THE ARCHITECTURAL ICONOGRAPHY
OF THE LATE BYZANTINE MONASTERY

SVETLANA POPOVIĆ

This publication was sponsored by the Foundation for Hellenic Culture

Toronto
1997
In charge of the publication: Helen Saradi, School of Languages and Literatures, Classics, University of Guelph, Guelph, Ontario, N1G 2W1 Canada

ISBN 1-896566-12-X
The Architectural Iconography of the Late Byzantine Monastery

Svetlana POPOVIĆ

The late Byzantine monastery evolved into a specific settlement within which internal organization and spatial lay-out were closely interrelated. A monastery became, in the wider sense of meaning, an enterprise with urban-rural elements that had a significant role in the society. Defining a monastery as an urban-rural enterprise in post-iconoclastic Byzantium relates primarily to its architectural and spatial lay-out. If we recall the typical monastic plan of the epoch with the high enclosure walls, a tower or sometimes even towers, sacral foundations within the complex but secular buildings also, we become aware of certain similarities between the monastery and lesser urban settlements of the Empire. On the other hand, a monastery was normally an agricultural formation with vast estates not only in the vicinity, but also in the wider context of the rural environment. From the ninth century onwards, important monastic centers developed in the countryside as well as in cities, and emerged as powerful land owners.\(^1\) In spite of these highly secular

manifestations, the internal organization of the monastery remained in accordance with its religious life and prescribed regulations. The spatial iconography of the monastic settlement bears witness to this reality. Generally speaking the coenobitic community of the Late Byzantine epoch strengthened the programmatic disposition of the monastery by introducing certain functional and building forms which, in the long run remained constant features of the plan. An important characteristic of such an enterprise was the recognition of the monastery’s symbolic meaning through its spatial lay-out.

The church occupied the central position in the monastic space (figs. 1-5), functioning according to St. Athanasios of Athos, as the "sleepless eye" of the entirety, and was surrounded by the enclosure wall which divided the outer-secular and inner-sacral worlds. The main entrance was marked with an image of the patron saint. Situated in the vicinity of the church, the monastic refectory provided a space for daily meals but also for commemorations. The monks’ cells were attached to the enclosure wall encircling the church, and a great number of chapels, whether subsidiary to the church, free standing or incorporated within the building structures, signified a specific spatial image of the complex (fig. 6).

The monastic settlement was physically defined by the enclosure wall, within which the church and the refectory were the most important architectural features. The close spatial disposition and the functional relationship of these buildings, confirmed through the centuries, adhered to


an established iconographical model that did not change over the longer period of time. The physical shaping of a monastery was related to its organizational rules - *typika* - which defined coenobium. The entire area was dedicated to a particular saint. The act of founding the monastery seemed to be compatible with the building of the church and its walled enclosure.\(^5\) The living area had to be defined and secured. The coenobitic community functioned as a group, and was strictly controlled by the prescribed rules.\(^6\) In this context, several functional areas became typical of coenobia. The main area was reserved for religious worship. The second was for dwelling purposes, and a third for economic activity, which was not limited to the walled monastery enclosure, but spread beyond into the environs. The zone for worship was determined by the position of the sacral buildings: the main monastic church, subsidiary chapels and the refectory (fig. 6). These were placed in the free space of the inner courtyard and within the developed area along the enclosure walls.\(^7\)

The original disposition of the monastery plan seems to have been rectangular in shape. Changes or additions to the primary forms could occur over the course of time (fig. 1). But the main spatial characteristics of the settlement, recognized in the relationship of its major structural elements - the enclosure wall, the church and the refectory - remained constant. This continuity of elements was connected to the prescribed daily routine of the monastic life, which did not change for centuries. Of course, monastic rules did change over the time - but those changes did not occur suddenly but, rather, over the course of the centuries as rules were modified or replaced with new ones. Those changes were also reflected in the spatial and structural planning of monastic settlements, in which the architectural content and its concept were closely related to the prescribed regulations of the community.\(^8\)

Thus changes in everyday routine often resulted, in changes in the architectural image of the settlement. This brings us to the question of the

---


\(^7\) Cf. S. Popović, *The Cross in the Circle*, 80-83.

\(^8\) S. Popović, "Are Typika Sources for Architecture: The Case of the Monasteries of Theotokos Evergetis, Chilandari and Studenica," *BSCAbstr* (Chapel Hill, 1996) 85. An expanded and revised version of this paper is forthcoming.
meaning and function of spatial and architectural iconography within the late Byzantine monastic environment.

The Outer World - Monastery Estates

An important part of the monastery’s spatial structure, apart from the enclosed nucleus, was the rural area with its vast monastery estates. They might have included villages and land, and constituted an essential part of the extended spatial system. The size of monastery properties of course varied, and derived from the patron’s founding charter, which specified and guaranteed monastery possessions. The land that belonged to a monastery was physically determined; medieval documents mention the boundaries of monastery estates. The obligations of those living on monastic estates varied according to the prevailing social hierarchy. Of special interest are the rules governing the construction of monastery and church buildings, which indicate that certain projects were undertaken with free labor drawn from the monastery estates. Special provisions applied to the use of water on those estates. Springs were controlled, as were rivers, fords, irrigation ditches, and fish ponds. Among the most important buildings enjoying special status were the monastery mills, located on their estates.

Chapels in the late Byzantine monastery were not located exclusively in the main monastic church (fig. 6). Although some of them

---


11 From the king’s Milutin Foundation Charter for the monastery of St. Stephen in medieval Serbia, we can learn about free labor provided by the people living on monastery estates for building the church, refectory and king’s palaces. Cf. Lj. Kovačević, "Svetostefanska hrisovulja," Spomenik SKA 4 (1890) 6.

were obligatorily attached to the Katholikon, others were situated within the monastic settlement and quite a number of them even outside the encircling walls. Several categories of chapels can be identified within the late Byzantine monastic context. They were also erected on the monastic estates - in gardens, vineyards, or market places - for the daily services of brethren living there. Outside the monastic enclosure, but in the vicinity, were cemetry or burial chapels, as in the eleventh-century monastery at Batchkovo, in Chilandari, in Great Lavra on Mount Athos, and elsewhere. The number of chapels in late Byzantine monasteries was multiplied in comparison with the original monastic unit. This characteristic became typical even of later developments; we learn from Leo Allatios in the seventeenth century that in some monasteries the number of chapels corresponded with the number of days in the week. Even today, the monastery of the Great Lavra has fifteen chapels inside and nineteen outside the monastic enclosure.

Monastic security and monastery fortifications

The monastery as an architectural complex was spatially defined by a great outer wall. But while the primary significance of a monastery enclosure was to define the holy space from the point of view of day-to-day living, these walls had other, practical, functions. One was security. Obviously, constructing a great enclosure did not necessarily imply building a fortress, but it always meant building a wall. Here lies a vital distinction: a wall offered shelter but a fortress implied military defense. In Late

---

Byzantium monasteries were generally enclosed with walls. Only in a few cases they were enclosed by real fortresses. Monastery fortifications passed through several evolutionary stages from the tenth to the fifteenth centuries: from walls that allowed the monastic community free circulation, to the introduction of a keep as a refuge for monks and a storehouse for monastery treasures, and finally to the building of real monastery fortresses in the turbulent late fourteenth and fifteenth centuries (fig. 5b). The enclosure walls were built of stone, while the gates were specially designed architectural entities.

The starting point of the specific settlement was a monastery's main entrance with an entrance chapel (fig. 7-8). Entry to the monastery was limited to a main entrance - the principal approach - and a possible secondary entrance for service purposes. The importance of entrances and their control was specified in the monastic *typikon*. The primary function - the *Adventus* - had yet another symbolic meaning: it was the place of passage from the lay world into a spiritual world, from the common area into the special. The sacred place was well kept and an image of the saint to whom the monastery was dedicated was represented in the lunette above the main door (fig. 8). It is less well known that entrance chambers were often decorated with religious images and provided with a chapel. According to fourteenth-century Russian travelogs, the Monastery of the Mother of God Peribleptos, the eleventh-century imperial foundation in Constantinople, had sacred images in the entrance chamber. It was said that "on one side of these gates the Crucifixion is painted, while on the other side is the Last Judgment." In the twelfth-century monastic foundation of Isaac Comnenus, the monastery of Kosmosoteira, the mosaic image of the Mother of God was placed at the entrance, according to the monastic *typikon*. In the monastery at Studenica in medieval Serbia, entrance towers with a chapel and sacred images in the entrance chamber were erected in the

19 L. Petit, "Typikon du monastère de la Kosmosoteira près d’Aenos (1152)," *IRAIK* 13 (1908) 17-75, esp. 19; G.K. Papazoglou, Ὅσια προσκύνησις Ἰακώβου Ἰωαννίδου καὶ ἑταίρων τῆς Μονῆς Θεσσαλίτον τῆς Κοσμόσωτερας (1151-52) (Komotini, 1994) 33-34.
twelfth and early thirteenth centuries. The original twelfth-century entrance was located between two semicircular towers (fig. 7d; 8a). The walls of the towers in front of the main gate were decorated with the images of the donors and of Holy Archangels, as documented in fresco remains discovered recently on the walls. Early in the thirteenth century, a tall rectangular belfry tower was erected above the main monastery gate. Within the tower, on the second floor a chapel dedicated to the Transfiguration was located, and according to an eighteenth-century engraving of Studenica on the third floor there was yet another chapel of the Holy Archangels. On the eastern exterior wall of the belfry-tower, facing the main church portal, two parallel fresco compositions were placed at the end of the thirteenth or the beginning of the fourteenth century. On the northern side of the eastern wall the Tree of Jesse was painted, and on the southern half one of Nemanjic dynasty. Fresco remains, though very faded, still survive on the eastern wall of the belfry-tower at Studenica. The monastic belfry was yet another tower provided with a chapel in the late Byzantine monastery. Numerous examples from the twelfth century onwards bear witness to this: Studenica, St. George at Ras, St. Nicholas at Toplica, the monastery at Sopoćani from medieval Serbia, the monastery of St. Sophia in Trebizond, Vatopedi and many others on Mount Athos. On the basis of known examples of sacred images within monastery entrances, one could say that they had ambivalent meanings: to stress the consecration of the settlement to the particular saint, to trace a path of salvation to the donor and yet to be a prophylactic measure in bringing the community towards its ultimate goal - the salvation. In the late fourteenth century with the progressive disintegration of the Byzantine Empire, some monasteries developed into

---

20 About the entrance of the monastery of Studenica see S. Popović, The Cross in the Circle, 131-49 with relevant literature.
fortresses in the course of construction. The entrances to these monasteries were real fortified gates. At Resava monastery in medieval Serbia, one entered between two rectangular towers with machicolated walls (figs. 5b; 7f; 8d). A brief review of the surviving architecture indicates that the most frequent, practically the only type of monastery gate was square or rectangular, one or more stories in height. All were built of stone or of a mixture of stone and brick, in the familiar Byzantine manner. Some were elaborate with antechamber, columns and triple-arched openings, as in the urban monasteries of Thessaloniki - the Holy Apostles, St. Nicholas Orphanos and St. Sophia (figs. 7-8). One of the particular architectural characteristics of late Byzantine monasteries is their towers - pyrgoi - usually built within the walled-in monastic enclosure, or at times, as free-standing structures outside the respective monasteries (fig. 9). The oldest monastic towers at Mount Athos date from the very beginnings of the coenobitic monasteries there, in the 10th century, suggesting that they had a very specific role within the monastic complex. One obvious question, therefore, is what was their intended function and meaning within the framework of a monastery? One of the standard roles of a tower during the period under discussion would, of course, have been a defensive, military one. While not denying their military role, I would like to point out that a tower had a specific meaning in the monastery and was not exclusively related to defense. It was a dwelling place for prominent monks or even founders of monasteries, with the obligatory chapel on its highest level. In this light, the appearance of towers in the monasteries of Mount Athos, and elsewhere in the Empire, is particularly interesting. The most celebrated among the Athonite monasteries, the Great Lavra of St. Athanasios founded in the tenth


century, had a tower, known as the pyrgos of John Tzimiskes (fig. 9a). The tower contains in the top story, though in a remodeled post-Byzantine form, a chapel dedicated to St. Stephen. In another early Athonite monastery, Iveron, founded toward the end of the tenth century, a tower existed and was occupied at the beginning of the eleventh century by father Euthymios. According to the Vita, father Euthymios, after whom the tower was named, lived and prayed in a tall monastery pyrgos. The legendary story of the building of the monastery of Zographou on Mount Athos, describes how the founders of the monastery, brothers Moses, Aron and John, built their dwelling towers on each spot. From the Life of St. Sava of Serbia, we learn that Sava lived and prayed in the monastery tower of Chilandari on Mount Athos, later named after him (fig. 9c). At the monastery of Chilandari, in addition to the already mentioned tower of St. Sava, there is yet another pyrgos, today known as the tower of St. George after the dedication of the chapel at its top, in which some thirteenth-century frescoes have been preserved (fig. 9b). Two fresco cycles were painted on its facade, one dedicated to St. George the chapel’s patron, and the other illustrating the canon on the journey of the soul, which explains the fate of the monk’s soul after its departure from the body until it comes to the heavenly sphere. The function of this tower was similar to that of the St. Savas’ pyrgos, as an abode for one of the prominent monks. The monastery of Chilandari had yet another pyrgos situated in Karye on Mount Athos. It is known that at the beginning of the fourteenth century monachos Theodoulos, as an aged monk, asked for permission to retire in a cell of this

---


30 A. Solovjev, V. Mošin, Grčke povelje srpskih vladara (Belgrade, 1936) 45 ll. 26 and esp. 115 and 197.

31 Domentijan, Životi Svetoga Save i Svetoga Simeona, ed. L. Mirković, (Belgrade, 1938) 294.

pyrgos.\textsuperscript{33} All of the Athonite towers mentioned thus far were built of stone, as multi-storied structures, with the entrance on the first story. The ground floor was accessible from the first story through an opening in the floor. The ground floors of such towers frequently contained cisterns, while the top floors commonly contained chapels. Chapels were generally single-aisled, sometimes without externally visible domes, and were generally surrounded by galleries. Floor levels between the chapel at the top, and the ground floor, were in all likelihood used for living purposes, confirmed by the occasionally preserved sanitary facilities. The purpose of other spaces has not been determined with certainty, though they probably fulfilled a variety of purposes. More recent written sources suggest that they were for hiding libraries, and occasionally also for the church treasures.\textsuperscript{34} Most certainly, these spaces accommodated monastic scriptoria, as can be gleaned from a number of hagiographic texts.

One function of a pyrgos was clearly that of a refuge. Strictly speaking, however, we should not discuss them as fortification architecture in the same sense as one would refer to contemporary Byzantine fortresses, above all because of their relative position within monastic complexes. It is not clear if military personnel were ever stationed permanently within monasteries. The opposite is suggested by the typikon of the Byzantine monastery of Kosmosoteira where the defenses of the monastery were the responsibility of civilians living in a village nearby, but they were never permitted to enter the monastery under arms.\textsuperscript{35}

In thirteenth-century Serbia, we note the case of the monastery of St. George, where the former king Dragutin, under the monastic name of Theoktistos, converted the original entrance tower into an ecclesiastical

\textsuperscript{33} Cf. \textit{Actes de Chilandar I: Actes grecs}, ed. L. Petit, \textit{VizVrem} 17 (1911), Priloženie 1, 80.

\textsuperscript{34} Cf. \textit{Bulgarskata literatura i knižnina prez XIII vek} (Sofia, 1987) 62-64, 226.

\textsuperscript{35} L. Petit, "Typikon du monastère de la Kosmosoteira près d’Aenos (1152)," \textit{IRAISK} 13 (1908) 71. Organized monastery defense became characteristic for later post-Byzantine period. The monastery of Dionysiou on Mount Athos has the oldest known fortification work (about 1500), in which, even gun emplacements were constructed. Cf. P.L. Theocharides, "Recent research into Athonite monastic architecture, tenth-sixteenth centuries," 214 ff.
The new tower contained a chapel on the ground floor, while his cell was situated above it (figs. 7e; 8c). In the early fourteenth century, King Milutin built a tower within the monastery of St. Stephen at Banjska which contained his future mausoleum church. Examples of similar towers from the fourteenth century are found at the monastery of Lesnovo in medieval Serbia, as well as in the monastery of St. John Prodromos near Serres in Greece. In the fourteenth century, at the monastery of Rila in Bulgaria, the tower was built on the north side in the vicinity of the monastery church (fig. 10). On the top of this tower was a chapel dedicated to St. John of Rila who, according to tradition, had initiated his ascetic life on this very location.

The symbolic role of the tower in the late Byzantine monastic context, is best summed up by the chapel on its top story, most frequently dedicated to the Ascension, the Transfiguration, the Holy Trinity, St. John, St. George or St. John of Rila. It alludes to the presence of ascetics who chose to live and seek salvation within the elevated confinement of a cell and its chapel.

The Inner World - The Monastery courtyard

In the monastery courtyard the central position was exclusively reserved for the main monastic church - Katholikon. In the course of time subsidiary chapels with mostly commemorative function were attached to its walls (fig. 6). There were also free-standing chapels or chapels incorporated within other monastic structures and with various connotations. Some of them served as commemorative spaces. Or they had been built as foundations by succeeding donors, as in the case of the three southern chapels at Studenica (fig. 4a). Two of them, built in the thirteenth century, were dedicated to St. John and St. Nicholas, and the third, from the early fourteenth century, to Joachim and Anna. At the Mount Athos monasteries, especially in the late Byzantine epoch, a number of chapels

36 S. Popović, The Cross in the Circle, 149 ff.
37 Ibid., 187 ff.
40 G. Babić, Kraljeva crkva u Studenici (Belgrade, 1987).
were built for the deposition of the important relics or miracle-working icons. The decline of the Empire, especially in the first half of the fifteenth century brought a new influx of relics to monasteries on Athos. At the end of the fourteenth century a venerated relic the Girdle of the Blessed Virgin, arrived at the monastery of Vatopedi as a donation from Prince Lazar of Serbia. At first the Holy Girdle was kept in the Katholikon but later a chapel was built, and thoroughly rebuilt in the eighteenth century. In the monasteries of Great Lavra and Iveron, chapels of the Virgin Portaitissa were built close to the monastery entrances to house the miracle-working icon of the Virgin. Both rebuilt in the post-Byzantine epoch, the chapels retain the structural elements of an older period.

The miraculous healing so important for the Christian and monastic world of Byzantium was often connected with water. A supposedly miraculous fountain (hagiasma) was not uncommon in monasteries, sometimes with a chapel above. The monastery of the Hodegetria, a well known shrine in Constantinople, grew up around a fountain believed to be capable of healing. The icon of the Virgin Hodegetria was deposited there in a chapel at the fountain. In the eleventh-century monastery of Hosios Loukas, a two-storey chapel was located on the southwestern angle of the enclosure (fig. 11a). On the first floor there was a water fountain with a chapel on the second floor. The function of this building was recognized in connection with water healing. In the post-Byzantine epoch the structure was transformed to incorporate the monastery belfry. In the thirteenth-century monastic foundation of St. Achilles in medieval Serbia the healing fountain was located within the main monastery entrance (fig. 11b).

In middle Byzantine and late Byzantine monasteries the refectory was located near the church, usually in the western part of the enclosure,

---

42 S. Kadas, Mount Athos, 54.
45 S. Popović, The Cross in the Circle, 371 and fig. 138b, 375.
and was oriented toward the church narthex. In shaping a monastic settlement in the tenth century, at Great Lavra on Mount Athos, Athanasios of Athos located the cruciform refectory to face the main western entrance to the Katholikon (fig. 1a). The architectural arrangement of the refectory as a free-standing building in the inner court, instead of being attached to the encircling wall, echoed the similar spatial treatment of the church within the settlement. Athanasios model became characteristic of the Mount Athos monasteries and had a great impact on later developments, especially in the Balkans. It is a well known fact that after the prayer in the narthex, monks and nuns would proceed immediately to the refectory. Internal procedures and the disposition of the seats in the dining hall were regulated and prescribed in the monastic rules - typikon. The interior walls of refectories were decorated with religious images, stressing the sacral character of the building. Communal meals were eaten there on long tables, usually built of masonry with white marble slabs forming the dining surface. The architectural shape of the building was closely related to its function. It was planned as a long rectangular hall, usually with an apse on its shorter side (figs. 12; 13). Most refectories were single-story buildings, although some had two stories. In such cases the first floor was reserved either for the kitchen or for combined kitchen and storage spaces (fig. 13a).

Dining halls were built of stone, or in combination of brick and stone. The facades were sometimes decorated with frescoes very often with

51 Like the refectory in Khirbet ed-Deir monastery in the Judean Desert, the refectories of the monasteries of Ravanica and Resava in medieval Serbia, Chilandari on Mount Athos and elsewhere.
polychrome building techniques and sculptural decoration. There are also examples of refectories with porches. In sum, the dining-hall was always the most prominent building after the church in the monastery. Its position in the monastic settlement, and its relation with the church building, can be considered as a constant feature of the Late Byzantine monastic spatial iconography.

The coenobitic type of monastic communities necessitated the building of communal kitchens where food could be prepared for all of the monks. The purpose of this building determined its location, generally near the refectory. The surviving remains of monastery kitchens reveal certain features characteristic of their design. Generally, their furnishings included conventional ovens and hearths (fig. 14). Older medieval kitchens dating from the thirteenth and fourteenth centuries were not separate buildings, but were separate rooms in larger building containing other functions.

Residential quarters in the monastery almost always had more than one story, the monks living on the upper floors. The ground floor was generally built of stone. The design was usually based on an elongated rectangular ground plan set against the walled enclosure. The interior of the ground floor could be divided by walls into smaller rooms intended for daily work and storage. Occasionally these chambers could be exceptionally large and long with columns placed longitudinally through the middle of the building to support the wooden construction of the floors above. Wooden or stone staircases were generally built on the outside of buildings and were covered, so that porches became standard features of their architecture. The existence of porches also prevented direct access from the storage rooms and workshops on the ground floor to the cells on the upper floors.

The total height of monastery buildings and that of the walled enclosure were related. Some of the residential buildings might have had two upper stories, which would bring their total height to approximately

---

nine meters. In this case, the buildings probably rose well above the exterior walled enclosure.

The distribution of the chapels within the monastery settlement included also the residential quarters. Not only the founder of the monastery, or ktetor, but also the hegoumenos and other monastic dignitaries had their private chapels, as we can learn from hagiographies, typika and surviving monasteries at Mount Athos and elsewhere in the Empire.

Every late Byzantine monastery had a hospital, as was prescribed in the monastic typikon. Hospitals were situated inside the monastery enclosure with specially furnished rooms heated by open hearths or by means of portable metal braziers. The internal monastery hospital, reserved exclusively for the monks living in the monastery, always had a chapel. Numerous examples from typika and few surviving on the monastic sites confirm the fact that hospital chapels were often dedicated to SS. Anargyroi - the healing saints. Such chapels survive in the monastery of Barlaam at Meteora and at Great Meteora. They once existed in Great Lavra, Xeropotamou and Chilandari on Mount Athos, and in the monastery of Pantokrator in Constantinople. All of them were dedicated to SS. Anargyroi.

The Secular aspect - The Infrastructure of the monastic settlement

A monastery in Late Byzantium was furnished with amenities which, for medieval times, assured a fairly high standard of living.

---

54 S. Popović, "Disposition of Chapels in Byzantine Monasteries," 32-34.
supply systems, sewer sand drains, heating and sanitation facilities, as well as building maintenance, point to a complex spatial model, influenced as far as the standard is concerned, by ideological considerations. This applies, for example, to bathrooms, which existed in some of the monasteries. Parts of the monastery buildings intended for dwelling had fire boxes and stoves. There were two different types of heating appliances. One was fire boxes dug into the wall, with a semicircular base and a widening in the upper zone for the outlet of smoke - fireplaces. The other was a combined fireplace and stove, which heated two rooms at the same time.

Some buildings in the monastery settlement contained latrines built of stone. These areas were on the upper floors. They were placed against the outside walls which were at the same time the monastery boundary walls. Every sanitary area had a drainage canal, dug through the middle of the wall, with an opening at the bottom of the wall leading into a covered canal in level ground.

Secular monastery architecture differed from that of the church. First of all, it had no constant ideological concept and no symbolic significance. It was characterized by multiple functions and by an adaptability to meet changing circumstances. Reconstruction of the buildings in a late Byzantine monastery was common. The architectural design of most monastery buildings was primarily dictated by their location within the ring-like zone extending the length of the walled enclosure. The position of the building was the only constant in this architecture. It determined the form of the plan, basically an elongated rectangle with end walls defining the buildings. This was the fundamental unit of the group. It was further articulated by adding individual elements, which differed only in their dimensions relative to the size of the complex itself. In elevation, likewise, the elements differed, their dimensions determined essentially by the external walled enclosure.

Annexes to the primary building form consisted of porches, a set of rhythmically placed vertical elements - columns linked to the basic cube by

60 S. Popović, The Cross in the Circle, 378-81.
61 Ibid., 376-79.
horizontal planes also placed at regular vertical intervals. Walls were pierced by apertures for windows and doors. The balance between full and broken surfaces was not even. Extended, monolithic wall surfaces appear to have been favored. Windows were not large. On the basis of surviving examples one can see that, in general, one small opening provided the light for a single room. The size of individual windows seems disproportionately small for the size of rooms associated with them. The interior of these buildings, or at least of some of the rooms, was obviously poorly lit. This particularly applies to storage rooms on the ground floor which had mere slits for ventilation. Residential quarters were also equipped with artificial lighting, as is indicated by the surviving niches in the walls. The necessity for conserving heat as well as the expense of glass - generally considered a luxury at the time - must have contributed to the small size of openings. Furthermore, it would appear that the medieval monk’s needs for light were considerably less than what would be considered normal by modern standards. In any case, days were spent in prayers and working outside, and buildings were used simply as shelter for people and their possessions. This attitude had its effect on the articulation of basic forms, largely deprived of any decorative elaborations. Monastic architecture was introvert focused solely on the monastery church placed centrally. The ornamentation of secular buildings - often painted decoration on the exterior and interior walls - was certainly related to their function. Facades not only of churches but also of refectories, keeps, and gates were often painted with frescoes.

A basic characteristic of architectural design was the choice of a system of measurements according to which the buildings were erected. The units of measure used in the design and construction were based on the common medieval measuring units: the foot and the ell. At several monastic settlements dating from the twelfth to the fifteenth centuries the length of a building was apparently a multiple of its width. The walls were usually two to two and a half feet thick. Monastery buildings conformed to certain design modules, which were employed in order to determine the overall dimensions of the building. The system of measurements in the elevation was obviously related to the horizontal measurements of the ground plan.

---

62 Ibid., 365-69.
63 Ibid., 366-68 and figs. 135-36.
A monastery represents a complex spatial structure which, besides its exceptional religious and political significance, played an important role in the development of building activity in the medieval society. The building of monastic settlements, though carried out with a specific program dictated in part by the monastery typikon, evolved into an outstanding architectural achievement.

In the eleventh and twelfth centuries a typical Byzantine monastery housed between twenty and forty monks. By the end of the thirteenth century, and especially in the fourteenth, however, that number had risen to between eighty and a hundred.\textsuperscript{64}

A partial reconstruction of the standard of living in the late Byzantine monasteries, based on fragmentary architectural remains, leads us to the following important facts. The existence of an infrastructure, clearly separated functions in the settlement and appropriate architectural solutions show that the community in question was a developed one. The monastery evolved into a complex formation in late Byzantine society. Changes did not occur suddenly, but emerged from the complexity of problems Byzantium was facing over a protracted period. The spatial-architectural image of the monastery mirrored the new monastic reality: multiplication of donors as a means of survival; an influx of new monks and wider monastic migrations caused by the political decline of the State; and the transfer of venerated relics to more secure places.

The broad disposition of the settlement, as well as its symbolic meaning, testified to the readiness of the late Byzantine monastic world to outlive the Byzantine Empire.

ABBREVIATIONS

BSCAbstr  Byzantine Studies Conference, Abstracts of Papers
ByzF       Byzantinische Forschungen
CahArch    Cahiers archéologiques
DChAE Δελτίον τῆς Χριστιανικῆς Ἀρχαιολογικῆς Ἐταιρείας
DOP        Dumbarton Oaks Papers
Glas SKA   Glas Srpske Kraljevske Akademije
GOTR       Greek Orthodox Theological Review
IRAJK      Izvestija Russkogo Arheologicheskogo Instituta v Konstantinopole
MélRome    Mélanges d’archéologie et d’histoire, Ecole Française de Rome
REB        Revue des études byzantines
Saopštenja Saopštenja, Republički zavod za zaštitu spomenika kulture, Beograd
SCH        Studies in Church History
SKA        Srpska Kraljevska Akademija
ThE        Θροική Επτηρίδα
VizVrem    Vizantijskij Vremennik
Fig. 1. A. The monastery of Great Lavra: possible original enclosure (963), and Byzantine and post-Byzantine additions (after P. Theocharides). B. The monastery of Vatopedi: possible original monastery and later Byzantine and post-Byzantine additions (after P. Theocharides).
Fig. 2. A. The monastery of Chilandari (after S. Nenadović and P. Theocharides).

B. The monastery of Hosios Loukas (after E. Stikas).
Fig. 3. A. The monastery of Hosios Meletios (after A.K. Orlandos).
B. The monastery of Sagmata (after A.K. Orlandos).
Fig. 4. A. The monastery of Studenica (after M.R. Jovin and M. Popović).
B. The monastery of St. George in the region of Ras (after J. Nešković).
C. The monastery of Sopoćani in the region of Ras (after O. Kandić).
Fig. 5. A. The monastery of the Holy Archangels at Prizren (after S. Nenadović and S. Popović).
B. The monastery of Resava (after I. Kostić).
Fig. 6. The monastery of Chilandari: disposition of the chapels (after S. Nenadović).
Fig. 7. Monastery Entrances - plans:
A. The monastery of the Holy Apostles in Thessaloniki (after G. Velenis).
D. The monastery of Studenica in Serbia (after M.R. Jovin).
E. The monastery of St. George in the region of Ras (after J. Nešković).
F. The monastery of Resava in Serbia (after I. Kostić).
Fig. 8. Monastery Entrances - elevations:

A. The monastery of Studenica in Serbia (after S. Popović).
C. The monastery of St. George in the region of Ras (after S. Popović).
D. The monastery of Resava in Serbia (after G. Simić).
E. The monastery of St. John Theologos at Patmos (after A.K. Orlandos).
Fig. 9. Monastery Towers:
A. The Tzimiskes tower at Great Lavra - south elevation (after S. Voyadjis).
B. The St. George’s tower at Chilandari (after S. Nenadović).
C. The St. Sava’s tower at Chilandari (after S. Nenadović).
D. The Vatopedi tower (after P. Theocharides).
Fig. 10. The Hrelja’s tower at the monastery of Rila (after L. Praškov).
Fig. 11. A. The Chapel of the monastery of Hosios Loukas (after Ch. Bouras and V.G. Barskij).
Fig. 12. The Refectories:
A. The monastery of Great Lavra (after P. Mylonas).
B. The monastery of the Holy Archangels at Prizren (after S. Popović).
Fig. 13. The Refectories:
A. The monastery of Hosios Loukas (after E. Stikas).
B. The Nea Moni at Chios (after Ch. Bouras).
Fig. 14. The Monastery Kitchen and the Bakery:

A. The monastery of the Holy Archangels at Prizren (after S. Popović).
Svetlana Popović (Mojsilović), educated in Belgrade (Yugoslavia), is a specialist in Byzantine and Medieval Art and Architecture. She has been visiting scholar at Princeton University (1992-95), and lectured in Austria, Canada, Greece, Russia, USA and Yugoslavia. Her publications include *The Monastery of Tronoša* (1987), and *The Cross in the Circle. Monastery Architecture in Medieval Serbia* (1994).