

Strategie e Programmazione della Conservazione e Trasmissibilità del Patrimonio Culturale

A cura di

Aleksandra Filipović

Williams Troiano

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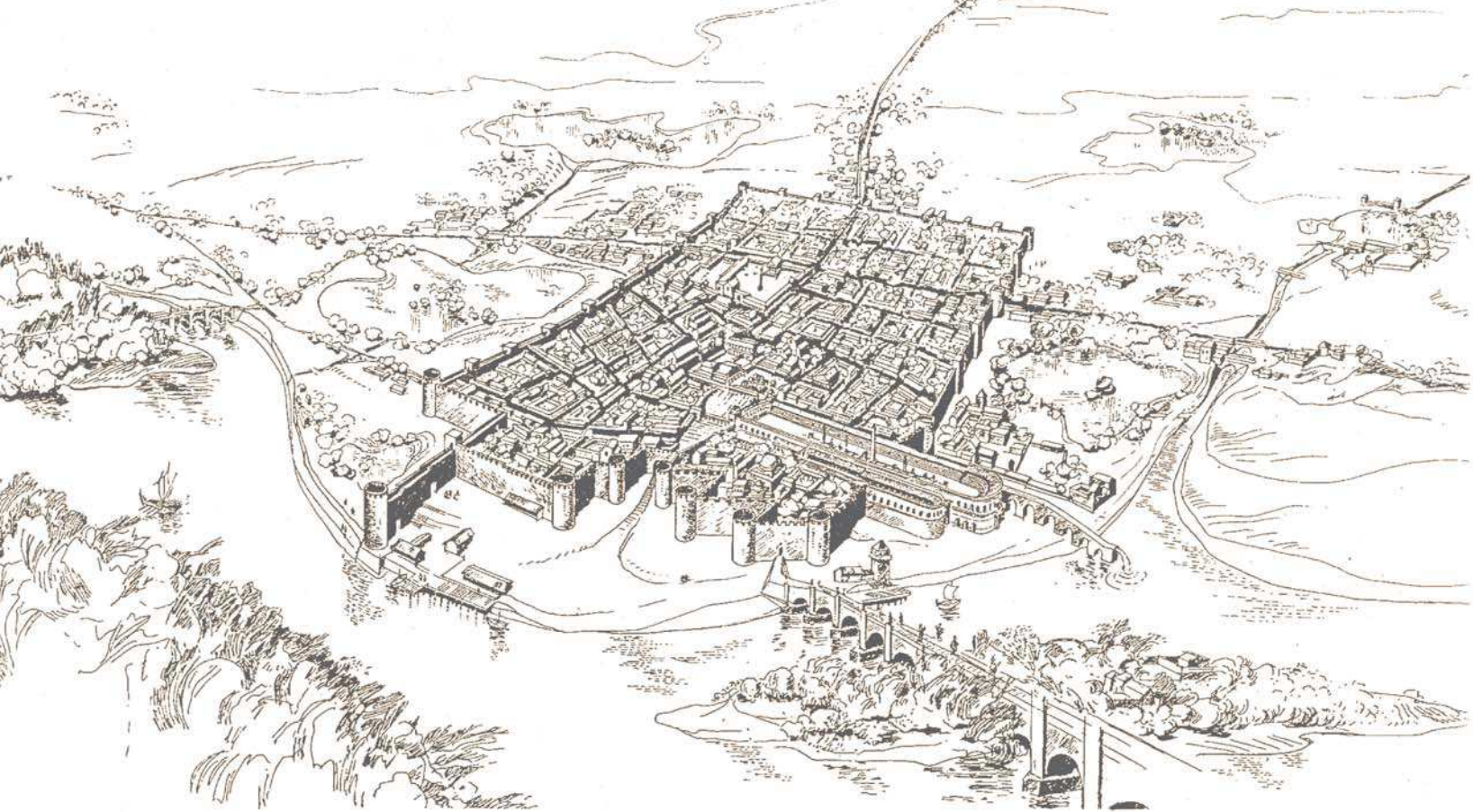
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CARING FOR THE HUMAN SKELETON REMAINS IN SREMSKA MITROVICA (SIRMIUM), SERBIA*

INTERESSARSI DEI RESTI DI SCHELETRI UMANI A SREMSKA MITROVICA (SIRMIUM), SERBIA

di Nataša Miladinović - Radmilović

Institute of Archaeology, Belgrade

Questo documento fornisce una breve panoramica storica delle ricerche eseguite a Sremska Mitrovica (Sirmium) e presenta anche alcune delle lettere scritte da un insegnante e commissario del Museo Nazionale di Zagabria I. Jung che raffigurò in modo colorato e talvolta critico il destino del materiale osteologico in questa città dal XIX secolo. Sembra che il destino di questo tipo di materiale è un pò migliorata da allora. Nel periodo 1957-2007, un centinaio di siti sono stati esplorati sul territorio della città di Sremska Mitrovica (Sirmium) e nei dintorni più vicini. Materiale osteologico umano è stato trovato nei 70 siti durante scavi archeologici. Tuttavia, il materiale osteologico da solo 35 siti di Sremska Mitrovica e di un sito del suo circostante erano disponibili per l'analisi antropologica. In altre parole, solo la metà dei resti di scheletri trovati è stato conservato per l'analisi antropologiche. Ci sono un certo numero di motivi per quello, a partire dal fatto che il materiale da diversi siti è stato inviato al USA negli anni 70, fino al fatto che parte del materiale fu sepolto in modo da liberare spazio nel deposito di museo per altri manufatti senza che vi sia stata qualsiasi analisi eseguita. Lo scopo di questo lavoro è un tentativo di porre fine a decenni di incuria verso tali risultati, a sottolineare i problemi che incontrano gli antropologi mentre stanno lavorando su resti di scheletri, per portare a conoscenza dei ricercatori tali dati antropologicamente rilevanti provenienti dagli scavi archeologici quali, basati su una interpretazione più completa di una certa necropoli, o di una sepoltura individuale possono essere fatti, oltre che una ricostruzione dei costumi funerari.

Key words: Sirmium, ancient period, Middle Ages, necropolis, human remains, inhumation, incineration.

(*) This paper is a result of the projects *Romanization, Urbanization and Transformation of Urban Centers of Civil, Military and Residential Character in Roman Provinces on the Territory of Serbia* (No. 177007) and *Urbanization Processes and Development of Medieval Society* (No. 177021) funded by the Ministry of Education, Science and Technological Development of the Republic of Serbia. I express my gratitude to Mr M. Radmilović for maps of the sites (Fig. 1 and 3), made according to my observations, and to Jelena Vitezović for translating the text.

A short historical overview of the researches at Sremska Mitrovica (*Sirmium*)

Scientific interest in *Sirmium* began relatively late, even though the name of the city and its' walls was mentioned in many travellers' writings during the whole of Middle Ages¹. Systematic archaeological excavations in *Sirmium*, however, did not begin until the summer of 1957, more precisely, the 2nd of July 1957, and they are continued even today. Intense research in Sremska Mitrovica, in which hundreds of archaeologists from former Yugoslavia and many other countries took part, lead to many prominent and important archaeological findings. The original archa-

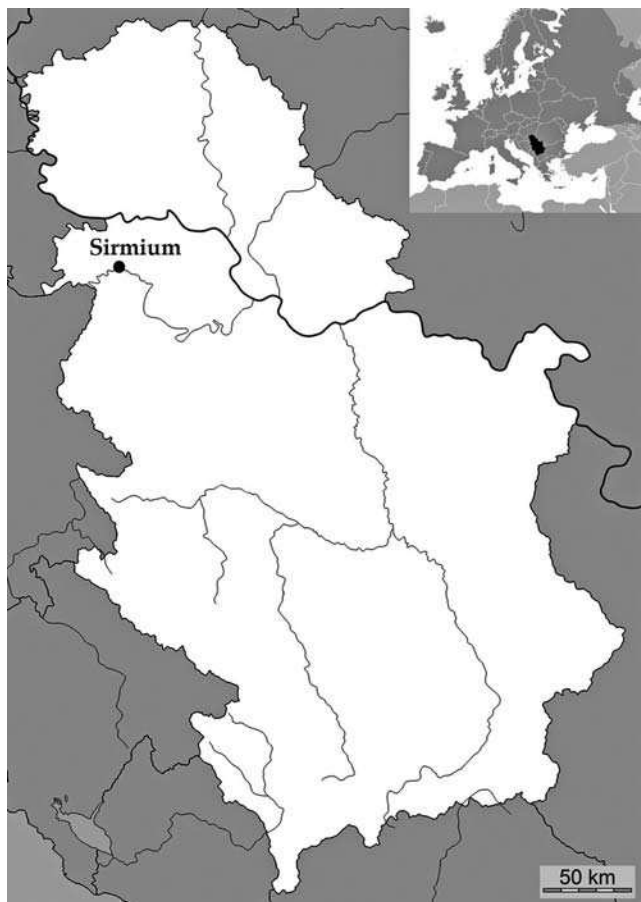


Fig. 2 - Map of the Republic of Serbia, the location of Sremska Mitrovica (*Sirmium*), (MILADINOVIĆ-RADMILOVIĆ 2011, map 1)

On the opposite page, Fig. 1 - *Sirmium* during the 4th century, an ideal reconstruction (JEREMIĆ 2004, p. 11, fig. 12).

eological documentation from the excavations for the period until the beginning of 1962 (diaries, inventories, plans, drawings and photographs) can be found at the Institute for the Cultural Heritage Preservation of Novi Sad². The documentation from 1962 up to today can be found at the Institute of Archaeology in Belgrade and at the Centre for Research and Documentation (CAID) of the Museum of Srem in Sremska Mitrovica³. All of the portable material is at the Museum of Srem. When it comes to direct international cooperation, two interstate contracts should be mentioned. The first interstate contract was made in 1968 with the Smithsonian Institute from Washington D.C. for joint research in *Sirmium* (figs. 4, 5). Experts from Denison University, Ohio, and City University of New York also took part. Joint excavations continued until 1972. The head of the Yugoslav-American project was M. Grbić, and the coordinators were A. Lengyel and V. Popović. After the death of M. Grbić (1969), the director's place was taken by V. Popović for the Yugoslav part, and by E. Ochsenschlager for the American part⁴. In 1973 another international contract was made, this time with Ecole Française de Rome. The research continued until 1977, with the participation of many experts from the Louvre⁵.

Excerpts from letters by I. Jung, witnessing the fate of human osteological material since the 19th century

The beginning of the first scientific research at Sremska Mitrovica can be dated at the second half of the 19th century. At that time, a teacher I. Jung lived at Mitrovica, and he was also a commissary of the National museum of Zagreb.

From the middle of 1884 up until 1908, when he left the city, I. Jung had been sending detailed, carefully numbered letters from Mitrovica to the National Museum of Zagreb, letters that represent today a priceless documentary treasury⁶. Showing us the immense importance of it is also the fact that his correspondence ends with the number 337 and that the largest part of the letters had drawings, sketches, plans and maps included. He tirelessly kept track of all construction work, channel digging, railroad and road construction and left precise records and drawings of them all. His topographical research of Srem is also very important, since no one undertook that work before him⁷. In ca 1900, Jung even

¹ MILOŠEVIĆ 2001, p. 7 (figs. 1-3).

² Copies of this documentation can also be found today at the Institute of Archaeology in Belgrade and at the Museum of Srem.

³ The Centre for Archaeological Research and Documentation (CAID) of the Museum of Srem was founded in 1976. The Institute of Archaeology of Belgrade and the Institute for the Preservation of Cultural Heritage of Sremska Mitrovica also take part in the work of the CAID. The forming of the CAID enabled the application of all modern multidisciplinary methods in archaeological researches.

⁴ *Ibid.*, p. 9.

⁵ MILOŠEVIĆ 1997, pp. 7 and 8.

⁶ MILOŠEVIĆ 1974-1978, p. 55.

⁷ *Ibid.*, p. 55.

undertook the reconnaissance of the roman road *Sirmium–Bononia* (Banoštor)⁸. One of I. Jung's most admirable qualities was also the precision with which he performed the charting and locating of monuments found. Many a monument, before and after Jung, had a very vaguely defined finding spot, determined as "from Mitrovica on the Sava" – Berlin Academy of Science, Vienna, Budapest, and even Zagreb would sometimes publish them like that⁹. He fought against illegal archaeologists, i.e. ploughmen "explorers" and stonemasons from Mitrovica. He bought off minor objects, partially with his own money, and partially with small sums sent to him for that purpose

by the National Museum of Zagreb¹⁰. Often ridiculed and always all on his own, in letter No. 115 of the 29th of November 1900, Jung bitterly remarked: "It is hard to find a single man of intelligence in whole of Mitrovica who would be interested in the antiquity"¹¹.

In his letters he gave information about Roman cemeteries and many finds that would remain unknown if it weren't for him.

One of the interesting data he gave was the one about an unknown Roman cemetery near Klenak: "During the construction of the Ruma–Klenak railroad, eight sarcophagi were found near the bridge"¹².

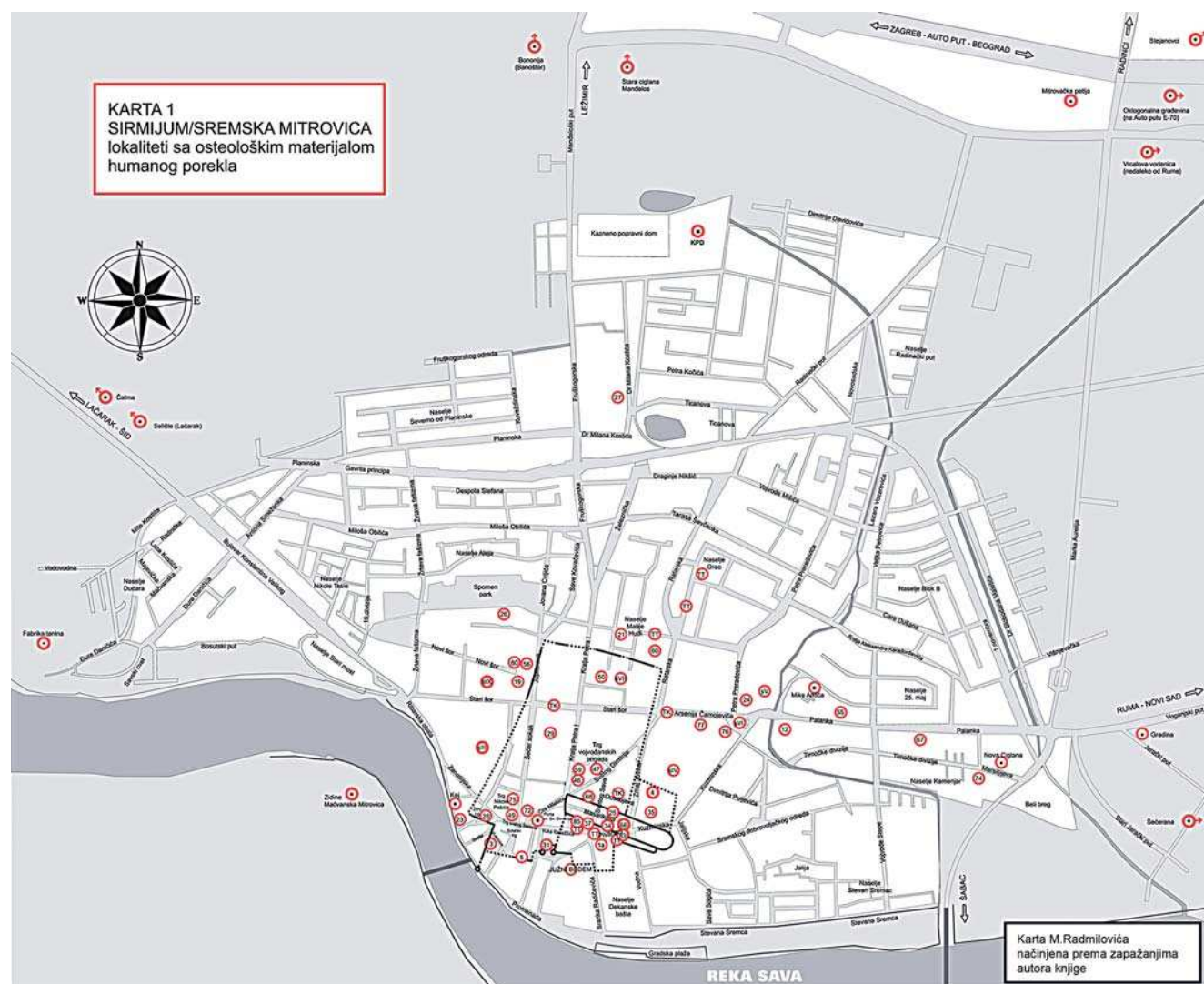


Fig. 3 - Map of all sites discovered in Sremska Mitrovica (*Sirmium*) with human skeletal remains.

⁸ *Ibid.*, p. 58.

⁹ *Ibid.*, p. 56.

¹⁰ *Ibid.*, p. 57.

¹¹ *Ibid.*, p. 56.

¹² *Ibid.*, p. 56.

In the letter dated January the 15th 1885, Jung wrote that “during the digging of some fosses around Mitrovica last year, a relief of Apollo with cithara was found at the Lačarak’s side”. Even though Jung did not know at the time that the relief belongs to one of the earliest sarcophagi in *Sirmium*, it was this way that he marked the whereabouts of an early Roman necropolis, and the location was verified eight decades later¹³.

In letter No. 3, dated March the 12th 1885, Jung reported that a sarcophagus – which is lost today – was found at the ploughman Gecinger’s estate in Mitrovica, and gave an extraordinary technical drawing of it¹⁴.

In letter No. 47, dated December the 12th, he wrote about a sarcophagus with an inscription (CIL III 3245), dug out at the estate of the locksmith Đ. Avramović in 71 Novi šor, right next to the entrance to Bašta. He also reports that the sarcophagus was broken, but that the owner had another fragment, which was out for sale¹⁵.

In letter No. 51, dated March the 8th 1894, Jung specified the details of the finding of built tombs at the estate of the ploughman Tomšić in 738 Palanka Street and a lead sarcophagus, which was recast straight away¹⁶.

The observations he made on Roman cemeteries are also very significant. For the so-called Eastern, i.e. Roman cemetery or the Cemetery of Saint Dimitrije, as he heard it was called in the local tradition, he wrote that illegal excavation began in 1848, when the first sarcophagus was dug out accidentally. He also wrote that

from that time on, every winter, when there was no work in the field, the ploughmen from Mitrovica would “explore” the cemetery site with iron bars and that they were taking away building material, especially stone and lead, which they would sell to stonecutters and merchants¹⁷.

In letter No. 66, dated November the 29th 1894, Jung said that the stonecutters weren’t idle themselves, and that they did not just sit and wait for the ploughmen to bring them what they found, but that they were also doing the “explorations”. Thus S. Jovanović declared that after Hitrek excavated the cemetery of Saint Sineot in 1882/3, he dug out and took away ca thirty constructed tombs, which Hitrek had already found and interred again. Among them was one fresco decorated tomb¹⁸.

In letter No. 95, dated March the 10th 1898, Jung gave enough elements to locate an early Christian cemetery, unknown until then, at the so-called Northeastern necropolis of *Sirmium*. He linked the discovery of a built tomb at the estate of P. Petrović at Ratarska Street to the fact that during the 19th century over 300 tombs and lead and stone sarcophaguses were found in very near surroundings – one of them, because of the plastic Christian symbols on it, certainly, ended up being built into the floor of a chapel on the catholic cemetery in 1878¹⁹.

The biggest part of the letters written in 1902 was dedicated to the so-called Eastern Roman cemetery, which was cut through by the Palanka Street in Mitrovica in the 18th century²⁰. Thus in letter No. 147, dated February the 7th 1902, he wrote “Palanka is a true Via Appia...”²¹. He also stated that there were several sepulchral objects and memoriae in the vast Eastern cemetery, which stood on both sides of the roman road. Jung made sketches of all walls that were discovered in his time. Those plans are precious to those who explore the necropolis today, especially since in 1976 a basilica was found there of the first bishop of *Sirmium* to be historically recorded, Saint Irinej, the well known martyr from 304²².

The findings of brick and pot furnaces, that were precisely located on Jung’s sketches, gave accurate information about the peripheral outlines of the Eastern necropolis. The craftsmen who used fire in production had

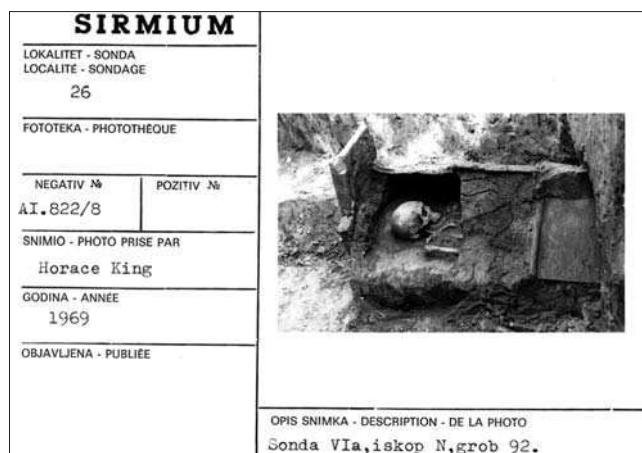


Fig. 4 - *Sirmium*, Site No. 26, grave 92.
(photo documentation of CAID, The Museum of Srem in Sremska Mitrovica).

¹³ *Ibid.*, p. 56.

¹⁴ *Ibid.*, p. 56 and p. 57.

¹⁵ *Ibid.*, p. 57.

¹⁶ *Ibid.*, p. 57.

¹⁷ *Ibid.*, p. 57.

¹⁸ *Ibid.*, p. 57.

¹⁹ *Ibid.*, p. 58. The site in question is Site 60.

²⁰ *Ibid.*, p. 59.

²¹ *Ibid.*, p. 59.

²² *Ibid.*, p. 59.

Sektor V, Trasa toplovoda (site 83), Trasa toplovoda (Pivarska Street), Trasa toplovoda (suburb Dekanska bašta, i.e. the space between the Fire brigade station and the Brewery), Trasa toplovoda (suburb Matija Hui), Trasa toplovoda (suburb Orao), Trasa toplovoda (space between suburbs Matija Huđi and Orao), Trasa kanalizacije (Arsenija Čarnojevića Street), Trasa kanalizacije (Dositejeva Street), Trasa kanalizacije (Stari Šor), from the painted tomb found in Mike Antića Street, from the sarcophagus found in the north-eastern part of Sremska Mitrovica (near KPD) and the site Stara ciglana (near the village of Mandelos) – one grave (fig. 3).

The material from the other 27 sites of Sremska Mitrovica and seven others in its' surroundings were not available for anthropological analysis. Unfortunately, the material from several sites was dispatched to the USA for anthropological analyses in 1970s²⁷, and another part was interred in 1985 in Palanka (a Street in Sremska Mitrovica)²⁸. This is the material from sites: 4, 5, 19, 21, 23, 25, 27, 29, 34, 35, 37, 46, 47, 66, 67, 68, 72, 74, Sektor IV, Sektor VI, Sektor VII, Sektor IX, Nova ciglana, Gradina, Šećerana, Fabrika tanina (Mitrošper), Trasa toplovoda (Vuka Karadžića Street), Mitrovačka petlja (at the exit from Sremska Mitrovica), Stejanovci (near Sremska Mitrovica), Čalma (near Sremska Mitrovica), Selište (Laćarak), Oktogonalana građevina (at the highway E-70), Bononija (Banoštor) and Vrcalova vodenica (near Ruma)²⁹.

Preservation degree of the human osteological material

The preservation degree of bones depends on two groups of factors. The first group comprehends those factors that the archaeologist cannot interfere with, such as, for example: bone loss due to disturbances in the ground (erosion) or due to ploughing; chemical composition of the ground, i.e. acidity of the ground, microorganisms activity in the ground, presence of water in the ground, temperature of the ground; natural resistance of different bone groups to destruction; funerary practice, i.e. whether the dead were interred

more or less carefully, burial intensity (digging new cemeteries into old ones), whether the graves were marked or not, whether there are any grave constructions or not, and many other factors³⁰.

The second group of factors is linked to the actual excavations and techniques that archaeologists can more or less control. The procedures for human remains found on archaeological sites have a specific, usually identical course: when the outer layer of earth is removed, "rough" superficial cleaning of skeleton is applied, which is then photographed and documented, and after that it is removed from the soil. It is at this point that mechanical damaging to the skeleton may occur, as well as the "failure to recognize" fragmented pieces in the soil³¹. Unfortunately, it is not seldom that bones suffer damaging after the archaeological excavations, in the museum facilities, due to: inadequate "temporary" packing; high degree of humidity and notable changes in temperature in the rooms where human osteological material is deposited, which are often in attics and cellars, and rarely depots with appropriate conditions; occasional "rearranging", removals and building new premises for other archaeological collections, that usually end with a new interment of the human and animal osteological material into the ground, etc.

Factors that affect the deterioration of skeleton remains are numerous, and since we mostly cannot influence them, it is very important that we be aware of their existence and that they can sometimes cause serious biases in paleodemographical data.

The bones preservation degree determines directly the limits of anthropological interpretations and special attention should be paid to it, i.e. it should be determined in a very precise way. Therefore, instead of a rough and somewhat outdated scheme (well preserved, semi preserved and poorly preserved), we adopted a more precise description scheme as proposed by Ž. Mikić:

- I – well preserved skeleton, complete;
- II – well preserved skeleton, incomplete;

²⁷ This is the human osteological material from sites 4, 26, 37, 47 and Mačvanska Mitrovica. It is possible that human remains from sites 1a (one part of the material) and 46 are also in the USA. Also, we cannot rule out the possibility that entire parts of skeleton of certain individuals from other sites were taken away in case they were deemed to be anthropologically "interesting". One part of the osteological material from sites 26 and Mačvanska Mitrovica was found in the depots of the Museum of Srem in Sremska Mitrovica.

²⁸ The archaeological documentation does not hold any data as to the sites from which the osteological material kept there came from (archaeological documentation, 356₉₂, site 67, diary, May/June 1985, p. 60; archaeological documentation, 356₉₂, site 67, diary, July 1985, p. 1). It is our opinion that in 1985 the archaeologists were taking the material from the depot of the Museum of Srem to Palanka without any particular order, even randomly. That can be concluded from the remaining human osteological material as well. Namely, there are sites from which all of the osteological material was interred, but there are those where the osteological material from individual graves is missing, or parts of a skeleton of a single individual are missing if they were not all placed in the same packing.

²⁹ Unfortunately, the human osteological material found at the sites in the near surroundings of Sremska Mitrovica was not placed in the depot of the Museum of Srem. Whether it was interred at Palanka, or placed somewhere else – we were unable to establish. Fortunately, the results of anthropological analyses of the human osteological material from some of these sites (Mitrovačka petlja, Vrcalova vodenica...) were published in scientific literature, so we were able to use them for our research.

³⁰ MILADINOVIĆ 2006, pp. 15–17.

³¹ *Ibid.*, p. 17.

III – semi preserved skeleton (semi-preservation means that the complete skeleton is present in the grave, but the bones are very fragile and they broke during the excavation);

IV – partially preserved skeleton remains (partial preservation means that only parts of a skeleton are registered in the grave, showing high level of fragility during excavations, and are virtually impossible to be lifted, packed and transported) and

V – poorly preserved skeleton remains (poor preservation of skeleton remains means that skeleton remains can only be registered in traces and it's virtually impossible to lift them without causing damage)³².

According to this scheme, we were able to determine that preservation level of bone remains of individuals

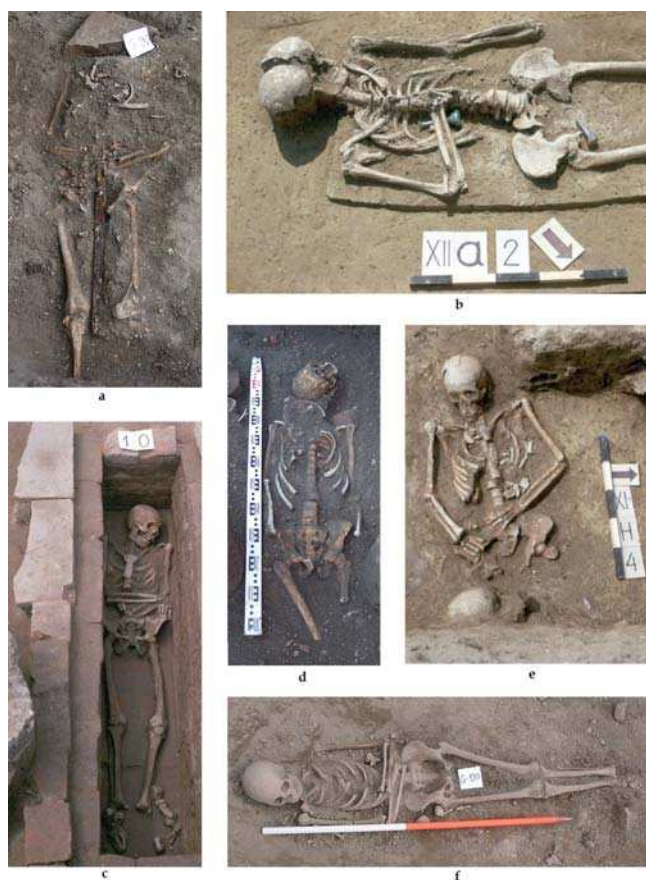


Fig. 6 - a) Site No. 85, grave 95 (individual I); b) Site No. 26, grave 2; c) Site No. 26, grave 10; d) Site No. 1a, 3a; e) Site No. 26, grave 4; f) Site No. 85, grave 120 (individual I) (photo documentation of CAID, The Museum of Srem in Sremska Mitrovica and from the Cultural Heritage Preservation Institute from Sremska Mitrovica).

buried at various sites in Sremska Mitrovica (*Sirmium*) and its' nearer surroundings mostly belong to the second category – well preserved skeleton, incomplete. This preservation degree is a direct consequence of: erosion (graves in the shape of a well, at the banks of the river Sava); construction works (Sremska Mitrovica) and agricultural works (sites found in the surroundings of Sremska Mitrovica); robbing and destroying of graves and grave constructions by illegal diggers; funerary practise (high intensity of burials, i.e. digging new graveyards into old ones, and using architectural parts from the antiquity for medioeval funerals); high degree of humidity and notable changes of temperature in rooms where the human osteological material was deposited, without being mechanically cleaned and washed after the excavations, as well as placing the material into inadequate “temporary” packing. Apart from this, we should also take into consideration the fact that entire human osteological material from certain sites was sent to the USA for an anthropological analysis, as well as the already mentioned fact that in 1985, in Palanka Street, the archaeologists dug out probe 11 “in a sterile layer of yellow clay, up to 2 m deep, so as to inter in it human bones from archaeological excavations in Ruma and archaeological excavations in *Sirmium*”³³. Also, another probe No.16 was dug out the same year, completely sterile, 1,55 m deep, “for the burial of bones from the Museum of Srem”³⁴.

Research results

Anthropological research of the osteological material was performed 2004–2009 at the Museum of Srem in Sremska Mitrovica and at the Faculty of Philosophy of the University of Belgrade. A synthesis of the comprehensive research was presented in the book *Sirmium – Necropolis (Sirmium – The City of Death)* on 593 pages³⁵.

The book shows the anthropological structure of the population that inhabited Sremska Mitrovica (*Sirmium*) in the period from the 1st to the 16th century, established directly on the basis of the anthropological analysis of human osteological material from 36 sites, and indirectly from 34 sites, thanks to the archaeological documentation available, papers published in scientific literature and reports handed to the author of the book from Brooklyn college, the City University of New York (USA). The anthropological analysis comprehended a total of 770 interred and two incinerated

³² MIKIĆ 1978, p. 9.

³³ Archaeological documentation, 356₉₂, site 67, diary, May/June 1985, p. 60.

³⁴ Archaeological documentation, 356₉₂, site 67, diary, July 1985, p. 1.

³⁵ MILADINOVIĆ - RADMILOVIĆ 2011.

individuals, of which 553 adults and 219 children, discovered during archaeological excavations in the period 1957–2007.

When it comes to sites for which the human osteological material was available, data given for interred individuals are: finding conditions, skeleton preservation degree, the smallest number of individuals, gender³⁶ individual age³⁷, body height³⁸, cranial and postcranial indexes, dental and paleopathological analyses³⁹, investigation of the probable cause of death, epigenetical characteristics⁴⁰, and markers of the occupational stress; for incinerated individuals: finding conditions, identification, fragmentation degree, total and specific weight of the findings from incinerated graves, identification, fragmentation degree and total weight of burnt bones for each body region separately⁴¹, the smallest number of individuals, gender⁴², individual age⁴³, description of changes on the surface of burnt bones, description of cracks and abnormal bone contortions, oxidation degree of organic material⁴⁴, dental and pathological analyses, epigenetical characteristics and reconstruction of funerary rites. All sites were illustrated with appropriate maps, situational plans, photographs of the sites and graves in situ, as well as photographs of the skeleton material.

Future researches

Archaeology should have the same obligations regarding the contents and methodology for both completely preserved skeletons and fragmented and incinerated skeleton remains as well, to preserve them for anthropological analyses, regardless of the presence of any remains of a material culture, and independently on the fact from which praehistorical or historical period they come. The aim of this contribution is an attempt to put an end to many decades of carelessness towards such findings, to point out the problems that anthropologists encounter while working on skeleton remains, to bring to the attention of researches those anthropologically relevant data from the very archaeological excavations based on which a fuller interpretation of a certain necropolis, or an individual burial can

be made, as well as a reconstruction of funerary customs.

Comprehensive anthropological researches also began at other significant archaeological sites run by the Institute of Archaeology of Belgrade, to mention only a few: Jagodin Mala (*Naissus*), Ravna (*Timacum Minus*), Caričin Grad (*Justiniana Prima*), Beograd (*Singidunum*), etc.

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³⁷ According to: TODD 1920, pp. 285–334; ID. 1921 a; ID. 1921 b; VALLOIS 1937; FEREMBACH, SCHWIDETZKY, STLOUKAL 1980; BROTHWELL 1981; İŞCAN, LOTH, WRIGHT 1984 a; ID. 1984 b; ID. 1985; LOVEJOY 1985; LOVEJOY et al. 1985; BASS 1995; SCHEUER, BLACK 2000.

³⁸ According to: WALKER, PÉREZ-PÉREZ, u.m.; TROTTER, GLESER 1952

³⁹ According to: ORTNER, PUTSCHAR 1985; HILLSON 1990; ID. 1996; AUFDERHEIDE et al. 1998, etc.

⁴⁰ According to: HAUSER, DE STEFANO 1989; ĐURIC-SREJIĆ 1995.

⁴¹ According to: MCKINLEY 2004.

⁴² According to: GARN, LEWIS, KERESKY 1965; MIKIĆ 1978; FEREMBACH, SCHWIDETZKY, STLOUKAL 1980; HILLSON 1990; ID. 1996; MIKIĆ 1992; BUIKSTRA, UBELAKER 1994.

⁴³ According to: TODD 1920, pp. 285–334; ID. 1921 a; ID. 1921 b; VALLOIS 1937; FEREMBACH, SCHWIDETZKY, STLOUKAL 1980; BROTHWELL 1981; İŞCAN, LOTH and WRIGHT 1984a; ID. 1984b; ID. 1985; LOVEJOY 1985, LOVEJOY et al. 1985.

⁴⁴ According to: SHIPMAN et al. 1984; HOLDEN et al. 1995 a; ID. 1995 b; Mays 1998.

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