

THE INSTITUTE FOR THE PROTECTION OF CULTURAL
MONUMENTS OF BELGRADE

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MONUMENTS OF SERBIA



MARKO POPOVIĆ

*THE FORTRESS
OF BELGRADE*

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THE FORTRESS OF BELGRADE

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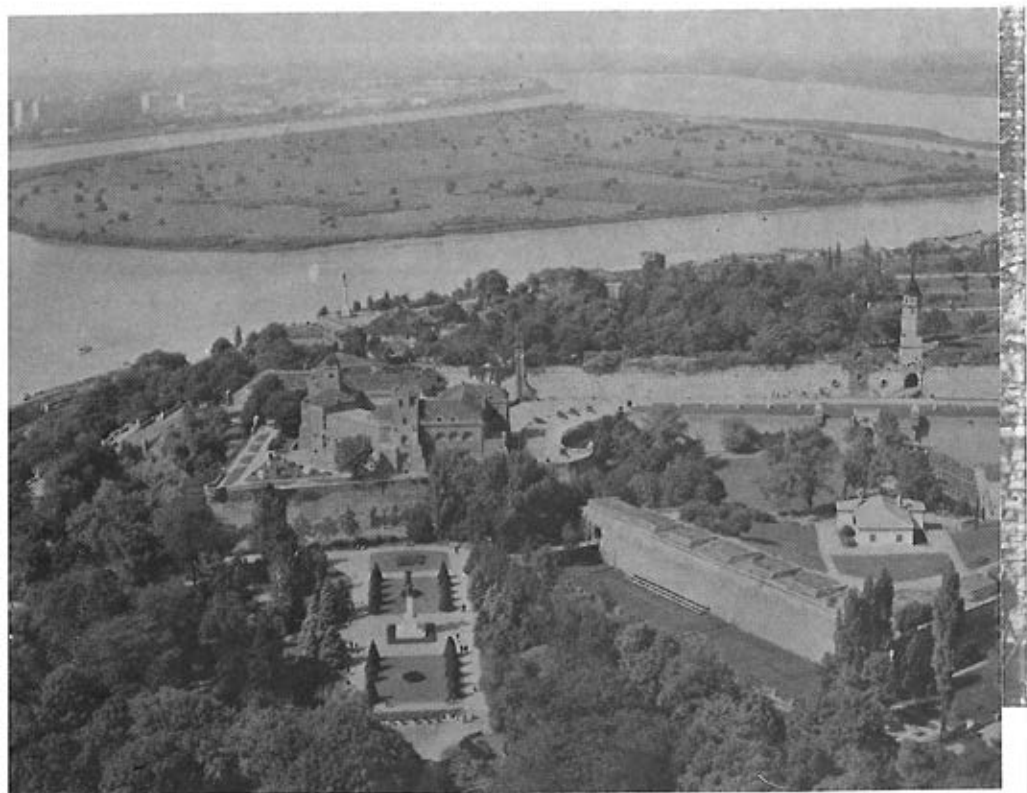
Belgrade 1991



General view of Fortress from the West

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General view of Forteress from the South

THE FORTRESS OF BELGRADE

Among fortifications of Southeastern Europe, a special place is reserved for the Fortress of Belgrade. Its history is interwoven with all the events which influenced destinies of European states and nations over the past two thousand years. Positioned at an exceptionally suitable site – the crossing of European roads towards the East, it served for centuries as the strongpoint of defense, as well as the starting point for conquering campaigns.

The Fortress of Belgrade, its construction and development, is inseparable from the history of Belgrade. Roman Singidunum was built next to the fortification on the hill, just above the mouth of Sava and Danube rivers. Slavic Belgrade was built in the same place. Medieval city grew for centuries within the secure embrace of the Fortress which remained its center long after the city outgrew the Fortress walls.

Development of fortifications, which have been appearing and disappearing in this spot since ancient times until 18th century, plays an important part in the study of the city as a whole. Building, destruction, and rebuilding of walls shows what an important role Belgrade played in the past, as well as its rises and falls. On the other hand, the Fortress of Belgrade, as a complicated and stratified complex is very important in the study of the development of European fortifications in a wider sense. It clearly shows all changes which European architecture went through – from a fortified legionary camp-castrum, through medieval fortified cities, to almost modern artillery bastions.

The fortifications of Belgrade were built and developed throughout past centuries on the slopes of mountain Avala, on the plateau overlooking the mouth of two big rivers that form the natural border between two different geographical regions. The ideal spot for building fortifications and formation of settlements was the place where Sava river flows into the Danube, and where the Pannonian basin lowlands meet with the hills gradually turning into Balkan massifs. The visibility and accessibility, nearness of wide valleys between two distant regions, possibility of crossing and controlling the movement across the plains have always made this site and its position especially important.

Belgrade, geographically positioned at the border of the two regions is a natural crossroad. Thus, it was often in the way of conquerors and warriors, migrants and traders, and they all influenced the development of the city and determined its fate.

Along with the geographical position, the relief characteristics were of a special importance for the construction of settlements and fortifications. The hill above the river mouth with a plateau on top offered good defense conditions. Its three steep slopes and rocky cliffs were surrounded by rivers. The only easy access was by the Southeastern slope. The plateau on top, 50m above the river, represented the most dominant place in the area. Visibility was such that it enabled observation and control of rivers, land roads from the south, and plains to the north. Geological configuration, though not essential for the choice of site was also suitable for fortification construction. The rocky base covered with layers of less was a strong base for fortress foundations. The shape of the hill over the river mouth affected through centuries the arrangement of the ramparts of Belgrade fortifications, which were adjusted to its strategic advantages. At the same time, the natural configuration was also changed and adapted to defense requirements. After two millenia of vivid building activities marked with the construction and reconstruction of fortifications of various forms and types, the relief lost its initial configuration. Over the centuries, man and nature have changed this place so that it lost some of its essential characteristics. Rocky cliffs have almost completely disappeared under levees and vegetation. The river banks were moved and inshore area grew larger.

Numerous historical sources (written, cartographic, and artistic), and especially the results of archaeological excavations give evidence of how the Belgrade Fortress developed through centuries.

Written sources are of various origin and value. The number of sources varies with the development periods of the city. While some periods have many written sources, others offer only few fragmentary notes. From the 12th century, events are more often noted by the Byzantine and Hungarian chroniclers. Number and variety of written documents about Belgrade increase by the beginning of the 15th century. Besides the notes of Serbian, Hungarian, and Turkish chroniclers, this and the following periods are evidenced by abundant archival materials. However, in comparison to the entire quantity of preserved written material that offers valuable information about historical events in Belgrade, very few relate to the fortification and its development.

Besides written materials, cartographic sources are of a special value for the study of the Belgrade Fortress and the city. Due to its position and the role it played in Europe at the end of 17th and in the 18th century, Belgrade is one of the most represented cities in old plans. Until today, 200 plans from this period are known. Most often they show the Belgrade Fortress with details of the fortification, the city and its surroundings, and siege situations with troop arrangements. These documents are stored in libraries and archives throughout Europe.

Only few of the artistic documents having real informative value were preserved after critical analysis, and these are mostly engravings of the city, dating from the 16th and 17th centuries. This group includes the oldest photographs, dating from the middle of the last century.

The results of archaeological excavations and research carried out with some interruptions for more than four decades are especially important in the study of the Belgrade Fortress. These results offer an abundance of new information about the Fortress and the city. Even though excavations in this area are not yet completed, the results obtained so far give an insight into the origin and development of fortifications in the area of the present-day Fortress during the period of almost two millennia.

THE ROMAN LEGIONARY CAMP

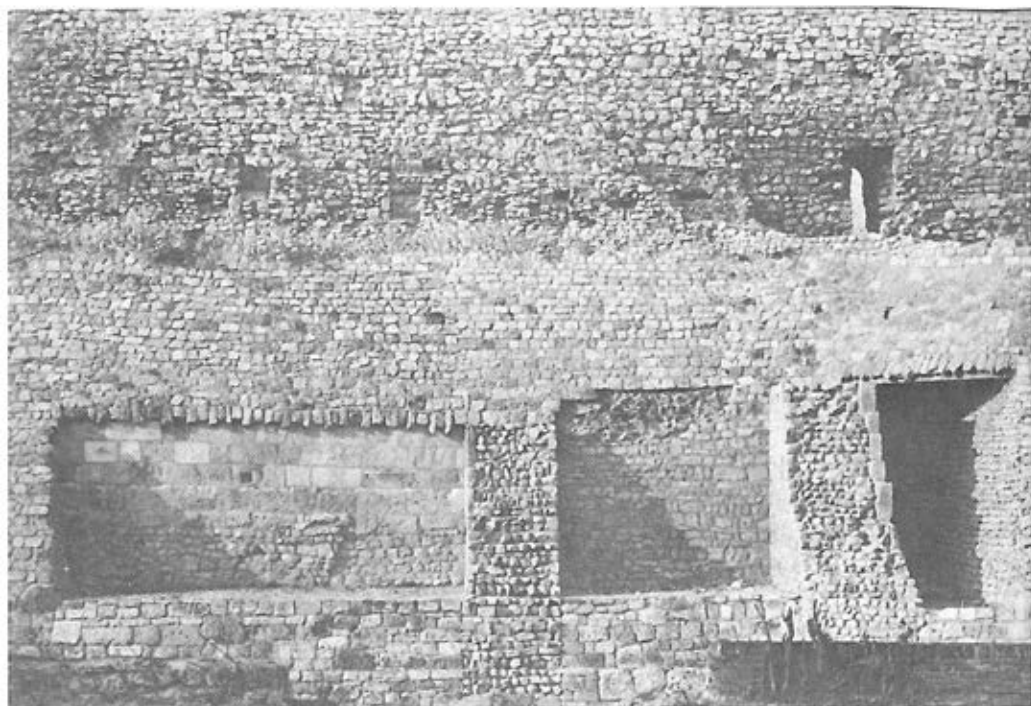
The place now occupied by the Fortress of Belgrade was settled for the first time in Neolithic and Eneolithic periods. Remnants of elements from these periods have been found on the plateau of the Upper Town (Gornji Grad), and in the area of Zindan Gate. There are no traces of Celtic inhabitation in the last centuries B.C. Their settlement and possible fortification was not positioned here but somewhere further down the Danube, in the area of present-day Karaburma.

In the Prehistoric Age, the exceptionally suitable geostrategic position on the hill over the river-mouth had no great effect on formation of settlements. Even at the time of general insecurity, when fortified settlements were built, this suitable position was not used.

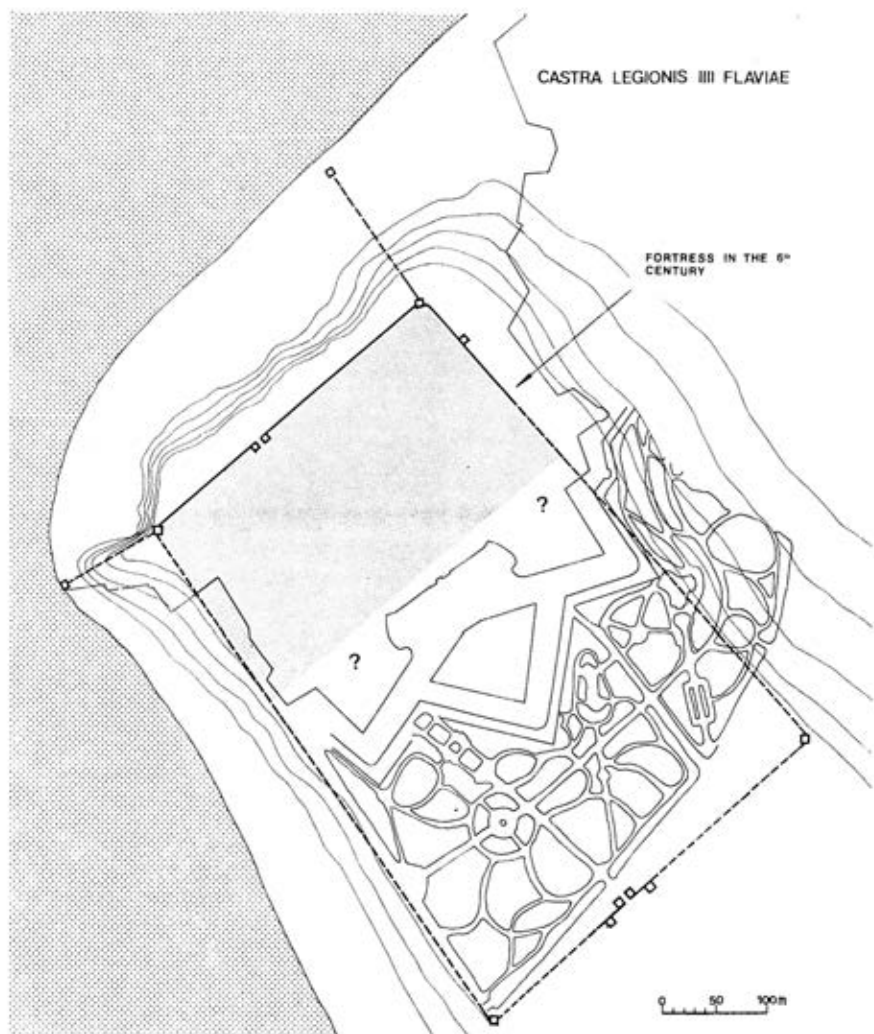
The Roman world, with its developed civilization stepped into this region in the last years B.C. Prehistory of the Roman conquest of the area of today's Belgrade was marked by wars with Celtic population in the first century B.C. and with persistent efforts of conquerors to secure themselves in this strategically important part of Danube. Conquered territory, taken inside the boundaries of the Roman Empire was immersed into the antique civilization in the social and political sense, which greatly influenced its further development. One of the consequences of this conquest was the formation of the Roman Singidunum, the ancient forerunner of modern Belgrade.

The site where modern Belgrade now lies was certainly of great defensive importance for the Roman Empire whose borders were on the Danube river during the 1st century A.D. It seems that strategic possibilities of this location on the new border of the Empire were noticed quite early. There are indications that legions IV SCYTHICA and V MACE-
DONICA were periodically stationed in Singidunum even during the first half of the first century A.D. When firmer military and administrative organizations were established in the Danube Limes by the end of the 1st century, legion IV FLAVIA was permanently stationed in Singidunum and remained here until the end of the Roman Age.

Arrival of this legion undoubtedly contributed much to the development of Singidunum as a Roman town. The legionary camp was the



Roman legionary camp, part of Northeast rampart with remains of Tower



Roman legionary Camp and the position of the Fortress in 6th century

center around which the city grew in the following centuries. By the first half of 2nd century, probably during the reign of Emperor Hadrian, Singidunum became a municipium, i.e. city with local self government, and in the 3rd century, it was the colony of Roman citizens.

Remnants of the castrum, fortified camp of the IV FLAVIA legion, were discovered and partially researched during excavations performed over several years at the Belgrade Fortress. The castrum ramparts, as the oldest traces of fortification in this area, are only fragmentary. Their remains either lie deep under the foundations of later fortifications, or are almost completely destroyed. Thus, little is known about the old Roman fortification. Until now, it has been determined that the fortification existed in the area of the Upper City and Kalemegdan Park to Paris street. Its base was rectangular in shape – 560m long and 330m wide.

Defended region within the walls where the legion was stationed covered the surface of 18 hectares. Besides the main fortification on the hill, two flank ramparts down the slope towards Danube were the defense on the river side.

At the beginning, just after the arrival of the legion, the camp was probably surrounded by soil ramparts and a palisade. Somewhat later, most probably by the end of the second century, stone ramparts, reinforced by towers were erected. They were built of finely cut rectangular stone, as was the usual procedure for building important legionary camps. Deep ditches with slanting sides were made in front of the ramparts. The gates on the ramparts were defended by two side towers each.

The interior of Roman legionary camps consisted of buildings for stationing legionnaires, storehouses, and granaries with the Legion headquarters in the center, and this was undoubtedly the case with the castrum in Singidunum. Part of the fortification that was found on the river bank was probably a defended fort for the Roman river fleet.

During archaeological research, remnants of temples of which one was dedicated to god Mithra were discovered here, as well as workshops which fulfilled the legion's needs.

Sharing the fate of the Roman Empire, Singidunum as the border stronghold reached its highest peak during the 2nd and 3rd centuries. The IV FLAVIA legion remained stationed here through the 4th century, when the city began to decline. The fate of this legion during the great invasion of the Goths in 377–378 A.D. is not known. Singidunum was probably finally destroyed in 441 when the Huns conquered it along with other cities on Danube.

THE EARLY BYZANTINE FORTRESS

Singidunum remained deserted for few decades after it was destroyed by the Huns. Its territory and surrounding area, still under nominal rule of the Eastern Roman Empire – Byzantium was frequently attacked by Germanic tribes: Goths, Gepides, and later – Herules. In the meantime, a strong Gothic state was established under the reign of Theodoric. Its eastern border was in Srem, and in respect to this new border, the strategic importance of Singidunum is obvious.

The Byzantine writer Procopius, as a contemporary witness provides the first information about reconstruction of the fortification in Singidunum during the reign of Justinian (527–565). The Emperor rebuilt destroyed Singidunum, surrounding it with strong ramparts, thus bringing back to life the »beautiful and praiseworthy city«.

Lacking in preserved remnants, we can only indirectly judge the extent of Justinian's works at Singidunum.

The necessity and possibilities of defending the Byzantine border on Danube during the 6th century differed greatly from those in the times of the Roman Limes. The new system of defense included a line of smaller fortifications, positioned on vital strategic points along the border, as well as in the interior of border provinces. They were constructed on principles of active defense, in comparison to the earlier ones which mostly consisted of fortified military camps. This was noticed by Procopius as well, who stated that the old fortifications of the Roman Limes were not constructed to be inaccessible to possible invaders, but were in fact garrisons along river banks. Invasion of fortresses was unknown to barbarians of this period. Procopius further stated that Justinian rebuilt fortifications, but instead of giving them their former shape, he constructed strong fortresses. Judging by these Procopius's words, it may be concluded that big border fortifications, especially former legionary camps did not satisfy new needs. One of the articles of the Law on Organization of Military Government in North Africa said that large border cities and castles had to be fortified in such a manner that their defense would be successful with smaller garrisons. This principle ap-

plied to African border fortifications was certainly also applied to fortifications on Danube Limes.

This leads to conclusions in respect to location and size of the late-Roman fortification in Singidunum. The best natural possibilities of defense were offered by the Northwest part of the old legionary camp territory. It seems most probable that the late-Roman fortification was built only on the part of the former castrum territory, and if we start from this supposition we must search for its location in that part which was most suitable for defense. In that case it would include one third of the former castrum territory, which is a little larger than the later defended region of the Upper Town.

Justinian's system of defence on the Danube border, which included the Singidunum fortification, was often attacked by barbarians. In the middle of the year 550, a great invasion by the Slavs was recorded, which could not be prevented by border fortifications.

The situation became worse when Pannonia was conquered by Avars. In Byzantine – Avarian clashes during the last decades of 6th and the beginning of 7th centuries, the fortification in Singidunum played a very important rôle. Battles were fought with changeable luck. In 584 Avars suddenly attacked Singidunum. The fortification was not prepared for defense. Most of the citizens who were supposed to participate in the defense together with the garrison were harvesting their fields at the time of attack. According to Theophiliact Simocate, Avars succeeded in seizing it only after violent battles at the town gates. A few years later, Singidunum was attacked and conquered once again. This time, Avars started the destruction of the fortification and evacuation of its citizens. However the Byzantine military commander Prisk succeeded in regaining the lost fortification. Interesting data on these events is provided by the contemporary Byzantine writer Theophiliact Simocate. He stated that prior to the attack of Prisk's troops and fleet, Avars surrounded the fortification with a row of carts. However, failing to withstand the attack and fearing the citizens behind their back, they were forced to withdraw. Simocate's information leads to conclusions regarding the fate of the fortification in Singidunum at the time of these events. Avars started to destroy the ramparts and evacuate citizens, probably with the aim of finally and permanently disabling the fortification's defense, and in that they partially succeeded. It was impossible to defend the fortification when the Byzantine army came because the ramparts were already partially destroyed. This is shown by the fact that Avars tried to organize

the defense by surrounding the destroyed ramparts with a row of carts, i.e. barricades.

During the first years of the reign of the Emperor Heraclius, the Byzantine rule on the Balkan peninsula suffered a fatal change. The system of defense at the Danube border, shaken in previous decades was completely destroyed by the invasions of Avars and Slavs during the second decade of the 7th century. We do not have direct information about the fate of Singidunum from that period, but it is certain that it was not saved from destruction. The conquest of this city probably preceded the fall of Nis in 614, and Thessalonica somewhat later.



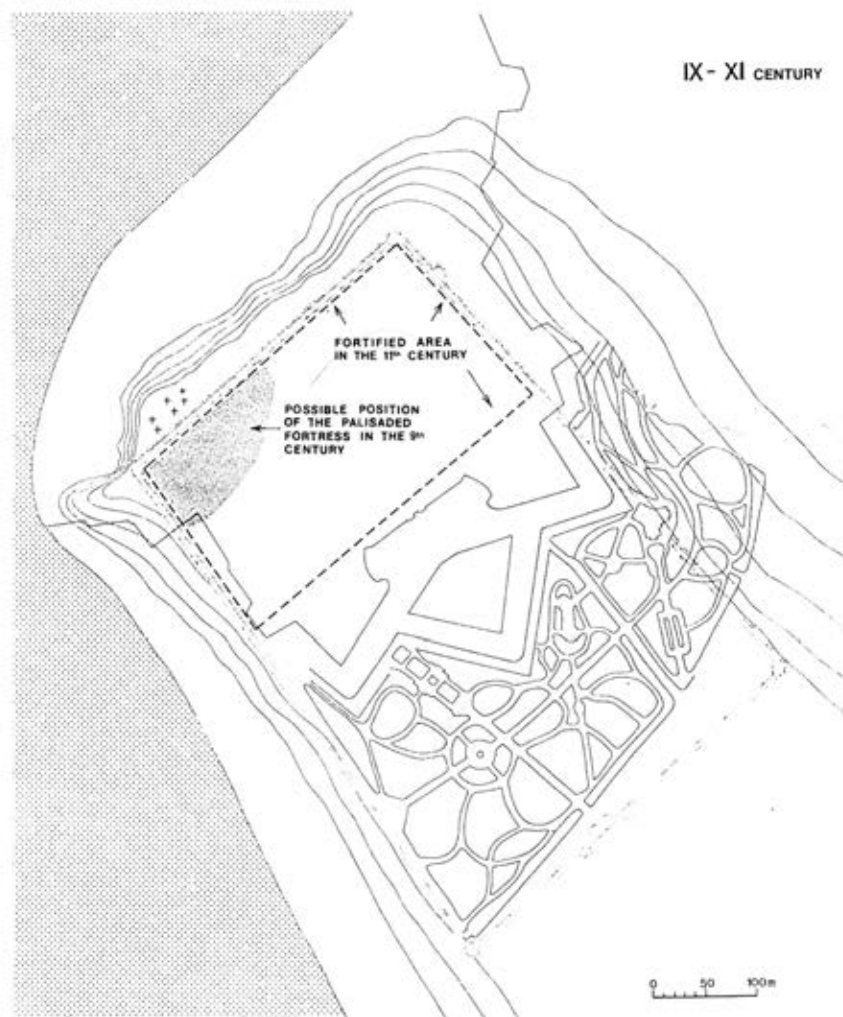
ESTABLISHMENT OF THE MEDIEVAL CITY

Little is known about the establishment of medieval Belgrade which was built on the ruins of Singidunum. From the 6th to the 8th decade of the 9th century, historical sources do not mention any settlement in this area. Only in 878, a letter from Pope John VIII, says that Bishop's seat is in Belgrade, called by its Slavic name for the first time. Only six years later, contemporaries were describing Belgrade as the most famous town on Danube.

When they came, Slavs must have found well preserved ramparts of the Roman, i.e. late-Roman fortification. This picture of the ruins of the late-Roman fortification probably was reflected on the new Slavic toponym, the name – Belgrade. The place of the old fortification was the best site for settlement under the condition that its establishment was directed by needs of defense. This area could not be defended at all without a fortification on the hill. On the other hand, position by the river does not offer any other advantages in comparison to the Upper Town plateau. Thus, it could be supposed that the settlement was initially formed in the area of the previous, late-Roman fortification and then spread towards the river. However, there are no serious archeological documents to evidence this.

The old fortification was probably too big for the needs and possibilities of defense. The ramparts had to be repaired and maintained if the settlement was to be successfully defended. Besides, many defenders were needed for protection of the fortification. At least at the beginning, all these demands could not be met by the newly settled Slavs. For these reasons it is possible to assume that the protected area of the early-medieval settlement included only a part of the earlier late-Roman fortification. This is also noticed in development of cities in Gaul and Germany which all grew in the early-medieval period on Roman remains.

Considering the site of the old Singidunum fortification, its relief characteristics, and position in regard to the rivers, the probable Slavic fortification would have covered the western corner because it represented the strategically most important part of the Upper Town plateau. The soil rampart with palisade and ditch was probably built towards the

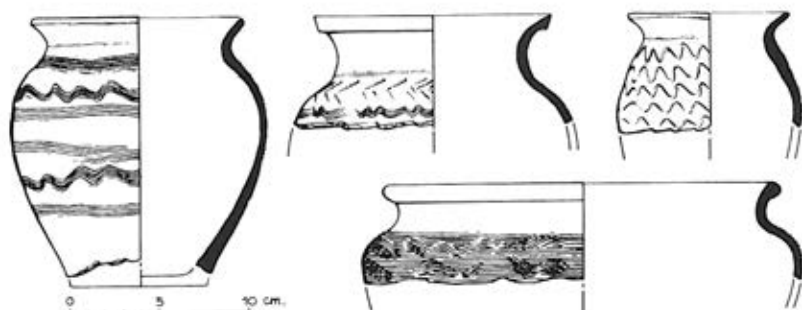


Supposed position of fortification in 9th–11th century

deserted area of the late-Roman fortification and at that time, it represented the usual type of fortification in Slavic countries and greater part of Europe.

Without serious data it is impossible to determine the time of establishment of this fortification. Considering the general situation in the geographical area around medieval Belgrade, it could have been built in the second half or at the end of the 8th century. The settlement, in respect to time and place, was probably fortified in its earliest stage of development.

At the beginning of the 9th century, areas in the vicinity of Belgrade suffered great changes. Avarian Kaganat disappeared from the historical stage, and Frankish reign was established in parts of Pannonia. Bulgarian state developed on the other side, southeast of the town. Later, at the end of this century, Pannonia was settled by Hungarians. Their arrival into the Danube area changed the situation in Middle Europe, and this greatly effected Belgrade's destiny.



Ceramics from settlement in 9th-10th centuries

BYZANTINE BORDER CASTLE

Byzantine reign was reestablished on the Balkan peninsula after the conquest of Samuil's Macedonian state, in the second decade of the 11th century. In conquered regions, a legal system was established, with themes as military-administrative units. For the first time after Slavic migration, the Empire border was on Danube. The Emperor Vasil II entrusted in the hands of Constantine Diogenes, one of his best military commanders organization of new government and the defense systems in this region. This was of far-reaching importance for Belgrade, which became one of the most important strongpoints on the north Danube border. This resulted in development of its fortification and growth of the town settlement. Along with organization of defense system, Belgrade probably got the permanent military garrison which required much larger and stronger fortification than before. During the period of about two centuries, until the end of the 12th century, Belgrade was in the middle of all wars at the Byzantine-Hungarian border and often played the main role in the clashes.

The Belgrade fortification was at that time of great significance in functioning of the Danube border defense. However, destiny of border fortifications, their reconstruction or building were not only influenced by the real needs, but also by the internal situation in Byzantium, as well as the Empire's politics at that time. This can clearly be seen in the example of the Belgrade fortification.

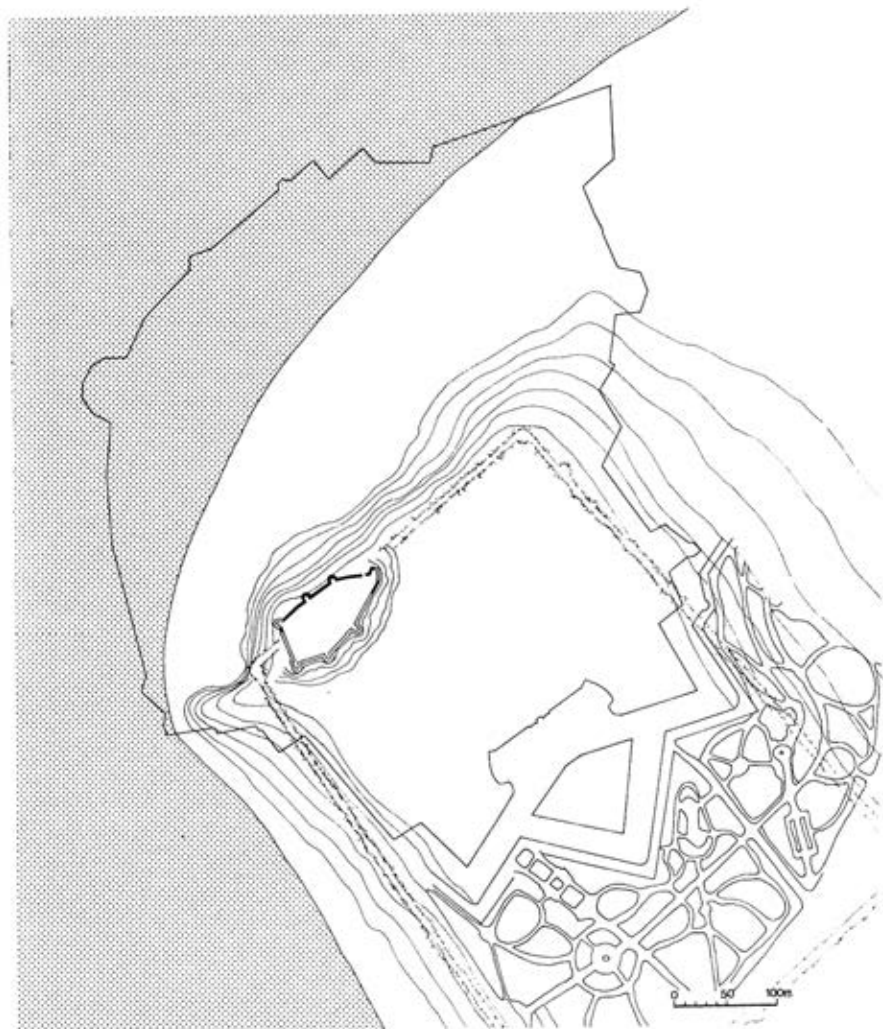
According to historical sources, Belgrade had the fortification with stone ramparts for the purpose of defense in the 11th century. However, the results of archeological research show that, from the establishment of the Byzantine reign until 12th century, no new fortification was built in Belgrade. These facts allow a serious hypothesis that Byzantine garrisons used the late-Roman fortification whose well-preserved ramparts were just repaired. The old soil-palisade fortification was not adequate for defense of the Byzantine border. Use of the late-Roman fortification for defending Belgrade in the 11th and the first half of the 12th century was not a unique practice in the area of the Danube border of the Empire. Reasons for this are to be found in the deep internal crisis which

Byzantium was undergoing during the 11th century after the death of the Emperor Vasil II.

Unable to construct a new fortification, the Byzantine garrison in Belgrade must have been forced to use the partially repaired old Roman ramparts as a temporary solution. This, however, did not offer best conditions for defense. Similar observations come from chroniclers who went with the crusaders in 1096. The Byzantine commander did not dare rely on the strength of the town ramparts, and instead sought security in the better fortified Nis, where he awaited the crusaders. Weakness of the Belgrade fortification at that time was also apparent in clashes with Hungarians.

In 1072, during the war with Byzantium, Hungarian king Salomon attacked Belgrade. During the siege that lasted for two months, invaders used siege equipment and eight wooden towers that were twice as high as the ramparts. After a violent struggle, the ramparts were almost completely destroyed and the garrison was forced to surrender. A few decades later Hungarians succeeded in conquering Belgrade again. According to the Byzantine chronicler John Kinam, they »leveled the city to the ground«, and the stones from the destroyed ramparts were brought to Zemun and used for in the building of the new fortification. The exact degree of destruction is hard to determine, but it was probably very large. However, destroying the fortification was a great technical problem and required great effort. Besides, the stone had to be taken to Zemun by ship. Thus, it is possible to conclude that Hungarians did not have enough time for destruction of fortifications since Byzantium soon regained the fortification. A chronicler who came to Belgrade in 1147 following king Louis VII of France noted that the fortification, even though weakened regained its function.

When Emperor Manuel I Comnenus came to the throne (1143–1180), more attention was paid to events at the northern border. More than in the previous years, Byzantine-Hungarian interests were confronted, causing frequent wars. In this situation, full recognition was given to the strategic position of Belgrade which was the starting point of Byzantine operations against Hungarians. The army and fleet resided in the town and its vicinity, and even Emperor Manoil I on a number of occasions personally directed war operations. The road to Zemun and Srem, on the main Byzantine war path, led through Belgrade. Therefore, it had to be better fortified.



Byzantine castle in second half of 12th century

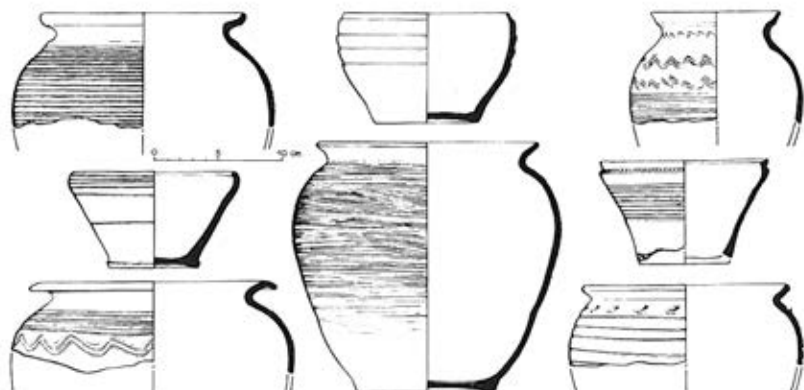
Judging by the information supplied by a Byzantine chronicler, construction of the new fortress-castle started in 1151. The stone was brought from destructed Zemun and the fortress was built by numerous Hungarian war-prisoners. The work lasted, with some interruptions until 1165, when the new castle was finally finished. Remains of the oldest medieval fortification in Belgrade were discovered during many years of archaeological research, and they present areal disposition, manner of building and function of the fortification.

The castle was built in the strategically most important part of the Upper Town plateau, in the present-day area between the Winner monument, and the Turkish fountain at Deftadar's Gate. This position was protected by the rocky cliffs on the west and northwest, while the accessible southeast side was protected by a ditch. The newly built fortification had an irregular deltoid base, 135m long and 60m wide. The firmly built stone ramparts were reinforced by polygonal, almost semicircular towers, located at regular distances from each other. The castle gate position was determined by defense needs. It faced the Danube slope and was in the place where it would not be exposed to direct attack. In order to approach the gate from the main communication channel (present-day Knez Mihailo street) it was necessary to go around the eastern tower of the castle. On the other hand, this position facing the Danube slope enabled easier communication with the settlement by the river as well as fast retreat in case of a sudden attack from the river.

Base-form, size, and function of the newly built castle in Belgrade are typical for the 12th century military architecture. Its small dimensions were actually not the result of real needs but of actual possibilities. This also limited its function. Within the walls of the castle there was room for the Byzantine town commander and a part of his crew. However, the possibility of it becoming refuge for the Emperor, who resided there personally a few times, must have been considered when the Belgrade castle was built. The presence of Emperor Manuel I Comnenus during the construction of this castle confirms his interest in these works. Workers from Constantinople were brought to participate in building of the new Belgrade walls.

System of defense at the northern border was not capable of withstanding the Hungarian attack in 1182. With other fortifications, Belgrade was also temporarily seized. Somewhat later, Byzantium peacefully regained lost areas, but the destroyed defense system was not reinstalled. A

few years later, at the end of the 12th century, Byzantium finally lost Belgrade, and its borders were moved to the far south.

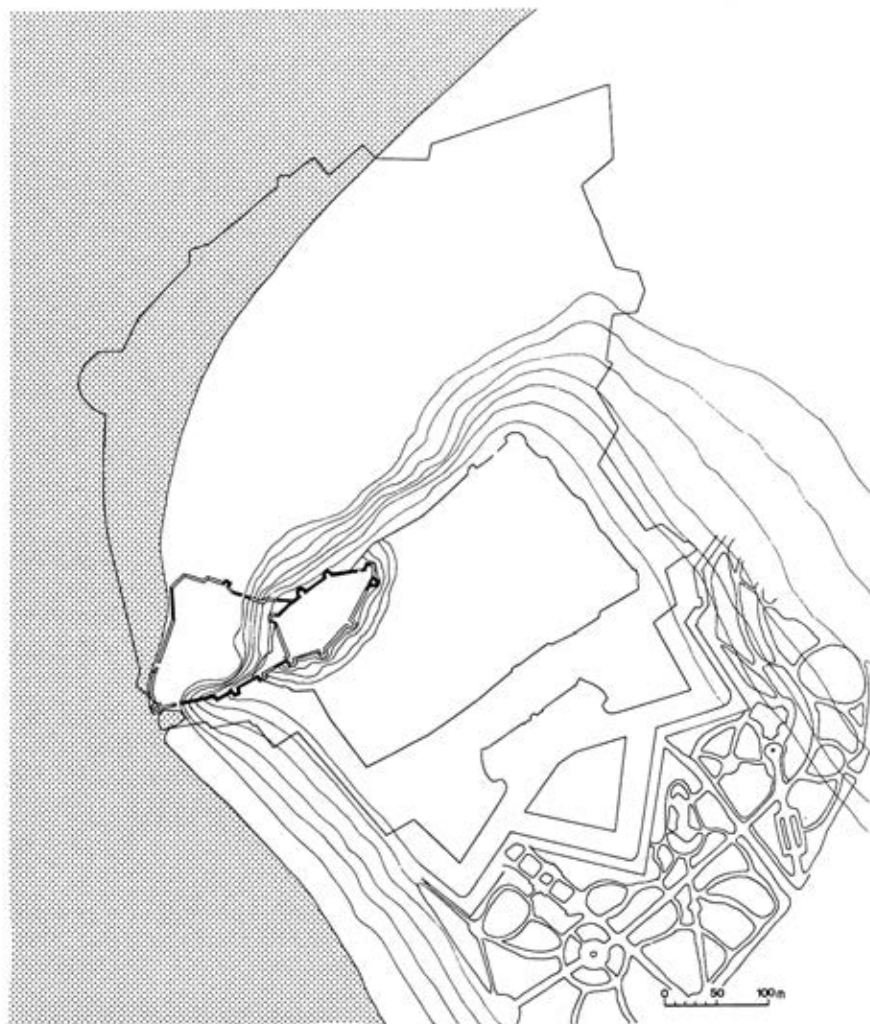


BETWEEN SERBIA AND HUNGARY

After the destruction of defense system at the Danube border of the Empire, and withdrawal of Byzantium from the region of north Balkan in the 12th century, the geo-political position of Belgrade suffered essential changes. New states, Serbia and Bulgaria were instituted on the former Byzantine territories south of Danube. The interests of these two states were soon confronted with the Hungarian desire to spread towards the central region of the Balkan peninsula. Later, starting in the 14th century, the efforts of the Serbian rulers to strengthen the borders of their state at the river banks of Sava and Danube become evident. They wanted to provide the defense and survival of Serbia on that territory. Its center was Belgrade and this greatly influenced its destiny as a settlement and a fortification.

During the 13th century, Belgrade was long in the rear of the southern Hungarian border, out of war clashes. Being in such a position, Belgrade could only play the role of a rear fortification with no great strategic importance. There were no essential changes in this respect even after 1284, when Belgrade was peacefully, by a decree of the Hungarian king, handed over to Serbia and annexed to the territories under the rule of Stefan Dragutin after his resignation from the Serbian throne. According to the Hungarians, Belgrade remained a part of their territory. In this peaceful period the town was not fortified. The old Byzantine castle, renovated and maintained fully satisfied the defense needs, in view of the function that Belgrade had at that time.

Essential changes finally occurred in 1316, when Belgrade was, after the death of Dragutin annexed to the Serbian state. Considering that, being a question of conquest heritage, a Hungarian attack was to be expected in the near future, defense of occupied towns was given special attention. According to the evidence supplied by contemporary Hungarian sources and new archaeological research, a new fortification in Belgrade was built during the three short years that it was under Serbian rule. Part of the area at the river bank was surrounded by ramparts and connected with the castle on the hill. The new outer ward at the river represented an important element of defense. Its erection enabled more successful protection of the castle in case of an attack from the rivers. New ramparts were extended towards the river bank, for observation of



Belgrade Fortress in 15th century

the border river and the direction of the defense to the north, from which the Hungarian attack was expected. The fortification at the river bank offered a number of other advantages: it enabled the control of traffic on the Sava river and easier supply of the town in case of a siege – especially with water which was an essential part of the defense system. The most suitable position on the river bank was chosen for its construction, enabling the connection of the new fortification with the castle, thus forming a new defense system. In this respect it represented a good, modern solution of the fortification.



Part of North rampart with remains of Gate



East Gate with Tower IX in Upper Town

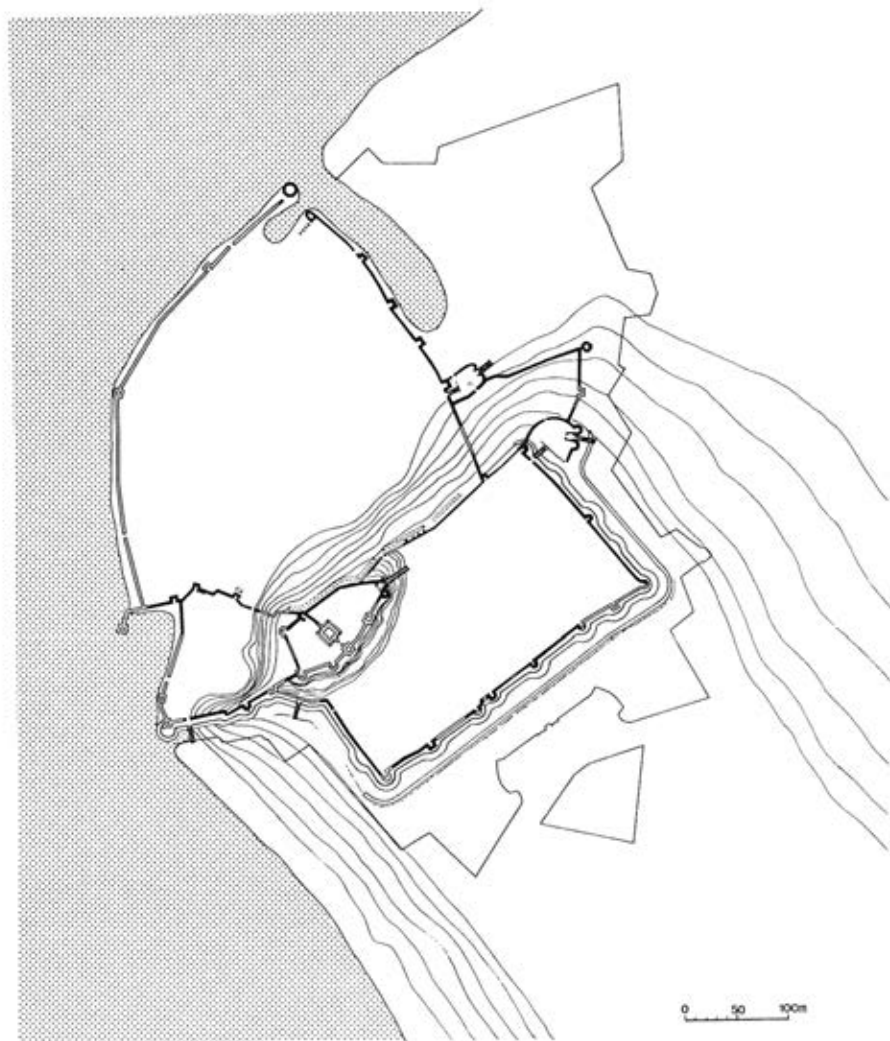
THE SERBIAN FORTIFIED TOWN

After the Hungarian conquest, Belgrade remained a border fortification in the now broader system of defense of the southern borders of the Hungarian state, which was no longer peaceful. Serbia lost Belgrade but kept the desire to regain it and set her borders on Sava and Danube.

In the meantime, Turkish campaigns started on the Balkan peninsula. After the battle on Kosovo in 1389, Serbia had to fight for its survival. She found a natural ally in Hungary, threatened by the same enemy. Serbia and Hungary became allies after the great Turkish defeat in the battle of Angora in 1402. An agreement was made, and Hungary handed Belgrade to Serbia in 1404, and in return, Serbia's despot accepted vassal obligations toward the Hungarian king.

Further fate of Belgrade – its development and transformation into a fortified medieval town was greatly effected by its return within the Serbian State borders. Considering the great strategic importance of Belgrade in the survival of Serbia, which was endangered by the increasing Turkish power from the south, despot Stefan chose it to be the capital of the state. Thus, Belgrade became not only the defensive strongpoint of the state, but also its economic and cultural center. At that time, the major fortified cities Novo Brdo and Krusevac were in the southern and central areas which were most exposed to enemy attacks. When he chose it to be the capital, despot Stefan was well aware of Belgrade's strategic importance in respect to the geo-political situation at that time. Being in the far north of the state, Belgrade was most suitable to play a defense role. It was sufficiently distant from sudden Turkish attacks, to allow enough time for defense preparations. On the other hand, in case of siege, thanks to its position, Belgrade would easily turn to Hungary for help.

Archaeological research offers abundant information about development of Belgrade from 1404 to 1427. The general picture of the town and its fortification can also be obtained from the notes of despot's biographer, Constantin the Philosopher, and the French author Bertrandon de la Broquere. Their notes are trustworthy testimonies of eyewitnesses who stayed in Belgrade and described the town as they saw it.



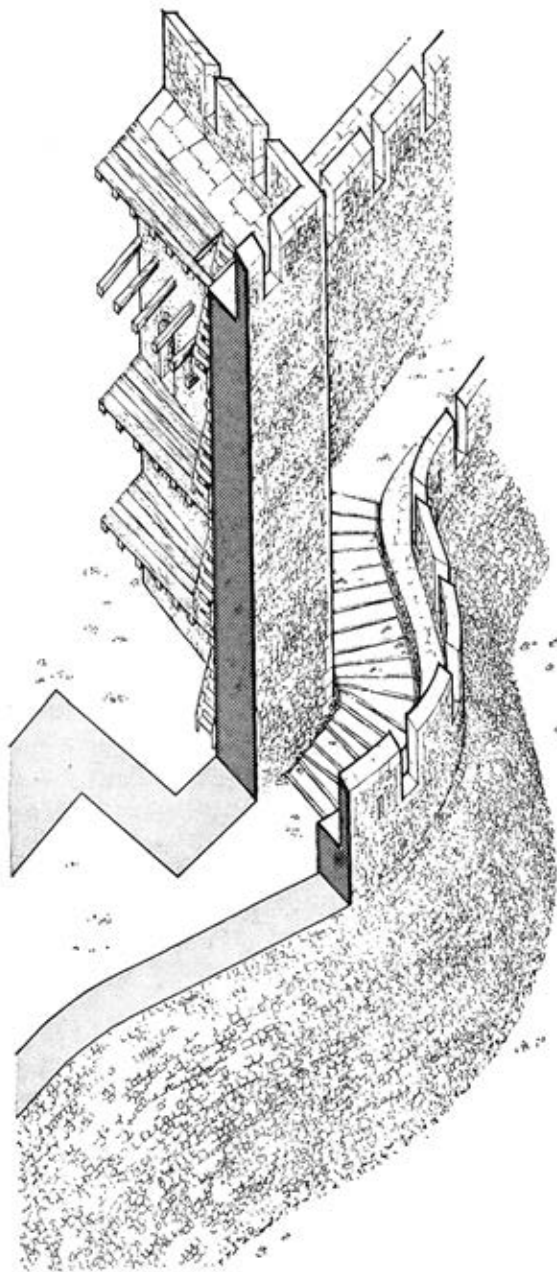
Belgrade Foteress in 15th century

Construction of new fortifications in Belgrade was a hard and complex job under the conditions at that time. A few stages of building can be separated through analysis of the relationship between the found ramparts and fortifications and reconstructions made on the same. These phases are especially apparent in the newly built fortifications, which show certain changes of initial plans and ideas. Construction was done in three basic stages, which reflect the gradual process of development of the fortification in medieval Belgrade within a short period of only 23 years.

Immediately after occupation of the destructed and deserted town it was necessary to undertake restoration works on the fortifications. The old Byzantine castle, now functioning as the fortified castle of Despot Stefan was thoroughly reconstructed and rebuilt. The complex of the big main dongon tower and some buildings were constructed in its center. Besides the restoration of the ramparts, the fortification by the river, made a few decades earlier was also reinforced by the formation of a fortified port. A big tower was built in the riverbed and a rampart connected it with land. Bertrand de la Brociere wrote that the entrance to the port was closed with a chain, and that it had in its protected area space for 20 galleys.

After restoration of the old fortifications, the new one-the Upper Town was built in the northwestern part of the former Roman legionary camp area. Its base was of a relatively regular rectangular shape, 300x160m. The restored castle with king's manor was in the west corner. The new fortification was surrounded with a system of double ramparts. On three sides the ramparts consisted of an inner, main rampart, about 7m high, and a lower outer rampart having a stone scarp on the northwestern side. This was not completed, however, due to changes in the initial plan.

The degree of fortifying the ramparts was determined with respect to the position and function of each of the ramparts in the defense system as a whole. This especially influenced the number and position of towers of the inner, and bastions of the outer ramparts. In this respect, a greater attention was paid to the fortification of the northeastern and southeastern ramparts, positioned towards the easily accessible entrances which were difficult to protect. The new fortification had a gate on each side. The main entrance into the Upper Town was the Southern Gate, positioned towards the main direction of communication, present day Knez Mihailo's street, and further the road to Constantinople. It was protec-



Tower VII of West outer ward, restitution of view with cross-section

ted by two strong side towers. The Eastern Gate, completely preserved was not so well fortified. The new fortification at the riverbank – Donji Grad (the Lower Town), the construction of which started after the Upper Town fortifications were built apparently was not initially planned. This is shown by its relationship with the previously built and changes required by its construction. The sudden development of Belgrade had vital influence on the change of the initial plan and on the decision to build the new fortification – Donji Grad. Increase in the number of citizens and the development of economic and other functions of the town resulted in sudden expansion of the settlement. Important institutions and a great number of rich citizens and merchants were now to be protected and the newly built fortifications were not sufficient for this purpose. It seems that the development and expansion of Belgrade was faster than the development of its fortifications.

The new fortification included the Danube slope and a wide area near the river to the east of the old fortified outer ward. Position and shape of the Donji Grad base were influenced by the position of the formerly built fortifications and by the Danube riverbank. In its defense system, the main role was played by the northeastern rampart which divided the area from the Upper Town to the riverbank at a length of about 330m. It was reinforced by massive towers and included the main Lower Town Gate in the direction of the eastern communication road. In front of this rampart a big port in the form of a big lake was built, probably intended for civilian needs.

When the works were completed during the reign of Stefan Lazarevic, Belgrade was a well fortified medieval town in a contemporary sense. The protected area in relation to its previous state was ten times larger. Construction of the new fortifications divided the area in compliance with new functions and the applied system of defense. The separate and best protected part was the castle with the manor complex. This previously independent fortification could under the new conditions be very well protected as the last defensive strongpoint. It had its own special commander, »the duke of the castle«. The castle was surrounded by three separately protected fortifications, different in function and in role they played in Belgrade's system of defense. The most important of those was the new Upper Town fortification. Its aim was to protect the town from the most suitable direction of attack. In a functional sense it served for lodging of the main part of the army garrison and also as a residence for lords and other people close to the Court. It is known that despot's sister



North Tower of Upper Town

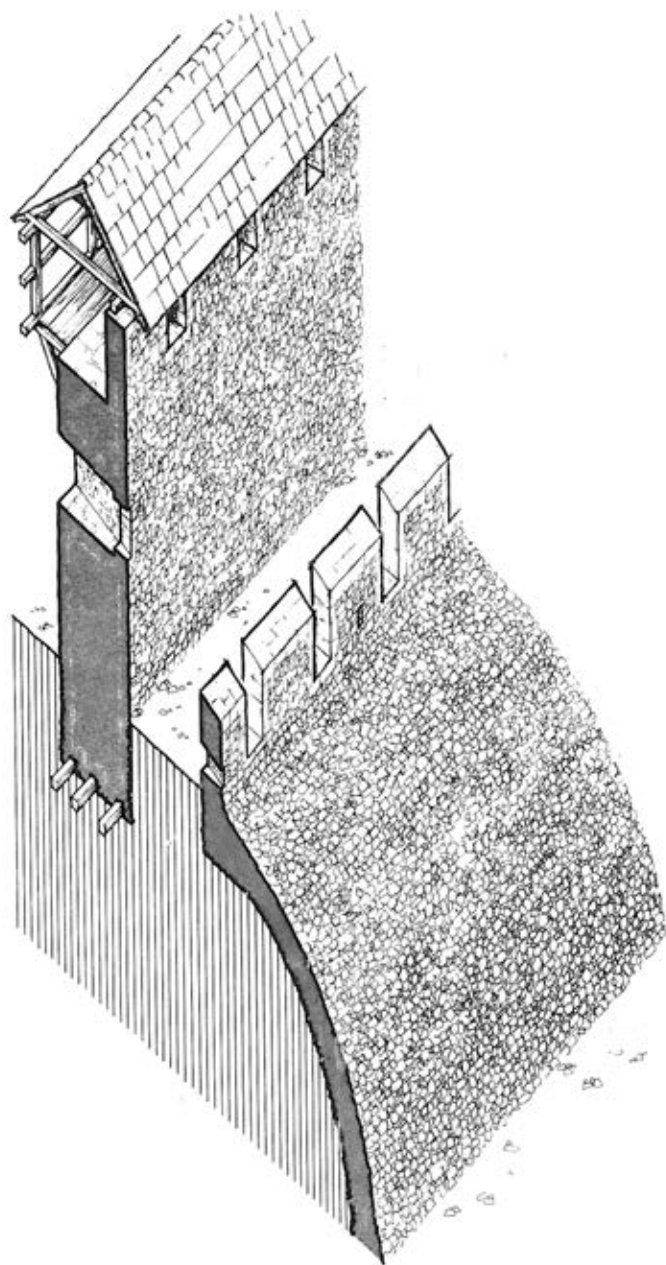
Olivera's house was here and that a few decades later the count Urlih of Celje resided in the Upper Town.

In comparison with the Upper Town, this fortification had the function of a fortified settlement – outer ward. The new ramparts protected the most important part of the town which already existed in the area. This was an important factor in further development of Belgrade and in the better security of its citizens. The Church of Dormition of Our Lady was one of the most important institutions of the city, near which was the manor of the Belgrade archbishop within the new fortification. There must have been other public buildings there, as well as some wealthy citizens' residences.

The general position of Belgrade and the position of the newly built fortifications allow the study of the basic idea of defense. It was founded on an assumption that the town was endangered by attack from land from southern and eastern directions. It was assumed that in case of siege, the defenders could not control the rivers so that an attack was not possible from that side. This was a very important evaluation of Belgrade's position at the time when construction of the fortification was started. The town had to be protected from Turkish attack, which was the main reason for the fortification. Assistance was expected from Hungary, whose vital interest was that Belgrade remains a strongpoint for stopping Turkish campaigns heading north. These attacks could be expected only from land because the rivers were still under firm control of Serbia and Hungary. The complete defense system of Belgrade was based on these strategic assumptions, varified by experiences during sieges in 1440 and 1456. Conquest of the town was hardly possible only by land attacks. The established defense system was destroyed only after the control over the rivers was lost.

New fortifications in Belgrade were built by the Serbian despot and his followers. Participation of foreigners was not mentioned in any of the documents. The complete system of defense and fortification ideas reflect the earlier development of Serbian towns. There is practically no copying of foreign ideas.

In the second half of the 14th century Serbian military architecture changed greatly due to changed political situation. Compared to earlier periods the new fortifications were built on strategically important, but difficult to protect positions in the plains. Complexes of rulers' and lordes' castles were often included in them. All this called for reinforcement of the defense system and use of more complex fortification solutions. The bases were usually regular in shape in order to enable equal



Northeast rampart of Upper Town – restitution of view with cross – section

protection in all directions and areal divisions were more complicated. The castle with its main tower was designated as the final strongpoint of defense. The ramparts were also changed. Besides the main rampart, the lower outer rampart was built as the defensive frontline. The double rampart of Serbian fortifications differed from those in Western Europe in form and manner of construction. Certain specific characteristics were also noticed in the construction of towers.

All of the above characteristics were fully expressed in the construction of the new fortifications in Belgrade. Former methods were applied, however they were much improved. The defense system, shown by the position of the new fortifications and double ramparts represented a good and contemporary method compared to the development of European battle fortifications. The building of Belgrade was the best achievement of Serbian military architecture.



Nebojsa Tower in Lower Town

AT THE BORDER OF EUROPE – ANTIMURALLE CHRISTIANITATIS

The sudden development of Belgrade in the first decades of the 15th century was interrupted by the death of Despot Stefan Lazarevic in 1427. According to a contract signed earlier, the town was to be returned to Hungary in return for their approval of the chosen successor to the Serbian Despot. This was undoubtedly a hard decision to make. It was necessary to give over the town which was built and fortified with great effort for more than two decades. Despot Stefan considered it most important that Hungarian king acknowledges the chosen successor for the sake of continuity of government and security of the state. Disregarding the loss at that moment, consolidation of relations with Hungary and an alliance against Turkey were of greatest importance. Fortified Belgrade was the victim of higher interests of the state.

The position of Belgrade changed under the Hungarian rule. The former center of Serbia became the key fortification in the defense system of the Hungarian southern border. This, however represented no change in functioning of the defense system. The town was previously fortified for the sake of protection against the Turkish invaders as a main Serbian strongpoint. In the new situation the defense from the Turks and the protection of Hungarian safety became the basic functions of Belgrade. The town played this role successfully for whole century.

In an organizational sense Belgrade was annexed to Macva in the 14th century. The town's chief commander was the captain. The »kastelan's« primary duty was to care about safety and maintenance of the fortification, while the captain commanded the army. Considering the great military – strategic importance of Belgrade its captain had a higher rank compared to other Hungarian commanders. He was appointed by the king personally and was always a man of great trust. The commanders were often chosen from the most influential people in the kingdom. For some time, the town ruler was Janko Hunyadi, the most distinguished personality in Hungarian history of the mid-15th century.

During the 15th and in the beginning of the 16th century, the obviously important geo-strategic position of Belgrade came to full attention, especially after the fall of Serbia when Turkish conquerors reached the

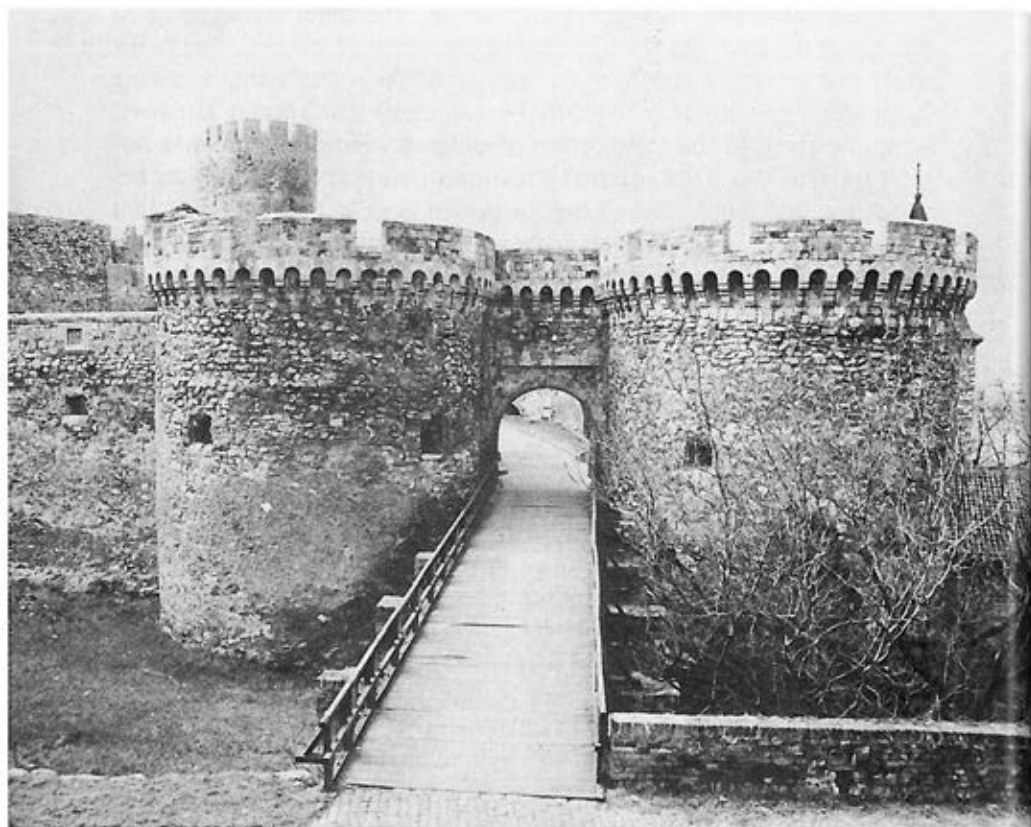


Remains of East Gate in Lower Town

town ramparts. For Hungary, Belgrade was the main strongpoint of defense of the southern borders and the guarantee of security. The Turks could not seriously endanger the center of the state without seizing Belgrade. Thus, it could logically be supposed that special attention would be given to the fortification of Belgrade. However, this was not the case. The disturbed internal situation in Hungary and conflicts between the high nobles struggling for power were at their worst at that time. The king was not able to resist and protection of the borders depended on chance or individual abilities. Any serious works on the fortification of the town were out of the question. Old fortifications were restored and very few new ones built – far less than what was needed. The fortifications dated from the Serbian despot's reign were based on principles of side-arms war because the siege artillery was in its infancy at that time.

During the last decades of the 14th century, the cannon gradually became part of the town defense system. The first, still not perfected cannons were not adequate against the conquerors. Only at the beginning of the 15th century the siege artillery develops faster. The new powerful weapon had vital influence on the system of defense and resulted in the appearance of completely new forms of artillery fortifications. The old fortifications had to be adapted to new needs and new ones had to be built based on the principles of successful defense against the siege artillery. This was not the case in Belgrade. Due to insufficient measures this important fortification was well behind the development of European fortifications.

At the end of the fourth decade of the 15th century, Belgrade was endangered by the possibility of direct Turkish attack. In 1438, the Turks conquered a considerable part of Serbia and in June of the following year after a three-month siege, the Serbian new capital Smederevo was conquered. The Turkish campaign headed for Belgrade commanded by the Sultan Murat II started in the spring of 1440. The number of soldiers participating in the attack cannot be exactly determined, but estimations reach a number of about 20000. The town was surrounded on land and towards the rivers. The siege formations were positioned in front of the town ramparts, and the tent-camp for accommodation of troops was placed in the rear. The siege armaments included cannons which still had small destructive power. The course of the siege which lasted five months is not known in detail. Belgrade was bombed by siege arms with an aim to breach the ramparts for the infantry assault. However, it may be concluded that bombing gave no desired results, and mining of the ramparts



Zindan Gate in Upper Town

was attempted. A contemporary witness recorded that Turkish soldiers have secretly started to dig an underground passage which was discovered by the defenders and destroyed with explosive, causing numerous casualties. After this failure, the Turkish army started the main attack on the town. In the general assault, the attackers succeeded in climbing the ramparts at few points where major battles were fought. Defenders very successfully used fire arms, especially rifles, the effect of which was best noticed in defending access to the ramparts. In a violent battle defenders succeeded in forcing a Turkish retreat and the city was defended by its own forces, without any help.

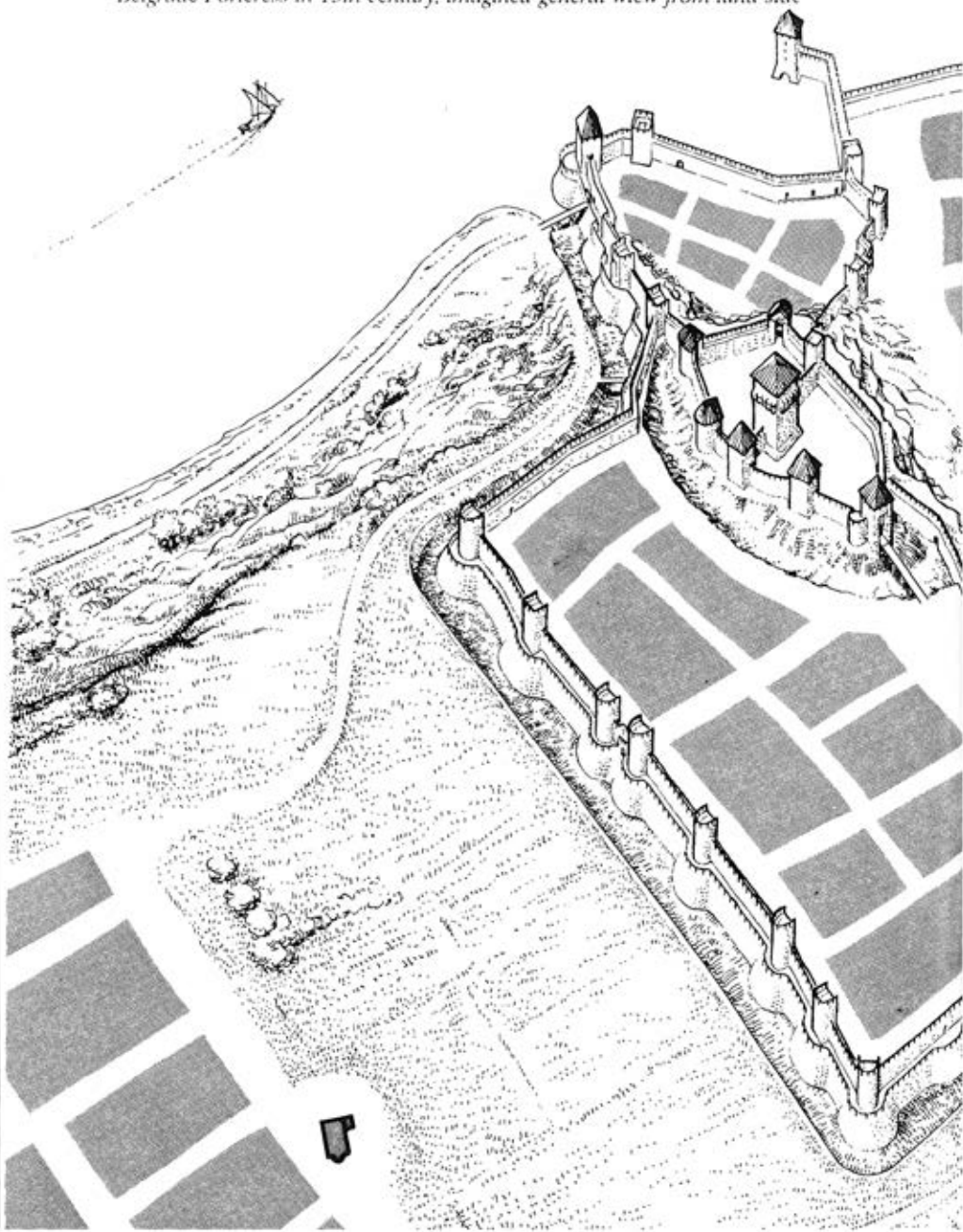


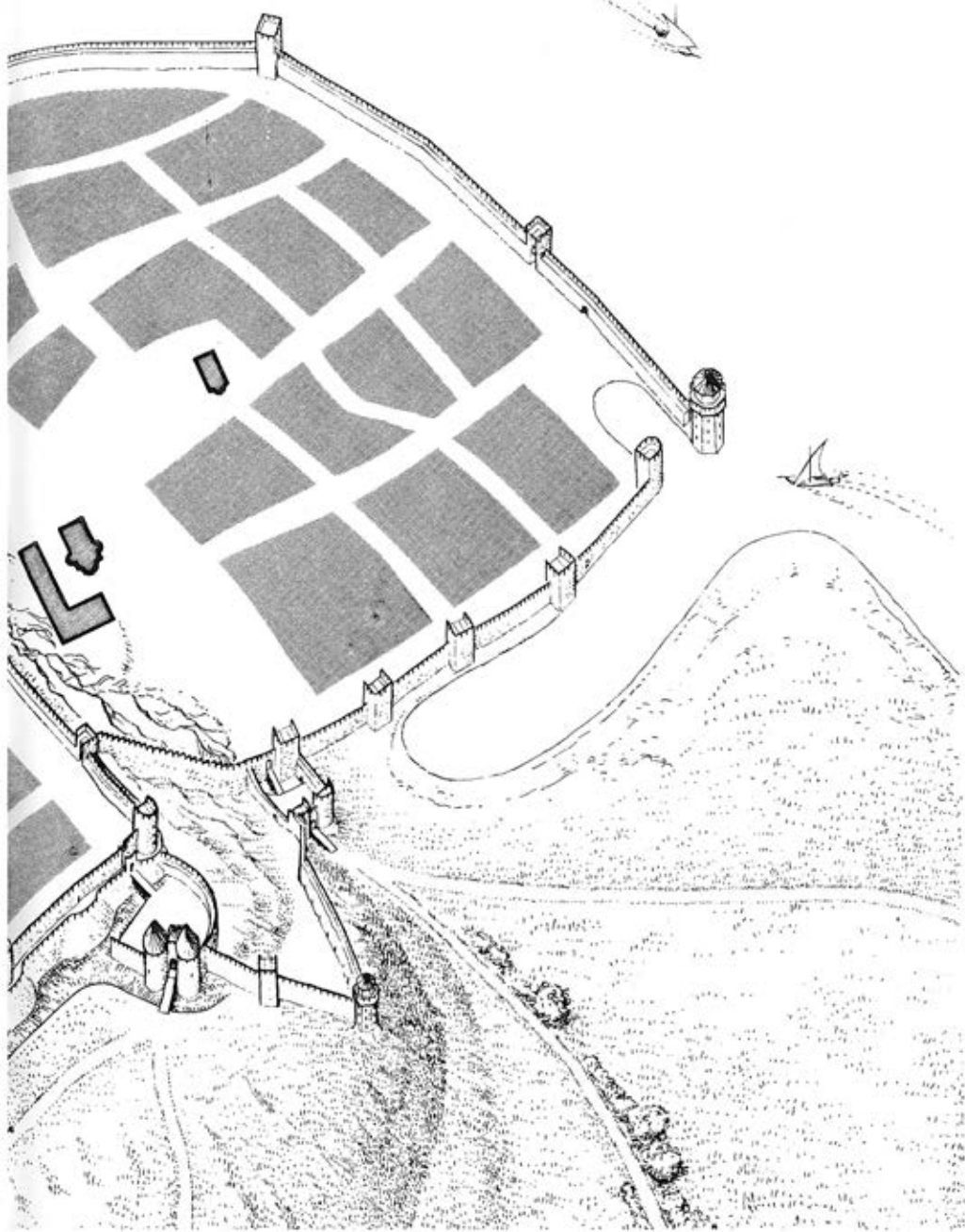
Jakšić Tower

Analysis of the course and results of the 1440 siege allow insight into the quality of the Belgrade fortification, built during the rule of the Serbian despot. Main attacks were done from land at the best fortified side of the town. The system of double ramparts could not be destroyed by an attack of not yet perfected artillery. However, the experience of this siege showed weak points of the defense system, in the first place the town gates.

During the necessary works which followed the siege along with the repair of the ramparts, special attention was paid to the reinforcement of the town gates. The Upper Town South Gate was walled-up since it

Belgrade Forteress in 15th century, imagined general wiew from land side





was hardest to defend due to its position on the easily accessible land side. Its role was overtaken by the East Gate, especially fortified along with the Lower Town gate of the same name. Barbicans were built in front of these two, now main gates. In front of the Upper Town gate the present-day Zindan gate complex was built including two strong semicircular towers and the massive arc rampart, providing positions for seven cannons. A somewhat smaller fortification with two semicircular towers and positions for four cannons were built in front of the Lower Town East Gate.

Construction of the outer fortifications greatly reinforced the protection of the gates. The possibility of direct attack on the weakest points of defense system was prevented. An especially important element was the building of places for defense artillery from which the cannons could well defend access to the gates. This shows that artillery started to play a greater role in the defense system. At the same time this is the first attempt to adapt the Belgrade fortification for the use of artillery as a new weapon.

After the failure of the siege in 1440, the Turkish army did not attack Belgrade for a long time. The new wave of conquests of the Balkan countries started with Sultan Mehmed II (1451–1481) coming to the Turkish throne. The first attack was on Constantinople, which was conquered in the spring of 1453, and was followed by the attacks on the Serbian despotat, while an assault on Hungary was planned. Belgrade was first on the list, being an outpost of the Hungarian states.

An enormous Turkish army led by Mehmed II personally and counting about a 100000 men according to contemporary records reached Belgrade at the end of June, 1456. The powerful Turkish fleet came by Danube. Special attention was given to siege artillery including cannons which successfully destroyed the Constantinople ramparts. According to European views, the Turkish army possessed the most advanced and strongest artillery.

While the Turks advanced toward Belgrade, Hungary made great efforts to gather an army for defense. Some troops were gathered by J. Hunyadi, the Hungarian army commander. The weak and untrained crusade army was gathered, thanks to the efforts of Franciscan John Capistran in the neighbouring European countries. Contemporaries have recorded that Polish students from Krakow University came to Belgrade's aid.

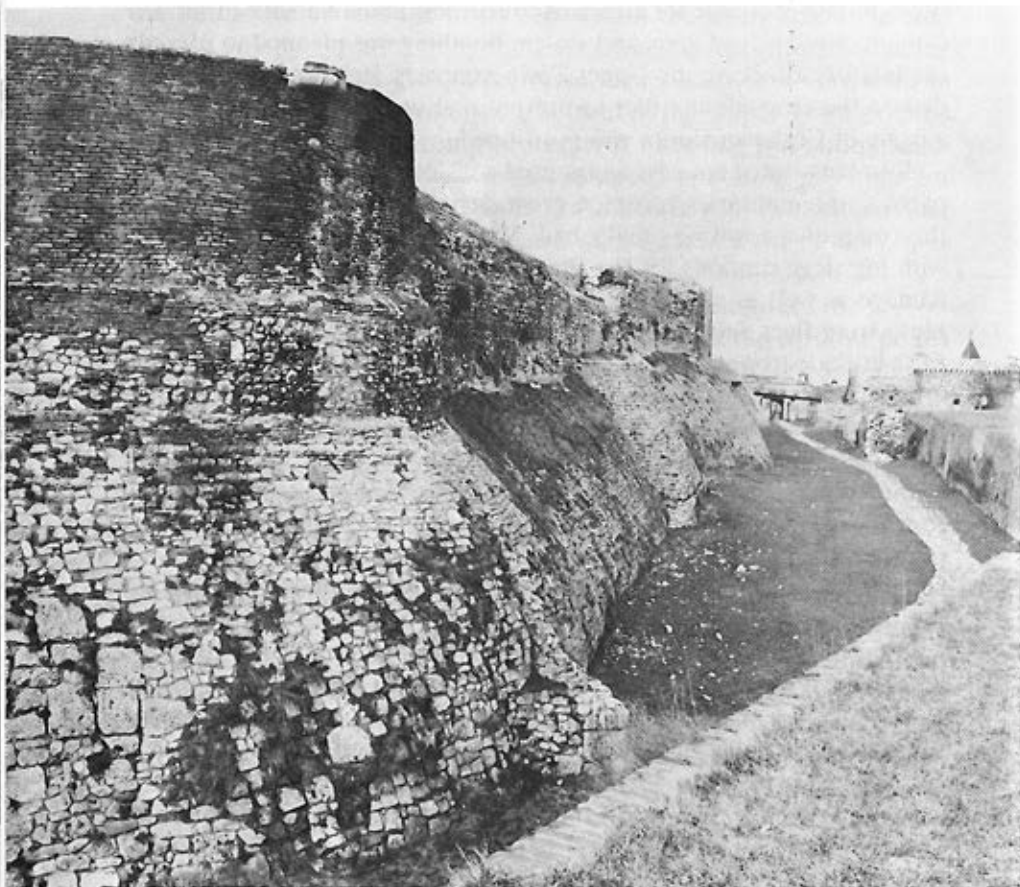
In the first days of July, Belgrade was firmly surrounded on all sides. The main siege formations were positioned at the southern access to the

town, as most suitable for attack. About 20 big and a number of smaller cannons were placed here, and violent bombing was planned to precede the infantry attack on the Upper Town ramparts. Belgrade was surrounded on the riverside in order to prevent assistance from Zemun, where a camp of Christian troops was positioned.

Bombing lasted ten days and caused considerable damage to the ramparts. Contemporaries recorded great destruction and the situation in the conquered town was really bad. Many of the defenders were faced with big siege cannons for the first time and that caused psychological damage as well as actual destruction. The situation changed when the Hungarian fleet succeeded in breaking through the siege and enabled fresh crusade troops to enter the town. Failing on the rivers, the Turkish army started the main attack in the evening of July 21, and some of Turkish formations entered into the Upper Town through breaches made in the ramparts. The most violent clashes were on the bridge in front of the entrance to the castle, and the attackers were defeated and forced to withdraw. Wishing to illustrate the violence of the battle, a contemporary recorded that after the battle, a sparrow was found on the field, stabbed with three arrows. The Sultan himself was wounded in the counterattack by the defenders.

The successful defense of Belgrade was celebrated throughout Europe as a great Christian victory. The Turkish campaign towards the north was stopped for the following few decades. Success was achieved primarily thanks to the exceptional efforts of the defenders. The town fortifications, even though greatly damaged, withstood bombing by powerful cannons for a few reasons. In the first place, the position bombed was unsuitable for siege artillery action, with the exception of the southern side. Besides, the unperfected system of operating the siege artillery prevented the expression of its full destructive potential. This situation showed some of the advantages of certain methods applied in the construction of the fortifications in the beginning of the 15th century. The outer ramparts with the stone scarp prevented direct shooting to the base of the main rampart and thus prevented more serious damage to the same. However, it was noted that the town ramparts, only 2m thick and constructed for defense against side arms were too weak for new conditions. The successful protection from siege artillery which improved constantly, called for major reinforcement of Belgrade fortifications.

However, measures undertaken in the restoration of Belgrade fortifications were not done in this sense. The main aim of the works was to increase firing power of the defense and not to reinforce the weak ram-



Upper Town, General view of Northeast rampart

parts. The new fortification was built protruding between barbicans of the main gates, known today as the Eastern Outer Ward. On its most protruding part, a polygonal cannon tower was built (presently called Jaksic tower). This fortification was to protect the access to the north-eastern side of the town and the main gates with side fire. A bigger polygonal cannon tower, known today as Nebojsa tower was erected on the Danube bank to protect the port. With these works the fortification was reinforced, however not adequately because contemporary European fortifications were much more advanced.

Until the beginning of the third decade of the 16th century, the Turkish army did not use any noticeable forces to attack Belgrade. Less serious clashes at town accesses were quite frequent, initiated by the Turkish garrison stationed in Zrnovo on mount Avala. At this time the defense system of the southern Hungarian border was in a rather poor state. Fortifications were badly maintained and insufficiently armed. Hungary, damaged by interior conflicts was unable to provide powerful garrisons for her border towns and the conditions were suitable for further Turkish expansion towards middle Europe. Young militant Turkish Sultan Suleiman wanted to start his reign with the conquest of Belgrade – the unreach goal of his ancestors. Learning on the experience from earlier sieges, Suleiman started his attack by conquering Srem and thus severing the connection with Hungary. At the end of July, 1521, the city was completely surrounded under Sultan's command from the camp in Zemun.

The main direction of attack was on the considerably weaker fortification on the riverbank. The left wing of siege troops attacked the north-east rampart of the Lower Town. The defenders resisted well from the Nebojsa Tower, but the Turks burned it on the 4th of August. A Turkish chronicler noted that an »unbeliever's spine was broken« when Nebojsa Tower was burned down. The right wing of Turkish forces attacked the West Outer Ward. The central troops were positioned on the War Island, using cannon fire to destroy the weakly fortified riverbank rampart. On the 8th of August Turkish forces broke through the breaches on this rampart and entered into the Lower Town. After the battle which lasted the whole day, the riverbank fortifications were conquered. The defenders were forced to retreat to the Upper Town fortifications in an effort to survive and wait for the expected help from Hungary. Violent Turkish attacks continued on the remainder of the fortification. In order to mine down the ramparts of the best fortified castle towers, the Turks started digging a passage from the Lower Town. Only after the destruction of



Turks conquer Belgrade, engraving in wood by V. Resch, Nürnberg 1522.

the towers in this section the defenders were forced to surrender. Finally, on August 29, 1521, the Turkish army entered Belgrade, the town which they have been unsuccessfully trying to conquer for the past century.

The fall of Belgrade resulted in breaking of the defense system of the southern border which Hungary was unable to prevent. The defenders of Belgrade could lean on their own forces only because the Hungarian king could not gather an army to be sent as aid to the conquered town. The basic system of defense, established at the beginning of the 15th century was later reinforced by the construction of outer fortifications and cannon towers. However, the initial conception of the defense was not altered, and it was further estimated that the Turkish army would attack from land so that the Hungarian fleet would retain control over the rivers and insure undisturbed assistance to the defenders. Because of such an estimation, Belgrade was not seriously fortified towards the rivers. Thus, the planned defense of Belgrade could be successful only within the frames of the complete system of defense of the southern border. Without that condition, Belgrade could not be protected only by its forces and this was shown in the 1521 siege.

IN THE REAR OF THE OTTOMAN EMPIRE

The Turkish conquest in 1521 was a turning point in the development of Belgrade. For the first time in many centuries the Belgrade castle lost its primary military-strategic role of an important border fortification. The war center was moved to the far north and in thus changed conditions of peaceful development, the Belgrade Castle had different functions. It became the center of gathering and supplying of the Turkish army, directed from here to distant battlefields in Middle Europe. Thus, Belgrade lost its importance as a strongpoint of defense, which inevitably effected its further development. Until the last decades of the 17th century, there was no actual reason for further development and modernization of Belgrade fortifications. Those that already existed, reconstructed and maintained, satisfied their needs. Instead, large storehouses for food and armaments were built. In the near vicinity of the town ramparts, on the Sava slope, a cannon factory was built, not far from the city – gunpowder workshop.

Peaceful development of the town was disrupted by the unsuccessful siege of Wien in 1683, which marked the beginning of the downfall of Osmanic rule in Middle Europe. The center of war operations, after a sequence of Turkish defeats was rapidly approaching Belgrade, thus reviving its former military-strategic importance. Belgrade in this situation became the main Turkish defensive strongpoint, expected to stop further resistance of Austrian forces. However, Belgrade was not equipped for this function. Since the end of the 15th century, the fortification was not enlarged and reinforced. In the meantime, European fortifications developed tremendously. Systems of artillery fortifications were constantly perfected, in step with the development of war technique. Belgrade, with its medieval fortifications was almost two centuries behind. This lessened the chances of successful defense despite the favorable geographical position and called for urgent reinforcements of the old fortifications, for which there was no time or money. Belgrade awaited the Austrian siege of 1688 with its oldfashioned medieval fortifications, no longer suitable for the needs of defense.

Following the sequence of Turkish defeats, at the beginning of the summer in 1688, Austrian troops reached the vicinity of Belgrade. The



Castle, remains of entrance with Turkish reconstructions

army and the Danube fleet gathered in Petrovaradin. The main Austrian forces were commanded by Maximillian Emanuel, elected Bavarian Duke. Part of the army, advancing down Sava was commanded by Ludwig von Baden. Austrian forces counted about 38000 soldiers. The Turkish defense preparations were directed by Jegen Osman Pasha who had about 10 000 soldiers under his command, and as many people were accommodated in the Belgrade fortifications.

During the first days of August, Austrian troops crossed Sava near Ostruznica, and despite Turkish resistance entered Belgrade. The siege of the fortifications immediately started by the establishment of a countervallate line in front of the Upper Town southeastern rampart and a circumvallate line whose aim was to protect siege troops from a sudden attack from the rear. Within the frames of the countervallate four approaches were built, as well as positions for siege cannons. The main attack was directed towards the Upper Town fortification, still surrounded by old medieval ramparts. By fire from a number of cannons, Austrians completely destroyed a part of the rampart on the most accessible side and thus opened breaches for the infantry attack. The general attack started on September 6 th, 1688 in the direction of the destroyed Upper Town rampart. At the same time, the Lower Town was attacked to engage a part of the garrison and weaken the defense in the main section. Austrian troops advanced through the breaches in the Upper Town, despite the resistance of defenders. In the meantime, the troops from the side conquered the Lower Town while the defenders retreated into the castle and were forced to surrender. After the siege which lasted for less than a month, the Austrians conquered Belgrade easily and without great loss. The Turkish garrison, though large and well supplied, was unsuccessful in defending Belgrade, primarily due to an old-fashioned and weak system of city fortifications. The siege made it clear that Belgrade could no longer be protected by the system of medieval fortifications, and it was necessary to construct the new modern artillery fortifications.



Siege of Belgrade, 1688 – detail of plan by J. B. Gump

BETWEEN THE EMPIRES AT WAR

Conflicts of the two great powers in the geographic regions of which Belgrade was the center, determined the city's fate. It regained the primarily military-strategic function of an important border fortification and did not lose it again throughout the 18th and 19th centuries. Because of this function, both powers, Austria and Turkey invested much in fortifying the town as best as they could. Construction of the most advanced fortifications at the time made Belgrade the strongest fortress in southeastern Europe of the 18th century.

The first works, though only temporary, started during the short Austrian occupation. The town commander, count Starenberg, on orders from Wien undertook necessary measures to prepare the conquered fortress for defense and protection from the siege artillery. The main attention was focused on restoration of the southeastern rampart which suffered the most damage in the siege. Breaches were temporarily closed and a new gate was built (known today as the Sahat Gate). In front of the ramparts and the ditch a soil glacé was formed with a hidden road and a barbican in the direction of the new gate. The side gates of the Upper Town, the East and the West were reinforced with two new bastions. At the same time preparations were made for the complete reconstruction of Belgrade fortifications. However, the Austrian plans were interrupted by the new Turkish conquest of the town, in the autumn of 1690.

Already the following year, the Turks continued the Austrian reconstruction works. In the attack, Andrea Cornaro, Straneberg's assistant and the engineer who directed the fortification works was captured. Lacking in fortifiers, the Turks entrusted the reconstruction of the fortress into the hands of this Venetian, originating from Crete. In the beginning, his status was that of a war prisoner, but he was later set free. Cornaro directed the works as *mimar basha* (chief engineer) until his death in 1698.

Cornaro's original plan for the reconstruction of the Belgrade Fortress was not preserved. Its copy was found in a spy plan, the author of which was Morando Visconti. Cornaro's plan was secretly copied by one

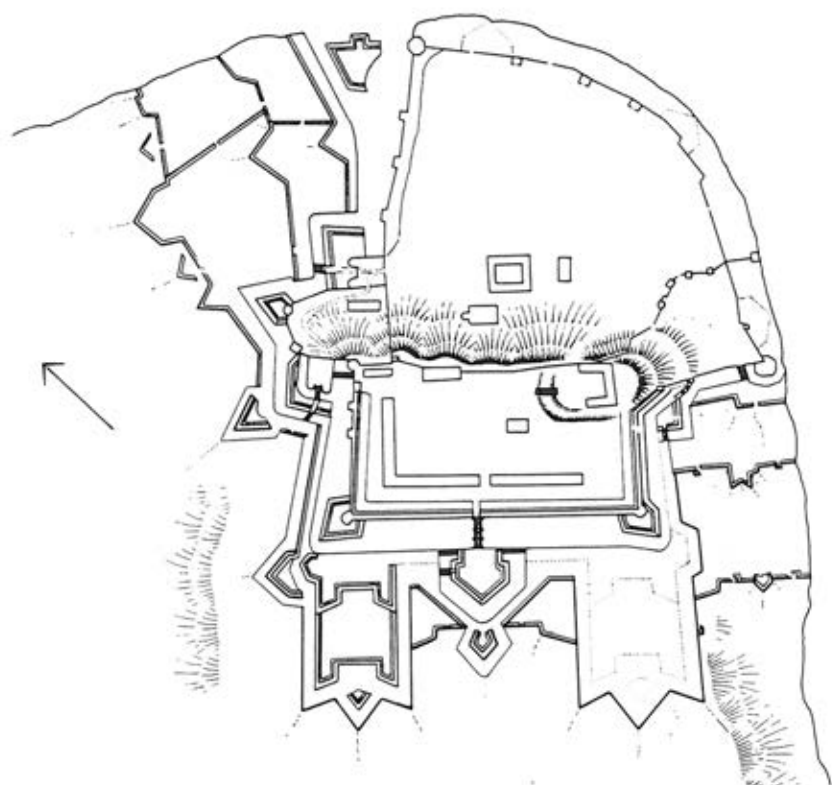


Upper Town, Southeast rampart after reconstruction in 1693–1696

of the secretaries of the Turkish collaborator Imre Tekely and handed to the Austrians. Based on these drawings Visconti made a plan now kept in the War Archive in Wien.

According to Cornaro's project, main attention was to be paid to the fortification of the Upper Town. New ramparts were planned, according to the principles of artillery fortifications. The center of defense was to be on new outer fortifications of the southeastern front, in the direction of the easiest access to the Fortress, i. e. the direction which was the main line of attack in earlier sieges. The fortifications of this front were planned with two side, symmetrically positioned two-horned bastions, with a barbican between them in the direction of the main communication line. In front of the side ramparts of the Upper Town, construction of glacés with hidden roads was planned, at which bastions in front of the gates, built in 1689 were left as they were. In the Lower Town, according to Cornaro's project, smaller works were planned, as well as the construction of the bastion in front of the East Gate and at the entrance into the old port. The works on realization of Cornaro's project lasted through the whole last decade of the 17th century. Construction of the new fortifications was controlled by Sultan Mustafa II during his periodical visits to Belgrade. It was recorded that he personally directed the fortification works at the entrance into the old port near Nebojsa Tower. Further works were interrupted in 1699 by signing of the peace treaty in Karlovac and Cornaro's project was not completed. In the earlier period the Upper Town was surrounded by new ramparts on three sides while the northeastern side was protected by the old medieval rampart. The remains of the castle fortification, badly damaged in sieges, and having lost their earlier importance were completely destroyed. Construction of the outer defense front was not completed on the southeastern side. Instead of the planned two two-horned bastions, only one was built. The new rampart in the riverbank area was reinforced by a soil bank. The defense system of the flank sides of the Lower Town was reinforced with glacés and a palisade fence.

A contemporary eyewitness – a follower of the French emissary de Ferriole had an interesting opinion about the works on the Belgrade Fortress under the direction of A. Cornaro. During his visit to Belgrade in 1696 he noticed that the building works were done well, especially those on the Upper Town ramparts, which were too high according to him. On the other hand he thought that the outer fortifications with the two-horned bastion were too low and that the ditch was not deep enough. Based on the above, he concluded that successful defense could only be

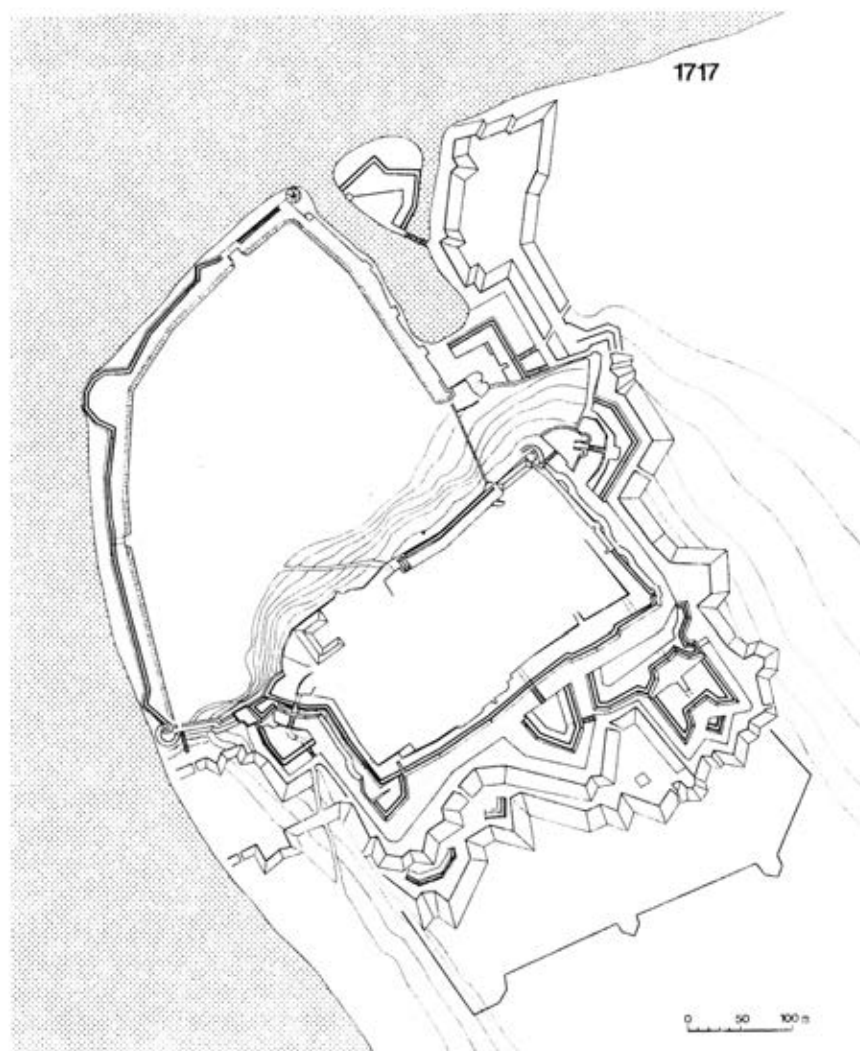


A. Cornaro's projekt for reconstruction of Belgrade Forteress (according to plan of M. Visconti, 1692)

achieved with a large garrison, supported by an army on the battlefield. A similar critical opinion on the fortification works was expressed by an Austrian general count Harrsch who was in Belgrade a few years later as a spy.

The above stated opinions of contemporary observers seem to have been quite correct. The outer bastion front in front of the Upper Town, done according to the old-Netherland fortification teachings from the first half of the 17th century was already outdated. In the second half of the 17th century, European fortifications were built by much more modern and sophisticated methods. Such were fortifying methods of the famous French marshal Voban, which at the time of the works on Belgrade and in the first decades of the 18th century represented the highest peak of military architecture. Even so, in his plan A. Cornaro used old outdated methods. It is difficult to see a reason for this, however it is unlikely that it is all because of engineer's ignorance. Another hypothesis cannot be rejected and that is Cornaro's possible deliberate deception, since the Turks were not skilled in building of modern bastion artillery fortifications. Forced to work for the Turks, he may have wanted in that way to help a Christian victory. However, this was not the only weakness of the Belgrade fortification. Considering the fact that Cornaro's project was not completely finished, the bastion fronts remained insufficiently connected and too weak to protect the main Fortress rampart from direct artillery fire. Some of these shortcomings were very apparent in the Austrian siege of Belgrade in 1717.

The new war between Austria and Turkey started in the spring of 1716. After the successful seizure of Banat, Austrian troops commanded by prince Eugen of Savoy crossed Danube in the following year and started a siege of Belgrade. The camp of the siege troops was surrounded by countervallate and circumvallate lines, which were built by a number of well known Austrian fortifiers. After the conquest of Turkish Zemun, a battery of siege cannons was positioned at the mouth of the Sava river, directed towards the Lower Town. The Turkish garrison in the Fortress aimed to withstand the siege, and await the arrival of the main forces from the south, commanded by Halil Pasha. The Austrians, on the other hand wanted to conquer Belgrade prior to the battle with the main Turkish forces. Bombing of the fortress started already during the construction of siege positions and violent fire was directed especially towards the Lower Town whose low ramparts could not offer protection against the siege cannons from Sava. In mid-August, the big building in which the Turks stored gunpowder was hit and a great explosion caused



Belgrade Fortress in 1717

the destruction of almost all objects in the Lower Town. However, despite frequent bombings and enormous destruction of objects in the Fortress, Austrians did not attempt direct assault on the fortification. In the meantime, at the beginning of August, Turkish forces reached Belgrade and were positioned towards the Austrian circumvallate line in the area of today's Mali Mokri Lug. It was obvious that the decisive battle was to be fought on the battlefield and not in direct attack on the Fortress. In the battle on August 16, which lasted for five hours, the Turkish army was shattered and forced to retreat, pursued by a unit of Serbian volunteers. The victory decided Belgrade's destiny. Two days later, the Turkish commander of the Fortress signed the capitulation treaty.

The course of the siege stressed some of the faults of the defense system of the Belgrade Fortress established by the construction of new fortifications at the end of the 17th century. The artillery attacks have fully shown the shortcomings of the new fortifications in the Lower Town which suffered the greatest damage. Of special importance was the fact that the Turks did not have modern and well-secured gunpowder storages in the Fortress, which was one of the main conditions for successful defense. It was also noticed that the fortress could not be defended without outer fortifications on the opposite banks of Sava and Danube. It is interesting to note that the previously cited opinion of the French emissary de Feriole's follower proved to be true and that, considering the state of its fortifications, the Belgrade Fortress could be defended only by a large garrison and with help from outside forces. It seems that the Turks were aware of this when they chose their concept of defense in their efforts to keep Belgrade.



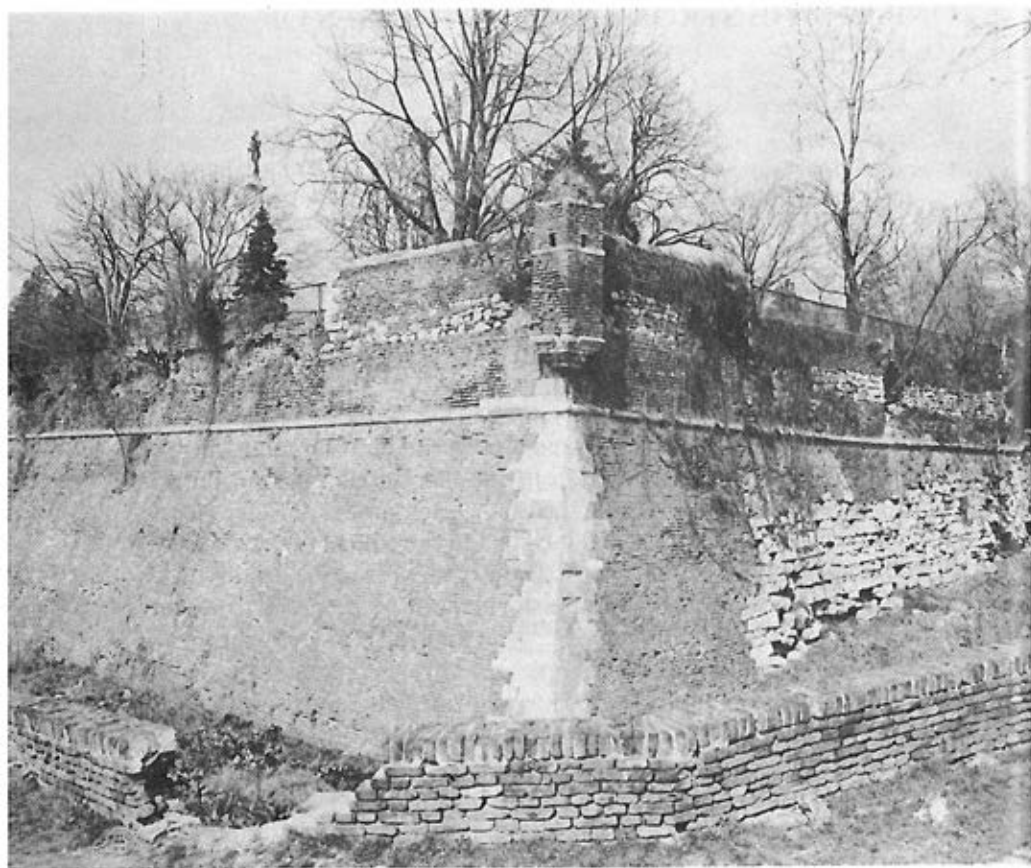
Salut Gate in Upper Town with later annexed Tower



ONE OF THE STRONGEST FORTRESSES OF EUROPE

The conquest of Belgrade in 1717 echoed through Europe as Austria's great success and was a Christian victory in the centuries old conflict with Islam. Within the frames of the Hapsburg monarchy, Belgrade became the »main border fortress« and as such – exceptionally significant. For Austria and Christian Europe, it was from 1717 until 1739, the key strongpoint of defense against Turkey, as well as the base for further conquests of Turkish territories in Europe. The Catholic Hapsburg monarchy expected Belgrade to become a powerful cultural, political, and economic center for spreading Catholicism and German colonization in its attempts to penetrate towards the east. Development of Belgrade was influenced by the above aims and included in the course of development of contemporary European towns. The existing Oriental town with its fortress, outdated despite attempts to modernize it was in complete opposition to its new function, the urban and fortification concepts of the Baroque epoch in Europe. Complete reconstruction of Belgrade was necessary, aiming to transform it into the fortified European Baroque city. The fortress was to be reconstructed as an exclusively military object, and an orthogonal system of streets was to be planned in the city, protected by a bastion fortification. Outer fortifications were to be constructed on the opposite banks of the Sava and Danube rivers as a part of a unique system of defense. Such a big project required much preparation, including the organization of government in the conquered regions, the completion of plans and projects, and a provision of capital assets for the works.

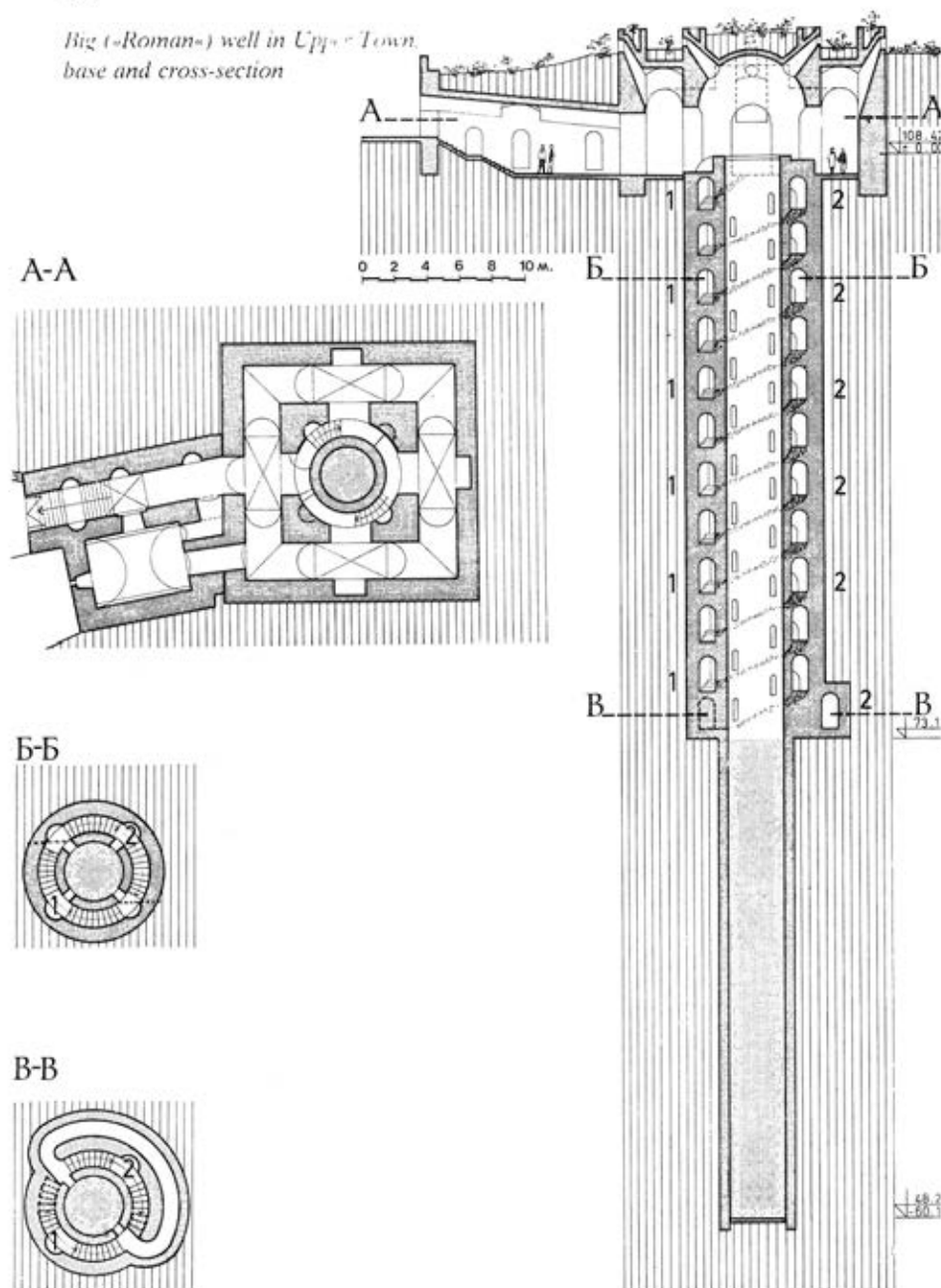
After the conquest of Northern Serbia and Belgrade, a temporary military government was established and it later turned into the so-called Serbian administration, under the direction of prince Carl Alexander of Wurtemberg. A special Department for the construction of the Fortress was formed within the frames of this government and was responsible to the Royal War Council in Wien. The provision of monetary funds presented a special problem and slowed down the works at the beginning. The problem was partially solved by the introduction of special taxes which were to be paid by imperial provinces. For example, the Italian



Ravelline of King's Gate, part built in 1718–1720



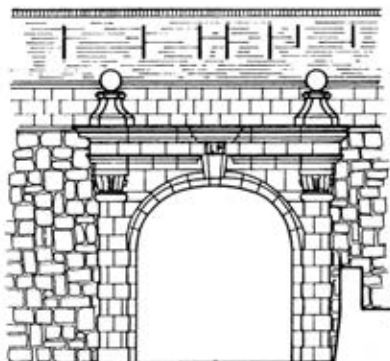
Big («Roman») well in Uplava Town
base and cross-section



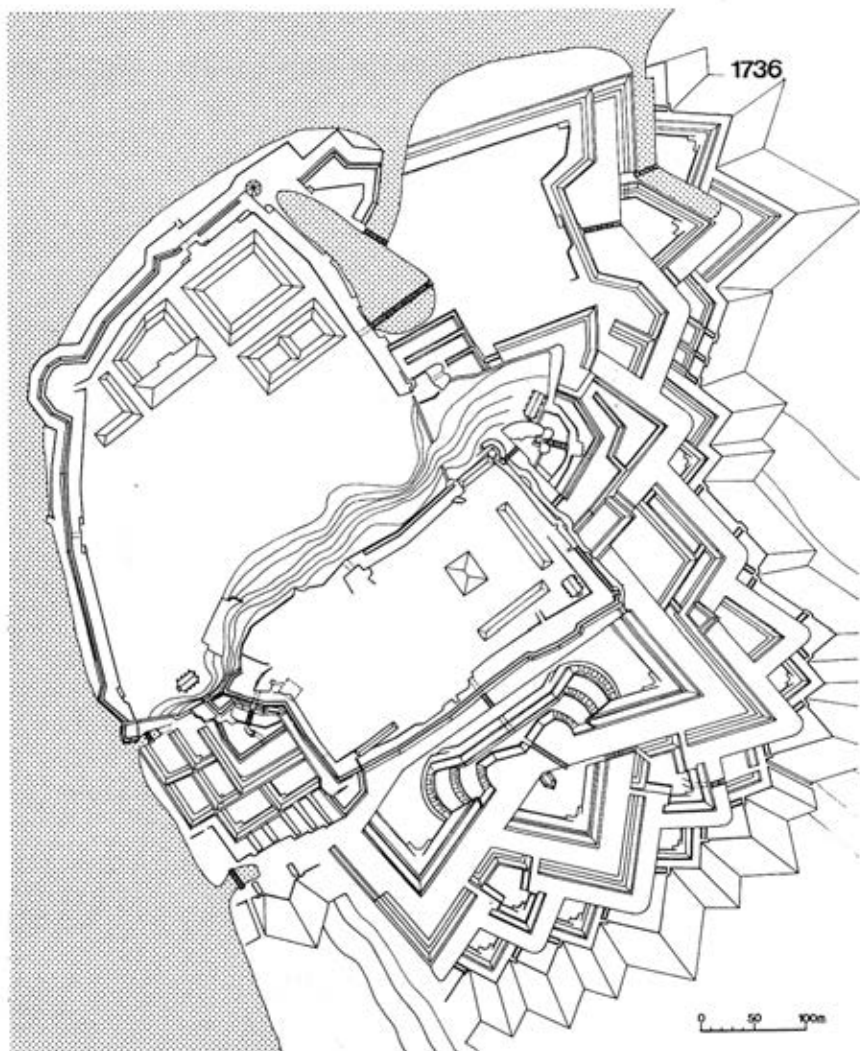
provinces of Naples, Sicily, and Lombardy provided 1,200,000 forints. The Catholic church participated in the collection of funds because the Belgrade fortification was considered to be »the rampart of Christianity«.

Many original documents relating to reconstruction and building works in Belgrade during the Austrian occupation (1717–1739) are preserved in the War Archive in Wien. Plans and projects are of special significance in enabling a detailed study of the course of the works and an analysis of realized project solutions. According to documentation, the works were realized in two phases. The first phase which ended in 1723 included preparations for the planned construction of the city which took place in the second phase.

Reconstruction of the existing Belgrade fortifications, and construction of the new ones at the beginning were under the direction of the well known fortificator colonel de Boeff, whose successor was major Nikola Suly, the creator of the first detailed project for the construction of the new Belgrade fortifications. The works according to Suly's project started in the 2nd half of 1718. At the beginning, only the reconstruction of Cornaro's Upper and Lower Town ramparts was finished. At the same time, according to major Suly's ideas, a big gunpowder storehouse was built in the Lower Town, on the rocks of the Danube slope. This still well preserved building consists of two halls, each with nine columns completely cut out of rock, and of the vaulted access corridor. Building of the gunpowder storehouse in the Lower Town was a large and complex technical project and represented a very good solution in a functional sense, being certainly a special achievement in the development of con-



Leopold's Gate, outer view

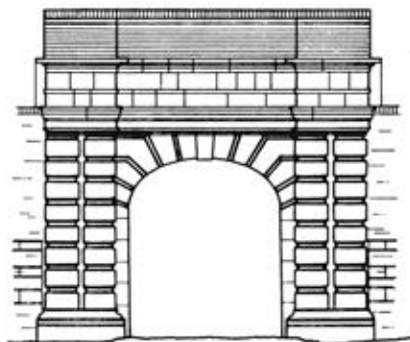


Belgrade Fortress in 1736

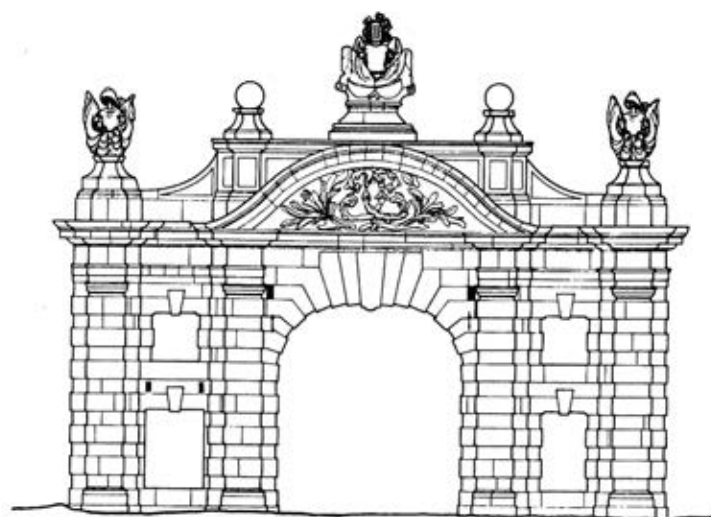
temporary fortification architecture. Among the more significant structures built in the Upper Town was the Large well, about 60m deep, which was finished in 1731.

The works done by major Suly's project were discontinued already at the beginning of 1721, due to the disagreement of prince Alexander of Wurtemberg. Numerous objections were raised against the project and there were complaints about embezzlement of large funds. The search for the best solution of a defense system started again and various projects were offered, some by well known contemporary fortificators, such as colonel Montani, the director of the Military Academy in Wien. Finally, in the middle of 1725 the Royal War Council accepted the project of colonel Nikola Doxat de Morez and entrusted him with the direction of the works on the construction of Belgrade's defense system.

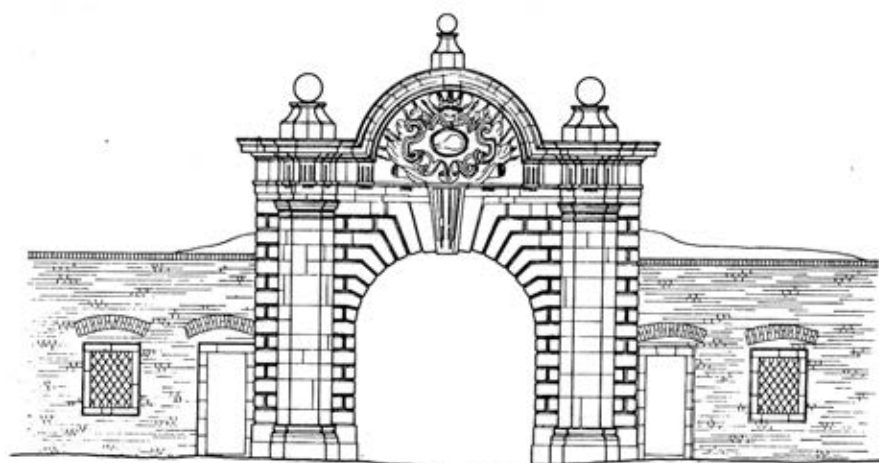
According to Doxat's project the main strongpoint of defense was the Belgrade Fortress, as the center of a wider system consisting of the city fortification and the extended fortifications on the opposite banks of Sava and Danube. Doxat's idea was that the basic fortified center of the Belgrade Fortress – the Upper and Lower Towns should be surrounded with new bastion lines and that the old outer fortifications were to be completely destroyed. Special attention was paid to the building of the southeastern front which was to protect the easiest access to the Fortress. Construction of the two semi-bastions with orillions and flanks for six cannon batteries was planned here. Both semibastions were connected with the main Fortress Gate (present-day Stambol Gate) by a curtain wall with a big barbican in front. In the Lower Town, construction of a similar bastion front was planned in front of the old port, which became a closed navy port. In front of the main bastion fronts and the whole



King's Gate view



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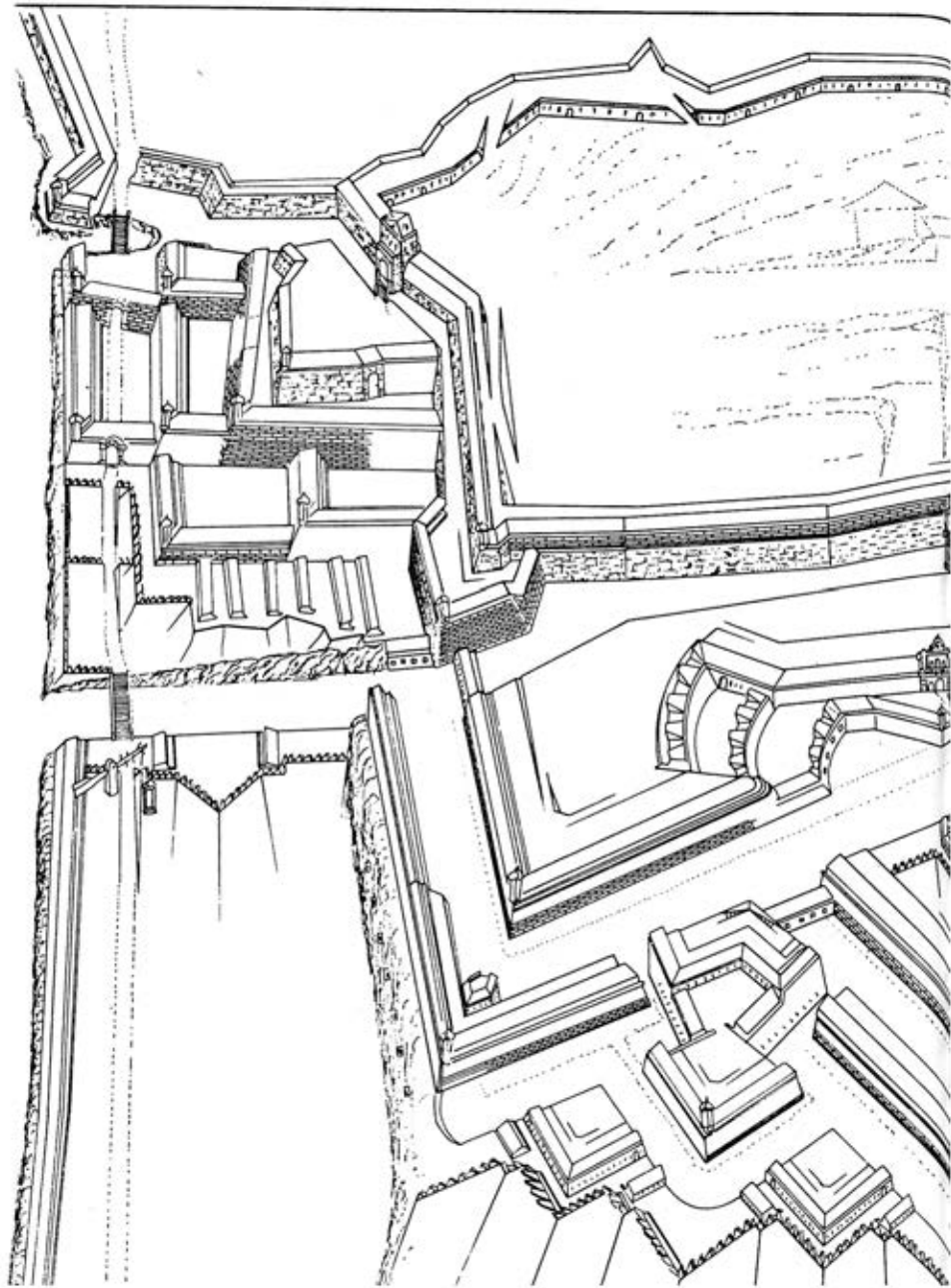


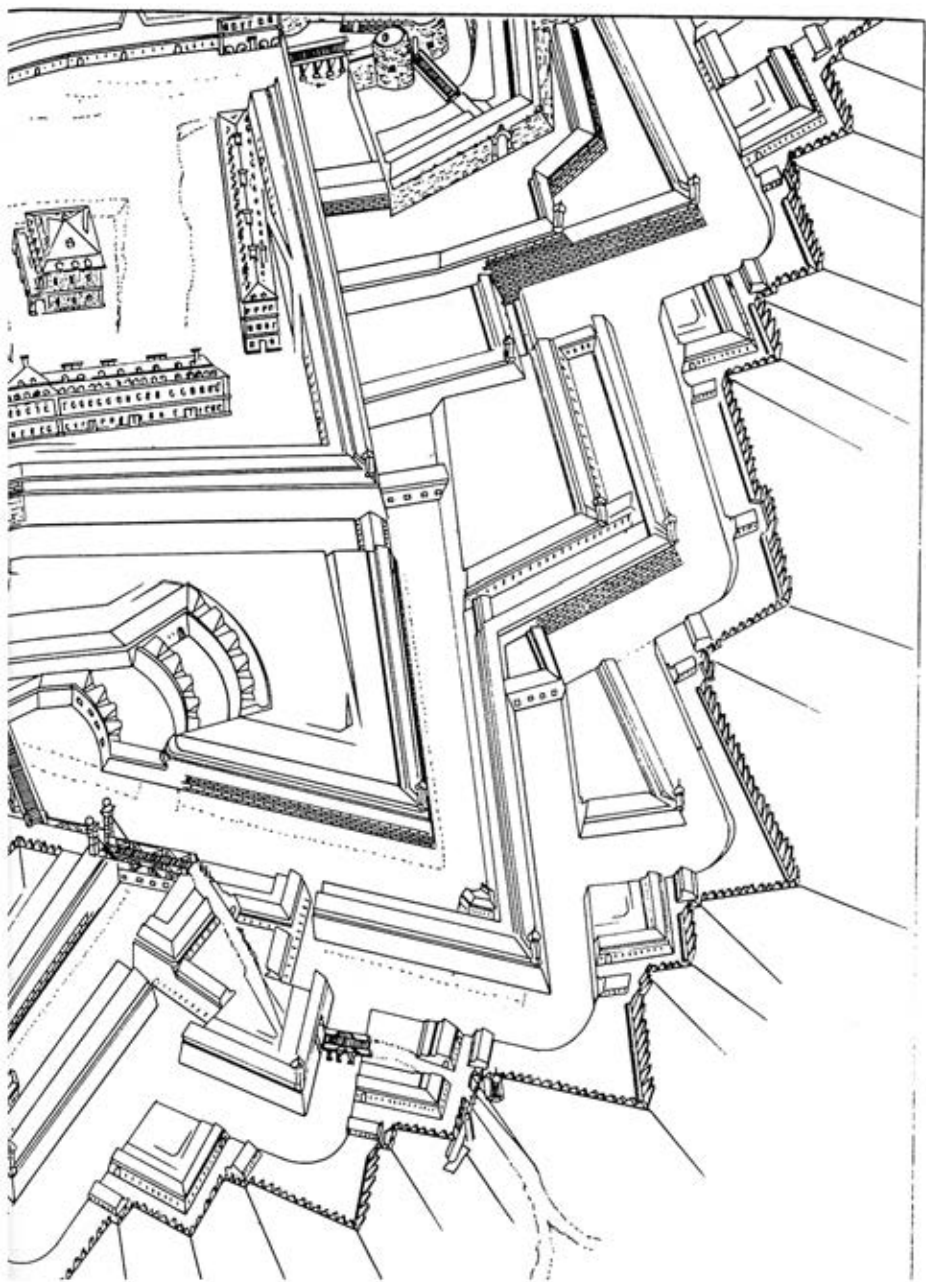
Charles VI Gate, outer and inner view



Charles VI Gate, inner view

N. Doxat's projekt for Upper Town fortifications, axonometrical view





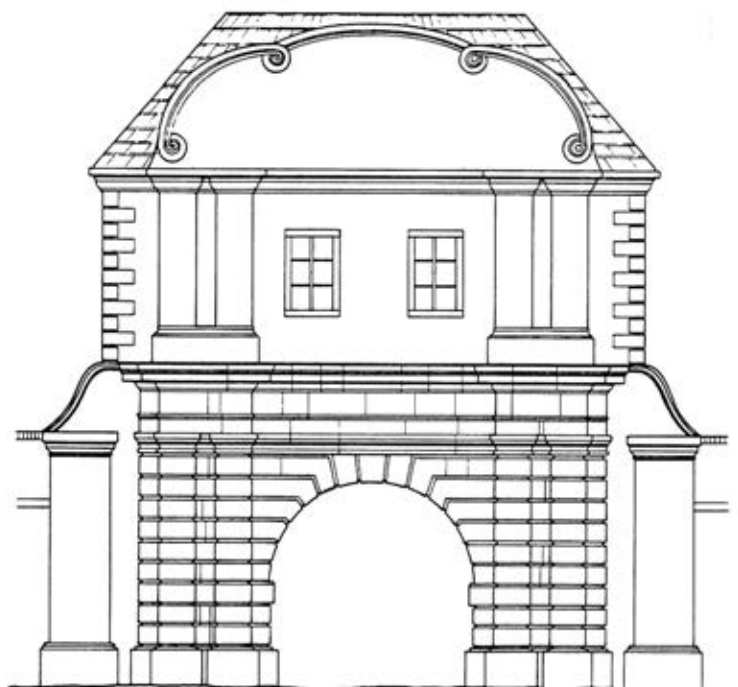
fortification from the land side, construction was planned of an outer defense line, consisting of a counterguard with linettes and a hidden road with glacés. Doxat's project included the construction of a new bastion line from the bank of Sava, through today's Republic Square, towards the bank of Danube river at Dorcol. This line was to consist of eight bastions connected by curtain walls and an outer defense line similar to the one of the Fortress. According to the same project, construction of extended fortifications on the left bank of the Sava river and on the opposite bank of the Danube river was planned.

On the whole, colonel Doxat's project was very good, and it fully reflected the basic idea of transforming Belgrade into a fortified baroque city with military, economic, administrative and other functions. Doxat's methods were fully based on the principles of the so-called first system of marshal Voban's fortification school which, at that time, was the best in the development of European fortifications. The planned system of Belgrade fortification offered excellent possibilities of defense on land and on the rivers. The shortcomings of defense noted in the siege of 1717 were cured by the construction of an extended fortification at the mouth of the Sava river.

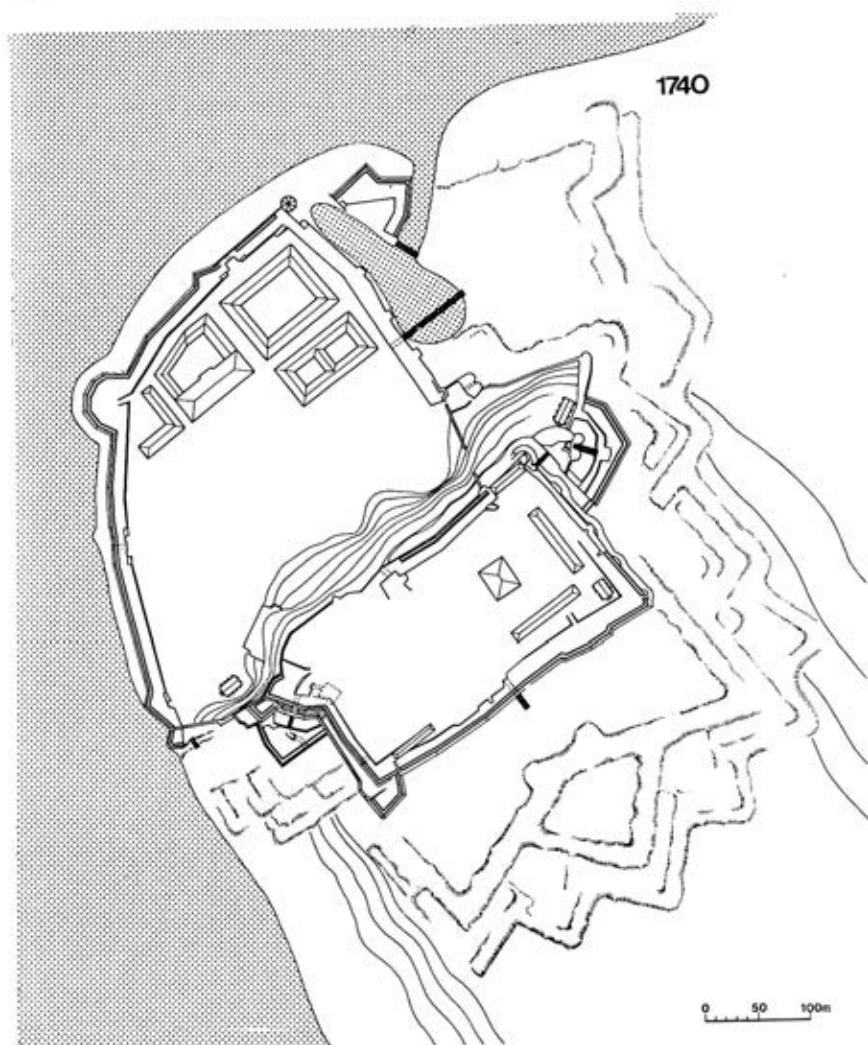
The realization of Doxat's idea was an enormous attempt at that time. After the project was accepted and its realization initiated, it lasted for almost 15 years. During this period the construction of planned fortifications of the Belgrade Fortress, of the main bastion line around the city, and of the fortification at the mouth of the Sava river was completed. The new war between Austria and Turkey caused an interruption in the building, so that the outer defense line of the city bastion front was not finished. The works on the construction of the outer Danube fortification were not even started. In comparison to previous development, the Fortress of Belgrade occupied at this time the largest area and had the best methods of defense, never to be reached again in later periods. The whole system of defense of Belgrade, though not yet completed offered possibilities of successful defense during the Turkish siege in 1739.

After the Austrian defeat in the battle of Grocka, on July 23, 1739, Turkish troops reached Belgrade. Demoralized Austrian commanders were not prepared to defend the city. Armistice negotiations were started and an armistice was signed just at the time when first successes were achieved in the defense. According to the first clause of the armistice contract, Austrians were obliged to hand Belgrade over to Turkey, under the condition that all new fortifications, built after 1717 be destroyed. It

was also agreed to destroy the new fortification on the left bank of the Sava river. Destruction of the bastion line around the city was to be done in three months time, and the destruction of the new fortifications of Belgrade Fortress, within six months. Thus, Belgrade surrendered almost without a fight even though it was built and reconstructed for two decades in order to become the main fortress of the Hapsburg monarchy towards the east. Despite the strong fortifications, Austria could not defend Belgrade. Other factors were of decisive influence.



Water Gate in Lower Town, restitution of old view



Belgrade forteress in 1740

THE TURKISH BORDER STRONGPOINT

Belgrade retained its strategic importance under the Turkish rule and represented the key strongpoint of defense of the Osman Empire, a city on which the destiny of the Empire's European possessions depended. However, despite the successfully won war and the establishment of borders on the Sava and Danube rivers, Turkey was aware of her actual power and had to drop the idea of regaining lost northern territories. Belgrade no longer represented the base for further conquests, and played the role of a defense border fortification, which influenced its further development. The Belgrade Fortress had to be prepared for defense and this took great effort. The achievement of this goal depended on the Turkish actual possibilities, rather than on her desires and intentions. The Osman Empire, weakened by internal problems and having a loose central government was not capable of undertaking a great project of the new fortification of Belgrade.

The Belgrade Fortress was limited to its basic form consisting of the old fortifications of the Upper And Lower Towns which were constructed or restored prior to 1717 when the Austrian fortification was destroyed. The Fortress was not prepared for defense without the outer bastion fronts, so that its new fortification presented one of the main tasks. The choice of defense systems for the new bastion fronts was not questionable. The Turkish idea of a well-fortified and unconquerable fortress was in full compliance with the fortification which existed prior to the Austrian destruction. Therefore, it was decided to construct the new fortifications of the main bastion line in the same manner and according to the plans of the destroyed Austrian fortifications.

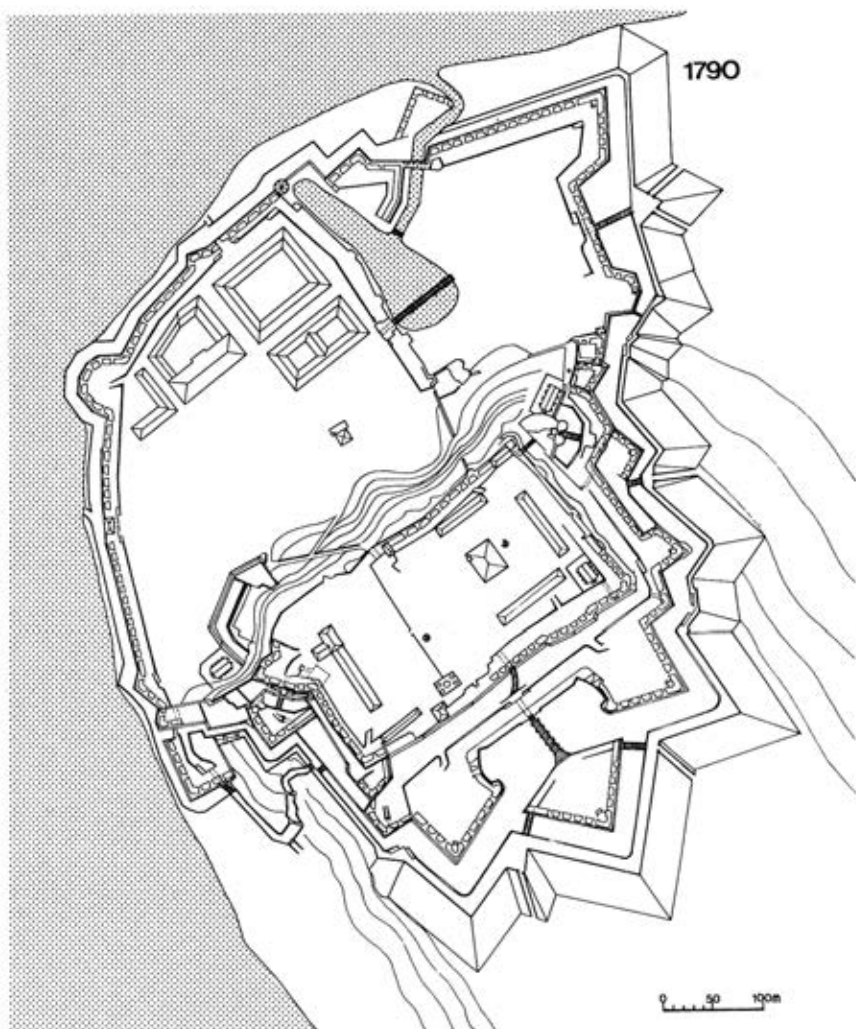
Construction of the new fortifications started by the end of 1740, and with great effort and frequent interruptions it was completed two decades later, when the Belgrade Fortress was given its final form, preserved until this date. The newly built fortifications represent, in fact, the restoration of the destroyed Austrian fortifications in a very simplified form. The fortifications of the Belgrade Fortress comply in their basic conception with the fortification scheme of Voban's School, just as was the case with previous Austrian fortifications. However, compared to the Au-



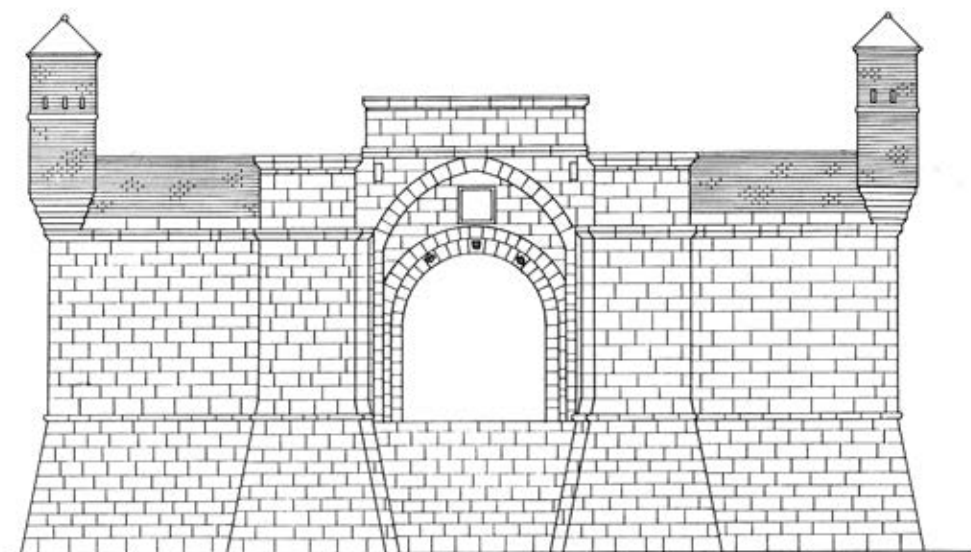
Bastion of East front in Upper Town



Vidin Gate in Lower Town



Belgrade Forteress in 1790



Stambol Gate, outer view

0 1 2 3 4 5m

strian bastion lines, which were a special achievement in the development of European fortifications, they had numerous shortcomings. Thus, the construction of the outer fortifications in front of the main bastion front, with linettes and counterscarps as a frontal defense line was left out completely. The main bastion front remained unprotected with decreased capability of defense. It is questionable whether the decision to construct fortifications similar to the previously existing ones was right. After the Peace Treaty was signed in 1740, the geo-political situation of Belgrade was greatly changed in comparison to the earlier period which should have caused a different way of building of a defense system. Belgrade became the extended border fortress while the left banks of the rivers were not under Turkey's rule. It was not possible, therefore, to build outer fortifications on the opposite riverbanks and defense of the Lower Town was much more difficult. Better fortification solutions were to be sought, but Turkey obviously did not pay much attention to this fact. The only successful attempt in this respect was the construction of

a strong rampart around the big gunpowder storehouse in the Lower Town by which this important object was protected from possible shooting from positions on the left bank of Sava.

The bastion line around the city was not restored, but a palisade fence with no noticable defense significance was built in its place. Thus, the whole defense system of Belgrade came down to just the Fortress, which in the earlier period was the central fortification within the frames of a more complex defense system.

The new war and temporary occupation of Belgrade by Austria (1789–1791) left no trace on the fortifications of the Belgrade Fortress. Judging by existing documents, especially plans, preparations were started for the reinforcements of the defense system of the Fortress, but ended when Belgrade was handed back to Turkey.



Arsenal in Lower Town, drawing from 1790

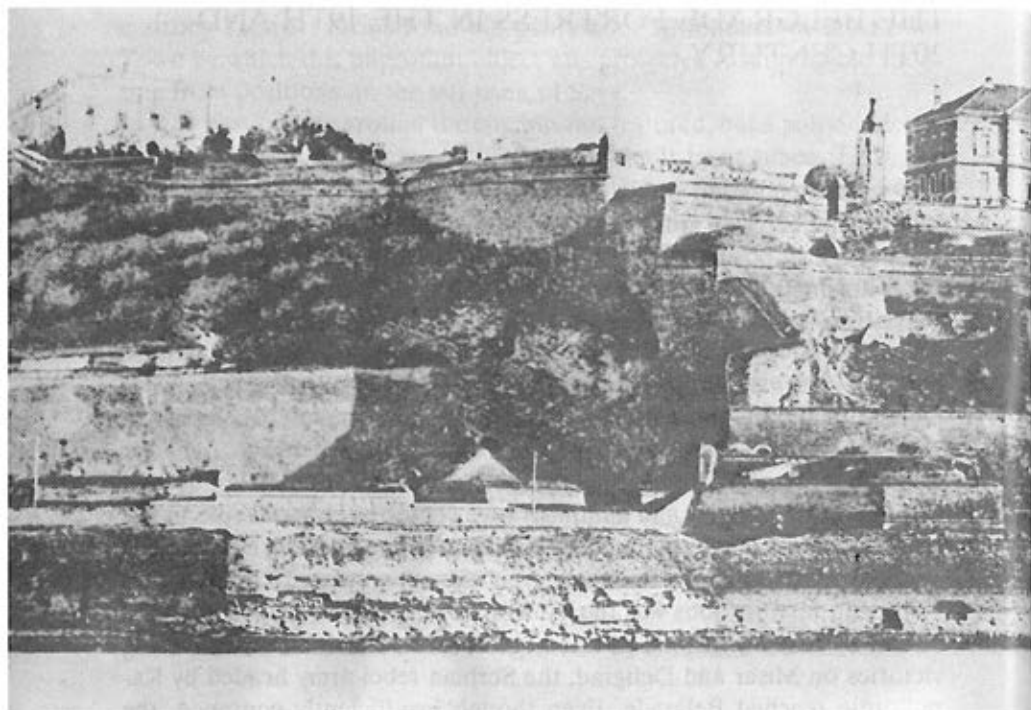
THE BELGRADE FORTRESS IN THE 19TH AND 20TH CENTURY

The war which ended with the Swishtow Peace Treaty in 1791 was the last conflict between Austria and Turkey. The Belgrade Fortress remained a Turkish border strongpoint, but this was not its only function in the following period which lasted until the middle of the 19th century. The situation in the Belgrade pashaluk was rapidly changing. The Sultan's rule in Belgrade was no longer endangered by the outside enemies, but with internal conflicts instead. The conflicts between the rebellious janissaries and the imperial army were frequent in the last decade of the 18th century and the Serbian people were getting ready to fight for freedom. Instead of remaining the border fortification, Belgrade was turning into a military and administrative center of imperial rule in the struggle against the Serbians and their aspirations for independence. The reconstructed Belgrade Fortress, even though outdated compared to European fortifications was the Turkish strongpoint at that time.

The Fortress withstood its last siege at the end of 1806. After the big victories on Misar and Deligrad, the Serbian rebel army headed by Karadjordje reached Belgrade. Even though insufficiently equipped, the rebels forced the Turks to surrender after a few weeks of fighting. Conquest of Belgrade was of crucial importance in the development of the rebellion. After four centuries, the liberated city again became the center of Serbia, and its Fortress – the main military strongpoint. The Serbian garrison remained in the Fortress until the defeat of the rebels in 1813. However, no great work was done on the buildings.

During the last period of Turkish rule, the fortifications of the Belgrade Fortress were not developed or considerably restored. The old defense system was losing significance and when the Serbian army succeeded the Turkish garrison in 1867, the Belgrade Fortress was no longer an important strongpoint of defense. All European fortifications constructed in the 17th and 18th centuries lost their importance with the appearance of artillery with explosive bullets. The Serbian army used the Belgrade fortress only as a fenced complex of army barracks and storehouses.

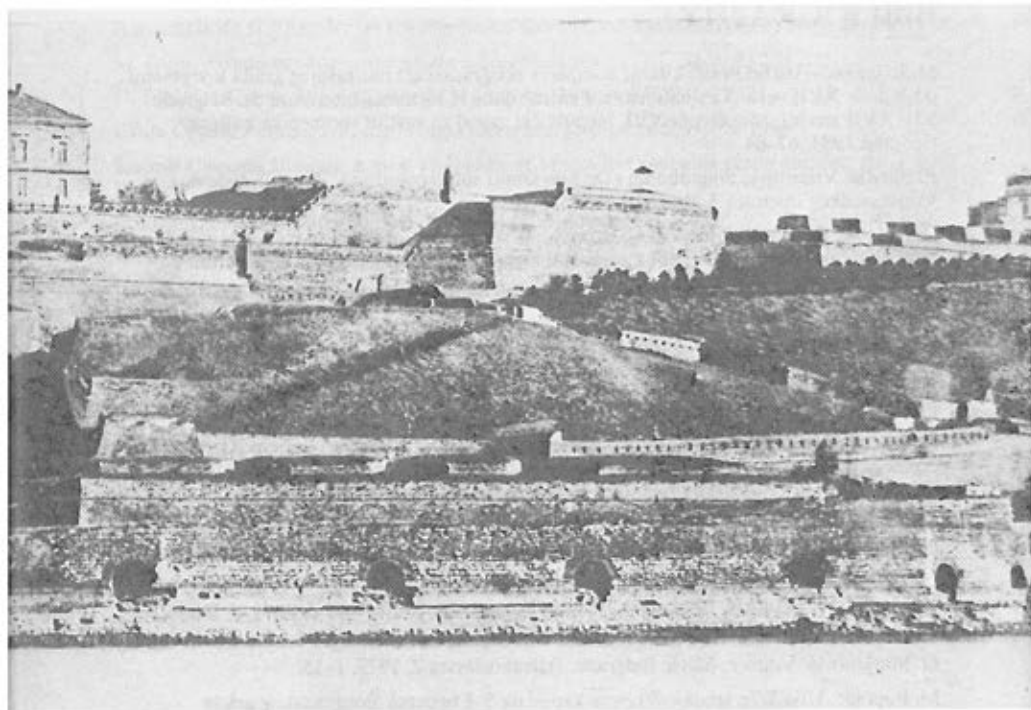
During the First World War, the Fortress was badly damaged. Although old-fashioned, its fortifications were protected as an important



General view of Fortress from Sava's mouth (photo from the beginning of 20th century)

strongpoint of the defense system of Belgrade and the border of the Serbian kingdom.

In the violent bombing from the heavy howitzer in 1914 and especially in the autumn of 1915, all of the old buildings within the Fortress were destroyed and its ramparts severely damaged. The rapid ruin of the Belgrade Fortress continued in the period between the two great wars. Development of the modern city conflicted with the old Fortress, and at the same time awareness was raised about the necessity of preservation of the Fortress as the most significant monument of Belgrade's past. Some sectors of the ramparts were renovated; the Zindan Towers got new toothed battlements; and the Jaksic Tower in the eastern Lower Town was completely reconstructed. Renovation was also carried out on the old corner tower of the Upper Town, next to the east gate which was



destroyed in 1915. The war wounds were also cured on the walls of the Nebojsa Tower in the Lower Town.

A new era in the long history of the Belgrade Fortress started in the first years after the Second World War. It finally completely lost its defensive role and the army left its ramparts. Extensive archeological excavations were started, and soon after – large preservation works. Knowledge about this formerly famous fortification is saved from being forgotten and its ramparts and towers are regaining their earlier shape. The almost 2000 year-old Fortress adapts to new times and needs of the modern man as the large museum of Belgrade's history and the favorite meeting place of its citizens.

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