultural area that had been linked by complex trade routes and economic connections since the Bronze Age, no society could remain in a vacuum. The artistic traditions of both religions felt a wide variety of influences: the ancient art and architecture of Mesopotamia, Egypt, and Greece as well as contemporary influences from Persia, North Africa, and Byzantium. More important than all of these, however, were the long reaches of the Roman Empire which lay at the root of both styles of architecture.¹ By the fifth century the Roman Empire stretched from the tiny, foggy island of Britain into the vast expanses of the Arabian desert and influenced countless cultures and peoples.

Christianity originated in regions occupied by the Roman Empire. It spread quickly outward into Greece and Europe and eventually arrived in Rome itself, the city which would later become its capital. Christianity was bound up inexorably with Rome: its earliest writings are filled with references to Roman armies and administrators and for several centuries Christians were persecuted as a religious minority in the Empire, before Constantine converted to Christianity in the fourth century. Early Christians were essentially Romans for whom Roman styles of architecture and Roman building techniques were the norm. The first Christian ceremonies took place in catacombs or houses of believers, and when Christianity was legalized, formal structures were needed to house ceremonies.

¹ Watson, 2
The available examples were those of Rome. Early Christian buildings are essentially composite structures incorporating Roman buildings, specifically basilicas, with other stylistic elements to form a new architectural type that could be adapted to the needs of Christian liturgy.\(^2\) Old St. Peter’s accommodated the processional features of the Mass by eliminating an exedra at the short end of the plan of a Roman basilica (which had an administrative function) and by substituting an entrance. This is the plan that would eventually evolve into a Gothic cathedral.

"Islamic architecture is unique in the non-Western world in that it alone - not Buddhist, not Hindu, not Pre-Columbian - shares many of the forms and structural concerns of Byzantine, medieval, and Renaissance architecture, having grown from identical roots in the ancient world."\(^3\) The reason for this unique feature of Islamic art is the pattern of assimilation and adaptation used by the early Muslims in their architectural development. The first Muslims were nomadic peoples of the Arabian Peninsula without their own architectural tradition. After rapidly ascending to power they began to expand outward and the first areas they conquered were Syria, Palestine, Iraq, and Mesopotamia. Here, they found their architectural inspiration in Near Eastern ziggurats, post-Constantine Christian churches, and Roman

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\(^2\) Swift, 193  
\(^3\) Trachtenberg, 215
administration buildings. Early Umayyad architecture (for example the Dome of the Rock in Jerusalem and the Great Mosque of Damascus) contains very clear parallels to Roman and early Christian architecture. In fact, many of the elements usually thought of as “Islamic” are not original but adaptations of earlier art forms. For example, the “Arabesque” style of decoration was popular in Roman and Byzantine art pre-Islam and the horseshoe arch characteristic of Hispano-Islamic architecture was first used in Spain by the Visigoths.

Parallels between the two architectural styles abound. Both architectural styles are designed using a precise system of proportions. In a Gothic cathedral no measurement is careless; every detail is in proportion with every other. In medieval Islamic buildings each individual tile relates proportionally to the entire ground plan. Architects in both cultures show the same respect for mathematics and geometry found in classical Mediterranean societies. In addition, both the medieval mosque and medieval cathedral are related to the Roman basilica and based on the same hypostyle type of building. The two architectural styles share many of the same forms and structural concerns inherited from Rome: their buildings are large covered spaces defined by domes, arches, columns, vaults, etc. A cursory comparison of the Roman temple the Pantheon, Charlemagne’s chapel in Aachen, and the Dome of the Rock reveals many points of similarity between the three styles and their common formula.

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4 Trachtenberg, 216
5 Piotrovskii, 32
6 von Simson, 167
7 Swift, 228
Where these early commonalities might have been lost, they were instead strengthened and renewed throughout the years. Continual interaction between the two cultures during the medieval period in both trade and war continually reinforced the connection between Islamic and Christian art. The relationship between Hispano-Islamic art and Christian styles is stronger than other regional variations of Islamic art not only because of the close proximity of Al-Andalus to France but also because, after breaking from the political hold of the Abbasid caliphate, Al-Andalus often had better relationships with Christian countries than with Baghdad. Representatives and citizens of Al-Andalus traveled not only into France but into England and Germany as well and the shifting border between Al-Andalus and Christian Europe meant that there were several areas where Christian and Islamic styles overlapped.\textsuperscript{8}

\textsuperscript{8} Watson, 3
Having established the parallels and commonalities between Christian and Islamic art, what is even more interesting is their divergence. Both cultures, using the same basic architectural vocabulary inherited from ancient sources, constructed a unique style of their own to articulate their own visions and beliefs. It is this divergence that this thesis will be discussing. This thesis will be a comparison of medieval Christian and Islamic sacred architecture, focusing on the Cathedral of Chartres in France and the Great Mosque of Cordoba as specific examples. Although the two buildings are separated by a period of about two hundred and fifty years, they both fall well within the medieval period I will be discussing. Both buildings are also indicative of the high point of their architectural style: no book on Gothic cathedrals is complete without a discussion of Chartres and almost every book on Islamic art I have read has begun with a picture of the Great Mosque of Cordoba. Also, despite their difference in chronology the two buildings have the advantage of being geographically close. For the purposes of clarity and brevity I will be limiting my thesis to the discussion of French Gothic architecture, where its origins and most pure forms are, and will not be introducing other regional variations. I will be limiting myself to the discussion of Spanish Islamic architecture because being a European architecture, it is a more pertinent comparison geographically and culturally, as well as being one of the high points of medieval Islamic culture.

The purpose of this paper is to be a humanistic discussion of medieval sacred architecture and its relation to larger intellectual, philosophical, and religious ideas of the time. It also will discuss the relationship of the architecture
to the rituals it housed. It will be a look at how two very different, yet historically connected cultures use art to describe and reflect their religious and intellectual thought.

*Note* For clarity’s sake I will be using anglicized forms of Arabic names and terms. Also, I will be using “Spain” to refer to the geographical area of the Iberian Peninsula now forming that country and “Al-Andalus” to refer to the area under Islamic rule in the medieval period.
The story of Cordoba and the story of Chartres begin in the same unlikely place: somewhere in the Fertile Crescent, sometime thousands of years before either culture began counting their passage. For the Christians time began in a stable in Bethlehem as their savior was born. For the Muslims it was six-hundred and twenty-two years later when their prophet established a community of believers in a small oasis in the middle of the vast Arabian Desert; but for both the revelation of God to Abraham and the covenant between them marks the commencement of their faiths.

ORIGINS OF CHRISTIANITY
A few thousand years after this event, a man named Jesus began preaching a divergent form of Judaism in and around the city of Jerusalem. While the majority of the population was Jewish, the area at the time was occupied by the Roman Empire. Because of the radicalism of Jesus' teachings, and the threat they posed to both the religious and political establishment, Jewish and Roman leaders had him put to death. For the next three hundred years, followers of Jesus, Christians, existed as a forbidden sect under the Roman Empire until the Emperor Constantine converted to Christianity in 313 and the religion was accepted as the official religion of the Roman Empire.
While Judaism rejects the use of religious images, Mainstream Western Christianity does not. As Christianity spread it was able to disseminate its message through the use of visual images and symbols, at first concealed and codified while the religion remained hidden and illegal, but later open and explicit. These symbols, such as the cross, the Madonna and Child, or Christ Enthroned, are universal and have meaning to any Christian regardless of nationality or race and became essential to the promulgation of the Christian faith. Christian imagery often follows the same iconographical formula even as it appears in cultures and traditions with very dissimilar artistic styles; the message and content is immediately recognizable to any Christian despite stylistic differences.

Once established, Christianity spread rapidly. After being adopted by the Roman Empire it traveled to most of the lands they occupied, including most of the Mediterranean regions and large portions of Northern Europe. When the Roman Empire was destroyed in the fifth century, the Christian religion was left disconnected and divided. This division persisted until the ascension of Charlemagne to the title of Holy Roman Emperor.

**ISLAM: ORIGINS AND BELIEFS**

As Christianity was entrenching itself in the West, it faced an unforeseen threat from the East. In 632 Mohammad and his followers took over the Mecca from its pagan rulers and established the first Islamic state. The state rapidly grew into an empire and began conquering Christian territories, taking Jerusalem in 638 and expanding into Europe at the beginning of the eighth century.
“There is no God but God and Mohammad is his prophet.” The first and most important tenet of Islam is that there is only one God. All dogma and belief stem from this declaration. Unlike Christianity, Islam was born in a largely polytheistic community and the focus of its early teaching was to worship only one God, Al-l’ah, The God. This monotheism is a repeated theme in the Quran: “God is the One, the Eternal God. He begot none, nor was He begotten. None is equal to Him.”9 A God that is indivisible and omniscient is “sublimely simple and endlessly complex.”10 Monotheism creates a God that is unknowable, mysterious and awe-inspiring to the human mind. Every section of the Quran begins with an invocation of God, “the Compassionate, the Merciful.” The name of God is holy and the repetition of the name of God is an act of piety.11

Mohammad was the spiritual and political leader of early Islam. His authority as a religious leader stemmed from the direct dialogue he shared with God. Because no other man had, or will ever again have, this kind of relationship with God, no one is qualified to succeed him as a spiritual authority. Islam has no priestly hierarchy or central religious authority. No one intercedes between the individual and God and there is nothing that stands between them.12

Believers of Islam do not need anyone to act as an intercessor because they already have access to God through the Quran. According to Islamic belief, the Quran is the actual, literal Word of God. It is believed that God (through the angel Gabriel) spoke to Mohammad in Arabic, so all formal recitations of the

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9 Dawood, Sura CXII
10 Piotrovskii, 23
11 Piotrovskii, 26
12 Frishman, 221
Quran are in Arabic and the original Arabic text is preserved even in translations. Because God is one and indivisible, aspects of God (God’s hand, God’s justice, God’s word, etc.) cannot be separated from God himself. Having access to the Quran (God’s word) is having direct access to God himself. Because of this, reading the Quran is the essential process of understanding God. *Quran* means recitation in Arabic and the original recitation of it to Mohammad was a miracle and the text itself is miraculous. “There is no end to its miracles; it is ever fresh and new to the reciters.”  

This recitation during worship is a continual repetition of the miracle.

ARTISTIC TRADITIONS OF ISLAM

The Arabic peoples who founded Islam were by and large nomadic and without an architectural tradition of their own. Only two Islamic cities existed in the time of Muhammad: the Mecca and Medina. The only religious architecture pertaining to pre-Islamic Arabia was the Kaaba, a large black meteorite housed in a small, square wooden structure with idols of the Gods. In early eras Islam borrowed artistically from conquered cultures and assimilated them into their own growing traditions, as the Romans had centuries earlier. The formation of a religious Islamic art was also hindered early on by the fact that Islam had no visual symbols to draw on.

When speaking of Islamic art, one cannot speak of concrete visual symbols, but more generally of stylistic motifs and themes. One of the motifs

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13 Frishman, 187
most indicative of Islamic art is the garden. The origins of Islam lie in desert and the desert mentality continues throughout medieval Islamic culture even as Islam expands into places that are not deserts. The garden motif appears most often in a religious context as an expression of paradise.

In the absence of iconographic symbols, the mosque itself became the symbol of Islam and the mark that the Empire had arrived. The mosque had its humble origins in the house of Mohammad, an unassuming building with an open patio ideal for large gatherings. Many early Muslims never constructed buildings at all, simply praying together in a large open space with a wall to signal the direction of Mecca (this wall is called the quibla). Islamic conquerors often shared churches with the Christian communities they occupied. The first religious buildings built by the Muslims, such as the Dome of the Rock, show the influence of Christian and Byzantine architecture.

The Great Mosque of Damascus is a perfect example of early Islamic architecture. It was built by the Umayyads, the first dynasty to rule over the Islamic Empire, over a Christian church. The mosque has a classical basilican plan: rectangular with an axial nave and three galleries parallel to the quibla distinguished by a row of arches. Almost all of the mosque’s architectural elements come from traditional Syrian architecture. The minarets
are designed after Roman towers, the arches are supported by Corinthian capitals and the interior is decorated with Byzantine style mosaics.  

AL-ANDALUS

The cities of Al-Andalus are representative of the apex of Medieval Muslim culture. From 756 to 1492 Spain thrived economically, politically, and intellectually. Cities such as Toledo, Cordoba, and Seville were international centers of learning and culture. At the dawn of the eighth century, however, Spain was generally unimpressive. After a period of prosperity under the Romans, Visigoth rule had left the Iberian Peninsula in political, economic, and social disorder. In 711 all it took was a raiding party of North African Muslims—a Berber army under Arab leadership—to conquer most of Spain.

At this time Al-Andalus was only a frontier outpost of the vast Islamic Empire, but in 755 a man arrived who changed all that. In the words of one historian, “He was Abd-al-Rahman I. He was a man of science and followed a beautiful conduct of justice.”

Abd-al-Rahman was the son of an Umayyad prince and a Berber slave. His entire family, the ruling dynasty for nearly one-hundred years, had been massacred five years earlier by the Abbasids who took over rule of the Empire. Abd-al-Rahman, the only survivor, easily took power in Spain and began to lay the foundations to make his kingdom the crowning jewel of an Empire his family no longer ruled.

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14 Ettinghausen, 13
15 Abd al-Walid, 148
Despite his bitterness towards the Abbasids, Abd-al-Rahman knew that Al-Andalus would benefit from its connection with the Empire. He also knew that the Abbasids, who were moving the capital from Damascus farther east to Baghdad, wouldn’t be willing or able to interfere with him. (He occasionally sent the severed heads of Abbasid spies back home to underscore that point.)

Under the laissaz-faire governship of the Caliph, Spain was able to benefit from cultural and economic contacts with a wide portion of the known world while still being essentially politically independent. In the latter half of the eight century and on into the ninth Spain enjoyed a huge economic revival and population increase thanks to the introduction of new crops and new agricultural technology (including irrigation systems) by the Muslims. The combination of Islamic technology and ideas with the economic and agricultural prosperity possible in verdant Spain allowed Al-Andalus to shine as the apex of an already advanced Empire.

While Islam encouraged conversion by lessening taxes for Muslims, the rights of Jews and Christians to practice their religion were protected. Although, according to Islam, their dogma was confused and misguided, Christians and Jews were still dhimmi, or People of the Book, followers of the same God, and thus granted a level of tolerance not given to pure pagans. This was an especially rewarding time for Jews who were allowed to take a place in politics and culture usually denied to them by Christian rulers. Members of all three faiths co-existed together and participated in the highest levels of government

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16 Menocal, 74
17 Menocal, 31
and trade. The *lengua franca* was Arabic but Latin and Hebrew, as well as the vulgar Castilian, were still spoken and Al-Andalus became a center for translation of ancient texts and the intellectual trading post of the Western world.

The roots of medieval Islamic philosophy lay in the Neo-Platonist thought of Polonius, who integrated the philosophies of Plato and Aristotle. Aristotle is especially important to medieval philosophy. Many of its main themes come from Aristotle: the use of logic and syllogism in laying out philosophic arguments, the use of metaphysics to describe what lies outside the sensible world, and the philosophy of the soul. The philosophies are very similar with regard to ideas about art, beauty, and images. Neither philosophy believes in art for art’s sake alone. Beauty has a philosophical importance. In Islamic thought it is one of the main attributes of God. Medieval philosophers describe beauty as being in accordance with three principles: composition harmony, and order. When a person experiences beauty they contemplate these virtues and reflect on these principles in their own soul and in God. Physical beauty is a reflection and manifestation of metaphysical beauty. Art allows the viewer to transcend sensual reality in order to contemplate God and the divine.

In the middle of the tenth century, Abd-al-Rahman III rejected all authority from Baghdad and declared himself to be the Caliphate of the Islamic world. This revolutionary declaration, that Cordoba and not Baghdad was the rightful successor to Muhammad and keeper of the true faith was in part inspired by the 909 takeover of North Africa by the Fatimids, a group of rebel Shiites, and the

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18 Inglis, 63
19 Inglis, 72
20 Hughes, 99
realization that the Empire was breaking apart. This marked the high point of political power and cultural influence of Al-Andalus. Only a little over a hundred years later, annexation by the Almoravids, a conservative North African group of Muslims, then another takeover by the Almohads, an even more fanatical group, began the weakening and downfall of Al-Andalus.

MEDIEVAL FRANCE

Just as Al-Andalus’s power began to wane, the kingdom directly north, France, was rapidly rising. When the Capetians took over from the Carolingians in 987 the French monarchy was positioned to step into the forefront of medieval politics. France, like other medieval European countries, had been organized by a feudal system that left the monarchy weakened with landowners and nobility holding true power. The slow dissolution of the medieval manorial system in the tenth century led to the centralization of power under the King. By the time Phillip II Auguste came into power, the feudal system had broken down to such an extent that he and his son Louis IX (St. Louis) arguably had more power and riches than any other European king.22

The feudal system that had kept people in check was breaking down. As the Middle Ages progressed, emphasis shifted from rural manors to the towns. No city was more indicative of this than Paris, “the king’s city, the first city in medieval Europe to become what Rome had long since ceased to be: a genuine

21 Menocal, 59
22 Binding, 118
Cities, fed by the rich surrounding countryside, were the new centers of culture and trade. A city economy meant the division of labor, which in turn meant more productivity, as well as the rise of the artisan class that built the cathedrals. As people moved into the cities, the social system as a whole began moving from small-scale rural agriculture to urban professionalism. 

As the monarchy and urban areas strengthened so did the church. Clermont’s call for a Crusade in 1095, and its early victories, indicates the vigor and confidence of medieval Christianity. One hundred years later, in 1198 Pope Innocent III ascended to the papal throne. His rule was the high point of medieval papal authority and the centralization of power in Rome. This authority was demonstrated in France especially, where St. Louis nurtured the Church more than any other European monarch. The Medieval period was a time of great transition and development for the Christian Church. After early disagreements over dogma in the first centuries of Christianity and before the Protestant Reformation, the Church was in a position of relative unity and stability that allowed Christian philosophy a chance to flourish. Three important movements within Christianity during this period have an important effect on religious art and architecture.

The first of these important developments was Scholasticism. Scholastic theology developed in the areas surrounding Paris in the middle of the twelfth century. During the time of the cathedrals, Scholasticism had a monopoly on medieval education around Paris. The goal of Scholasticism was to unify faith

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23 Duby, 93
24 Binding, 121
25 Duby, 104
and reason by using reason to illuminate articles of faith. Scholastic theological works are organized and comprehensive, and the arguments they contain are clear and logical. Logic is not only a tool for the elucidation of an argument but an agent of reason and therefore essential to illuminating faith. It is not only a philosophical device but a theological one.\textsuperscript{26}

The second important development in Christian theology during this period was an increased awareness of the dichotomy and contradiction between the human and the divine inherent in the figure of Jesus Christ.\textsuperscript{27} The dogma of the incarnation created a conflation between humanity and God not usually seen in monotheistic religions. During the High Medieval period it became more important to scholars to reconcile the life and death of Jesus the human with the image of Christ the Redeemer in Celestial Jerusalem. The Crusades, by refocusing attention on the land of the life and death of Christ, were an important factor in the development of this awareness. When the Crusaders returned to Europe from the Holy Land they brought back with them new relics relating to Jesus’ life and death. In the Early Middle Ages, images of the Revelation and the end of the world, with the Prince of Heaven sitting in judgment were popular, but as the Crusades went on, passion iconography became increasingly common. Where the cross used to be a symbol of triumph over death it now had a new meaning: an instrument of torture. There was a new meaning to Christ as well: victim.

\textsuperscript{26} Panofsky, 23
\textsuperscript{27} Duby, 97
The figure who ultimately served to reconcile the two sides of Christ was Mary. Mary provided a further connection between Jesus the Son of God and the human world. She also became another intermediary between God and humanity. As passion iconography developed in religious art, so did images of Mary. The story of the Incarnation united old and new testament, soul and God, Christ and the church. The importance of Mary can be seen in the names of Gothic Cathedrals-Notre Dame du Paris, or Notre Dame du Chartres, where the first statue of Mary was erected.\(^{28}\)

The last but, with regards to architecture, most important development was the applied theology of Abbot Suger. Suger’s ideas were based on the writings of St. Denis, an Eastern mystic. St. Denis’s theology is based on neo-platonic ideas about life and the importance of light in the Gospel of John: “I am the light of the world. Whoever follows me will not walk in darkness, but will have the light of life.”\(^{29}\) In St. Denis’s philosophy, light is an ordering force that appears in every level of existence. Every creature stems from, receives, and transmits the divine light that originates from God.

Monasteries were the centers of scholarship in the Middle Ages. In order to combat heresy, Christian monks reorganized and revised Christian dogma to free it from uncertainties and mistakes. By showing how Christian dogma was founded on a logical doctrinal base they could triumph over heretical arguments. This movement led to a period of discovery and a great widening of knowledge. Translations, many complete with commentaries by prominent Spanish scholars,

\(^{28}\) Duby, 99
\(^{29}\) The New American Bible, John 8:12
of Classical and Early Christian authors from Greek into Latin were brought from Spain by French knights to Paris and Chartres. A new appreciation for Plato and Aristotle led to the rebirth of classics and logic in monasteries and cathedral schools.

Many of the same Neo-Platonic ideas that inform Islamic thought on beauty appear in Medieval Christendom. As with Islam, art was not created only for the sake of aesthetics but was an essential part of the religious experience. It was not the personal expression of an individual's world view but corresponded to a precise series of formulas and proportions designed to create harmony and beauty. Liturgy, music, and art allowed Medieval Christians to transcend the physical world and the limits of the human mind in order to perceive the divine world. Where Plato decried the image as an illusion and worried about people mistaking the image for truth, in medieval thought, the image is not an “illusion but a revelation.”30 For medieval Christians, images were not only a tool for experiencing a greater truth but were within themselves true.

The irony that the most popular translation of Aristotle, whose primary use was to reinforce Christian dogma, was accompanied with commentaries by a Spanish Muslim, Averroes, was not lost on the Christian Church, who attempted to ban the book in the twelfth century. The example underscores an important and often overlooked point about Medieval Europe: it was highly diverse, mobile, and permeable. European Christians were not one homogenous group of people but a mix of several old tribes and clans: Saxons, Bavarians, Lombards, Gascons, etc. In addition, there was never any concrete border between Christian

30 von Simson, xx
kingdoms and Muslim kingdoms. Christian communities existed not only in Paris and Rome but also in Cordoba, Alexandria, and Antioch. The wealth of the upper classes in both cultures encouraged the mobility of these groups and allowed constant communication between them. In 1142 Peter the Venerable, the Bishop of Cluny, went to Toledo for the purpose of commissioning the first translation of the Quran into Latin by a man named Robert Ketton. This instance of an Englishman in Spain translating an Arabic text into Latin for a French Churchman is highly indicative of the cultural interchange in Europe at this time.31

Cultural influence and interchange does not only appear in philosophical and literary materials but in artistic and architectural ones as well. French Romanesque architecture was influenced by Spanish Islamic and mudéjar architecture. The extent of influence is currently under debate but Islamic features in Romanesque art may include the horseshoe arch, the lobed arch, stone corbels, and the use of polychromy. In addition, the decoration of portals in Romanesque and Gothic architecture may be based on the Islamic alfiz.32 Inspiration for stone tracery and rose windows may have come from Islamic sources as well.

Romanesque architecture is heavy and geometric and in many ways the Gothic style, which is light and open is a reaction against that, although both architectural styles use many of the same forms. The Gothic style is closely identified with the Île-de-France region that was ruled by the Capetians and appears first in areas under Capetian influence. The formation of the Gothic

31 Menocal, 132
32 Watson, 5-12
style is usually credited to Abbot Suger of St. Denis who aimed to create an architectural form in line with his philosophical ideas about God and light. The first true Gothic cathedrals appear in St. Denis, Sens, and Chartres. Abbot Suger, Bishop Henry of Sens and Bishop Geoffrey of Chartres were personal friends and shared many of the same theological views, as well as being close to the Capetian king. The cathedral does not only have artistic and religious significance, but a political significance as well.

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33 von Simson, 64
FORM AND FUNCTION

History, philosophy, religion, art, economics, and politics all may influence a structure’s aesthetic, but architecture is first and foremost a functional art and the primary purpose of a building is to fulfill the function for which it was created. In most cases, style is subordinate to a building’s practical needs. Analyzing function is the first step to understanding why an edifice looks the way it does.

One of the primary functions of a sacred building is to interpret and express religious thought into concrete form and active ritual. Meaning within sacred architecture occurs at three levels: the visual and literal representation of religious concepts (such as the Kuranic inscriptions that decorate the walls of mosques), the symbolic meaning of the formal aspects of the architecture itself (the symbolic use of light in a cathedral), and finally the meaning of the rituals that take place within the space. Architecture provides a context for religious rituals. While a sacred building may fulfill a variety of political, educational, and social functions, its primary use is to provide a setting for religious rituals and ceremonies and must fulfill the practical and symbolic needs of both.

The Great Mosque of Cordoba and the Cathedral at Chartres are notable buildings because they provide a special gathering place beyond a neighborhood mosque or parish. The Great Mosque of Cordoba was an al-Hama mosque, the

34 Barrie, 5
principle mosque of an area in which the entire population gathers to pray on Fridays. The Cathedral of Chartres was an international pilgrimage site to where Christians from all of Europe traveled. One of the principle duties of a Muslim is to attend community prayer once a week. The main mosque of the community, where this communal prayer takes place is called an al-Hama mosque.\(^{35}\) While a city may have many mosques used for prayer on weekdays, the mosque al-Hama is the principle mosque in which all residents, including the governor or king, gather to pray on Fridays. In addition to prayer, Friday service also includes the Khutba—a weekly sermon that combines religious, social, political topics, often delivered by the political leader of the area.

Christians are never required to visit a cathedral, but during the middle ages, cathedrals were also an important pilgrimage destination. Pilgrims from around Europe would travel to cathedrals to revere the relics they kept. These pilgrimages were not mandated but were an important part of medieval Christianity. Pilgrims sought out miracles (especially of healing) and forgiveness for their sins through the penance, journeying, prayers, alms, and worship that was part of a pilgrimage. The largest pilgrimage site in France during the Middle Ages was the Notre-Dame-du-Chartres because it kept there a robe belonging to the Virgin Mary, one of the most important Christian relics.\(^{36}\) Chartres then, was an international site; its splendor and majesty were not only meant for the Île-de-France, but for Christian people all over the world.

\(^{35}\) Ettinghausen, 28
\(^{36}\) Schutz, 80
A catholic church is a holy space. Before it is opened, a church is sanctified by a priest or other holy figure, rendering the building itself blessed. God is present in the mosque in an abstract and intangible manner, but in a church God is present in a way that is literal and substantive. A catholic church houses the Eucharist, the body of Christ, and is an earthly image of the House of God in heaven. The cathedral is used only for religious ceremonies. Besides daily and weekly services, the cathedral is used for weddings, baptisms, confessions, and the veneration of relics. These are all sacred ceremonies that incorporate the mass.

The mosque is different from a cathedral. While the prayers and rituals that take place in the mosque are sacred, Islam does not regard it as an inherently holy place. Because a believer has direct access to God himself through the Quran he or she can pray anywhere at any time of the day with equal holiness. The mosque may or may not connect believers to God, but it should connect members of the Muslim community to one another. In addition to being a house of prayer, a large mosque, unlike a cathedral, has several secular functions as well. Another important purpose of the mosque is to serve as a community meeting place. In many of its secondary functions the mosque is more comparable to a Greek agora or Roman forum than a temple or church. It is one of a complex of buildings that serve a variety of uses: not only religious, but educational and administrative as well. The mosque is often one of the primary teaching centers of the community; there is usually a school in the

37 Akkach, 43
38 Frishman, 32
building complex adjacent to the mosque and scholars and teachers often give lessons and lectures in the patio and galleries of the mosque itself, which anyone may attend.

The plan of the Great Mosque of Cordoba is a typical, though large and extravagant, example of an Umayyad al-Hama mosque. Antecedents of the style include hypostyle Egyptian halls, Roman basilicas (like the Christian church), and other classical buildings. A buttressed wall surrounds the mosque and separates it from the outside world. The rectangular minaret, a common Umayyad shape, stands at the front entrance of the mosque. The *shan*, an open patio, is surrounded by a covered gallery (*riwaq*) on three sides formed by an arcade of arches. Another row of arches marks the entrance to the *hamam*, the columned hall that makes up the body of the mosque. In the middle ages there was no dividing wall between the *shan* and the *hamam*.

The mosque has several entrances. The main entrance leads into the patio and is on axis with the *mihrab*. The *mihrab* is a niche in the south wall of the mosque. It has a symbolic function and is one of the most important parts of the mosque. There are several other entrances on the east and west sides of the mosque and a few on the south front of the prayer hall with direct access to the palace and
used by the caliph and his ministers. The mosque has eighteen naves leading up to the quibla, the wall which signals the direction of the Mecca, and thirty-five rows of pillars perpendicular to the quibla. The mihrab of the mosque is very large, richly decorated, and hexagonal in shape. Five square rooms, prayer rooms for the caliph and his attendants, flank the mihrab on either side. The mihrab and several of the prayer rooms are separated from the rest of the mosque by a row of lobed arches.

One of the pillars of Islam is to pray five times a day facing the Mecca and the primary function of the mosque is to serve as a place for that prayer. The first demand of a mosque al-Hama is that it be large enough for the entire community to gather in it at one time in prayer. The many additions and expansions of the Great Mosque of Cordoba over the years attest to the population growth of the city and the continual need for larger prayer spaces. Ritual Islamic prayer involves the faithful lining up in rows facing the quibla. An imam stands at the front of the mosque and leads the group through the prayers and accompanying motions, involving combinations of sitting, kneeling, and standing, which everyone performs together.

During prayer the participants are arranged in long rows parallel to the quibla. In theory, all participants should be equidistant from the mihrab. There is no religious hierarchy in Islam and no one is given a favored position, except of course the caliph, who has a private

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39 Frishman, 35
prayer room next to the mihrab and addresses his people from a throne. An imam stands at the front of the mosque to lead the faithful in prayer, but a Muslim imam is not comparable to priests in other religions because the imam is only an elected or appointed member of the community with no religious training or religious authority or influence. The arrangement of people during prayer illustrates an important aspect of Islamic ritual and architecture: the absence of a directed center or focal point. Each point of the mosque is as central and important as any other and each person the center of their own prayer space.\(^{40}\)

The basic cathedral plan also developed from the Roman basilica plan and was standard for all cathedrals in the middle ages. While the main entrance to the Roman basilica was on the long side, in adapting the plan to fit a church, the Christians moved the main entrance to the shorter side to accommodate the needs of the Christian liturgy. The cathedral takes the shape of a cross, a symbolic shape. A wide nave, usually flanked by aisles on either side ends in a semi circular apse. A transept aisle, usually with chapels at either end, crosses the main nave. In the Gothic period, the nave was lengthened and the axial plan was accented.\(^{41}\)

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\(^{40}\) Burckhardt, Titus. Moorish Culture in Spain, 72
\(^{41}\) Barrie, 94
The floor plan of Chartres is the quintessential cruciform plan of the medieval cathedral. There are nine doors leading up into the church, raised honorifically, including the highly decorated Royal portal on the west side (the front entrance). It has two bell towers which stand on either end of the front entrance. Inside, the Royal Portal enters into the narthex of the cathedral which opens into the nave. The wide nave leads down the center, with one large aisle on either side. A series of shallow chapels that can be used for private prayer line the side aisles. The transept has three aisles as well. The center aisle is twice as wide as the side aisles. It intersects the main nave six bays down from the front entrance. Behind the apse there is an ambulatory that opens into five radiating chapels which house relics.

While churches, and cathedrals, are used for a variety of services and ceremonies, the most important ceremony that takes place in the cathedral is the mass. Almost any other Christian religious ceremony, (wedding, baptisms, funerals, etc) incorporates the mass into it as well. Mass consists of two parts, or liturgies, the Liturgy of the Word, during which Bible passages are read from a lectionary at the front of the church. The liturgy of the word is somewhat comparable to Islamic ritual in that it consists of reading from the holy book, directed prayer, and a sermon. The second part of the mass, the Liturgy of the Eucharist, during which the Eucharist is blessed by the priest and offered to the congregation, is unique to Christianity. The main figure of Christian liturgy is the priest giving mass (in a cathedral it may very often be the Bishop himself).
While it is nearly impossible to stand at any point in the Great Mosque in Cordoba and have any idea of the overall plan of the building, standing at the entrance of Chartres, the viewer can see straight down the nave to the altar, the most sacred area of the church. While side altars are separated from the main body of the church by a series of arches, in general the eye is drawn to the altar from any point in the cathedral. In Christianity, the priest is the intermediary between the congregation and God and the focal point of the mass. The axial plan of the cathedral emphasizes the front of the church and the altar, where the principle action of the ceremony takes place. The axial plan also supports the processional nature of the mass (the priests and other missal functionaries proceeds in and out of the cathedral at the beginning and end of the mass and the congregation proceed up to the altar to receive the Eucharist).

In addition, both buildings have an administrative function as well. The al-Hama mosque is often attached to the palace of the local ruler. The leader of the community, in the case of Cordoba the caliph himself, shares Friday services with the rest of his people and often uses the service to address them, usually from the top of the minbar, a large throne-like structure found in al-Hama mosques. The al-Hama mosque itself can, and often does, serve as a propaganda vehicle for the caliph. Upon arriving in Spain, building the Great Mosque of Cordoba was one of the first actions of Abd-al-Rahman. Its distinctly

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42 Frishman, 35-6
Umayyad form, having already gone out of style in favor of the new Eastern-influenced Abbasid buildings, was a comfort to the exiled Umayyad ruler and a visual sign of separation between Spain and the rest of the Abbasid led Empire. Each expansion of the mosque of Cordoba not only allows for more prayer space for the congregation but gives the caliph who commissioned it a chance to display his wealth and taste.

A cathedral is differentiated from a regular parish church by its administrative function: the cathedral is the seat of the bishop, a priest appointed by the Pope to oversee a diocese. It is this administrative function, not any religious aspect of the cathedral that distinguishes it from a church. The word cathedral comes from the cathedra, the name of the bishop’s chair. Like the mosque, the cathedral serves a propaganda purpose by asserting the Bishop’s power. Unlike the Islamic Empire, in Medieval Christian kingdoms church and state were separated, but in most countries—especially France—they were closely allied and the cathedral reflects the alliance between royal and pastoral power, representing not only the church, but the monarchy that helped to build it. Louis XV, or Saint Louis, was very involved in church affairs. The bishop of Chartres, a town very close to Paris, had close political ties with the king of France.43

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43 von Simson, 62
The meaning of the rituals that take place in sacred buildings such as the Great Mosque of Cordoba and the Cathedral of Chartres is augmented by the formal properties of the buildings. Reduced to their bare essentials, the mosque is only a wall indicating the direction of Mecca, the church, a long hall. What transforms Cordoba and Chartres from merely functional buildings into works of art are the use of light, space, and surface decoration in a manner that is both beautiful and full of symbolic meaning. Medieval architects, both Christian and Muslim, used the formal aspects of their buildings to represent God. The color and quality of light, the movement and understanding of space, and the iconography and geometry of the building's painting and sculpture are references to God's presence, omnipotence, and infinity.

Both architectural styles create very different spatial environments. Space in Islamic architecture is divided and fragmented. Their buildings are dominated by small, enclosed spaces that gradually open up. The overall sense of entering a Medieval Islamic building is mystery and the unknown. The interior architecture is dominated by the repetition of arches and arcades with little sense of direction. The fragmentation and manipulation of space within the mosque is related to the idea of a God who is mysterious and omnipresent. Although, the
mosque at Cordoba is one large hall, the structure is so obscured by the forest of arches that the building cannot be seen or understood as a whole. The Great Mosque of Cordoba was one of the largest buildings in Medieval Spain, but each area of the mosque feels intimate and private allowing the worshippers to feel directly connected to God. One space is exactly like another and wherever one is standing appears to be the center of the building, illustrating the Islamic belief that no one is privileged and everyone is equally close to God.

The primary purpose of a Friday mosque like the Great Mosque of Cordoba is to bring the entire community together once a week to worship God. Although a spirit of community underlies the prayer ceremony, the delineation of space within the Great Mosque does not reflect a communal feeling. The rows of arches divide the hall, and the worshippers in it, into individual units. The contradiction of the individualization of the worshipper within the mosque and the communal nature of prayer can be attributed to the central paradox of the Islamic religion: unity in multiplicity.

In the Islamic prayer service, the entire community of worshippers recites aloud the same passages of the Quran and performs the same ritual movements. From a distance, the worshipers seem like small parts of a great wave of motion.
All individuality is lost, and one is only a part of the many in an act of subjugation to God. At the same time, the individual is still directly connected to God without the need of an intercessor or the community and the individual is aware of his special and individual relationship to God throughout the ceremony. The architecture of the Great Mosque reflects and enhances that feeling of being connected to God and apart from the earthly world. This feeling is an important difference between Christian and Islamic sacred architecture. Despite its heavenly aspirations, Chartres remains grounded in earthly logic and laws. By hiding the structure of the building, Islamic architects designed the Great Mosque to give it the illusion of transcending worldly laws of physics. While a Christian cathedral emphasizes heaven as the ultimate goal, it remains focused on the means of achieving that goal here on earth. Islamic mosques illustrate the experience of paradise itself.

Gothic architecture has a unified, definite shape. Upon entering, the building is easily understood. The overall impression of the building is one of astounding verticality. The ceiling is very high and emphasized by the upward movement of the pillars and arches. The viewer feels very small in the presence of God and just as the worshipper understands exactly where they stand in relation to the building, they know where they stand in relationship to God. The space moves uniformly in two directions: parallel to the ground toward the altar and perpendicular to the ground toward heaven. The space emphasizes the Christian view of life as movement toward a final goal: eternal rest in heaven and
the architecture focuses the viewer’s attention on the means to that goal—Jesus Christ.

The Catholic mass enacts the movement of the soul toward salvation. The mass opens with a prayer asking for God’s mercy and forgiveness for one’s sins followed by a prayer in praise of God. Following the opening prayers, the Word of God, the understanding of which is the first key to following the right way of the Lord, is read and discussed by the priest. The mass ends with the distribution of the Eucharist to the people, the body and blood of Christ through which they are saved. During the entire mass, the priest would stand facing the altar with his back to the congregation, literally standing between them and God, speaking to God on behalf of his people. Unlike Islamic services, the focus of Christian rites is on salvation, atonement, and the path to heavenly bliss. The processional nature of the Christian mass stresses the idea of forward movement analogous to the movement of the soul on its way to salvation.

The manipulation of space within Chartres emphasizes the idea of movement toward a goal. The immense height of the cathedral is highlighted by the use of vertical lines and pointed arches in the architectonic structures. The effect is of movement straight up to the sky, in effect movement toward heaven, the ultimate goal of Christianity and underlines the role of the church in the achievement of that goal. In addition, the most important part of the cathedral is the altar and the architecture of the building focuses all attention toward it, the place where Christ, through whom salvation is possible, is present. The unity of space in Chartres, in contrast to the fragmentation of space in the Great Mosque,
reflects the unity not only of the Christian community within Chartres, but of the universal Christian community across space and time.

Light has been associated with divinity since ancient times. In medieval religions, the duality of light and darkness was symbolic of the duality between good and evil and between knowledge and ignorance. One of the most important passages in the Quran poetically refers to God as “the light of the heavens and the earth. His light may be compared to a niche that enshrines a lamp, the lamp within a crystal of star-like brilliance.”44 The meaning of the passage is ambiguous and has been debated by scholars from the beginning of Islamic history. The image of the lamp in a niche is the most distinctive of the few visual symbols of the Islamic religion. One of the meanings of the mihrab, which is a type of sanctuary, is this representation of God and the image also frequently appears on Medieval Islamic prayer rugs.45 Islamic architecture also focuses on the contrast of natural light and colored surfaces. White light, which is formed from a combination of the entire color spectrum, is a symbol of the multiplicity of the universe unified by God.46

Light is associated with origins and creation in Christian tradition. The creation of the universe, described in The Book of Genesis, began with illumination. “In the beginning…the earth was a formless wasteland and darkness covered the abyss…Then God said ‘Let there be light,’ and there was light.”47 God himself is, as in many other religions, associated with the sun, and

44 Dawood, 24: 35
45 Piotrovskii, 56
46 Nasr, 54
47 The New American Bible, Genesis 1: 1-3
in Neo-Platonist thought the rays of the sun were seen as like the “rays of creative spirit” which inspire form with meaning.\textsuperscript{48} Light was considered the noblest material, the closest approximation to pure form.\textsuperscript{49} The medieval Christian understanding of light is best illustrated through the work of Dionysus the Aereopagite, an early Christian mystic. His ideas were popularized by Abbot Suger who mistakenly believed that Dionysus was the saint for whom his church, St. Denis, was named. Even priests who did not follow and agree with Neo-Platonist and Dionysian thought describe God in terms of light and the sun, saying that God gives his people the light and warmth of his love so that they draw nearer to him, as to the sun.\textsuperscript{50} In the Bible, especially in the Gospel of John, Jesus is described in terms of light, calling himself “the light of the world”\textsuperscript{51} and “the Way, the Truth, and the Light.”\textsuperscript{52} Medieval scholars often used the metaphor of light’s ability to come through a window without breaking it as an explanation of the miraculous conception of Jesus. In Dionysian theory, light emanating from God establishes the hierarchy, order, and connection of the universe.

There are three sources of light in the Great Mosque of Cordoba: direct sunlight, grilled windows, and the mihrab lamp. The mihrab lamp could not practically light the entire mosque and its presence was largely symbolic. The grilles on the windows allowed only small amounts of light into the mosque and served a mostly decorative purpose. The primary source of light for the Great Mosque of Cordoba was direct sunlight coming in from the north end of the

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\textsuperscript{48} Burchkhard, Titus. \textit{Chartres and the Birth of the Cathedral.}, 83  \\
\textsuperscript{49} von Simson, 51  \\
\textsuperscript{50} Duby, 116  \\
\textsuperscript{51} The New American Bible, John 8: 12  \\
\textsuperscript{52} The New American Bible, John 14: 6
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mosque, which was completely open, allowing light to stream in. The architectural elements inside the mosque, including the rows of arches, broke up the light, which entered from only one side, creating a deeply chiaroscuro effect. The patches of light and shadow that filled the mosque added to the element of mystery and awe that pervades the mosque. The light in Cordoba is an active, tactile element, whose presence and absence in parts of the mosque are an integral part of its experience. The architects have manipulated light so that it is not only a functional part of the building, but a symbolic and spiritual one.

In contrast, there was no direct, natural light used to illuminate the Cathedral of Chartres. The only source of light for the cathedral was the light that entered through the stained glass windows. There were no windows that allowed natural sunlight to enter the cathedral and the doors were kept shut at almost all times so that all the light that entered the cathedral was diffused and refracted through the colored glass. There are many stained glass windows in Chartres, all very large, and the open nature of the nave allowed the Cathedral to be flooded with colored light. The quality of light was designed to create a sense of wonder and awe at the beauty of God. The windows illuminate every part of the cathedral, from the main body to all the side and ambulatory chapels. The unity of light emphasizes the unity of space and connects all worshippers in the
cathedral. Following the writings of St. Denis, the light through the windows was symbolic of the refraction and reflection of the divine spirit that connects the world.

The decoration of both buildings plays an important role in manipulating light. The decoration on the walls of the Mosque of Cordoba shapes the quality of the light just as the light over the walls transforms its decoration.

For practical reasons, most of the materials used in the construction and decoration of medieval Islamic buildings were cheap and easy to find: wood, brick, ceramics, and stucco. The play of light over the materials converts them into seemingly precious objects: Ceramics have the appearance of precious stones and stucco seems fashioned like lace. Much of the wall decoration of Cordoba is made up of reflective materials, including mosaics and tiles which reflect and refract the light, giving it the added dimension of shimmering color. The mosque is also decorated with stucco carved in shallow relief, creating patterns of light and dark. The light over the iridescent mosaics and chiaroscuro stucco create the illusion of depth, transcending the two-dimensionality of the wall. In addition, the grilles allow

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53 Duby, 101
54 Clevenot, 125
diffused light into the mosque, creating patterns of light and shadow on the floors and walls, making light itself into a decorative material.

The link between light and decoration of Chartres is even stronger. Because light in Chartres enters only through the stained glass windows, the quality of light in the cathedral is completely determined by them. The stained glass colors and refracts the light which enters, which is then reflected on the white walls and floors of the cathedral. The light in Chartres helps to unify the space. While the Mosque of Cordoba is characterized by contrasts of light and shadow, Chartres is bathed entirely in a soft, colored light. All worshippers in the cathedral, even if they are praying in the side aisles or ambulatory chapels, are connected into the same light. This light is not distinct from the stone walls. Tracery intertwines the windows with the surrounding structure. In addition, the light reflected on the walls dissolves their solidity so that the Gothic wall no longer appears solid but porous to outside light. The interaction between light and glass illustrates the relationship between God and his world. Stained glass windows are designed to illuminate the beauty and color inherent in the light, but that beauty is quality of the light, not the glass, which cannot be seen without light.55

Although the buildings are different stylistically, they are using space to represent the same ideas: infinity and the miraculous. In Cordoba, understanding of the building as a whole is obscured, and only small parts of it

55 Binding, 54-55
may be seen at one time, so there appears to be no end to it, an illusion heightened by the repetition of arches. The room appears to fan outward from many centers. This idea of infinity is mirrored in the decoration which repeats endlessly and appears to reduce to infinitely smaller and smaller patterns, or conversely a small pattern appears to enlarge itself infinitely until it encompasses the entire world. Besides the infinite nature of the building, the structure itself seems to be an act of God. Architectonic decoration within Islamic architecture often serves to distract the viewer from the functional aspects of the architecture and to hide the structural supports of the building. Tiles and mosaics cover the walls, hiding them completely behind shimmering color and light, dome ribs are obscured behind decoration, and arches are carved and colored. One example of the obstruction of architecture by decoration is the use of muquarnas as a decorative technique. These three-dimensional geometric decorations which hang from the ceilings have no functional purpose but hide the presence of the structural supports. The weight of the roof is distributed ingeniously over the arches so that the columns holding them up seem impossibly small. The overall effect is not of a solid building held up by walls, columns, and beams but of a forest of arches and light suspended miraculously over the ground.

While Cordoba suggests infinity through the division of space, in Chartres, infinity is implied through the unified vertical movement of the building’s structure. The long pillars and pointed arches of the Gothic cathedrals move straight upward, ending in delicate points that continue to push the eyes and thoughts of the viewer straight up to the sky and beyond. They suggest the eternity and
infinity of God’s heavenly realm. Unlike Islamic architecture, in which the interior has no relation to the exterior, in Chartres, the exterior of the building echoes the movement upward through pointed arches and tall towers. As in Cordoba, the cathedral seems miraculously built. While Islamic architects of the Middle Ages hid the structural supports of their buildings, Christian architects emphasized and called attention to these supports. In fact, the columns and supports on the cathedral interiors are only illusions that do not actually sustain anything. Yet it was this display of support that made the buildings seem so miraculous. Gothic cathedrals were among the tallest buildings ever constructed in the Medieval period, and the vertical lines created by the pillars and pointed tops of the arches emphasize their height. The embedded columns seem far too insubstantial to support such a large edifice. The walls themselves, illuminated by soft colored light, punctuated by elegant tracery, and interwoven with glass, seem more like spider webs than stone. The stone of the cathedral does not seem to follow normal laws of physics and gravity, but instead springs out of the earth like a tree and stretches to heaven as if by some will of God.

A comparison between the ceilings of both buildings will provide a concrete example of these ideas. The figure above is the dome over the Puerta de San Esteban in the Great Mosque of Cordoba. The shape of the dome is articulated by a series of ribs, which are purely decorative.

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56 Panofsky, 32
and do not conform to the actual structure of the dome. The ribs themselves are not straight but lobed. The ribs are covered in stucco carved in arabesque forms. The empty spaces between the ribs are covered in muqarnas which hang like stalactites or icicles from the ceiling. The decoration creates the impression that the dome is not supported by the walls and vaults of the mosque, but instead hangs miraculously over the space. The immediate wealth of ornamentation confronting the worshipers who enter the mosque signals the blessedness of this space and expresses the complexity and bounty of God.

The most obvious difference between ceiling of the Great Mosque of Cordoba and the Cathedral of Chartres is that Cordoba is topped by several small domes, emphasizing the fragmentation of space, while one long, unbroken vault tops Chartres, unifying the space underneath it. In comparison to Cordoba the ceiling of Chartres is stark and austere. The ribs straightforwardly support the vault, and the stained glass windows, the only deviation from the stone walls, are evenly and orderly spaced. The pillars are actually composed of several small, embedded columns so that there is no break in the clean lines of the supports as they break into ribs, but the ring of stained glass windows in the
clerestory separates the roof from the rest of the cathedral, giving it the appearance of floating. The top of the cathedral seems delicately balanced on thin legs. The overall appearance is of a place that is orderly and rational but ultimately dependent upon God’s will.
The walls of the Great Mosque of Cordoba and Notre-Dame-du-Chartres are highly decorated in stone and stucco, tile and glass. The ornamentation of the walls has several layers of significance, ranging from the purely aesthetic to the deeply symbolic. The subjects represented vary from the completely abstract to historical scenes but they all represent a common theme: the sacred nature of the space, the presence of God, and the universal truth that pervades the world. An examination of the deeper meaning of the decoration of the Mosque of Cordoba and the decoration of the Cathedral of Chartres reveals some similarities between the two religion’s ideas about the nature of the divine and many differences. These differences begin with the attitude towards the representation of God and religious themes.

Despite impressions to the contrary, the basis of Islamic ornamentation is representation, although it is an abstract representation of an idea that is itself abstract. According to the monotheism of Islam, God is an omnipotent, intangible being, impossible for the human mind to comprehend. It would be inappropriate then for human beings to force God into their own image. While Christian churches contain images not only of God, but of other saints and holy figures, pictures of living creatures are generally not used in Islamic religious art. Islamic art, though it may be representative, is not art of specific forms, but of
decorative themes. It is a meditative art that appeals to the mind rather than to emotions.

Decoration in medieval Christian architecture differs greatly from Islamic decoration, although it serves many of the same functions: to illustrate the nature of God and the world created by Him. The most important characteristic of the decoration of medieval cathedrals is that it is figurative and narrative. Each decorative element of the cathedral serves as a part of a large narrative cycle expressed by the entire cathedral. While Christianity is also a monotheistic religion, it believes in the division of God into three parts: the Father, the Son, and the Holy Spirit. There are few representations of God the Father in medieval art. The Holy Spirit is generally portrayed symbolically in the form of light or of a dove. Most representations of God in the cathedrals are of the Son, Jesus Christ, who took on human form and was a participant in human events, so there was no contradiction in portraying him as a man. The use of iconography and narrative was important to a society in which a large majority of the population was illiterate. Many Christians could not read the Bible for themselves and religious leaders used images to convey theological ideas. The decoration of the cathedrals was the representation of a history, and it was important to Medieval Christians to illustrate the stories and figures that made up that history.

Since they could not portray God in human terms, early Islamic artists imbued abstract and stylized forms with religious meaning. The paradox of God in Islamic theology is described as “plurality in oneness and oneness in
multiplicity,” the idea of a unified whole coexisting as multiple parts without being broken. This vision of God is illustrated in Islamic art through the repetition of individual units that are connected and form a whole art work. Islamic decoration in religious settings is usually rendered in three major themes: stylized plant forms (termed arabesque style), geometric patterns, and calligraphy.

The arabesque form of decoration was born in Mediterranean countries and popular in Roman and Byzantine art. In arabesque decoration, as in other forms of Islamic ornamentation, all the empty spaces are filled, leaving the entire surface covered in decoration. The arabesque has theological meaning on three levels: first, it demonstrates a pride and love for the world God has created; secondly, vegetal decoration is related to the depiction of the gardens of Paradise; and finally, the eternal movement and multiplicity of form associated with God that is present in all Islamic ornamentation. Like other forms of decoration in Islamic art, it does not seek to draw the viewer’s eye in but to liberate it from preoccupations. It mirrors the construction of the mosque through its lack of a central focal point, creating instead repetitive patterns that reflect the infinite nature of God.

The second form of decoration is geometric. Geometric decoration is primarily concerned with creating patterns through a variety of geometric forms, most commonly the square, and relies on precise mathematical ratios. It is

57 Burckhardt, Titus. Moorish Culture in Spain. 189
58 Piotrovskii, 34
59 Piotrovskii, 33
60 Burckhardt, Titus. Moorish Culture in Spain. 176
possible that the shapes and numbers that form the patterns are in themselves symbolic, but more importantly geometry relates to God on account of its inherent beauty and order. It is considered the nearest expression of God in Islamic art. The centers of this decoration are usually a star: either the star of Solomon or the star of David. These stars are metaphors of the divine: their repetition mirrors the repetition of God. Geometric decoration occurs not only in surface patterning but also in three dimensional forms like the architectural stalactites that hang from the ceilings of Islamic buildings.

The decoration of the cathedrals depicts God as an active participant in world history. The Bible is a primarily narrative book, unlike the Quran which is mostly poetic, and Medieval Christian art reflects this focus on narrative and story. The stories and people represented on cathedral walls were chosen from the Old Testament, the New Testament, the lives of the saints, and apocryphal stories about the life of Mary and the childhood of Jesus, but they all represented the essential themes of the Christian faith: the dual human/divine nature of Jesus and his sacrifice for humanity, redemption through the forgiveness of sins, the intercession of the Virgin and the saints, the right and pure manner of living according to the law of God, and the all-encompassing power of God. Medieval Christianity taught that there were three acts in story of the world: Man awaiting the law (told in the Old Testament), the law incarnate (told in the Gospels), and of man conforming to the law (the lives of the apostles and saints). Individual stories within this history were not important, only their relation to larger, cosmic

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61 Piotrovskii, 54
62 Male, 112
themes. This history had no beginning, because God had no beginning, but it was moving toward a definite end: the second coming of Christ, the time of the final judgment and the ending of the world.

Stained glass dominates the decoration of Gothic cathedrals, and Chartres in particular. The subject matter of the windows varies greatly and includes Old Testament stories, episodes from the lives of Mary and Christ, illustrations of parables, and the lives of various apostles and saints. The iconographic programs of these windows were often very complex and related to large, cosmic themes. The windows were divided into multiple compartments, each compartment filled with a small scene. The result is that the viewer is often unable to fix their attention on only one part, and the general significance of the window is more important than the specific message of a particular scene.

A comparison between the interior decoration around the “Puerta de San Esteban” in Cordoba and the rose and lancet windows on the west wall of Chartres will illustrate the differences in the manner of representing God between the two religions.

While the exterior of the mosque’s door is sparsely decorated, upon entering, the visitor is immediately confronted with overwhelming ornamentation. The entire wall is covered in painted stucco so that the original stone is completely hidden. The stucco is carved in arabesque patterns interwoven with Quranic inscriptions. The surface of the wall is divided and fragmented in the same manner as the space of

Fig. 23 Puerta de San Esteban, interior, Great Mosque of Cordoba
the building. This all-over decoration is not random but conforms to larger patterns and shapes within a series of arches, bands, and panels. The large shapes and patterns ensure that the mosque never loses the sense of geometry and order that characterizes God’s world, despite the chaotic movement of the individual forms. The wall is separated into large shapes and patterns. These shapes are then separated again into more complex patterns, in which are added even more detailed patterns, etc, so that closer and closer inspection reveals increasingly complex and detailed patterns. The final result is metaphoric of the Islamic view of the God: one of infinite complexity and multiplicity.

The stained glass windows over the Royal Portal in the west façade of Chartres are perfect examples of both the stained glass technique and the narrative function of Christian decoration. Three lancets depict Biblical episodes and figures. A rose window tops the lancets. The lancets are divided into several roundels, each containing a different narrative image. Each image illustrates a narrative episode and together all the images present a unified narrative whole. The leftmost window displays the passion narrative, the central, episodes from the lives of Christ ad Mary, and the right window is a Jesse tree showing the ancestors of Christ. The rose window is a depiction of the Last Judgment, with Christ as the central figure. Together, the windows present the history of Christ from his ancestors to the end of the
world. The artist relies heavily on primary colors, with some interjections of green and maroon. The figure of Christ is clothed in white (purity) or purple (royalty). Christ is the center of every composition, except the last, in which the center is his empty tomb. There is little suggestion of depth, with only a flat blue background behind the figures. The figures themselves are stylized, but lively and dynamic with expressive faces. The scenes are played out in roundels, but the borders are not respected, and figures frequently extend out of the roundel border. A four-lobed figure connects the roundels.

The decoration of both the Great Mosque of Cordoba and the Cathedral of Chartres are representative of monotheistic religions who believe in one omnipresent and all-powerful God. Both religions wish to impress upon their faithful that God is always watching them and is present as they participate in their rituals. The Quran repeats the phrase, “God is always watching,” several times and in the second Sura describes the omnipresence of God. “Neither slumber nor sleep overtakes Him. His is what the heavens and the earth contain. Who can intercede with Him except by His permission? He knows what is before and behind men. They can grasp only that part of His knowledge which He wills.” The Bible contains several similar passages, including this one from Psalms. “Lord, you have probed me, you know me: you know when I sit and stand; you understand my thought from afar. My travels and my rest you mark; with all my ways you are familiar.” The presence of God is suggested through

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63 Dawood, 2:109
64 Dawood, 2:255
65 The New American Bible, Psalm 139: 1-4
the illustration described above, but also invoked in more direct and tangible ways.

The writings of both religions associate God with light and with his Word. The gospel of John begins, “In the beginning was the Word and the Word was with God and the Word was God...What came to be through him was life, and this life was the light of the human race.” In Christian belief, God's Word and God’s Law became incarnate and took on human form through the person of Jesus Christ, the Son of God, who is part of the Trinity and cannot be separated from him. In Islamic thought, God’s word, represented by the Quran, is an integral part of him and cannot be separated from him. God's word is also equated with light. One of the hadith, sayings of the prophet Mohammad, states that the first form created by God was light. Another hadith says that the first being created by God was the Word, leading to the equation of the Word of God with the Light of God.66 An example of this idea is the Arabic name for the tower used to call the faithful to prayer (to the Word of God): al-manarah, the place of light.67

The direct presence of God is primarily represented in Islamic architecture through the depiction of his word. The depiction of this word constitutes the third theme of Islamic decoration: calligraphy. Although calligraphy is the representation of words, the primary function of calligraphy in this context is decorative, not literary. There are six basic Arabic scripts. The most commonly used script in an artistic and architectural setting is the Kufic script. Kufic is one

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66 Nasr, 50-51
67 Nasr, 51
of the easiest scripts to read and its monumentality makes it particularly suited for artistic use. Kufic script is linear and emphasizes strong verticals and horizontals. It conveys dignity and majesty well suited to a religious setting (it is the most often used calligraphy to write the Quran). Kufic script is very organized, with no spaces but dots indicating groups of letters and words. The vertical ends of the script adapt to different shapes and can transform into vegetal or geometric forms.

The inscriptions within the mosque are usually from the Quran and are references to God. Many of the most common quotations are lists of God’s names or emphasize his the omnipresence and oneness of God. Calligraphy is the highest of the decorative arts because it ornaments God’s speech. While other decorative motifs are metaphorical representations of God, or representations of aspects of God, God’s word is an inseparable part of God, and calligraphy has a direct connection to Him. Many times calligraphic quotations are placed in areas of the mosque where they are obscured, or stylized to the point that they are unreadable. If reading is a process of understanding God, what is the purpose of creating written inscriptions that are unreadable? The presence of the Quranic inscriptions, whether or not they are actually read, announce the presence of God in the mosque. Additionally, in medieval Islam, any Muslim who was educated enough
to read had memorized most of the Quran, and a word or phrase was all that was needed to call to memory an entire passage. The function of the Quranic inscriptions is not to be read but to serve a decorative and religious purpose. There are no spaces in Islamic calligraphy, and the long, unending line of linked letters refers to the unity of God. There are, in fact, many links between the artistic style of calligraphy and the literary style of the Quran: an emphasis on monotheism, countless variations on one cannon, and the mingling of separate elements to form a many-layered whole. The presence of Quranic inscriptions are a tangible representation of the presence of God within the mosque.

According to Catholicism, God is present in the church in a definite, tangible way through the Eucharist. The bread and wine is transformed into the literal body and blood of Christ. The origins of this belief lie in the Biblical description of the Last Supper, in which Jesus, as he breaks bread, says, “This is my body, which will be given for you; do this in memory of me.” This phrase is repeated during the holiest part of Christian liturgy when the bread is consecrated by the priest over the altar. The Eucharistic tradition is related to the idea of Jesus as a sacrifice and as a mediator between the human and the divine. As the recitation of the Quran invokes the presence of God for the Muslims, the consecration of the bread and wine invokes the presence of God for the Christians. Christian iconography refers to the Eucharist in three ways: in the literal depiction of the Last Supper itself, or of the host and chalice, through the representation of other Biblical stories that are related to the Eucharist, such as

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68 Fristman, 34  
the Supper at Emmaus or the meeting of Abraham and Melchizedek, or through symbolic references to Jesus as a sacrifice.

The Eucharist is symbolically represented in Chartres in the tympanum of the Royal Portal on the west front of the cathedral. This is the main entrance of the cathedral, and Christians would enter the cathedral underneath the tympanum showing the Eucharistic sacrifice of Christ, symbolically enacting their entrance into heaven through his sacrifice for humanity. The tympanum does not literally depict the Last Supper or the Crucifixion, focusing instead on the birth of Jesus. These scenes are widely represented in Christian iconography because they depict the entrance of the divine into the human world and are often references to or parallel to scenes from the Passion narrative. In the tympanum they are described in such a way that they immediately call to mind the future sacrifice Jesus will endure. In scenes of the Nativity and Presentation of Jesus, the Christ-Child is shown on a long table similar to the altar over which the bread and wine are consecrated. The capitals holding up the tympanum depict the Last Supper and the Supper at Emmaus.

Fig. 26 Central tympanum, west façade, Cathedral of Chartres

Katzenellenbogen, 29
Each religion has to reconcile the infinite variety of the world with the indivisible nature of one God. Medieval Islamic artists symbolically expressed the multiplicity of the world unified by one truth through varied decoration unified into one large pattern. A perfect example of this concept is the mihrab of the Great Mosque.

The most important place in any mosque is the mihrab, where God is both symbolically and literally present through his light and his Word. The Great Mosque of Cordoba contains one of the most beautifully decorated mihrabs in all of Medieval Islamic architecture. The decoration of the mihrab unifies several different decorative motifs and materials, including calligraphy, heavily stylized plant forms, arabesque in stucco, and rows of blind arches. The decoration is organized into a series of panels and bands that order and unify the composition. Similar colors, especially gold and green, appear throughout the mihrab entrance. Calligraphic decoration dominates the space, which is appropriate since the imam who recites the Quran stands in front of the mihrab. The arch motif, which is traditionally associated with the mihrab niche, also appears several times. Plant motifs, which symbolize the earth, are
also found all around the niche. The mihrab, which combines various images and decorative motifs, symbolizes the unifying power of God.

Both the waves of worshippers enacting prayers and the rows upon rows of arches are analogous to the endlessly repetitive decoration that adorns the walls of the Great Mosque. In each instance, a cohesive unit composed of multiple parts divides and delineates space without breaking the unity of the whole. The ritual and architecture illustrate a theological point: the unifying power of God and the subjugation of all things to him, and the universal nature of God’s love for the individual worshipper. There is a meditative nature to Islamic art that does not occur in Christian architecture. The decoration of a cathedral asks the viewer to think actively, logically, and critically about God, but the repetitive decoration of a mosque entices the viewer into a more passive state of contemplation of, and subjugation to God. The Great Mosque of Cordoba represents an eternal, timeless space like that of paradise, where the only action is the worship and contemplation of God.

Medieval Christian artists solved the same problem by emphasizing the diverse, but not conflicting, layers of meaning as proof of the ordering power of God on the universe. Through their decoration, cathedrals tell the spiritual history of the world and create a space where the heavenly and earthly worlds mingle. The multi-layered meaning of cathedrals reflects the layered meaning and inherent order of the world as created by God. Medieval artists employed a complex iconography and symbolism to illustrate the spiritual narrative told by the cathedral. Cathedral iconography does not merely illustrate a story but is many
layered and draws connections between Old and New Testament figures, between the lives of Christ, Mary, and the apostles, and between biblical time, the present, and the future revelation. The art of the Middle Ages is often described as a sacred writing or a symbolic code in which iconographical symbols are fixed and cannot be changed. Scholars describe the Bible as having four meanings: Historical, allegorical, topological, and anagogical. These four meanings are often used to interpret medieval art as well. The reality of medieval iconography, however, may not be so cut and dried. Medieval art has multilayered meanings that are not limited to one method of interpretation or have only one layer of symbolism. The decoration of the cathedrals invited the viewer into a journey of intellectual discovery and were only a starting off point for the mind to contemplate God.

The exterior sculpture around the cathedral doors is a good example of the theological complexity described by cathedral iconography. In theory, the iconographic program of a cathedral is a unified whole, designed by the local monks and scholars according to the theological principles of the day and faithfully executed by the artists and craftsmen. The realities of building such a large structure were often less unified. Hundreds of people were involved in the building of the cathedral-religious figures, political figures, donors, craftsmen—all of whom influenced its decoration and iconographic program. In addition, it took decades (sometimes centuries) to build a cathedral and many things changed during that time. For example, a new relic could be obtained, necessitating that a new saint be added to the decoration. The sculpture around the portals at

71 Male, 206
Chartres, however, are an excellent example of a unified and coherently planned iconographic program.\textsuperscript{72} The sculptures correspond to an intensively planned program by the Chartres School. The west facade, the main entrance, portrays the second coming of Christ and emphasizes the dual divine/human nature of Christ. The north facade describes the relationship of Christ to his Church with the central portal dedicated to the Virgin. Underneath the central tympanum, the jamb statues represent Old Testament figures, including Melchizidek, Abraham, David, and John the Baptist. These figures are prototypes of Christ and his relationship to the church. The Virgin herself symbolizes the Church as the Bride and Body of Christ. The south facade depicts Christ in glory and with a statue of the teaching Christ in the central tympanum and the saints represented in the side tympana. Represented in the central portal with Christ are the apostles. The jamb statues on the left side of the door represent the martyrs and the statues on the right the confessors. These statues, together with the surrounding tympana represent the third act of history: men and women living and carrying out Christ’s law. They represent the ideological and moral system under which medieval Christians lived. The sculptural program synthesizes the past, present, and future of Christianity, and connects several different, yet related theological ideas.

\textsuperscript{72} Katzenellenbogen, 29
The Cathedral of Chartres is a representation of the history of the world. The walls of the cathedral depict the past (Old Testament prophets and kings), the present (the labors of the month), and the future (The final Judgment). The progression the history of the world mirrors the progression of the soul toward salvation: first ignorance, then knowledge of God followed by a turning away from him, finally repentance and hopefully salvation. The stories and persons represented on the walls of the cathedral invite the viewer to draw connections between great historical and cosmic themes and their own lives and experiences. While the Great Mosque represents an eternal, timeless state analogous to paradise, Chartres embodies a history with a definitive end and focuses on the individual's place within that history and the achievement of that end.
In the same way that a towering building visually connects earth and sky, the cathedral or mosque should connect the earthly and spiritual worlds in the minds of the worshippers who enter into it. In the Middle Ages, Christian and Muslim architects, guided by Neo-Platonic ideas, used beauty and mathematics to bridge the gap between heaven and earth. They believed that contemplation of the beauty and order of the building would lead to contemplation of the beauty and order inherent in the world created by God, which would lead to contemplation of the beauty and order of God himself. The principle of beauty and the principle of order were not distinct, rather they were connected, and often interchangeable. Beauty and order were traits inherent in God and traits inherent in the world God had created.

While acknowledging the presence of evil in the world, both religions regard the God's primal creation as beautiful and good. Medieval scholars of both religions used mathematical and scientific terms to describe God's act of creation. In both traditions, God is described as the “First Mover” who created the universe and set it in motion. Medieval builders employed those scientific and mathematical principles in the creation of their buildings to honor God who created and ordered the universe, and to symbolically represent that act of continual creation. Working from a Neo-Platonic foundation, medieval Islamic philosophers such as Alfarabi and Avicenna described the creation of the universe as a series of emanations from the Divine Thought: as the One
contemplates itself, it creates another existent, and another, and another as the process repeats itself.\footnote{Nasr, 54} The repetition in Islamic art and the derivation of complex patterns from one geometric figure are indicative of this mindset. In Chartres, a scholar named Alan of Lille explained the act of creation as an analogy, calling God an architect who built the cosmos based on rational mathematical and scientific principles.\footnote{Burchkhard, Titus. Chartres and the Birth of the Cathedral. 83} The act of creation of the cathedral (employing these principles) symbolized the act of creation of the world. Architects called attention to the structure of the cathedral by emphasizing its pillars, ribs, and buttresses.

Just as both architectural traditions find common roots in classical architecture, the foundations of both philosophical traditions lie in Classical Greek philosophy, especially that of Plato and Aristotle. Neo-Platonism was important to both Medieval Christian and Islamic philosophy. Greek works were translated into Arabic in the seventh and eighth centuries by Syrian scholars and quickly became the foundation for Islamic science and philosophy. In the same way that Islamic artists assimilated and adapted the artistic traditions of other cultures, Islamic philosophers first absorbed, and then modified Greek ideas to fit within their own religious framework. Five hundred years later, Christian philosophers did the same. The basic tenet of Neo-Platonism is that true form is separate from, and exists beyond, matter. What can be seen and experienced in the physical world is only a pale shadow of true form that exists in the spiritual realm. Through contemplation of the physical world, the wise can begin to understand
the true form of the spiritual. In Christianity and Islam true Beauty and the true form of the spiritual world was associated with God.

In Neo-Platonist thought, beauty is not only an aesthetic principle, but a philosophical one as well. Contemplation of the physical beauty found in the everyday world leads the mind to the reflection of true spiritual beauty, which is wisdom. In his work *Symposium*, Plato describes the relationship between images of beauty and true Beauty, and the effect of man’s contemplation of true Beauty, “In that life alone, when he looks at Beauty in the only way that Beauty can be seen, only then will it be possible for him to give birth not to images of virtue (because he’s in touch with no images,) but to true virtue (because he’s in touch with true Beauty.)” According to Plato, contemplation of images of beauty leads to contemplation of true Beauty, which is not a physical but a spiritual beauty, associated with wisdom and virtue. Later, read by Christian and Muslim scholars, Plato’s “true beauty and wisdom” would be equated with God. By experiencing the physical beauty of the world, manifested in art, people would contemplate God and the state of their own souls. According to Grossteetet, the beauty of the world could be found in the harmony of its relationships. Scholastic theology equated experience of this beauty with knowledge, and knowledge with good.

Medieval beauty was not considered a vague term open to individual interpretation, but a definite set of relationships and proportions, a consequence of composition, harmony, and order. The most beautiful aspect of the universe,

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75 Woodruff, 44
76 Binding, 54-55
according to medieval scholars of both religions, was that it was ordered by God. In his political treatises, Alfarabi emphasized the orderliness, harmony, and rationality inherent in the natural world created by God, and used it as a model for creating a harmonious political and social system. Understanding the order of the universe was, according to Scholastic thinkers like Thomas Aquinas and Hugh of St. Victor, the means of attaining wisdom. Underneath a surface that seemed accidental and random, there was a rational structure to every aspect of nature. A commonly quoted biblical passage illustrating the importance of God’s ordering of the universe comes, fittingly from the Book of Wisdom: “But you have disposed all things by measure and number and weight.” The purpose of Medieval Christian philosophy, science, and art was to discover, interpret, and describe the relationships and harmonies that ordered the universe, and thereby understand and draw closer to God.

The general stereotype of the era between the classical period and the Renaissance is that it was a “dark” age in which people’s lives were governed by superstition unchecked by real knowledge. This view couldn’t be more wrong. In the eight century, the city of Cordoba had over seventy libraries filled with mathematical, scientific, and philosophical treatises, as well as poetry and literature. When the Muslims invaded Spain in 711, Europe inherited a legacy of culture and learning that enlightened the “dark ages.” Taking Greek scientific treatises as a starting point, Islamic thinkers advanced them far beyond what the

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77 Nasr, 63
78 Binding, 55
79 The New American Bible. Wisdom 13: 8
80 Menocal, 88
Greeks could have imagined. The assimilation of Greek thought, Roman engineering, and Arabic art and literature provided the foundation for one of the most advanced civilizations of the pre-modern era. Islamic inventions, such as the Arabic numerical system, transformed Europe’s intellectual scene. The focus on discovering God through discovering the world created an extreme importance on learning for both cultures. The pursuit of *hikmah*, or wisdom, was an important aspect of Medieval Islam. *Hikmah* was a science of “inner nature”: an attempt to look beyond the outward appearance of things in search of their inner reality, the spiritual reality of God.\(^8^1\) Hugh of St. Victor said that, “Man should strive for wisdom and try to recreate the integrity of nature.”\(^8^2\) By using science and mathematics to break the world down into understandable formula, Medieval Christians were doing just that.

An almost unbroken line from Ancient Greece to the Byzantine Empire to the Islamic Empire connected Athens to Cordoba and classical scholarship lived on into Al-Andalus. Contact with the Muslims led to a rebirth of the classics within the cathedral schools, especially in the School of Chartres, one of the main proponents of the humanities in France. They believed that through learning of the liberal arts, especially the Quadrivium (arithmetic, geometry, music, and astronomy), man could attain a better understanding of the world, and therefore of God. Thomas Aquinas urged humanity to derive knowledge from the perceptible world.\(^8^3\) The importance of learning in Medieval Christianity can be

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\(^{8^1}\) Nasr, 54  
\(^{8^2}\) von Simson, 77  
\(^{8^3}\) Binding, 54-55
seen in the inclusion of classical scholars and figures representing the liberal arts in the sculptural program of the Royal Portal of Chartres.

The order and beauty of the universe was best expressed through the application of geometry. A geometric pattern creates a self-contained and unified whole similar to the unity of God and the perfection of geometric figures is a reflection of the perfection of God. Medieval thinkers described the cosmos as a universe based on numbers. The physical world rested on a framework based on geometry that was ordained by God. Cathedrals and mosques were built using a series of proportions that were not only practical (the vast numbers required to build these buildings were difficult to measure and it was easier to use proportions to relate each individual measurement to the overall building), but also reflected the order and proportion employed by God in the creation of the world. Proportional series were derived from inscribing geometric shapes inside of each other. The most perfect proportion was called the “golden section” and derived from a pentagon or decagon. In the golden section the relationship of a: b is the same as a+b: a-the parts are related to the whole. The proportions of the ground plan and elevation of Chartres conform to the golden section.\(^84\)

The relationship of order and proportion to beauty also meant that mathematics not only provided the basis for the architectural stability of the building but its artistic beauty as well.

Geometric decoration is an important part of Islamic art. In a culture that prohibits human images of the divine, it is the nearest one can come to a visual representation of God. In the same way that geometry establishes a unifying

\(^{84}\) Burchkhard, 124
rhythm within a diverse pattern, God unifies the diversity of the world. The active patterns represent the movement of time, and their constant geometrical rhythm the influence of the eternal on the temporal. Medieval Islamic philosophers did not consider the temporal to be the opposite of the eternal but a mirror image of it. Geometry represents the infinity and continuity of God and time.

Geometry is an important part of the development of both the structure and the decoration of the medieval mosque. The flexibility of abstract geometric decoration can be seen in the muqarnas which hang from the ceilings of many Medieval Islamic buildings, including the Great Mosque of Cordoba. These “architectural stalactites” are geometric decoration taking on three dimensional forms. They are developed using many of the same proportions and techniques as those used to develop the ground plan and elevation of the mosque. These forms have no architectonic function, and in fact often hide the structure of the surfaces they decorate, creating the illusion that the domes of the mosque hang miraculously from the sky. Muqarnas have been interpreted in a variety of ways and may indeed have a number of symbolic meanings. These meanings often relate to the role of geometry as a manifestation of the divine and a means to visualizing and understanding God. They can be understood symbolically as a representation of God, the illustration of the descent of the
heavenly world into the earthly world, and the crystallization of light (a divine substance) into solid form.85

In the medieval Christian world, numbers were endowed with power and meaning: the number three represented the Trinity and all spiritual things, four represented material and worldly things, twelve, which is 3×4, the universal church, and 7, which is 3+4 was considered the most mysterious number and represented humanity.86 The order of God’s creation was not only present in the geometry of numbers and proportions but in history as well. It was common in medieval art to juxtapose scenes from the Old Testament with scenes from the life of Christ. In this way medieval Christians could see how the Christ’s life and death were prefigured in earlier times and reflect on the symmetry and harmony of a history and time ordained by God.

Sacred geometry is best represented in the rose windows of Chartres. The shape of the Rose window, the circle, symbolized the cosmos and the perfection of God. Chartres has three rose windows, one each above the west, north, and south portals of the church. The West Rose was the first window constructed in 1216. The rose is wheel-like with spokes modeled as pillars pointing to the 12 cusps. The central image is of Jesus sitting in Judgment and around him figures either descend to Hell or ascend into Heaven. The rose has been compared to the wheel of time which rotates around the unchanging hub of eternity. Artists also employed the use of sacred numbers in constructing the windows. The west window has thirty-seven opening with seventy-four leaves on

85 Nasr, 68
86 Male, 112
thirty-seven stones. Thirty-seven is a factor in several important kabbalistic numbers often used in Christian thought. In addition, there are one hundred and ninety-two circles around the figure of Christ, which is the number of Mary (when her name is translated into Hebraic numerals) so that the mother of God symbolically surrounds him. The South Rose was constructed in 1220 and the north ten years later. The south window shows the glory of Christ with the Evangelists and the Prophets. The North rose is the most flower-like of all three, and illustrates perfectly the symbolic nature of geometry in medieval art. The rose, which is devoted to Mary, she who gave human form to a divinity, is constructed of circles (which represent heaven) and squares (which represent earth).

Fig. 30 North rose, Chartres Cathedral

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87 Duby, 116
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