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## THE SPATIAL ORGANIZATION OF SACRAL SQUARES IN THE CITY SYSTEM

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**Abstract.** The organization of sacral squares of historical cities, which not only emphasizes the importance of sacral objects, but also plays an important role in the formation of the spatial structure of the city, is researched. On the basis of our analysis, the peculiarities of formation, which allow to preserve an aesthetic and spiritual value of the squares during the centuries, are studied.

**Key words:** church, sacral square, temple, spatial organization, sacral space.

### 1. Introduction

Sacral architecture is a manifestation of spirituality and aesthetic tastes of the community. It has always been a decisive factor in shaping the outlook, culture, and tastes of its inhabitants. No less important is the area around the temple which not only increases the importance and the sacral meaning of the building but also forms the harmonious environment of the city itself. There are numerous examples of churches the surrounding territory of which contradicts the environment and cannot be perceived harmoniously. Accordingly, the need to study and identify the benefits of sacral squares that were formed by architects and for several centuries have retained a huge aesthetic and spiritual significance has aroused.

A considerable amount of scientific works both conducted in Ukraine and abroad is focused on the objects of sacral architecture. Most scholars pay their attention to the architecture of the object itself, and not to the formation of the surrounding space. The problem of canonical orientation and laying of temples is considered in the works by P. Rappoport (Rappoport, 1974, 43–48) and G. Kazakov (Kazakov, 1994, 135–136). The researcher Y. Taras emphasises the value of the arrangement of sacral objects to the site accomplishment. (Taras, 2000, 306–330; Taras, 2006) Yuriy Kryvoruchko stresses the importance of sacral objects in the spatial structure of the city:

*Sacral objects in the spiritual environment of the city are “the most spiritual of the spiritual” (as traditionally – “holy saints” – the altar in the temple is called here). Since the spirituality of the city consists of the spiritual sphere objects in the broad sense (science, education, culture, art, faith) and the perfect organization of the main urban elements (natural basis, urban fabric, society), then the “spirituality of the spiritual” creates objects of religion that perform sacred functions, that is spiritual in their most complete, direct and deep sense (Kryvoruchko, 2001, 135–141).*

While investigating the formation of the historical sacral landscape of the city, the researcher stated:

*Sacral objects in the architectural and planning structure of the city are subjects of a certain hierarchy, which determines their significance in shaping the urban image. According to the suggested classification, all sacral buildings could be divided into two levels. The objects of the first level create the image of the whole city, and the objects of the second level – the local layer, which do not dominate the silhouette but form the image of a separate area, square or street (Kryvoruchko, 2006, 34–64).*

The meaning and significance of sacral objects in the compositional structure of the city is deeply developed by G. Osychenko (Osychenko, 2007, 135–141).

## 2. Basic Theory Part

It has been a long tradition in Ukraine that to emphasize the grandeur and spiritual significance of the location of church the most beautiful and highest place in the landscape was chosen: Kyiv Pechersk Lavra, St. Sophia Cathedral, St. Andrew's Church in Kyiv, St. George's Cathedral in Lviv, Church of St. John the Baptist in Bila Tserkva. In some areas, the church was being built on such a high hill that one has to make a lot of physical efforts to reach it (e.g., Church of the Annunciation of Holy Virgin in Tuchne, Peremyshliany district, Lviv region). In cities with dense building constructions and flat landscape, it is much more difficult to identify the importance of sacral object via its spatial structure.

However, there are lots of churches constructed in dense building areas which are perceived as much important as those built on a hilly site. The main planning technique to make the temple noticeable in the environment is to arrange a square around it which will improve its visual perception and emphasise its importance. The perfect composition with a dominant which arranges the local area of the city around it is obtained when using this technique. In its turn, the streets that connect the set of such local centers increase the attractiveness of space perception. As we walk along the streets with the composition described above, a gradual change of scenes from the enclosed space of narrow streets, where the sight is limited, to spacious squares opens to the viewer's eye. There is an opportunity to slowly cover all the aesthetic values of the city environment which is formed on the basis of sacral squares with an excellent architecture of its temples.

The experience of Italy, where the warm climate and dense urban development patterns are predominant is worth mentioning here. For example, in Rome, at the end of the nineteenth century, there are 255 churches and 21 of them are attached on one side; 96 – attached on both sides; 110 are attached on three sides; 2 attached on four sides and only 6 are free standing ones (Sitte, 1889). This arrangement of objects of sacred architecture has proved itself as the one having more positive features of their perception by the viewers. The church view is opened only from the “correct” side, creating a unique perception pattern. These visually limited areas provide an opportunity to focus on spiritual qualities: Church of St. Julian of the Flemings; Church of San Salvatore in Lauro; Church of Santa Maria Maddalena (Fig. 1). And the Church of Sant'Ivo alla Sapienza can only be seen from the courtyard (Fig. 2).



**Fig. 1.** Examples of sacred squares arrangement: a – Church of St. Julian of the Flemings; b – Church of San Salvatore in Lauro



c



**Fig. 1.** Examples of sacred squares arrangement: c – Church of Santa Maria Maddalena. Source: photos by Google Earth Pro



**Fig. 2.** Church of Sant'Ivo alla Sapienza and the courtyard. Source: photos by Google Earth Pro

The arrangement of the area not along the main axis but perpendicular to the axis of the church offers a spectacular view of the site. In this case, we have the opportunity to observe the main facade only at a certain angle: the church Sant'Agnese in Agone, which looks on Piazza Navona (Fig. 3).



**Fig. 3.** The church Sant'Agnese in Agone and Piazza Navona. Source: Google Earth Pro

If we analyze the most magnificent churches in Europe: the Cathedral of St. Peter in Rome, the Cathedral of St. Mark in Venice, the Cathedral of Milan, the Cathedral of Our Lady of Paris, etc., it should be noted that the sacral space of their squares is resolved flawlessly from an aesthetic point of view and enhances the greatness and the weight of the temple. According to the theory of vision, for the best perception of the object of architecture, it is necessary to provide an optimal vertical angle of 27 degrees view (that is a distance equal to two heights of the object) (Koznarska, 2014). Actually, these principles, in this case, are clearly elaborated, therefore, in front of the main facade there is an elongated square from which you can examine all the greatness of architecture (Fig. 4).



**Fig. 4.** Examples of sacred squares arrangement: a – the Cathedral of St. Peter in Rome; b – the Cathedral of St. Mark in Venice; c – the Cathedral of Milan; d – the Cathedral of Our Lady of Paris. Source: Google Earth Pro

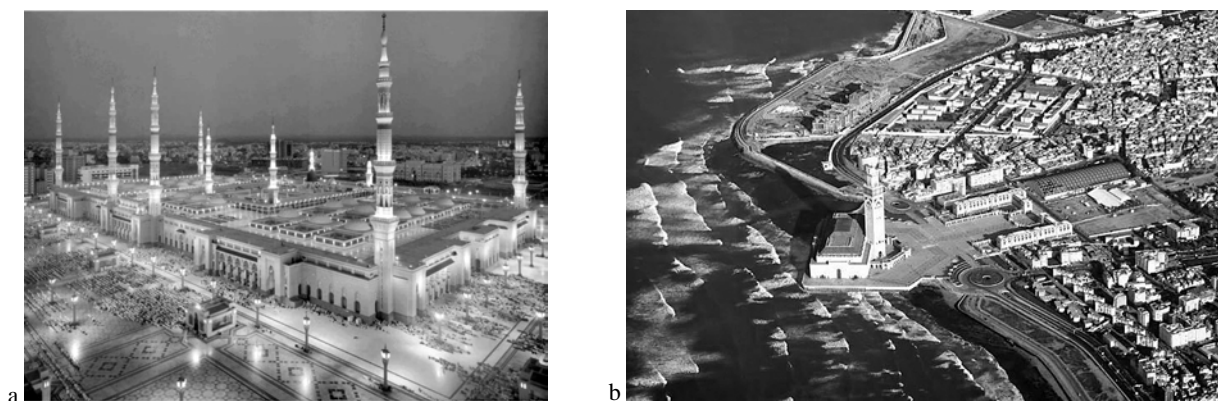
While forming the spatial structure of historical cities, the streets were laid in the direction to its dominants – the sacral objects. Thus, the facades of the surrounding buildings create a foreground that led the viewer's sight to the temple, thereby enhancing its significance, and the street gains a compositional perfection (Koznarska, 2011). Combination of several sacral spaces into a single compositional structure provides a sound basis for shaping the image of the city. Thus, the image of Kyiv is formed on the basis of a sacral center which includes two sacral complexes: the St. Sophia Cathedral and the St. Michael's Golden-domed monastery, the sacral squares of which are connected by Volodymyrsky Avenue (Fig. 5).



**Fig. 5.** Organization of the sacred space of St. Sophia Cathedral and St. Michael's Golden-domed Monastery in Kyiv.

Sources: Google Earth Pro; Fezer, 2014; Flickr, 2012

Not only the tradition of the Christian architecture of European cities causes our interest, the organization of the sacral squares of Muslim countries is no less attractive for the researcher (Fig. 6). In Arab cities, where dense building areas predominate, sacral squares are of particular importance and significance. Among densely populated cities, wide squares with the mosque are distinctly marked. The main emphasis is put on using the limited viewpoint which is experienced while staying in dense housing area with limited visibility for a long time. When entering an open space with the possibility of a broad sight there is a sharp increase in luminosity (Wejchert, 1984). In this environment, a sacral object is perceived more meaningfully and amazingly. The visual boundary between common and routine objects and the sacred ones is clearly expressed, which enhances the perception of the spiritual meaning of architecture of sacral objects.



**Fig. 6.** Organization of the sacral space of the Muslim countries: a – Mosque of Masjid al-Nabawi in Medina (Google Earth Pro); b – Hassan mosque in Casablanca (Air France, 2016)

### 3. Conclusions

Thus, analyzing the spatial structure of sacral squares, we can argue that the sacral square is an integral part of the temple, which emphasizes its functional and aesthetic value. From the aesthetic point of view, the most striking and attractive are those that allow you to observe the temple. On the other hand, the most comfortable and attractive for the visitors are enclosed squares, which enable more focusing on spirituality, increase the sense of the sacred objects, and help people find one's inner peace.

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## ПРОСТОРОВА ОРГАНІЗАЦІЯ САКРАЛЬНИХ ПЛОЩ У СИСТЕМІ МІСТА

**Анотація.** Сакральна архітектура є виявом духовності та естетичних смаків громади. Саме вона завжди була вирішальним чинником при формуванні світогляду, культури, смаків мешканців. Не менш важливе значення має і простір навколо храму, який не лише підсилює вагомість та сакральний зміст самої споруди, а й формує гармонійне середовище самого міста.

Здавна в Україні для розташування храму вибирали найгарніше і найвище місце у ландшафті, щоб підкреслити велич і духовну значимість.

Якщо проаналізувати найвеличніші церкви Європи, слід зауважити, що сакральний простір їхніх площ вирішений бездоганно з естетичної точки зору і підсилює велич та вагомість храму. Згідно з теоремою бачення, для найкращого сприйняття об'єкта архітектури, необхідно забезпечити оптимальний вертикальний кут споглядання  $27^{\circ}$  (тобто, відстань, що дорівнює двом висотам об'єкта). Власне, ці принципи, у такому випадку, чітко витримані, тому перед головним фасадом влаштована видовжена площа, з якої можна оглянути всю велич архітектури.

При формуванні просторової структури історичних міст, часто вулиці орієнтували на доміанти, якими виступали сакральні об'єкти. Таким чином, фасади навколишніх будинків створювали площину, яка вела погляд споглядача до храму, тим самим підсилюючи його значимість, а вулиця набувала композиційного завершення. Поєднання кількох сакральних просторів у єдину композиційну структуру є основою для формування образу міста.

На відміну від досвіду християнської архітектури європейських міст, організація сакрального простору мусульманських країн є не менш цікавою. У арабських містах, де переважає щільна забудова, сакральним площам відводять особливе значення. Серед густозаселених міст особливо виразно виділені просторі площі з мечеттю. Основний акцент зроблений на використанні граничного видового пункту, коли після перебування тривалий час серед щільної забудови з обмеженою видимістю ми потрапляємо у відкритий простір з можливістю широкого погляду, різким збільшенням яскравості світла. У такому середовищі сакральний об'єкт сприймається більш значимим і величним. Візуальна межа між буденним і сакральним чітко виражена, що підсилює сприйняття духовного перед сакральним об'єктом.

Таким чином, проаналізувавши просторову структуру сакральних площ, можна стверджувати, що сакральна площа є невід'ємним елементом храму, яка підкреслює його функціональне і естетичне значення. Найбільш виразними та привабливими з естетичної точки зору є ті, які дозволяють максимально зорovo оглянути храм. Своєю чергою, найбільш атрактивними і затишними є замкнуті площі, які дають можливість більше зосередитись на духовності, підсилюють відчуття сакрального, спонукають до відвертої розмови з Богом.

**Ключові слова:** церква, сакральна площа, храм, просторова організація, сакральний простір.