The Chronicles of Haemus

1 | 2025

haemus international research network

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ÉCOLE FRANÇAISE D'ATHÈNES
ΓΑΛΛΙΚΗ ΣΧΟΛΗ ΑΘΗΝΩΝ

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Summary

From the Editors

FINALLY, WE HAVE AN ACADEMIC OPEN ACCESS PEERREVIEWED EJOURNAL OF THE ARCHAEOLOGY AND HISTORY OF THE BALKANS IN LATE ANTIQUITY!

Launched in 2025 under the aegis of the *HAEMUS* International Research Network (*HAEMUS IRN*), the *Chronicles of Haemus* (*CoH*) is a groundbreaking journal that aims to unite all scholars specializing in the archaeology and history of the Balkans and surrounding regions during the Late Roman and Early Byzantine periods, through an interdisciplinary and transnational perspective on the deep political, economic, and cultural transformations that shaped South-Eastern Europe during the transition that constitutes the 3rd-8th centuries. Our journal is designed to explore all possible themes within the disciplinary fields covered, including, to give some examples, the shift from Roman rule to the rise of "barbarian" kingdoms, urban and economic transitions, or the evolution of cultural and religious practices. Welcoming innovative contributions, mainly in English, but also in French, Italian, German or Spanish, the *CoH* seeks to foster scholarly exchange for a better understanding of a pivotal region and period in European and Mediterranean history, which are too often wrongly regarded as marginal.

Simply, our journal aims to become a key reference for researchers, teachers, students and enthusiasts of archaeology and history, by providing a forum for innovative research, as it will favour interdisciplinary work and new approaches, whether through case studies, regional summaries or cross-disciplinary thematic analyses. Through a rigorous and diversified approach, we also want to encourage young researchers to contribute and to take advantage of the platform to disseminate their research to an international academic public. The *CoH* thus aims to become a vehicle for intellectual and scientific exchange, while highlighting research that is often inaccessible outside the country of production. Alongside the studies, the publishers also want to make room for long critical reviews of fundamental works published in the Balkan countries, which would allow them to be made known throughout the world, while launching dialogues around them. This is the Editorial Board's overall policy statement!

THE *HAEMUS* INTERNATIONAL RESEARCH NETWORK

Behind the journal, there is a network, and it does not seem inconsistent to slip in a few words about this. On the 18th of June 2021, the *HAEMUS IRN*, taking its name from the ancient name given to the Balkan Mountain range, was launched online, in front of a "virtual" audience of around sixty people. This launch was divided into two parts: first, a presentation of the project by two of its coordinators (Dominic Moreau and Christophe J. Goddard, then a major lecture on the history of archaeological work carried out on the site of Caričin Grad (by Vujadin Ivanišević and Catherine Vanderheyde). This second part also inaugurated what has now become a permanent activity of the network, its *Online Guest Lecture Series*. The impact of the event and the publicity that immediately followed on social networks was such that the mailing list quickly grew, in the space of a few days, from just under a hundred email addresses, all borrowed from personal acquaintances of the Steering Committee members, to just over three hundred. Today, it includes more than 420 researchers and students around the world, making it nothing less than the largest international research network on the archaeology and history of the Balkans!

The foundations of this vast project, which is a real success, were laid during a meeting organized on the sidelines of the 1st Summer School of the *DANUBIUS* project of the University of Lille and its HALMA-UMR 8164 Research Centre, which took place from the 12th to the 14th of September 2019, with for topic the archaeology of the Late Antique Balkans. The participants in this event, which focused on international archaeological missions involving France (on the Kvarner Archipelago in Croatia, in the Drin Valley in Albania, at Caričin Grad in Serbia, at Ulpiana in Kosovo and at Zaldapa in Bulgaria), agreed, following a "closed-door" discussion session, that it was necessary to strengthen all forms of collaboration between the different teams in the field, drawing directly on past experiences in this direction, in particular the CNRS GDR 924 (198892) and 1052 (1993-2000), successively directed by Noël Duval, Pierre Cabanes and JeanLuc Lamboley. Wishing, however, to extend the scope of the new initiative to the entire Balkans—the two aforementioned GDRs (for *groupements de recherche*) focused on the former Yugoslavia and Albania—, while going beyond the framework of France's international relations, the participants chose other enterprises as models. Among these, it is worth mentioning the *Impact of Empire* international network, created in Nijmegen in the Netherlands in 1999, which brings together around 200 researchers, as well as *The Transformation of the Roman World* project, supported by the European Science Foundation between 1993 and 1999. The participants in this "closed-door" session then agreed to rally as many researchers as possible and to identify the key institutions that could lead the enterprise, with the aim of responding to calls

for projects at the national and European level. It did not yet have its name, but the *HAEMUS IRN* had just been born!

Drawing on the archaeological work presented at that summer school, the first project considered temporal markers between the 3rd and the 12th centuries. The difficulty of combining all the national historiographical traditions of the Balkans, particularly in terms of periodization, however, prompted the initiators to decide to focus on Late Antiquity alone, but considering it over a very long period, namely from the 3rd to the 8th century. This choice was all the more motivated by their interest in disseminating the very notion of "Late Antiquity" in Central and Eastern Europe, where its reception is still very uneven today. The discussions and negotiations that took place in the following months resulted in the establishment of a Core Group for the future network, representing ten leading European research institutions active in the archaeological field in the Balkans: the University of Lille, together with its HALMA Research Center, the AOrOc-UMR 8546 Research Center, the French School at Athens, the French School at Rome, the Austrian Archaeological Institute of the Austrian Academy of Science, the University of Vienna, the Leibniz Institute for the History and Culture of Eastern Europe–GWZO, the Romano-Germanic Commission of the German Archaeological Institute, the Italian School of Archaeology at Athens, and the Institute of Heritage Science of the Italian National Research Council. This first Core Group has committed to sharing its resources (libraries, archives, specialized techniques, etc.), while establishing ten work packages (eight work packages and two transversal work packages) to structure the network's work.

English was chosen as the network's language of communication, but the organization of activities in any of the languages represented by the lead institutions is still encouraged. Very quickly, the initial consortium wanted to associate itself with at least one recognized British partner in the field of Late Antique archaeology, as well as at least one other in the field covered by the network, pending the creation of a scientific committee representing each of the countries included in the study area. Taking into consideration a series of opportunities offered at the same time by the ISITE ULNE Foundation of the University of Lille (now *Initiative d'Excellence de l'Université de Lille*), the decision was made to rely, initially, on its strategic partners. The institutions then selected were the University of Kent in the United Kingdom (as a member of the 3i University Network) and the Babeș-Bolyai University of Cluj-Napoca in Romania (as a member of the European University project InclusU: Universisty Network for Inclusiveness). This strategic choice proved to be wise, as the *PRAE-HAEMUS* initiative, aimed at the first implementation of the network, was awarded, at the beginning of 2021 two successive grants, one by the ISITE ULNE Foundation, as part of its call for the program "Support for the development of international networks", and the other directly by the University of Lille, as part of its

call for projects "Internationalization". This situation then placed Dominic Moreau as the first coordinator of the network.

These first grants were the real starting point for the network, with the first half of the year partly devoted to the creation of a full Scientific Board, bringing together representatives of key institutions in archaeological research in each of the eleven Balkan countries (Albania, Bulgaria, Bosnia and Herzegovina, Croatia, Greece, Kosovo, North Macedonia, Montenegro, Romania, Serbia and Slovenia) and of two neighbouring countries (Hungary and Turkey, for its European part). Joined into a single governing body, the scientific committee and the Core Group now formed the Steering Committee. This first half of 2021 also saw the organization of the inaugural activities, as well as discussions on future funding to be sought, all the partners having quickly agreed that a response to the *COST Actions* calls for projects, funded by the European Commission, was necessary, due to the scale and ambition of the network. For this purpose, the delegation of the Hauts-de-France region to the EU offered its support to the future application. It is this effort to build and consolidate synergies around the archaeology and history of the Balkan world in Late Antiquity, as well as the planning of the network's future activities, which was presented at the inaugural session on the 18th of June 2021.

In addition to the launch of the *Online Guest Lecture Series*, which included four lectures through to the end of 2021, the same year also saw various public presentations by the network, interviews with some of the coordinators and the publication of a special edition of the *Dossiers d'archéologie* (Faton), in support of the candidacy of the eastern part of the Danubian *limes* to the UNESCO World Heritage list. The highlight of the first year of the *HAEMUS IRN*, however, was the organization at the University of Lille of a major international workshop (around forty speakers) on the theme of the *villae*. Initially planned to be annual (this is not the case, anymore), the network's international workshops are intended to be scientific thematic forums, leading to reference works that are not "simply" conference proceedings. The book resulting from the first edition is in press in the *Rome and After in Central and Eastern Europe–RomA* series at Brepols Publishers, which is now an associate partner of the network, and will inaugurate the *HAEMUS Companions to the Late Antique Balkans* subseries.

The University of Lille having offered the *HAEMUS IRN* a second successive year of funding as part of its "Internationalization" program, 2022 was no less rich than 2021, even if, unfortunately, it was not possible to organize the second edition of the thematic workshops. A project, proposed by the Iași branch of the Romanian Academy, had been accepted by the Steering Committee at the end of 2021, but the prolongation of hostilities in Ukraine and the uncertainty surrounding the real intentions of the Russian army ultimately led, for security reasons, to the cancellation of the event just before the beginning of summer, without any real alternative solution. The funds available to the

network at the time, which should have been used to cofinance the Iași workshop, were then allocated to four activities: a session on cities at the *Roman Archaeology Conference* (Split, Croatia, 68 April), as well as the participation in the organization of the international workshop *Late Antique Elites of the Countryside in the Middle and Lower Danube Provinces* of the *MASLAP* project (Budapest, Hungary, 28 October), the international conference *Archaeology of the Balkans from Prehistory to the End of Antiquity: Recent Discoveries and New Methods* (Pristina, Kosovo, 17-19 November) and the international conference *Les églises tétraconques dans l'Antiquité tardive – Le chiese tetraconche nella Tarda Antichità – The Tetraconch Churches in Late Antiquity* of the *DANUBIUS* project (Rome, 28-29 November). In parallel, the *Online Guest Lecture Series* continued throughout the year with nine lectures.

Despite all this activity, the network has found itself at a crossroads since 2023, as it no longer has its own funds. The time has now come to increase the number of responses to calls for projects, the *COST Actions* program being obviously an ultimate goal. However, the Steering Committee still needs to be consolidated in its entirety, by identifying an explicit role for each member. Above all, it should be fully demonstrated that the *HAEMUS IRN* is a real project incubator, and not just a series of colloquiums and conferences, by applying to a major European funding program. In the meantime, the network exists and lives thanks to the goodwill and interest of its many members, the *Online Guest Lecture Series* continues (seven lectures in 2023, eight in 2024, four, at this moment, in 2025, for a total of thirty up to now), and the *HAEMUS IRN* is always ready to be actively associated with scientific events, as was the case for the international workshop *Peristyle Buildings in Late Antiquity: Architecture, Landscape and Function* of the *MASLAP* project (Pécs, Hungary, 7-8 September 2023). Moreover, a Young Scholar Circle, which can already be followed on Facebook, was launched in 2023, with the aim of better integrating doctoral students and postdoctoral fellows into the life of the network. Led directly by a group of young scholars, it organizes, in particular, an annual online workshop in the autumn, which gives the floor only to young researchers from around the world. The third workshop will take place next November. An international exchange system, both for students and for researchers, must also be established in the future, because our network aims above all and before anything else to be a space for exchange and sharing on an international scale, open to all researchers, whether emerging or established, interested in the Balkans in Late Antiquity.

Given the difficulty of organizing the network's thematic workshop on an annual basis, in a context where the demand for participation is very high, it was decided to make it the equivalent of a congress and organize it every 4 to 5 years. Thus, the next event, which will focus on cities, will take place in Belgrade in the Spring of 2026, with the support of the Serbian Academy of Sciences. Other activities are underway,

including the creation of an online register of archaeological and historical missions and projects related to the network's theme. The most obvious achievement of its vitality, however, is the creation this year of this journal, thanks to the École française d'Athènes, in particular its director, Véronique Chankowski, and its publication director, Bertrand Grandsagne. They have always believed in the project and have supported it since its inception, and for this, the members of the *CoH* Editorial Board would like to offer them their most sincere thanks. Their thanks also go to James Crow, Carla Sfameni, Lucia Alberti, Francesca Colosi, Tatjana Koprivica and Olga Pelcer-Vujačić, who all agreed to "play the game", by offering the first two scientific deliveries of this first issue, two deliveries resulting from online lectures they offered, for James Crow, on the 29th of April 2022 (lecture No. 6), and for the others, on the 2nd of October 2023 (lecture No. 17). These two contributions set the bar very high, as they are of such high quality. The *CoH* is thus launched under the best auspices, and the reader of these lines should understand them as a permanent call for contributions, because it is now up to you to feed this journal.

Long live the *HAEMUS* International Research Network! Long live the *Chronicles of Haemus*!

Dominic Moreau
With the assistance of:
Petya Andreeva, Christophe J. Goddard, Tina Milavec, Maria Noussis,
Priscilla Ralli and Carla Sfameni

18 July 2025
(two months after the official launch of the *CoH*)

The Anastasian Wall

James Crow

abstract The Anastasian Wall, built under Emperor Anastasius in the early 6th century, served as a vital defensive structure for Constantinople, stretching 58.3 km from the Black Sea to the Sea of Marmara. This wall was created in response to threats from steppe invaders like the Bulgars. Strategically located 65 km west of Constantinople, it complemented the city's Theodosian Walls, protecting not only the city but also its suburbs and crucial supply routes. The wall's construction was massive, requiring 10,000 workers over five years. Its formidable design included a ditch, towers, and forts at intervals to control access. Despite the advanced defenses, historical records indicate that it struggled during attacks, notably the Kutrigurs' raid in 559 after an earthquake compromised parts of the wall. Emperor Justinian later restored the wall, reinforcing Constantinople's security until the 7th century, when it was eventually abandoned amid growing external pressures. The Anastasian Wall, often referred to as "Rome's Last Frontier," stands as a testament to Byzantine defensive architecture, securing the capital's outskirts and crucial resources.

résumé Le mur d'Anastase, construit sous l'empereur Anastase au début du vie siècle, était un ouvrage défensif majeur pour Constantinople, s'étendant sur 58,3 km de la mer Noire à la mer de Marmara. Érigé pour répondre aux menaces des envahisseurs des steppes comme les Bulgares, ce mur se trouvait stratégiquement à 65 km à l'ouest de Constantinople, complétant les murs Théodosiens de la ville et protégeant ses faubourgs et ses routes d'approvisionnement cruciales. La construction nécessita 10 000 ouvriers pendant cinq ans. D'une conception imposante, le mur comprenait fossé, tours et forts pour en contrôler l'accès. Malgré ses défenses avancées, il montra des faiblesses lors des attaques, notamment lors du raid des Koutrigours en 559 après qu'un tremblement de terre ait affaibli certaines sections. L'empereur Justinien entreprit des restaurations pour renforcer la sécurité de Constantinople jusqu'au viie siècle, lorsque le mur fut finalement abandonné face aux pressions extérieures croissantes. Surnommé « La dernière frontière de Rome », le mur d'Anastase témoigne de l'architecture défensive byzantine, protégeant les ressources et les alentours de la capitale.

about the author

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The great Theodosian land walls of Constantinople ensured the city's security for nearly a millennium but outside its walls were other defences intended to ensure the wider protection of the city and its suburbs. Up until the early seventh century the main threat to Constantinople came from across the Danube. Within half a century of the city's dedication the emperor Valens was slain and his field army defeated by the Goths at the battle of Adrianople (Edirne) in 378, barely 235 km from the eastern capital. It is hardly surprising that within two decades his successors embarked on the great land walls project[1]. However this massive undertaking was not deemed to be enough and early in the sixth century the emperor Anastasius created the last great liner barrier of antiquity, known as either the Anastasian Wall or the Long Walls of Thrace. Cities in eastern Thrace such as Selymbria (Silivri) near the Wall's southern end and Perinthos/Heracleia (Marmaraereğlisi) were newly fortified in the mid-fifth century and they served as military strongholds along the main approach road to the city (**fig. 1**)[2]. But the Anastasian Wall served as a formidable barrier closing access from sea to sea across the peninsula for over a century.

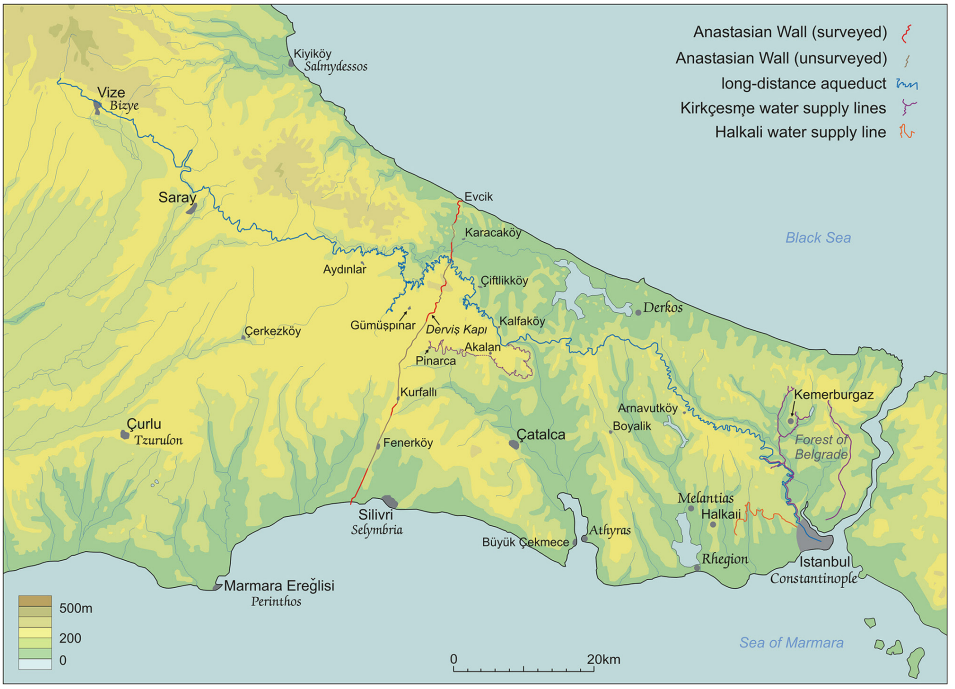

Fig. 1 — Map of the Long Walls and the Aqueducts of Thrace (© Richard Bayliss).

1. Schneider, Meyer-Platt 1942; Crow 2020.
2. Rizos, Sayer 2017; Sayer 2021.

The Anastasian Wall was constructed 65 km west of Constantinople at the beginning of the sixth century AD probably in response to the increasing threat of new steppe invaders, the Bulgars[3]. The wall stretches 58.3 km from the coast of the Black Sea in the north to the Sea of Marmara. A contemporary panegyric, praising the emperor's achievements, claimed that, "What was the grandest and passes all imagination was to raise a high and powerful wall crossing all of Thrace. It passes from sea to sea, barring the route of barbarians, an obstacle to enemy aggression. The wall of Themistocles in Athens was smaller by report"[4]. A number of near contemporary sources such as Evagrius, Procopius of Gaza, Procopius of Casearea and the Chronicon Pascale attribute the construction to Anastasius and previous interpretations that construction began in the mid-fifth century may be dismissed[5].

Survey between 1995-2003 has been able to map the line of the Wall and identify and plan small forts, towers and lengths of curtain surviving in the dense forest to the north[6]. The southern sector of Wall runs across open, rolling hill-country, following a series of prominent north-south ridges ending at the Sea of Marmora 4 km west of the town of Silivri (Selymbria). Little survives for these first 20 km apart from a scatter of stone and brick in the ploughed soil (**fig. 2**). In places it is possible to identify towers and the low mound of the Wall itself. At the sea's edge there is little trace on the beach, but within a few metres it is possible to discern the dark shadow of a long mole, less than 2 m below the water, representing a long *probalos* defence work constructed to prevent the wall from being outflanked along the shore. A similar feature is known at the south end of the Chersonese Wall across the Gallipoli Peninsula and its effectiveness was described by Procopius. In the southern sector south of the main railway line fragments of brick indicate that the wall may have been constructed of alternating courses of stone blockwork facings and brick courses, like the urban fortifications of Constantinople, and the nearby coastal cities of Selymbria and Heraclea. As the wall runs northwards, the ridges climb to a dissected plateau dominated by the high hill of Kuşkaya (378 m asl) (**fig. 3**) and run as far the cliffs overlooking the Black Sea at Evcik. These hills are densely forested with oak and beech, making an approach by an army difficult at any period[7] but also preserving long sections from extensive stone robbing.

3. Haarer 2006; Hof 2020a.
4. *Procopius of Gaza*, p. 21; Chauvot 1986.
5. Haarer 2006, p. 106-109; Bardill 2005, p. 124, n. 35; Hof 2020a.
6. Crow, Ricci 1997.
7. Crow 1995, p. 116-117.

Fig. 2 — Line of the Wall near Kurfali (© The author).

Fig. 3 — View of the line of the Wall outlined in tress from Kuşkaya (© The author).

Where it survives best on the high ground, the Wall can be seen to have been constructed of large limestone or sandstone blocks with a core of limestone, or in some places metamorphic rocks (**figs. 4**, **5**). The blocks and core are bonded with hard lime mortar with brick inclusions[8]. In most places the curtain wall is 3.20 m wide and the highest sections survive to a height of 4.5 m. In some sections the curtain was narrowed to 1.80 m with a series of internal arcades similar to sections of the sea walls of Constantinople and the outer wall (*proteichisma*) of the Theodosian land walls. Where the foundations are visible due to the futile efforts of treasure hunters or road construction they are seen to be 1.5 – 2.5 m deep. Essentially the structure of the curtain wall is similar to other late antique city and fortress walls. Surviving examples such as Resafa in Syria rise to over 10 m in height (Hof 2020a), and there is no reason to assume the Anastasian Wall was significantly lower. Except where the ground falls away steeply to the west as at Kuşkaya Tepe, there is evidence along the entire length of a ditch up to 15 m wide, with the outer lip located 23 m in front of the wall. Between the ditch and main curtain was a prominent mound (**figs. 6**, **7**) comparable to the external mounds from the near contemporary Anastasian defences at Resafa in Syria[9]. At the small fort called the Büyük Bedesten a ditched outwork extends up to 80m in front of the fort and gate, this is probably a later defensive feature associated with invasions in the later sixth or seventh century (see below). It is one of the rare examples of earthwork defences associated with late antique fortifications, see the examples from Caricin Grad (Justinana Prima).

Fig. 4 — Wall beside forest track (© The author).

8. Snyder 2012.
9. Hof 2020a; 2020b.

Fig. 5 — Wall and tower at Hisar Tepe, near the Black Sea (© The author).

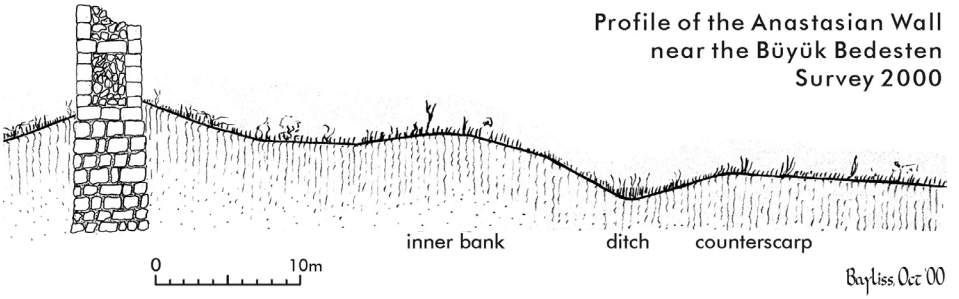

Fig. 6 — Profile Showing the Wall and ditch (© Richard Bayliss).

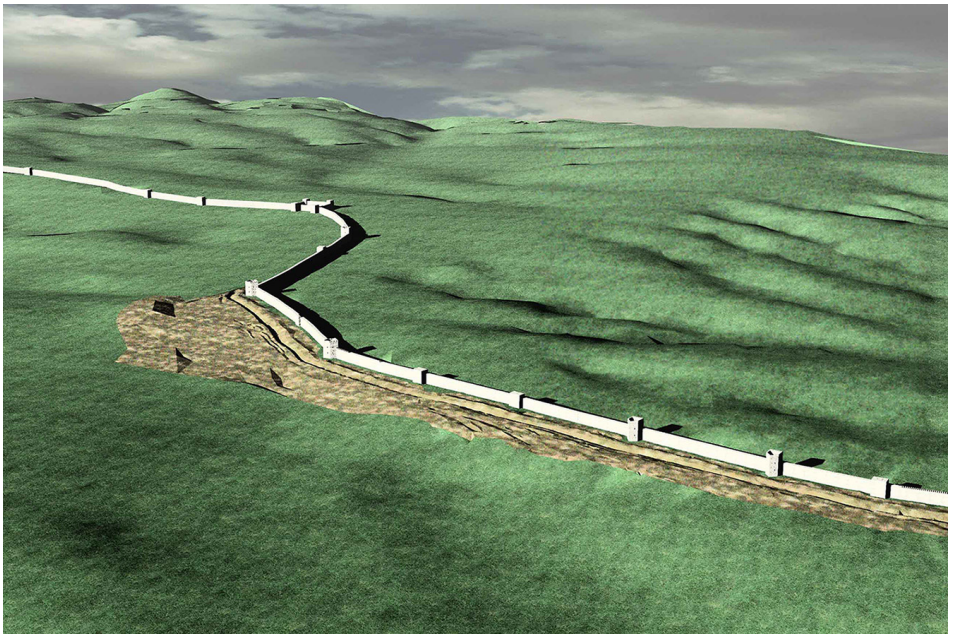

Fig. 7 — Reconstruction of the Wall at Derviş Kapı (© Richard Bayliss).

The curtain wall itself provided a formidable barrier and along its length was a system of towers. At points where the line of the Wall changes direction the towers were polygonal in shape, normally pentagonal, but in places hexagonal. These are massive structures, projecting over 11.5 m and were comparable to the largest towers from the ancient world[10]. These were clearly intended to provide platforms for torsion artillery. Agathias' sarcastic criticism of the failure of the Long Walls to resist the successful assault led by Zabergan in 558/9, specifically mentions the absence of artillery defences, thus implying they were a normal feature of their defence:

> There was nothing to stop them, no sentries, no engines of defence, nobody to man them. There was not even the sound of a dog barking, as at least would have been the case with a pig-sty or sheep-pen[11].

Between these great bastions were located numbers of wide rectangular towers, 11 m. wide but projecting as little as 2 m. to the exterior. One tower close to the modern road crossing at Derviş Kapı showed traces of double internal stairs and vaults (**fig. 8**).

10. Crow, Ricci 1997, p. 239, fig. 2.
11. Agathias, *History*, 5, 13, 6.

In the first phase there was an entrance 2.4 m wide, later narrowed to 1.5 m[12]. There is no surviving evidence for external stairs as found on the Theodosian Land Walls and the towers here were intended to provide accommodation and controlled access to the curtain wall. The towers were located at distances of 80-120 m apart suggesting that there would have been at least 340 towers along to the total length of the Wall.

Fig. 8 — Interior of the tower near Derviş Kapı (© The author).

In addition to the regular system of towers there were also small forts, called locally bedestens. They are located at intervals of approximately 3.5 km apart and provided the main access points through the Wall. From the two planned examples (the Kücük [small] and Büyük [large] bedestens) these forts were constructed on the inner face of the wall, extending 32 m. behind the wall face and 64 m. parallel to the curtain. There were projecting rectangular towers at each of the angles. Midway along the two long axes was a gateway providing access into the fort and through the wall beyond (**fig. 9**). There is little evidence for structures within the enclosures and the evidence for permanent occupation was limited, suggesting that these forts were only occupied with small caretaker garrisons. With only limited crossing places and a high barrier probably 10 m. high the Long Walls will have created a major impact on local and long-distance movement for friend and

12. Crow, Ricci 1997, p. 249, fig. 8.

enemy alike. In addition to the gateways at the bedestens there are likely to have been major defended gateways where major west-east roads crossed the line of the Wall. None of these are known, although the main one was located where the Via Egnetia crossed north of Silivri and possibly in the north where a road along the Black Sea coast is marked in the road itineraries.

Fig. 9 — Reconstruction of the fort at the Büyük Bedesten (© Richard Bayliss).

Construction by Anastasius was a massive undertaking but as noted before only brick stamps survive in the southern sector to materially document this work. The detail of the undertaking is unremarked in ancient sources but a doctoral study applying comparative energetics has contrasted the works on the fourth and fifth century Thracian aqueduct systems of the city with estimates from the known structures on the Long Walls[13]. The estimates of materials and manpower are astonishing, concluding that despite the scale of the two aqueducts, each line amongst the longest in the Roman world, the construction of the Long Walls required five times the manpower required for the two phases of the

13. Snyder 2012.

aqueducts[14]. Snyder estimated that a workforce of 10,000 was needed over five and a half years (2012, 254). Throughout Justinian's reign when the Long Walls were adequately defended it resisted assault. As a measure of the Wall's reputation for the inhabitants of the capital, the chronicler Malalas refers to it as "the Wall" of Constantinople (18.129), distinguishing it from the walls of Theodosius and Constantine (18. 124). Certainly it offered a measure of security for the settlements and farms outside the city's land walls, but also a protected space for the main landwalls.

Procopius in the Buildings recorded extensive repairs to the Long Walls by Justinian when access to the towers were reduced and staircases were made inaccessible. The current scholarly consensus is that the Buildings was completed before 554[15] and the restoration may fall in the period after May 535 when Justinian created the newly established office of the Praetor of Thrace combining the previously divided roles of the civil and military vicars of the Long Walls[16].

A number of historical texts concerned with both the great earthquake of 557-8 and the major raid lead by Zabergan and the Kutrigurs outside the Walls of Constantinople in the following year present differing perspectives on the Long Walls and their significance to the empire. They can be briefly summarised as follows: Agathias's account of the Wall's failure and his criticism of Justinian part of which was quoted earlier but makes no mention of the effect of the earthquake on the Long Walls, although in the same Book 5 he describes the seismic damage and subsequent collapse of the dome of Hagia Sophia. For Agathias the Kutrigurs passed through the Wall because it was allowed to decay and was unmanned through the emperor's neglect. By contrast the account of Malalas, presented more fully in Theophanes' Chronicle gives a quite different picture. For the year AM 6051 (558/9) the latter chronicle specifically states that the Huns "having discovered that some parts of the Anastasian Wall had collapsed through earthquake, they got in and took prisoners as far as Drypia and Nymphai". The account continues with a description of Belisarius' successful counter attack forcing Huns to withdraw beyond the Long Walls to western Thrace and eventually under the threat of the Danube fleet to retreat across the river Danube. Significantly Theophanes' Chronicle continues by describing how after Easter the aged Justinian set up his court in Selymbria to personally oversee the restoration of the Long Walls. This was a remarkable event for an emperor who had rarely crossed the Bosporus and marks the importance of restoring the confidence of the citizenry of Constantinople in their Long Walls. During his stay the walls of Selymbria were also restored and this can be confirmed by brick stamps and specific forms of brick

14. Snyder 2012, p. 253-255.
15. Sarantis 2016, p. 161-162.
16. Sarantis 2016, p. 139-142.

strengthening elsewhere only attested in the Justinianic phase of the restoration of the walls of Antioch (**fig. 10**). Theophanes observes that the emperor left the city shortly after the Easter festival only returning in August. The exact date of the imperial return is known from another fragmentary text found in the Book of Ceremonies. Recording the triumphal entrance of the emperor on 11 August 559 Justinian processed into the city paying tribute at the memorial of his wife Theodora in the Church of the Holy Apostles and onto the Great Palace. The triumph was presumably over the Kutrigurs forced to return beyond the Danube, but the dates present us with a rare timetable for an imperial building project from a few days after 13 April to 11 August 559. Time spent to ensure the continued outer security of the city by restoring its Long Walls.

Fig. 10 — Brick blind arcade at the west walls at Silivri (© The author).

The investment seems to have paid off since despite increasing threats from a new steppe power, the Avars, the Walls and city were secure until the end of the century. In the coup against Phokas, the threat of Heraclius' fleet at Abydos caused the Long Walls defenders to retreat to the city, clear demonstration both of their vulnerability, but also the failure of their previous attackers to mobilise any naval capacity.

The only known building inscription from the Wall refers to the emperor Heraclius and the patrician Zmaragdus. It was later reused in the construction of the small church perched above the Black Sea at the north end of the Wall at Evcik. The poorly carved text provides the latest dating evidence for reconstruction after 610, probably in response to the so-called Avar Surprise in 623, works supervised by the former exarch of Ravenna, Zmaragdus. However it seems likely that only a few years later the defensive line was abandoned before the Avar siege of Constantinople when the Eastern Roman Empire faced war on two fronts and the emperor campaigned in the east[17]. There are no further references for active use and it seems the Long Walls could no longer be manned effectively and subsequently fell into decay; later inscriptions noted by previous studies can be related to other fortresses in the region not the Anastasian Wall.

In the sixth century the construction and maintenance of the Thracian wall and other linear barriers marks a practical and pragmatic solution to increasing insecurity across the Balkans. By securing the pinch-points for communications it was possible to defend wider regions with more limited garrisons. Such a strategy contradicts Procopius' claim that

> Wishing as he (Justinian) did to make the Danube the strongest possible line of first defence before them and before the whole of Europe, he distributed numerous fortifications along the bank of the river[18].

Even if his statement exaggerated the imperial restoration of the old Roman river frontier, the very act of Justinian supervising the Long Walls' restoration confirms their importance as a key element in Constantinople's security. Furthermore the events of 559 reveal the empire's flexible response by forcing the Kutrigurs to withdraw through the threat of the Danube river fleet. New strategies reflecting the transition from a territorial empire to an adaptive state able to selectively apply its resources of manpower and technology. In addition while the Long Walls did not protect all of Constantinople's water supply, they did secure one major spring from the city's water supply at Pinarca and the sources of the Hadrianic aqueduct in the Forest of Belgrade[19]. Today the Wall remains like a fairy-tale giant enveloped in a magic forest, hidden but redolent still of great power. It is to be hoped that new research opportunities are able to reveal more of what Edward Gibbon termed Rome's Last Frontier.

17. Crow 2021.
18. De Aed. IV I 33.
19. Crow *et al.* 2008.

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Doclea (Montenegro) in Late Antiquity: Some Remarks from the Italian-Montenegrin Bilateral Projects

Carla Sfameni, Lucia Alberti, Francesca Colosi, Tatjana Koprivica, Olga Pelcer-Vujačić

abstract In 2017 a Joint Archaeological Laboratory was launched between the Italian National Research Council and the University of Montenegro, Historical Institute, which aimed at studying the city of Doclea and its territory. Particular attention was devoted to the transformations in topography and the evolution of specific monuments between the Roman imperial period and the early Middle Ages (4th-7th c. AD). After a building phase, probably dating to the Diocletian age, well documented phenomena in other Dalmatian cities and in the Roman world in general are encountered, such as the abandonment of public buildings and their reuse. Common phenomena include the conversion of buildings for artisanal use, the change in the orientation of the roads and the construction of Christian churches. This contribution illustrates the data that has been collected so far by an Italian-Montenegrin team, employing a multidisciplinary approach. Since the site was excavated from the end of the nineteenth century, work began with the collection and analysis of historical, archival and epigraphical data, and is now proceeding with archaeological, architectural, topographical and geophysical field research. In such a way it is now possible to begin to trace the transformation of the city during Late Antiquity.

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INTRODUCTION

This paper presents the preliminary results of a longstanding project, carried out by an international team of Italian and Montenegrin researchers, that deals with the study and enhancement of the Roman archaeological site of Doclea.

Thanks to a series of bilateral projects between the Institute of Science of Cultural Heritage of the National Research Council of Italy (ISPC-CNR) and the Historical Institute of the University of Montenegro (HIM-UoM), with the participation of the University Federico II of Naples and the University of Molise, our work in Montenegro was able to begin in 2015[1]. Funding for it came from the CNR and the Ministry of Foreign Affairs and International Cooperation (MAECI), together with the support of the Italian Embassy in Montenegro and the Embassy of Montenegro in Rome.

Excavated mostly at the end of the 19th century, Doclea is one the most prominent archaeological sites in Montenegro. Nevertheless, it is still inadequately studied and promoted[2].

Built in the northwestern sector of the wide Zeta plain upon which Podgorica is also located, the town was the second-largest of Roman Dalmatia. This lowland at the confluence of the Morača and Zeta rivers and the Širalija stream (**fig. 1**), marking the

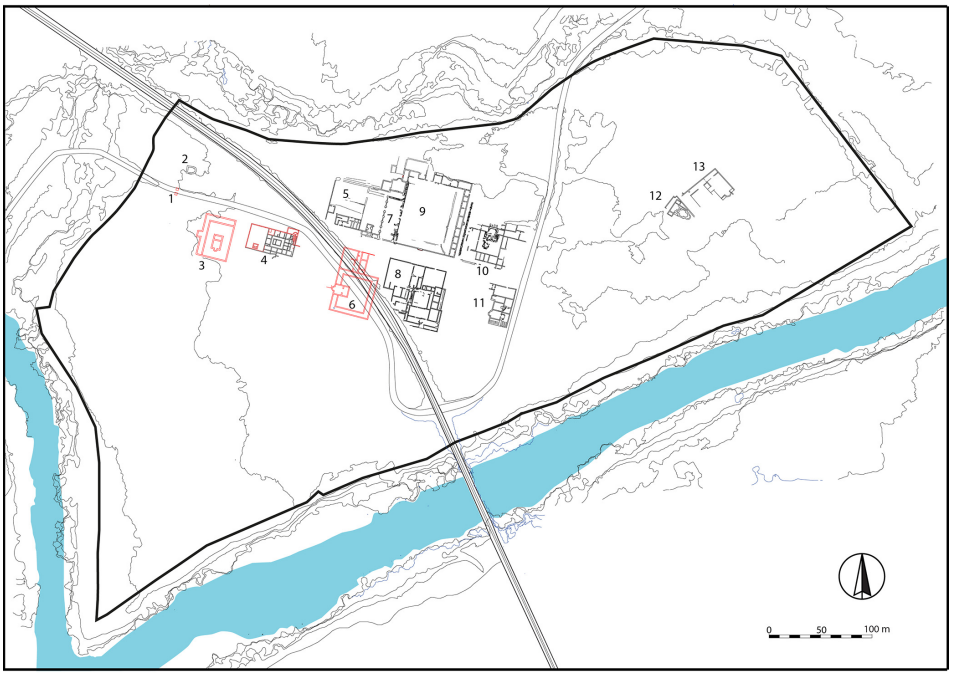
Fig. 1 — Doclea seen from the hill of Malo Brdo (© Lucia Alberti).

1. For an overview of the agreements among Italy and Montenegro and the projects done in collaboration, see Alberti 2020.
2. For an overview of the history of the town and the research conducted by our team, see the contributions in Alberti (ed.) 2019. For the earlier research, see Koprivica 2013.

end of the Bjelopavlići (or Zeta) valley, seems to have been associated in antiquity with important cultural and commercial exchanges, that connected the northern and western Balkans with Albania and northern Greece. The Doclea area, therefore, represented for millennia a key point for pre-Roman, Roman and later communities, all of whom were attempting to control the passage from the northern and eastern mountains towards the western and southern flatter zone, leading to the Skadar Lake and the Adriatic coast (**fig. 2**).

Fig. 2 — Map of Montenegro with the position of Doclea (© Bruna Di Palma and Marianna Sergio).

The Doclea area was conquered by Octavian in 35 BC and a few years later became part of the province of Dalmatia[3]. Named after the Illyrian tribe Docleati, Doclea was founded and then created as a *municipium* in the 1st century AD. The town occupied a smaller area of about 25 hectares, forming almost a triangle with imposing walls that enclosed a large *forum*, a *basilica*, various temples, *tabernae*, *domus,* an impressive complex of *thermae*, along with many other buildings of different sizes all of which are still visible. Several necropoli and tombs surrounded the town. Although the town was destroyed by the Avars in the 7th century, Doclea still retained an important late antique and medieval phase, represented by the remains of three medieval churches (**fig. 3**).



The red colour highlights the structures already reported in the surveys of Munro *et al.* 1896, plate IV and Sticotti 1913, plate outside the text, later destroyed or seriously compromised by the construction of the railway viaduct and the modern road; the circuit of the walls is schematically indicated in black.

Fig. 3 — Doclea, general plan of the town: 1. Remains of structures attributed to an arch; 2. Apsed room; 3. First temple, of the so-called goddess Roma; 4. Enclosure with small temple and peristyle *domus*; 5. Partially excavated area; 6. Second temple, so-called of Diana; 7. Basilica; 8. The so-called Large baths; 9. Forum; 10. Temple, interpreted as the Capitolium; 11. The so-called Small baths; 12. The area of the Church B and the Cruciform Church; 13. Church A and adjacent structures (© Antonio D'Eredità in Sfameni *et al.* 2022, fig. 1).

3. For the history of the Roman province of Dalmatia and its cities, see Wilkes 1969.

During the pre-Roman period, before the foundation of the town, the remains are mostly concentrated in the surrounding hills, where at least two Illyrian *gradinae* have been found, in the Doljanska Glavica and Trijebač hills. They enjoyed a very dominant position in the valley, controlling the roads and the Zeta plain from the north to the Skadar Lake[4]. Outside the walls of the Roman town, several tumuli have been discovered as well as a few Early Bronze Age stone tools and pottery fragments. Inside the Roman city, in the southern part, near the temple to Diana, at a depth of about 80 cm, excavations conducted by the Centre for Conservation and Archaeology of Montenegro (Centar za konzervaciju i archeologiju Crne Gore)[5] have brought to light fragments of Late Bronze Age pottery, along with some Illyrian finds and several coins dated «to the reign of the Illyrian King Ballaios and Queen Teuta of the Ardiaei, a tribe who ruled in the mid-second century BC»[6].

HISTORY OF RESEARCH AT DOCLEA

The first researchers in Doclea were Russian, British and Italian. At the invitation of Prince Nicholas of Montenegro, the Russian archaeologist P.A. Rovinski conducted the first systematic excavation in 1890-1892 bringing to light the Roman *basilica*, the *thermae*, and the so-called first and second temples and the temple of Diana, part of the walls and other buildings (**fig. 4**). In 1893 the British archaeologist J.A.R. Munro discovered the late antique and early medieval Christian churches[7]. After having visited the site after the first excavations, the Istrian researcher P. Sticotti in 1913 published an entire monograph dedicated to Doclea, which is still one of the most important publications about the site (**fig. 5**)[8].

During two World Wars research ceased. Then, in 1947 and against the wishes of the Italians, the Montenegrin state built a railway through the middle of the site, destroying sectors of the *thermae* and the temple of Diana[9]. The railway, connecting Podgorica with Danilovgrad and Nikšic, is still in use today[10].

4. Mlakar 1960; Garašanin 1976; Della Casa 1996; Alberti 2019, p. 25-28, figs. 4-5.
5. https://www.ckacg.me/ocentruENG.html. From now on referred also as Centar.
6. See the Report 2018 by the Centar.
7. Koprivica 2013, p. 1-15. Munro *et al.* 1896, p. 23-30.
8. Sticotti 1913. The volume has been republished in Montenegrin in 1994.
9. Burzanović, Koprivica 2019, p. 37-38.
10. For a new idea of railway use, see Di Palma, Alberti, Colosi 2023, p. 415-416.

Fig. 4 — Drone view of Doclea (© Rade Koprivica, 2021).

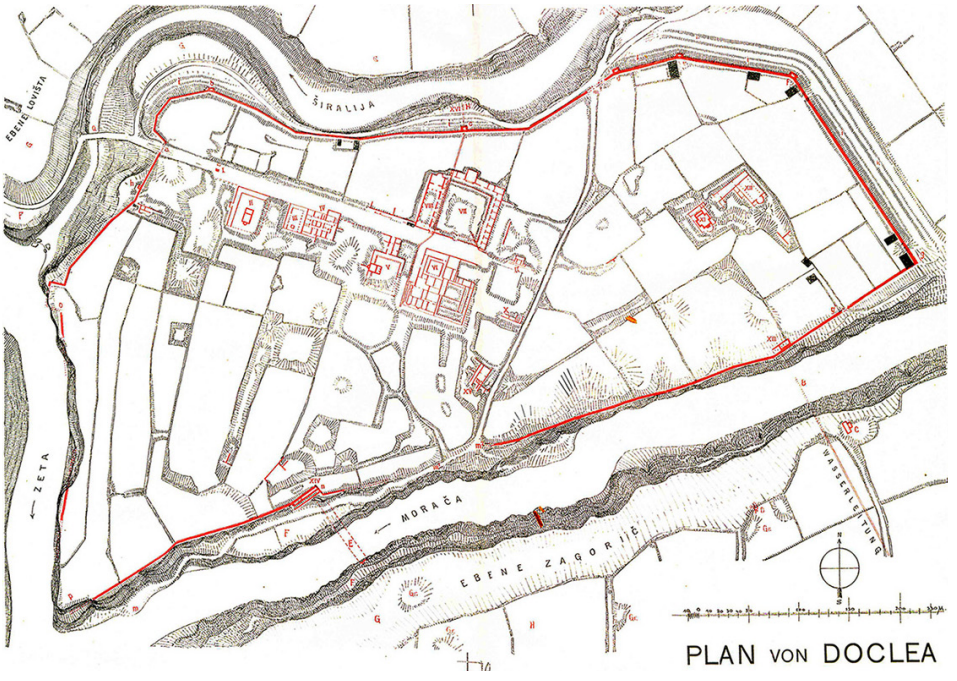


Fig. 5 — Sticotti map (1913) (© Sticotti 1913, plate outside the text).

Between the 1950s and 1970s more important discoveries were brought to light when the eastern necropolis was excavated and published by the University of Belgrade and Museum of Podgorica[11].

After the first enthusiastic decades of excavations, with the discovery of large sectors of the forum at the end of the 19th century, together with more recent activities, Doclea was largely forgotten. Such a key-site of Roman Dalmatia clearly needed a more integrated and global approach, and this was lacking.

In the last decades, some work by Montenegrin and international teams have been conducted, especially by the Centar, the results of which have been published in the journal Nova Antička Duklja[12]. In 2007 a joint research project led by the British School at Rome (BSR) and the Archaeological Prospection Services of Southampton (APSS) investigated through magnetometry parts of the forum[13].

A few years later a mission from the University Ca' Foscari of Venice investigated the late antique sectors, while the University of Urbino, in collaboration with the BSR and the municipality of Podgorica, worked on the photogrammetry and cartography of the site[14].

The first research of our Italo-Montenegrin team goes back to 2015-2016, with the first bilateral project carried out by the Institute of Heritage Science of the National Research Council of Italy (ISPC-CNR) and the Historical Institute of the University of Montenegro (HIM-UoM), following a first scientific agreement signed in 2013 between CNR and the Ministry of Science of Montenegro[15]. A few months later, an agreement between the two countries was signed in the field of scientific research, followed by another one in 2014 with a specific reference to the Montenegrin cultural heritage[16]. In 2017, a Joint Archaeological Laboratory set up by the ISPC-CNR and the HIM-UoM started systematic activities in Doclea, with a multiplicity of scientific and cultural goals: firstly, the resumption of all studies carried out previously, with systematic archive and bibliographical research, secondly the application of the most innovative technologies applied to cultural heritage and the territory, and thirdly a project of enhancement[17]. Particularly important was the 2018-2022 period, with the Project of

11. Cermanović-Kuzmanović, Srejović, Velimorović-Žižic 1975.
12. Nova Antička Duklja/New Antique Doclea is online at https://nadcg.me/.
13. Pett 2010, p. 19.
14. Gelichi *et al.* 2012; Rinaldi Tufi, Barattin, Peloso 2010
15. Alberti, Sfameni 2015; Alberti, Sfameni 2016.
16. Alberti 2020, p. 127-130.
17. Alberti, Sfameni 2017; Alberti, Koprivica 2017. The results of the Joint Archaeological Laboratory are published in Alberti (ed.) 2019. For the enhancement project, see Di Palma, Alberti 2019a, 2019b, 2020 and Di Palma, Alberti, Colosi 2022. See also Alberti, D'Ereditȁ 2019.

Great Relevance "The Future of the Past: Study and Enhancement of Ancient Doclea, Montenegro", funded by the Ministry of Foreign Affairs of Italy (MAECI) and the National Research Council of Italy (CNR). The ultimate goal of this project was to give the Montenegrin authorities a credible and sustainable project of relaunching of the site, in order to revitalise not only Doclea, but also the area in which it is located[18].

Today, research in Doclea is continuing in the framework of a second Great Relevance Project, again funded by MAECI and CNR, with the title "Ancient and modern routes along the river valleys of Montenegro: from remote sensing and landscape archaeology to the enhancement of cultural sites and itineraries". We are working on the cultural itineraries and sites that punctuate the great valleys of the country, connecting the archaeological remains with other cultural itineraries, to enhance also minor cultural heritage sites. Our goal is to investigate, in particular, the ancient road networks along the fluvial valleys of Montenegro, involving other Roman *municipia* as Municipium S near Pljevlja[19].

Last but not least, one of our goals is also the dissemination of the results, with a special reference to younger generations. In this framework, we recently published a volume on Doclea, aimed at adolescents and published by the Montenegrin Ministry of Education as the first book of a new monograph series dedicated to the Montenegrin cultural heritage[20]. From the beginning of our research in Doclea, together with ISPC-CNR and HIM-UoM, the Institutions involved were the Department of Architecture of the University Federico II of Naples, and the University of Molise, with their researchers in geophysics. A brief collaboration was undertaken also with the Centar in 2020-2022[21]. Other specialists working at the site include historians, archaeologists, remote sensing experts, topographers, conservators, and architectural designers.

METHODOLOGY

Our integrated methodological approach, with its different levels of analysis on different scales involving both humanities and applied technologies, is based first and foremost on archival and bibliographic research, something that modern technology cannot replace. In conjunction with this we use satellite, aerial and drone data (remote sensing), archaeological survey and landscape archaeology on the earth's surface, and finally

18. Di Palma, Alberti 2019a, 2019b; Alberti, Di Palma 2020.
19. Di Palma, Alberti, Colosi 2022 and 2023; Alberti *et al.* 2023.
20. AAVV 2022.
21. Alberti 2020.

underground to geophysical prospections (**fig. 6**). Only after this process of mutual exchange among different expertises and approaches, is it possible to establish a credible project of enhancement.

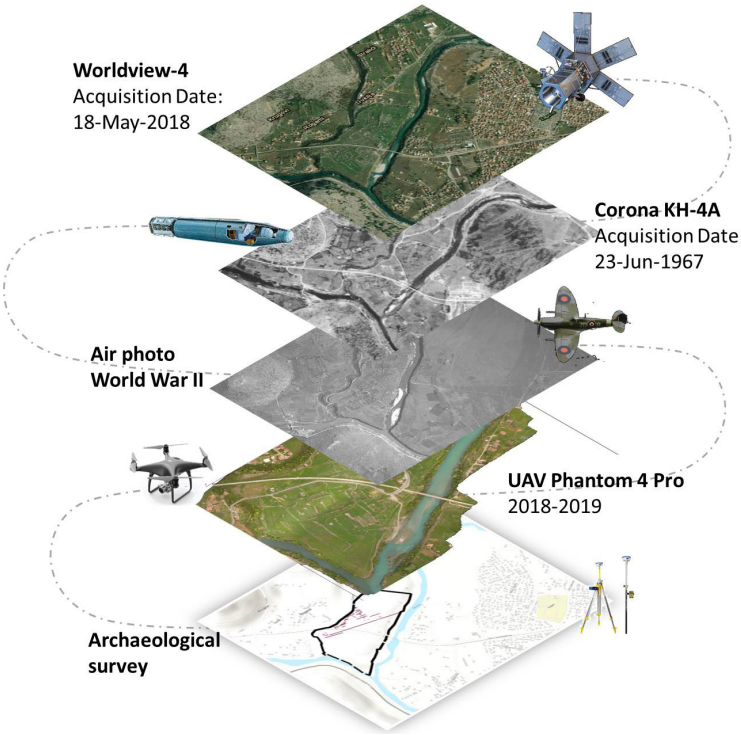


Fig. 6 — A 'stratified' interconnected methodology (© Pasquale Merola).

In depth research was initially conducted by the Montenegrin team focusing on the collection of records and archaeological finds kept in several European archives and museums. Particularly interesting were the 19th and 20th century traveler's diaries[22].

The scientific analysis began with remote sensing. During the archaeological photo-interpretation phase of remote dataset, several processing techniques were employed. Of particular use was a 1942 aerial photo of the Italian army during the II World War, different satellite images, and aerial drone shots at various elevations. We investigated the variations affecting both the vegetation status and the soil's physical, and other features,

22. Koprivica 2013; Koprivica 2015.

such as thermal conductivity and capacity. The obtained images were analyzed from an archaeological and topographical point of view. Here, the objective was to interpret all traces in an attempt to reconstruct buildings and structures which were no longer visible, the urban system and the organization of the surrounding area[23].

In order to verify the remote sensing data, several campaigns of archaeological survey have been conducted on the Doclea plateau, resulting in an almost total coverage of the area. Where walls emerged, they were positioned using a differential GPS.

Several campaigns of geophysical prospections through Ground Penetrating Radar have been conducted by our team, covering the majority of the town inside the walls (areas between the *forum*, the *basilica*, the *Capitolium*, the *thermae* and the walls of the city, around the eastern medieval churches, in the southern part of the temple of Dea Roma and of the private houses). The already published results were impressive (**fig. 7**)[24].

After several campaigns of remote sensing, archaeological survey, and especially geophysical prospections, not to mention a synthesis of all the collected data, the urban layout of Doclea slowly emerged, albeit without archaeological excavation.

ENHANCEMENT PROJECT AND LANDSCAPE

All the results obtained so far, together with the 3D reconstructions are contributing to the architectural planning of the valorization project, brought about thanks to the work of the architects from the Department of Architecture of the University Federico II of Naples. The main lines of the strategy adopted in order to re-launch the area will be briefly outlined here[25].

The strategy collates archaeological research and themes of urban redevelopment and landscape restoration. The project deals with a beautiful and still uncontaminated landscape but also starts from the shape of the Roman urban layout. The new layout of internal routes, therefore, is based on the intersection of the *decumanus* and the *cardo*, and the perimeter of the defensive walls. In fact, at the points of intersection between the walls and these two main routes, some further strategic areas are identified and some buildings supporting the development of the site and the wider territorial framework

23. Colosi, Merola, Moscati 2019; Alberti, Colosi, Merola 2020; Alberti *et al.* 2023.

24. Cozzolino, Gentile 2019; Cozzolino *et al.* 2020, p. 6-12.

25. Prof. Bruna Di Palma is the head architect of the enhancement project, with the collaboration of several students of the Single-Cycle Degree Course in Architecture, as Clara Vitiello, Lucrezia Cioffi, Naomi Tabacco. All the design activities were carried out in formal agreement with the ISPC-CNR and the Department of Architecture of the University Federico II of Naples.

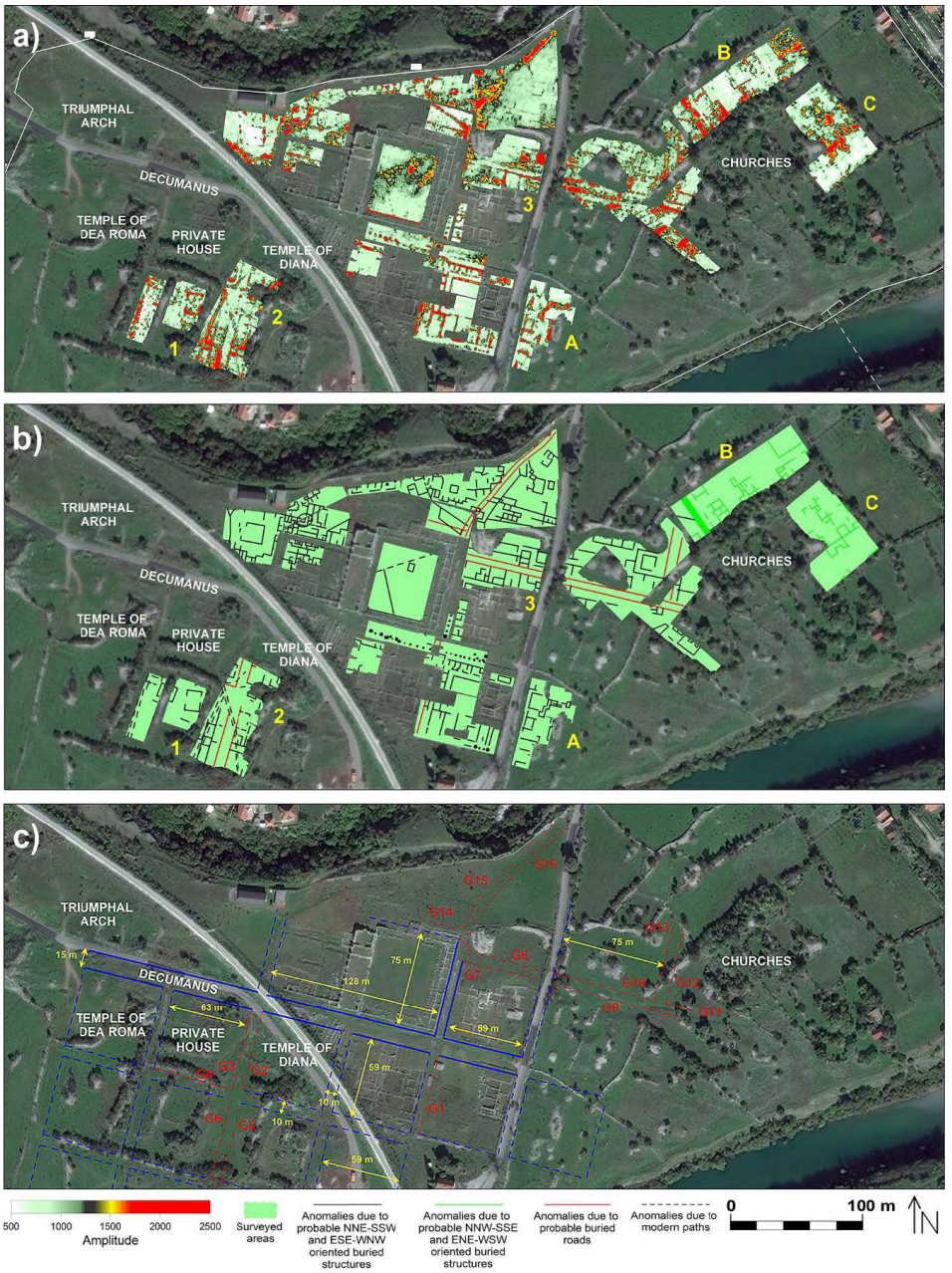


Fig. 7 — The results of geophysical prospections (© Cozzolino, Gentile 2020, fig. 10).

have been inserted. In this strategy, site accessibility, the internal pedestrian circulation, the economic issues, and the general management have been taken into consideration (**fig. 8**)[26].

Fig. 8 — The enhancement strategy (© Bruna Di Palma).

Outside the walls, new paths and thematic itineraries involving not only environmental/natural aspects, but possibly other cultural/historical sites have been planned. In this process, we would like also to involve the local communities, in order to give new life to past material culture and traditions and to produce economic growth through sustainable tourism.

In agreement with the approach that "Archaeology is not the research of the past, but research, in the past, of a possibility for the present"[27], our ultimate goal is to restore the collective memory of a community, between past and present, local and global, scientific and popular. In our view it is only by preserving and enhancing our common heritage,

26. Di Palma, Alberti 2019a, 2019b, 2020; Di Palma, Alberti, Colosi 2023.

27. «L'archeologia non è la ricerca del passato, ma è la ricerca, nel passato, di una possibilità per il presente»: Agamben 2019, cit. in Di Palma, Alberti 2019b, p. 38.

that we can also build a promising, credible 'tomorrow' also in terms of scientific archaeological research and sustainable tourism.

The final goal of our research, indeed, is not only to improve our understanding of Doclea from an archaeological and historical point of view, but it is also to complete its enhancement project. Our aim is to hand the site back to the local communities, so that they can use it as a tool for improving their cultural and socio-economic situation. What we understood in recent years is that if an ancient site is not 'adopted', used and in some way 'loved' by the local community, our work is incomplete and does not achieve the result of the diffusion of culture.

L. A.

URBAN PLANNING AND TOPOGRAPHY

The integrated analysis of the remote sensing images, geophysical data, and the findings that emerged during the archaeological survey made it possible to formulate some preliminary hypotheses on the urban layout of Doclea.

In the central area of the city, intended for public civil and religious buildings, the *decumanus maximus* represents the most evident sign of urban planning. The road crosses the city from west to east in a marked straight line, which has also left a clear trace on aerial photographs[28]. From the western gate, where the presence of an honorary arch probably dedicated to Gallienus is documented[29], the *decumanus* runs through the *forum* area, flanked by the main monuments, crosses the *cardo maximus* at the height of the so-called *Capitolium* and then continues up to the limits of the plateau on the river Morača (**fig. 9**). Here, P. Sticotti reports the presence of a tower and a gate in the walls, while on the opposite bank of the river, part of the *specus* of an aqueduct was excavated in the early 20th century (**fig. 5**, n° XIII)[30]. The infrastructure reached the left bank of the Morača after traveling approximately 14 km from the spring of the Cijevna river. According to T. Turković, the aqueduct is the result of an intervention by the Emperor Diocletian, given that it is locally defined as "Dukljanov vodovod" and presents a structure and a particular method of construction almost identical to that of the aqueduct in Split[31].

28. Alberti, Colosi, Merola 2020.
29. Sticotti 1913, p. 59-60.
30. Sticotti 1913, p. 39-44; Sticotti hypothesizes that the tower, still visible in his day along the walls, also served as a water cistern, similar to a case in Salona. Today, no remains of this structure are preserved (Živanović, Stamenković 2012, p. 132).
31. Turković 2021, p. 30; Turković 2022, p. 17.

On the aerial photo the trace of the *decumanus maximum* is clearly visible along the entire plateau. The alignment continues beyond the Morača River.

Fig. 9 — The Doclea Layout (© Bruna Di Palma).

The *decumanus maximus* of Doclea had an imposing aspect: in the stretch between *basilica* and *Capitolium* − that is, in the public and monumental part of the city − its width, including sidewalks, was 15 meters, while the paved road itself measured 10 meters (**fig. 10**). In front of the complex of structures extending west of the *basilica*, the north side of the *decumanus* appears to be set back by approximately 3.70 meters, possibly due to the presence of a portico or an open space.

Fig. 10 — The *decumanus maximus* in the public centre of Doclea (© Alberti, Colosi, Merola 2020, p. 12, fig. 6).

A covered walkway, perfectly visible from geophysical anomaly maps, flanked the road on the south side (**fig. 7, a-b**)[32]. The presence of the portico was confirmed by an excavation carried out by the Centar in 2018, which highlighted the base of a column and three floor levels (**fig. 11**). The first layer can be dated to the 1st century AD, the second at the end of the same century, when the town became a *municipium*, while the third, in compacted earth, dates back to the 4th century[33]. It is possible that the three archaeological layers correspond to different phases of the urban layout of Doclea, with the one at the end of the 1st century coinciding with a rise in the street level by about half a meter.

The *cardo maximus*, on the other hand, is probably 10 meters wide, including space for sidewalks. Its dimensions likely corresponded to those of the other road axes of the town, as reconstructed according to a topographical survey and geophysical prospections[34].

A column base lying on the southern border of the road is visible.

Fig. 11 — *Decumanus maximum*, test excavation by the Centre for Conservation and Archaeology of Montenegro.

32. Cozzolino, Gentile 2019; Cozzolino *et al.* 2020, p. 11.
33. Živanović 2018b, p. 72.
34. Colosi, Merola, Moscati 2019, p. 70.

In the central public sector of Doclea and south of the *decumanus maximus,* remote sensing analysis and survey data made it possible to reconstruct an urban layout articulated on a regular grid of square blocks, each with a side length of 59 meters (200 Roman feet). (**fig. 7**, **C**)[35].

This layout was confirmed by the results of a geophysical analysis: in 2017-2018, the Ground Penetrating Radar (GPR) prospections conducted by the CNR team south of the private house and Diana temple, highlighted clear anomalies referable to probable road axes and building structures with north-northeast − south-southwest and east-southeast − west-northwest orientations (**fig. 7**, **a**, **b**, **1-2**)[36]. In 2008 the magnetometry surveys of the British School mission highlighted traces of probable residential quartiers in the southwestern part of the plateau. The survey revealed negative features corresponding to limestone walls, defining rooms grouped around a possible courtyard. Inside the rooms, a very high signal of positive anomalies «represent either an *in situ* floor within the rooms or a collapse layer of the roof and walls leading to a deposit of brick and tile within the walls of the building». Based on the acquired data, English geophysicists have reconstructed in the area, two *insulae* separated by a *cardo* (**fig. 12**) that measure approximately 70×80 meters[37]. The excavation tests carried out by the Centar in 2018 confirmed the presence of a residential area in the southern part of the town, with the discovery of well-preserved pottery at floor level[38].

East of the *cardo maximus*, the interpretation of the GPR anomalies indicates a probable change in dimension of the *insula*, highlighting the limits of a 75 m wide block, which corresponds to a module of approximately 2 *actus*, very widespread starting from the Augustan age, especially in the cities of northern Italy and Adriatic area (**fig. 7**, **C**)[39]. This dimension corresponds to that of the north-south side of the *forum*, which measures exactly 75 m.

35. The use of square-shaped *insulae*, as opposed to the earlier elongated blocks with different proportions, began to spread in Italy starting from the Augustan age. In this regard, see Sommella 2018.

36. Cozzolino, Gentile 2019, p. 82-83, fig. 3. To the south of the private house, the GPR recorded a high-value rectangular anomaly, measuring 18×12 meters, that appears to be slightly rotated towards the northeast-southwest.

37. See Pett 2010, p. 34, fig. 12.

38. Živanović 2018b, p. 73. The north-east corner of a house dated by archaeologists to the 3rd century was excavated.

39. Cozzolino, Gentile 2019; Cozzolino *et al.* 2020, p. 6-12, fig. 10; Colosi, Merola, Moscati 2019, p. 72-73 with bibliographical references. For the diffusion of the urban planning module based on the double *actus* in the Cisalpine region, see Sommella 2018, p. 256. For the Picena and Umbrian area see Perna 2012. For the use of the *actus* as a metric unit in Aquileia, see Muzzioli 2004; Ghiotto 2013 with previous bibliography.

Fig. 12 — Doclea, southwestern area. Magnetometry result interpretation (© Pett 2010, p. 35, fig. 12).

In the absence of further stratigraphic data, it is not possible to determine whether the variation in dimensions could correspond to different chronological phases of occupation on the plateau. However, if the presence of the 70×80 m *insula* identified by L. Pett were confirmed, it might suggest a difference in module between the central, public area of Doclea and its more peripheral, residential zones in the southern and eastern sectors.

Furthermore, in the area around the churches, geophysical surveys have registered a clear change in the orientation of the blocks in north-northwest − south-southeast and west-southwest − east-northeast directions[40], highlighting that «around the churches, high amplitude values are sparser compared to the other areas, perhaps because in this peripheral zone the concentration of buildings was lower»[41]. These anomalies could be interpreted as an urban planning intervention connected with the late antique phase

40. Cozzolino *et al.* 2020, p. 11.

41. Cozzolino *et al.* 2020, p. 11. A rarefaction of the residential buildings accompanied by the presence of burials within the city walls is documented in Salona during the late antique period (Chevalier, Mardešić 2006, p. 56-57).

of the city, witnessed by the sacred buildings (**fig. 7**, **a**, **b**, **B-C**)[42]. At the moment, this hypothesis is not supported by the excavation data. Corresponding to the geophysical anomalies, a 2nd century wall came to light in the area west of the churches, along with three rich layers of fine ceramics dating back to the 2nd and 3rd centuries AD[43]. This phase of life in the area is further supported by the discovery of remains of an older building in the narthex of Basilica B, with fragments of Roman ceramics and coins from the Aurelian age[44]. An isolated tomb from the 4th century could indicate that the area was not occupied by houses at this time, while the excavations have not identified any further traces of late antique occupation[45].

Based on of the data acquired by Centar, in the 2nd and 3rd centuries the housing sector of the city developed in the southern and especially in the eastern part of the plateau. Here, starting from the *cardo-decumanus* system, regular blocks were generated. Along the northeastern strip of the city, urbanization was less dense and the layout changed direction, perhaps due to morphological and water flow reasons, which later influenced the course of the city walls and, in the 6th-7th centuries, the construction of the churches[46].

Montenegrin archaeologists believe that from the beginning of the 4th century, when Doclea was surrounded by walls, the life of the citizens was concentrated in the southwestern sector, where the *insulae* were occupied by residential buildings and urban villas[47].

In recent articles T. Turković states that the public center of Doclea was rebuilt and monumentalized by Diocletian. The emperor decided to completely transform the city, embellishing it with new public buildings and public spaces so that he «built a new town in the place of the old one»[48]. According to the scholar, it is possible that during this phase the urban layout of the southwestern part of the city adopted the strict orthogonal

42. G. Hoxha (2021, p. 258) agree with this hypotesis, attributing the different orientation of the churches to the presence of a «nucleus of the *par excellence* Christian neighbourhood». I. Stevović describes the location of the Christian complex, underlining that "it seems obvious that it was formed on the unique area within the city, with the regard of the existing communications that led toward the northern and eastern city rampart and, at the same time, with the aspiration to move this complex away from the earlier *forum*" (Stevović 2014, p. 123).

43. Živanović 2018a, p. 37; Cozzolino *et al.* 2020, p. 11, fig. 11.

44. Stojkovic 1957, p. 658-659; Sfameni *et al.* 2022, p. 383.

45. Živanović 2018a, p. 37.

46. For the description of the northeastern section of the walls, see Živanović, Stamenković 2012, p. 130-131. The three churches actually follow slightly different orientations, recently reconstructed by a careful topographical survey work (Sfameni *et al.* 2022, p. 399, fig. 14).

47. Živanović 2018a, p. 38. In this regard the excavation of the apsidal and heated room belonging to an urban villa, which was devastated by the railway is very significant (see par. 5).

48. Turković, Maraković 2021, p. 17.

grid based on a 200 feet module. Even if Doclea «certainly had an urban outlook from the beginning»[49], Diocletian's intervention was so incisive that it really does look like he «rebuilt the center of his hometown from a scratch»[50].

As already mentioned, further investigations would be necessary to date with certainty the urban layout and its possible chronological evolution. However, we agree with Turković that the current plan of Doclea is the result of a long process of development, as shown by the changes in orientation and size of the blocks documented in our fieldwork. An example of the transformations in urban planning over time can be observed in the altered road scheme north of the *forum*, as identified through GPR prospection. In this area the *cardo* that runs between the *forum* and the *Capitolium* appears to change direction, bending eastward towards the m3 gate, coinciding with the passage of the *cardo maximus*. This change in the route of the road likely occurred when the city walls were constructed, allowing the road to exit the city through the main northern gate (**Fig. 7 c**, **G15**, **G16**)[51].

The process of evolution is confirmed by a widespread phenomenon observed in the southwestern sector of the city: the late occupation of road sectors by new constructions. Indeed, parts of certain public and private buildings extended beyond the boundaries of the blocks, as exemplified by the bath sector of the private house, occupying the southern side of the *decumanus*. This suggests that the bath dates to the late antique period (**fig. 13**, **B**; **fig. 30**, **31**)[52].

Furthermore, the enclosure of the private temple appears not to respect the width of the *insula*. In Sticotti's plan of the complex, two perpendicular walls made of squared stone blocks are depicted, aligning with the boundaries of a paved area along the eastern cardo. These walls likely belong to an earlier phase than the one visible today (**fig. 13**, **C**; **fig. 31**)[53].

49. Turković 2021, p. 14.

50. Turković 2022, p. 84. Revising the data of the so-called Object IX, interpreted by the Centar as the *Capitolium* of the city (see par. 5), Turković suggests that in the 2nd century AD the complex functioned as a small *forum* in which a temple dedicated to Minerva had stood since the Flavian era. According to the scholar, the orientation of this complex was a point of reference for the definition of Diocletian's urban layout (Turković 2022, p. 83-84 and 102).

51. The magnetometry data published by Pett (2010, p. 29) does not highlight the same situation. In this case, the *cardo* seems to continue in a north-northeast direction, producing a strong positive feature (Fig. 9, M22). North of the *Capitolium*, the geophysical survey outlined some rectangular anomalies oriented along the *cardo* that seem to represent limestone walls. Inside the walls, positive features could correspond to an *in situ* floor or the collapse of tiles and bricks (p 6-28, Fig. 9, M29, M30, M31). The data suggest the presence of residential buildings within the two *cardines*.

52. Colosi, Merola, Moscati 2019, p. 73. See also Oettel, Živanović 2022, p. 59 and p. 64, fig. 7.

53. Sticotti 1913, p. 77-78, fig. 37; Colosi, Merola, Moscati 2019, p. 71.

In red, the ancient structures that overlap the Roman roads.

Fig. 13 — Doclea layout (© Colosi, Merola, Moscati 2019, p. 70, fig. 6).

Along the eastern side of the public baths, some rooms added to the original building and dating back to the 4th century AD overlap the roadway (**fig. 13, A**; **fig. 14**)[54]. The large bathing complex is characterized by four construction phases which run between the 1st and 4th centuries AD (see par. 5). Turković refers to these phases as an example of the city's urban evolution, rightly noting that the results of geophysical surveys capture a snapshot that «is just an end result of a long process of development of the town, and not its entire history»[55]. Unfortunately, we don't know exactly in which moment of the 4th century the eastern rooms were built, but it certainly occurred after the urban layout was planned[56].

54. Colosi, Merola, Moscati 2019, p. 73.
55. Turković 2021, p. 15.
56. For a synthesis of research on the large baths, see Sfameni, D'Eredità, and Koprivica 2019, p. 96.

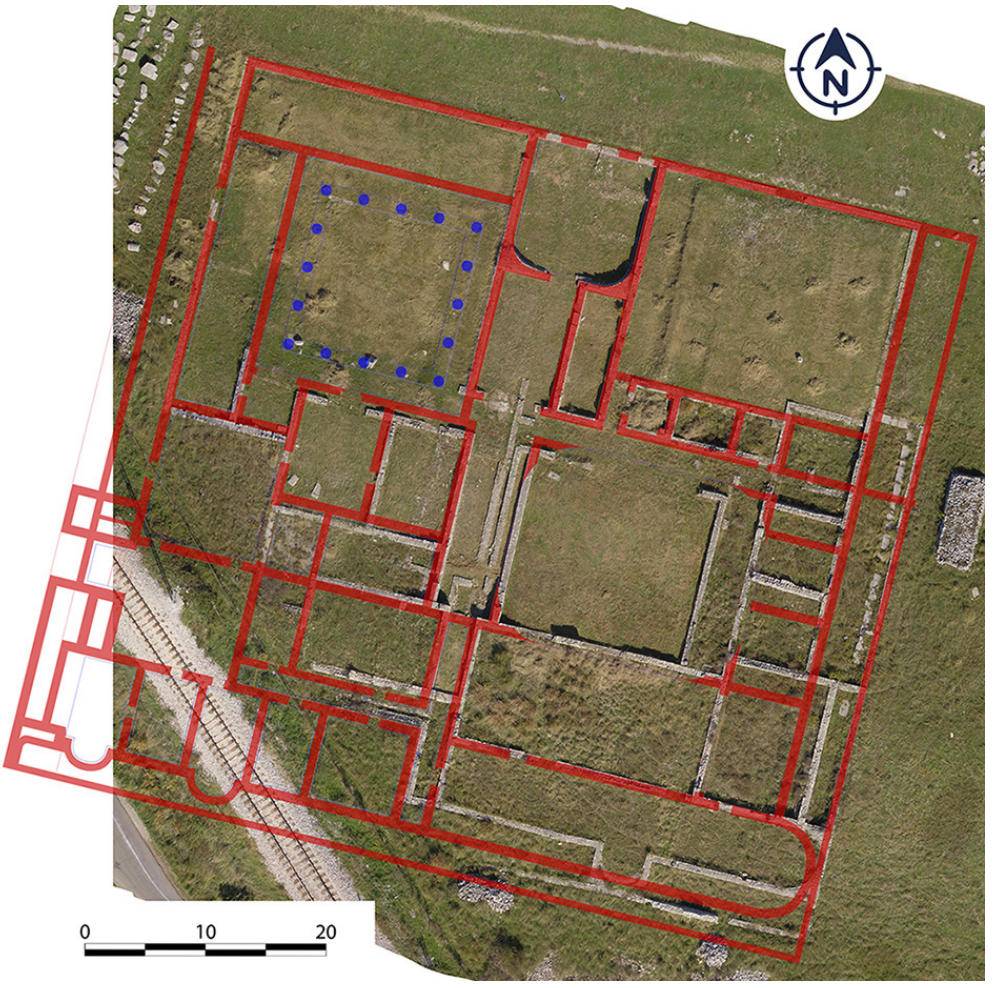


Fig. 14 — Doclea, large *thermae*: Sticotti plan over orthophoto (© Antonio D'Eredità in Sfameni, D'Eredità, Koprivica 2019, p. 98, fig. 10).

Even the layout of the *forum*, as Turković points out, interrupts the regular streets: on the east side, the apse of room A, probably dating back to the last phases of the complex (see par. 5, **fig. 16**), invades the *cardo* (**fig. 13, D**). Finally, the structures on the western side of the *basilica* present different phases of construction. Their belonging to the later phases of some rooms facing the *decumanus* is confirmed by the presence of an apse that partially occupied the public open space.

The continuity of the urban layout's orientation, accompanied by the failure to respect the road axes and the block's width, constitutes a widespread phenomenon in the transformation of public spaces in cities during the late antique period[57]. This process, already highlighted by Wilkes in the case of Salona[58], may represent additional evidence of Doclea's vitality in the 4th century, when the western sector of the city was involved in various public and private building developments[59].

F. C.

LATE ANTIQUE BUILT ENVIRONMENT IN DOCLEA

The site's structures have been severely compromised by spoliation and destruction over the centuries, right up to recent times: most of the walls do not exceed one meter in height, while decorative elements are scarce and scattered across the entire area and are often far from their original position. In the absence of excavation data, it is necessary to start from a precise analysis of the structures to try to identify the late antique building phases. Some transformations are evident in the main buildings of the city's monumental sector, but it is difficult to assign a specific period to them. Some information can be obtained from bibliographic and archival documentation, and all the interpretative proposals developed by scholars who have studied Doclea over time remain important.

Using drone photos, photogrammetric systems and total station surveys, we are creating new detailed plans of the buildings and the city, while also attempting, where possible, to highlight the different phases. During our work, we are observing significant differences in the structures compared to the plans provided by Sticotti (**fig. 14**)[60]. At this moment, we are specifically studying the surviving architectural decoration in detail in order to also propose new reconstructive hypotheses of the main monuments[61].

Data of particular interest concerns the city walls that follow the natural limits of the plateau. The northern section of the fortifications is imposing, with walls reaching almost 4 m in height, while the sections along the Morača and Zeta rivers are less well

57. Liebeschuetz 2001, p. 29-30.

58. Wilkes 1969, p. 375.

59. A strong building activity producing a high density of dwelling houses in the 4th century is also documented in Skodra (Hoxha 2003, p. 167-168).

60. Sticotti 1913. See, for example, Sfameni, Koprivica, D'Eredità 2019, p. 98, fig. 11.

61. Work in progress by V. Bruni.

preserved[62]. The main access gate to the city was located in the western part of the walls along the road that led to Doclea from Diluntum and Narona (**fig. 15**). This section of the fortification includes materials from various monuments and more than twenty inscriptions. Among these, there are six imperial dedications, which according to P. Sticotti were originally set up in the *basilica* in the *forum*[63]. The latest inscription was

Fig. 15 — Section of fortification in the western part with the Remains of a tower (© Francesca Colosi, 2023).

62. Work in progress by E. Fidenzi.
63. Sticotti 1913, p. 51-58.

dedicated to Valerian and dates to 254[64], and therefore in his opinion the construction of the fortification wall must post date the end of the 3rd century[65]. J. Wilkes agreed that at least this part of the fortifications would have been built or rebuilt in the 3rd century or later[66]. Based on a direct analysis of the structures, M. Živanović and A. Stamenvović believe that «the construction of the city walls of Doclea took place under the patronage of a Roman emperor in the second half of the 3rd and during the 4th century»[67].

Relevant data on the late antique phases of the city can be obtained from the area of the *forum*, the *basilica*, and the building complex to the west (**fig. 16**). Doclea's *forum* is large, almost square in shape and surrounded by porticoes and buildings (total area 59×75 m), except on the south side, which is closed by a continuous wall with two entrances via the *decumanus maximus*[68]. The central area of the square was originally paved with stone slabs, now completely lost (**fig. 17**).

Fig. 16 — *Forum* orthophoto by drone (© Antonio D'Eredità in Sfameni, D'Eredità, Koprivica 2019, p. 98, fig. 11).

64. Sticotti 1913, p. 163, n° 18, fig. 112.
65. Sticotti 1913, p. 56. On inscriptions, see also paragraph 8.
66. Wilkes 1969, p. 365. The scholar also makes a comparison with the walls of other cities in Dalmatia, in particular Salona, p. 358-362.
67. Živanović, Stamenvović 2012, p. 137.
68. Sticotti 2013, p. 105-138; Wilkes 1969, p. 371; Balty 1981, p. 382; Rinaldi Tufi 2012, p. 478-479; Stevović 2014, p. 120; Sfameni, Koprivica, D'Eredità 2019, p. 87-90; Colosi 2020, p. 154-155.

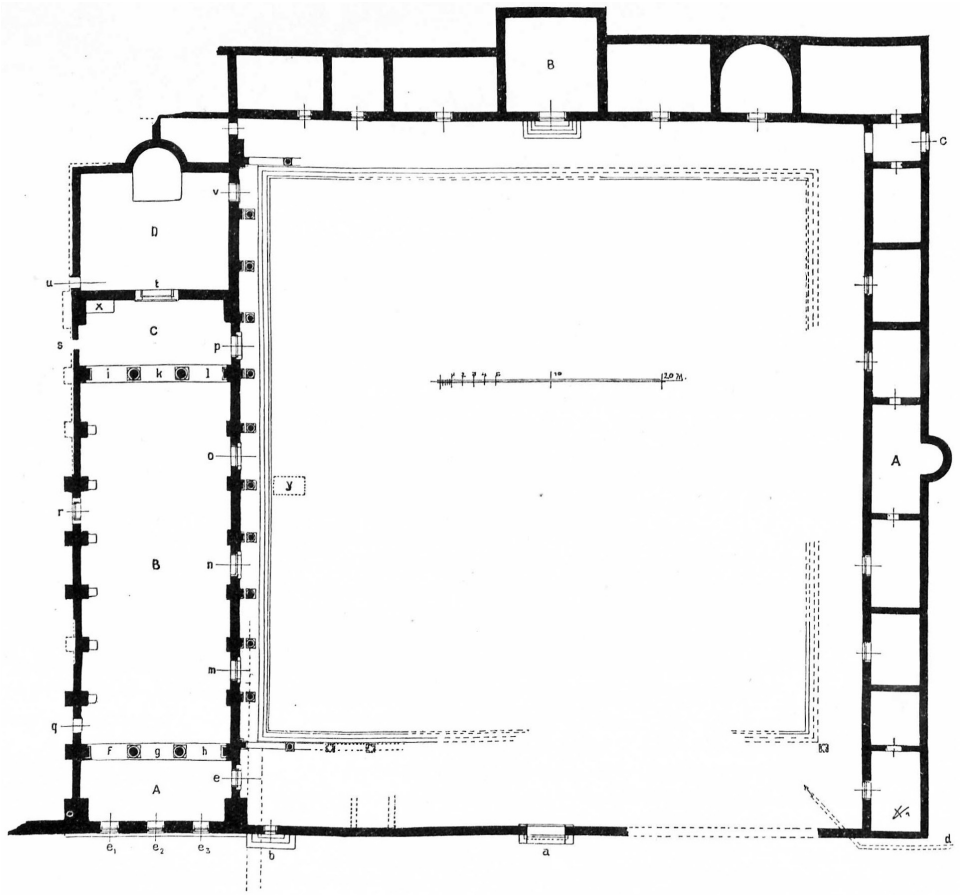


Fig. 17 — Doclea, plan of the *forum* (© Sticotti 1913, fig. 57).

The western side of the square is entirely occupied by a large rectangular building, commonly interpreted as a *basilica*, while on the north and east sides there are rooms of different shapes and functions. The latter have been identified alternatively as *tabernae* (shops) or *scholae* (headquarters of priestly or trade associations). On the northern side, a square *podium* is prominently positioned and aligned with the main entrance on the southern side. Many scholars have proposed differing interpretations of this structure: J. Wilkes suggested that it may have functioned as the *curia* of the senate[69], whereas other

69. Wilkes 1969, 371.

scholars speculate that it could have served as a small temple, potentially dedicated to the imperial cult[70].

J.A.R. Munro pointed out that the rows of shops along the northern and eastern sides could be of very late date, incorporating fragments such as cornices and architraves from the *basilica*[71]. P. Sticotti also noted that a fragment of the *basilica*'s cornice was repurposed as an entrance threshold to a room with an apse in the middle of the eastern side, where a burial was discovered[72].

The direct analysis of the *forum* structures reveals a complex history marked by multiple phases of alteration and repurposing. It is difficult to definitively ascertain the original functions of specific rooms and spaces, particularly since the original decorative elements such as painted walls and mosaic or stone flooring have been completely lost.

Among the main interventions, in a room on the northern side, a wall was inserted to close off a threshold in the apse. The apse in the middle room of the east side is a later addition, which occupies the main *cardo* (**fig. 18**). The burial found inside the apse,

Fig. 18 — Central room of the east side of the forum with added apse (© Carla Sfameni, 2023).

70. Turković 2021. According to P. Sticotti the building was too small to host the local senate (1913, p. 109).
71. Munro *et al.* 1896, p. 7.
72. Sticotti 1913, p. 110.

rather than being that of a distinguished individual, as some scholars supposed, could be a later addition in the last phase of the structure. In the same part of the building, the closure of numerous thresholds also indicates modifications to the original layout and passage between adjoining rooms (**fig. 19**). Unfortunately, precise dating of these interventions is challenging, but they reveal extended use of the *forum* complex with functions that changed over time.

Fig. 19 — Closing of the threshold of the southernmost room on the eastern side of the *forum* (© Carla Sfameni, 2023).

The construction of the *forum* is generally attributed to the Flavian age. Such a dating is based on inscriptions on an architrave with a dedication of an equestrian statue by the *ordo Docleatium* in honour of *M. Flavius Balbinus*, son of *M. Flavius Fronto* and his wife *Flavia Tertulla* (**fig. 20**)[73]. According to P. Sticotti, the statue could have been placed in front of the *basilica*, on a pedestal that bore a more detailed dedication to the boy, which, unfortunately, is now lost[74].

73. CIL III 12692. These are four parts of an inscription in which the magistracies and priesthoods of Balbinus's father, Flavius Fronto, are also found: CIL III 12695; Sticotti 1913, n. 22. See also Pelcer-Vujačić 2020, p. 104-106.

74. CIL IIII 13820. Sticotti 1913, p. 133-135 and p. 164-169 for the inscriptions.

Fig. 20 — Inscription on an architrave with a dedication to *Flavius Balbinus* (© Carla Sfamen, 2021).

Re-evaluating the documentation concerning Doclea's *forum* and *basilica,* T. Turković, suggests in a recent study that these structures formed a unified complex to be attributed to the emperor Diocletian[75]. The scholar argues that Diocletian likely undertook a comprehensive reorganization of Doclea, identifying it with the city where he was born. In this optic, Doclea's "*forum*" ought to be viewed as an "imperial *forum*" for Diocletian's court, a *Caesareum* for imperial worship[76]. The 4th-century historian Sextus Aurelius Victor in his work *Liber de Caesaribus* writes that Diocletian, before becoming emperor, was called Diocles after his mother and the city of Dioclea[77]. Additionally, Constantine VII *Porphyrogenitus*, in the 10th century, attests that a town called *Diocleia* took its name from a city founded by the emperor Diocletian: in his time

75. Turković 2021.

76. Srejović 1967 already proposed for the *forum* of Doclea the function of a *Caesareum* or place of imperial cult. Stevović 2014, p. 118, observed connections with the eastern provinces, where quadrangular plans of *fora* are also present.

77. Ps. Aur. Vict. *epit*. 39. 1 (ed. Festy 1999, p. 40): *Diocletianus Dalmata, Anulini senatoris libertinus, matre pariter atque oppido nomine Dioclea, quorum vocabulis donec imperium sumeret Diocles appellatus, ubi orbis Romani potentiam cepit, Graium nomen in Romanum morem convertit; imperavit annis viginti quinque.*

the city, although abandoned, still had this name[78]. These sources offer many intriguing clues which suggest that Diocletian's influence on the region was strong. However, the emperor's origins remain uncertain. All we can say is that he was Dalmatian and perhaps born in Salona[79]. Thus, Diocletian's direct involvement in Doclea cannot be proven[80].

The western side of the square is dominated by a rectangular building featuring a large apse on its northern end, which is commonly interpreted as a *basilica*[81]. This structure was accessible from the eastern side of the square, while on its southern side three windows opened onto the *decumanus*. The building's architecture included a single nave supported by buttresses along both long sides. The hall was subdivided into distinct sections: a central rectangular area was the largest part of the building, measuring 50×13 m. At each end of this central area were rectangular sections that likely had entrances with two columns supporting an archway: to the north, a large door led into an apsidal hall measuring 13×10 m (**fig. 21**). Originally, this hall had a mosaic floor, then overlaid with marble slabs[82]. Inside the apse, there was a raised section, possibly intended for seating[83]. J.C. Balty suggested that this hall served as the *curia*, where senate meetings were held[84]. The apsidal hall is connected to a spacious rectangular room on the western side. Unfortunately, no traces remain of the original floors or decorations within these rooms, making their appearance challenging to reconstruct. However, the layout suggests a significant ceremonial or administrative function for this part of the *forum* complex, likely playing a central role in civic or government activities.

The western side of the *basilica* was characterized by masonry pillars that reinforced the structure on both sides, with openings towards the western area (**fig. 22**). According to Sticotti, bases of statues were originally placed against the pillars with dedications to emperors, ranging from Alexander Severus (226-227 AD) to Gallienus (268 AD), which were later reused in the construction of the western city walls[85].

78. *De Administrando Imperio*, 35.

79. Wilkes 2009. The bibliography on Diocletian and the tetrarchy is extensive and cannot be considered in an exhaustive manner here. In particular, see *Tétrarchie* 1994 e 1995; Demandt, Goltz, Schange-Schöningen 2004; Cambi, Belamarić, Marasović 2009 e Roberto 2014.

80. For new arguments to support this thesis, see Turković 2021. For architecture in Dalmatia at the time of Diocletian and the tetrarchy, see Ćurčić 2010, p. 15-42.

81. Sticotti 1913, p. 111-138; Wilkes 1969, p. 371; Rinaldi Tufi 2012, p. 479; Stevović 2014, p. 120; Sfameni, Koprivica, D'Eredità 2019, p. 90-91; Colosi 2020, p. 155.

82. Rovinski 1909, 24: the floor's two layers were confirmed by the 1957 research (Administration for the Protection of Cultural Properties, Cetinje, Doclea Excavations Documentation 1957, 4), see T. Koprivica in Sfameni, D'Eredità, Koprivica 2019, p. 94.

83. These details are obtained from Sticotti's description.

84. Balty 1981, p. 381-382.

85. Sticotti 1913, p. 123-124.

Fig. 21 — The apsidal room in the *Basilica* (© Carla Sfameni, 2023).

Fig. 22 — Interior of the basilica with pillars (© Carla Sfameni, 2023).

The eastern wall of the *basilic*a, facing the *forum* with five openings, is now completely destroyed. Only the bases of some external pillars remain, while the columns which once adorned the façade have disappeared. According to P. Sticotti's reconstruction of the façade, the architrave bearing the inscriptions of *Flavius Balbinus* would have been positioned over the doors, with semicircular windows above them closed by stone grilles[86].

The *basilica*, dated by Sticotti to the first half of the 2nd century, has sparked scholarly debate regarding its architectural models and chronology[87]. P. Sticotti draws comparisons with the Basilica Ulpia of Trajan's *Forum* in Rome, and Diocletian's Palace in Split[88]. However, due to the significant chronological gap between these structures, direct comparisons are questionable. J.C. Balty dates the *basilica* to the time of Trajan[89], while, according to I. Stevović, the building underwent renovations between the late 3rd and early 4th centuries, along with the main baths of the city[90]. Renovations are indicated by the existence of two different overlapping floors, and by repairs to the eastern wall of the apsidal room using masonry brick.

Some Corinthian capitals found in the *basilica*, characterized by intricate acanthus leaves rendered with deeply drilled engravings (**fig. 23**) are similar to those in Diocletian's Palace in Split. These capitals suggest a construction or renovation phase possibly dating to the late 3rd century AD, possibly even during Diocletian's reign. The architectural decoration, particularly the use of archivolts on the colonnades, also points towards a timeframe around the end of the 3rd century AD.

T. Turković argues against associating the *basilica* with examples from the Julio-Claudian and Trajanic periods, proposing

Fig. 23 — A Corinthian capital (© Antonio D'Eredità, 2017).

86. Sticotti 1913, p. 137-138, fig. 75.
87. See Walthew 2002, p. 142-145 for a metrological study: for the scholar «the extent to which Doclea conforms to the principles of basilica planning established in Italy is most striking» (p. 145). In his opinion, a compelling comparison, also from a metrological point of view, can be established with the basilica of Veleia (p. 146-149).
88. Sticotti 1913, p. 122.
89. Balty 1981, p. 382.
90. Stevović 2014, p. 120.

instead comparisons with the *forum* of Cyrene and other sites dedicated to the imperial cult[91]. According to the scholar, the architecture of the *basilica* exhibits, in particular, distinct characteristics of the Tetrarchic period.

However, uncertainties remain regarding the architrave with dedications, which dates to the Flavian period; the decoration of the architectural cornices is also referable to the Flavian era, if not earlier. Further research is needed to clarify the earlier phases leading to the construction of the *basilica* and the other structures within the complex. Our research group is currently conducting a comprehensive review of the available documentation to delve deeper into these inquiries. This effort aims to shed light on the historical context and chronological sequence of developments associated with the *basilica* and its surrounding structures.

To fully understand the development and functions of these buildings, it is also essential to consider the structures located on the western side of the *basilica*[92]. Here a large quadrangular area contained numerous buildings, some of which appear contemporary to the *forum-basilica* complex, while others were probably constructed or modified later. Research in this area has been conducted in 1962, 1998, and 1999 but detailed excavation reports have never been published, making it exceedingly complex to reconstruct the building phases and determine the functions of these structures (**fig. 24**).

Within a large rectangular space, it is possible to distinguish two main areas. The first sector of elongated rectangular shape is adjacent to the *basilica* and was accessible from it through three doorways with steps. A rectangular space was attached to the southern wall; according to T. Turković, this space might have constituted the *podium* of a temple, and the entire area would have had a sacred significance[93]. In front of the southern wall, there was a room which was probably built upon the foundations of an older building during Rovinski's excavations and used as a storage space for archaeological tools and as a custodian's residence.

The second part of this extensive area towards the west has been variously interpreted by scholars. Some of them view it as a section of a private residence opening onto a central courtyard[94], while others suggest it might have served as a market space[95]. A portico with corner pilasters and two central columns underwent modifications, including the closure of the spaces between the columns in a later phase. The rooms situated between the portico and the main street also belong to a later phase (**fig. 25**), likely contemporaneous

91. Turković 2021.
92. Sfameni, Koprivica, D'Eredità 2019, p. 90-91.
93. Turković 2021.
94. Turković 2021, p. 27-28.
95. Rinaldi Tufi 2012, p. 479.

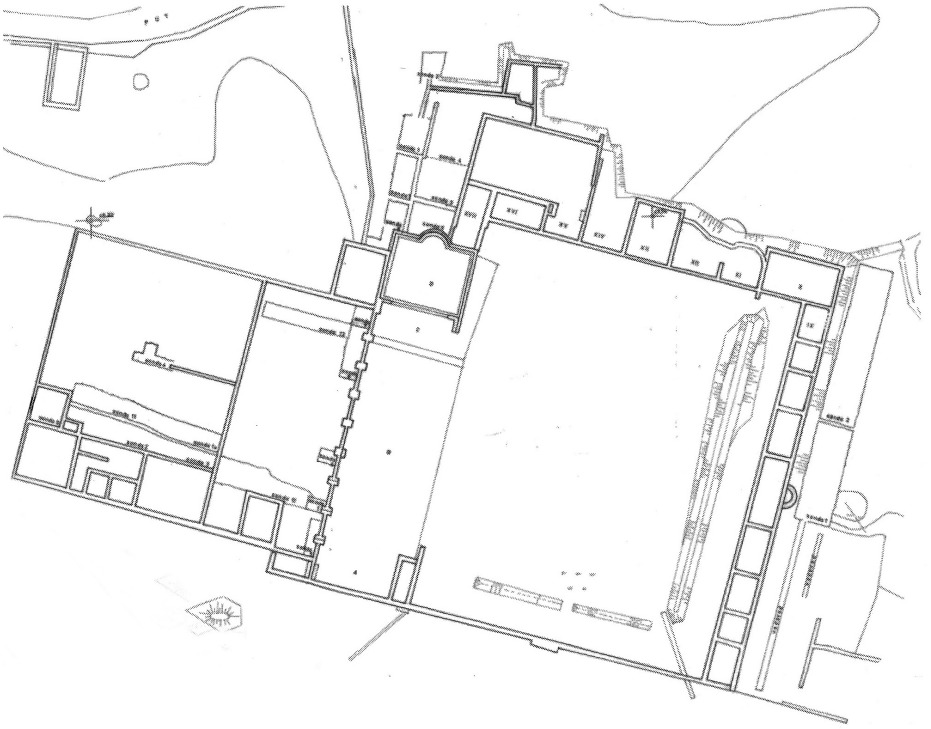


Fig. 24 — Doclea, plan of the *forum* and the quadrangular building on the West side (© Administration for the Protection of Cultural Properties, Cetinje, Doclea Excavations Documentation, 1998).

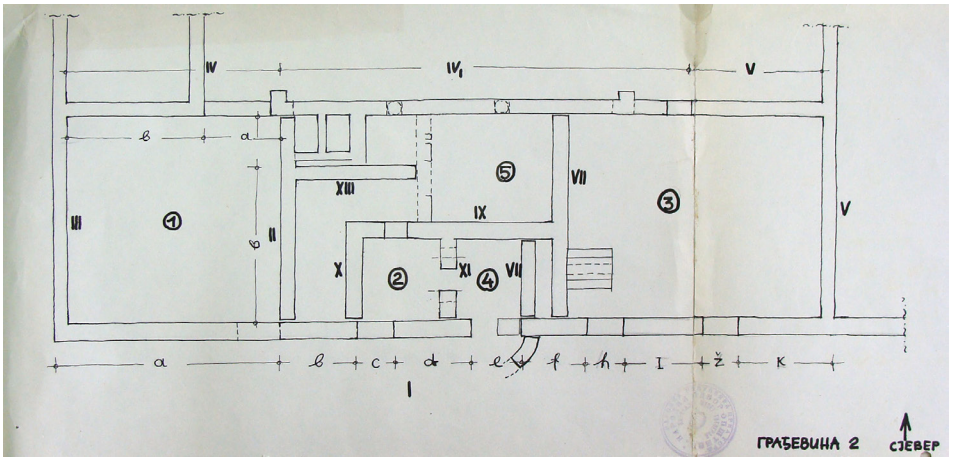


Fig. 25 — Plan of the building on the *decumanus* to the west of the *forum* (Building 2) (© Administration for the Protection of Cultural Heritage, Cetinje [1962]).

with the transformation of the portico. The presence of an apse that partially occupied the *decumanus*, further confirms a later construction phase for these structures. These rooms likely had residential purposes, suggested by the presence of a small heating system, which was possibly a private bath. These spaces could have been adapted within pre-existing areas originally associated with the portico. Additional rooms were located in the far western sector of the excavated area, with many walls exposed, particularly in the northernmost section.

A temple structure was excavated in 2005 in the area east of the *forum*[96]. The temple is a tetrastyle prostyle of about 8,5×15 m closed on the west, south and east sides by small rooms with porticoes (**fig. 26**). The main access to the sanctuary was on the south side on the *decumanus*, and geophysical surveys identified traces of a colonnade along the *cardo* on the western side[97]. The *atrium* was paved with limestone slabs, while the cella had a black and white mosaic with geometric patterns.

Fig. 26 — The temple excavated east of the forum, the so-called *capitolium* (© Carla Sfameni, 2021).

96. Baković 2010; Baković 2011; Živanović 2011.
97. Cozzolino *et al.* 2020, fig. 10.

The main interpretation of the temple as the *capitolium* of the city[98] has been questioned due to its lack of a tripartite cella and its location outside the *forum*. Within a series of rooms created in the porch surrounding the building, significant traces of craft activities, particularly metalworking and glass processing, have been discovered. In room 3, a first phase was identified between the second half of the 1st and the beginning of the 2nd century AD. In the 2nd-3rd century the space performed ceremonial functions; in the late phases the room became the site of an artisan workshop[99]. Metalworking activities began in the first half of the 4th century, after the temple was already abandoned. By the end of the 4th and the beginning of the 5th century, a glass workshop was established in the same location. However, glass production ceased in the early 5th century, shown by the absence of typical forms from the 6th-7th centuries. The end of production may have been due to practical reasons, as there are no signs of destruction or fire in the craft workshops. It is also plausible that some artisans relocated to other parts of the city[100].

In a recent paper, T. Turković suggests that these artisanal activities were connected to the cult venerated in the temple, possibly that of Minerva[101], In the temple of Allat-Minerva in Palmyra, which has a building phase dating back to the Diocletian age, for example, Minerva was associated with the production of sacred weapons. The scholar attributes a small pediment with the depiction of a deity with a helmet, otherwise interpreted as the "dea Roma" to this temple (**fig. 27**). The exact place of discovery of this pediment is not known, but it is generally connected with the so-called first temple or temple of the dea Roma[102]. Discussing this hypothesis would require more detailed analysis, on the basis of the stratigraphic data provided by the Montenegrin archaeologists. Moreover, among the fragments of architectural decoration present on the site near the *podium*, there is a part of the pediment, which suggests that the pediment with the image of the helmeted goddess was not used in this location.

In front of the *forum*, on the south side, there is a large bath complex. In describing the latter's architectural structure and decoration, now disappeared, Sticotti hypothesized the function of many rooms in the west part, as a vestibule, a *gymnasium*, a *frigidarium* and some *calidaria* (see **fig. 14**)[103]. Unfortunately, the entire south-western sector was destroyed by the railway, and it is therefore not possible to reconstruct a precise plan of the

98. Baković 2011. Nevertheless, the scholar observes that in other cities of the Adriatic area, *capitolia* always face the *forum* (p. 19).
99. Živanović 2011.
100. Živanović 2014.
101. Turković 2022.
102. Sticotti 1913, p. 64-74.
103. Sticotti 1913, p. 97-103.

Fig. 27 — Small pediment with a female figure with helmet, the so-called Dea Roma (© Carla Sfameni).

complex[104]. According to J. Wilkes, who dates the complex to the Flavian age, the baths of Doclea would be more luxurious and imposing than those of Salona[105]. Archaeologists who excavated the area in 1997-1998 highlighted multiple building phases evidenced by overlapping wall structures, with the latest phase dating to the 4th century (**fig. 29**)[106].

During our research we highlighted the presence of these different construction phases, examining the position of the walls (**fig. 28**)[107]. A final phase, moreover, is attested in particular in the eastern area where some rooms occupy part of a paved area along the city's *cardo* (see par. 4).

104. Sfameni, D'Eredità, Koprivica 2019, p. 92.

105. Wilkes 1969, p. 381.

106. Administration for the Protection of Cultural Properties, Cetinje, Doclea Excavations Documentation 1999 in Sfameni, D'Eredità, Koprivica 2019, p. 96.

107. Sfameni, D'Eredità, Koprivica 2019, p. 99, fig. 12.

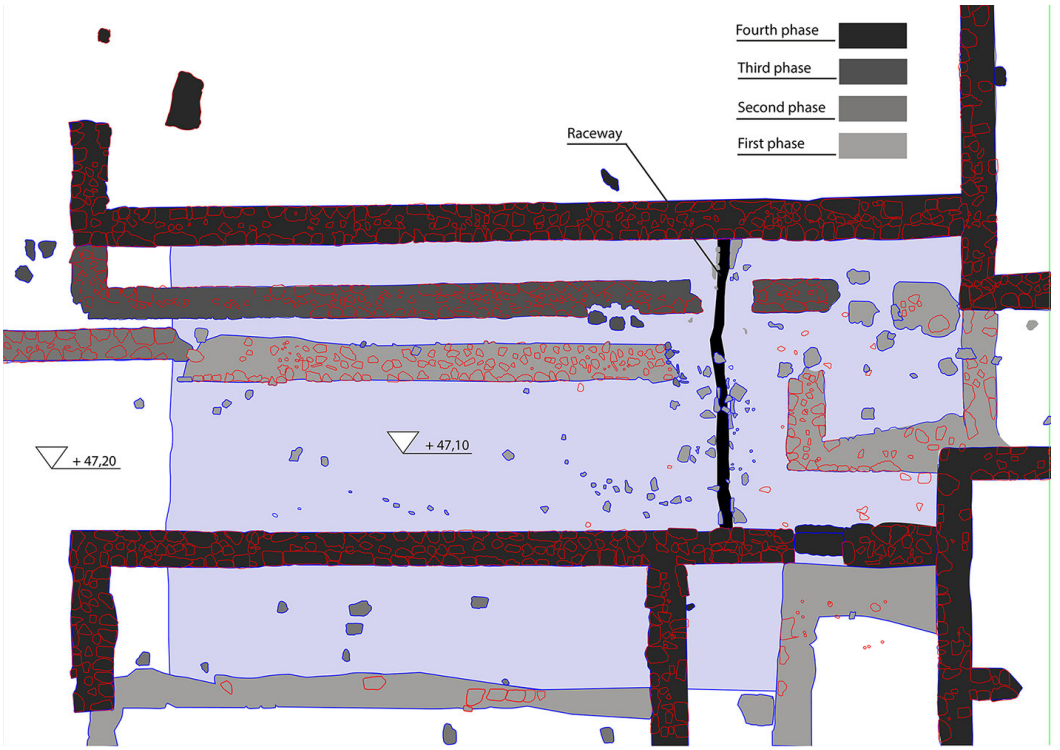


Fig. 28 — Large *thermae*: different building phases (© Antonio D'Eredità in Sfameni, D'Eredità, Koprivica 2019, p. 99, fig. 12).

To the east of the main complex lies another bathing complex known as the small baths, excavated in 1962 and barely published (**fig. 29**)[108]. Here, there are various rooms with basins and hypocaust heating, which originally must have had a mosaic floor. Based on archaeological finds, the baths date to the 4th century, but according to some scholars they were used longer than the large *thermae*, right up until the 5th century AD[109]. Geophysical research indicating the presence of an intermediate courtyard, demonstrated that these structures were connected to the preceding complex (see par. 4; **fig. 7**)[110].

108. Only brief report of the research was published: see Sfameni, D'Eredità, Koprivica 2019, p. 96-97.

109. Srejović 1968, p. 93; Marković 2006, p. 355.

110. Cozzolino, Gentile 2019, p. 80, fig. 2. Živanović 2018b after the latest excavations thinks that the building was built separately from the main baths and that it is possible that it did not have a thermal function. There is no sequence of rooms with clear different thermal functions and the accesses were not on the main road.

Fig. 29 — Small *thermae* as seen from the *decumanus* (© Carla Sfameni, 2023).

Unfortunately, the first and third temples on the south side of the *decumanus* are now completely destroyed, but information about them can be drawn from P. Sticotti's descriptions and plans[111]. In particular, the so called third temple was attributed by P. Sticotti to Diana due to the discovery of a pediment with the goddess's image[112]. Recently, T. Turković and N. Maraković proposed that the temple was actually dedicated to Diana Agrotera and Apollo Delphinios: this attribution is based on limestone slabs depicting dolphins and other elements found at the site[113]. This temple would also have been built in the era of Diocletian, but this attribution and date require further discussion.

111. Sticotti 1913, p. 65-75; 85-98. The first temple was prostyle in antis on a *podium* with steps in the facade (14×9.4 m); it was enclosed by a wall and faced the main road. The third temple, so-called temple of Diana, was very similar in plan (15×10 m) and stood within a *temenos*.

112. Sticotti 1913, p. 85-98.

113. Turković, Maraković 2021.

The residential areas situated south and west of the *decumanus* are not well documented, although topographical surveys identified numerous walls. The only fully excavated house consists of over twenty rooms arranged around a courtyard (**fig. 30**). P. Sticotti attributed this *domus* to the Flavian period, which, given its location and the presence of a small temple in an adjacent enclosure, he deemed to be an elite residence (**fig. 31**)[114]. However, the bathhouse associated with this *domus* was constructed later, and is characterized by a more irregular construction technique. Furthermore, a room of this complex was built on part of the *decumanus*. Thus, the bath could be a late antique addition.

Fig. 30 — Orthophoto by drone of the private house (© Antonio D'Eredità, 2019).

114. Sticotti 1913, p. 75-84; see also Wilkes 1969, p. 375-377.

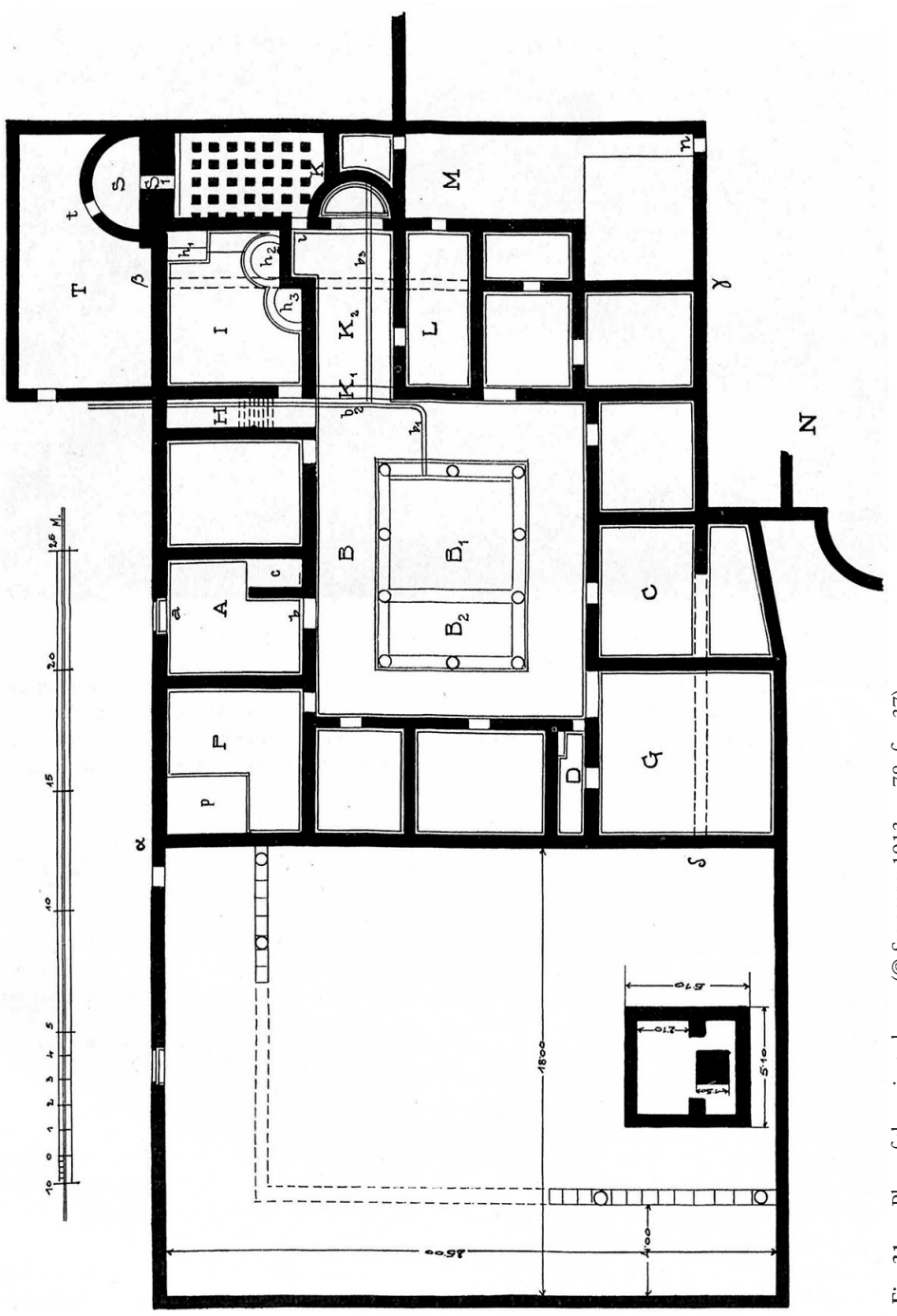


Fig. 31 — Plan of the private house (© Sticotti 1913, p. 78, fig. 37).

Fig. 31. Plan of the private house (after

In a recent study, A. Oettel and M. Živanović propose identifying this house as a *statio beneficiarii* associated with a temple precinct dedicated to Rome, where imperial cult practices took place[115]. The scholars attributed the relief depicting the female deity with a helmet and aegis (the so called dea Roma) to this temple. It is noteworthy that in the same volume of the New Antique Doclea series by the Museums and Galleries of Podgorica (2022) the same piece is interpreted differently: as we have seen, T. Turković identifies it as Minerva, placing it on the pediment of the so-called *capitolium*. Oettel and Živanović, however, suggest it represents the goddess Rome, to be associated to the little temple. This variety of interpretations underscores the ongoing scholarly interest in Doclea and the importance of further study of its monuments. However, it seems very important to us to verify the hypotheses with a careful study of the archaeological documentation: for example, as regards the relief of the "goddess Rome", the off-center positioning of the clypeus on the pediment indicates a side view rather than a frontal one, suggesting that it adorned a temple accessed laterally.

In recent years, archaeologists from the Centar uncovered a room with an apse heated by a hypocaust system on the north side of the *decumanus* (**fig. 32**)[116]. They believe it served as a reception room in an elite 4th century residence. In the apse it is possible to recognize the structure of a *stibadium*, which constitutes evidence in favour of a late antique date.

Fig. 32 — The heated room on the north side of the *decumanus* (© Carla Sfameni, 2023).

115. Oettel, Živanović 2022.
116. Živanović 2018a; Živanović 2018b.

From this preliminary examination, it appears possible to recognize in the main buildings of Doclea two different forms of intervention in Late Antiquity, the first of construction or reconstruction of structures, and others involving abandonment and reuse. Finally, the construction of buildings of Christian worship marks the transformation of the urban space of the city.

C. S.

THE DISTRICT OF THE CHURCHES AND THE NECROPOLISES

In 1893, the British archaeological mission in Doclea enriched the picture provided by the excavations of Rovinski and produced a more complex representation of the site's greatness and significance. In the eastern part of the city, the team led by J.A.R. Munro discovered the late antique and the early medieval Christian churches – known today as Basilica A, Basilica B and the Cruciform church[117]. Regardless of the fact that Munro's excavation offers no precise information on the identification of strata or the ubication of fragments of architectural sculpture, and putting aside the occasional mistakes of his interpretations, all together, accompanied by the photographic documentation made in the course of his exploration, they constitute a prerequisite source for the study of sacral topography of Christian *Doclea*[118]. The results of the British research increased the interest of the general scientific community in Doclea.

The Christian complex in Doclea, consisting of the Basilica A, Basilica B and Cruciform church connected by a corridor, is in a very poor condition today (**fig. 33**).

Research on ecclesiastical buildings, with a survey of the structures, a census of the construction techniques and a review of the stone materials, was conducted by a team from the Ca' Foscari University of Venice directed by S. Gelichi[119]. In the context of our research projects, we paid particular attention to the area of the churches, and from a direct analysis of the archaeological remains, we propose a new plan as well as some reconstructive hypotheses of the churches'structures[120].

117. Munro *et al*. 1896.
118. Koprivica 2013; Stevović 2014, p. 76-83.
119. Gelichi *et al*. 2012.
120. Sfameni *et al.* 2022.

Fig. 33 — Drone view of Doclea from the churches (© Rade Koprivica, 2021).

Basilica A

Basilica A is a three-nave basilica whose dimensions are 34×17 m (**fig. 34**). The height of the extant walls is between 0,90 and 1,50 m. The apse, on the east, is semicircular on the inside and hexagonal on the outside. The built-in seats with the spaces for the bishop's chair were arranged around the apse. Next to the apse, there are the *diaconicon* and the *prothesis* (**fig. 35**)[121]. The *schola cantorum* was in front of the apse (**fig. 36**).

Fig. 34 — Basilica A (© Rade Koprivica, 2021).

121. Munro *et al.* 1896; Sticotti 1913, p. 138-140.

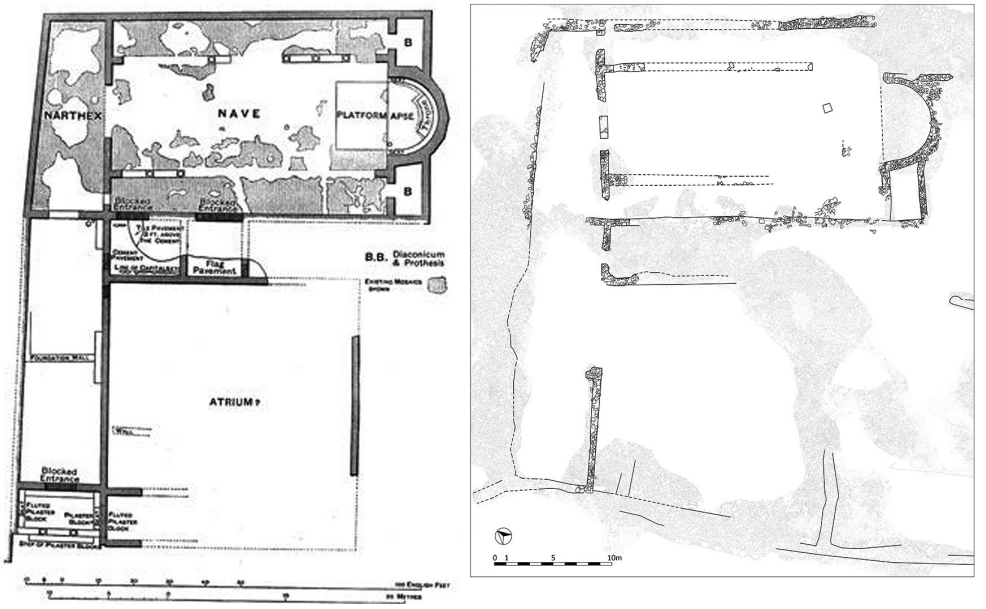


Fig. 35 — Basilica A: plan of Munro *et al.* 1896, p. 24 and the new plan (© Elisa Fidenzi, after Sfameni *et al.* 2022, p. 375, fig. 3).

Fig. 36 — East part of Basilica A, 1893 (© Koprivica 2013, p. 7, fig. 3).

The British archaeological mission in 1893 excavated the balustrade coloumns, finely sculpted pieces of marble slabs, a large number of crosses, window grills (*transennae*), capitals (one Ionic with a cross, several impost capitals and two of the Corinthian order, identical to those from the civic basilica on the *forum*) «and other byzantine carvings» (**fig. 37**). J.A.R. Munro organized the workers who «arranged the fragments, capitals, columns, etc. in a fancy way which may puzzle the archeological visitor».[122] Thus, the fragments were removed from the original locations on which they had been found. On the grounds of the *report* put together by British archaeologists and a-revision of the site carried out in 1954, all the sculpture from Basilica A was dated to the pre-Justinian's era[123].

Fig. 37 — Fragments of stone sculptures in the altar space of Basilica A, 1893 (© Koprivica 2013, p. 8, fig. 4).

122. Koprivica 2013, p. 6.

123. Nikolajević-Stojković 1957, p. 64. Korać 2009 a, p. 191-219.

In 1893, mosaic flooring was found to have been preserved throughout the entire space of the basilica. Worst preserved was the mosaic in the *naos* and the best was in the southern nave (**fig. 38**). W.C.F. Anderson described them thus: «The patterns interlaced spirals, or diamonds and squares and are worked out in some five or six colors»[124]. There is no trace of this decoration.

Fig. 38 — Remains of the floor mosaic in the southwestern corner of Basilica A, 1893 (© Koprivica 2013, p. 12, fig. 12).

A short distance from the wall running parallel to the wall of the cruciform church lay the south wall of the *atrium*. These are most probably the remains of the bishop palace.

The *propileum* was built 30 m from the entrance of Basilica A, which stood at the end of a corridor leading to an area with a complex series of different ecclesiastical buildings. An initial place of Christian worship was then rebuilt and replaced by Church B and then by a Cruciform Church[125]. The Christian sacral core of Doclea is similar to that of *Salona* or *Tragurium* (Trogir), where likewise two connected churches existed.[126]

124. Koprivica 2013, p. 9.
125. Stevović 2014, p. 80.
126. Stevović 2014, p. 77-78.

It is considered that Basilica A represents the Episcopal church of Doclea. It is not known when the Episcopate was established. Some scholars assumed that the first known Doclean bishop Basus was appointed in 325 or 326[127]. Based on the primary and secondary sources, it has been found that the bishop Constantine of Doclea took part in the Council of Ephesus in 431 and that the bishop Evander of Doclea took part in the Council of Chalcedon in 451. The last known bishop of Doclea was Nemezian, who, in 602, replaced the bishop Pavle[128].

Basilica A can be dated from 4th to the middle of the 6th century. At least, two construction phases are visible. It is not known when Basilica A and the Christian complex in Doclea was destroyed.

Basilica B and Cruciform church

Basilica B was built above the remains of an older Roman architectural structure (**fig. 39**)[129]. The slanted wall, considered by J.A.R. Munro to be the edge of an undiscovered street, was, in fact, the outer wall of a building which extended towards the central point of the complex comprising two churches. Remains of walls of a third building, older than

Fig. 39 — Basilica B and the Cruciform church (© Rade Koprivica, 2021).

127. Kovačević, 1967, p. 259-260; *Monumenta Montenegrina* I, 2001, p. 9; *Monumenta Montenegrina*, I/2, 2005, p. 18-36.

128. Kovačević, 1967, p. 262.

129. Gelichi *et al.* 2012, p. 24-25.

Basilica B, were discovered in the course of a reopening of the narthex floor (**fig. 40**). The inner space of this structure was divided into several units. The presence of a number of different strata was confirmed also by an exploration carried out in 2011[130].

Basilica B is a three aisled basilica whose dimensions are 18,5×11,5 m with the semicircular apse in the east and narthex with two lateral compartments in the west The height of the extant walls is between 0,60 and 1,20 m.

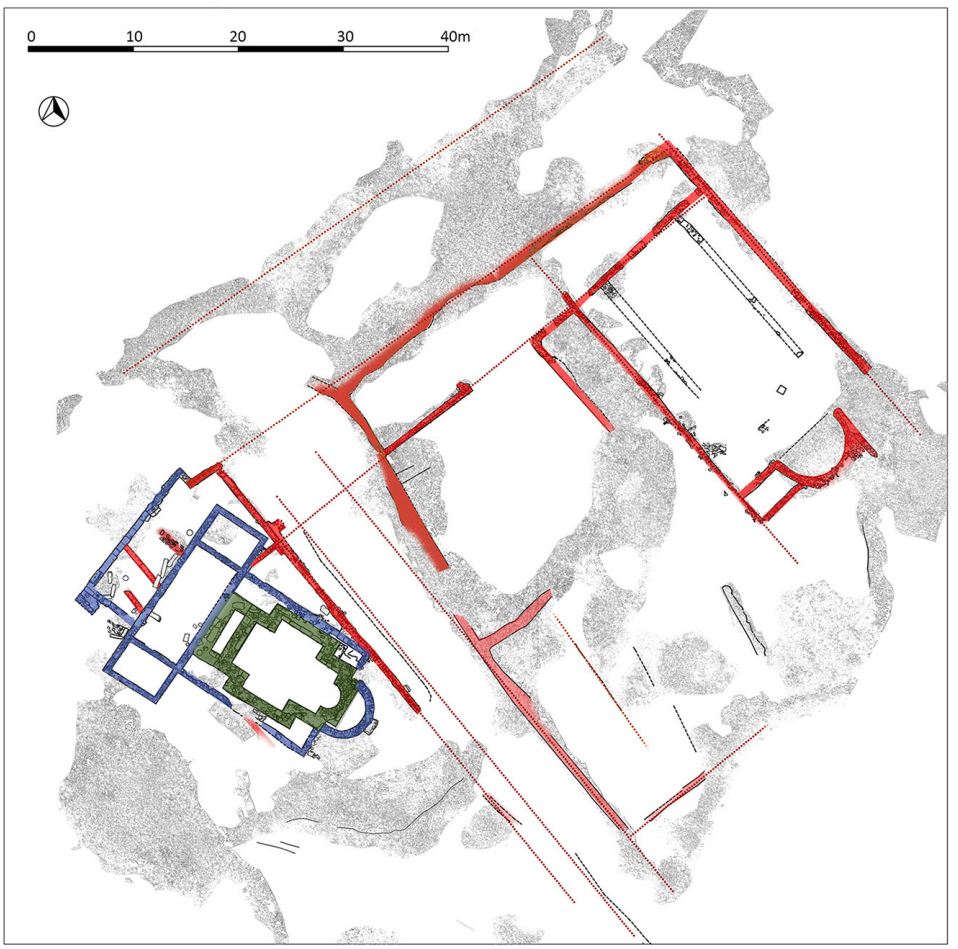


Fig. 40 — Plan of Basilica B and the Cruciform church with marked graves (© *Istorija Crne Gore* I [J. Kovačević]).

130. Gelichi *et al.* 2012, p. 24-26, fig. 13.

The Cruciform church was later built into Basilica B (**fig. 41**). The church has the design of a free cross, with somewhat shorter transept. Several inscriptions were found inside the Cruciform church[131].

Although J.A.R. Munro in 1893 discovered both the Cruciform church and Basilica B, his interpretation of the two was incorrect. P. Sticotti already identified two different periods of construction and noted that the cruciform church had been erected on the foundations of Basilica B[132]. In the course of revision excavations of 1954, it was discovered that Basilica B was of the three-nave type[133]. A spatial unit was found in the south part of the narthex, corresponding to that at the north end, which had already been discovered by J.A.R. Munro. The flooring unearthed in the center of the narthex was present in all three spaces.

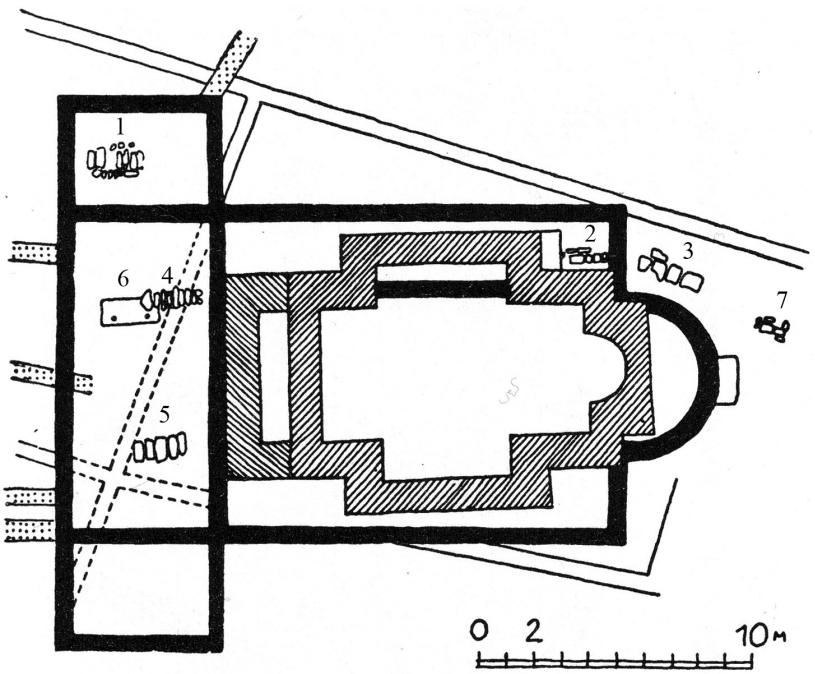


Fig. 41 — Plan of the churches with building phases (© Elisa Fidenzi, after Sfameni *et al.* 2022, p. 399, fig. 14).

131. Koprivica 2013, p. 10-11.

132. Sticotti 1913, p. 142.

133. Nikolajević-Stojković 1957, p. 65-69.

Based on its architectural structure and sculptural decoration, Basilica B can be dated to the 6th century, although according to some it might also be 5th century[134].

The east part of the Cruciform church was square in plan, with a semicircular apse of inferior quality masonry. A three feet high sculpted cornice was found by the north wall of the church. A small-scale closed space was located by the north wall of the church and a threshold with a column base at its center was found *in situ* in its southern wall[135]. This column base is clearly visible on a photograph from 1893[136] .

The wall in front of the western wall of the Cruciform church in 1893 had a threshold with column bases on both sides and a perfect "nest" of pillars, capitals and other architectural fragments pillars, capitals and other architectural fragments (**fig. 42**)[137]. These, together with the fragments discovered in the course of the excavations of 1954, were divided into two groups. The first was made up of surface fragments located around the Cruciform church, while the other included finds from the stratum of Basilica B, which were discovered under a layer of Byzantine roof tiles. The scant amount of architectural sculpture, examined only on the basis of style, convinced earlier researchers that all these features dated to the mid 6th century.[138]

Among the fragments, «facing the west end of the Baptistery», was the architrave with the votive inscription of diaconissa Ausonia[139]. The reference to Ausonia's sons in the same inscription shows that she most probably entered the order after the death of her husband, since female deacons were exclusively virgins or widows[140]. What is certain is that Ausonia was the founder of some Christian building, erected *pro voto* to herself and her sons, or more precisely, as the family endowment built on her private property. In theory, it may well have been located in one of the densely populated extramural areas, where the remains of villas with churches were found[141].

134. Nikolajević-Stojković 1957, p. 65-69; Kovačević 1967, p. 270; Zagarčanin 2012, p. 49-50; Sfameni *et al.* 2022, p. 385-386.

135. Koprivica 2013, p. 10, fig. 18.

136. Stričević 1955, p. 9-11.

137. Koprivica 2013, p. 10.

138. Nikolajević-Stojković 1957, 65-69.

139. Munro *et al.* 1896, p. 42-43; CIL III 13845, p. 2254; Sticotti 1913, p. 146; Kovačević 1967, p. 369; Rovinski 1994, 391; Šekularac, 1994, p. 19-20; Koprivica 2013, p. 12, fig. 20. See also next paragraph.

140. Sanader 2013, p. 8-17; Stevović 2014, p. 87-89.

141. Nikolajević-Stojković 1957, p. 65-69; Zagarčanin 2012, p. 49.

Fig. 42 — Cruciform church and the Basilica B, view from the west, 1893 (© Koprivica 2013, p. 14, fig. 18).

Inside it and around the Basilica B and Cruciform church seven graves were discovered, one of them (n° 6) containing a preserved piece of cloth with gold thread woven into it[142], clear proof that some dignitary was buried there.

M. Cozzolino conducted the geophysical research in the western area of the medieval churches, noting that in this area there was a lower concentration of buildings with different orientations (see paragraph 4)[143].

A church, almost identical to the Basilica B, is preserved in Doljani, less than 3 km south-west from Doclea[144]. This complex is very important for our understanding of the sacred topography in the area surrounding Doclea.

142. Korać 1955, p. 1-10.

143. Cozzolino *et al.* 2020, p. 10, fig. 11.

144. Borozan 2000, p. 199-224; Korać 2009 b, p. 1-9; Stevović 2014, p. 89-100.

However, almost nothing more precise could be said about the period when the cruciform church was built nor about the reasons that resulted in its position inside the older basilica. P. Sticotti compared the Cruciform church with the Mausoleum of Galla Placidia, while I. Stevović compared it with the Church of Holy Trinity in the zone of Agrinio[145]. Some scholars identified the Cruciform church with the Church of St. Mary which is mentioned in the Chapter 9 of the *Ljetopis popa Dukljanina* (*Chronicle of the Priest of Doclea)* and which used to be the coronation church for the kings of Doclea[146]. The dating varies from the 6th to the 9th century[147].

The Cruciform church in Doclea, erected above Basilica B, could testify to a reduction of the city`s sacred focus, but could also attest a renewal of an ancient cult place[148].

There are still some open questions concerning the chronology and relationships between Basilica A, Basilica B and the Cruciform church[149]. The precise dating of the individual buildings, as well as of the Early Christian complex in its entirety, requires further systematic archaeological investigation.

The necropolises

At several sites around Doclea, burials were found. The largest concentration is in the eastern necropolis, where burials occurred from the 1st to the 4th century, while burials at the western necropolis took place from the 4th to the 6th century[150].

At the Bjelovine site, near the western necropolis of Doclea, in 2013-2014, a necropolis covering an area of over 2000 square meters was discovered on the property of the Vučinić family[151]. More than 80 graves were excavated, four of which, with barrel vaults, were dated to between the 4th and 7th centuries (**fig. 43**). On the east wall of tomb number 7, a cross was engraved, and on tomb number 11, there is a cross with the letters Alpha and Omega, along with the depiction of a nave. Fragments of older buildings were used in the construction of the tombs. I. Medenica suggests that the Podgorica cup may have been found in a tomb similar to those investigated, dating to the

145. Sticotti 1913, p. 142; Stevović 2014, p. 109.
146. Kovačević 1967, p. 376-377.
147. Sfameni *et al.* 2022, p. 386-387.
148. Stevović 2014, p. 130.
149. Sfameni *et al.* 2022, p. 390-395.
150. Sticotti 1913, p. 35-39; Cermanović-Kuzmanović, Srejović, Velimorović-Žižic 1975; Баковић 2005, p. 223-230; Medenica 2011, p. 123-134.
151. The results of this excavation have not been published yet.

5th-6th centuries[152]. M. Živanović believes that the tombs date to the 4th-5th centuries, and that some fragments of engraved glass with a figurative decoration found inside them are stylistically close to the famous Podgorica cup. According to the same author, one of the tombs was likely reused later, not as a burial site but perhaps as a gathering place for early Christians[153].

In 2024, in the western part of the town, outside the walls, the researchers from Centar have recently conducted new excavations in a sector of the necropolis. In the preliminary report they refer to the discovery of 171 graves[154].

T. K.

Fig. 43 — Bjelovine (© Tatjana Koprivica, 2023).

152. Ivana Medenica: https://www.portalanalitika.me/clanak/127615--medenica-nastavljamo-istrazivanja-u-rogamima-ocekujemo-da-otkrijemo-jos-grobnica (Analitika, December 20th 2013).
153. Živanović 2015, p. 98.
154. Živanović, Živanović 2024, p. 7-9.

THE EPIGRAPHIC DOCUMENTATION

Epigraphic sources are crucial in our understanding of early imperial Roman Doclea as they give us insights into the social structure, demography, population mix[155] and religion[156]. Unfortunately, the epigraphic evidence for late antique Doclea is much more limited, and this poses a challenge for specialists attempting to reconstruct the social, economic, and cultural aspects of the city during this period. In publications and digital databases, many inscriptions are generically dated to the 3rd century, but could also belong to the earlier period. Most of the 3rd century inscriptions are honorific for emperors and members of the imperial court (dated from 226 to 260 AD), such as Severus Alexander[157], Philip the Arab[158] and his wife[159], Gallus[160] and his son and co-ruler C. Vibius Volusianus[161], Valerian[162], and Gallienus[163]. Five of them suffered *damnatio memoriae* and were largely eradicated. These actions indicate once again the instability and volatility of the 3rd century Roman Empire.

Funerary inscriptions from Doclea and the surrounding area, dated to the 3rd century and later, are rare and three of them show classic epigraphic traits: Roman names, and life span in years, months, and days[164]. Interestingly nearly all of them commemorate women, offering insights into the roles and recognition of women within the society of Doclea. This gender-specific epigraphic evidence contributes to a broader understanding of social dynamics and family structures during this era.

One funerary inscription from Vuksanlekići dated to the 3rd century has radically abbreviated names, so not much can be deduced[165]:

> V(---) T(---) et V(---) O(---) et / A(---) P(---) f(ilius?) sibi et / s(uis) v(ivi) f(ecerunt)

155. Pelcer-Vujačić 2018, p. 163-172; Pelcer-Vujačić 2020, p. 101-116.
156. Koprivica 2020, p. 117-138.
157. CILGM 149 = CIL III 12683.
158. CILGM 102 = CIL III 12686.
159. CILGM 151 = CIL III 12685.
160. CILGM 150 = CIL III 12687.
161. CILGM 152 = CIL III 12688.
162. CILGM 146 = CIL III 12684; CIL III 13823.
163. CILGM 147 = CIL III 1705.
164. CIL III 8282; CILGM 111 and CILGM 112.
165. CIL III 14603

The only inscription dated to the early Byzantine period is the famous one about deaconess Ausonia[166]:

Ausonia diac(onissa) (p)ro voto suae et fili(o)rum suoram f(e)c(it)

The inscription under discussion is presently considered lost, with its last documented sighting in 1902 by P. Sticotti[167]. At that time, the artefact had been partially disassembled, with a section of the inscription removed, after which it was repurposed as construction material for a local farmhouse. Consequently, the only surviving record of the inscription is in the form of drawings and a photo in Munro's photograph album of Doclea[168]. Originally located at the entrance of a small cruciform structure in Doclea (identified as the Cruciform church), positioned on the west facade, its historical context and significance have been a subject of scholarly inquiry.

Debate surrounding the dating of the inscription has been particularly contentious. Initially attributed to the 6th century upon its discovery, subsequent analyses have offered divergent assessments. In 1957, Stojković-Nikolajević proposed a revaluation, suggesting an 9th century origin[169]. However, this view was later revised back to the 6th century[170]. Presently, the prevailing consensus in academic literature supports a 6th century dating, although alternative perspectives exist. Some scholars advocate for a date extending into the 7th century[171], while the Epigraphische Datenbank Heidelberg (EDH) broadly situates the inscription's timeframe between AD 301 and 600, without specifying further[172].

The inscription mentioning Ausonia is often cited in debates about women's roles in early Church services. Here, opinions vary widely: some scholars argue that women were equal participants in Church activities during the initial centuries of Christianity, while others question whether women were involved at all. We propose that Ausonia served as a deaconess in the early Christian community of Doclea, and probably sometime in the 6th century. This hypothesis is supported by the inscription, although definitive conclusions about the role and contribution of women in the early Church remain elusive.

166. CIL III 13845; Sanader 2013, p. 7-17.
167. Sticotti 1913, p. 115-116.
168. published by Koprivica 2013, p. 11, fig. 20.
169. Stojković 1957, p. 567-572.
170. Stojković 1981, p. 9-13.
171. Auber 1986 (non vidi), cf. Sanader 2013, p. 10.
172. https://edh.ub.uni-heidelberg.de/edh/inschrift/HD054540.

Despite the diverse and multifaceted nature of the Roman Empire, the situation in Doclea likely mirrored broader trends within the Empire concerning female Church service. Women like Ausonia, through their religious work, often achieved greater freedom and rights, challenging the prevailing patriarchal norms. This suggests that Ausonia, along with other women in the early Christian era, played a significant role in the Church, contributing to a gradual shift towards greater female emancipation in religious contexts[173].

Another common feature for the late antique period was the reuse of older inscriptions as building blocks, as seen in Basilica A and the Cruciform church[174] a phenomenon requiring more study[175]. This use of *spolia* should not only be seen as a practical response to a lack of fresh building materials, it was also symbolic, reflecting the continuity and transformation of cultural and religious landscapes over time. The integration of older inscriptions might have been intended to imbue the new structure with a sense of sacred continuity and legitimacy. Nevertheless, the question still remains if there was any consideration of the past in this practise or whether it was just a matter of thrift[176].

Although late antique epigraphic evidence is scarce and one can presume that Doclea was in decline, the tombs from the south-eastern necropolis dating from the reign of Diocletian to Constantius II are remarkably elaborate[177]. The slow decline starts from the reign of Constantine as there are fewer luxury goods and objects in the tombs (an exception could be the famous Podgorica cup, dated to the middle of the 4th century[178] or later, according to other scholars). Nevertheless, the graves from the early 5th century and later are still showing the city's trade connections in the Mediterranean.

In conclusion, while epigraphic evidence from late antique Doclea is limited and often ambiguous, it nonetheless provides valuable insights into the city's social hierarchy, religious practices, and economic conditions. The combination of honorific inscriptions, rare funerary epitaphs, and archaeological finds from the necropolis collectively enrich our understanding of this historical period. The continued study and interpretation of these sources are essential for a more comprehensive reconstruction of life in Doclea during Late Antiquity.

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173. More on Ausonia see Stevović 2014, 87-89.

174. Koprivica 2013, p. 8-12; CILGM 191 and CILGM 126; CILGM 194, CILGM 154 and 155.

175. Coates-Stevens 2002, p. 275-296.

176. Coates-Stevens 2002, p. 295-296.

177. Cermanović-Kuzmanović, Srejović, Velimirović-Žižić 1975, p. 260-261.

178. Živanović 2015, p. 77-109; for inscriptions and further analysis, see Nagel 2013 (2014), p. 165-198.

FINAL REMARKS

In conclusion, the research conducted in Doclea by the Italian-Montenegrin team since 2017 has allowed us to analyze the surviving building structures and to collect new information on the articulation of the city, thanks to topographic, geophysical and remote sensing surveys. From a strictly archaeological point of view, the lack of excavation data for the most ancient research makes it difficult to confidently date the different building phases via their form and architectural decoration. However, the systematic review of the existing structures, with the help of bibliographic and archive documentation, allows us to identify and approximately date the main construction phases. Based on these results, we observe in late antique Doclea the existence of a building phase that can be dated between the 3rd and 4th centuries and concerns in particular the *forum* area and the *thermae* in the city centre. The city walls also pertain to this phase and recent studies have tried to associate other monuments of the city to the same period. The suggestion is to link this building phase to the age of Diocletian: even if the direct relationship with the emperor is debatable, his interest in this city is highly likely. The rise and prosperity of the city, attested by the archaeological data, is in fact probably connected with the administrative reform and the creation of the province of *Prevalis* by Diocletian[179].

It is difficult to establish how long the city centre maintained its vitality: the research carried out in the so-called *capitolium* shows that the temple had already been abandoned at the beginning of the 4th century when the first craft activities sprouted up. For the other buildings we do not have precise excavation data. Nevertheless, numerous changes can be observed in many buildings of the public area, including the reuse of materials from these buildings in the construction of the churches starting around the end of the 5th c. or the beginning of the 6th.

L. Jelić noted that the last coins found in Doclea date to Honorius[180]: it could therefore be assumed that the city, conquered by the Goths, remained under their control until the time of Justinian, but it is not sure. Renovations of the structures could therefore date back to the Justinian age, and the development of the ecclesiastical quarter could be dated to this phase. The city must have had a certain importance throughout the 6th century, while the last written sources date back to the end of the century[181]. It is generally believed that, following the attacks of the Avars and Slavs, in 609, the population of Doclea moved elsewhere. That said, no bishop is attested in Antivari before

179. Stevović 2014.

180. In Sticotti 1913, 209-210.

181. As already observed by S. Gelichi and C. Negrelli, however, research on the Byzantine phases could offer new data about the life of the city (Gelichi *et al.* 2012, p. 19).

the 8th century; intermediate locations have been hypothesized, such as in Martinićka gradina (Danilovgrad), which was easier to defend[182].

Numerous processes attested in Doclea are common to many other late antique cities, such as the abandonment of public spaces, the reuse of some structures for different purposes, the construction of Christian religious buildings in an area far from the public centre of the city, but within the city walls[183]. In particular, a similar process is attested in Salona, where the churches were built in the eastern area of the city, the *Urbs nova*[184].

The scarce data available for the Byzantine and early medieval phases could depend on the abandonment of the city but also on the absence of systematic research, and for this reason, an excavation in the area of the churches would be particularly useful.

In this article we summarized the *status quaestionis* and briefly illustrated the methodology adopted by our research team, who over the years contributed to expanding the knowledge on the ancient city of Doclea. The research is still in progress and in the years to come new plans and surveys of the monuments and their construction phases will be published, together with discussion regarding our interpretative hypotheses. Nevertheless, the data that has been collected so far not only allows us to underline the importance of the city in the late antique period, and also to highligh the growing interest, at a local and international level, for one of the most important sites of Roman Dalmatia.

Finally, to return to the Doclea of today, all of our historical-archaeological research is aimed not only at providing visitors with a better understanding of the site, but also of improving its infrastructure, while creating a new cultural and physical space for the community.

182. Marasović 2013, p. 102. The transfer of the population of Doclea to the locality of Doljani, 3 km from the city, where there are two churches, one of a basilica type and another with three apses, has also been hypothesized: Nikolajević - Stojković 1965; Korać 2009.

183. Liebeschuetz 2001; Lavan 2021. On new cities in Late Antiquity, characterized, among other things, by the construction of wall circuits, see also Rizos 2017.

184. On Salona, see the research of the French mission founded by N. Duval since 1983. See the summary of Ceci 1962-1963, vol. 1-2, and Jeličić-Radonić 2015.

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The Roman Legionary Camp and Early Byzantine Town of Novae

(Moesia Inferior/Moesia Secunda) after Sixty Five Years of Research [1]

Andrzej B. Biernacki, Elena Klenina

abstract The Roman legionary camp and Early Byzantine town of Novae, located in Bulgaria, have been excavated since 1960 by Polish and Bulgarian teams. Initially focused on fortifications, research expanded to uncover a major Christian complex, including an episcopal basilica. Key discoveries include a marble ambo and a sculpted sigma-shaped mensa. Excavations revealed six architectural phases spanning centuries. The site also features some of the largest legionary baths on the Danube. Interdisciplinary studies examined diet, materials, and environmental data. The current team, led by Professor Elena Klenina, continues research and heritage development. Significant conservation work is funded by the EU. Novae is now a major archaeological landmark in Eastern Europe.

résumé Le camp légionnaire romain et la ville byzantine de Novae, situés en Bulgarie, ont été fouillés depuis 1960 par des équipes polonaises et bulgares. Initialement centrées sur les fortifications, les recherches se sont étendues à la basilique épiscopale, révélant un complexe chrétien majeur. De nombreuses découvertes marquantes ont été faites, dont une chaire en marbre et une mensa sculptée. Le site a révélé une stratification architecturale sur plusieurs siècles, notamment six phases de construction. Les fouilles ont aussi mis en lumière des thermes légionnaires parmi les plus vastes du Danube. Des études interdisciplinaires ont porté sur l'alimentation, l'environnement et les matériaux. L'équipe actuelle, dirigée par la professeure Elena Klenina, poursuit l'étude et la valorisation du site. L'UE finance des travaux de conservation importants. Novae constitue aujourd'hui une référence archéologique majeure en Europe orientale.

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1. The full version of the article was published in ACTUM ATQUE TRACTATUM (= Klenina E. [ed.], Novae. Studies and Materials, VIII), Poznań, 2022, pp. 9-39.

The former Roman legionary camp and the Early-Byzantine town of Novae is located 4 km east of the present city of Svishtov (northern Bulgaria, the Roman province of Moesia), on a steep cliff on the bank of the Danube (**fig. 1**). In the spring of 1960, this area was selected as the site of long-term Polish-Bulgarian archaeological studies following a scrutiny of written sources and surface finds by two Polish scholars: Prof. Kazimierz Majewski of the University of Warsaw and Associate Prof. Stefan Parnicki-Pudełko, D.Sc., of the Adam Mickiewicz University of Poznań, and the Bulgarian Prof. Dimităr Dimitrov (**fig. 2**, **3**). Following an agreement between the University of Warsaw and the National Institute of Archaeology and the National Archaeological Museum of the Bulgarian Academy of Sciences, the archaeological expedition headed by Prof. Majewski began its first season of exploration at the end of September 1960[2] (**fig. 4**).

Fig. 1 — Novae. Central and Northern Parts of the Site. Ariel View from the South-East (Phot. by M. Pisz).

2. Hilczerówna Z., Kołkówna S., Nowicka M., Parnicki-Pudełko S., Press L., Rutkowski B., Sułtow B., Majewski K. (ed.), "Sprawozdanie tymczasowe z wykopalisk w Novae w 1960 roku", *Archeologia* 12, 1961, pp. 75-170.

Fig. 2 — Prof. Kazimierz Majewski. University of Warsaw (Phot. T. Biniewski).

Fig. — Prof. Stefan Parnicki-Pudełko. Adam Mickiewicz University of Poznań (Phot. Z. Czarnecki).

Fig. 4 — Novae 1965. Polish archaeological camp (Phot. T. Biniewski).

From the very beginning of the project, Prof. Parnicki-Pudełko participated in the work as deputy head. At the moment of the commencement of the archaeological exploration, hardly any remnants of the ancient town were visible on the ground. Professors Majewski and Parnicki-Pudełko decided that prior to a systematic and long-term investigation of the buried ancient town, the expedition must determine the location of the defensive walls, which constituted the outline of the city, including the gates and other fortifications. During the first ten years of the project, Prof. Parnicki-Pudełko focused on topographic studies and the identification of the defensive walls, towers and gates, while the head of the expedition, Prof. Majewski, explored the residential north-western section of Novae.

The principal Bulgarian partner, Prof. D. Dimitrov, began his participation in the exploration of Novae in 1961 as the head of the expedition of the National Institute of Archaeology of the Bulgarian Academy of Sciences[3]. It was at the same time that the presumed territory of the ancient town of Novae was divided into two sectors: the eastern one in charge of Bulgarian scholars and the western one investigated by the Poles. Professors Majewski and Parnicki-Pudełko with their scholarly team published interim reports of the work of their expeditions in the annual of the Institute of the History of Material Culture of the Polish Academy of Sciences *Archeologia* and in the periodical *Izvěstija na Archeologičeskija Institut* of the Bulgarian Academy of Sciences, while the Bulgarian expeditions under Prof. Dimitrov rendered their own accounts of their studies (**fig. 5**).

In accordance with a decision by the Polish Ministry of Education and Science, in 1970 Prof. Stefan Parnicki-Pudełko established an independent Archaeological Expedition of the Adam Mickiewicz University of Poznań to Novae[4]. From that moment, the expeditions of the two Polish universities of Warsaw and Poland worked interchangeably, on a biannual basis, although in close cooperation. The exploration by the Poznań expedition focused on the three gates in the defensive walls of Novae (the western, the southern and the northern)[5] (**fig. 6**). At the end of the season of 1970, Prof. Parnicki-Pudełko ordered an excavation of the area of 65 sq. m at the presumed intersection of the main streets of the town in order to expose the ancient forum.

3. Dimitrov D., Čičikova M., Sultov B., "Raskopki v vostočnom sektore Nove v 1961 godu", in *Izvěstija na Archeologičeskija Institut* 36 (1963), p. 133-140.

4. Biernacki A. B., Klenina E., "Novae — na krańcu świata rzymskiego", in Klenina E. (ed.) *Novae. Studies and Materials VII*, Wydawnictwo Naukowe Uniwersytetu im. Adama Mickiewicza, Poznań, 2020.

5. Parnicki-Pudełko S., "Novae — Sektor Zachodni", *The Fortifications in the Western Sector of Novae*, Poznań 1990, 103 pp., 51 fig.

Fig. 5 — Novae 1971. Traditional Polish-Bulgarian field seminar in Novae. From the left: assistant professor Ludwika Press, dr Bohdan Sultov, prof. Dymitr Dimitrov, dr Marija Čičikova, dr Violetta Bożilova (Phot. T. Biniewski).

Fig. 6 — Novae 1969. Sector V. West gate (Phot. T. Biniewski).

In the excavation season of 1974, Prof. Parnicki-Pudełko chose to focus the exploration on Section X, at the presumed location of the forum[6].

A further judicious choice by Prof. Parnicki-Pudełko, made in 1978 and 1980, was to turn the expedition into a fully interdisciplinary project; in the latter season, the narthex of the episcopal basilica and two structures annexed to its shorter sides were discovered. The total length of the narthex and the side structures is as much as 54.00 m[7] (**fig. 7**). After another dozen seasons, it was established that the basilica had been a part of a large multifunctional Early-Christian complex of the bishopric of Novae. It was also in the season of 1980 that a very large corpus of marble architectural elements and details decorating the interior of the basilica was discovered in its eastern part, including pieces of ornate marble side panels with attached columns and a big fragment of the balcony of the unique ambo from the nave, sited exactly on the central East–West axis of the basilica. The ambo from Novae remains among the best preserved early-Christian relics of the Constantinopolitan type in the Balkan Peninsula[8] (**fig. 8**). A specialist spectral-and-isotopic analysis of the material by Keith Matthews of the British Museum Research Laboratory established that the marble of the ambo had come from a quarry on Proconnesus (Marmara Island, Turkey)[9].

In the years 1970–1988, based on the results of the scholarly and research work of the expedition of the Adam Mickiewicz University to Novae, Prof. Parnicki-Pudełko organized a team of young specialists in archaeology, history, architecture, history of the arts, ancient languages, geology, zoology and chemistry. He summarized his exploration of Novae in two monographs on the fortifications of the town and on the episcopal basilica[10].

On Prof. Parnicki-Pudełko's recommendation, the present writer, Dr. Andrzej B. Biernacki, the Professor's student and long-term assistant, was appointed the Head of the International Interdisciplinary Expedition of the Adam Mickiewicz University "Novae" in 1990. The first season of excavation work under his supervision continued the previous approaches to the exploration of the ancient town.

6. Biernacki A. B., Olczak J., Kotecki J., Herbich T., "Rejon forum — odcinek X", in Parnicki-Pudełko S. (ed.), *Novae — Sektor Zachodni 1974. Wyniki badań wykopaliskowych Ekspedycji Archeologicznej UAM*, Część I, Poznań, 1978, pp. 195-204.
7. Parnicki-Pudełko S., "The Episcopal Basilica in Novae. Archaeological Research 1976–1990", in Mrozewicz L. (ed.), *Seria Archeologia* 42, Poznań, 1995, 106 pp.
8. Biernacki A. B., "The Pulpit in the Episcopal Basilica at Novae (Svištov) (An Attempt at a Reconstruction)", *Balcanica Posnaniensia* 7, 1995, pp. 315-332.
9. Matthews K., "Report on the stable isotope analysis of the three fragments from a marble ambo used at Novae", in Biernacki A. B. (ed.), *Novae. Studies and Materials* I, Poznań, 1995, pp. 83-85.
10. Parnicki-Pudełko S., *The Fortifications in the Western Sector of Novae*, Poznań, 1990; Parnicki-Pudełko S., *The Episcopal Basilica in Novae. Archaeological Research 1976-1990*, Poznań, 1995.

Fig. 7 — Novae. Ruins of the Early Christian Episcopal Basilica. Vertical Balloon Photo (Phot. M. Pisz).

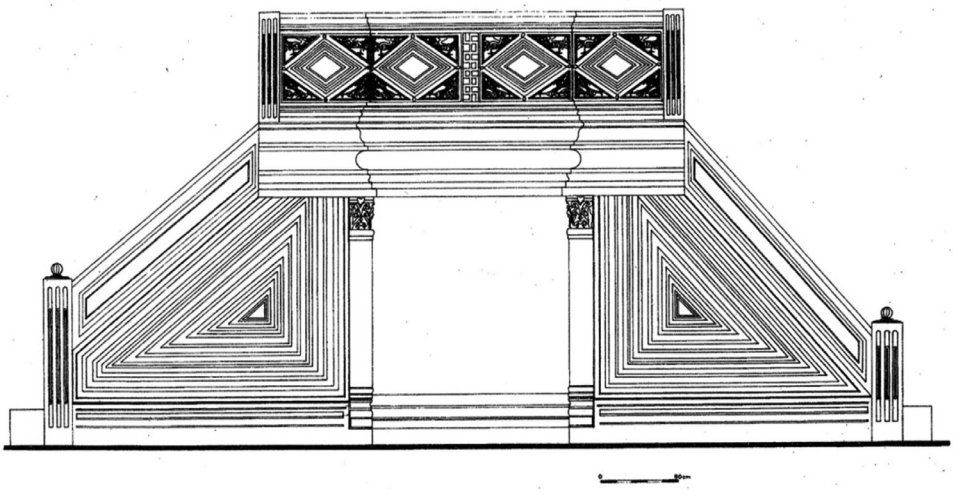

Fig. 8 — Novae. The Marble Pulpit from Novae. General Elevational View (Reconstruction by A. B. Biernacki).

As the expedition began to pursue new research aims, the architect Dr. Stanisław Medeksza, D.Sc., became its permanent member again after a pause of sixteen years[11]. In the present writer's opinion as the head of the project, this was a major development, opening new vistas of spatial and architectural studies of the early-Christian basilicas and the episcopal residence in Novae. Another consequential decision was to conduct the research every year rather than biannually as before. Obviously, this increased the intensity of the excavation work, and also accelerated the rate of the office studies of the various movable archaeological sources. The team of the expedition necessarily expanded, and the scope of its interdisciplinary work broadened.

Upon a close scrutiny of the results of the previous exploration of the basilicas and the episcopal residence, the decision was taken to focus future work on the investigation of the complex of the episcopal baths and the underlying interiors of the earlier large legionary baths. Additionally, excavation and examination of the presumed structures directly south of the episcopal basilica started. Now, after many years, it is evident that this part of the project constituted a breakthrough in the exploration of Novae.

The financing of the excavation seasons of the expedition substantially increased after 1994. An early result of this improvement was the publication of the first volume in the new series *Novae. Studies and Materials* edited by A. B. Biernacki[12].

The increased financial resources made it possible to initiate extensive archaeological exploration of the area directly south of the Early-Christian episcopal basilica. This decision was based on a careful consideration of the previous results of the spatial and architectural studies, a scrutiny of movable finds and a comparative study of other Early-Christian episcopal complexes.

In 1997 Elena Klenina, an archaeologist and historian, at the time a research worker at the National Reserve "Chersonesus Taurica" (Sevastopol, Crimea, Ukraine) joined the scholarly team of the Adam Mickiewicz University. Beside taking part in the excavation activity, she was in charge of an extensive description and study of ceramic vessels from Novae[13]. Since 2017, dr Elena Klenina has been leading the Head of the International

11. Biernacki A. B., Medeksza S., "An Attempt at a Spatial Reconstruction of the Columnar Hall in the Episcopal Residence at Novae", in Biernacki A. B. (ed.), *Novae. Studies and Materials* I, Poznań, 1995, pp. 9-23; Medeksza S., "Episcopal Bath. Heating Installation. Preliminary Technical and Functional Analysis", *Archeologia* 47, 1996, pp. 80-84.

12. Biernacki A. B. (ed.), *Novae. Studies and Materials*, I, Poznań, 1995, 97 pp.

13. Klenina E., "Some remarks about the Roman and the Early Byzantine pottery from Novae (Moesia Inferior)", in Freeman Ph., Bennett J., Fiema Z., Hoffmann B. (eds), *Proceeding of the Limes Congress XVIII* (Amman, Jordan, September 2000), BAR International Series 1084 (II), Oxford, 2002, pp. 695-703; Klenina E., "Earthenware of the II–III centuries A.D. from excavation of legionary bath canal in Novae (Moesia Inferior)", in *The Roman and Late Roman City. The International Conference (Veliko Tyrnovo*

Interdisciplinary Archaeological Expedition AMU "Novae". In 2020, she obtained her doctor habilitatus degree. At present, dr hab. Elena Klenina is an Associate Professor of the Adam Mickiewicz University in Poznań and specializing in classical archaeology and the ancient history.

A major and highly spectacular achievement of the expedition was the discovery of a marble sigma-shaped mensa in an exceptionally good condition of preservation in 1997. The item had been made at the end of the 4th century of Docimium marble in a workshop in Asia Minor or Constantinople. It had been used at the beginning of the 5th century A.D. in a room in the southern part of the episcopal basilica in Novae. In 2000–2003, it underwent extensive maintenance and restoration work in Poznań. More than 155 fragments have been found, which upon assembly make up more than two thirds of the original item. It has now been established that the width of the base of the mensa was 127 cm, and its height 137 cm (**fig. 9**). The rim of its upper surface is decorated with relief stripes 0.115 m wide showing a wide variety of scenes: fights of wild animals (between a bear and a horse, a bear and a griffin, a lion and a bull, and a lioness and a unicorn), the hunting of a boar by a man and dogs and symbolic images featuring tritons, a griffin, Eros carried by a dolphin and the goddess Tyche[14].

The teams of the expeditions after the year 2000, headed by Dr. Andrzej B. Biernacki, included specialists in at least eight fields: archaeology, history, art history, architecture, geology, archaeozoology, numismatics, and Greek and Latin epigraphy. Archaeological research focused on the various structures south of the episcopal basilica. These turned out to constitute a row of rooms located along the East–West axis. Two rooms unearthed in two consecutive years contained several rows of recycled stone blocks and architectural

26–30 July 2000), Sofia, 2002, pp. 410-417; Klenina E., "Столовая и кухонная керамика III–VI вв. н.э. из Нов (Северная Болгария) [Ceramic Tableware and Kitchenware of the 3rd–6th century from Novae (Northern Bulgaria)]", in Biernacki A. B. (ed.), *Novae. Studies and Materials*, II, Poznań–Sewastopol, 2006; Klenina E., "Some Aspects of Economic Development of Novae (Moesia Secunda) in the 5th–6th centuries AD", in Biernacki A. B., Klenina E. Yu., Genčeva E. (eds), *Bishopric of Novae (Moesia Secunda), 4th–6th cent. History—Architecture—Daily Life*, Volume II, Daily Life [= Biernacki A. B. (ed.), Novae. Studies and Materials IV), Poznań, 2013, pp. 75-116; Klenina E. Ju., "Trade relations of Novae (Moesia II) according to ceramic evidence from an assemblage of the late 5th–early 6th centuries AD", in Poulou-Papadimitriou N., Nodarou E., Kilikoglou V. (eds), *LRCW 4. Late Roman Coarse, Cooking Wares and Amphorae in the Mediterranean*, vol. II, *British Archaeological Reports*, International Series 2616 (II), Oxford, 2014, pp. 931-941; Klenina E. Yu., "Local and Imported Pottery of the 2nd-4th Centuries A.D. in the excavations of the Large Legionary Thermae", in Biernacki A. B., *The Large Legionary Thermae in Novae (Moesia Inferior) (2nd–4th centuries AD)* [= Novae. Studies and Materials V], Poznań, 2016, pp. 413-453.

14. Biernacki A. B., "A Marble Sigma-Shaped Mensa from Novae", in Bülow G. von, Milčeva A. (Hrgs.), *Der Limes an der Unteren Donau von Diokletian bis Heraklios. Vorträge der Internationalen Konferenz Svištov (1.–5. September 1998)*, Sofia 1999, pp. 75-86.

Fig. 9 — Novae. The Marble Mensa from Novae (Phot. A. B. Biernacki).

details, found *in situ* and serving as supports of wooden beams, which in turn had held the wooden floorboards[15] (**fig. 10**). Immediately south-east of one of these rooms, the remnants of an oblong kitchen stove were encountered, of a type known from other legionary camps, where it was used for cooking for a large number of people. The archaeozoologists participating in the expedition in that season examined the several thousand animal bones found in a small room west of the stove: These were mainly pig bones with clear signs of boiling, and the sizes of the pieces and the way in which they had been cut indicated that food had been cooked for a large number of consumers[16]. The late-Roman episcopal complex apparently featured a communal mess.

15. Biernacki A. B., "The Episcopal Complex in Novae (5th and 6th Cent. A.D.)", in Biernacki A. B., Czerner R., (eds), *Bishopric of Novae (Moesia Secunda), 4th–6th cent. History—Architecture—Daily Life*, Volume I, *History, Architecture* [= Biernacki A. B. (ed.), Novae. Studies and Materials IV/1], Poznań, 2013, pp. 31-54; Czerner R., "Architektura kompleksu budowli biskupstwa w Novae i jej przemiany w czasie", in Biernacki A. B., Czerner R., *Biskupstwo w Novae (Moesia Secunda) IV–VI w.: historia, architektura, życie codzienne*, Tom 1, *Historia i architektura* [= Biernacki A. B. (ed.), Novae. Studies and Materials IV/1], Poznań, 2013, pp. 55-96.

16. Makowiecki D., Makowiecka M., "Zwierzęce szczątki kostne z zespołu pomieszczeń pomocniczych — ptochotrophium rezydencji biskupiej w Novae (Bułgaria)", in Biernacki A. B., Gencheva E., Klenina E., *Biskupstwo w Novae (Moesia Secunda) IV–VI w.: historia, architektura, życie codzienne*, Tom 2, Życie codzienne [= Biernacki A. B. (ed.) "Novae. Studies and Materials" IV/2], Poznań, 2013, pp. 295-305.

Fig. 10 — Novae. Ptochotrophion. The Complex of Rooms South of the Episcopal Basilica. View from the West (Phot. E. Klenina).

Another interdisciplinary specialist, a geologist and petrographer, continued his work on determining the origin of the limestone of the architectural details and the spectral-and-isotopic analyses of marble. The latter study established that the late-Roman architectural elements and details, sculptures and bas-reliefs from Novae were made of marble from the quarries on Proconnesus and in Docimium (both in present-day Turkey)[17]. Proconnesus had supplied architectural details (semi-capitals and the ambo)

17. Skoczylas J., "Zagadnienie pochodzenia marmurów z Novae", in Biernacki A. B., Czerner R., *Biskupstwo w Novae (Moesia Secunda) IV–VI w.: historia, architektura, życie codzienne*, Tom 1, *Historia i architektura* [= Biernacki A. B. (ed.), Novae. Studies and Materials IV/1], Poznań, 2013, pp. 97-104; Michniewicz J., "Proweniencja marmurowych rzeźb z Novae w świetle badań petrograficznych", in Biernacki A. B., Czerner R., *Biskupstwo w Novae (Moesia Secunda) IV–VI w.:historia, architektura, życie codzienne*. Tom 1. *Historia i architektura* [= Biernacki A. B. (ed.), "Novae. Studies and Materials" IV/1], Poznań 2013, pp. 105-120; Michniewicz J., "Petrografia i proweniencja wapieni stanowiących surowiec skalny rzeźb oraz detali architektonicznych z Novae", in Biernacki A. B., Czerner R., *Biskupstwo w Novae (Moesia Secunda) IV–VI w.: historia, architektura, życie codzienne*, Tom 1, *Historia i architektura* [= Biernacki A. B. (ed.), "Novae. Studies and Materials" IV/1], Poznań, 2013, pp. 143-152.

to the early-Christian episcopal basilica. This provides the final solution of the issue of the origin and distribution of these items in Novae and, to a degree, in the province of Moesia Inferior. Let us emphasize that this was the first analysis of this type of marble from Ancient settlements in the Roman provinces on the Lower Danube.

In 2001, Elena Klenina, at the time a research worker at the National Reserve "Chersonesus Taurica," commissioned a highly specialist analysis of the DNA of a fragment of bone found several years earlier in a reliquary discovered *in situ* in the minor basilica of Novae, made by physicians and anthropologists of the Bureau of Forensic Medical Studies of the Autonomous Republic of Crimea, Division of Forensic Medical Criminology in Simferopol (Ukraine)[18]. The surprising conclusion was that the alleged relic was in fact an ancient forgery from the 6th c., made of a bird's bone.

In the years 2003–2006, the expedition of the Adam Mickiewicz University of Poznań headed by Dr. A. B. Biernacki carried out the scholarly-and-research project 2 H01G 082 25 "The Bishopric of Novae (Moesia Secunda): History, Architecture, Lifestyle," financed by the Science Research Council of the Ministry of Science and Higher Education of the Republic of Poland. A report of the project was published as a two-volume monograph[19].

The structures of the bishopric of Novae were erected in the area of the former Roman camp, in an *insula* which previously had been the site of the extended complex of the large legionary baths. Six chronological phases of the construction and reconstruction have been identified (**fig. 11**).

Phase I: late 4th and the first quarter of the 5th century: The construction of the basilica with its narthex and atrium, the entrance structure, the episcopal residence and the complex of the ptochotropheum (**fig. 12**).

Phase II: second half of the 5th century: The construction of the detached building of the baptistery (**fig. 13**).

18. Ponomarev D., Smirnov V., "Analiz DIK fragmenta kosti iz relikvarija v 'Maloj' Basilike episkopskogo kompleksa v Novach", in Biernacki A. B., Gencheva E., Klenina E., *Biskupstwo w Novae (Moesia Secunda) IV–VI w.: historia, architektura, życie codzienne*, Tom 2, Życie codzienne [= Biernacki A. B. (ed.) "Novae. Studies and Materials" IV/2], Poznań, 2013, pp. 369-371.

19. Biernacki A. B., Czerner R., "Biskupstwo w Novae (Moesia Secunda) IV–VI w.: historia, architektura, życie codzienne", Tom 1, *Historia i architektura* [= Biernacki A. B. (ed.), "Novae. Studies and Materials" IV/1], Poznań, 2013; Biernacki A. B., Gencheva E., Klenina E., *Biskupstwo w Novae (Moesia Secunda) IV–VI w.: historia, architektura, życie codzienne*, Tom 2, Życie codzienne [= Biernacki A. B. (ed.) "Novae. Studies and Materials" IV/2], Poznań, 2013.

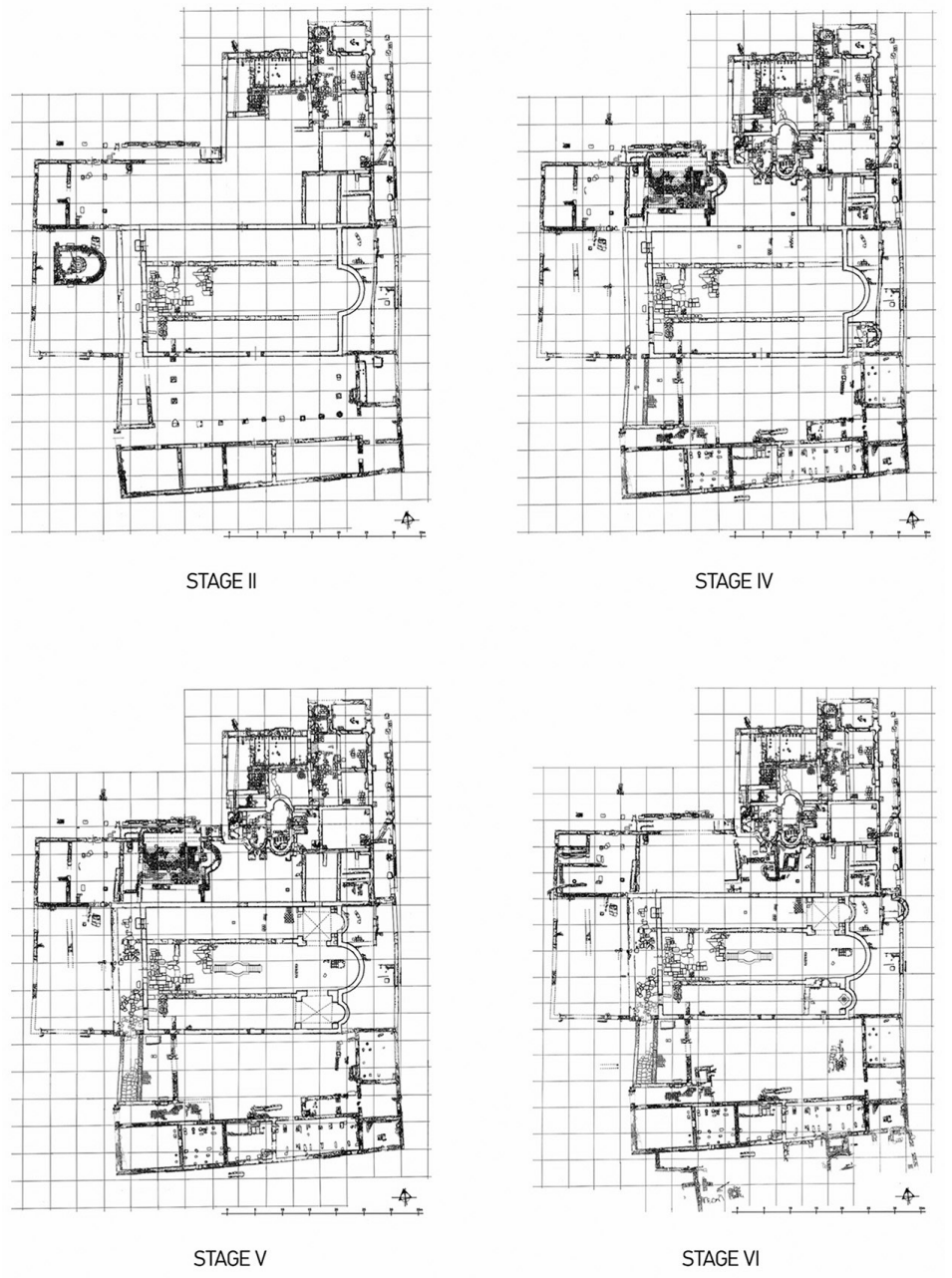

Fig. 11 — Novae. The Area of the Bishopric of Novae. Floor Projection (Developed by A. B. Biernacki, R. Czerner, E. Klenina, St. Medeksza).

Fig. 12 — Novae. Ruins of Bishopric of Novae. Aerial View from East (Phot. M. Pisz).

Fig. 13 — Novae. The Baptistery in the Court of the Episcopal Basilica. View from West (Phot. A. B. Biernacki).

Phase III: 5th/6th century (between the earthquakes of 488 and 518): The construction of the martyrium at the basilica and of the private baths at the episcopal residence; the demolition of the baptistery.

Phase IV: first half of the 6th century (after the earthquake of 518): The construction of another, smaller basilica (the basilica minor) (**fig. 14**); a reconstruction of the complex of the ptochotropheum.

Phase V: first half of the 6th century (between the earthquakes 518 and 557): A reconstruction of the eastern section and the narthex of the large basilica; the demolition of the martyrium.

Phase VI: third quarter of the 6th century (after the earthquake of 557): The construction of a baptistery inside the large basilica, the destruction of the basilica minor, the demolition of most structures of the ptochotropheum.

Fig. 14 — Novae. The Minor Basilica. View from the North-West (Phot. E. Klenina).

The complex of the large legionary baths ceased to be used and was destroyed during the wars with the *foederati* between 376 and 382. The earliest mention of a bishop of Novae in the written sources comes from the early 5th c. The bishopric was apparently established between 430 and 449, and archaeological material suggests that its structures started to be built in the first quarter of the 5th c. After some fifty years of disuse, the remnants of the earlier Roman baths must have been so badly preserved and obliterated at that time that the Byzantine builders hardly used their walls or foundations when erecting the new structures, with the exception of the buildings in the northern part of the *insula*: the episcopal residence and its baths, and the entrance section. The original layout of the complex of the *ptochotropheum* had also disappeared by that time due to abandonment. The early structures may have been further damaged by the earthquake of 557[20] (**fig. 15**).

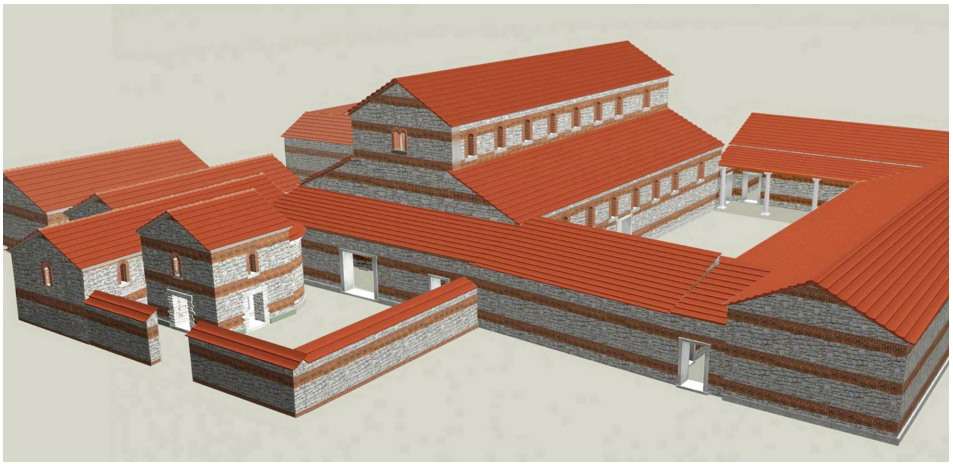

Fig. 15 — Novae. The Bishopric of Novae. Visualization of buildings. View from the South-West (Development A. B. Biernacki, B.Biernacki).

20. Biernacki A. B., "The Bishopric of Novae (Moesia Secunda, 4th–6th Cent.): History, Architecture, Daily Life", in *Acta XV Congressus Internationalis Archaeologiae Charistianae, Toleti 8–12.9.2008, Episcopus, Civitas, Territorium*, Pars I, Citta de Vaticano, 2013, pp. 895-914; Biernacki A. B., "The Episcopal Complex in Novae (5th and 6th Cent. A.D.)", in Biernacki A. B., Czerner R. (eds), *Bishopric of Novae (Moesia Secunda), 4th–6th cent. History— Architecture—Daily Life*, Volume I, *History, Architecture* [= Biernacki A. B. (ed.), "Novae. Studies and Materials" IV/1], Poznań, 2013, pp. 31-54; Czerner R., "Architektura kompleksu budowli biskupstwa w Novae i jej przemiany w czasie" in Biernacki A. B., Czerner R., *Biskupstwo w Novae (Moesia Secunda) IV–VI w.: historia, architektura, życie codzienne*, Tom 1, *Historia i architektura* [= Biernacki A. B. (ed.), "Novae. Studies and Materials" IV/1], Poznań, 2013, pp. 55-96.

In the years 2008–2012, the expedition of the Adam Mickiewicz University of Poznań headed by Dr. A. B. Biernacki carried out the scholarly-and-research project "The Large Legionary Baths of Novae (Moesia Inferior), 2nd–4th Cent.: Architecture, Infrastructure, Lifestyle." The project continued the previous one, as the investigated complex, apparently constructed in several phases, was located under the bishopric.

Excavation activity was undertaken in the complex of the large legionary baths, of an area initially estimated at some 6500 sq. m, operating from the early 2nd c. to app. 380 (**fig. 16**, 17). In the southern part, several halls were unearthed, each of a surface of more than 200 sq. m. One of these had housed a large sigma-shaped swimming pool of the diameter of 7.80 m, discovered in a very good condition of preservation. Later estimates calculated the size of the complex as a whole *insula* of the area of some 7500 sq. m, which would make the legionary baths of Novae the largest discovered facility of this type in the Roman provinces on the Central and Lower Danube[21].

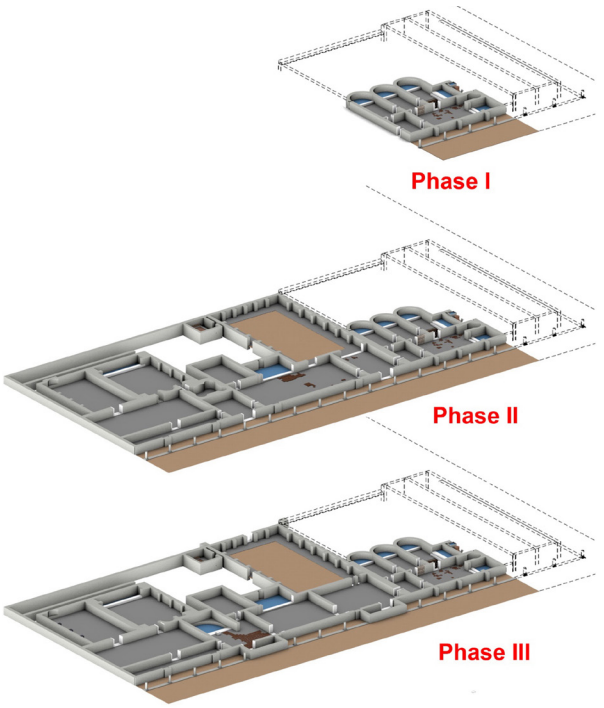

Fig. 16 — Novae. The Large Legionary Thermae in the Central Part of the Camp – Functional Diagrams (Development A. Jasiewicz, M. Margraf).

21. Biernacki A. B., "Architecture, Stratigraphy and Remains of Buildings", in Biernacki A. B., *The Large Legionary Thermae in Novae (Moesia Inferior) (2nd–4th centuries AD)* [= "Novae. Studies and Materials" V], Poznań, 2016, pp. 11-65.

Fig. 17 — Novae. The Caldarium of the Legionary Bath (Phot. P. Namiota).

Further exploration revealed other structures of the complex of the baths. A hall inside it, of the area of app. 270 sq. m, has a barrel vault roof. To reduce the weight, the ribs of the vault were made of ceramic pipes bound with lime mortar. The floor and walls in the hall were heated by a hypocaust system (**fig. 17**, **18**). After two seasons' exploration of the southern part, the southern gable wall of the complex was unearthed and identified. This eventually established the total area of the baths at the impressive figure of 7500 sq. m, and significantly contributed to a new spatial reconstruction of the camp.

Following earlier interdisciplinary studies by archaeologists, architects and geologists, a possible site of a latrine was indicated and the facility, of the dimensions of 6.40 × 5.35 m, was actually unearthed in 2010 (**fig. 19**). A calculation of the size of a single seat indicates that it could accommodate some twenty users[22].

22. Biernacki A. B., "Latrines in the Legionary Camp and Early-Byzantine City of Novae (Moesia Inferior / Moesia Secunda)", in *ACTUM ATQUE TRACTATUM* [= Klenina E. (ed.) "Novae. Studies and Materials" VIII], Poznań, 2022, pp. 67-94.

Fig. 18 — Novae. The Caldarium of the Large Legionary Thermae (Phase II/III) (Phot. P. Namiota).

Fig. 19 — Novae. The Latrine of the Large Legionary Thermae (Phase II/III). View from North (Phot. A. B. Biernacki).

Based on the horizontal layout and on architectural cross-sections of the complex of the legionary baths, an area was selected in its south-western part for further study with the view to discover the western boundary of the facility and determining in more detail the functions of its various interiors. The subsequent excavation work revealed a structure unique in terms of both its design and its condition of preservation: a section of a cryptoporticus of the length of 8.40 m and the width of 2.39 m (**fig. 20**). Preserved are not only the walls, but also portions of its barrel vault roof of the original maximum height of app. 3.00 m. Each wall of the cryptoporticus features three rectangular ventilating openings. The cryptoporticus provided passage for the attendants to the *praefurnium* as well as for the carrying of firewood. It was built during the expansion work on the legionary baths at the turn of the 2nd and 3rd c.[23].

Fig. 20 — Novae. The Cryptoportico of the Large Legionary Thermae (Phase II/III). View from South-East (Phot. A. B. Biernacki).

23. Biernacki A. B., "Architecture, Stratigraphy and Remains of Buildings", in Biernacki A. B., *The Large Legionary Thermae in Novae (Moesia Inferior) (2nd–4th centuries AD)* [= "Novae. Studies and Materials" V], Poznań, 2016, pp. 11-65; Jasiewicz A., "Legionary Baths in Novae—Stages of the Functioning of the Feature and its Transformations", in Biernacki A. B., *The Large Legionary Thermae in Novae (Moesia Inferior) (2nd–4th centuries AD)* [= "Novae. Studies and Materials" V], Poznań, 2016, pp. 87-117.

Built in the times of Hadrian and Antoninus Pius, the legionary baths in Novae may have constituted the emperors' reward to the soldiers of the *Legio I Italica* for their courage during the wars with Dacians; thence, the size of the facility, its architectural design and layout exceeded the standards of a Roman legionary camp.

To illustrate the scope of the interdisciplinary office studies complementing the findings of excavation work, let us mention a research subject from the years 2010–2011. An archaeozoological study established that the meat eaten in Novae had been principally pork and beef supplied by animals at farms directly at the camp and town; less common was mutton and goat. Interestingly, the meat had come mostly from young specimens, as such must have been the consumers' preference. Further finds of animal bones belonged to species used for transportation: the horse and the donkey, as well as to domestic dogs and cats. Besides, a few bones of wild animals were discovered, mostly of adult specimens: the European hare, the red fox, the wild boar, the roe deer, the red deer, the European bison and the aurochs. Of enormous interest are finds of bones of an adult brown bear and a red deer; the latter's leg bones feature pathological changes suggesting that the animal was kept captive for a long time, possibly as an attraction of a home garden. Pathological changes in bones of adult cattle and horses indicate that these animals were yoked and harnessed and used for drawing heavy loads[24].

Of particular significance in the territory of present-day Bulgaria are our archaeoichthyological studies of the species of fishes eaten in Novae. The most numerous bones are of *Cyprinidae*; diagnoses of the skeletons have identified the wild common carp and the tench. Besides, numerous remains of the wels catfish have been encountered, as well as some of the northern pike and the sander. The identified remains of *Acipenseridae* come from the sterlet, the starry sturgeon (sevruga), the Siberian sturgeon, the beluga and the bastard sturgeon. Most of these fishes are anadromous, migrating from the Black Sea up the Danube to spawn; only the sterlet is a freshwater species. The fairly uniform distribution of the anatomical parts evidences that the caught fish were brought whole into the city for cooking. The most common species are freshwater ones, while some are anadromous, which demonstrates that they were caught in the Danube and its local tributaries. The most frequent edible fishes are the wild common carp (weighing up to 20 kg) and the wels catfish (up to as much as 100 kg)[25].

24. Žuravlev O., "Osteologiczeski materiali iz Episkopskogo Kompleksa v Novah", in Biernacki A. B., Gencheva E., Klenina E., *Biskupstwo w Novae (Moesia Secunda) IV–VI w.: historia, architektura, życie codzienne*, Tom 2, Życie codzienne [= Biernacki A. B. (ed.) "Novae. Studies and Materials" IV/2], Poznań, 2013, pp. 307-367.

25. Makowiecki D., Iwaszkiewicz M., "Fish Skeletal Remains from Excavations at Novae (1988, 1990, 1993 Seasons)", *Archeologia* 46, 1995, pp. 52-53; Zabilska-Kunek M., Makowiecki D., "Short Report on Fish Remains from the Large Legionary Bath in Novae (Bulgaria)", in *ACTUM ATQUE TRACTATUM* [= Klenina E. (ed.) "Novae. Studies and Materials" VIII], Poznań, 2022, pp. 149-160.

Another subject unique in the studies of Moesia was the osteological identification of species of birds, establishing the occurrence of the chicken, the domestic goose, various wild ducks, the great white pelican and the golden eagle. Particularly intriguing is the discovery of the latter two, inedible species[26].

A participant in the excavation season of 2010 was a geologist and petrographer, who studied the masonry mortar used in the erection of the complex of legionary baths, wall plaster and charcoal from this facility[27]. Analyses of the latter identified several genera of trees: the pine, the alder, the beech, the birch and the oak[28]. The chemical composition of the lime mortar from the walls and other structures of the baths was also established. The tests included radiocarbon dating of the mortar using the nuclear accelerator of the Adam Mickiewicz University[29].

The scholarly and research team of the International Interdisciplinary Expedition of the Adam Mickiewicz University in Poznań concluded the project "The Large Legionary Baths of Novae (Moesia Inferior), 2nd–4th c.: Architecture, Infrastructure, Lifestyle" in March 2012.

The final interdisciplinary two-volume monograph *Biskupstwo w Novae (Moesia Secunda) IV–VI w. Historia — architektura —* życie *codzienne*, published by the Wydawnictwo Poznańskie in 2013[30], and the substantial final monograph *The Large Legionary Thermae in Novae (Moesia Inferior) (2nd–4th Centuries A.D.)*, published by the Wydawnictwo Instytutu Historii of the Adam Mickiewicz University in 2016, constitute

26. Tajkova S., "Rezultaty opredelenija kostnych ostatkov ptic, iz raskopek Episkopskovo Kompleksa v Novach", in Biernacki A. B., Gencheva E., Klenina E., *Biskupstwo w Novae (Moesia Secunda) IV–VI w.: historia, architektura, życie codzienne*, Tom 2, Życie codzienne [= Biernacki A. B. (ed.) "Novae. Studies and Materials" IV/2], Poznań, 2013, pp. 373-376; Tajkova S., "Bird Remains from the Large Legionary Thermae and Early-Byzantine Ptochotropheum in Novae (Moesia Inferior / Moesia Secunda)", in *ACTUM ATQUE TRACTATUM* [= Klenina E. (ed.) "Novae. Studies and Materials" VIII], Poznań, 2022, pp. 161-168.

27. Michalska D., Szczeszek R., Sułek T., "Mineralogical Characteristic of Mortars from the Large Legionary Bath in Novae", in Biernacki A. B., *The Large Legionary Thermae in Novae (Moesia Inferior) (2nd–4th centuries AD)* [= "Novae. Studies and Materials" V], Poznań, 2016, pp. 479-489.

28. Michalska D., Fabisiak E., "Identification of Wood Taxa for Chosen Samples", in Biernacki A. B., *The Large Legionary Thermae in Novae (Moesia Inferior) (2nd–4th centuries AD)* [= "Novae. Studies and Materials" V], Poznań, 2016, pp. 491-492.

29. Michalska D., "Possibilities and Limitations on Radiocarbon Dating of Mortars from the Thermae Legionis Area", in Biernacki A. B., *The Large Legionary Thermae in Novae (Moesia Inferior) (2nd–4th centuries AD)* [= "Novae. Studies and Materials" V], Poznań, 2016, pp. 493-499.

30. Biernacki A. B., Czerner R., *Biskupstwo w Novae (Moesia Secunda) IV–VI w.: historia, architektura, życie codzienne*, Tom 1, *Historia i architektura* [= Biernacki A. B. (ed.), "Novae. Studies and Materials" IV/1], Poznań, 2013; Biernacki A. B., Gencheva E., Klenina E., *Biskupstwo w Novae (Moesia Secunda) IV–VI w.: historia, architektura, życie codzienne*, Tom 2, Życie codzienne [= Biernacki A. B. (ed.) "Novae. Studies and Materials" IV/2], Poznań, 2013.

volumes IV/1, IV/2 and V of the series *Novae. Studies and Materials* brought out by the scholarly and research team of the International Interdisciplinary Expedition "Novae" of the Adam Mickiewicz University[31]. Both the Bulgarian expeditions of the National Institute of Archaeology of the Bulgarian Academy of Sciences and the expedition of the University of Warsaw are now continuing their office studies and drawing up their final reports of the architectural complexes discovered during the most recent seasons, including the *scamnum tribunorum*, the *villa extra muros*, the *valetudinarium* and the *principia* in Novae.

The Bulgarian municipal authorities of Svishtov have initiated a large-scale project of the maintenance and reconstruction of the complexes of the bishopric and the large legionary baths in Novae, financed by the European Union to an amount of more than five million leva (**fig. 21**, **22**). It must be emphasized that the part of the project concerning the bishopric has been prepared based on the complete architectural documentation, plans of the horizontal layout, cross-sections and visualizations of the structures provided by the teams of the expeditions of the Adam Mickiewicz University and the University of Warsaw.

Fig. 21 — Novae. The Bishop's Complex in Novae after the Implementation of the EU Conservation Grant. View from South-East (Phot. A.B. Biernacki).

31. Biernacki A. B., *The Large Legionary Thermae in Novae (Moesia Inferior) (2nd–4th cent. AD)*, with participation of Budzyńska M., Gencheva E., Jasiewicz A., Klenina E., Mihajlov S., Różycki Ł., Vladkova P. [the series "Novae, Studies and Materials" V], Wydawnictwo Instytutu Historii UAM, Poznań, 2016, 536 pp.

Fig. 22 — Novae. The Bishop's Complex in Novae after the Implementation of the EU Conservation Brant. Night view (Phot. A. B. Biernacki).

In 2017, following the retirement of Dr A. B. Biernacki, the Rector of the Adam Mickiewicz University of Poznań, Prof. Andrzej Lesicki, Ph.D., D.Sc., appointed Associate Prof. Elena Klenina, Ph.D, D.Sc., the Head of the International Interdisciplinary Expedition "Novae" of the Adam Mickiewicz University (**fig. 23**).

Fig. 23 — Novae. The Research team of the Adam Mickiewicz University in Novae in 2017 (Prof. E. Klenina, dr A. B. Biernacki and mgr M. Niesobski).


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