

# Large-Scale Structures in Ilkhanid Architecture and Gothic Style of Europe

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## ABSTRACT

The mutual experience of European architecture during the transmission phase of Romanesque (around 11th and 12th centuries) to Gothic style simultaneous with Mongol invasions and political revolution from Seljuk empire to Ilkhanids have been assumed as a turning point through Iranian and European architecture. Thus, clarifying its mutual properties is one of the controversial discussion topics related to architecture history. This project aimed to investigate the effective factors influencing the coincidence of deformation of proportions during Ilkhanid and Gothic eras. It also analyzes the existence of different archetypes according to the hypothetical-inductive methods to answer the question "what was the role of religion in the deformation of architectural proportions during Ilkhanids and Mongols' eras?". According to the results about Ilkhanid and Gothic architecture, theory, and practice have been intermingled in a way that no border can be defined between religious principals and the mentality of placement in high-rise structures for linking to God and creating high-rise structure for guarantying such a link. In addition, according to most of scholars, the increasing dimensions of the structures in two different geographical regions of Iran and Europe resulted from political tensions and benchmarking reciprocal achievements. Therefore, it seems that the rising movement of architecture in two different architectural styles of Ilkhanid and Gothic eras have passed two distinguished courses and two factors of "the highest" and "the brightest" distinguish the architectural mentality of two different regions.

**Keywords:** Ilkhanid Architecture, Gothic Architecture, Religious architecture, Large-scale Architecture, Architectural Proportion

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## Introduction

Although martial conflicts of western world and Asian lands have had a rising and falling history, the danger of full dominance of Central Asia with the centrality of Mongols on the cultural geography of Europe was clearly felt around 13th century for the first time (Rogers, 1996). Simultaneous with such a change in the political geography of the world, the birth of a new attitude in the architectural styles of Europe and Iran with technical characteristics of more height, wider interior space, and greater architectural proportions became prevalent in the architectural system of both regions (Liu et al., 2014; Acland, 2013; Hillenbrand, 1999: 255). Accordingly, before any construction during Ilkhanid era, its topography was concerned for studying previous archetypes in order to create larger and higher constructions (Hamadani, 1995: 1367). As an illustration, Sultan Sanjar 's Tomb in Marv was studied to build Ghazanieh in northwestern Iran which was larger than it (Hamadani, 1358: 998) and Khosro Palace which was considered in Ctesiphon to construct higher "Alishah Mosque" in Tabriz and northwestern Iran (ibid, 999). Simultaneous with such a construction revolution in the east and before that in Europe, general structure of Romanesque cathedrals in which the ratio of the height to the length of the building was low and its internal space seemed half-dark was revolved. A general Gothic cathedral was recognized with a continuous floor and significant height and a large inner space. Western architecture provides the first concrete manifestation of this attitude in the structure of St. Denis Cathedral; its repair and extension date back to 1144 AD and its follow-up samples were proactive compared to the Eastern counterparts (Davis et al., 2005: 383). In the preliminary examinations, the sudden rise of buildings during Ilkhanid era returns to the experience of existing archetypes in the conquered European territories and their benchmarking (Hillenbrand, 1999: 256). In this respect, this study aimed to analyze effective factors in the rising movement of Ilkhanid architectural style in Iran and Gothic style in Europe. It also introduced two separate mentalities on the development of such an approach for two cultural domains of Iran and Europe, rejecting the theory of mere benchmarking Ilkhanid architecture from western archetypes.

### Research Theory and Methodology

In the modern archeology and "process-orientation" influenced and inspired by the school of science orientation or "critical rationalism", the emphasis is on the point that archeological studies should be conducted to

solve a problem or answer existing questions about research topics. For this purpose, first all questions should be answered in the form of scientific hypotheses and necessary data should be collected for evaluation, measurement, and criticizing these hypotheses. The benefit of this scientific method, known as the hypothetical-referential approach in the archeological literature, is that the researcher deals with the data that is useful in answering the questions and hypothesis evaluation. Moreover, emphasis on the verticality of the buildings and increased inner space for more closeness to the holy God can be interpreted in the framework of gnostic approach. Accordingly, every manifestation is a sign of a being and every appearance comes from inside and every secret leads to the reality and all of them come back to God. Thus, secret and symbolic language in theosophy and art needs decoding. Along with such an attitude, the increase of architectural proportions during Ilkhanid era and the spread of inner space of the church in Gothic era can be explained with gnostic content (Moosavi, 2012: 93); since, in this attitude, the main emphasis is on joining God. This mindset affects the totality of the architecture and the architecture with wide proportion and spread space makes this experience easy and possible. Structural analysis of dominant mentality in Ilkhanid architectural revolutions with uniaxial attitude emphasizing historical separate periods have been interesting topics for the researchers of Iranian architecture 's history (Kiani, 2013: 56; Ajourloo, 2011; Goshayesh, 2013; Moshtagh, 2013; Poorpira, 1998; Giyasi, et.al 1985; Giyasi, et.al. 1997). Ajourloo introduced Ilkhanid architectural features and the height of the buildings as the most striking distinctive feature of Ilkhanid architectural style from previous periods (Ajourloo, 2011). Although researchers have drawn a distinct boundary between Seljuk and Ilkhanid architectural styles and have introduced increased dimensions and the desire to raise the building as the distinction between these two styles structurally, experts have not analyzed the quality of this transformation as it deserves. In respect of foreign scholars, the results of the scholars such as Blair, Bloom, Etinghousen, and Grabar are limited to the physical description of the remaining samples to a large extent so that rooting the changing proportions and dimensions of the buildings has been shadowed (Etinghousen and Grabar, 2009; Blair and Bloom, 2009). Despite the ideas of active scholars in the field of Islamic art and architecture, Hillenbrand 's studies describe and interpret architectural data; However, his interpretations from remaining Seljuk and Ilkhanid constructions don't lead to identifying the revolutionary

trend of architectural proportions of the buildings of that era (Hillenbrand, 2013). In his famous work titled "Islamic architecture of Iran in Ilkhanid era", Willber emphasizes the interests of Ilkhanid people in creating large-scale buildings (Willber, 1987:82). After Willber, Brambilla uses the term "large scale" for discriminating built constructions in the post-Seljuk era (Brambilla, 1980). However, he does not analyze the reasons for this change in two different Ilkhanid and Seljuk architectural styles. Studying the structure of Gothic archetypes in Europe in terms of time and foundations with the highest similarity with architectural archetypes is a new field in interpreting architectural data. According to the obtained results, increased inner architectural and spatial proportions of Gothic church compared to the Romanesque samples was clearly felt; however, its reasons have not been analyzed (Bork and mark et al., 1997; Smith et al., 2013; Mark et al., 1973; Heyman, 2015; Fitchen, 1961; Block and Ochsendorf, 2007; Andreu, 2014; Fraternali, 2009). In an article titled "Rising design in the Gothic architecture", Liu identifies the bright characteristic of Gothic style in the sharp vertical lines in an attempt to direct the observer's view towards the sky (Liu et al., 2014). On the conflicting issue of the effect of architectural styles on Iran and Europe, Hillenbrand believed that the role of 12th century of Europe preceded Ilkhanid's role in innovating and spreading rising buildings with larger interior spaces (Hillenbrand et al., 1999). In his idea, the primary archetypes of distinct Romanesque architectural style were built in Europe in gothic architectural style. Then, their technical features including stretched proportions, direct emphasis on the verticality and wide inner space were transferred to the cultural area of Iran due to their geographical, political, and military ties with Iran in Ilkhanid era (Hillenbrand, et al. 1999).

#### **Mentality of Seljuk Architecture and Its Subsequent Development in Ilkhanid Era**

During Seljuk period, supporting Sufis for gaining the companionship of the people with the policies of the ruling class became common (Boyle, 2001: 99). That era's scholars were trying to reconcile between the religion and law, moderating the skepticism towards Sufism. Following the mentality of the rulers, Sufis considered the battle with the infidels as an obligatory requirement of the worship (Fashahi, 1976: 112) and this was very favorable. On the other hand, the issue of the necessity of Islamic legitimacy of Seljuk rulers against enemies such as the Ismailis and the Fatimids doubled the need for a religious propaganda (Boyle, 2001: 120). Based on the common thinking in Islamic society of that time centered on the scholars such as Imam Mohammad Ghazali, wisdom was found to be too

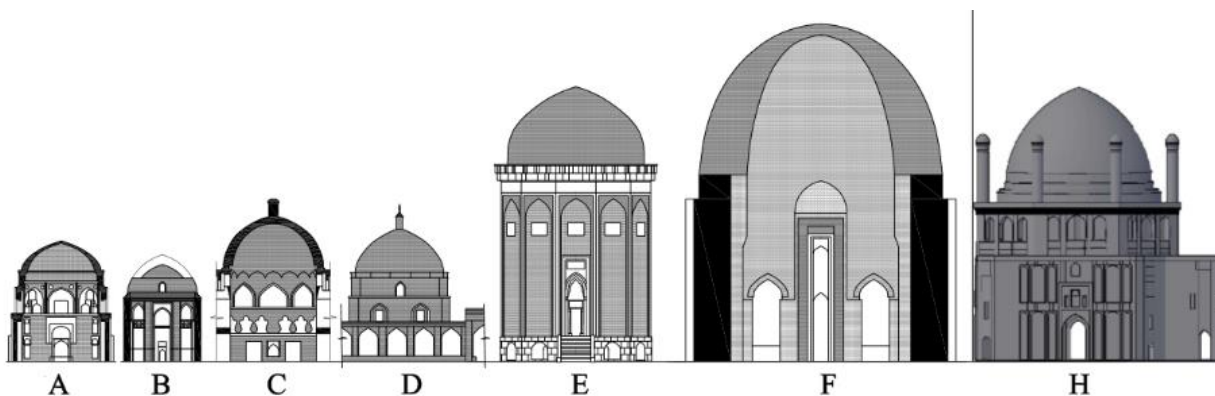
weak in reaching religious facts (Fashahi, 1976:207). Thus, by developing rational sciences, any attempts for advertising metaphysical sciences for getting close to God and weakening the role of religion in the earthy and secular trainings were highly concerned. Consistent with such an attitude, low buildings with thick walls became common; it was to reveal the dominant features of Seljuk architecture by defining the concept of God in the terms such as "the great power" or "almighty creator" (Tekin, 2011). They were in the frame of tight and dark general appearances, simple outside view, humble height, horizontal lines, and multiple architectural units during Seljuk era (Acland, et al., 2013:154). Because, with such a mindset, attempts for connection to God were inefficient. Thus, earthy appearance was ideal for the architecture (Melville, et al., 2012). However, the dominant ideology of Ilkhanid era confirmed the end of prevalent darkness age of previous era and the disappearance of negative mentality of previous era towards the world (Biran, 2013: 251); also, the capability of closeness to God through high geographical points and constructing the buildings with vertical proportions became possible (Eliade, 2011 :58; Garoose, 2015: 352; Melville, 2012). In this respect, the totality of religious activity changed its module in an attempt to remove the borders between God and man (Allsen, 2012: 91). Improving such a mindset along with the technological progresses in designing and developing architectural elements affected the dominant architectural structure of Seljuk era, making the architectural module of Ilkhanid era corresponding to the concepts of high, elevated, and bright (Ayorloo, 2011:200; Acland, et.al. 2013). From this view, Ilkhanid architecture can be recognized as religious, social, political, and technological purification of God and man's relations. In this vein, the architectural nature of Seljuk era did not respond to the requirements of the Middle Ages of Iran during Ilkhanid era (Fashahi, 1976: 281; Tekin, 2011).

#### **Shamanism and Its Effective Foundation in Making the Architectural Mindset of Ilkhanid Era**

According to the ideas of most researchers, religious laxity was the main feature of religious principles of Ilkhanids in Iran (Shirinbayani, 2011; Razavi, 2010). However, despite religious revolutions in other nations, religious unity of this tribe had never confronted serious threats, preserving its Shamanistic roots (Eliade, 2014; Casanowicz, et al. 2009; Hultkranz, 2013). Religious literature introduces shamanism as "the flight of soul" and "secretive flight" in the state of ecstasy for connecting to God and discovering the secrets of creation to preserve its continuance (Eliade, 2011; Harner, 2010; Hultkranz,

2013). Shamanism's ideology is based on the connection of Shaman with the structural layers of upper, middle, and lower world; while, the middle world introduces tangible human world, the upper and lower worlds are beyond time and place limits. Spiritual flight to the upper world and penetration in the layers of earth for taking assistance from God and healing souls form the theoretical foundations of shamanism (Eliade, 2011; 102; Harner, 2010; Ingerman, 1991). Although Shaman is a healer and wizard besides other abilities, he is an expert of ecstasy by which the soul gets out of the body, ascending the heavens (Eliade, 2014:57). Even without referring to the esoteric legends, sky is the symbol of dominance and power of its nature (Eliade, 2011:57) in a way that the simple observation of sky stimulates a religious experience in the conscience of human life. Sky is superior since it is elevated and this makes it holy and inaccessible to the humans. It is the place of stars and galaxies and has a divine position. Such areas are gods' home and elites such as *Shaman* and his followers reach it, thanks to the rituals for ascending the heavens (ibid, 58). In the esoteric Mongol literature, even when the concrete name of sky did not exist, some adjectives such as "elevated, transcendental, bright, and as such" can be frequently found. Etymology of "tangeri"-the god of sky- reveals that being high and elevated corresponds to being powerful and deplete with God's purity (Eliade, 2011: 58). The belief is that attempts for a direct connection to the sky makes the essence of

shamanism (Eliade, 2011:99). In this respect, access to high geographic points of the land plays a major role in shamanism since elevation causes the connection of heavenly god to his earthy representative "Khan" (Harner, 2010). This belief has a close link to the idea that at the upper world, vertical elements such as mountain, tree, and column and at the lower world, every human settlement can be a reflection of the world's center (Eliade, 1989: 379). From this view, every architecture that facilitates penetration or ascension to the sky is saint, providing the religious requirements of shamanism (Harner, 2010). In the traditional culture of Mongols, there is a deep relationship between sky and earth for sending sacrifices, oblations, and accepting prays (Eliade, 2014: 404). While ascension to the sky is specific to shaman, the world's center is a place for the people where their connection to the sky becomes possible. For this reason, natural high elements such as mountains and large-scale buildings with elevated architectural proportions were also considered ideal to be the world's center (ibid, 405) (Fig. 1). Burial geography of Central Asia is complex and interesting. Their belief was that benefactors go to the heavens after an earthy death (Grim, 2013: 289). Thus, the attempts for the ascension of a deceased person such as constructing burial architecture with leptokurtic dimensions would be vital and important (Drury, 1989:68).



**Fig. 1.** The trend of dimensional and proportional changes of buildings from Seljuk era until Ilkhanid era (author).

A. Twelve Imam Tomb of Yazd (429 A.H.); B. Kharaghan Tower (460 A.H.); C. Dome area of Jame Mosque of Qazvin (507 A.H.); D. Dome area of Jame Mosque of Urmia (5th century A.H.); E. Ghazaniye Tomb (According to Wilber) (678 A.H.) (Wilber, 1987: 136); F. Hypothetical plan of Ali-Shah Mosque (Before new discoveries) (722 A.H.) (Mansoori and Ajorlo, 2004); H. Soltaniye Tomb (710 A.H.)

### **Romanesque Architecture and the Role of Holy Places in the Development of the Dominant Mindset About It**

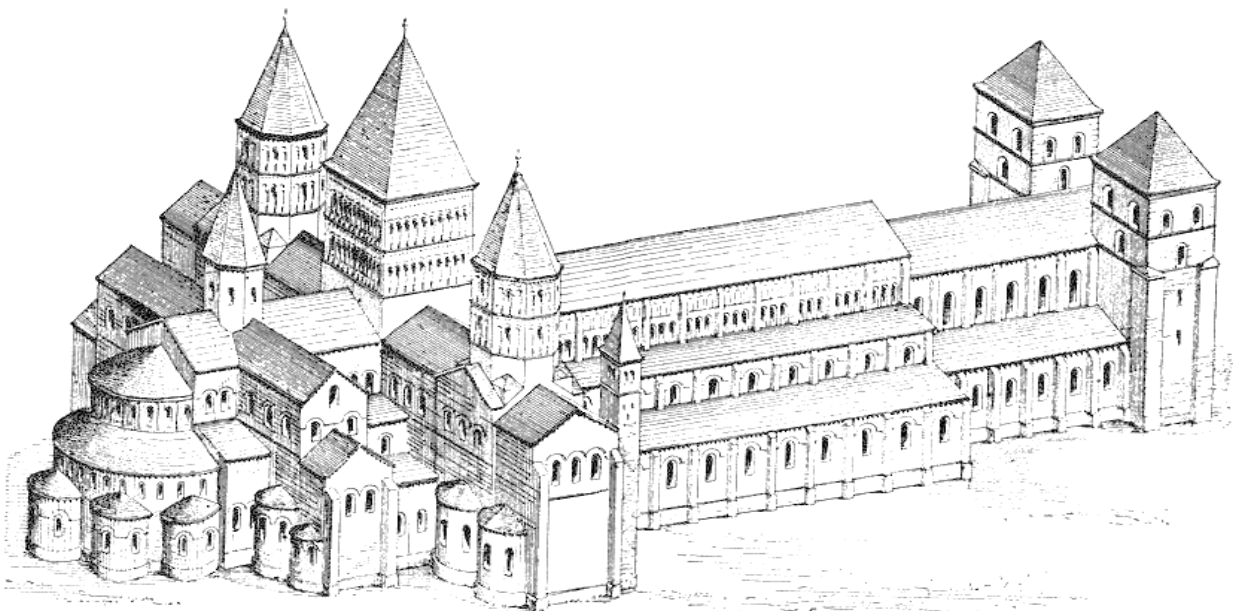
Cultural anthropologists have tried to explain the reasons of popularity and unbelievable importance of

pilgrimage in the Middle Ages. It seems that pilgrims would enter a specific space by going on such trips where a sense of common experience replaced social norms and hierarchies (Bhardwaj and Rinschede, 2013: 102). Escaping from daily concerns, especially after a period of

social chaos resulting from crusades was very attractive for the pilgrims of that time (Davis et al., 2010, 347). Among holly places of Europe, the Tomb of Saint James in Santiago de Compostela of the northwestern Spain, that was the most western point of Christian Europe, was one of the most significant places. James was a missionary who advertised Christianity in Iberian Peninsula and was returned to the same place after death. Rumors about the amazing power of this tomb attracted many pilgrims to this holly place from all over the Europe. Many people had to bear a difficult trip, go on a cruise, and pass Pyrenees with difficulty to visit the tomb of this saint. Bearing difficulties added to the attractions of their trip. Since most of Spain was under the governance of Muslims, pilgrims found travel to Santiago equal to the travel to the holy places (ibid, 348)

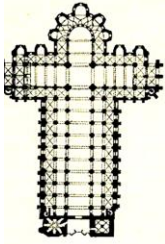
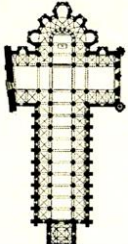
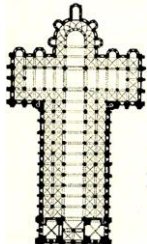
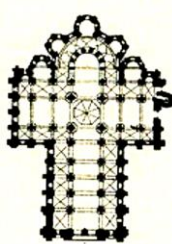
The most important feature of Santiago Cathedral included a side passage surrounding the cathedral, shaping an area around the altar. Visitors used these places even when religious ceremonies were conducted in different sectors of the cathedral that circled around it (Nolan, 1992: 98) (Fig. 2).

Halls of the cathedral, which were a small sample of long trip of pilgrims to Campostella, and the light from small and without-row spaces of above windows all created a half-bright and safe space, which was effective in such a mindset. Following such an attitude and imitating the plan of Santiago Cathedral, large cathedrals with different sizes and details used such a plan in the pilgrim passages. Accordingly, an important cathedral was built with such a plan in each of four pilgrim paths of Campostella (Davis et al., 2010:348) (Table.1).



**Fig. 2.** Plan of Santiago de Compostela Cathedral and the passage around the nave of the cathedral whose facade was articulated with small windows and a floor for creating a smooth and half-bright space.

**Table 1.** Architectural plan of cathedrals in the pilgrim path<sup>1</sup> of Santiago Cathedral whose feature is the aisle around the nave with small windows for creating a half-bright aisle. (Davis et al., 2010:348)

Saint Martin in Tour	Saint Marshal in Limoges	Saint Sernin in Toulouse	Saint Foi in Conex
			

It seems that the mentality that the buildings of cathedrals in Romanesque era were represented in small with smooth light originated from the second golden architectural age of Byzantium. Since in that time, construction was based on the small size and dark areas to create intimacy for the limited space among pilgrims and cozy atmosphere for repenting the sins in the low light inside (Whitehill, 1968: 158). In this respect, the smooth light enters small windows and entrances, providing the

requirements for reticence to worship in the cathedrals of Romanesque era (Gonzalez, 2010: 255). Light openings in combination with half-lighted space within the cathedral guided pilgrims to the altar of the cathedral to save them from the darkness of inside (Whitehill, 1968: 158) Thus, the spatial combination of soft light and half-lighted atmosphere of the cathedral was very favorable over that period (Fig. 3).



**Fig. 3.** Half-lighted space of St. Sernin in which soft light ended in the altar of the cathedral (Author).



**Fig. 4.** The Basilica of St.Sernin in Toulouse, France (Davis et al., 2010: 358)

#### **Light and Its Place in Developing Theoretical Foundations of Gothic Architecture**

In the 13th century AD, Catholicism in Saint Aquinas found a thinking basis as wide as Saint Agustin and Saint Jerome who were famous catholic thinkers 850 years ago. Saint Aquinas who was Italian studied in Cologne and taught in Paris. In his teachings, he used wisdom for understanding and identifying belief in God. His teachings had a deep effect on the Europe 's thinking. Coordination of rationalism and spirituality acknowledged systematic study of natural phenomena for identifying heavenly facts effectively. Gothic constructors had common features with teachers; they linked engineering and scientific rationale and principals

especially light science to the revelation, using physical forces for the adoption to the spiritual experiences in construction in the same way as the teachers used expression for making their discussion (Davis et al., 2010: 384). Plato was the first known researcher in relation to the light whose valuable research around 360 BC was among the most important physical discussions in this field. At the same time, Euclid was the first scientist who suggested the use of geometry in describing kinetic light mechanism within visual conical theory (Gilson, 2012: 119). Ptolemy modified and developed this theory later (90-168 BC). He was the first who explained Aristotle 's theory in relation to the sky 's causality using light geometry (ibid, 163). In the 10th

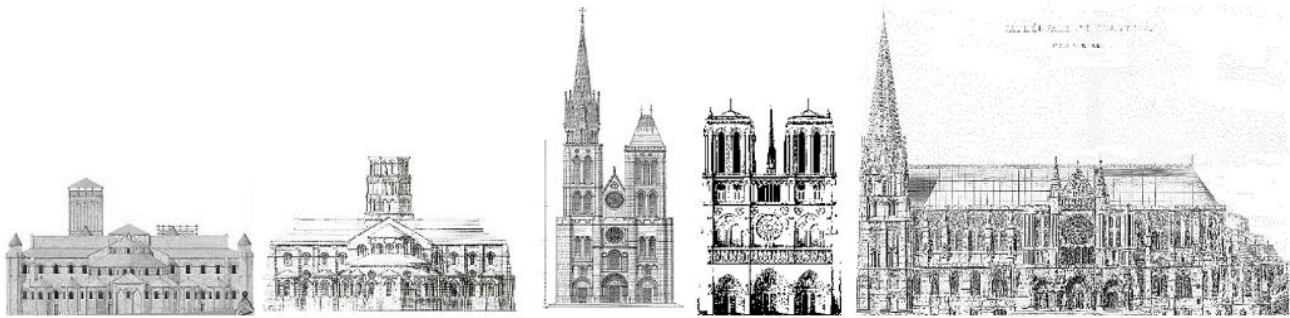
chapter of his four books, Ptolemy states that the position of earthy residents depends on the emitted light angle they receive in a point of earth from the sky and gods (Lindberg, 1967). Later, suggested concepts by Ptolemy entered early Christianity speeches along with the writings of Agustin and Dionysius. In this respect, Agustin introduced the suggested light in Ptolemy's theories as the holy divine light and the closest fact by which man can gain a wide knowledge of the natural world. Dionysius defined a system for determining creation hierarchies using Ptolemy's concepts based on which light and its geometrical angle are the requirements of creating any spiritual relationship between man and God (Gilson, 2012: 224). Since 9-12th centuries, the most important advances in the science of light borrowed much from the writings of Islamic researchers such as Farabi (850-950 AD) and Ebn-e-Sina (980-1037 AD) (Eastwood, 1968). In the second half of 12th century AD, a big flood of European researchers gathered to translate Greek and Islamic works including scientific theses in Spain. Although thinking permeability of Islamic world in the western world was unprecedented, new interest in light, metaphysical quality of brightness, and its relationship with the material world was suggested in the cultural geography of Europe; also, primary concrete manifestations of it became practical in one of the most glorious cathedrals of the Middle Ages, Saint Denis (d'Alverny, 1982: 421). Parallel with such an attitude, the difference of internal space of Saint Denis and previous cathedrals rests in its internal indescribable lightness; since, in that building, windows are so big that they are almost half-translucent walls filled with colorful glasses (Davis et al., 2010, 386). About Saint Denis cathedral, the report of Suger stresses its lightness as the most important value he found in that building. He believes that the lightness inside the cathedral is heavenly, having signs of the Holy Spirit (ibid). In the heart of spiritual attention of Suger to Saint Denis, the belief is that material domain is a place for the spiritual thinking; thus, the gem-like light that shines from the colorful glasses of the cathedral's windows amaze the viewers. Accordingly, when the necessity of reconstruction and development of Saint Denis was felt around 12th century AD, Suger changed its architectural proportions with the thought of creating a very light space (ibid, 387). This building and the mentality behind its inner

structure led to a new architectural style in Europe called Gothic style (Heyman, 2015; Block and Ochsendorf, 2007; Mark et al., 1973). Although with the spread of Gothic architecture in Europe, its aesthetic aspects were distinct in different areas (Rosenberg, 2013), the main feature of Gothic style, including inner spatial spread of the cathedral along with the increase of the proportions of the building for absorbing more light were put in the works of the architects (Andreu, 2014; Fraternali, 2015). Grosseteste (1168-1253AD) was the first author who posed new interests in relation to the science of light after Suger. Mixing the theories of Islamic researchers with his thoughts led to the production of the first European thesis on the science of light (Grosseteste, 1864: 89). Based on the theory of Grosseteste, all creatures, especially man have a share in the divine light; thus, worship in a space full of light will lead to benefiting from God's blessings (Mc Evoy, 1982: 356).

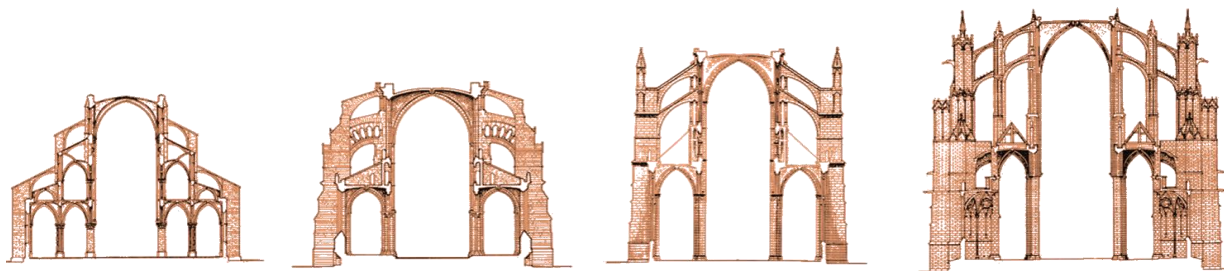
About Gothic architecture, it seems that more height for absorbing more light in the inner space of the cathedral affects the architectural features of the cathedrals in Gothic era (Rosenberg, 2013). By spreading the idea of holiness related to the light in the Gothic architecture, spiritual value of the cathedral's building found a close relationship with the bright space inside it in a way that the highest building was brighter and holier than previous samples. In this way, increasing height in the buildings of late Gothic era can be explained considering the early samples (Acland et al., 2013) (Fig. 7).



**Fig. 6.** The interior space in Chartres Cathedral (Davis et al., 2010:348)



**Fig 5.** The trend of changing dimensions and proportions of cathedrals of Romanesque era into the cathedrals of Gothic era (author). From left to right: Santiago Cathedral, Saint Serenin, Saint Denis Cathedral, Notre Dame Cathedral, and Charters Cathedral.



**Fig. 7.** Gradual increase of the height of Gothic cathedrals for creating high windows and attracting more light in its inner space (Author). From left to right: Notre Dame Cathedral, Charters Cathedral, Rim Cathedral, and Bourges Cathedral

#### **Increase of Architectural Proportions in the Buildings of Ilkhanid Era and Cathedrals of Gothic Era**

As Eliade mentioned, founding just religious and spiritual centers is not the requirement of making the place holy; its building and form need changes proportional to the place in a similar way as well (Eliade, 2011: 347). It seems that the results of the researchers of architectural history on the increased architectural proportions from Seljuk style to the Ilkhanid style and exercised changes of the Romanesque architectural revolutions into Gothic architecture can be obtained using phenomenology. Phenomenology refers to the attempts for understanding and finding facts in the specific and uninterpretable lightness of themselves (Moosavi, 2012: 68). In the Islamic architecture from the view of phenomenology, for suspending everything around the external existence of the phenomenon, analysis and evaluation of the elements of the phenomenon itself instead of examining its concrete and external facts are concerned. Thus, the historical origins and the effects of civilizations and architectural proportions of different areas regarding phenomenology are not examined (Moosavi, 2012: 69). On the other hand, it seems that the results of Iranian and western research on the changes of the buildings' physical features during Ilkhanid era in Iran and Gothic era in Europe have been considered by the traditional archeology. Since, from this view, cultures are just

reflected in the remaining material and the architectural samples represent a specific group or tribe. However, the goal of process-oriented archeology is explaining data rather than describing the archetypes, emphasizing their reasons, and suggesting a timetable for the technical features of the buildings. Although in the traditional archeology, reconstructing historical-cultural sequence has been the main issue of the researchers, identifying exercised changes in the architectural styles is among the important issues to consider in the process-oriented archeology.

This world and its relationships are a reflection of the spiritual world. Artistic works created by the supporters of the architecture are the earthly symbols from the fantasy power and superior worlds. Although based on Hillenbrand, close political, business, and economic relations and martial conquests of Europe by Mongols are involved in the mutual effects of the architectural styles, it seems that two different thinking trends in two geographical areas have also affected the changes of the architectural styles. Based on such a view, during Ilkhanid era, the concept of more height was considered. The building was built higher to shorten the path to God; while, in the Gothic architectural style, the concept of more light was more favorable to prepare the space for benefiting the holy light of God (Liu et al., 2014)

## Conclusion

Height is an issue out of the reach of humans, belonging to the superior-than-human powers or beings. In addition, the one who climbs a temple, takes the ritual steps, or is settled in a light and high building that reaches the sky is not a human anymore and leaves human limitations behind by the ascension to the sky<sup>2</sup>. Thus, the concepts of “divinity”, “elevation”, and “superhuman” influence the entire construction, pilgrim, and the settler (e.g. deceased person) in the construction. About Ilkhanid architecture, it seems that shamanism teachings led to the development and specific orientation of Ilkhanid architectural style. Based on the mystic interpretations, Ilkhanids extracted beyond-time and place principals from shamanistic teachings and gnosis that were effective in the formation of Ilkhanid architecture, separating Iranian architecture in Ilkhanid era from before that. This theory in the Ilkhanid community in which gods were the rulers and the rulers were the manifestation of them on earth led to an advanced religious monarchy whose important achievements were large-scale constructions with vertical proportions for removing the borders between earthly and heavenly gods. About architectural revolutions in Europe along with Ilkhanid era in Iran, however, the sudden increase of dimensions and the height of constructions were the significant features of the changing Romanesque style into the Gothic architectural style, despite Ilkhanid architecture’s high-rise buildings in Gothic style, built for providing brighter spaces. Based on the gnostic approach, it is concluded that Ilkhanid and Gothic architectural styles were a set of architectural work whose foundation consisted of the most central and focal divine teachings. In other words, Ilkhanid and Gothic architectural styles had common features in the form and content based on the specific gnosis, which gave a common spirit to them; in a way that if other architects built these constructions, they would consider the same religious principals again.

Despite the existing results implying the direct effect of western architecture on the Ilkhanid architecture resulting from the direct political-economic contacts and increased architectural proportions in the Ilkhanid constructions, large-scale architecture in two diverse cultural areas of Asia and Europe followed two different religious mindsets. So that the rising height of Ilkhanid archetypes and the larger inner space for gaining more light in the Gothic cathedrals of Europe are distinctive factors for differentiating two different Ilkhanid and Gothic styles.

## Notes

- 1- Saint Martin in Tour (on the Paris path), Saint Marshal in Limoges (on the Veslai Path), Saint Foi in Conex (on the Lepoi path), and Saint Sernin in Toulouse (on the Saint Jill de Gar) (Davis et al.,2010: 348).
- 2- For the Iroquois tribe consisting of Indians-Americans living in Canada and New York, whoever has Orenda is called Oki; it means the one who is residing above. We even observe a holly and heavenly being, named “Oke” (Pattazoni, 2010: 310). Siv tribes have a magical-religious power (Mana, Oranda and etc) named Wakan which is close to Wankan meaning above or on the top phonologically in the language of Dakotan. The superior god of Maori is named Iho meaning high. Akposo Blackamoor believes in Uvolavu meaning the one on the top (Eliade, 2011:59).

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## Conflict of Interest

Authors declared no conflict of interest.

## References

- Acland, J., (2013). *Medieval structure: the gothic vault*. U.S: university of Toronto press.
- Ajorloo, B., (2011). An introduction to the architectural style of Azerbaijan. *Scientific and Research Quarterly of Bagh-e-nazar*. 7(14): 3-14.
- Allsen, Thomas., (2012). *Culture and Conquest in Mongol Eurasia*. England: Cambridge University Press.
- Andreu, A., Gil, L., and Roca, P., (2014). Computational analysis of masonry structures with a funicular model. *Journal of Engineering Mechanics*. 133(4): 473–480.
- Bhardwaj, S. M., and Rinschede, G., (2013). *Pilgrimage in World Religion*, Geographia Religionum. Berlin: Dietrich Reimer Verlag publications.

- Biran, M., (2013). *The Empire of the Qara Khitai in Eurasian History: Between China and the Islamic World*. London: Cambridge University Press.
- Blair, Sh., and Bloom, J., (2009). *Islamic art and architecture (2)*. Translated by Ajand, Y. Tehran: Samt Publication.
- Block, P., and Ochsendorf, J., (2007). Thrust network analysis: A new methodology for three dimensional equilibria. *Journal of the IASS*, 48(3): 167–17.
- Bork, R., Mark, R., and Murray, S., (1997). The openwork flying buttresses of Amiens Cathedral. *Journal of Architectural Historians*, 56 (4): 52-63.
- Boyle, J., (2001). *History of Iran. From appearance of Seljuk era until downfall of Ilkhanids*. Translated by Anoshe, H., Tehran: Amirkabir Publication.
- Brambilla, M., (1980). *La communita ed il cimitero Armeno di Sultaniya. Studi e Restauri di Architettura, Italia-Iran*, Roma, 87–93.
- Casanowicz, L., (2009). *Shamanism of the natives of Siberia. Annual Report of the Smithsonian Institution*. Chicago, IL: University of Chicago Press.
- d'Alverny, Marie-Thérèse., (1982). *Translations and Translators. Renaissance and Renewal in the Twelfth Century*. Ed. Robert L., Benson., Giles., Constable., and Carol., D., University of Toronto Press.
- Drury, N., (1989). *The elements of shamanism*. England: Element Books publication.
- Eastwood, Bruce S., (1968). Mediaeval Empiricism: The Case of Grosseteste's Optics. *Speculum*, 43(2): 306-321.
- Eliade, M., (1989). *Patterns in comparative religion*. Paris: Sorbonne University Press.
- Eliade, M., (2010). *A thesis on the history of religions*. Translated by Satari, J., Tehran: Soroosh Publication.
- Eliade, M., (2011). *Shamanism: Archaic techniques of ecstasy*. Princeton, NJ: Princeton University Press.
- Eliade, M., (2014). *Shamanism, old techniques of ecstasy*. Translation by Mohajeri., M., Qom: Adyan Publication.
- Etinghousen, R., and Graber, A., (2009). *Islamic art and architecture (1)*. Translated by Ajand, Y. Tehran, Samt Publication.
- Fashahi, M., (1976). *An introduction to the thinking trend in Middle ages*. Tehran: Guttenberg Publication.
- Fitchen, J., (1961). *The Construction of Gothic Cathedrals—A study of medieval vault erection*. England: Oxford University Press.
- Fraternali, F., (2015). A thrust network approach to the equilibrium problem of unreinforced masonry vaults via polyhedral stress functions. *Journal of Mechanics Research Communications* 37(2): 198–204.
- Fraternali, F., Angelillo, M., and Fortunato, A., (2009). A lumped stress method for plane elastic problems and the discrete-continuum approximation. *International Journal of Solids and Structures*. 39(25): 6211–6240.
- Garoose, R., (2015). *Fielders' Empire*. Translated by Meikade, A., Tehran: scientific and cultural Publication.
- Gilson, Simon A., (2012). *Medieval Optics and Theories of Light in the Works of Dante. (Studies in Italian Literature)*, U.S: Edwin Mellen Publishing.
- Giyasi, Jaafar A., (1985). *Yaxin Uzaq Ellərdə*. Baku: Azerbaijan National Academy of Sciences.
- Giyasi, Jaafar A., (1997). *Me'mar XacəƏlişah Təbrizi: Dövrü & Yaradıcılığı*. Baku: Azerbaijan National Academy of Sciences.
- Gonzalez, J. J. Martin., (2010). *Historia de la Arquitectura. Italy: El arte* Publication.
- Goshayesh, F., (2013). *History of Islamic architecture and art from Mongols until the end of Qajar's era*. Tehran: Efaf Publication.
- Grim, J.A., (2013). *The shaman: Patterns of Siberian and Ojibway healing*. Norman, OK: University of Oklahoma Press.
- Grosseteste, Robert., (1864). *Castel Off Loue (Chateau D'Amour or Carmen de Creatione Mundi)*, Hansebooks publication.
- Hamadani, R., (1979). *History of Mobarak Ghazani*. Gathered by Carl Yan and Hertford, England: Stephan Austin Publication.
- Hamadani, R., (1995). *Jame- al- Tavarikh*. Edited by Roshan., M., and Moosavi, M., Vol.2. First Ed. Tehran: Alborz Publication.
- Harner, M., (2010). *The way of the shaman: A guide to power and healing*. New York: Harper & Row Publications.
- Heyman, J., (2015). The stone skeleton. *International Journal of Solids and Structures*. 2(2): 249–279.
- Hillenbrand, R., *Islamic architecture*. Translated by Ayatollahzadeh, B., Tehran: Rozaneh Publication.
- Hillenbrand, Robert., (1999). *Islamic Art and Architecture*. US: Thames and Hudson Press.
- Hultkranz, A., (2013). *Shamanic healing and ritual drama*. New York: The Crossroad Publishing Company.
- Ingerman, S., (1991). *Soul retrieval: Mending the fragmented self*. New York: Harper Publication.
- Kiani, M., (2013). *History of Iranian architecture and art in Islamic era*. Tehran: Samt Publication.
- Lindberg, David., (1967). *Alhazen's Theory of Vision and Its Reception in the West*. *Isis*, 58(3): 321-341.

- Liu, C., and others. (2014). Upward design: from Gothic Architecture to Skyscraper. *Journal of Applied Mechanics and Materials*, 638: 2185-2188.
- Mansoori, S.A., and Ajorloo, B. (2004). Recognizing the Alishah Arg and its main uses. *Fine Arts Journal*, 16(16): 57-68.
- Mark, R., Abel, J. F., and O'Neill, K., (1973). Photo elastic and finite-element analysis of a quadripartite vault. *Experimental Mechanics*, 13(8): 322-329.
- McEvoy, J., (1982). *The Philosophy of Robert Grosseteste*. New York: Oxford University Press.
- Melville, Ch., (2012). *The Impact of the Mongol Invasions on Iran, Iraq and Central Asia: A Reevaluation*. Indo-Mongolian Society Lecture, England: New York University.
- Mendelson., M., (2009). Saint Augustine. *The Stanford Encyclopedia of Philosophy*
- Moosavi, S.R., (2012). *Phenomenology of stylistic studies* Tehran, Adyan Publication with the cooperation of Islamic art school Publication.
- Moshtagh, K., (2013). *Iranian architecture and art in ancient times and Islamic era (with selected set of architectural art of Islamic countries) and 84 pictures of life*, Tehran: Azadandishan Publication.
- Nolan, M. L., (1992). *Christian Pilgrimage in Modern Western Europe*. London: The university of North Carolina Press.
- Pattazoni., D., (2010). *The Melanesians*. London: Oxford university press.
- Pourpira, N., (1998). *Architecture and art of Islamic lands*. Tehran: Karang Publication.
- Razavi, S.A., (2009). *City, politics, and economy in Ilkhanid era*. Tehran: Amirkabir Publication.
- Rogers, G. S., (1996). An Examination of Historians' Explanations for the Mongol Withdrawal from East Central Europe. *Journal of East European Quarterly*, 30(1): 3-26.
- Rosenberg, G. (2013). The Functional Aspects of the Gothic Style. *Journal of the Royal Institute of British Architects*. 43(4): 273-290.
- Smith, F. W., Harvey, W. J., and Vardy, A. E., (2013). Three-hinge analysis of masonry arches. *Journal of Architectural Historians*. 43(2): 36-51.
- Tekin, B. B., (2011). *Understanding the culture of Anatolian Seljuks; An evaluation in the light of art history*. International Seljuk Symposium. Erciyes Univesity: Center of Turkish world researches.
- Whitehill, W. M., (1968). *Spanish Romanesque Architecture of the 11th Century*. England: Oxford University Press.
- Willber, D., (1987). *Islamic architecture of Iran in Ilkhanid era*. Translated by Faryar, A., Tehran: Company of Scientific and Cultural Publication.