

ARCHITECTURE OF BUILDINGS AND STRUCTURES. CREATIVE CONCEPTIONS OF ARCHITECTURAL ACTIVITY

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FORMATION OF ARCHITECTURE OF CHRISTIANITY AND ISLAM AS AN EXPRESSION OF THE CONCEPT OF THE COORDINATES SYSTEM IN SPIRITUALLY-REAL SPACE

Principle of formation of religious architecture of Islam and Christianity are considered subject to concept of the coordinates system in spiritually-real space. The integrants of this conception such as reference point of coordinates system, direction of conduction of a prayer, point of conduction of a prayer are examined.

Keywords: coordinates system in spiritually-real space, reference point of coordinates system, direction of conduction of a prayer, point of conduction of a prayer, symbols of Christianity and Islam.

Introduction

Features of formation of architecture are one of exciting questions of both applied and fundamental architectural science. Extraordinary interest causes formation of cult architecture, as architecture in which the many senses are concluded and which affects all surrounding socio-cultural and architectural context. Cult buildings and constructions, as ideologically and aesthetically comprehended in a greater degree, apply

for acting as an ideal, icons by which people are guided and on which it is necessary to focus all other buildings. In the world context they become symbols of the society with characteristic religious features.

It is necessary to pay greater attention to the meaning content at designing and construction of new religious constructions as deeper understanding of the essence of this or that cult building will help to erect more interesting and expressive building. Having in hands the manual for designing cult buildings where not only elements of a building and their purpose would be described, but also meaning content, an architect will easier cope with a problem.

Note for example difference in architecture between an Islamic mosque and a Christian temple. It is highly improbable to find a person who cannot distinguish a mosque from a Christian temple and distinguish an accessory of these buildings to this or that religion. It means that distinctions are essential. The purpose of the research is revealing laws of formation of Christianity and Islam architecture on the basis of essence features of each religion.

System of Coordinates in Spiritual Space

Christianity and Islam are abrahamic religions. Abrahamic religions are also called as religions of revelation, because their doctrines are based on revelation [1].

Besides Islam has appeared six hundred years later, and has adopted much from Christianity that is why they have much in common. First, they are monotheistic religions.

Followers of Islam and Christianity believe in the unique God. However Moslems always reproached Christians that in Christianity the God is presented into three views: the God-father, the God-son and Sacred Spirit, unlike the Muslim Allah. Nevertheless, Christianity is characterized always as monoteistic religion. Secondly, these religions base their doctrines on the same facts and historical events. For example, the same prophets are presented in Islam and Christianity such as Moses (Musa), Abraham (Ibrahim), Isaac (Ismail), and Jesus Christ (Isa).

Thirdly, structures of the Universe are similar in these religions. Moslems and Christians trust that the world has three elements in its structure. The top element is heavenly world (in Christianity paradise, in Islam “janna”) where angels [2] and Allah are and where devout Moslems live after their death. The average world is the terrestrial world where humans live. The bottom world is underground world: “hell” in Christianity and “jahannam” in Islam.

The structure of the Universe of any of religions can be named **as the system of coordinates in spiritual space** (more specifically, system of the spiritual coordinates setting perception of the world and understanding of human place in it. System of coordinates is the complex of definitions realizing a method of coordinates that is a way to define position of a point or a body by means of numbers or other symbols [3] (Fig. 1).

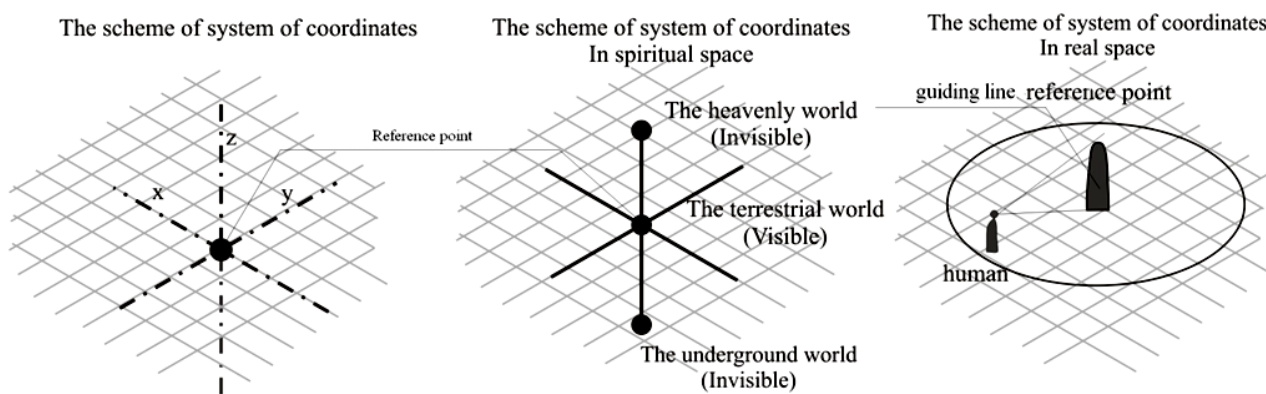


Fig. 1. Kinds of systems of coordinates

The system of coordinates is set by a reference point that is the central point relative to which the place of other object is defined. From human point of view the Universe is anthropocentric. It means that the central reference point in this spiritual system of coordinates is human world. Thus, we can say about spiritual space invisible to usual eye. There is the system in this space. In this system there are elements designated above and there is a terrestrial world. This is the central element because it provides possibility to fix this system due to its materiality. Human is oriented in spiritual space, he knows his place in the Universe, he has the coordinates in it. So invented term reflects essence of structure of the Universe.

System of Coordinates in Real Space

The system of coordinates in spiritual space is a special case of the general system of coordinates of a human. Besides the system of coordinates in the spiritual space, satisfying spiritual need, a human needs the **system of coordinates in real space** (see Fig. 1) which he can create artificially and also he can use a natural landscape as system. It is set by object dominating over height which is perceived from everywhere and represents as a reference point of the system of coordinates (a point of orientation) in real space. It can be a natural object, for example, a mountain or artificial object. The system of coordinates in real space actually consists of set of the various reference points perceived by a person while orientating in a space.

These are advertising signboards of shops, correlation of volumes, colors, stippling of buildings and surroundings. However from great variety of such elements a person always has to isolate the main object as a reference point which sets global system on a ground, and other elements fill the system (a fabric and a framework) [4]. Global natural points of the kind are Mount Fuji in Japan, Ararat near Yerevan in Armenia, etc. Artificial reference points are television towers (Ostankino in Moscow, Eiffel Tour, objects of construction dominating over height).

System of Coordinates in Spiritually-Real Space and its Display in Cult Architecture of Christianity and Islam

Let's consider interaction of systems of coordinates in spiritual and real spaces. A reference point of system of coordinates in spiritual space was created for "affixment" of a human in material world. Affixment of this point is carried out by erection of a cult object.

This object not always can possess characteristics of a high-altitude dominant, however in most cases in the structure of settlement properties of dominating object are given to it. It is notable for its height and architecture that is why it becomes the central reference point of two systems of coordinates.

Thus, two systems interact with each other and turn into one system of coordinates in spiritually-real space.

Let's consider elements the system of coordinates in spiritually-real space consists of. First of all, the system of coordinates is given by a reference point.

Concepts "direction of conduction of a prayer" and "point of conduction of a prayer" are also important.

In Christianity the system of coordinates in spiritually-real space is **local in nature**. It means that any Christian temple or a cathedral is a reference point which specifies a system of coordinates in spiritually-real space on local area.

Architects carefully search for a place before they construct a Christian temple. It should be a visible, high place so that a reference point for system of coordinates in spiritual space may be a reference point for system of coordinates in real space.

A place under a temple becomes sacred, and subsequently a temple cannot be transferred any more.

In 20-30-e years of the last century Bolsheviks tried to annihilate Christian religion. Not only did they blow up or pull down temples transforming them in toilets and warehouses but they also "muffled up" Orthodox religion by erection of monuments of V. I. Lenin and "council houses" on the places where churches were. They tried to replace old religion by new, atheistic religion.

As an example we refer to unexercised project of Palace of Congresses in Moscow designed on a place of exploded Temple of Christ the Savior which is the main temple of Russia, or to the monument to the leader of proletariat (Fig. 2) erected on the place of destroyed Cathedral in Ekaterinburg (Fig. 2).

One of the important characteristics of system of coordinates in spiritually-real space is **direction of conduction of a prayer**. In Christianity this vector points from bottom to top.

a)



b)



c)



Fig. 2. The Temple of Christ the Savior in Moscow (a), the Palace of Congresses (b), the Cathedral in Ekaterinburg (c)

d)



Fig. 2 (end). The building of administration in Ekaterinburg (d)

A person praying in a temple addresses to the God asking Him defining **a point of conduction of a prayer**. Therefore all Christian architecture “aspires”. It “connects” the terrestrial world and heavenly world (see Table).

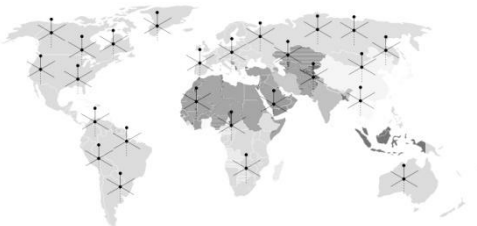

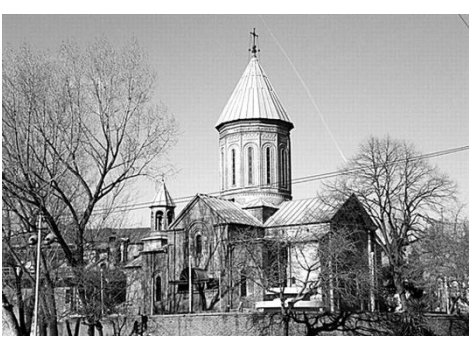
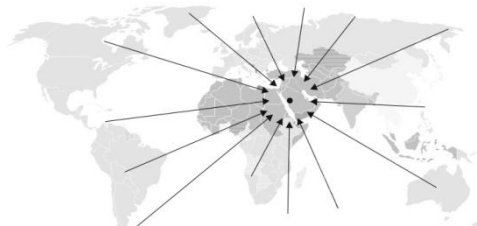
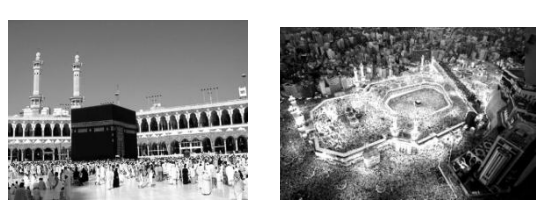

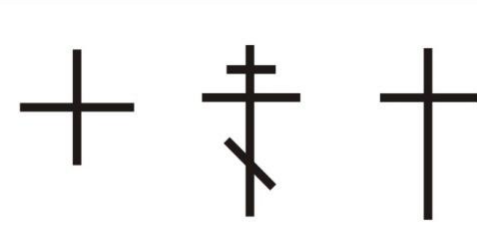
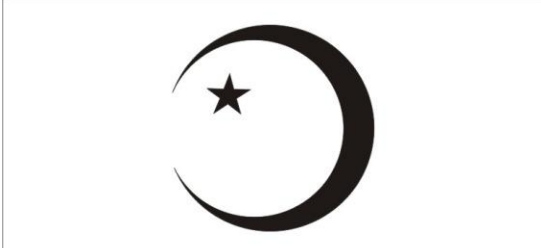
In Islam the system of coordinates in spiritual and real space is divided into two systems. The system of coordinates in spiritual space is **global in nature**. A Moslem prays five times per day, addressing aside Mecca, Sacred Stone — Kaaba. Kaaba (Arab. “a cube”) that is the main sanctuary of Islam [5.]

Kaaba is a reference point of Muslim global system of coordinates in spiritual space. For inhabitants of Mecca mosque Al Haaram in which Kaaba is situated is a point of system of coordinates in spiritually-real space, but for the Moslems who are far from Kaaba, it is a point only of systems of coordinates in spiritual space because they don't have an opportunity to see it. Thus, a direction of conduction of a prayer for Moslems is horizontal (see Table), that is why architecture of Islam has the orientation extended across. Summing up, it is necessary to note, that in Islam **a direction of conduction of a pray** (cibla) is horizontal, and **a point of conduction** of a prayer can be in any place of the globe (see Table).

There are minarets in architecture of islam. Minarets are the vertical elements dominating over surrounding buildings. This is reflection of system of coordinates in a real space. The magnificent expressive composition of a mosque is created due to contrast of forms applied in volumetric-spatial composition. The basic building is “split”, and a minaret contrasts with it. A minaret is construction made for informing Moslems about time of a prayer. As it has been told the system of coordinates in spiritual space of Moslems has a reference point — Kaaba. It does not coincide with a reference point of system of coordinates in real space because of remoteness of Kaaba and impossibility to apprehend it visually. The reference point of system of coordinates in real space should be always near to a person, therefore it has appeared in the form of a minaret which doesn't break the general horizontal orientation of architecture of Islam.

Table

Comparison of Christian and Muslim systems of coordinates in spiritually-real space

	Christianity	Islam
System of coordinates in spiritual space	<p>Distribution of local system of coordinates in spiritually-real space</p>   <p>Cathedral Santa Maria del Fiore, Florence, Italy</p>  <p>Sacred Nikolay's church, Georgi</p>	<p>Distribution of global system of coordinates in spiritual space</p>   <p>Kaaba. Mecca. Saudi Arabia</p>  <p>Friday mosque in Herat. Afghanistan</p>
System of coordinates in real space		
Symbolics Religions	 <p>LTR: Greek cross, Russian cross (of sacred Lazar), Catholic cross</p>	 <p>Half moon with a star inside</p>

Thus, we can conclude, that the system of coordinates in spiritual space can be global and local, and system of coordinates in real space can be only local. A person cannot live in a space without a vertical dominant — reference points in real space. More precisely he cannot live in horizontally directed architecture. Paperny [6] who studied architecture of Soviet time noted that in 1920-50-s Soviet architecture in the beginning had a horizontal orientation which however was quickly replaced by orientation upwards. Probably such change is characterized by the same discomfort which person feels in horizontal architecture.

Uniformity of Spread of Christianity and Islam

For Christianity each new temple is a “capture” of new local territory on which Christian religious authority spreads. Each temple is a small local system of coordinates in spiritually-real space. In Islam no “capture” occurs, a reference point of global system of coordinates in spiritual space has already been chosen by Muhammad. It is Kaaba.

Thus, if one pays attention to quantity of branches and separated churches and doctrines in Christianity and Islam he will to see that in Christianity there is a plenty of branches and the separated churches and doctrines: It is due to the fact that the further Christian doctrine spreads, the more different versions of this doctrine appear. Christianity is not incorporated by one reference point of system therefore there are many versions of the doctrine.

In Islam there are only two basic branches: a Shiism and sunnism. There is no radical difference between them. In history of Christianity there were dissonances, there were new versions of interpretation of the Script caused emergence of new branches in Christianity. Architecture of Christianity differs on stylistics. There are different styles: Romance, Gothic, Renaissance, classicism, baroque, rococo, Russian style, etc. In Islam architecture there is no radical difference between styles.

Symbolics of Christianity and Islam

A symbol of Christianity is a cross. However, when analyzing this symbol one can see that a cross is two crossed sticks making a point. Bur system of coordinates in spiritually-real space is formed by a reference point that is by cross of three axes (two terrestrial, horizontal and one vertical). Thereoret, the essence of Christian religion is reflected in the symbol. A symbol of Islam is a half moon with a star inside. Assume that a half moon is a designation of a circle around Kaaba which is created by people when they pray, and the star is Kaaba.

Conclusion

There is a system of coordinates in spiritually-real space which consists of two (system of coordinates in spiritual space and system of coordinates in real space).

A Christian temple is a reference point of this system which connects three levels. A point of conduction of a prayer coincides with a reference point of system and a direction of conduction of a pray is vertical, cult architecture of Christianity has orientation upwards.

For Christianity this system is dual (consists of two systems) and local. In Islam system of coordinates in spiritual space is global and does not coincide with system of coordinates in real space. The direction of conduction of a pray is horizontal, and a point of conduction of a prayer can be anywhere. Cult architecture of Islam has a horizontal orientation. But as the system of coordinates should be in real space, it is expressed in minarets. Comparing Christian and Islamic architecture by entered concepts it is possible to draw conclusion a person feels psychological discomfort in without vertical dominants.

Scientific novelty of research consists in the following:

For the first time integrated aspect is considered in which the essence of religious world-view is synthesized with visual perception of real space. This forms new knowledge of cult Christian and Islam architecture;

For the first time the concept “system of coordinates in spiritually-real space” and its components are determined;

On the basis of synthesis of spiritual coordinates with visually-real coordinates of a person the conclusion about uniformity of spread of religions is drawn. Explanation of the meaning content of the symbols of Christianity and Islam is offered.

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