Comparison of Islamic Renaissance and Western Renaissance

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ABSTRACT

The comparison between Islamic Renaissance and Western Renaissance reveals similarities as well as the differences between the two. The comparison delineates different aspects of movements such as political rife, dawn of knowledge, art and architecture, slavery and timeframe. As Islamic Renaissance proceeds Western Renaissance so the difference on account of chronology apparently grabs the attention but the tinge of love for knowledge and learning has its nuisance shades prominent in the Western Renaissance. The love of learning has its origins in the translation of classical texts in Western Renaissance while Greek and Persian in case of Islamic Renaissance. The comparison also distinguishes Western Renaissance for its Humanism while Islamic Renaissance possesses its own remarkable identity. Both renaissance movements opened new avenues for the blending of architecture designs. Arts flourished in Islamic Renaissance with its peculiar charm for style and design blend while Western Renaissance incorporated blending with the spirit of individualism in the artworks. Slavery was prevalent in both the renaissance movements but Islamic Renaissance elevated the status of slaves while the Western Renaissance employed slavery for labour. Religious conflicts between Orthodox and Catholics led to Protestant Reforms in Western Renaissance while Islamic Renaissance had its matters of succession in limelight. Both the movements had active participation of women in the society. Economy boost occurred in both the movements but the means of trade, routes and commodities differed from each other. The comparison reveals that the number of similarities outnumbers the number of differences between Islamic and Western Renaissance movements. Analytical and descriptive research methods are used for this research using a qualitative research approach.

Keywords: Comparison, Islamic Renaissance, Western Renaissance, Knowledge in Renaissance, Economy in Renaissance.

1.1 Comparison of Islamic Renaissance and Western Renaissance

A peek at history reveals that Islamic renaissance precedes Western Renaissance. Islamic renaissance begins in eighth century and ends in thirteenth century while Western renaissance ranges from fourteenth century to the seventeenth century. As both movements had their own influence and impact, each one contributed to the rebirth of knowledge in its own way. The comparison of both includes similarities as well as the difference. The similarities are listed as follows:

1.1.1 Similarities

Both renaissance movements have their own uniqueness that sometimes can be found similar and hence, it might be considered a point of commonality. Similarities bring out the aspects found in both the movements that are more or less similar. Some of those features like love for learning, arts and architecture, are discussed below:

1.1.1.1 Dawn of Knowledge

Both movements witnessed the dawn of knowledge. For instance, Islamic Renaissance was marked by the translation movement and it emphasized on the translation on the works of ancient Greeks and Romans.² The philosophies of Aristotle and Plato were being taught. It happened as the 'Abbasid caliphs were quite supportive of the learning and they themselves held and adopted learning attitude. They were highly inclined towards the acquisition of knowledge. Hence, in order to broaden their perspective, rather than harboring a limited perspective confined to the knowledge and literary works of Islamic scholars, a new trend was adopted. Religious knowledge was not comprised for but was held in high esteem.³ The domain of translation movement was based on ancient Greek and Roman works. The translation was imperative as Muslims were not well conversant with the Greek or Roman languages. Hence, translation into Arabic was ensured.⁴

In the era of Saljūq Sultans, the concept of *madrassa* had been the hallmark of learning. Saljūqs ensured the access of education to all and sundry in their empire. Different incentives were provided for the knowledge seekers including the free accommodation as well as the expense of their studies. The purpose was to attract as many the number of students as possible and inculcate the spirit of knowledge seeking among the subjects while enhancing the literacy rate of the society.⁵

On the other hand, the same learning attitude is evident in the form of Humanism in the Western Renaissance. Humanism was a movement that marked the learning of classical Greek and Roman works. For them, the learning of classic literature meant the learning of manners. The movement aimed at behavior change of individuals. It was meant to make them civilized and cultured. It was thought the study of the classical literature had the magic formula for the transformation of an uncivilized man into a suave one.⁶

The purpose of humanist movement extended beyond equipping individuals with manners. It further aimed at making them better professionals in life. The skills of language, office drafts, letter writing, etc. The movement even created a trend of literary and intellectual community. Everyone seemed obsessed to be a part of the intellectual community. It was a massive wave of literacy that swept almost the whole society.

Hence, it is evident that both movements in their eras were prone to the learning of Greek and Roman works, though the approaches adopted were different from each other but both shared the same purpose and perspective i.e. to equip the individuals with the knowledge.

1.1.1.2 Religious Conflicts and Leadership

First off, political upheavals were part of both movements as each one witnessed it in its own way. Opposition was not only confronted but add peculiar tinge to the movement. For instance, the political upheaval in the Islamic Renaissance had the form of opposition met at the hands of 'Alids and they constantly opposed 'Abbasids.⁷ The reason was the non-acceptance of 'Abbasid rule as they didn't consider it justified. They believed that succession of caliphate was a matter of lineage and for that reason; Alids should be the first ones to be selected. For example, during the reign of al-Mansur, there were incidents of revolts. One of the revolts was by Muhammad bin 'Abdullah in Hijāz while another one was being continued on in Basra by his brother Ibrahim. The former revolt was not a successful one while the latter was close to success but was crushed when it reached near to Baghdad.⁸

In the Western Renaissance, the conflict between Catholic Church and Orthodox was evident. Orthodox believed that corruption had crept into Catholics and hence, it needed to purge itself of the vices it imbued. On the contrary, the Catholics were in complete denial of their being the corrupt ones. They had come up with their own beliefs that equality and peace had been part of society by the efforts put up by the Catholics. This conflict having origins in the Dark Ages had reached its farthest when in sixteenth century, the Protestant Reforms were initiated. The objective was the same that Catholics had to be on the same page like the Orthodox Church, following the Biblical text. Protestants were adamant that Catholics be in conformity with the Biblical texts.

1.1.1.3 Architecture Designs

Both the movements were inspired from Greek and Roman architecture. Both employed them in their building designs. The buildings shared the similarities such as the dome, the square shape and columns. The examples of each are as follows: As 'Umayyads were trendsetters in introducing the concept of blend of Byzantine, Roman and Arabic architecture, this trend was followed by 'Abbasid in their reign. For example, the city of Samarra was constructed by al-Mu'tasim and he was more

prone to incorporation of embellished designs in urban planning and imperial city buildings along with the construction of palaces and grounds for military purpose. Even grounds to cater to the sports and recreation needs of Turkish army as well as the caliph was kept in mind. For entertainment, polo grounds and horse tracks were made part of the city. The construction of buildings was as such that whatever the available decorative material, it was deemed imperative to embellish them to create a spectacular effect. ¹⁰

It was not 'Abbasids who were keen to embellish their buildings but the trend setter 'Umayyads example in Spain also continued to do so. For example, 'Abd al-Rahman III who intended to revive 'Umayyad caliphate had planned for a new capital and for this reason, Cordoba had to be replaced by an equally magnificent capital. The plan was to build a city with a rectangular framework but having the influence of 'Abbasids capital Baghdad, the effort was put to come at par with the splendor of Baghdad. No doubt, the framework of the other suburban lands shared similarity with the Roman-Byzantanian architecture but that was the beauty of it.¹¹

A look at the western architecture of Renaissance period also hints at the incorporation of Greek and Byzantine architectural designs into their buildings. It was due to the impact and influence of classics on their works. Architecture had clearly exhibited the blend of old classic and the contemporary style of architecture. The buildings designed had either the rectangular shape or square ones. Sometimes there used to be a dome as well, a remnant of classic times. But the blend of classics and contemporary architecture added a new flavor and exhibited the renewed aesthetic sense of the renaissance movement.¹²

1.1.1.4 Trade

Trade flourished in both movements. There was economic and agricultural boost. The similar aspect was the agriculture. There were advancements in this field in the renaissance periods. Both movements had similarities in imports as both were focused on importing silk as well as condiments. For instance, in Islamic Renaissance in the early 'Abbasid period when Baghdad was the capital city, it had emerged to be a metropolis city and a trade hub. Being situated on the outskirts of Euphrates and Tigris river, the major export was the agricultural output while imports included silk, condiments, textiles, etc. 'Abbasids were able to export agricultural produce on account of the fact that they had produced agricultural products at a massive level. The mass production helped to export it.¹³

In the western renaissance, trade flourished and there was prosperity. Agriculture was the occupation of most of people but as the renaissance approached, there were further developments in it. Farmers were more opportunistic and believed in expanding agriculture. With the passage of time, the population also increased. The greater the number of people, the higher was the pressure on the economy to provide for their needs. The basic needs included primarily food. Without food, it was not possible to sustain large populations. It was also another motivating factor for the

farmers to move from rural to urban areas and explores more opportunities for land for cultivation. It also increased the trend to have the land for agricultural purposes on rent. It increased the prices of food commodities and hence, farmers were demanding more for their hard work. In addition to agriculture, the other areas where trade flourished included mining, woolen fabric, while on the contrary they purchased the condiments from the East. ¹⁴

1.1.1.5 Slaves' Trade

Slaves' trade was part of both movements. They played their different roles in the renaissance movements. For instance, the slaves in the 'Abbasids' era were employed for military purpose. It was for the first time that Turkish slaves were incorporated in to the army. It is one of the distinguishing factors of Islamic Renaissance. It was al-Mu'tasim in the ninth century who had decided to recruit Turks into military. Despite being adept at warfare, the Turks were non-Muslims. Initially, it seemed to be a good decision on the part of the 'Abbasids as Turks were neutral and did not favour any sect of Muslims but soon it proved to be detrimental for them. Turk slaves turned out to be the next Saljūq Sultans and their social status was uplifted in the society from the rank of slaves to Sultans.¹⁵

In Western Renaissance when the Europeans were short of precious metals, then they were in quest of such metals. It led them to come to North Africa and explore its reservoirs. Not only were the reservoirs that require extensive labour but it was difficult task. Europeans were in no position to give up on precious metals. It led to the introduction of slaves in to the mining labour and other physical tasks. Slaves were not only found a cheap way of obtaining metals but they were also transported from Africa to Europe. It led to the death of many slaves as the harsh conditions of the journey claimed their lives. While those who survived were sold and those who were still in Africa, were not only mistreated but were deprived of their human rights. ¹⁶

1.1.1.6 The Role of Women

The role of women is evident in both the movements. For example, in Islamic Renaissance, the women were bifurcated either as free women or the slaved ones. The free ones were further divided into class division and it included women of elite, middle and lower class. The elite women not only enjoyed the luxurious lifestyle but they were also prone to active social welfare works. Their property rights were not usurped and they had the freedom to exercise their own free will in most of the matters. They were quite subjected to gender discrimination and beings linked to royal blood; they relished the same status like their male counterparts. Most of them made generous contributions for the construction of not only the mosques but also for funding free treatment for the patients who could not afford to pay treatment expenses.¹⁷

In Western Renaissance, the women were also under the impact of the on-going

renaissance process. Like Islamic Renaissance women, there was class system. The elite women had better lives as they also given property share. But they were confined to their families and were as such, not active participants in the society. The criteria of participation were that to work and provide support for the family but this could not be achieved in case of elite women. On the contrary, women of middle and lower class were more conscious of their roles as contributors as well as supporters of family. ¹⁸

1.1.1.7 Science

Both movements had scientific contributions and both paved way being the stepping stones when it comes to scientific ideas. Both were highly appreciative of science and promoted this. During the 'Abbasid era, learning was emphasized the most. In fact, it was the hallmark of 'Abbasid era and for this reason the number of achievement in the field of learning have won laurels for Muslims.¹⁹ The knowledge was not simply the religious one to be the only source for the learning but the openminded attitude of 'Abbasids gave room for other learning as well. The other sources of learning were the ancient Greek and Persian works. There was language barrier in the way to learning. Hence, translation was the only way out to have the knowledge of these works. It gave rise to translation movement.²⁰

The onset of translation movement had set its foot in mid-eighth century in the 'Abbasid era. As there were developments regarding the tax and revenue system, it required the skilled persons with grip on mathematics. 'Abbasids also showed interest in astrology so it was also patronized by them. This initiated the study of the Persian texts of astrology. In case of Greek texts, the works of Aristotle were held in high esteem. There were other ancient writers such as the philosopher John Philoponus, Plato, Galen, Euclid, etc. Each one was known for his own contributions. For instance, Philoponus was the commentator of Greek works of Aristotle, while Galen was the physician who played his part in the field of medicine and Euclid was famous for his mathematical contributions. The works available in the Christian monasteries and had survived the wear and tear of time, were then translated into Arabic to make sense of their content.²¹

For all the research and translations to take place, a platform was required. 'Abbasid caliphate provided this platform in the form of an institution called *bayt al-ḥikma*. Literally, it implies 'house of wisdom'. During the reign of al-Mamūn, this institution served at its best and the translation work involved but with the passage of time, the shift towards collection and up-keeping of books was next priority. It so happened when Muslims came to know about the paper making methods invented by China and hence, they not only learnt the methods but applied it for the production of books. The books were then kept at *bayt al-ḥikma* which eventually turned out as a mega-library too. It shows the interest of 'Abbasids in the learning. Another effort in the library trend was by the establishment of *khizanat al-ḥikma*. Literally it implies the treasury of wisdom. It not only provided the service of books

to be read but the institution had other functions to support the cause of learning. It also provided different incentives to appeal the scholars and avid learners to visit it. The incentives included free boarding and lodging for the knowledge seekers.²²

As the time passed by, the astrology was blended with more up-to-date knowledge and it was accomplished by the use of astronomy. Then the astronomical science had more benefits to offer. For instance, by the astronomical learning, one could determine the time of the prayers, the agricultural dates for the sowing and reaping of crops, and to know about the direction of Makkah. It was also employed for cartography. The maps were drawn with the help from astronomy.²³

Mathematics was also paid attention to. The knowledge of mathematics in the Greek and Persian books had begun to be translated in the Umayyad era but it continued on and passed onto 'Abbasid era. By the employment of this knowledge, land surveying was accomplished. There were also other uses of it such as the estimation and calculation of revenues. This knowledge also found its role in creation of burning mirrors. According to science, when the rays of the sun are confined and focused to a single point, it not only generates heat but the intense heat may ignite the sparks and the object upon which the rays are focused, catches fire. It was used as a weapon in those days.²⁴

Medical knowledge was no lesser in significance as compared to other sciences. Initially, in the early 'Abbasid era, the knowledge of medicine had its origin in the Greek texts. The source of this knowledge was Nestorian medical practitioners. By faith, they were Christian but by profession, they were the physicians. For them, use of medicine was not enough and they had upheld their own beliefs regarding the medicine such as the incorporation of philosophy along with the practice of medicine. It gave rise to Hellenic medicine. In the reign of 'Abbasid caliphate, both the Arab Islamic medicine and Hellenic medicine were employed for curing the ill people.²⁵

In Western Renaissance, the scientific works were highly appreciated and they also worked their way out by emphasizing on science. The scientists delved upon the classic texts and poured their energies into learning and inventing. The different fields were in limelight such as mathematics, astronomy and geography. There was high emphasis on experimentation and superstitions were losing grounds. On the basis of experiments, new theories and laws were being formulated.²⁶

Science was held in high esteem by the Medici family and hence, they not only patronized arts but also science.²⁷ Classic writers especially the Greek ones, had revived the idea that everything was created in a way that laws explained it and those creations were in complete unison with the laws. Such ideas led to increased interest in science disciplines such as astronomy, mathematics, geography, etc.

Another distinguishing factor of science in the Western Renaissance was the employment of experimentation to prove or refute a theory or a law. Every discipline of science began to rely upon experiments to see the outcome. Superstitions were subjected to tests and when no valid proof or grounds were

found, it was rejected. Then the words of science had to be supported by evidence by experiments. Failing to meet the criteria consequently led to rejecting and discarding the words.²⁸

Galileo was a renowned scientist and to his credit were to enhance the efficiency and effectiveness of telescope, experiments on falling objects and their timing, etc. Then there was Copernicus who came up with the viewpoint that in the solar system, the earth was not at the center but it was the Sun which happened to occupy the central position in the solar system model.²⁹

1.2 Differences

Differences between the two movements imply that at some point, each has characteristics that are unique and that distinguish one from the other. The striking differences were in the field of artwork, architecture and slaves. Both movements had a different approach towards these aspects. The brief overview of differences is discussed below:

1.2.1 Timeframe

It is evident that Islamic Renaissance precedes Western Renaissance. The chronological order also is evidence to it, for Islamic Renaissance begins at the end of 'Umayyad downfall in mid-eighth century while the onset of Western Renaissance has its origins in the fourteenth century. The end of Islamic Renaissance then, is the beginning for the Western Renaissance. It implies that the tinge of Islamic Renaissance leaves its marks on Western Renaissance.³⁰

1.2.2 Artwork

Individualism was characteristic feature of western renaissance. It was so much so dominant that it had led to the freedom of expression in artwork. The artists chose to paint the joys of people. They used to draw portraits. With their portraits, they used to capture the life swing of Renaissance. Every painting did have its own dimension and it was on part of the observer to infer the dimension for it. The purpose of drawing portrait and people conveyed the power of people, their lives as the most important as compared to other aspect such as government. The paintings were in fact an expression of the spirit of renaissance in a way that it reflected the society enjoying itself.³¹

In Islamic Renaissance, the artwork found its way in the form of crafts such as carpet weaving, pottery, woodwork, etc. Each one was unique in the sense that it was a blend of Arabic as well the Roman, Byzantine and Persian art as well. Expression of the artist could be found in the craft but it conveyed the enrichment of culture. It exhibited the diversity the society had welcomed.³²

1.2.3 Architecture

The architecture of Western renaissance was inspired from the Humanism. For this

reason, it had a vivid tinge of Greek and Roman structure in architecture. The construction of buildings was such that either they were having a square shape or rectangular. Domes were the prominent feature of the buildings. ³³ On the contrary, the architecture of Islamic Renaissance was different on account of the amalgam of designs in building construction along with the urban city planning. The framework included the blend of Arabic, Persian and Roman architecture. The buildings were constructed on the basis of the three architecture designs. The 'Abbasids not only inspired from the Persian and Roman designed buildings but added their own designs to make it look innovative.³⁴

1.2.4 Slaves

The conditions of slaves in Islamic Renaissance were comparatively better than those of Western Renaissance, but only in case when the Turk slaves are incorporated into the army for enhancing military power. This is the only case which can be differentiated from the Western Renaissance. The reason is that slaves in Islamic Renaissance were also exploited for labour, be it mining or agriculture labour. There was mining labour for the quest of precious metals such as gold and for precious stones such as diamonds. Also, the concept of domestic slavery and concubinage was prevalent in 'Abbasid times.³⁵ On these grounds, slavery becomes parallel to Western Renaissance for it was practiced in Europe as well for the same purposes of domestic slavery and labour.³⁶ The only remarkable difference in slavery emerges out when Turk slaves are incorporated by 'Abbasids in army to take back Baghdad from the Buyids. Soon the Turks were uplifted from the status of slaves to that of Saljūq Sultans. Hence, they enjoyed better life.³⁷

1.3 Conclusion

On the whole, be it the points of similarities or the differences, the relationship between the two movements exist in the form of comparison. The similarities link up the two movements and the different aspects have quite the similarity. For instance, in case of slavery, it was prevalent in both the movements and more or less, it served the same purpose i.e. slaves were used for domestic labour. On the similar grounds, the aspect of architecture had common features such as the blending of architecture of the classics as well as the contemporary. Likewise, the field of seeking knowledge was no different when it comes to be sharing similar features, such as the love of learning was evident in both the movements. For Western Renaissance it was the love of and inspiration from the classics while in Islamic Renaissance, the love for learning and source of inspiration were none other the study of ancient Greek and Persian texts.³⁸

A look at the differences reveals that both movements, irrespective of the similarities they share with each other, also have distinct features that make them different. For instance, slaves achieving the status of Saljūq Sultans is characteristic of Islamic Renaissance, elite women actively partaking in welfare works and contributing for

charity, translation movement and foundation of bayt al-hikma in 'Abbasid era and blending of arts in different forms by getting inspired from the ancient Greek and Persians. On the contrary, Western Renaissance also was different and unique in its own sense; for instance, individualism was the major characteristic that was evident in the art works, literature and music of Europeans. The Humanism had been the hallmark of Western Renaissance for it mattered to such an extent that the mannerism was to be inspired from classics. Also, Humanism, led to the trend of education that created professionals and were adept at reading, and writing skills. Both movements played their part in making history and the significance cannot be overlooked.³⁹

References

¹Ferguson, W. K. (1948). *The Renaissance in Historical Thought*. Toronto: AMS Press, p.284.; Saliba, G. (2007). *Islamic Science and the Making of the European Renaissance*. MIT Press, pp.45-50; Tamari, S. (2009). Between the "Golden Age" and the Renaissance: Islamic Higher Education in Eighteenth-Century Damascus. In *Trajectories of Education in the Arab World*. Routledge, pp.52-74. ²Al-Hashem, S. (2001). Translation and its Pioneers at Bayt al-Hikma. *The 'Abbāsid Bayt al-Hikma: The Long History and the Vision of the Present (in Arabic)*. *Baghdad, Iraq: Bayt al-Hikma*, pp.548-573.

³ Ibid.

⁴Al-Hakim, H. (2001). Bayt al-Hikma and its Influence in the Baghdadi Houses of Science. *The* 'Abbāsid Bayt al-Hikma: The Long History and the Vision of the Present (in Arabic). Baghdad, Iraq: Bayt al-Hikma, pp.415-430.

⁵ Ibid.

⁶Kraye, J., & Jill, K. (Eds.). (1996). *The Cambridge Companion to Renaissance Humanism*. Cambridge University Press, p.121.

⁷El-Hibri, T., & Hibri, T. (1999). *Reinterpreting Islamic Historiography: Harun al-Rashid and the Narrative of the Abbasid Caliphate*. Cambridge University Press, pp. 321-348.

⁸Ibid

⁹Elias, J. L. (2002). A History of Christian Education: Protestant, Catholic, and Orthodox Perspectives. Malabar, FL: Krieger Publishing Company, pp. 97-136.

¹⁰Abdullahi, Y., & Embi, M. R. B. (2013). Evolution of Islamic Geometric Patterns. *Frontiers of Architectural Research*, 2(2), pp.243-251.

¹¹Yassin, A. A., & Utaberta, N. (2012). Architecture in the Islamic Civilization: Muslim Building or Islamic Architecture. *Journal of Islamic Architecture*, 2(2), pp. x-15.

¹²Ward, W. H. (1926). The Architecture of the Renaissance in France: A History of the Evolution of the Arts of Building, Decoration and Garden Design Under Classical Influence from 1495 to 1830 (Vol. 2). BT Batsford, pp. 95-157.

¹³Bennison, A. K. (2014). *The Great Caliphs: the Golden Age of the Abbasid Empire*. Yale University Press, p.98.

¹⁴Brotton, J. (2003). *The Renaissance Bazaar: From the Silk road to Michelangelo*. OUP Oxford, pp. 116-123.

¹⁵Hanne, E. J. (2007). *Putting the Caliph in His Place: Power, Authority, and the Late Abbasid Caliphate*. Fairleigh Dickinson Univ Press, p. 298.

- ¹⁶Earle, T. F., Earle, T. F. E., Earle, T. F., & Lowe, K. J. P. (Eds.). (2005). *Black Africans in Renaissance Europe*. Cambridge University Press, pp. 289-341..; McKee, S. (2008). Domestic Slavery in Renaissance Italy. *Slavery and Abolition*, 29(3), pp.305-326.
- ¹⁷Hanne, E. (2005). Women, Power, and the Eleventh and Twelfth Century Abbasid Court. *Hawwa*, *3*(1), pp.80-110.; El Cheikh, N. M. (2015). *Women, Islam, and Abbasid Identity*. Harvard University Press, pp. 132-164.
- ¹⁸Brown, M. L., & McBride, K. B. (2005). *Women's Roles in the Renaissance*. Greenwood Publishing Group, p. 33.
- ¹⁹Anjum, S. (2014). A significant of Bait Al-Hikmah in Development of Scientific Work in Abbasids Period and Downfall of This Revolutionary Institute. *International Proceedings of Economics Development and Research*, 73, p.45.
- ²⁰Ibid
- ²¹Ibid
- ²²Ibid
- ²³Charette, F., & Schmidl, P. G. (2004). Al-Khwarizmi and Practical Astronomy in Ninth-Century Baghdad. The Earliest Extant Corpus of Texts in Arabic on the Astrolabe and Other Portable Instruments. *SCIAMVS*, *5*, p.101.
- ²⁴Elsohemy, D. (2004). The Characteristics of the Abbasid Empire.Dar Al-Arqam Islamic Centre, pp.1-24
- pp.1-24 ²⁵Azimi, R. (2014). Medical Sciences Specializations in Buyid Era. *Journal of Islamic and Iranian Traditional Medicine*, *5*(1), pp.94-99.
- ²⁶Ogilvie, B. W. (2008). *The Science of Describing: Natural History in Renaissance Europe*. University of Chicago Press, pp.15-27.
- ²⁷Blair, A., & Grafton, A. (1992). Reassessing Humanism and Science. *Journal of the History of Ideas*, pp.535-540.
- 28 Ibid
- ²⁹Ibid
- 30 Ibid
- ³¹Hartt, F., & Wilkins, D. G. (1987). *History of Italian Renaissance Art: Painting, Sculpture, Architecture*. Thames and Hudson, pp.37-39..; Millon, H. A., & Lampugnani, V. M. (Eds.). (1994). *The Renaissance from Brunelleschi to Michelangelo: the Representation of Architecture*. Thames and Hudson, pp.156-175.
- ³²Hillenbrand, R. (1999). *Islamic Art and Architecture* (p. 39). London: Thames and Hudson, p.86.
- ³³Brown, P. F. (1997). *Art and life in Renaissance Venice*. Prentice Hall, p. 74. ³⁴Hillenbrand, R.. *Islamic Art and Architecture*, p. 39.
- ³⁵Malik, J. (2008). Chapter Three. Slaves, Sultans And Dynasties (Approx. 1000–1400). In *Islam in South Asia*. Brill, pp.87-113.
- ³⁶McKee, S. (2008). Domestic Slavery in Renaissance Italy. *Slavery and Abolition*, 29(3), pp.305-326.; Caffentzis, G. (1999). The End of Work or the Renaissance of Slavery. *A Critique of Rifkin and Negri, Common Sense, December*, (24), pp.20-38.
- ³⁷Malik, J. Chapter Three. Slaves, Sultans And Dynasties (Approx. 1000–1400). In *Islam in South Asia*, pp. 85-110.
- ³⁸Kennedy, H. *The Early Abbasid Caliphate: A Political History*, pp. 156-159.
- ³⁹ Ibid.