THE MORPHOLOGY AND TYPOLOGY OF THE OTTOMAN MOSQUES OF NORTHERN GREECE

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ABSTRACT
The present study is an effort to categorize the Ottoman mosques in Greece at the region of Macedonia that have survived up until today. Categorization is the first step to study and understand each monument, in order to record its preservation state as well as to document the morphology and the typology of the existing mosques. The result of this study is to determine the appropriate way of intervention for the conservation and preservation of mosques. This study includes a total of 19 mosques. These monuments vary in the degree of preservation. Most of them have not acquired a new purpose, while some have been restored and used as cultural spaces in the course of time. The majority of mosques are severely damaged and have multiple interventions and serious alterations, mainly due to lack of preservation. Some of them have received extensive interventions and have been transformed into Christian churches. According to typology, the mosques are separated into two main categories: domed ‘single-unit’ mosques and ‘multi-function’ mosques.

Keywords: conservation, domed mosques, morphology, Ottoman mosques, preservation, typology.

1 INTRODUCTION
The Ottoman Empire in the Balkans covers the period from the 14th century until the early 20th century [1]. The central province of the Ottoman Empire was the Greek region of Macedonia, where religious and cultural buildings were constructed with a wide variety of morphology and typology. During this period, cities along with their institutions were reformed and developed, such as Serres, Thessaloniki, Veria, Drama, Kavala and Kastoria, and new ones such as Giannitsa were found [2]. Despite the multicultural nature of the cities, each community had its own characteristics. The social and economic organization of the Islamic cities had a serious impact on their urban form. During this period the central financial institution named Vakuf controlled the operation of religious and cultural institutions of the city, whereby new public commercial and religious buildings were constructed.

Consequently, the image of the public space was influenced by the location of the central mosque and its dependent buildings as well as the covered market and inns. The importance of the mosque as a building in everyday life is clearly indicated by its location at the centre of the city and revolves around the fulfilment of religious duties and social ideals of Muslim citizens.

2 PRESERVED MONUMENTS IN MACEDONIA REGION
In Macedonia, only a few examples of monuments from the Ottoman era have been preserved (Fig. 1), and these monuments are an important part of its historical and cultural heritage.

During the present survey process, 19 buildings that were originally constructed as mosques were found. These are located in the cities of Serres, Thessaloniki, Veria, Edessa, Giannitsa, Drama, Kavala and Kastoria. Moreover, parts of four minarets indicating the existence of a mosque were recorded in the cities of Florina, Arnissa, Giannitsa and Veria.

Nowadays, it is extremely difficult to identify the construction phases of the monuments and determine their original morphology due to their preservation state.

3 TYPOLORY OF MOSQUES

The typology of Ottoman mosques is based on the organization required by the rules of Islam, while the architecture is characterized by simplicity and geometry based on the tradition of each area.

The mosque can be characterized as a robust, cubic volume building with openings on its sides marked by the slender construction of the minaret rising on a corner. The orientation of the Ottoman mosque is set to south or south-east masonry – Qibla – where a niche is formed, the mihrab, indicating the direction of the Holy City to Muslims, Mecca, while the entrance to the prayer space is placed on the side opposite the Qibla wall and usually axially on this.

According to the typological characteristics, they are separated into two main categories: ‘single-unit’ mosques and ‘multi-space’ mosques.

In the first category, as shown in Fig. 2, are the mosques that have a single prayer room almost in square ground plan with the presence of a portico in the facade.
Figure 2: The ground plan of the first category mosques.

The quadrangular plan view follows the contour of the central area. The plan is rectangular with a pillared portico on the front, which is intended primarily for those who do not enter the prayer room or for the overnumbered prayers. In mosques that survive with central quadrangular prayer space of various dimensions, differentiation on both the location and the access to the minaret and also to the form of the portico is observed. In most cases, the minaret has a rectangular base, located at the north-west corner of the prayer space as an extension of the bulk of the mosque, but can also have a multifaceted base plan (Ibrahim Pasha Mosque – Agios Nikolaos Church – in Kavala and Medresse Mosque [19] in Veria) or not even attached to it (Halil Bey Mosque in Kavala).
The existence of the pillared portico extends into the north-west side of the mosque with an average length less than half of the tangential masonry walls, designating the movement of believers towards the entrance while at both sides at a higher level, there are two places to host the prayers. The porch is made of slightly pointed arches, or circular arcs, which through plume supports the roof. The arches of the portico are based on the main side walls and stone columns with a circular or polygonal base.

The main prayer space is lit by side openings arranged in rows and in many cases there were openings in the drum of the dome that formed the roof of the quadrilateral space. Two openings in two zones are commonly observed, but also cases with one or three zones can be found.

4 MORPHOLOGICAL ELEMENTS
The volume of every mosque is characterized by a geometric shape formed by a quadrangle or multifaceted with ribbed or semi-circular openings on all sides and the roofing consists of hemispheric domes, both in the main prayer space and in the portico. The main prayer space is covered by a dome, supported by small quarto-spheres or by spherical triangles.

The number of domes in the portico varies depending on the type of plan and the size of the monument. There are cases where instead of half-domes, ribbed cross-vault or their combinations are used.

4.1 Construction materials
The mosques under consideration fall under two categories regarding their construction materials. In the first category we have the mosques that were built from rows of stones and bricks, with a variety of types. In the second category, the mosques were built only with stones, while the domes are built entirely of mud bricks and mortar. The materials available in the region are inextricably linked with the construction techniques and played an important role in the architectural approach and the methods to be followed in order to construct the building. The building materials used were stones, mud bricks, mortar and wood, with which foundations, walls, arches and domes were made. Secondary materials such as marble, tiles or lead plates were used to bring the building into its final form.

The thickness of the masonry is made of rubble masonry we observed variations on the outer and inner surface. In all cases, the internal structure was not elaborated, so it was decorated either by painting or prismatic stalactites. Externally, in the first building category, the types of mosques vary in each monument by the number of bricks used around each stone, which can be single, double or triple. Hewn stones with two to three rows of bricks in zones used in Alatza Imaret of Thessaloniki and three facades of Zintzirli Mosque [28] in Serres are built in an accurate cloisonné according to the Byzantine Hellenic School. The hewn stone blocks are surrounded by a brick placed vertically at the side of each block.

Hewn or not, stone zones of three to four rows of bricks that form a building system of incomplete surrounding brick appears in Ahmet Bey Mosque in Giannitsa. Mustafa Bey Mosque in Serres and Koursoumlı Mosque in Kastoria are built of rubble mixed with thin bricks in random manner, while the corners and the drums are built relatively more carefully with almost huge but hewn stones.

In Arap Mosque in Drama cornered stones were used at the edges of the sides. In Exochi of Drama Mosque semi-hewed stones were used, where there are three layers of bricks with rows on the lower level and two on the next with an intermediate mortar. The primer phase of Hamza Bey Mosque was built in a type of cloisonné with huge and hewn stones in the corners and the lower parts.
REFERENCES

