

# Islamic influences on the renaissance

[Art & Culture](#), [Renaissance](#)



Islamic Influences On The Renaissance BY Ashley Islamic Influences on the Renaissance Islam is a religion that is almost as old as Christianity itself. The two are very closely related, with only a few differences; the two key differences concern the Godhead being a single being rather than a Tri-Unity entity like the Christians believe, and who exactly was the Chosen Prophet of God. As these differences are tantamount in each faith and are conflicting, it is natural to assume that both faiths would be at constant odds with one another.

History offers more than enough material to back up that claim, but the focus of this paper will not be the conflict of the faiths. Instead it will focus on the Islamic influences on the Renaissance period of Europe. However, the two faiths don't want to coexist with each other, so when one gains power, they eliminate the other's influence to the best of their ability. There are two key factors in which Islam left a very lasting mark that cannot be ignored and discarded, no matter the effort put into doing so.

Education and architecture are two aspects of culture in which Islam left an influence on cultures and faiths all across the globe, including Christianity. To understand why Islam played such a big role in the fields of education and architecture, it must first be understood what Islam is and where it came from. Islam is a faith that traces its origin to Abraham, who is said to have established the original covenant with his God. This God is placed at the center of all Abraham religions. Therefore, God is the center of Islamic practices and beliefs.

The major beliefs, as mentioned above, are that God is only one being, a complete, all-powerful, single deity. There are several other aspects to Islam than those that have been described here, but none of which are important. The only attribute of Islam that is relevant to this discussion is the fact the faith and reason go hand-in-hand in Islam. Muslims were encouraged to pursue knowledge of the natural world around them. This helped them gain an appreciation for the intricate and harmonious nature that can be found in God, or as He is known in Islam, Allah.

There is a period in time in which the Islamic world experienced something akin to the Renaissance of the 14th - 17th centuries. This period is known as the Islamic Golden Age. While the Renaissance was a time of cultural growth in the fields of the humanities by taking lessons aspects from history and building off of them -imitating and innovating, the Islamic Golden Age was also a time of cultural growth in every sense of the religion - particularly in the fields of academia.

The movement can be seen in establishments such as the House of Wisdom that the Muslims built in Baghdad. The Muslims quest for knowledge was not only limited to their own discoveries and libraries; they sought to bring all the knowledge of the world under one roof. Baghdad was not the only city to become such a great center for learning; cities throughout the Islamic empire allowed suit and became centers for learning for Muslims and non-Muslims alike. Cities that rivaled Baghdad were the city of Egypt and the city of CORBA in Al- Andalusia (" Islamic Golden Age. Www. Electroluminescent. Com). For five centuries, the Islamic empire as a whole enjoyed phenomenal

growth in every aspect of culture. The Islamic people not only developed the academic side of their culture, they developed the humanitarian side as well. Most of the areas in the humanities will have little effect on the main idea of this paper except for one; the only area of once is the architectural style that the Islamic people developed that would influence the Renaissance period that comes to mind in the Western World.

To better understand how Islam played a part in Renaissance architecture, Gothic architecture must be discussed and understood. The architecture style that was imitated and innovated in the Renaissance was the Gothic style. The features that define this architectural style are the ribbed vaults, flying buttresses, and mostly notably the point arch. Each of these features made it possible for architects to design and build taller buildings than the Romanesque style allowed. The definitions for each of the elements of Gothic architecture will come from the Encyclopedia Britannica website.

A ribbed vault is defined as follows: " arching and intersecting stone ribs support a vaulted ceiling surface that is composed of mere thin stone panels, which greatly reduced the weight the vault's weight. " (" Gothic Art. " Encyclopedia Britannica. ). The next feature of Gothic architecture to be defined in the Encyclopedia Britannica is the flying buttress. " A structure consisting of an inclined bar carried on a half arch that extends, or " flies," from the upper part of a wall to a pier some distance away and aeries the thrust of a roof or vault.

A pinnacle often crowns the pier, adding weight and enhancing stability. The design increased the supporting power of the buttress and allowed for the

creation of the high-ceiling churches. " (" Gothic Art. " Encyclopedia Britannica. ). The third, and most important, feature of the architectural style to be defined is the pointed arch. The importance and significance of this feature is pointed out by many scholars and architects. At About. Com Architecture, there is an article specifically about pointed arches, and we can see this claim manifested.

During the Gothic era, builders discovered that pointed arches would give structures amazing strength and stability. They experimented with varying steepness, and " experience had shown them that pointed arches thrust out less than circular arches," says famed architect and engineer Mario Salvador. " The main difference between Romanesque and Gothic arches lies in the pointed shape of the latter, which, besides introducing a new aesthetic dimension, has the important consequence of reducing the arch thrusts by as much as fifty percent. In Gothic buildings, the weight of the roof was supported by the arches rather than the walls. This meant that walls could be thinner. " (" Gothic Style Architecture. " About. Com. ). This is where some scholars argue that the Islamic world had an influence on the Western architectural style. Some believe that this feature came from all the conquests of Islamic cities and towns, such as the Crusades. But there is strong evidence that the pointed arch was being employed in Islamic architecture before it became to be part of the Western styles, such as the Gothic architectural style.

Examples of this claim are the Lazar of Seville and the True Cathedral in Spain. By these two examples, we can see that the Islamic influence in

Western Europe from the seventh century onward played a crucial role in the influencing of the development of the Gothic architectural style. It is through these early influences that the Islam Empire managed to leave their mark on the Christian Renaissance that would come a few centuries later. The Renaissance took the Gothic architecture style and built its own style using the Gothic one as a base.

The style that came out of Renaissance Italy came to be known as the Renaissance architectural style. The innovation that the Renaissance style made upon its Gothic base was to go back to the roots of antiquity. Referring to the Metropolitan Museum of Art weeping, an article on renaissance architecture provides a definition of what the Renaissance architectural style emphasized; " Classical orders and architectural elements such as columns, pilasters, pediments, interrelates, arches, and domes form the vocabulary of Renaissance buildings...

As in the Classical world, Renaissance architecture is characterized by harmonious form, mathematical proportion, and a unit of measurement based on the human scale. " (" Architecture in Renaissance Italy. Muteness. Org. ). This was the first form of an architectural style from the Renaissance period that used the Gothic style as its base. Another style to innovate on the Gothic architectural style came in the later part of the sixteenth century that was very widely used in Spain during the Spanish Golden Age, which is alternatively known as the Spanish Renaissance.

The Baroque style evolved from the Gothic style and was widely favored by the architects in Spain. The Baroque style, as defined by the Encyclopedia

Britannica weeping, emphasizes: " Complex architectural plan shapes, often based on the oval, and the dynamic opposition and interpenetration of spaces were favored to heighten the feeling of motion and sensuality. Other characteristic qualities include grandeur, drama and contrast (especially in lighting), courageousness, and an often dizzying array of rich surface treatments, twisting elements, and gilded statuary.

Architects unabashedly applied bright colors and illusory, vividly painted ceilings. " (" Baroque Architecture. " Encyclopedia Britannica. ). Even this style, however, found itself being innovated upon during the Spanish Golden Age. There were two styles that came from the Baroque style, the Hearing style and the Churchgoers style. The Hearing style is defined as being " extremely sober, naked, and particularly accomplished in the use of granite ashlar work. " (" Hearing. " Boundless. Mom) The later style to come from the Baroque style, the Churchgoers style, was much more preferred to the former due to the sociopolitical application of it. The Churchgoers style is defined in the Encyclopedia Britannica as follows; " In addition to a plethora of compressed ornament, surfaces bristle with such devices as broken pediments, undulating ironies, reversed volutes, balustrades, stucco shells, and garlands. Restraint was totally abandoned in a conscious effort to overwhelm the spectator. (" Churlishness Architecture. " Encyclopedia Britannica. ). The reason the Churlishness style was preferred is that it allowed the patron, which was the church in most cases, to design and build buildings that were extravagant and grand. These were seen as symbols of the patron's status and power in society. A good example of just how the Churlishness was used can be seen in the Cathedral of Santiago De

Composites. A picture of this building can be found in the appendix of this paper.

The reason that all of this discussion of the many architectural styles to come out of the Renaissance period is that even the last to be discussed, the Churlishness style, still incorporates the pointed arches of the Islamic-influenced Gothic style. The feature that can be dated back to the seventh century has lasted throughout the centuries and found itself still being implemented a thousand years later. The reason being is that the arch was based upon extensive study of architecture by the Muslims. Studying the world around them is what the Muslims did, and did well, for several reasons.

The Muslims studied much more than just architecture, they studied all the subjects; science, art, ethics, etc. It is through their academic studies that Muslims and the Islamic Empire continued to influence the Renaissance. During the Islamic Golden Age, scholars had to have many skills to be an effective and contributory part of society and solve whatever problems that arose. These men who had a wide range of skills to draw from are known as Polymaths, or Renaissance Men as they have been introduced in class.

These Renaissance Men, or as they were called in the Islamic world, Hakes, had backgrounds and working knowledge bases for various fields of art and academia. As an interesting side note, in the research material I have gathered there is special mention of Leonardo dad Vinci when explaining what a Polymath is. This must go to show how much respect Leonardo dad Vinci gained all around the world, and not just within Christian circles and history books. Getting back to the topic at hand, Hakes were held in higher

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regard for their efforts of trying to further man's understanding of the world around them.

This was particularly done through the fields of science. In science, Muslims had managed to make leaps and bounds over the Christian portion of the world. One way that Muslims had left their mark in this area of study was in the field of optics. According to the website Collaborationist's. Com; " Bin al-Hath (Lazed) wrote the Book of Optics, in which he significantly reformed the field of optics, empirically proved that vision occurred because of light rays entering the eye, and invented the camera obscura to demonstrate the physical nature of light rays. (" Islamic Golden Age -Science. " " Collaborationist's. Com. ). In the same section he is described as the " first scientist" for his scientific method, in which he had shifted focus from human perception to empirical evidence. " Islamic Golden Age -Science. " " Collaborationist's. Com. ). A version of the scientific method based off of Bin al-Hathway's would soon be realized in the Christian world when they Renaissance would come about. In that quote from the website, there was mention of a device that is known as the camera obscura.

This device was one of many to come from the Islamic Golden Age. For a short comprehensive list of technological advances to come from the Islamic Golden Age include: "... The camera obscura, coffee, soap bar, tooth paste, shampoo, distilled alcohol, uric acid, nitric acid, alembic, valve, reciprocating action piston pump, mechanized water clocks, quilting, surgical catgut, vertical-axle windmill, inoculation, cryptanalysis, frequency analysis, three-course meal, stained glass and quartz glass, Persian carpet, and celestial

globe. " Islamic Golden Age -Technology. " " Collaborationist's. Com. ). There are several other inventions that were adopted and implemented by the West before the Renaissance came to be, such as the modernized astrolabe and the hybrid Utrecht. These technologies were around from before the Islamic Empire, but the Muslims innovated upon them and made them much more effective and easier to use. It is safe to say at this point that the Islamic Golden Age could very well be called the Islamic Renaissance if they had wanted to revive the memories and themes of the past.

Fortunately, all they saw was the need to move forward and give the people of the world a better understanding of the world around them. When it comes to science they didn't take the field lightly. That is why they improved on the astrolabe, so that this little tool can provide a better understanding of the cosmos. The field of astronomy in the time of the Islamic Golden Age was based upon the eccentric model, in which the earth was the center of the universe.

The technological advances made in the time period and the brilliant minds from different cultures all over the world help dispel some of the possible misconceptions that the field of astronomy had at the time. Ptolemy's studies and models were taken, gathered by the Hakes and corrected. New fields on astronomy were also introduced, such as the field of astrophysics and celestial mechanics. Several notable Hakes were instrumental in the advancement of the field of astronomy. The evidence for these claims will be cited from Collaborationist's. Mom; " ... After Japer Muhammad bin Mjst bin SSHKirk discovered that the heavenly bodies and celestial spheres were

subject to the same physical laws as Earth, the first elaborate experiments related to astronomical phenomena, the use of exacting empirical observations and experimental techniques, the discovery that the celestial spheres are not solid and that the heavens are less dense than the air by Bin al-Hath, the separation of natural philosophy from astronomy by Bin al-Hath and Bin al-Shasta, the first non-Ptolemaic models by Bin al-Hath and Maddeningly Urdu, the rejection of the Ptolemaic model on empirical rather than philosophical grounds by Bin al-Shasta, the first empirical observational evidence of the Earth's rotation by Nanas al-Din al-Tjis and All Squish, and al-Birdbrain's early hypothesis on "circular inertia." ("Islamic Golden Age - Astronomy." "Collaborationist's. Com."). These individuals are part of a movement that may be called the "Scientific Revolution before the Renaissance," as it is claimed on the Collaborationist's. Com website. Other names for this movement are based upon the school that these scholars originated from, the Marsha School. Other advancements that came from this school deal with the theory of heliocentric vs. Geocentricism. While there was never any general consensus about which theory was "correct," there were experiments done in which the results that were produced supported the theory of heliocentric.

This theory was later reinforced by the experiments of Galileo and other astronomers of the Renaissance period. These claims, however, were shunned by society for religious reasons. In order for the field of astronomy to be better understood, there had to be advancements in the mathematical formulas and equations to better explain the phenomena that astronomy presented. The field of mathematics was greatly influenced by Islam. The most

important of all the advancements made by the Muslims was the development of algebra. There were several other advancements made in terms of the calculus, trigonometry, geometry, and other aspects of mathematics, and each of them in turn were innovated upon by mathematicians during the Renaissance period.

Mathematicians from here focused more on the practical application of math than the theory that the Muslims had focused on. These can be seen in the addition mathematical operators such as plus and minus, as well as new grouping structures such as the cube and square roots of numbers. Algebra however, became a cornerstone for the mathematical field ever since its development in the Islamic Empire. Without it, the other areas of math, like trigonometry and geometry, would have had to base their operations in a different model. Other ways to use mathematics other than in the field of astronomy is in the field of medicine. Medicine is largely dependent upon the culture in the ancient times.

When the Muslims introduced science into the field, it became more universal across the ultras of the world. Before Islamic influence, there were physicians whose soleresponsibilitywas to oversee the diagnosis and treatment of illnesses. The methods employed by these physicians largely depended upon the physician himself. With Islamic influence, treatments of physicians were given more specific quantity and type of medicine to treat a specific illness. This revolutionized the medical world by leaps and bounds all across the world. These mathematical applications also allowed for

timeliness to be given to illnesses to better determine the stage of an illness based upon the symptoms displayed at the time of diagnosis.

One aspect of the medical field that was improved upon by the Muslims and improved upon again by Renaissance men, women and scholars was surgery. The Muslims improved surgery by introducing the practice of dissecting bodies that had recently passed to determine what the cause of death was, the autopsy. Another practice the Muslims had introduced was quarantine. This could have come in handy in the later Middle Ages when the bubonic plague ran rampant across the region. Muslims were also very good at drawing elementary diagrams of various bodily functions and systems, such as the circulatory system of the human body. One Renaissance scholar managed to use this information and build upon it.

Miguel Server was the first person in recorded history to describe pulmonary circulation of the human body. To explain such a thing, the physician would most likely have a working knowledge base of the field of physics. Physics in itself is a universal subject, but in pre-Renaissance times it largely depended upon the accepted social views and on their understanding of natural philosophy. Islam managed to separate the two in a much more effective way than previous attempts had done. The experimental methods that were used by the Hakes allowed for a much more structured and detailed look into the mechanics behind the physical world. One Hacked in particular was fundamental in advancing the field of physics during the Islamic Golden Age.

Bin al-Hath (mentioned earlier who revolutionized the field of optics) is the key player in the advancement of physics. His early version of the empirical

scientific method was crucial in moving forward. Bin al-Hath, along with several other Hakes, had formed crude theories of the laws of the physical world, which Isaac Newton would finalize and come known for. Muslims are also known for their contributions to the arts, but unfortunately the Christian and Islamic view of the arts and humanities varied and often conflicted. In Christianity, the creation and possession of symbols and depictions of God and other Holy things is perfectly acceptable, and at some points in time actually encouraged and enforced.

In Islam, it is almost forbidden for there to be any visual interpretation of God and His realm. The Islamic way to portray God in art was by way of calligraphy and the dome that is present on every Islamic mosque. It is because of this conflict, both in traditions and in beliefs, that one will have a very difficult time trying to make any connections during a specific period in time. During the Renaissance period, it is almost nonexistent. Islam definitely had influence on earlier artwork due to the heavy Islamic presence throughout the Iberian Peninsula, northern Africa, and Spanish regions. As far as the Renaissance goes, they wanted to go back to the roots of antiquity, not the recent past.

Islamic art did actively influence the Renaissance through architecture by way of the pointed arch however. Muslims also made huge advancements in the areas of scientific study, particularly those of astronomy, mathematics, medicine, and physics. These advancements were built upon and innovated even more when the Renaissance men and women came to their own conclusions on the subjects; Galileo on astronomy, Copernicus in

mathematics, Server in medicine, and Newton in physics. These Renaissance men are but a few of the many influential figures who were a part of the Renaissance. It is through the fields of academia that Islam had the biggest influence of the Renaissance, and it is a fact that needs to be more widely known.