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ROMAN LEGACY

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Frontier Guards and Citizens – Living Rome on the Danube
A ROMAN LEGACY manual

(English Version)

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Preface

We would like to express our sincere gratitude for the valuable input and feedback provided by our colleagues at the Institute of Archaeology of the Czech Academy of Sciences, Brno, the Archaeological Museum Zagreb, the Institute of Archaeology in Zagreb, the Bavarian State Office for Monument Protection, the Archaeological Park Carnuntum, and the Danube Limes Forum.

We also extend our thanks to the many other international colleagues from the Danube region who contributed materials on selected sites from their respective countries, thereby significantly supporting the success of this project.

Foreword

The Roman legacy along the Danube is a rich and multifaceted heritage that continues to shape the cultural landscape and identity of the regions it traverses. From military fortifications and provincial centres to civilian settlements, trade networks, and burial grounds, the remains of the Roman world offer fascinating insights into the lives of the people who inhabited this frontier region nearly two thousand years ago. This handbook aims to make this heritage more accessible and meaningful to those who interpret, present, and communicate it to contemporary audiences.

It is primarily intended for cultural heritage interpreters, tourist guides, local museums, and other professionals who wish to incorporate Roman heritage into their portfolios, educational activities, and visitor experiences. It may also serve as a resource for tourism professionals, cultural institutions, project partners, researchers, and anyone interested in exploring the Roman past along the Danube and beyond.

The handbook is structured to provide both a broad historical framework and practical points of reference for heritage interpretation. It begins with an overview of the development of the Danube Limes and the Roman provinces, introducing the frontier as a dynamic landscape that evolved over centuries. It then explores the different types of evidence through which we reconstruct the Roman past, from written sources and inscriptions to coins, archaeological finds, bioarchaeological evidence, and modern geophysical surveys. Subsequent chapters focus on selected aspects of Roman life, including the military, navigation, civilian settlements, social relations, legal status, family life, and funerary traditions. The final appendix presents a selection of prominent archaeological sites across the Danube region and beyond, offering examples of the diverse places where Roman heritage can be discovered, interpreted, and experienced today.

Rather than serving solely as an academic reference work, this handbook seeks to provide a foundation for bringing the Roman past to life. It combines historical and archaeological knowledge with a regional perspective, highlighting both the common features that connected the provinces of the Roman Empire and the local particularities that made each place unique. The selected sites illustrate how Roman heritage extends beyond the boundaries of the ancient frontier and how cultural exchange, mobility, and interaction shaped the wider region.

By bringing together historical context, archaeological evidence, and examples of heritage sites, this publication aims to inspire new ways of communicating the Roman past. It encourages readers to look beyond individual monuments and to explore the people, stories, and connections behind them. In doing so, it seeks to support engaging, accessible, and locally relevant interpretations that appeal to different audiences and foster a deeper appreciation of the shared cultural heritage of the Danube region.

Ultimately, the Roman past is not only a subject of historical research but also a resource for cultural education, sustainable tourism, and dialogue between communities. We hope that this handbook will encourage heritage professionals to discover new perspectives, develop compelling visitor experiences, and help ensure that the stories of the Roman Danube continue to resonate with present and future generations.

1 Historical Overview

1.1 The Development of the Danube Limes

1.1.1 Introduction: A Border Developing Over Centuries

The Roman Danube limes was not a line drawn on a specific day. It developed regionally in different ways over a period of up to 600 years – from the first military advances under Emperor Augustus to the final collapse of the late Roman Empire on the Balkan Peninsula in the early 7th century AD. The Danube became the longest river frontier of the Roman Empire and fundamentally shaped the fate of the adjacent provinces.

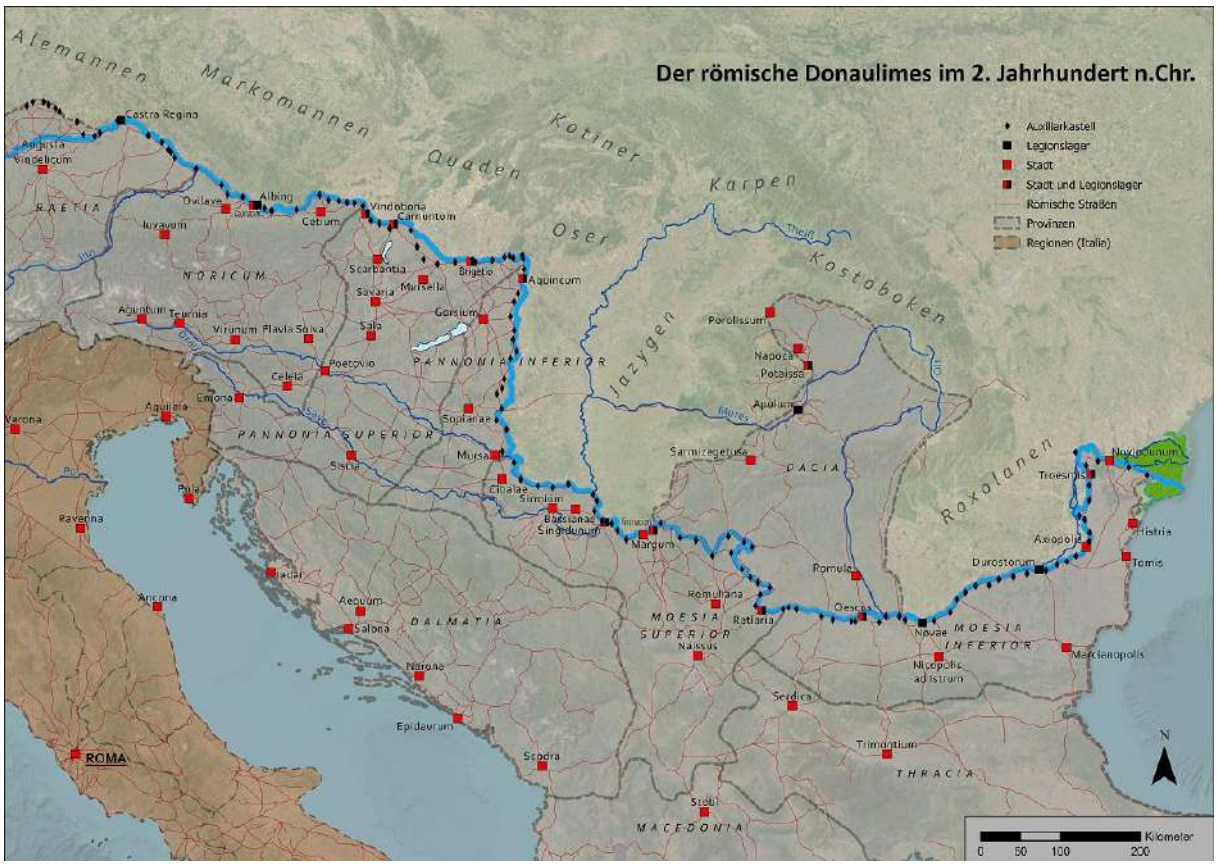


Figure 1: The Roman Danube frontier – an overview in the 2nd century AD (© LBI ArchPro).

This frontier was never static. It was established and reinforced, and troops were moved from one location to the next, as necessity dictated. The history of the frontier reflects, in a sense, the major developments of the Roman Empire: expansion and conquest, prosperity and wealth, crisis and defense and finally retreat and decline. However, this development did not proceed uniformly

everywhere. While in the western part of the Danube limes the remaining garrisons were abandoned after the fall of the Western Roman Empire in 476 AD, the eastern part continued to serve the Eastern Roman-Byzantine Empire as a defensive line until the early 7th century AD.

The function of the Roman military frontiers has long been debated in research. According to older concepts, the frontiers were primarily regarded as military demarcation and defensive lines of the empire, forming a fixed protective wall against external threats. Modern research, particularly regarding the Upper Germanic-Raetian Limes, sees it rather as a monitored border line with an economic-political regulatory function toward the non-Roman Barbaricum. The limes served to demonstrate Roman presence and power inside and outside the Roman Empire; it prevented smuggling and unauthorized border crossings and enabled regulated trade and the collection of customs duties. However, the troop contingents stationed at the frontier were often numerically insufficient in some regions to permanently repel larger enemy attacks; rather, they had the primary task of control, surveillance and rapid alarm.

To understand the complexity and diversity of this frontier development, it is worthwhile to examine three major regions, each of which wrote its own history: the Raetian region in the west, which linked the Gallic-Upper Germanic region with Illyricum, the Roman Balkans, the Danube provinces of Noricum and Pannonia in the center and the Moesian-Dacian region in the east. Each of these regions had its own challenges, developmental stages and distinctive features. Presented together here, they provide a good overall picture of the Roman Danube frontier.

1.1.2 Upper Germany and-Raetia: Filling the Gap between Rhine and Danube

Augustus and the Dream of Germania

When Emperor Augustus assumed power in 27 BC, Caesar had already established the Rhine as the northern frontier after the Gallic War (58 to 51/50 BC). However, Augustus saw a strategic problem in this: east of the Rhine gaped a large gap – a potential gateway for Germanic tribes that repeatedly threatened Italy. His vision was as follows: if Rome could subjugate the Germans between the Rhine and the Elbe, a much shorter and easier-to-defend border line would emerge. For almost three decades, from 12 BC to 16 AD, Roman armies attempted to put this plan into action. The failure was catastrophic. In 9 AD, three complete legions, that is 15,000–18,000 men, were annihilated in the Teutoburg Forest in the so-called Battle of Varus (named after the Roman commander Varus) – one of Rome's greatest military disasters. Seven years later, Emperor Tiberius drew the consequences and ordered the withdrawal to the Rhine and Danube. But this left the question: what should happen with the large territory between these two rivers?

The Alpine Campaign and the Subjugation of Raetia

Parallel to the aforementioned Germanic wars, Augustus's adopted sons, Tiberius and Drusus, conquered the Central Alpine region in 15 BC: Drusus, the 23-year-old stepson of Augustus, advanced from the south over the passes into Raetia, as far as present-day North Tyrol. Drusus's older brother, Tiberius, advanced from Gaul and possibly fought a small naval battle with the locals on Lake Constance. A third force is said to have marched over the Grisons passes (Bündner Pässe) to the Alpine Rhine Valley and also from there to Lake Constance. The victory was complete – celebrated with a monumental monument at La Turbie near present-day Nice, on which all

defeated tribes were recorded. From the Roman perspective, this victory was an achievement of human civilization. Pursuing propagandistic purposes, the ancient historians either concealed, or it can only be read between the lines, the cruelty with which the Roman troops proceeded here. Resistance was brutally suppressed, young and able men were abducted and forced to fight in Roman auxiliary troops, far from their homeland and fugitives (including deserters) were mercilessly pursued.

Why was this conquest so important? The Alpine passes were lifelines for trade and troop movements, as well as important transit routes between Italy and Gaul. Older research opinions assumed that the conquests also served as preparations for the planned conquest of Germania up to the Elbe – an opinion that is no longer supported today for several reasons. With the subjugation of Raetia, however, Rome had in any case taken a first important step toward closing the gap between the Rhine and Danube. A good foundation was thus created for establishing a protective shield for Italy in the north, which was probably the primary goal.

A Claudian Chain of Forts Emerges

After the setback in Germania and Tiberius's withdrawal in 16 AD to the river frontiers of the Rhine and Danube, decades of relative calm passed. Already in the Tiberian and early Claudianperiods, the first forts were built along the Upper Danube in Upper Germany and Raetia, from Hüfingen near the source of the Danube down to Oberstimm near the modern city of Ingolstadt. In addition to that, the first civilian settlements emerged as central locations. Under Emperor Claudius (41–54 AD), a chain of forts was systematically established in Raetia along the Danube.

The construction of a military road south of the Danube – the so-called Danube south road – also took place at this time. This road and the entire road system installed by the Romans in the region, now ensured rapid communication between the military bases. The Via Claudia Augusta, another road, connected the Roman settlement near present-day Augsburg directly with Upper Italy. The Claudian forts were all constructed in earth and timber (see also chapter 3.1). This border system was not a rigid military system purely oriented toward defense. Rather, it served to control border crossings, which were also very frequently associated with economic interests and to enable the proper collection of customs duties.

The Flavians Advance

Under the Flavian emperors – Vespasian, Titus and Domitian, who ruled between 69 and 96 AD – Roman expansion gained new momentum. Vespasian had a road built from Strasbourg through the Black Forest and the Swabian Alb to the upper Danube, flanked by permanent military bases. Roman troops occupied the area north of the Rhine before Mainz, where the allied Mattiaci settled, controlled the fertile Lahn valley and advanced southward to the “knee”, that region where the Upper Rhine and Upper Danube come closest together. The entire frontier line was moved forward here, also north of the Danube, in order to enclose and utilize the fertile land (the agri decumates, as Tacitus called them).

Initially, the advanced land frontier consisted only of a corridor cut through the forest, which is the original meaning of the Latin word limes. Later, this term became the collective name for all Roman land fortifications, in contrast to the “wet frontier” along rivers, which was called ripa.

Emperor Domitian took a decisive step around 85 AD: he transformed the previous military districts into regular provinces, the provinces of Germania Superior (Upper Germania) and Germania Inferior (Lower Germania). At the latest in the Trajanic period (98–117 AD), a governor

was installed in Raetia at Augusta Vindelicum (present-day Augsburg) and Raetia was thus also a province at the latest at this time. These measures were more than just administrative reforms. They signaled: Rome has come to stay.

Under Trajan, who ruled from 98 to 117 AD, the systematic development of the territory between the Rhine and Danube took its final form. What Domitian had prepared, Trajan consistently implemented: the Romans occupied the foreland of the two rivers and clearly demarcated it from "free Germania" (the Germania Magna).

Antoninus Pius Completes the Work

The high phase came in the second half of the 2nd century AD. Under Emperor Antoninus Pius, who ruled from 138 to 161 AD, the Upper Germanic-Raetian Limes (ORL) reached its most extensive state of development. Over a length of 550 kilometers, an impressive border system emerged: densely positioned stone watchtowers, massive forts, in Upper Germania additionally a ditch and an approximately three-meter-high stone wall, in Raetia towers at all important points. The course of this frontier was thus strategically well chosen.

Downstream from Eining eastward, the river itself assumed the role of the frontier. Interestingly, this section was still relatively weakly fortified in the early phase. One reason for this could have been that the Hermunduri settled beyond the Danube here, a Germanic tribe that was friendly toward Rome and posed no threat. Only later, when the situation changed, did the well-known forts of Regensburg, Pfatter, Straubing, Steinkirchen, Künzing and Passau emerge here.

Today, considerable parts of the Roman land and river frontiers in Europe form fourUNESCO World Heritage Sites that together build the first World Heritage Cluster in the history of UNESCO – an impressive testimony to Roman engineering and power projection!

The Collapse in the 3rd Century

In the mid-3rd century AD, the system collapsed. North of the empire, powerful tribal confederations formed – Iuthungi, Marcomanni and others – who no longer merely plundered but systematically attacked Roman territory. After several devastating incursions, Rome had to accept reality: the territories beyond the Rhine and Danube could no longer be held. Around 260 AD, the Upper Germanic-Raetian Limes was abandoned. The frontier fell back to the old river lines of the Rhine and Danube.

A Last Attempt: The Late Roman Danube-Iller-Rhine Limes

But Rome did not give up. At the end of the 3rd century AD and especially in the 4th century AD, under the Emperors Diocletian (284-305 AD) and Valentinian I (364–375 AD), frontier defense was reorganized. Instead of the abandoned line between Rhine and Danube, the so-called Danube-Iller-Rhine Limes emerged: it led up the Rhine to Lake Constance, around the lake, then overland to the source rivers of the Danube and from there downstream eastward again.

The forts now looked different: their most notable feature was the significantly stronger fortification, with projecting towers and higher, thicker walls. In some regions, the size of the forts was reduced, although this varied between provinces and along different sections of the frontier. At the same time, smaller garrisons were stationed within these installations.

The underlying concept had fundamentally changed: from the offensive defense based on large forts to a system of point defense relying on heavily fortified strongpoints.

Some of them probably also served a supply function at the same time, as storage buildings in these small installations show.

This last Roman frontier organization in the west lasted until approximately mid-5th century AD. Then, almost simultaneously with the fall of the Western Roman Empire in 476 AD, this line of control also collapsed during the Migration Period.

1.1.3 The Noric and Pannonian Limes

Those who search for Roman traces in the western segment of the Danube Limes today traverse an area that in antiquity belonged to three different provinces: in the west lay Raetia (parts of Southern Germany, Austria and Switzerland), in the center Noricum (the Bavarian Chiemgau. in Austria the area of Salzburg, Carinthia, Styria, Upper and Lower Austria, as well as Slovenian territory in the South), in the east Pannonia (Lower Austria and Burgenland in Austria, Hungary, parts of Croatia and of Serbia). The great river served as the common northern frontier for all these provinces: the Danube.

Enigmatic Beginnings in the Shadow of Augustus

How and when exactly the Romans brought this region under their control is among the most contested questions in research. Emperor Augustus ruled from 27 BC to 14 AD. The occupation must have occurred at some point during this time. However, the surviving texts are silent, contradict each other, or allow various interpretations. Only two fixed points are undisputed: in 15 BC, Tiberius and Drusus defeated the Alpine tribes (see above) and military conflicts in Pannonia dragged on until 9 AD.

A key question is: What happened to the Celtic kingdom of Noricum? This kingdom had its political center on the Magdalensberg in Carinthia and maintained friendly contacts with Rome during Caesar's time. The victory monument of La Turbie near Nice (see also above) lists the defeated Alpine peoples – but of the Noric tribes only one is mentioned: the Ambisontes, who lived in the upper Salzach valley. Why are the others missing? The most plausible explanation: Rome could not afford for Noricum to help the Alpine tribes in the rear of the Roman troops. The Romans probably occupied the kingdom preemptively – either shortly before 15 BC or simultaneously with the Alpine campaign. Whether there was fighting is not clearly revealed by the few surviving textual references. Further east, things were different: there, Roman troops definitively fought against local tribes in the area of later Pannonia between 16 and 9 BC. But here too it remains unclear whether the military victories were immediately followed by permanent occupation troops or initially only a kind of loose control.

The Pannonian Revolt and the End of All Dreams

In 6 AD, Tiberius concentrated large troop masses in the region of the later city of Carnuntum – the goal: the Marcomanni king Maroboduus in Bohemia. But as soon as the campaign had begun, a massive uprising erupted in Pannonia. The Romans needed three years to bring this revolt under control, precisely until 9 AD. And precisely in this year 9 AD, the disaster in the Teutoburg Forest also occurred (see above on the so-called Battle of Varus). This double catastrophe destroyed all further expansion dreams to the north.

Between 15 BC and 9 AD, Roman troops had thus occupied the later provinces of Noricum and Pannonia up to the Danube.

The Great Illyrian Revolt (6–9 AD)

The Great Illyrian Revolt (Latin: Bellum Batonianum) was a massive pan-Illyrian uprising against the Roman Empire. It lasted from 6 to 9 AD and was described by the Roman historian Suetonius as the most difficult conflict Rome faced since the Punic Wars.

The rebellion is named after its two primary military commanders: Baton the Daesitiate, the supreme leader of the revolt from the Daesitiati tribe inhabiting the mountainous regions of modern-day Bosnia and Herzegovina, and Baton the Breucian, the leader of the Breuci, a powerful Pannonian tribe from the region of modern-day Slavonia (Croatia) and northern Bosnia.

The causes of the war lay in Rome's harsh oppression of the local populations through aggressive tax collection, extortion, and the forced conscription of Illyrian youths into the Roman legions. The revolt began in 6 AD when Illyrian levies, assembled to fight for Rome in Germany, rebelled instead. They quickly formed a massive coalition of more than 200,000 warriors, posing a direct threat to Italy itself.

The uprising caused widespread panic in Rome. Emperor Augustus responded by deploying his most capable general, Tiberius, the future emperor, alongside Germanicus. At the height of the conflict, Rome committed 15 legions and nearly half of its entire military strength to suppress the rebellion.

In 8 AD, internal divisions fractured the Illyrian coalition. Baton the Breucian surrendered to the Romans but was soon captured and executed by Baton the Daesitiate for treachery. In the following year, Baton the Daesitiate continued a fierce guerrilla resistance in the Dinaric Alps, making his final stand at the fortress of Arduba (near modern-day Knin or Vranduk) before surrendering in 9 AD.

When Tiberius asked Baton why the Illyrians had rebelled, he is said to have replied, "You Romans are to blame, for you send wolves to guard your sheep instead of shepherds." The defeat resulted in the complete subjugation of the Illyrian tribes and the administrative division of the province into Dalmatia and Pannonia.

Provincial Establishment: A Debate

When did Noricum and Pannonia become Roman provinces? This question has occupied research for decades – there is no definitive answer. The proposed dates range from the Augustan to the Vespasianic period.

Most likely is the establishment of Pannonia as a province under Emperor Tiberius (14–37 AD). The historian Velleius Paterculus, himself an officer under Tiberius, reports that Pannonia became a province during this time – interestingly together with Cappadocia, which was demonstrably provincialized under Tiberius. But did this already mean a civilly administered province or initially only a military district? Research is divided. Against this speaks the fact that all known Illyrian and Pannonian governors bore the title legatus Augusti pro praetore – a rank that points to a regular province, not to a mere troop command post.

For Noricum, the source situation is even more difficult. Velleius mentions the “Norici” in connection with the provincialization of Raetia and Pannonia – but it remains unclear whether Noricum itself thereby became a province or still belonged to one of the neighboring provinces.

Revealing: Velleius still designates Carnuntum as a Noric city, although it later belonged to Pannonia. The borders were apparently still in flux.

What is certain: at the latest under Claudius (41–54 AD), both provinces existed as fully organized administrative units. The first governor of Noricum known by name, Gaius Baebius Atticus, bore the title procurator. This is a sign that no legion was stationed in Noricum under the equestrian governor. Pannonia, on the other hand, had a senatorial legatus Augusti pro praetore with Publius Palpellius Hister, which indicates at least one legion. An inscription from Fermo (Italy) also proves that at the latest in the Flavian period (69–96 AD), the gradual integration into the Roman administrative system was well advanced in Pannonia: the prefect L. Volcacius Primus administered two civitates along the Danube in Pannonia, those of the Boii and Azali and simultaneously commanded troops on the Danube frontier.

Forts and Roads: The Network Emerges

The 1st century AD saw the systematic construction of military infrastructure: large legionary fortresses arose at Carnuntum and Vindobona (Vienna), smaller auxiliary forts further west. The definitive border line between Noricum and Pannonia was drawn west of Klosterneuburg. Parallel to the forts, the Limes road emerged – a strategic lifeline in an east-west direction, into which the most important trade routes from the south flowed. The large Noric cities of Ovilava (Wels) and Aelium Cetium (St. Pölten) were deliberately located in the secure hinterland, away from the military border zone.

The Year of the Four Emperors 69 AD: The Danube Armies as Kingmakers

Usually the Danube frontier remained far from the great political stage. But in the year after Nero's death, it suddenly played a leading role. The Rhine legions proclaimed their commander Vitellius emperor – an unprecedented event: the army created its own ruler. The Danube legions, however, remained loyal to the reigning Emperor Otho in Rome. When Vitellius marched to Rome, he cleverly bypassed the Noric territory and thus avoided a military confrontation.

But the conflict was not over: in the Orient, Vespasian had himself proclaimed emperor and again the Danube armies sided with the challenger, while Raetia remained with Vitellius. On the Inn – the border at that time between Raetia and Noricum – troops massed again on both sides of the river. This time it remained a show of force, but the message was unmistakable: the Danube legions had become a political power factor of the first order.

Peaceful Decades: Wood Becomes Stone

After this interlude, calm returned. The wooden military installations were systematically replaced by stone forts (see also chapter 3.1). Under Trajan (98–117 AD), the empire reached its maximum extent. Pannonia was now administratively divided: into Upper Pannonia and Lower Pannonia. Carnuntum became the seat of the governor of Upper Pannonia. The reigns of Hadrian (117–138 AD) and Antoninus Pius (138–161 AD) seemed calm. But beneath the surface, the next crisis was already brewing. Antoninus Pius attempted through skillful diplomacy to control the Germanic peoples beyond the Danube. He even intervened in their internal power struggles and installed his own candidate as king of the Quadi. He had this diplomatic "success" celebrated on coins, probably to distract from growing insecurity and to demonstrate Roman strength. But what happened under his successor revealed: the calm had been deceptive.

The Marcomannic Wars: When Germans Reached Italy

Under Marcus Aurelius (161–180 AD), disaster broke in. Marcomanni and Quadi broke through the Danube frontier and advanced as far as Upper Italy. For two centuries, since the migrations of the Cimbri and Teutones, hostile troops had not stood so deep in the Roman heartland. Marcus Aurelius had to mobilize every available reserve to repel the invaders. The emperor spent his last years in the Danube region to stabilize the frontier. He possibly even planned to permanently shift the frontier northward and annex Germanic territory, as suggested by Roman marching camps in the area of present-day Weinviertel (Austria), South Moravia (Czech Republic) and western Slovakia (Fig. 2).



Figure 2: Archaeological site of Mušov (Czech Republic) – aerial view (©Institute of Archaeology of the Czech Academy of Sciences, Brno).

His death ended such plans. His son Commodus (180–192 AD) returned to the old Danube line. The war had one important consequence: now a legion was also stationed in Noricum, at Lauriacum (Enns). This fundamentally changed the character of the province. The commander of this legion simultaneously became governor, Lauriacum became a central place.

A Century Between Splendor and Crisis

The 3rd century AD began quite promisingly for the Danube provinces. On April 9, 193 AD, the legions at Carnuntum proclaimed their commander Septimius Severus (193–211 AD) emperor. And this time the candidate of the Danube army prevailed in the civil war. Severus showed his gratitude: Carnuntum experienced massive expansion, the road network was modernized, as evidenced by numerous surviving milestones.

But from mid-century onward, external pressure grew dramatically. In the north and west, powerful tribal confederations intensified their attacks, while in the east the Sasanian Empire posed a constant and organized threat. Under these conditions, it became impossible for the emperor to be present on all fronts at once. At the same time, however, imperial authority was still

closely tied to military success, and the troops expected the emperor to restore order and secure the frontiers.

This tension led to repeated usurpations: rival emperors were proclaimed by individual army groups, often in direct response to local crises. These counter-emperors, in turn, triggered internal conflicts and civil wars, further weakening the empire's defensive capacity.

When Emperor Valerian was captured in 260 AD in the east by the Sasanian Empire—an unprecedented humiliation—the troops at Carnuntum once again proclaimed a counter-emperor. Regalianus was expected to confront the invading Sarmatians, but he fell victim to assassination in the same year. The instability of the period was unmistakable.

The simultaneous pressure of Germanic tribes on the Rhine and Danube frontiers in the west and the Sassanian Empire in the east forced Emperor Diocletian (283–305 AD) to undertake a revolutionary reorganization of the entire empire. His solution was bold: he elevated a comrade-in-arms, Maximianus, to co-emperor. Maximianus was to take over the west, Diocletian himself the east. Each of the two Augusti (senior emperors) adopted a successor with the title Caesar (junior emperor). This system, called Tetrarchy, rule by four, was intended to enable faster response to multiple crisis points in parallel. At the same time, the entire imperial administration was overhauled: the number of provinces almost doubled, civil administration and military command were strictly separated. Noricum was divided into two new provinces along the Alpine ridge: Noricum Ripense (Riparian Noricum in the north on the Danube) and Noricum Mediterraneum (Interior Noricum in the South). Upper Pannonia gave rise to Pannonia Prima and Pannonia Savia. The Austrian limes section now comprised Riparian Noricum and Pannonia Prima. A military supreme commander with the title dux Pannoniae primae et Norici ripensis controlled both areas.

Diocletian's ideal vision foresaw that both Augusti would step down together after a certain time and their Caesares would succeed them, who in turn should adopt new successors. He himself stepped down in 305 AD together with Maximianus. But the elaborate system proved to be unsustainable. Above all, the biological sons of the rulers, not considered in the system, raised claims. Already in 308 AD, a crisis conference had to be convened in Carnuntum under Diocletian's personal leadership to settle the power struggles. The decisions made there did not hold for long. In the end, Constantine the Great (306–337 AD) was victorious, ruling as sole ruler.

The 4th Century: Holding Out Against All Odds

Despite all reforms and reorganizations, Germanic pressure did not let up. An additional legion was raised in Noricum, parts of it stationed in the reinforced fort of Mautern. At the end of the 4th century AD, emperors personally stayed on the Danube again. Valentinian I (364–375 AD), who during his reign also carried out a comprehensive building program to strengthen the frontier (see also chapter 3.1), successfully waged war against the Quadi in 375 AD, but died of a stroke during or shortly after the fighting. The historian Ammianus Marcellinus left in this context a melancholy description of Carnuntum: once a splendid city, now dilapidated and dirty, but still strategically significant.

The division of the empire already initiated under Diocletian was definitively completed under Theodosius (379–395 AD): Western Rome and Eastern Rome henceforth went separate ways. In the border region, Rome increasingly relied on Germanic foederati – federated tribes who as allies were to take over border defense. These now had to deal themselves with other invading Germanic groups. The system reached its breaking point.

The Battle of Mursa Major

The Battle of Mursa Major took place on September 28, 351 AD, and was one of the bloodiest and most catastrophic civil war battles in Roman history. It was fought between the legitimate Eastern Roman Emperor, Constantius II, the son of Constantine the Great, and the Western usurper Magnentius, a Roman general of Germanic origin who had assassinated Constantius's brother, Constans, and seized the imperial throne in the West.

The battle was fought at Mursa (modern-day Osijek, Croatia), along the Drava River. Magnentius's experienced Western legions initially gained the upper hand, but Constantius II employed heavy Eastern cavalry, including cataphracts (heavily armored cavalry) and horse archers. The cataphracts successfully enveloped Magnentius's right flank, turning the course of the battle into a devastating nighttime slaughter. Before the battle had even begun, Magnentius had suffered a serious setback when Silvanus, a Frankish tribune serving under his command, defected to Constantius II with a large body of cavalry, significantly weakening Magnentius's military strength.

Although Constantius II emerged victorious, the battle proved to be a Pyrrhic victory. It is estimated that more than 54,000 Roman soldiers were killed in a single day, including approximately 30,000 men from Constantius's army and 24,000 from Magnentius's forces. The enormous casualties destroyed many of Rome's best-trained veteran troops, inflicting an irreversible demographic and military loss that permanently weakened the defense of the Danube and Rhine frontiers and left the Empire increasingly vulnerable to barbarian incursions and migrations.

Magnentius escaped the battlefield and fled first to Italy and later to Gaul. Following another defeat at the Battle of Mons Seleucus in 353 AD, he ultimately committed suicide, bringing his usurpation to an end.

The End: The Life of Saint Severinus

“When the Hun king Attila died in 453, the entire Danube region sank into chaos” – this is how the early Christian saint Eugippius (ca. 465–ca. 533 AD) describes it in the biography of Saint Severinus (Vita Sancti Severini). Eugippius later became abbot of a monastery near Naples, but during his youth he too may have spent some time on the collapsing Danube frontier when Severinus's community was still on the Danube. The time of secure Roman order was over here; uncertainty characterized daily life there.

The Vita Sancti Severini is of extraordinary historical value, because here is described with concrete details what cannot be read anywhere else. We learn which settlements on the Danube still existed. Many Roman military posts are mentioned by name. We read of the few remaining soldiers who hardly dared to fight anymore until Severinus encouraged them. We hear of his commitment to the civilian population: for example, he forced a wealthy widow named Procula to share her hoarded grain supplies with the starving until the supply ships would arrive.

On January 8, 482, Severinus died. Six years later, in 488, Odoacer ordered the evacuation of Riparian Noricum. The remaining population moved south – Severinus's bones were carried along and are today near Naples, in the Basilica of San Sossio Levita e Martire in Frattamaggiore. In Pannonia, the Danube frontier had already been abandoned several years earlier toward the end of the 5th century AD. The Roman chapter on the Austrian Danube was definitively closed.

1.1.4 The Moesian-Dacian Limes

Moesia in antiquity designated a landscape on the Balkans predominantly inhabited by Thracian peoples. The region stretched for several hundred kilometers from west to east along the southern bank of the Danube. The region was named after the Thracian tribe of the Moesians living there. In 29 BC, the area came under Roman control and was later incorporated into the Roman Empire as a province. The stationing of individual legions and auxiliary troops at Danube crossings did not yet mean a continuous border fortification in the early period. Until the end of the Julio-Claudian dynasty, the Roman presence on the river itself and its major tributaries remained heavily dependent on the navy – the fleets controlled the river.

The Birth of the Province of Moesia

When Emperor Claudius dissolved the kingdom of the Thracians in 46 AD, he organized the southern part as the province of Thracia. The territory between the Balkan Mountains and the Danube was incorporated into the existing province of Moesia – but remained almost a quarter century without permanent garrisons.

The decisive turning point came under Emperor Domitian in 86 AD: for strategic reasons, he divided Moesia into two new provinces – Moesia Superior (Upper Moesia, corresponded largely to the territory of present-day Serbia south of the Danube as well as Kosovo; additionally a small section of northern North Macedonia belonged to it) and Moesia Inferior (Lower Moesia, essentially comprised the northern part of present-day Bulgaria between the Danube and the Balkan Mountains as well as Dobruja, which today belongs to Romania). From now on, the limes on the lower Danube had its definitive form, which should essentially persist until the end of the Principate.

The Dacian Problem: An Uncomfortable Neighbor

The southern Danube province was organized, but beyond the river lurked a constant threat: the Dacian kingdom under its king Decebalus. The Dacians used every favorable opportunity for raids across the Danube. Rome responded pragmatically: instead of costly permanent conflicts, subsidies were paid – a kind of protection money to barbarian leaders, who were diplomatically given the title “friend and ally of the Roman people.” These payments maintained a fragile peace.

In the winter of 85/86 AD, this peace broke. The Dacians crossed the frozen Danube and attacked the less well-defended Lower Moesia, probably in Dobruja. One of the battles may have taken place near the spot where Trajan later erected his famous victory monument at Adamclisi. The fighting dragged on, complicated by Domitian's attempt to also proceed against the Quadi and Marcomanni. The peace concluded in 89 AD was a compromise – both sides were exhausted.

Trajan's Great Blow: The Conquest of Dacia

The preparations for the Dacian Wars were among the largest development projects under Trajan. Two main motives drove Rome: first, the growing power of Dacia, which was becoming a threat. Second, the enormous annual subsidy payments to barbarian princes – a financial burden that Roman emperors gladly reduced. But the annexation of Dacia promised not only cost savings but enormous gain: war booty and especially the exploitation of the rich gold and silver mines.

After Trajan's victory over Dacia (101–102 and 105–106 AD), the entire Danube frontier changed fundamentally. The newly conquered Dacia became a Roman province – and thus suddenly a large part of the frontier lay no longer on the Danube but north of it. The Danube frontier between

Viminacium (Kostolac, Serbia) and Novae (Svishtov, Bulgaria) was largely abandoned. Military units previously stationed there either moved north into the new Dacia or were transferred eastward to secure the Danube to its mouth.

The Golden Age: A Century Without Borders

After the Dacian conquest, from a strategic perspective, heavy border fortification between Dacia and Moesia seemed to have become superfluous. In fact, not all forts were abandoned – of over 20 identified fortifications, some remained in operation, manned by auxiliary troops. But the number of raids dropped dramatically.

The 2nd century AD became a golden age: all civilian settlements flourished. Already under Hadrian, several places received the status of municipium (see chapter 4.1 “Settlement Types”), which massively advanced urban development. After the subjugation of Dacia, the Danube was no longer a military front line but a traffic artery within the empire. Downstream from Viminacium, auxiliary troops left their garrisons in Lederata and Cuppae. At forts that protected bridges and river crossings, only small garrisons remained to protect trade from pirates and robbers.

Under Hadrian, an important reorganization took place: he created two provinces from the conquered territory – Dacia Superior and Dacia Inferior. A little later, in 121/124, he split off Dacia Porolissensis in the northwest. The province of Dacia Inferior comprised the area between the rivers Jiu and Olt as well as southeastern Transylvania. Its border was established along the Olt River – the so-called Limes Alutanus, where small forts arose under Hadrian and Antoninus Pius.

The Expansion Under Septimius Severus and the Collapse in the 3rd Century

At the beginning of the 3rd century, under Septimius Severus, the frontier was even shifted eastward once more: the Limes Transalutanus emerged, running from the Danube to the Bran Pass – approximately 235 kilometers long, 10 to 50 kilometers east of the Olt. This advanced limes was presumably built in the early 200s.

But this expansion proved unsustainable. In 247, the Carpi attacked and devastated Lower Dacia. Under Emperor Philip the Arab, the Limes Transalutanus was abandoned. Under Gallienus (260–268), all of Dacia was then lost – Rome had to evacuate the entire province.

The historian Eutropius reports that Emperor Aurelian settled the evacuated population in Moesia and created a new province there, which he also called Dacia. The legions withdrawn from Dacia Trajana were stationed on the Danube: the legio V Macedonica in Oescus, the legio XIII Gemina in Ratiaria.

New Structures for New Times: Reforms and Reorganizations

The administrative reorganization under Diocletian and Constantine brought complex new structures: four prefectures (Gallia, Italia, Illyricum, Oriens), these subdivided into dioceses under vicars, which in turn were divided into provinces under praesides. Upper Moesia was divided into Moesia Prima, Dardania and Praevalitana. Aurelian's Southern Dacia became Dacia Ripensis and Dacia Mediterranea.

The late Roman defense system differed fundamentally from the earlier one: many smaller fortifications took the place of fewer large legionary fortresses. The troops on the frontier – the limitanei – were local border soldiers, while mobile field armies – the comitatenses – functioned as intervention forces (see also in chapter 3.1 “Troop Strengths in Late Antiquity”). Along the lower Danube, over 50 fortified places can be documented, from small forts to legionary fortresses.

The importance of the fleet remained enormous: the classis Flavia Moesica had its main station presumably in Noviodunum (Isaccea), further bases in Troesmis, Barboși, Halmyris, Dinogetia, Aegyssus and possibly Axiopolis. Its operational area was northern Dobruja and the adjacent Black Sea.

The road network formed the backbone of defense: three major imperial roads crossed the province. The oldest was the Danube road along the river, which connected all Roman garrisons from Novae to Halmyris. A second led along the Black Sea coast from Argamum via Histria, Tomis, Callatis to Odessos. The third ran centrally from Marcianopolis via Abrittus and Tropaeum Trajani with branches to various Danube forts. Between these main arteries, local side roads provided connections between the settlements.

The Final Collapse and Justinian's Last Attempt

After the abandonment of Dacia, rapid reconstruction measures at the Danube frontier took place under Constantine the Great (306–337). But the crisis was not over – it lasted until Constantine's reign before troop regroupings and fortification works were completed. The new reality: the troops along the Danube were nothing like those before the Dacian Wars. In some sections, they resembled militias rather than regular forces, hardly capable of repelling larger incursions. They definitely could not stop the invasion of the Huns in the 4th century.

The last major restoration of the frontier occurred under the emperors Anastasius and Justinian at the end of the 5th and beginning of the 6th century. Everywhere the walls were reinforced, construction quality improved – material analyses show high-quality materials that could withstand greater stresses. Even new fortifications emerged. Justinian had dilapidated forts restored. But the troops that were supposed to defend these fortresses were neither improved nor numerically sufficient. When Avars and Slavs invaded at the beginning of the 7th century AD, the defense collapsed within a very short time. The Danube limes was lost forever.

Special Characteristics of the Eastern Danube Limes

The eastern section of the Danube limes differed in several respects from the western:

Longer continuity: While the western part perished with the Western Empire in 476, the eastern limes served the Eastern Roman-Byzantine Empire until the early 7th century AD.

The fleet as backbone: While road connections dominated in the west, the Danube fleet played a central role here. The classis Flavia Moesica was not only responsible for troop transports but controlled all river traffic and combated piracy.

Dacia as buffer: For almost 170 years (106–271 AD), the actual frontier lay not on the Danube but north of it in Dacia. This fundamentally changed the character of the Danube region – from a military front zone it became a prospering interior region.

Ethnic diversity: The archaeological and epigraphic evidence shows an extraordinary cultural mixture: Thracians, Greeks from the old Black Sea colonies (Histria, Tomis, Callatis), Sarmatians, Dacians and of course Roman settlers and veterans created a multicultural society such as hardly existed anywhere else on the limes.

1.1.5 Three Regions, One Frontier: Commonalities and Differences

The Roman Danube limes was not a uniform line but developed differently in the three here presented regions – with their own rhythms, challenges and fates.

Common to all three sections were the gradual construction under Augustus (with only a few militarily important points, especially at locations where major long-distance routes intersected) and his successors, the golden age in the 2nd century under the adoptive emperors, the crisis of the 3rd century and Diocletian's radical reforms. Everywhere, stone forts emerged from wooden camps and sometimes flourishing civilian settlements developed at military border posts. Everywhere, fleets played a decisive role for supply and troop movements. And everywhere, the Marcomannic Wars under Marcus Aurelius marked a caesura – the moment when the Romans realized that the frontier was no longer secure.

The differences, however, were considerable. In the west, the Romans created an artificial land frontier between the Rhine and Danube with the Upper Germanic-Raetian Limes – with palisades, stone walls and watchtowers as visible markers of the imperial frontier. This advanced line was abandoned around 260 AD and Rome withdrew to the old river lines. In the late Roman Danube-Iller-Rhine Limes, smaller, castle-like fortifications were used instead of large forts.

In the course of the Marcomannic Wars during the last third of the 2nd century AD, significant military reorganizations took place downstream of Eining along the middle and upper Danube. In the provinces of Raetia, Noricum, and Pannonia, existing sites were reinforced, and new legionary bases were established (e.g. Castra Regina/Regensburg, de facto also Lauriacum/Enns) or permanently expanded (Vindobona/Vienna, Carnuntum, Brigetio/Komárom, Aquincum/Budapest). Carnuntum became a political center and emperor-maker. The Vita of Severinus shows at the end a picture of gradual decay – small residual garrisons, starving civilian population and finally the orderly evacuation.

The east experienced the most dramatic change through Trajan's Dacian Wars: the frontier shifted northward, the Danube transformed from a military bulwark to an interior traffic artery. For almost 170 years, the region flourished without frontier threat. The loss of Dacia in 271 AD forced a return to the Danube. But in contrast to the west, this frontier section on the Danube lasted longer: as part of the Eastern Roman Empire, it existed until the early 7th century.

The end came differently: in the west, the limes collapsed with the Western Empire in the mid-5th century. In the center, the evacuation of Riparian Noricum in 488 took place in an orderly fashion. In the east, Byzantium held out until the 7th century before Avars and Slavs finally overran the defense.

What had functioned for over 600 years as a frontier, trade route and cultural contact zone disappeared within a few generations. But the archaeological traces still bear witness today to the magnitude and complexity of this vast frontier system.

1.1.6 Beyond the Limes: Romans and the Barbaricum North of the Danube *(by Balázs Komoróczy)*

Introduction

If we are to understand and present Roman heritage in the Danube region in all its complexity, we should not limit ourselves to the formal frontiers of the Roman Empire. Those frontiers - the Limes Romanus - are often imagined as an uncrossable boundary separating the Roman world from the barbarian world beyond. Current scholarship, however, offers a more nuanced interpretation. The Limes was indeed a frontier, and in many places a strongly fortified one. Yet it was not an 'iron curtain' in the modern sense. It marked imperial power and territorial reach, but it was also maintained by the Roman army as a controlled zone with designated crossing points. At the same time, it functioned as a permeable membrane through which goods, people, ideas, and cultural influences moved in both directions.

This complex character of the Roman frontier is particularly well illustrated in the Middle Danube region. In his Germania (De origine et situ Germanorum), the Roman historian Tacitus described the peoples living along this stretch of the Danube in the following terms:

"(...) these tribes are, so to speak, the brow of Germany, so far as Germany is wreathed by the Danube. The Marcomani and the Quadi retained kings of their own race down to our time - the noble houses of Maroboduus and Tudrus: now they submit to foreign kings also; but the force and power of their kings rest on the influence of Rome. Occasionally they are assisted by our armed intervention: more often by subsidies, out of which they get as much help" (Tacitus, Germania 41).

Although Tacitus was describing the situation at the end of the 1st century AD, his words capture a broader historical reality. The region north of the Middle Danube was shaped over a long period by intensive and changing relations between the Roman Empire and the Germanic populations living beyond its frontier. Situated at the intersection of east-west routes along the Danube and north-south communications associated with the Amber Road, this area lay in immediate proximity to the provinces of Noricum and Upper Pannonia. That position profoundly shaped its historical and cultural development.

Today, it is generally assumed that groups of the Marcomanni gradually settled first in Bohemia and then in Moravia, Lower Austria north of the Danube, and the westernmost part of Slovakia west of the Little Carpathians from the late 1st century BC onward. Further east, largely in present-day south-western Slovakia, lay the territory associated with the related Quadi. This 'brow of Germania' along the Danube frontier bordered directly on the Roman provinces and became a particularly important contact zone between the Roman world and the Germanic societies beyond the frontier (Fig. 3). Archaeology reveals this zone through a rich and varied body of evidence for remarkably intensive relations between these neighbouring worlds.

Tacitus also shows that Rome mostly used political means to influence the Germanic peoples above the Middle Danube. Rulers and elites allied with Rome could control long-distance trade, including traffic along the Amber Road. They received diplomatic gifts, and their warriors could take part in internal conflicts in Rome. Rome also directly intervened in local power structures. A well-known example is a sestertius of Emperor Antoninus Pius, minted between AD 140 and 144, with the inscription REX QUADIS DATUS - 'a king was given to the Quadi.' Elite burials with luxury Roman products, like metal and glass vessels, also reflect these political and cultural ties.

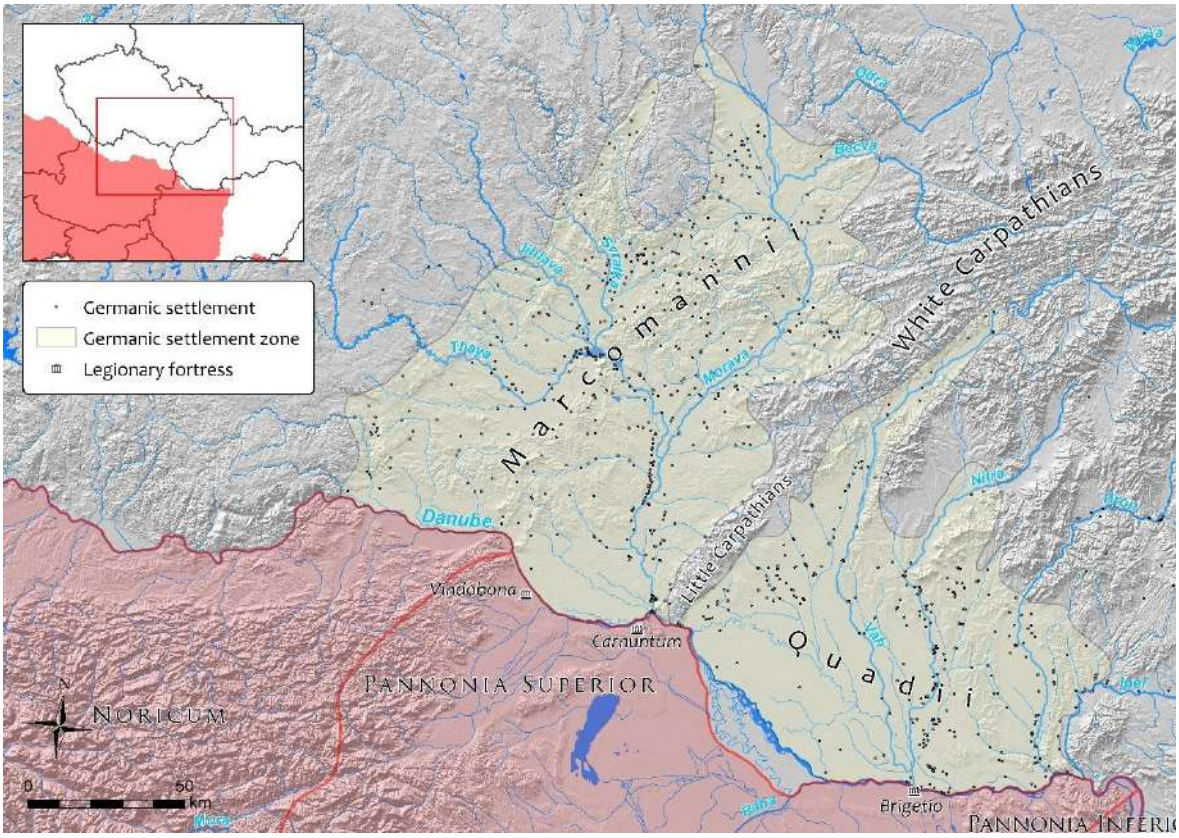


Figure 3: Geopolitical Map of the Middle Danube Region During the Roman Period (©ARÚB).

The locations of these so-called princely graves also reflect shifting centres of power north of the Danube. Around the turn of the era, such graves are only known from Bohemia, likely the core of Marcomannic power under King Maroboduus. After his fall, richly furnished burials and valuable Roman goods began to appear along the lower Morava River, closer to the Danube – for example, at the Slovak sites of Vysoká pri Morave and Zohor in the late 1st and early 2nd centuries AD (Fig. 4). A few decades later, another important Marcomannic centre had developed in southern Moravia. The princely grave from Mušov is an excellent example of the political and cultural ties between Germanic elites and Rome. Although it was already looted in ancient times, it still yielded nearly 200 artifacts, both Roman and Germanic, demonstrating the high status and wealth of the local elite in the late 2nd century AD (Fig. 5).

The extent of Roman-Germanic contacts is further shown by trade. Both long-distance trade and everyday cross-border movement played a part. Roman provincial products clearly reached a wide range of the local population. Pannonian wheel-thrown pottery, bronze dress accessories, and fragments of terra sigillata are commonly found in settlements north of the frontier, showing that Roman goods had become part of daily life as well as used for elite display.

These contacts, however, were not always peaceful. The Marcomannic Wars of AD 166-180, fought under Emperor Marcus Aurelius, were remarkable for their scale, historical importance, and archaeological evidence. Many barbarian groups participated, but the main opponents of Rome were the Marcomanni, Quadi, and Sarmatians. During the Roman campaigns of AD 172-175 and 178-180, large Roman armies repeatedly entered the territories of the Marcomanni and Quadi,

leaving behind numerous archaeological signs. The historian Cassius Dio notes that 20,000 men wintered in this region in AD 179/180, while a similarly large force was stationed among the Quadi. On 17 March 180, however, Marcus Aurelius died. His successor, Commodus, abandoned this expansionist policy, withdrew Roman forces from the conquered territories, and made peace with most of Rome's main enemies.



Figure 4: Selection of luxurious artifacts from the Germanic princely graves in Zohor and Vysoká pri Morave, Slovakia (©Institute of Archaeology of the Slovak Academy of Sciences, Nitra).



Figure 5: A Roman bronze vessel with bust-shaped attaches depicting noble Germanic men, from the princely grave in Mušov, Czechia (©ARÚB, photo: P. Růžičková).

Even after the Marcomannic Wars, Rome kept intervening in the affairs of the Germanic societies north of the Middle Danube, and its diplomacy repeatedly aimed to bring local rulers into short-lived alliances. During the 3rd century, however, this approach increasingly depended on diplomacy, gifts, and payments intended to maintain stability along the frontier. Relations with Germanic elites north of the Danube continued through the 3rd and 4th centuries, though the political focus gradually shifted eastward, particularly into Quadi territory in southwestern Slovakia. There, the increasing wealth and status of the local elite are clearly reflected in richly furnished princely graves and in the construction of high-status residences inspired by Roman architectural principles.

Overall, all evidence indicates that the lands north of the Middle Danube should not be viewed merely as territories beyond Rome's borders. They functioned as a lively contact zone where conflict, exchange, diplomacy, and cultural transfer connected the Roman provinces and the Barbaricum closely over many centuries.

The Marcomannic Wars and the Roman Camps North of the Middle Danube

The Marcomannic Wars, fought under Marcus Aurelius from AD 166 to 180, represented the most intense phase of Roman military campaigns north of the Middle Danube. Rome's main enemies were the Marcomanni, the Quadi, and the Sarmatians, and historical sources indicate that by the winter of AD 179/180, as many as 40,000 Roman troops were stationed in their territories. Some ancient writers even suggest that Marcus Aurelius considered turning the occupied lands into new provinces, a plan he abandoned after his death in March 180, when Commodus quickly made peace with Rome's northern neighbours (Fig. 6).

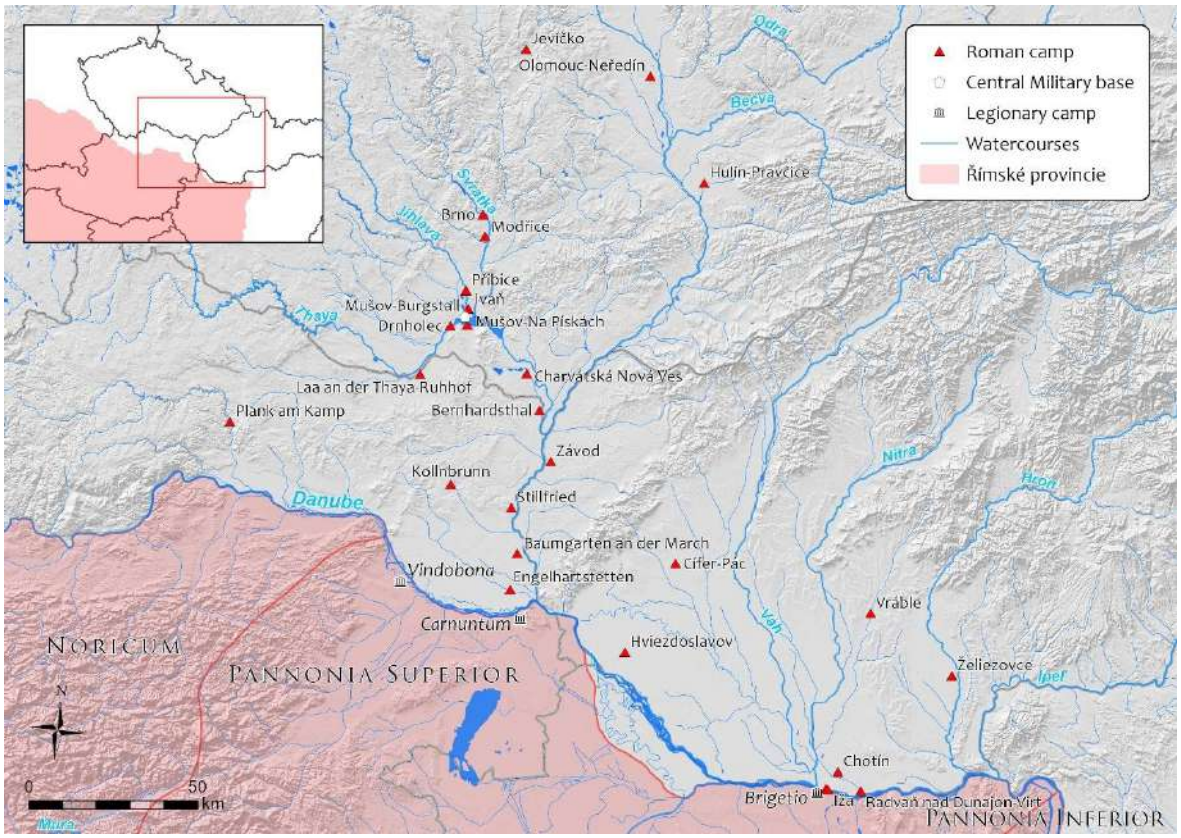


Figure 6: Roman camps from the period of the Marcomannic Wars on the territory of the Marcomanni and Quadi north of the Danube Limes (©ARÚB).

These campaigns left behind an unusually thick archaeological record. For many years, the inscription at Trenčín in Slovakia was the clearest evidence of how far Roman forces had pushed into Quadi territory: dated to AD 179/180, it records that 855 soldiers of legio II Adiutrix, under Marcus Valerius Maximianus, wintered there at a place called Laugaricio. Today, however, many more sites are known where Roman camps and related structures were built during this turbulent period. A key site in this military landscape was Burgstall (Hradisko) near Mušov in southern Moravia, about 80 kilometres north of the Danube line at Vindobona (Fig. 7). Covering over 33 hectares, it appears to have served as the central command and logistical hub of Roman operations in the region during the Marcomannic Wars. Its wider significance will be discussed separately below.

The Roman temporary or field camps north of the Danube are essential for understanding the scale and organization of these campaigns. Their distribution sheds light on troop movements and the spatial strategy of an army mainly operating from Carnuntum and Brigetio. Currently, about 30 sites are known in the settlement areas of the Marcomanni and Quadi, representing over 40 camps. Rivers played a crucial role in Roman occupation strategy and greatly influenced the location of individual camps. They provided water for both people and animals, facilitated the transport of military equipment and supplies, and were likely accompanied by militarily controlled land routes. Camps set up along riverbanks could control waterways, roads, and settlement hubs, while also serving as assembly points for units moving along these routes.

In their general form, the temporary camps are broadly similar: they share similar proportions, rounded corners, and similarly arranged gates. Their size, however, varies from about 1 to 50 hectares, which likely reflects the different scales and purposes of the units stationed within them. The largest camps likely housed major troop formations moving along the main communication routes, while smaller camps probably guarded road junctions, river crossings, landing sites, or monitored local population centres over extended periods. Protected by ditches and earthen ramparts, sometimes reinforced with mudbrick, these camps have so far shown only limited evidence of internal structures, mainly field ovens. In several cases, they were built directly over Germanic settlements, which had to be cleared or burned when the Roman army advanced into their territory (Fig. 8).



Figure 7: Aerial photograph of the Burgstall (Hradisko) site near Mušov—the trees in the foreground mark the course of the Roman fortification line, which is still visible on the ground today (©ARÚB, photo: M. Vlach).



Figure 8: Computer visualization of the gate, parts of the fortifications, and the interior layout of a Roman temporary camp (©ARÚB, photo: M. Vlach).

The network of camps offers some of the clearest archaeological evidence for the scale, organization, and ambition of Rome's military efforts north of the Middle Danube. The campaigns were not just quick punitive raids, but well-planned operations supported by a wide system of bases, routes, and logistical sites deep within the territories of the Marcomanni and Quadi.

Mušov-Burgstall (Hradisko)

Mušov-Burgstall, known in Czech as Hradisko near Mušov, is the most significant Roman-era military site north of the Danube in the Czech Republic. Located in the centre of the Marcomannic settlement zone, it is generally seen as the main command and logistical hub of Roman operations during the Marcomannic Wars. Research at the site dates to the late 1920s, when the first Roman building remains were discovered. Later excavations, field surveys, aerial photography, and especially geophysical prospection have gradually changed our understanding of the hill from an isolated fortification into the core of a much larger, well-organized military landscape (Fig. 9).

What has emerged from this research is a notably complex internal built-up area. The most well-known structure is a representative complex, typically identified as a mansio, consisting of a residential building and a bath equipped with a hypocaust heating system. The use of bricks stamped with the Legio X Gemina Pia Fidelis mark indicates the direct involvement of the Roman

army in its construction, while the building itself likely combined masonry foundations with timber-earth superstructures. Excavations on the southeastern slopes also uncovered a workshop quarter with pyrotechnological installations and small, single-room wooden buildings, as well as other substantial timber-earth structures, including one generally interpreted as a valetudinarium (military hospital) and another high-status residential building (Fig. 10).



Figure 9: Aerial photograph of the central part of the Roman fort at Burgstall near Mušov, showing the layout of the Roman baths and a residential building (©ARÚB, photo: M. Vlach).



Figure 10: Brick with the stamp of the 10th Legion found at Burgstall near Mušov (©ARÚB, photo: P. Růžičková).

Mušov also differs from ordinary Roman field camps in the scale and durability of its fortifications. On the south and east, the hill was protected by the floodplain system of the Dyje and its tributaries; to the north and north-west, a 2.1-kilometre outer defensive line enclosed almost 4 square kilometres between the Dyje and Jihlava rivers. Excavation and geoarchaeological analysis indicate that parts of the fortification system employed mudbrick - a relatively demanding building material in this context - suggesting an effort to create a more durable and substantial defensive circuit than would normally be expected in a temporary campaign installation.

Mušov should be regarded as part of a larger military zone rather than just a single fortified hilltop. Nearby temporary camps at Mušov-Na Pískách, Ivaň, and Drnholec seem to have protected key routes, river crossings, and fords leading to the main base. Notably, Mušov-Na Pískách, located about 2 km south of the hill on the southern bank of the Dyje River, features multiple stages of a large camp, a smaller fortification on the river terrace, and long lines of military field ovens, indicating ongoing Roman activity and its strategic role in supervising movement through the river landscape.

The importance of Mušov becomes even clearer when the Roman military complex is considered alongside the Germanic evidence from the surrounding area. Just a short distance away lies the richly equipped princely grave of Mušov and the settlement at Pasohlávky-U vodárny, whose occupation partly overlapped with the period of Roman military activity. Excavations at Pasohlávky uncovered an unusually large settlement with storage facilities, craft and metallurgical workshops, and a significant number of Roman artifacts, indicating close contact with the Roman base and possibly even a cooperative relationship with the occupying forces. Taken together, the grave, the settlement, and the fortress demonstrate that Mušov was not only a military stronghold but also

a site where Roman power directly intersected with local Germanic elites and their social networks (Fig. 11).

Today, the site is one of the best-presented Roman-period locations in Moravia. Visitors can start at the Visitor Centre Mušov - Gateway to the Roman Empire, continue along the educational trail across Burgstall itself, follow the connected route to the princely grave and the Germanic settlement zone near Pasohlávky, and then view key finds from the region in the Regional Museum in Mikulov's permanent exhibition (Fig. 12).

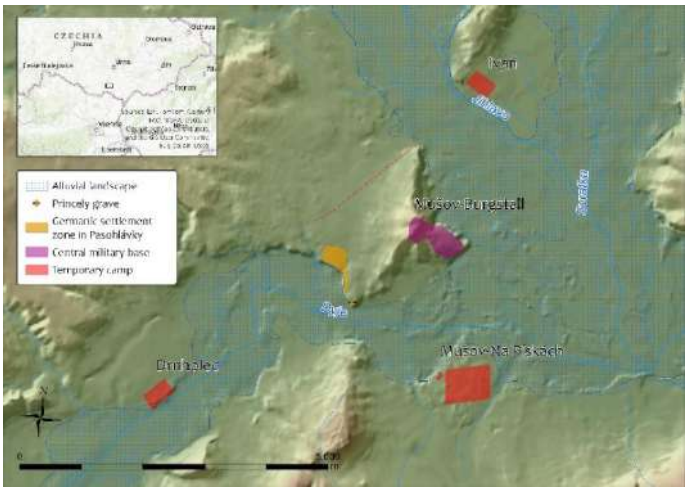


Figure 11: The Mušov region at the confluence of the Dyje, Jihlava and Svratka rivers with localisation of the central military base at Mušov-Burgstall, linear 2.1 km long fortification ditch enclosing the outer perimeter of this base, dislocation of the neighbouring temporary camps on Mušov – Na Pískách, Ivaň and Drnholec sites and with the significant traces of the Germanic presence in the area (Germanic settlement in Pasohlávky, princely grave in Mušov) (©ARÚB).



Figure 12: Interior of the Visitor Center Mušov – Gateway to the Roman Empire (©ARÚB, photo: M. Frouz,).

Přibice

The concentration of Roman camps at Přibice, about 8 kilometers north of Mušov, is one of the clearest examples of how the Roman army organized its presence in occupied Marcomannic territory. Spanning roughly 1.5 kilometres along a terrace on the left bank of the Jihlava River, the site includes at least three camps of distinctly different sizes and characteristics. Camp 3 was the largest, covering an estimated 43 hectares; Camp 1 formed a relatively regular trapezoid of 25.8 hectares; and Camp 2, located at the edge of the last terrace step near the alluvial landscape, enclosed only about 1 hectare (Fig. 13).

Přibice is particularly useful for understanding what Roman field camps in this area looked like. Their defenses were mainly composed of V-shaped ditches of the fossa fastigata type, originally with earthen ramparts, the remains of which mostly occur as redeposited material in the ditch fills. As seen at several Middle Danube camps, these ramparts may have been fortified with mudbrick in some places. The camps featured rounded corners and well-planned entrances: for example, Camp 1 had as many as six gates, five of which were protected by so-called titulus.

Topography played a notably important role at Přibice, and the camp layout is especially revealing. In Camp 1, some openings on the long sides measured over 20 meters wide, while others were closer to 10 meters wide, and one entrance on the corrected western side appears to have opened directly toward neighbouring Camp 2. This variation indicates that the camps were not arranged according to a strict, standard template but were adapted to local movement routes, visibility, and the internal organization of the garrisons. With an elevation difference exceeding 20 meters, Camp 1 at Přibice is among the steepest known Roman temporary camps in the Middle Danube region, with parts of the enclosed area situated on pronounced slopes rather than on flat ground. This might suggest that some sectors were used not for tent lines but for other purposes, potentially including stabling, storage, or logistical activities.

Camp 2 presents a particularly interesting functional question. Due to its very small size and the lack of an apparent fortification line on the riverside – a feature similar to the riverside installation at Mušov-Na Pískách – it can reasonably be seen as a protected landing area for riverboats. Such an installation would have supplied the much larger troop numbers housed in Camps 1 and 3 with provisions and other military essentials.

The overall spatial arrangement suggests that all three camps at Přibice could have operated simultaneously. If so, they would provide evidence for the concentration of a large army early in a new campaign. The largest enclosure, Camp 3, may have housed the main fighting units, while the protected river landing and nearby Camp 1 – with its large areas unsuitable for tent rows – may have served logistical purposes, including storage and housing for support personnel. Modelling of communication routes indicates that troops moving from Přibice could have advanced toward Modřice on the southern outskirts of Brno and, further to the northeast, toward camps at Olomouc-Neředín, Jevíčko, and Hulín-Pravčice.

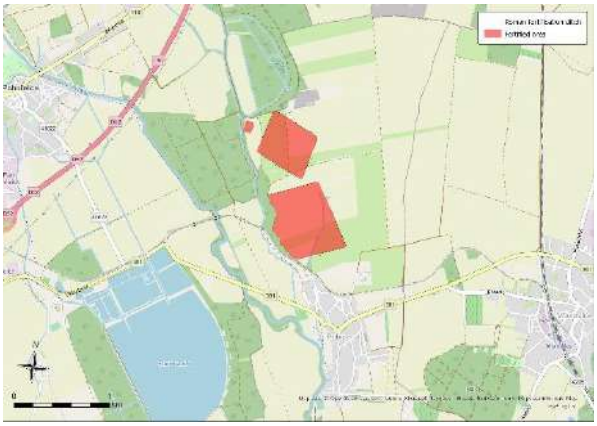


Figure 13: Topographic map showing the layouts of three Roman temporary camps in the municipality of Přibice (©ARÚB).



Figure 14: Topographic map showing the layouts of the Roman temporary camp in the municipality of Jevíčko (©ARÚB).

Although the site is less impressive than Mušov, it is important for understanding how Roman campaigns operated north of the Danube. It demonstrates how camps were placed within the landscape, how access routes and river corridors could be monitored, and how standard Roman military engineering was adapted to challenging local conditions. Přibice is also beginning to

receive more organized public interpretation: ongoing presentation efforts include new information panels and a local educational trail designed to help visitors better understand the camp landscape.

Jevíčko

The camp at Jevíčko occupies a somewhat different position within the archaeology of the Marcomannic Wars. Situated in the Malá Haná region on the northern edge of the known Roman military reach into Moravia, it marks a peripheral zone of the occupied area. In this regard, Jevíčko can be compared to sites such as Olomouc-Neředín and Hulín-Pravčice: all are located away from the main southern cluster of camps and illustrate how far Roman military operations extended into the interior.

Jevíčko is particularly valuable because the Roman camp can be studied alongside nearby evidence of Germanic settlements and burials. The temporary camp - currently the northernmost known Roman fortification associated with the Marcomannic Wars - is situated near a Germanic burial ground and settlement. Excavations revealed about 120 meters of the western ditch, along with baking ovens on its inner side, while terra sigillata finds from the bottom of the V-shaped ditch firmly date the camp to the wartime period. A Roman lead sling bullet found nearby further illustrates the military nature of the site (Fig. 14).

Although only part of the camp is known, its likely size and shape suggest a substantial installation rather than a small outpost. Based on current evidence, it may have had a rhomboid shape with sides of roughly 430 meters, resulting in an area of about 18.5 hectares in a square layout or up to 27.7 hectares in a more elongated rhomboid form. This would place Jevíčko in the same category as medium- to larger-sized Moravian field camps like Olomouc-Neředín, Modřice, Přibice 1, or Hulín-Pravčice, reinforcing the idea that this was an important forward installation on the outer edge of the occupied zone.



Figure 15: Information board and markings on the sidewalk indicating the line of the Roman camp's ditch in Jevíčko (© City of Jevíčko, photo: M. Šafář,).



Figure 16: View of the interior of the information centre (Centre for Roman and Germanic Archaeology) in the village of Jevíčko (© City of Jevíčko, photo: M. Šafář).

The Malá Haná region has also produced Roman and Germanic militaria from settlement areas and more challenging hilly terrains. This suggests that Jevíčko may hold not only signs of Roman

encampments but also evidence of movement, tension, and possibly episodes of conflict on the northern edge of Rome's activities north of the Danube (Fig. 15).

Today, the site is firmly established in local public presentation. Jevíčko has an information point and an official educational route through the town, while Roman and Germanic finds from the area are included in the town's own presentation centre. In this way, Jevíčko highlights a landscape that was once on the periphery of Roman occupation but is now key to understanding how far the footsteps of Roman legionaries extended (Fig. 16).

1.2 The Roman Provinces

Closely interwoven with the Danube limes are the Roman provinces and the Roman administration of these territories. This book primarily provides an overview of the Roman legacy along the Danube. But since the Roman Danube frontier was naturally always also the border of a Roman province, at least the fundamentals of the Roman provinces should be addressed here: How did provinces actually come into being? How were they organized? What legal status did they and their inhabitants have? These questions are central to properly contextualizing the archaeological findings and historical evidence along the Danube.

1.2.1 Origin and Development of the Provinces

With the victory over Carthage in 241 BC, not only did the First Punic War end for Rome – an entirely new chapter of Roman history also began. For the first time, the Romans, who emerged from a city state located at the Tiber – Rome – controlled a territory beyond the Italian mainland: the island of Sicily. But how should one govern such a distant territory at all? The answer that Rome found to this question would shape the further development of the empire for centuries to come: they established the first Roman province. There was no ready-made plan for this development. Rather, the Romans felt their way forward step by step, responded to military necessities, became entangled in diplomatic complications and made pragmatic decisions as the respective situation demanded. In the following two centuries, this produced not a well-conceived, uniform system, but rather a multifaceted entity that had to repeatedly adapt to new circumstances.

From Italy to Mediterranean Empire

Already the control over Italy had posed considerable challenges for the Romans. How could one permanently bind the various subjugated peoples to Rome? The solution was the Roman system of alliances – a complex web of graduated legal relationships. Some cities were granted full Roman citizenship, others received the so-called Latin citizenship, which encompassed only part of the rights. With still others, Rome concluded contractual agreements that made them military alliance partners. The official formula for this system was cives Romani, socii nominisque Latini – Roman full citizens, allies and Latins. But what still functioned in Italy could no longer be transferred to the more distant territories. The distances were simply too great, the cultural differences too marked. Extending Roman citizenship to all newly conquered territories was out of the question for practical reasons: how should people who lived hundreds or even thousands of kilometers from Rome exercise their political rights in the Roman popular assemblies?

The Emergence of the First Provinces

Rome developed an alternative solution: Roman governors were entrusted with the administration of these distant territories. In the early phase, praetors assumed this task; later the promagistrates were added – former officeholders whose powers were specifically extended for provincial administration. These governors had a wide range of tasks: they had to provide for military security, maintain public order and take care of the collection of taxes and levies.

Sicily was soon followed by other territories: in 227 BC, Sardinia and Corsica were declared a province; in 197 BC, two provinces were established in Spain. What had begun as necessary improvisation crystallized within a few decades into an established pattern. But each province retained its own origin story and its particular peculiarities – Rome developed tailor-made regulations for each region.

The Example of Macedonia: "Freedom" Under Roman Control

How Rome dealt with newly conquered territories can be traced particularly well in the case of Macedonia. In 168 BC, Lucius Aemilius Paullus defeated the Macedonian king Perseus. What followed was a carefully staged act of Roman demonstration of power: Paullus had delegates from all Macedonian cities come to Amphipolis. There he announced, enthroned on his curule chair and surrounded by his official attendants, the Roman conditions – with a praetor translating his Latin words into Greek: the Macedonians were allowed to be free, Paullus proclaimed. They should keep their cities, live according to their own laws and elect their own magistrates themselves.

But this supposed freedom was tied to strict conditions: Macedonia was divided into four separate administrative districts, with the borders deliberately drawn so that they cut through natural geographical units. Marriages between inhabitants of different districts were forbidden, as was trade in real estate across district boundaries. The mining of gold and silver ores had to be stopped, the felling of timber for shipbuilding was prohibited. And of course: Macedonia had to pay taxes to Rome. This peculiar form of freedom met with mixed reactions among the Macedonians. Particularly those whose economic connections were now interrupted perceived the regulation as mutilation – as if one were tearing apart a living being limb by limb. The historian Livy commented that even the Macedonians apparently had not known how extensive their land actually was, how easily it could be divided and how well each individual part could exist on its own.

This limited autonomy did not last long anyway. Already in 146 BC, Macedonia was definitively organized as a regular Roman province. The conflicts and tensions that Rome's interventions in Macedonian society, politics and economy had triggered would repeat themselves in similar form in all parts of the emerging empire.

The Rapid Expansion in the 2nd Century BC

The 2nd century BC marks the phase of great Roman expansion around the Mediterranean. Around 200 BC, Rome essentially controlled only Italy and a few provinces in the western Mediterranean. But then the development accelerated dramatically: with the destruction of Carthage and Corinth in 146 BC, a decisive turning point was reached. Rome now controlled not just individual regions but nearly the entire Mediterranean area. By the end of the Republican period, under the rule of Augustus, the Roman Empire reached from the North Sea to the Red Sea, from the Iberian Peninsula to the upper Euphrates and the Black Sea. The Imperium Romanum finally reached its greatest extent under Emperor Trajan in 117 AD.

This unprecedented rise had not sprung from any great strategic master plan. Rather, the conquests resulted from a multitude of individual decisions and entanglements. Rome had been drawn into the complex power games between the great Mediterranean empires – and ultimately proved to be the strongest power in this struggle.

1.2.2 Definition and Legal Status of Roman Provinces

What is a Province?

The word provincia originally designated not a place but a sphere of responsibility – a competency of a Roman magistrate (that is, an office in the Senate). Only gradually did it become a conquered territory under Roman administration.

The establishment of a province – redigere in formam provinciae – comprised three steps: the inventory of cities with determination of court locations (conventus), the census for tax assessment and land surveying with boundary demarcations. The results were recorded in the formula provinciae (register) and a map (forma). A provincial statute (lex provinciae) regulated the legal binding to Rome. This also took into account the particularities of individual provinces.

Roman provincial organization was a complex mosaic. Allied cities often received special rights: their own laws and taxes (libertas) or even tax exemption. These privileges were preserved over centuries – the Thudedenses in Mauretania (Northwest Africa), for example, still had their 200-year-old rights (and tax exemptions) confirmed by Emperor Caracalla in the 3rd century AD.

Imperial and Senatorial Provinces (27 BC – 3rd Century AD)

In 27 BC, Augustus divided the provinces: he administered imperial provinces with stationed troops through legati Augusti pro praetore (from the senatorial class) and equestrian procuratores for finances. Senatorial provinces – the pacified territories – remained formally under Senate administration, but the emperor could intervene at any time. Egypt occupied a special position as a special case: an equestrian praefectus Aegypti administered the province directly for the emperor; senators, for example, required special permission to enter here. In the administrative apparatus, salaries and hierarchies were precisely regulated.

Late Antiquity (from the End of the 3rd Century AD)

Under Diocletian, the provincial structure was fundamentally reformed. The number of provinces increased through subdivision from about 50 to over 100. New administrative levels emerged: 12 dioceses and 4 imperial prefectures. The distinction between imperial and senatorial provinces was eliminated. A fundamental innovation was the strict separation of civil and military administration – with a correspondingly growing bureaucratic apparatus at all levels.

2 Sources on the Roman Period Along the Danube

How Do We Know What We Know?

When we walk through a museum today or visit a Roman excavation site, the question inevitably arises: how do we actually know so much about the lives of people 2,000 years ago? The answer lies in a fascinating puzzle of different types of sources that archaeologists and historians piece together. Each of these sources tells its own story, from great political events to the most intimate details of everyday life.

2.1 Written Sources: What the Romans Themselves Reported

Literary Texts

Roman writers were primarily interested in emperors, wars and major events. The Danube provinces therefore came into focus particularly when something militarily important happened here.

Important Authors and Their Reports on the Danube Region:

The geographer Strabo (1st century AD) described the landscape and peoples along the Danube, i.e., the region up to the Rhine and east of the Norici. From him we learn, for example, about the Raeti and Vindelici, that is, the people who lived here before the Romans came.

The historian Tacitus (around 58–120 AD) depicts dramatic moments in his Annals: the crossing of the Marcomanni king Maroboduus into Roman territory (from Germanic settlement area in present-day Bohemia and North Moravia into the province of Noricum, present-day Austria) or the deployment of a Roman Danube fleet to evacuate the Quadi king Vannius.

Particularly impressive is the so-called “Rain Miracle” of 172 AD, which was even depicted on the Column of Marcus Aurelius in Rome: during a battle against the Quadi on the upper Danube, a sudden downpour is said to have saved the Roman army from dying of thirst. The historian Cassius Dio attributed this to Jupiter, while the Christian author Tertullian attributed it to the prayers of Christian soldiers of the legio XII Fulminata.

A completely different literary testimony is the "Meditations" of Emperor Marcus Aurelius – philosophical thoughts that he wrote down during the Marcomannic Wars directly on the Danube frontier.

For late antiquity, the Life of Saint Severinus (written around 511 AD) becomes the most important source, especially for the area along the Danube in present-day Austria. It describes life in Noricum between the death of Attila in 453 and the end of the Western Roman Empire in 476, a time of transition in which Roman order gradually collapsed (see also chapter 1.1).

What These Texts Tell Us

Literary sources give us the big picture: political developments, wars, significant personalities. They show how the Romans themselves saw their world – however, usually from the perspective of the upper class and with a focus on “important” events. These texts are sometimes not free from Roman propaganda intentions and must always be seen in their respective context. We learn little here about the everyday life of ordinary people.

2.2 Inscriptions: Stone Witnesses of Everyday Life

Epigraphy – the science of inscriptions – opens up a completely different world to us. Inscriptions were chiseled in stone, engraved in metal, or scratched into plaster. They are found everywhere: on gravestones, on public buildings, on milestones, everyday objects and even as graffiti on house walls.

Dedicatory Inscriptions

What one sees in museums: *Stone altars or tablets with engraved texts*

Dedicatory inscriptions were dedications to gods, emperors, or high officials. From Carnuntum, for example, we know an inscription from the early 3rd century AD that attests to the construction of a temple for the Egyptian gods Serapis and Isis (Fig. 17). Another was donated by a veterans' association “for the welfare of the emperors and the imperial dynasty” (238 AD). Such inscriptions show us the religious diversity in the Roman Empire: in addition to the traditional Roman gods, people here also venerated deities from Egypt, the Near East, or Celtic gods of the native population.

Building Inscriptions

What one sees in museums or on site: *Stone slabs from buildings with inscriptions, often with red letters*

Building inscriptions document who erected or renovated a building. These were very common on monumental, official buildings and not only in Rome but also in the provinces. An inscription from Carnuntum (Austria) from the years 374/375 AD names the emperors Valentinian, Valens and Gratian and attests to fortification work along the Danube limes (Fig. 18). Scholars interpret this as a sign of the increasing threats in late antiquity (see also chapters 1.1 and 3.1). The letters were not only chiseled into the stone but also painted in color, usually in bright red, to make them visible from afar.

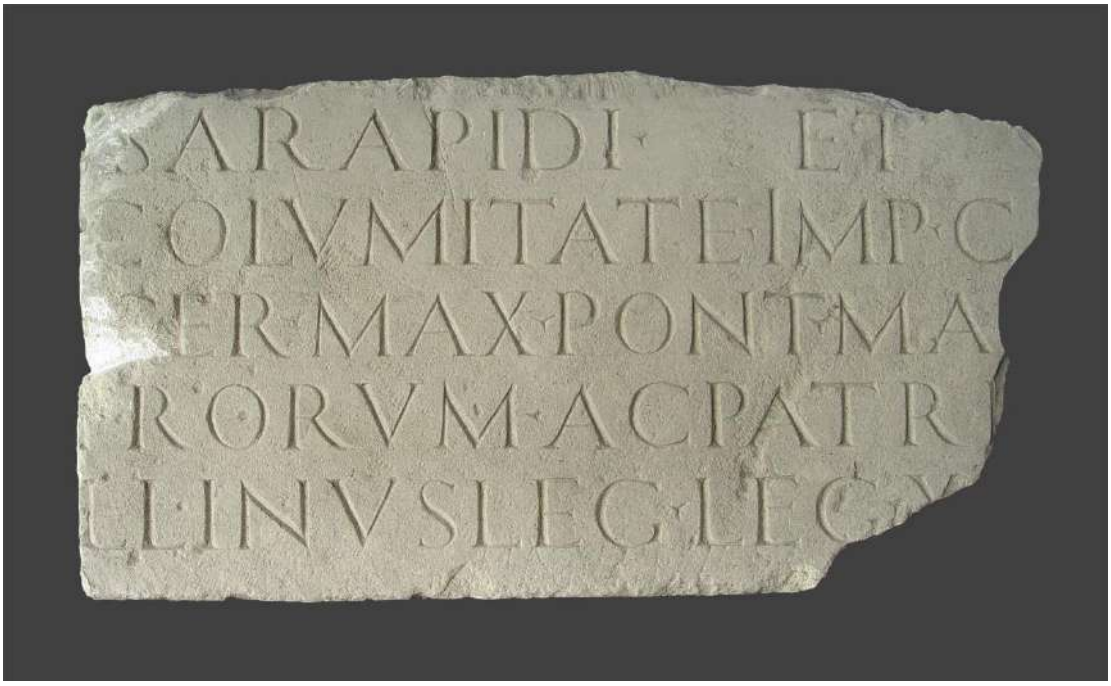


Figure 17: Dedicatory inscription from Carnuntum (Austria) to Isis ans Serapis, dating 213 - 214 AD (AE 1992,1412, Inv. CAR-S-488) (© ÖAW, photo: G. Kremer).



Figure 18: Building inscription documenting work on fortifications along the Danube Limes. Dated 374 or 375, with mention of Emperors Valentinian, Valens and Gratian (Carnuntum, CIL III 14358, Inv. CAR-S-1250) (© Landessammlungen Niederösterreich, photo: N. Gail).

Milestones

What one sees in museums or on site: *Round or rectangular stone columns with inscriptions*

Milestones marked the Roman roads and indicated the distance to the starting point of the road in Roman miles (1 Roman mile = approx. 1.48 km). A milestone from Tulln (Roman Comagena) (Austria) from the years 217–218 AD shows that it was 26 Roman miles to Aelium Cetium, present-day St. Pölten (Austria). From the province of Moesia, we know, for example, 109 milestones alone. This is evidence of how important and widespread these landmarks along Roman roads were.

Milestones were also political propaganda: the emperor's name was always on them, because he was officially the "commissioner" of the road, even though the actual work was of course done by others.

Funerary Inscriptions

What one sees in museums: *Gravestones with texts and often also relief images*

Funerary inscriptions are the most personal testimonies of the Roman period. They name names, age, profession and often also family relationships. An example comes from Lauriacum (Enns) (Fig. 19) and is translated as follows:

"To the divine spirits of the dead. Seccius Secundinus, veteran of the legio II Italica pia fidelis and Iulia Severio, his wife, have erected (this) for themselves, for their daughter Seccia Secundina and their grandsons Marius Maximus and Marius Secundus during their lifetime, as well as for their son Iulius Apricius, soldier of the above-mentioned legion, beneficiarius of the legion prefect, who died at the age of 25 years after six years of service."



Figure 19: The familiy gravestone of Seccius Secundinus from Lauriacum (CIL III 05671) (© F. and O. Harl, lupa.at/4512).

From this inscription we learn that the son had already risen to beneficiarius after six years of military service – an administrator on the staff of the camp prefect. His early death at 25 years shows how low life expectancy could be, even for higher-ranking soldiers who often enjoyed better healthcare and hygiene.

Typical formulas on gravestones:

- D(is) M(anibus) – "To the divine spirits of the dead" (introductory formula)
- S(it) T(ibi) T(erra) L(evis) – "May the earth/soil lie lightly upon you" (closing formula)

For further examples of grave stelae, see chapter 2.4.

Brick Stamps

What one sees in museums: *Fragments of roof tiles with stamped letters*

Roman military units were often involved in the production of bricks. In addition to military brickyards, there were also private brickyards. The manufacturers or the unit stamped their names into the still-wet clay. A brick from Carnuntum bears two stamps of the legio XIIII Gemina (abbreviated as LEG XIIII G). In addition, on the same brick one can see impressions of nailed shoe soles, typical military sandals (caligae) and even the paw prints of a dog that ran over the drying brick! Such details bring history to life: one can imagine the soldier who wasn't paying attention while the bricks were drying and the dog that wandered through the base.

Military Diplomas: Proof for a New Life

What one sees in museums: *Bronze tablets with engraved texts, often fragmented*

Military diplomas are special bronze documents that were issued to discharged auxiliary soldiers. Legionary soldiers had to be Roman citizens and, therefore, already possessed Roman citizenship, which non-Romans only received after 25 years of service in the auxiliary troops. This was an enormous privilege that brought many rights with it. The diploma was the personal copy of a public list that was posted in Rome. Here it was precisely recorded in which units the soldier had previously served and which ranks he had achieved. Since the emperor and witnesses are also mentioned in the diplomas, they can often be dated very precisely. The text was engraved twice on the bronze – once on the outside and once on the inside. The inside was sealed and could be opened as proof in legal matters.

Wax Tablets and Papyri: Private Voices from Antiquity

What one sees in museums: *Wooden tablets or papyrus fragments (very rarely preserved)*

For everyday notes, letters and contracts, the Romans used wax tablets (in Latin tabula cerata [sing.]/tabulae ceratae [pl.]) – small wooden boards with a recessed surface filled with wax. With a special pin made of metal or bone (stilus) one scratched the letters into the wax. Two tablets were folded together and wrapped with a leather strap. This protected the writing during transport. The wax inside is preserved only in very rare cases due to the perishability of the material. We also know wax tablets from pictorial depictions, such as from a fresco from Pompeii (Fig. 20). Here one can see that these wax tablets could also be composed of several wooden boards. The lady holds the writing instrument, the stilus, in her right hand.



Figure 20: Young woman with wax tablet book (Pompeji, around 50 AD, Fresco by a Herculanean master), GNU Free Documentation License, https://de.wikipedia.org/wiki/Wachstafel (24.11.2025).

Wax Tablets: A Work Contract from the Gold Mine

Particularly special finds are 50 wax tablets from Alburnus Maior (Roșia Montană, Romania) (Fig. 21). These were found in a Roman gold mine. Most are contracts: house purchases, slave sales, loans and work contracts. A work contract from May 19, 164 AD documents how Memmius, son of Asclepius, obligates himself and his children to work in the gold mine – for 70 denarii wages until the end of November. Memmius could not write, so Flavius Secundinus wrote for him. The contract even regulates what happens if flooding makes work impossible!

From such documents we learn much about the composition of the population: the 50 tablets name 97 people: Roman citizens, natives without citizenship and slaves. We learn of bankers, slave traders, scribes, soldiers, miners and day laborers. And it becomes clear to us how well-organized and important contract processing already was at that time.

Papyri: A Soldier's Letter from Pannonia

Papyri are particularly rare finds. They are best preserved in particularly dry and hot climates. Therefore, we know most papyrus finds from Egypt. A letter written on papyrus (2nd/3rd century AD) by a soldier of the legio II Adiutrix from Aquincum (Budapest) to his family in Egypt shows the human side of military life (Fig. 22). The text is translated as follows:

"Aurelius Polion [...] to his brother Heron and his sister Ploutou and his mother Seinouphis, the bread seller, many greetings. [...] I do not stop writing to you, but you do not think of me. But I do my part and always write to you [...] You have never written back to me so that I know how you are [...] As soon as you think of me, I will get leave from the consul and come to you [...]"

The soldier's complaint about missing letters and his longing for family is timelessly touching. Today we can imagine various scenarios why the letters of Aurelius Polion did not reach his family. What do you think?

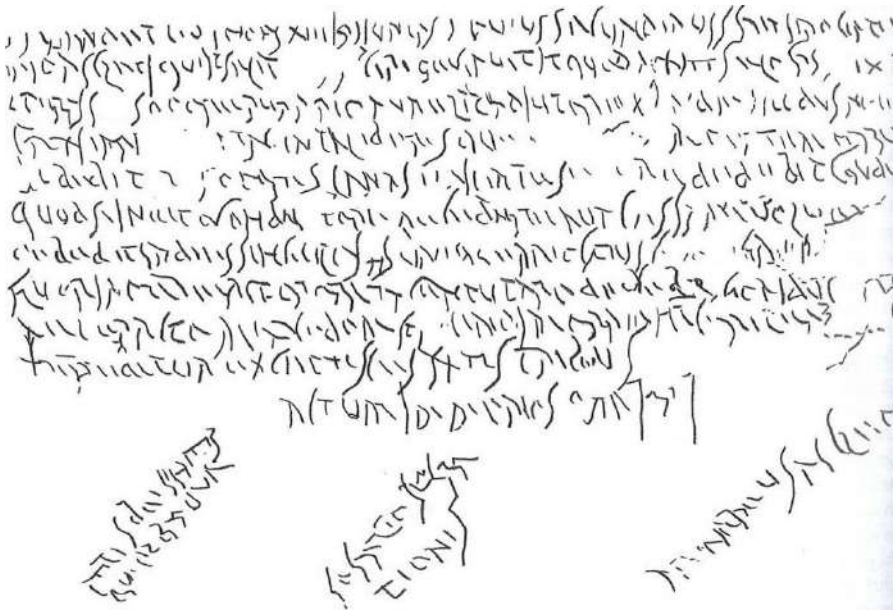


Figure 21: A very special find – the wax tablets from Alburnus Maior (Romania). Shown here is a schematic redrawing of a wax tablet, (© Anna Kaiser, redrawing after Mihaela Simion 2015, 38). Mihaela Simion, The Wax Tablets from Alburnus Maior; Two Outstanding Artefacts from the Patrimony of the National History Museum of Romania Capodopere MNIR, 2015).

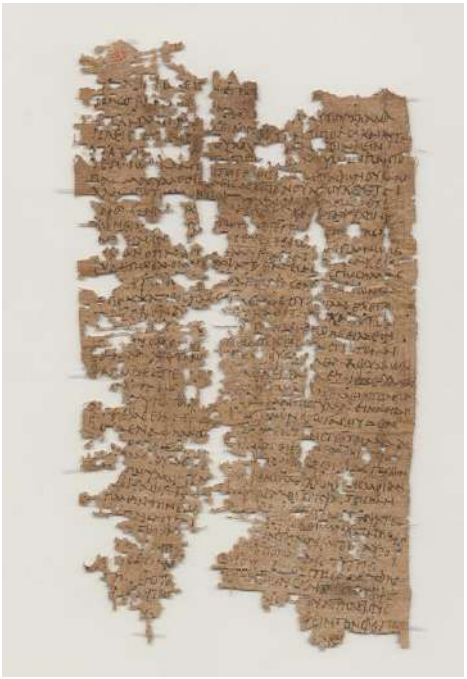


Figure 22: Fragmentary but very well-preserved letter from Aurelius Polion, Pap Berkeley Library Digital Collections, University of California P.Tebt. II 583, https://digicoll.lib.berkeley.edu/record/231360#?c=0&m=0&s=0&cv=0&r=0&xywh=-1910%2C-141%2C6823%2C5147 (14.03.2026) (© Berkeley Library Digital Collections, University of California).

2.3 Coins: Small Metal Discs with Great Stories

What one sees in museums: *Display cases full of coins, often sorted by emperor*

Coins are enormously important for archaeology – and not only as money. They are:

Dating Aids

Coins usually bear the name and reign of the emperor. If one finds a coin in an undisturbed archaeological layer, one knows: this layer cannot be older than the coin.

Economic Sources

The origin of coins shows trade connections. In Viminacium (Serbia), after the Persian War of the 3rd century AD, many coins from eastern mints and inscriptions of Syrian merchants were suddenly found. The legions had brought the coins (and new trade connections) from the east.

In the 3rd century, Viminacium even minted its own provincial coins. Their distribution shows the close connections between the Danube provinces: Viminacium coins are found from Carnuntum (Austria) deep into Dacia (present-day Romania).

Propaganda Media

Coins transported political messages throughout the entire empire. A coin from Viminacium shows on the reverse the personification of the province of Moesia Superior, flanked by a bull and a lion – the symbols of the two legions stationed there (legio VII Claudia and legio IIII Flavia Felix). Such motifs were intended to show the provincial inhabitants: "Your legions protect you!"

Crisis Witnesses

Coin hoards, that is, buried and never retrieved coin collections, mark times of crisis. Along the Danube there are hundreds of such hoards from the 3rd century, when Germanic and Sarmatian tribes repeatedly invaded. People buried their money. They deposited it in cloth bags or other containers and never came back to retrieve it. If there is a temporal concentration of such coin hoards in a region, this is an indication that uncertain times prevailed in the area. Similar situations as in the 3rd century are also found in the 4th and 5th centuries AD. Large coin hoards in Horreum Margi (today Ćuprija in Moesia Superior / Serbia) and smaller ones along the entire frontier suggest a rapid decline of the limes defense installations. The large number of hoards, including those from Viminacium, makes it possible to trace crisis after crisis and finally the definitive downfall due to the great invasion of the Huns in the years 441/443 AD.

2.4 Pictorial Representations: What Grave Stelae Reveal About Identity

→ Cross-reference: more information on grave stelae and cemeteries can be found in chapter 5.

City and Country: Two Worlds

Anyone who compares the gravestones along the Danube discovers a fascinating contrast between the large military centers and the rural hinterland. This is particularly evident on the Danube frontier in northwestern Pannonia, the region around Vindobona (present-day Vienna) and Carnuntum (both in Austria).

On the Danube frontier (Carnuntum, Vindobona, Aquincum, Intercisa): epigraphic and iconographic evidence reveals a remarkably diverse population. Names from all parts of the empire appear in inscriptions, while soldiers are depicted wearing standard Roman military equipment. The settlements attracted merchants, craftsmen and officials who sustained the military infrastructure and economy. Women are predominantly shown wearing Roman-style clothing in visual representations. Together, these elements paint a picture of a multicultural, urban-military society that developed along this strategic frontier zone.

In contrast, **the hinterland** – exemplified by settlements like Leithaprodersdorf west of the Leitha Mountains – presents a markedly different picture on funerary monuments. Here, predominantly native Celtic names appear in inscriptions and women are depicted almost exclusively wearing local traditional costume rather than Roman dress. The gravestones reflect a rural, traditionally rooted population that maintained strong ties to pre-Roman cultural practices. Notably, men are depicted less frequently in military clothing than their counterparts on the frontier, suggesting less direct involvement with Roman military structures. But we also find the names of veterans on gravestones.

The Noric-Pannonian Women's Costume: A Distinguishing Feature

On the gravestones of the Pannonian hinterland, the depictions of women immediately catch the eye – their clothing differs markedly from urban Roman fashion (Fig. 23). Typical features are: the double fibula costume: two large, often artfully designed fibulae (garment brooches) on the shoulders; neck rings (torques): metal rings around the neck, often massive and elaborately decorated; arm rings (armillae): usually with thickened ends; Noric-Pannonian belts: with characteristic fittings (boat shapes, duck loops); and head coverings: bonnets with veils or fur hats.

This clothing was not "backward" – it was a conscious choice. The native female population adopted many Roman innovations (buildings, technology, partly also the language), but retained their own costumes in everyday clothing.

Why Did Men Usually Wear Roman Clothing?

Men had more contact with the Roman world, because many served 25 years in the Roman military, they assumed public offices, they traded and maybe they traveled also more.

After military service, they often received Roman citizenship and then presented themselves accordingly on their gravestones. Women remained more strongly rooted in the local, familial environment and preserved traditional clothing customs.

What We Learn from the Images

Grave stelae are more than just memorials to the deceased. They are self-representations: how did the family want to be seen? Which identity was important to them?

The fact that native women were depicted in their traditional costume over generations shows: Roman rule did not automatically mean complete cultural assimilation. A mixed culture emerged, i.e., Roman administration and infrastructure met local traditions that were consciously

maintained. When you stand today in a museum before a grave stele from Pannonia and see a woman with two fibulae, arm rings and an elaborate belt, you are looking at a woman who was part of the Roman Empire but proudly displayed her Celtic-Pannonian identity. Every object in the museum, every ruin you visit, is part of this great puzzle. And with every new find, the picture becomes a little more complete.



Figure 23: Stele of Super and Exsuperata from the Leithaprodersdorf burial ground (Burgenland, Austria). Dated to after 117 AD – max. mid-2nd century. Exsuperata identifies herself as a local woman by her name and the wearing of fibulae (© F. and O. Harl, lupa.at/13632, O. Harl 2011).

EXAMPLE: The Grave Stele of Cenumarus and Gnatila – A Native Family from Leithaprodersdorf

Find location: Leithaprodersdorf (Burgenland, Austria) Dating: Late 1st / early 2nd century AD Material: local limestone Today: Burgenland Provincial Museum Eisenstadt

This grave stele tells a sad story: a father had it erected for his two children who died young – Cenumarus, who died at only 15 years of age and his sister Gnatila.



Figure 24: The stele of Cenumarus and Gnatila from Leithaproderdsdorf (Burgenland, Austria) (© F. and O. Harl, lupa.at/41).

What Makes This Stele Special?

The two adolescents are depicted in native clothing – also the boy – and this is unusual for male persons! Normally, men appear on Roman gravestones in Roman clothing or military dress (see above), even if they did not originally come from Italy. Women, on the other hand, frequently wear their traditional local costume.

What Do We See?

Gnatila wears the typical Noric-Pannonian women's costume:

- Two fibulae (large garment pins) on the shoulders that hold her garment together
- Arm rings (armillae) with thickened ends on both arms

– A belt with characteristic Noric-Pannonian fittings (so-called “Kähnchenbeschläge” [“boat fittings”]) and possibly an “Entenbeschlag” (A curved fitting made of non-ferrous metal, the ends resemble duck heads).

Cenumarus is dressed more simply, but an arm ring on his right upper arm is clearly visible – also a native piece of jewellery.

The Names Reveal the Origin

Both names – Cenumarus and Gnatila – are of Celtic origin. They show that this family belonged to the native, pre-Roman population of Pannonia. The father possibly wanted to preserve his children in their traditional identity – in the clothing that showed their origin. Or was it only permitted for young native men in Roman society to wear Roman clothing from a certain age? We do not know.

What Does This Mean?

This stele represents many similar finds from Leithaprodersdorf and the western hinterland of the Danube. In contrast to the large military bases like Carnuntum or Vindobona (Vienna) directly on the Danube, where an international, militarily shaped population lived, the rural population in the hinterland remained strongly influenced by native tradition. The Noric-Pannonian costume was passed down over generations from mothers to daughters. It was an expression of local identity in an increasingly Roman world. Why women in particular so consistently adhered to their traditional clothing is not fully clarified to this day – possibly factors such as stronger local rootedness, climatic adaptation, or conscious cultural demarcation played a role.

2.5 Small Finds, Pottery and Glass: The Silent Witnesses of Roman Everyday Life

What Are Small Finds?

Anyone who visits an archaeological museum sees them in every display case: fragments of ceramic vessels, glass beads, and various small finds, such as fibulae, knives and so on. At first glance, these inconspicuous objects may seem less spectacular than monumental stone monuments or artful mosaics. But for archaeology, small finds are indispensable. They are the foundation of every scientific evaluation.

Every object in a museum display case has its own story – it was manufactured, used, perhaps repaired, finally thrown away, lost, or deliberately included as a grave good. These small, often inconspicuous things connect us directly with the people who lived on the Roman Danube frontier 2,000 years ago: the ceramic vessel stood on a Roman dining table, the glass bead perhaps adorned a woman's neck, the fibula held together a soldier's cloak and the knife cut roasted meat. Small finds make history tangible – in the truest sense of the word. They show Roman everyday life beyond emperors and battles: life as it also was.

Small finds, pottery and glass finds come from both systematic archaeological excavations and chance discoveries – for example, during construction work or by metal detectorists. Their quantity is impressive: a single excavation can bring thousands of such objects to light. Every single

fragment, every tiny shard provides important information. They help us answer fundamental questions such as: When was there life here? What was this place used for? Who lived here?



Figure 25: Example of a display case with small archaeological finds (AI-generated, M. Kukula, University for Continuing Education Krems, 2025).

How Do We Date Those Finds?

Only with a few types of finds is a direct, exact dating possible. That would be, for example, a coin with the name and titles of the emperor, which tell us the years of the minting (see above chapter 2.3). Inscriptions can contain dates or other dating information, such as the names or honorary titles of emperors; the sets of honorary titles could change every year. Most small finds, however, cannot be directly dated. Instead, archaeology uses a sophisticated system of relative chronology: objects are dated via a framework of associated finds, that is, via other finds that were found together with them and that can be securely dated (Fig. 26-28).

An Example:

In a Roman grave, one finds together a ceramic bowl, a glass bead and a coin of Emperor Trajan (98–117 AD). The coin gives us a secure chronological reference point. The grave can have been laid out at the earliest during Trajan's reign. The ceramics and the glass bead, which were found together with this coin, can now also be placed in this period. If one finds a similar ceramic bowl at another location, even without a coin, one can chronologically place it based on the comparative finds.



Figure 26: Overview photograph of an excavation on the Schöckl (local mountain of Graz), excavation campaigns 2016-2023 (© Universalmuseum Joanneum, photo: M. Wegscheidler).



Figure 27: Excavation of Villa Kleinklein – final documentation (© Universalmuseum Joanneum, photo: D. Modl).



Figure 28: Base-metal coin of Emperor Hadrian found during the excavations on the Schöckl (117–138? AD) (© IfA, University of Graz).

Particularly valuable for dating are categories of finds that underwent rapid stylistic change. The best example is terra sigillata, the Roman tableware with the characteristic red surface (see also chapter below). The forms, decorations and stamps of this ceramic were changed over the decades in comprehensible steps. Since terra sigillata was widespread throughout the Roman Empire and was produced very frequently, an enormous stock of finds exists and a very frequent association with well-datable finds or with securely datable sites (such as some Roman military bases). As a result, it has been possible to develop a very fine chronological grid for terra sigillata. This precisely datable ceramic then becomes an index "fossil" for archaeology: if one finds terra sigillata of a certain form in a layer, one knows that this layer has to be "younger" than the very type of terra sigillata. In this way, one can chronologically classify larger building structures and archaeological features.

Without small finds, dating archaeological features would be significantly more difficult. For not every region of the Roman Danube frontier has historical sources, let alone that historical sources would be transferable to all Roman settlements. Large stone buildings or military bases can rarely

be precisely dated without small finds, because masonry does not reveal when it was built. Only the small finds found in the layers above and below a building allow the building structures to be precisely chronologically classified from archaeological perspectives. With the help of precise analysis of the layer sequences and the small finds, it is thus possible to determine when a building was erected, how long it was used and whether or when it was rebuilt or abandoned.

Terra Sigillata: The Noble Tableware of the Romans

Terra sigillata is a modern designation for a Roman tableware. The ancient name of this ceramic is not recorded. Its characteristic glossy red surface was created by a special fine clay slip. The semi-dry vessels were dipped into this slip before firing in the pottery kiln. Then followed controlled (oxidizing) firing. That is, the ceramic was fired with oxygen supply. The quality of certain manufacturing fabricae was so high that terra sigillata was coveted throughout the Roman Empire. The glossy surface was impermeable to water and it still is today in well-preserved pieces.



Figure 29: Reconstructed filling of a terra sigillata kiln in the museum in Rheinzabern (https://commons.wikimedia.org/wiki/; File:Terra_Sigillata_Museum_Ofenaufbau.jpg, 24.11.25, Haselburg-müller)

Terra sigillata was mass-produced in large potteries – with mold bowls for relief-decorated vessels and stamps that impressed the name of the mold bowl maker or the potter. The most important production centers were located in Italy (Arretium/Arezzo), southern Gaul (La Graufesenque), central Gaul (Lezoux) and eastern Gaul/Rheinzabern. The vessels were traded over long distances. Terra sigillata from southern Gaul is found from Britain to Egypt! The products from Rheinzabern were sold along the Danube and into the hinterland over long distances. Also the products from

the potteries of Westerndorf (Germany). From the 1st century AD onward, there were also sigillata producers in North Africa. These workshops produced high-quality goods until the 7th century AD and exported them to the Mediterranean region. Some pieces from these also reached the Danube region in the late 2nd and 3rd centuries AD.

The type designations that one sometimes reads in museums (such as Drag. 18 or Drag. 37) go back to the archaeologist Hans Dragendorff, who developed a classification system at the end of the 19th century that is still used today.

There are different ceramic forms for different purposes. Plates and cups for eating at the table. Deeper bowls and small bowls for preparing and serving food. But there were also jugs for liquids.

Many terra sigillata vessels bear a potter's stamp inside on the bottom. This is then usually the name of the potter in the genitive: OF CRESTIO ("From the workshop [officina] of Crestio"). These stamps are worth gold for research: they allow the origin of the vessels to be determined and trade routes to be traced. There is also relief ware that has name stamps in the relief on the outside of the vessel. These are then the names of the mold bowl makers.

Since terra sigillata was so widespread and produced in large quantities, a relatively precise production period can be determined for many forms and potters. Archaeologists can thus often date some vessels within 25–50 years (see above under "How Do We Date Those Finds").

What one sees in museums: *Red, glossy ceramic vessels; often with relief decoration (formed in mold bowls) or with stamps. Relief ware can bear the stamp of the mold bowl maker in the relief decoration on the outside or the potter's workshop on the inside of the bottom. Plain ware bears the stamp of the potter's workshop on the inside of the bottom.*

Utilitarian Ceramics: Local Production and Everyday Tableware

In addition to the fine terra sigillata, there was utilitarian ceramic. This is what everyday dishes for kitchen and household are called in technical terminology. These vessels were far more common than the expensive tableware, because they were needed for all purposes of daily life:

- Cooking pots – often blackened by soot (on the exterior)
- Storage vessels (dolia) – large pots and jugs for grain, oil or wine
- Mortaria – for grinding spices and herbs
- Simple cups and bowls for eating and drinking
- Baking lids, strainers and moulds for cheese
- Urns for burials could also be made from utilitarian ceramic

In contrast to the widely traded terra sigillata, utilitarian ceramic was mostly produced regionally. Almost every larger settlement had its own potteries. The ceramic is therefore less uniform – forms, decorations and clay vary from region to region. But there are certain forms that were apparently very popular and that were then produced very similarly in regional variants in many places. For archaeology, this is an advantage: based on local ceramic styles, trade contacts and regional peculiarities can be traced. In addition, utilitarian ceramic shows what was produced locally and what had to be imported.

Particularly interesting are cooking pots: they show clear traces of use. These would be soot deposits on the exterior. Sometimes one also finds cut marks from knives or ring-shaped scrapings from stirring on the inside of the bottom. From such details one can recognize that these vessels were actually used daily.

Some cooking pots have rouletting marks, such as impressed wave patterns on the rim or body. These served not only for decoration but probably also improved grip with wet or greasy hands.

What one sees in museums: *Gray-brown, gray, or light yellow-orange pots, jugs and bowls. The ceramic is often more coarsely tempered (and then also has a rough surface). Also look for any traces of use.*

Trade in Clay: Amphorae along the Danube

Along the Danube Limes, just as in the rest of the Roman Empire, amphorae – tall, narrow ceramic vessels with two handles – were widely used for transporting and storing goods such as wine, oil, and fish sauce, but also dried fruits. These containers reveal the extensive trade networks that connected frontier settlements to the wider Roman world. Archaeological finds of amphorae at forts and towns along the Danube, show how supplies were brought to soldiers and civilians alike. Amphorae hold a special place in archaeological research because their shape, stamps, and markings can provide precise information about trade routes, production centers, and the movement of goods across the Roman Empire, allowing scholars to reconstruct economic networks and daily life even in distant frontier regions. For heritage interpreters, amphorae offer a tangible connection to the daily life and economy of Roman frontier communities, helping visitors understand how even remote border regions were linked to Mediterranean trade and culture.

Glass: Luxury and Everyday Life

Glass was already a fascinating material in Roman times – transparent, malleable, producible in many colors. After the invention of glassblowing in the last centuries of the last millennium BC, glass became cheaper, affordable for a large consumer base and spread rapidly throughout the Roman Empire.

Glass vessels served many purposes. There were bottles and jugs for wine, oil, perfume, or medicine. Some had artful handles or were decorated with glass threads. Cups and bowls served for drinking and serving. A special glass form of the early Roman period are ribbed bowls – bowls with broad, impressed notches on the underside of the base. But there were also, especially in late antiquity, transparent cups with ground decoration. Masterpieces of this refined glass art are represented by so-called cage cups (diatreta). Small, bulbous bottles for precious ointments and perfumes (balsamaria and unguentaria) were often included as grave goods. These glass vessels played a major role in burial customs. Perhaps they are a sign that care was valued even in the afterlife, or they reflect the generally high use of fragrant essences at Roman burials (see below chapter 5).

Glass beads were widely used jewelry. They were strung on chains or sewn as trim on clothing. The color variety and design motifs were enormous, although in the Roman imperial period particularly monochrome, small beads (tubular, cube-shaped, or round) were very common. These are often found in women's graves. Glass beads were often traded over long distances. Their occurrence in graves provides clues about trade connections and personal mobility. In late antiquity, beads from the area north of the Danube (Germanic) were also more frequently distributed in the provincial territories. These stand out due to their coloration (e.g., so-called eye beads) and somewhat more massive size.

Roman glass could be clear and transparent, but also produced in bright blue, green, yellow, or violet. The coloring was created by adding small amounts of metal oxides to the raw material (copper for light to turquoise blue, iron for green colorations, copper oxide for red, lead for yellow). Millefiori glass was particularly popular especially in the early imperial period – similar to how it is still produced today in Italian Murano (near Venice). Weathered ancient glass often shows a shimmering rainbow effect. This shimmer only developed through centuries in the earth.

What one sees in museums: *Glass vessels in various colors, often shimmering due to weathering; glass beads. Complete glass vessels mostly come from graves, since they could be better preserved there.*

Fibulae: The Safety Pins of Antiquity

Fibulae are the garment pins of the Roman period, practically speaking a kind of ancient safety pin. They held cloaks, mantles and garments together. But fibulae were far more than just functional: they were also jewellery, could be status symbols and expressions of cultural affiliation (see chapter 2.4).

Fibula forms changed over the centuries, similar to fashion today. Certain forms were particularly popular in certain regions and periods (Fig. 30). First, because they could be bound to a specific wearer group, second, because certain manufacturers sometimes only supplied certain regions with fibulae. This makes fibulae important dating and origin indicators.



Figure 30: An example of a brooch from Potzneusiedl (Burgenland, Austria): this one is a so-called Noric-Pannonian wing brooch. Typical for the rural regions of the provinces of Noricum and Pannonia, it was worn by women. It is also frequently depicted on grave steles (see chapter 2.4). (Formato 2025, plate 49, 42-181).

Some examples would be:

- Aucissa fibulae: Simple, practical form with hinge. Popular in the 1st century AD, especially among soldiers, but could also be worn by civilians.
- Strongly profiled fibulae: Characteristic of the 1st/2nd century, frequent in the Danube provinces.
- Crossbow fibulae: Large, elaborate fibulae with onion-shaped knobs on the bow. Typical for the 4th century, often worn by high officials and officers.
- Animal fibulae: Fibulae in the form of animals – horses, birds, hares. Popular jewelry pieces, often decorated with enamel inlays.

In the Danube provinces, but also in other regions, fibulae played a special role in local clothing tradition. The women depicted on grave stelae in Noric-Pannonian costume typically wear two large fibulae on the shoulders (double fibula costume), a hallmark of the native population (see also chapter 2.4). Sometimes fibula pairs are also found in graves of local women. This manner of dress with two or more fibulae differed strikingly from the urban Roman, fibula-less manner of dress. However, fibulae are not only found in graves as components of the deceased's clothing. In settlements and along ancient roads, they represent lost finds. Frequently the fibulae are then broken or damaged. In sanctuaries, fibulae may have been sacrificed as votive offerings. In addition to fibulae made of non-ferrous metal, there are also pieces made of silver or even gold. These pieces made of precious metal probably represented the luxury variants of fibula fashion.

What one sees in museums: *Fibulae in many forms, from simple to artfully decorated; You can also see fibulae depicted on grave steles.*

2.6 Bioarchaeological and Archaeobotanical Finds: Insights into Past Lifeways

Bioarchaeological and archaeobotanical evidence from Roman sites along the Danube limes offers important insights into everyday life in frontier regions. Animal bones are most commonly recovered during excavations in refuse contexts such as pits, ditches, and latrines, where food waste accumulated, but they can also appear in construction layers or as secondary fill. These contexts help distinguish between domestic consumption in civilian settlements and more organized provisioning systems within military bases. As food remains, the bones mainly reflect the consumption of cattle, pigs, and sheep/goats, with occasional evidence of hunting. Cut marks and burning traces reveal butchery practices and cooking methods, pointing to fairly standardized processing of meat, especially in military environments. At the same time, such finds illustrate broader economic structures, including supply networks that supported troops along the frontier. Beyond their role as dietary evidence, animal bones can also indicate craft activities, such as bone working, and occasionally appear in unusual contexts. Special deposits—like complete skeletons or deliberately placed bones—suggest ritual or symbolic practices, highlighting that these materials were not only waste but also part of the cultural and religious life of Roman communities along the Danube.

Archaeobotanical evidence from the same sites provides complementary insights into past environments, subsistence strategies, and human–plant interactions. Typical finds include charred seeds, grains, fruits, and wood remains, which are often preserved in hearths, storage pits, wells, or other waterlogged and burnt contexts. These remains reveal what plants were cultivated, gathered, and consumed, as well as agricultural practices and storage methods. In addition, archaeobotanical data can inform us about trade, landscape management, and local environmental conditions. Altogether, such evidence helps reconstruct the economic basis, daily life, and broader cultural practices of past communities, complementing animal-based bioarchaeological data and providing a nuanced picture of frontier life along the Danube limes.

2.7 Geophysical Surveys – Searching for Traces with non-destructive State-of-the-Art Technology

Imagine you could look into the ground as if with X-ray vision and see the remains of Roman cities, forts and roads without making a single cut with a spade. This is exactly what geophysical surveys enable – one of the most exciting developments in modern archaeology. These methods have revolutionized the study of the Roman Danube limes and today allow us in some cases to reconstruct an almost complete picture of ancient landscapes on a computer.

Particularly on the Danube limes, where large parts of the Roman installations lie hidden beneath fields, meadows and modern settlements, these non-destructive methods have become indispensable. They protect cultural heritage by helping to plan excavations in a targeted manner and they often reveal structures that could never be captured in this completeness through conventional excavations.

The Most Important Survey Methods

Magnetometer Surveys

Magnetometry measures tiny divergences from the Earth's magnetic field that are caused by archaeological structures. Materials such as fired clay, bricks, metal objects, but also anthropogenic (i.e. man-made) pits also cause characteristic magnetic “fingerprints” in the ground. Highly sensitive magnetometers are systematically guided over the terrain and record the magnetic anomalies. Foundations of stone buildings, ovens, fireplaces, ditches, pits and roads can be detected particularly well with this method.

Ground Penetrating Radar Surveys (GPR – Ground Penetrating Radar)

Ground penetrating radar sends electromagnetic waves into the ground and records the reflected signals. Different materials – stone, clay, wood, cavities – reflect these waves with varying intensity, so that a detailed image of the underground structures emerges (Fig. 31). Here too, a measuring device is pulled over the terrain and continuously sends impulses into the ground. Similar to computed tomography in medicine, one can then map the structures in the subsurface layer by layer after evaluation. Ground penetrating radar surveys are very well suited, for example, for detecting wall foundations and cavities in the subsurface.

After the surveys, these are evaluated by specialists – i.e., the survey images are redrawn in order to better recognize floor plans. With the help of already known Roman structures, these underground objects are then interpreted.

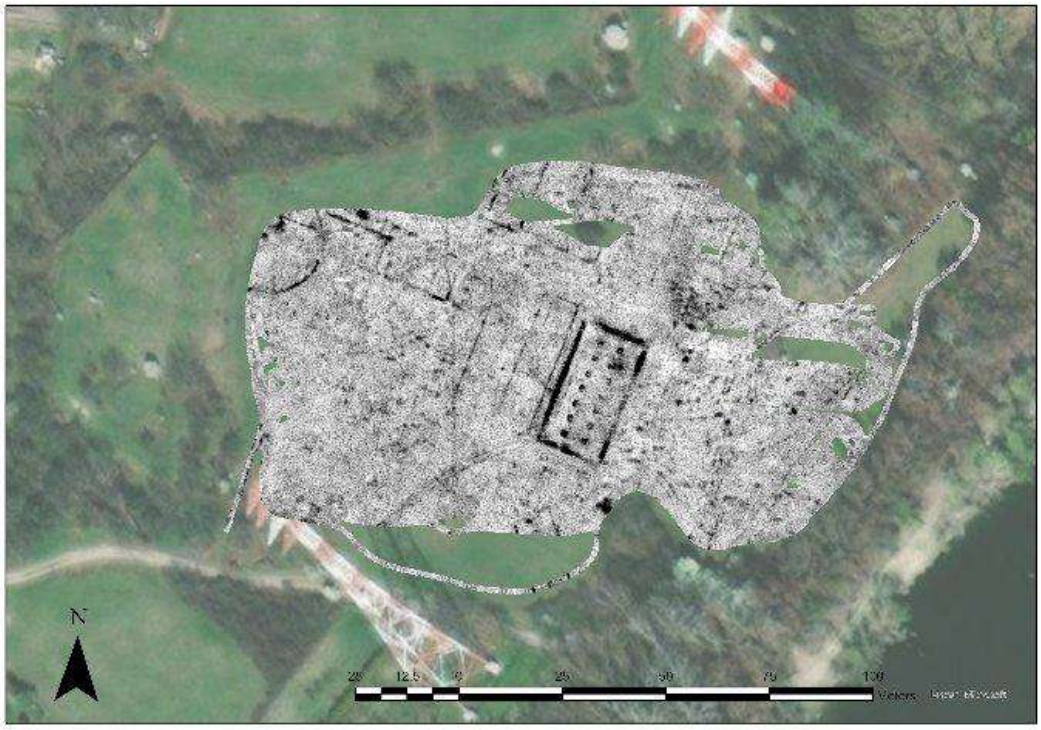


Figure 31: Example of a ground-penetrating radar image. Here you can see details of the interior buildings of the Százhalombatta/Matrica fort (Hungary). Most clearly visible is a warehouse (horreum), surrounded by troop quarters (© LBI ArchPro).

A Milestone of Research: Carnuntum

The most impressive example of the success of geophysical prospection on the Danube limes is the Roman legionary base and city of Carnuntum in Lower Austria, about 40 kilometers east of Vienna. Between 2012 and 2015, the Ludwig Boltzmann Institute for Archaeological Prospection and Virtual Archaeology (LBI ArchPro), together with the Central Institute for Meteorology and Geodynamics (ZAMG) and international partners, conducted the world's most extensive geophysical investigation of a Roman site. The ancient settlement area today still extends almost 10 square kilometers underground. The site consisted of a legionary base with its surrounding civilian settlement, the canabae legionis, the city under civilian right, an auxiliary base and the grave fields surrounding the main roads leading into the settlement. With high-resolution magnetometers and ground penetrating radar systems, the ancient urban area was surveyed over a large area here – without a single cut with a spade. The result is impressive: an almost complete city map" of underground Carnuntum with a level of detail that would have been unthinkable just a few years ago (Fig. 32). For the first time in history, an entire Roman city could be reconstructed on a computer.

Geophysical surveys thus enable us to protect cultural heritage without destroying it, which is particularly important for those areas that are part of the UNESCO World Heritage Site "Frontiers

of the Roman Empire – The Danube Limes (Western Segment)". They give us insights into Roman ways of life, urban planning and infrastructure that would never be possible to this extent through classical excavations.



Figure 32: Geophysical investigations have revealed that Carnuntum's legionary fortress and surrounding area are ideal for reconstruction. Almost the entire landscape inside and outside the military installation is known. Here you can see a reconstruction of the buildings based on geophysical measurement (© 7 reasons).

What one sees in museums: *Plans of geophysical surveys, sometimes also with interpretation of the structures (e.g., city maps or floor plans of Roman military bases). There are also digital reconstructions of survey images (e.g., the digital reconstruction of Roman buildings).*

2.8 Interplay of Sources

None of these types of sources stands alone. Only their interplay produces the picture of the Roman past along the Danube and its hinterland:

- **Literary texts** provide the broad historical framework
- **Inscriptions** name names, dates and personal stories
- **Coins** show economic connections and political messages
- **Grave stelae** with pictorial representations reveal how people saw themselves and wanted to be seen. They also provide information about funerary customs.
- **Everyday documents** such as **letters** and **contracts** allow us to immerse ourselves in the thoughts and emotions of people
- **Small finds**, such as certain fibulae, military equipment, or, for example, craft tools, reveal something about the profession, prosperity and social position of individuals.
- **Bioarchaeological remains** reveal diet, economy, food practices, and cultural behaviour; **archaeobotanical evidence** informs on diet, agriculture, plant use, environment, and trade networks

– **Building features** and **geophysical surveys** provide information about settlement sizes and construction methods

3 Selected Aspects of Roman Life on the Danube

3.1 The Roman Military Along the Danube

3.1.1 Fortifications

Fundamentally, Roman troops initially erected temporary camps during first expeditions into new territories and upon arrival at the Danube in the 1st century AD. When establishing a military site on the Danube, timber-earth bases were first constructed, which were then mostly converted to stone construction from the 2nd century AD onward. Adapted to the respective needs – troop strength and type were particularly decisive here – there were military installations of different sizes. These were always designed according to an established system, i.e., the street layout inside and the position of individual functional areas or certain buildings were very similar everywhere. Thus, the barracks for the troops had a specific place, as did the larger residential building (praetorium) and administrative building (principia) of the camp commander. Around the military bases, settlements formed – residential and work places for the civilian population and numerous service providers, such as craft workshops.

With the beginning unrest from the mid-3rd century AD onward, Roman army structures changed. Emperor Diocletian (284–305 AD) began during his reign to divide the army into frontier troops and mobile field armies. He increased the number of soldiers, improved supply and strategically deployed army units for regional defense. These reforms mark the beginning of late antique military organization. Adapted to the new needs – the troops were now fundamentally smaller and mobile cavalry units were used more extensively – the camp buildings were also rebuilt. That is, many forts were converted into so-called reduced forts, with space for fewer soldiers (for example in Abusina/Eining, Germany (Fig. 33); Cannabiaca/Zeiselmauer, Lower Austria). Or small forts were newly erected as “burgi” (see below) These are found frequently, for example, along the late Roman Danube-Iller-Rhine Limes.

In contrast, large fort structures (interior fortresses) are found in Pannonia (see below), which were also equipped with large storage buildings for food supplies, so-called horrea. Depending on the region, therefore, individual changes adapted to the respective needs took place in order to withstand the uncertain times of the 4th century AD.



Figure 33: An excellent example of a reduction fort can be seen in Eining (Abusina) (Bavaria, Germany). The original fortifications have been preserved – this is where the civilian population found shelter in times of crisis (© BLFD, photo: O. Braasch).

3.1.2 Structure of a Military Base and Troop Strengths

Imperial Period Military Structures (1st–3rd Century AD)

From the 1st century BC onward, permanently stationed military troops developed, which then also made the construction of permanently installed bases necessary. Since the ancient literary sources describe almost exclusively the temporary marching camps of the Republic and the imperial period, our current knowledge about Roman military base structures of the imperial period (1st–3rd century AD) and late antiquity is based almost exclusively on archaeological features, aerial photographs and geophysical survey results, which are also available in great numbers for the Danube frontier.

For the construction of standing bases, topographically favorable positions were chosen. This had primarily tactical reasons. First, more endangered or heavily frequented points should be able to be secured and monitored; second, the military installations also had a deterrent function. Clearly visible, they served as a demonstration of power of the Roman Empire. Small military installations, such as watchtowers and burgi, were always erected in exposed locations directly on the water but above the flood line, with an excellent view of the Danube and the opposite river bank. These served primarily for control and communication along the frontier. Burgi were small fortified posts of the late Roman period (3rd – 4th century AD) at strategic points along the limes.

Fundamentally, the structure of imperial period standing bases is always very similar, but of course variants were possible (Fig. 35). This indicates that the same building templates or standards were applied empire-wide. However, there were differences, for example, in the building material used (wood, stone, fired bricks, unfired mud bricks), which was primarily related to the locally available resources and climatic conditions. Mudbrick buildings were rather the exception for the areas of

the northwestern provinces and along the Danube due to the wet weather, but were certainly used in Upper Egypt (e.g., in the construction of the fort of Nag el-Hagar, late 3rd–7th century AD). Most of the time, the standing bases were also first built of wood before they were then converted to stone forts in the 2nd century AD (see also chapter 1.1).



Figure 34: The Carnuntum legionary fortress is still visible from the air today thanks to its characteristic vegetation. Aerial photographs are therefore an important source for reconstructing military buildings (© BildNr. 0120110603.057 Luftbildarchiv, Institut für Urgeschichte und Historische Archäologie, Universität Wien).

The floor plans of imperial period military installations resembled a rectangle with rounded corners (also called "playing card shape") (Fig. 36). The gates were four and positioned opposite each other on the four sides. From these, roads ran straight into the interior, from the side gate on the left (porta principalis sinistra) and right (porta principalis dextra) and the main gate (porta praetoria) as well as the rear gate (porta decumana), to the center, where the headquarters building, the principia, stood. The principia was the administrative complex of the base. Directly next to it is usually located the praetorium, the large house of the camp commander. In this middle section of the base, storage buildings (horrea) could also have been installed. In large legionary fortresses, the valetudinarium was also located here, a large building complex for the care of sick and wounded soldiers. In the front and rear areas of the base, the barracks for the troops (centuriae) then occupied by far the largest part. This is not surprising insofar as a legion was 5,500–6,500 men strong. For partially mounted or mounted units, the horses also had to be accommodated, which in cavalry forts was often solved directly together with the riders, in stables attached to the barracks. The centuriae were each subdivided into ten approximately equal-sized

rooms, the contubernia, in which eight soldiers each found their sleeping place. Here there was also the possibility of hearths – both for preparing meals and for heating the rooms. The centuriae were each also attached to a head building. In this large living unit lived the officer (centurio) of the centuria (i.e., the 80-man strong group).

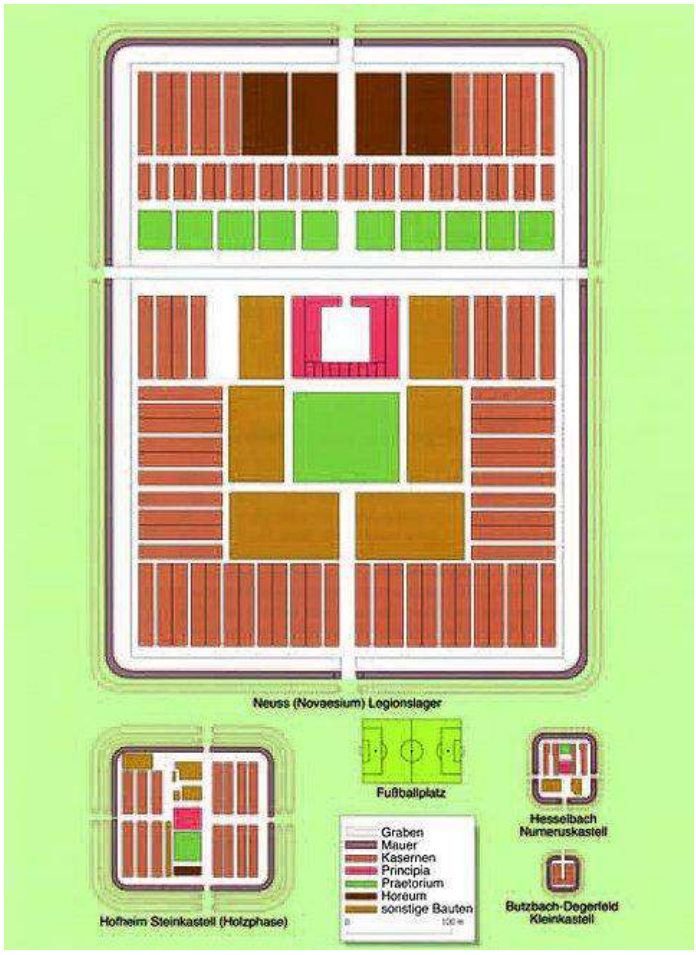


Figure 35: Area comparison of Roman military bases (© Thomas Fischer).

The military bases were protected by a wall with gates and interval towers. Additional protection was offered by ditches, which sometimes enclosed the base in multiple execution. Latrines, equipped with a sophisticated sewage system, were also usually attached to the inner wall. Ovens for baking bread could also have been installed inside against the wall. Outside the bases, in the case of auxiliary forts and inside legionary fortresses, baths could also be present. For it was important, with such a crowd of people in a confined space, to pay attention to high hygiene standards because of the danger of epidemics.

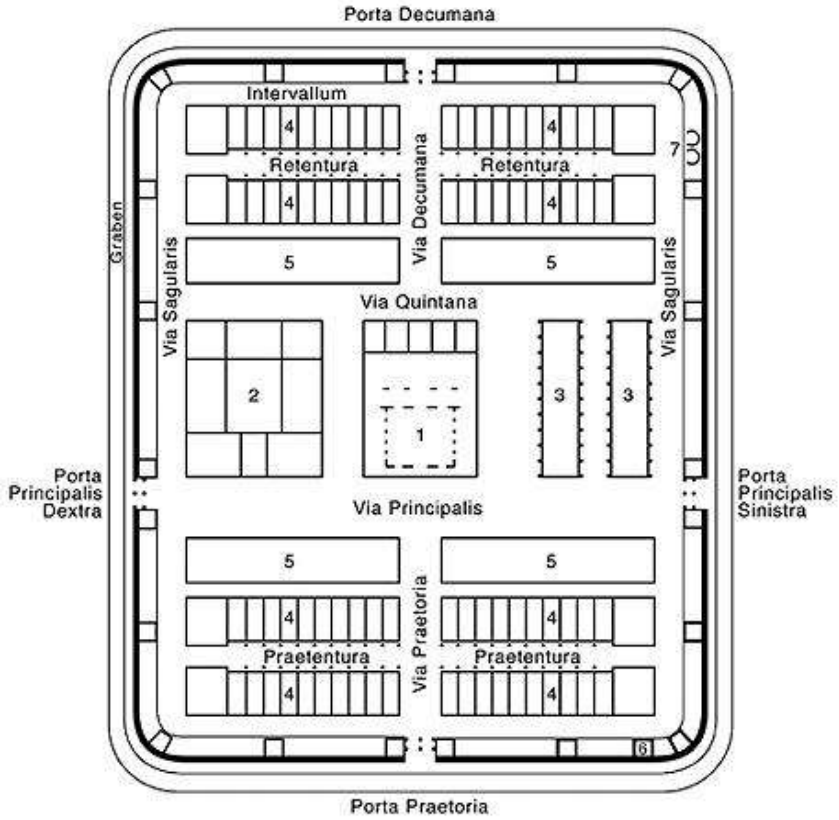


Figure 36: Ideal layout of an auxiliary fort (according to Johnson 1987): 1. headquarters (principia), 2 commander's house (praetorium), 3 storage buildings (horrea), 4 troop quarters (centuriae), 5 storerooms or stables, 6 toilets, 7 ovens on the defensive wall (© Thomas Fischer).

Sizes of Imperial Period Camps

The base sizes naturally depended on troop strength. Legionary fortresses are known to us in sizes of 18–25 hectares (Fig. 37), whereby in very large fortresses two legions (i.e., 10,000 men) could also be accommodated. Ala and cohort forts were considerably smaller; camp sizes of 1.5 to 6 hectares are known here. The mounted auxiliary troops (alae) and simple auxiliary troops (cohors) were 500–1,000 men strong, whereby a mounted auxiliary troop required more space due to the additional space requirements of the horses. The troop sizes and type of auxiliary troops can also be read from their designations: cohors quingenaria peditata and cohors milliaria peditata (unmounted units with 500 or 1,000 men), cohors quingenaria equitata and cohors milliaria equitata (mixed infantry and cavalry unitsunits with 500 or 1,000 men including horses), and ala quingenaria and ala milliaria (fully mounted cavalry units with 500 or 1,000 men).

The supply of the military base with food and everyday necessities was provided by the camp villages outside the camp and the surrounding area (see chapters 4.1 and 4.2). However, there is evidence, especially for the manufacture or repair of weapons, that this happened in camp workshops (fabricae). Characteristic of these workshops are features of ovens, slag lumps and semi-finished workpieces or waste from metal processing.

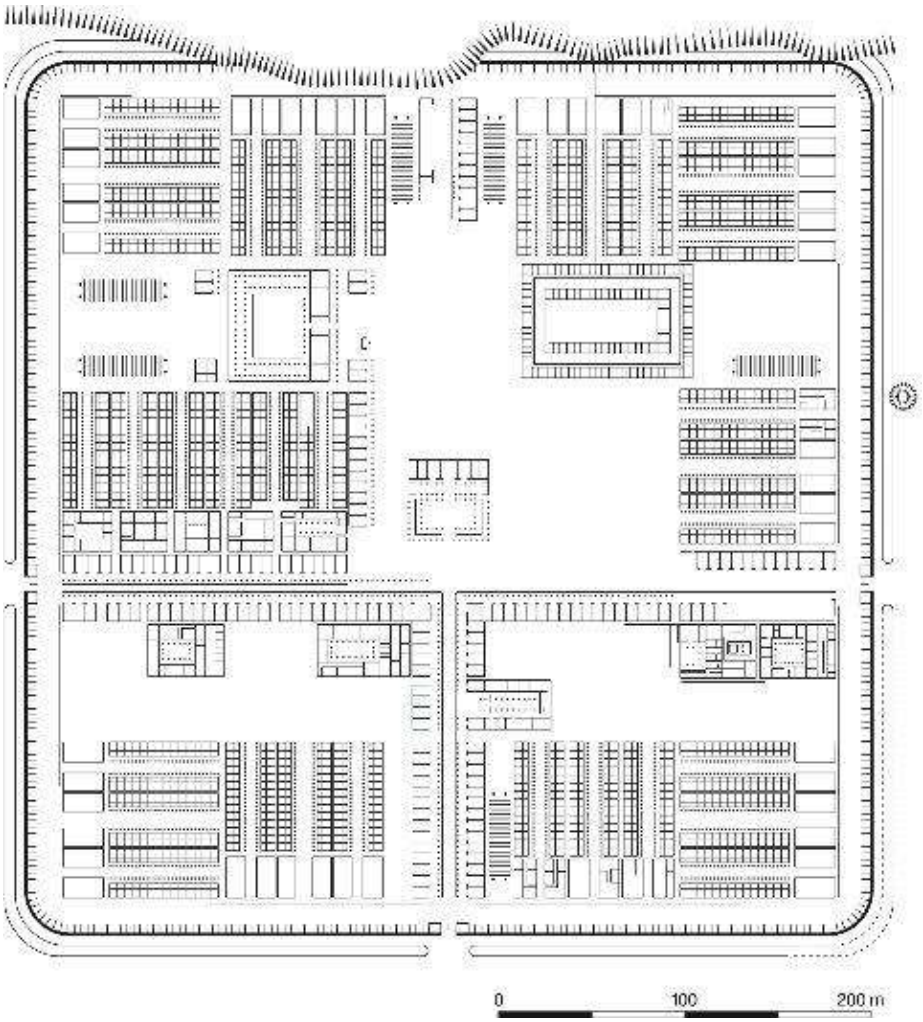


Figure 37: Example of the layout of a legionary camp. The base at Inchtuthil (Scotland) (© Thomas Fischer, according to Richmond).

The Late Roman Period (4th–5th Century AD)

In the late Roman period, conditioned by geopolitical changes and the associated restructuring of the Roman army, the installations on the borders of the Roman Empire also changed (see also chapter 1.1). The military installations now erected were fundamentally more oriented toward sieges. They now possessed thicker walls, different tower and gate forms. The now horseshoe- or fan-shaped towers projecting from the defensive wall (Fig. 38) were more practical for repelling attacks and especially much better suited for defense by archers. Large military bases were partially converted into so-called reduced forts (e. g. Eining/Abusina, Germany, see Fig. 33 Eining above), or adaptations took place (reinforcement of base walls, additions of towers), as in the fort of Mautern (near Krems, Lower Austria) (Fig. 39). These conversions then also always exhibit the mentioned characteristics of late antique military architecture, such as projecting tower and gate installations and strong defensive walls. Inside these bases, in addition to the barracks for a small military unit (the limitanei or riparienses, see below), storage buildings (horrea) could also have been erected. We can also assume that in times of crisis, parts of the civilian population also found protection within the defensive walls. However, evidence of civilian population is not always

successful – an indication could be finds of typically "female objects", such as bone hairpins in military installations.



Figure 38: An exceptionally well preserved late antique U-shaped tower in the Mautern fort (© Bundesdenkmalamt, photo: René Ployer).



Figure 39: In Mautern (Lower Austria), formerly known as Favianis, the late antique tower buildings are still excellently preserved and open to visitors today (© Bundesdenkmalamt, photo: Christoph Tinzl).

Burgi – Typical Small Military Installations of Late Antiquity

Typical small installations of late antiquity are represented by so-called *burgi*. According to a general scientific definition, these structures often exhibit a large, tower-like central building and may be surrounded by a massive protective wall, sometimes with corner towers. One or more ditches could also enclose these installations to provide additional protection. The interior

buildings were typically very compact and often directly connected to the inner face of the fortification wall; they could be constructed either in stone or in timber.

However, the term *burgus* does not refer to a single, uniform architectural type, but rather encompasses a range of different late Roman fortification forms:

- **Burgus as an isolated small fort (solitary construction):**
  A newly built, independent late antique fortification. In some cases no surrounding ditches have been archaeologically attested.
- **Burgus as a reduction fort (reduced fortification):**
  A massive, rectangular building inserted into the corner of an earlier military base, either attached to or set slightly apart from the existing wall. These installations typically lack both ditches and corner towers.
- **Burgus as a late antique watchtower:**
  A massive, rectangular, usually three-storey standalone structure, sometimes replacing an earlier watchtower, and in some cases surrounded by up to two ditches.

In this sense, the term *burgus* serves as a collective designation for various types of compact, fortified installations of late antiquity, rather than describing a single standardized form.

For the Upper Germanic Limes and northern Gaul, it is documented that mid-imperial period wooden watchtowers were already converted or expanded into burgus-like installations from the later 3rd century AD onward, i.e., expanded and more strongly fortified. Only with a renewed reorganization of frontier defense in the second half of the 4th century AD under Emperor Valentinian I (364–375) did a comprehensive building program then occur. Hundreds of burgi were now erected along the Rhine and Danube frontiers. The remains of this Valentinianic building program can still be documented today, among other places, along the Danube-Iller-Rhine Limes in Bavaria and along the Danube in Austria and Hungary (Pannonia). That these burgi were erected in a unified building program is also suggested by their dimensions: in Raetia, for example, all tower-like forts exhibit side lengths of 11–13 m.

These small late Roman forts had primarily the control and surveillance of important traffic junctions on the Danube and in the hinterland as their task. In part, these also served as ship landings on the Danube bank. An excellently preserved example here is the burgus of Bacharnsdorf (near Krems, Lower Austria). Here the masonry has been preserved with a floor plan of 12.2 x 12.4 m and up to 3 stories high; the concrete masonry still exhibits loopholes for defense and arched windows. Wall thicknesses of 1.5–1.7 m are also impressive (Fig. 40).

In late antiquity, in addition to these small forts, there were also significantly larger installations. Their floor plan could be erected rectangular, square, or polygonal. The interior buildings no longer seem to follow the strict regulations of the imperial period here, but certain features – here the thick walls and projecting towers and gate installations should be mentioned again, as well as the adaptation to topographical conditions, partially in higher elevations – probably represented the standard.



Figure 40: The preserved walls of the burgus at Bacharnsdorf (Lower Austria). The impressive thickness of the walls and their preservation up to the second floor are still visible (© Bundesdenkmalamt, photo: Christoph Tinzl).

Troop Strengths in Late Antiquity

From the time of Emperor Constantine I (306–337) onward, the army reforms of his predecessor, Emperor Diocletian and his own measures had become so established that a permanently installed frontier army (the limitanei or riparienses) and mobile field units (the mobile army, the comitatenses) operated. The troop strengths of the frontier army (limitanei/riparienses) of the late Roman period cannot always be clearly reconstructed. What is clear is that in the reduced forts of the Danube frontier and in the small late Roman military installations (burgi), only a reduced number of soldiers found space. Archaeologically documented building features help to calculate the number of soldiers stationed in the individual late antique installations. Since different sizes of military installations were documented here, we will have to assume a number of roughly 100 to 300 soldiers.

For the comitatenses we are better informed. The mobile operational reserve was usually stationed in the interior of the empire (see below) on well-connected long-distance roads and could thus be on site relatively quickly in case of crisis. These troops were highly regarded and consisted of 120–500 man-strong vexillationes or 1,000–1,500 man-strong legiones. One can thus see very well here that the originally 5,500–6,500 strong legions now existed only in significantly reduced form. The mobile court or guard troops, for the imperial court also had to be guarded, were called palatini in late antiquity. In post-Constantinian times, the supreme command over the mobile army was held by the magister peditum praesentalis (of the foot troops) and the magister equitum praesentalis (of the mounted units).

Interior Fortresses of Late Antiquity

A new building concept that was applied in late antiquity are the so-called interior fortresses or interior forts. These installations are special types of forts, which were primarily erected in the hinterland of the Limes for the storage and redistribution of grain but also served for the stationing of mobile army units (comitatenses). These installations thus offer us revealing insights into late antique army supply. With these large installations, the supply of the military on the Danube frontier and in the hinterland was to be secured even in times of crisis. In case of war, the soldiers

and the civilian population of the region could retreat into the fort and concentrate there for defense, which can also explain the often unusually large interior area of these interior fortresses. We know these installations of the 4th century particularly from Pannonian territory in present-day Hungary, such as Fenékpuszta near Keszthely, Környe, Ságvár and Alsóhetény. The installations here were set back from the Danube frontier, arranged on a line approximately 20–60 km away from it. The Danube frontier could thus be reached relatively quickly.

What one sees in museums or on site: *Remains of mid-imperial period forts; remains of late antique burgi (e.g., burgus of Bacharnsdorf, near Krems, Lower Austria) and late antique forts; late antique tower additions (e.g., fan tower west of the fort of Mautern); Roman weapons (militaria).*

3.2 Navigation on the Danube

The Danube in Roman times was far more than just a border – it formed a central traffic artery of the empire. Rivers were always regarded as natural trade routes and until the advent of the railroad in the 19th century, inland navigation remained the most important means of transport for goods and in part also for people. The Romans optimally exploited the economic advantages of waterways: according to the Price Edict of Emperor Diocletian (284–305 AD), the sea route was the cheapest option. On the river route, the same quantity of goods over the same distance was six times more expensive. By land, transport was 60 times more expensive than by sea. The ratio between river and land transport was thus 1:10. With their ships, which had a very shallow draft of only about 0.5 meters, the Romans could also navigate tributaries that are considered non-navigable today. An impressive example is the Velika Morava (ancient: Margum) in Serbia: while today it is considered navigable for only three kilometers from the mouth area, the location of the supply center Horreum Margi (today Ćuprija) – about 100 kilometers upstream – indicates that the Romans used the river for ship transport over almost its entire length. The word horreum, by the way, also means storage building.

3.2.1 Military Fleet Units

The Roman Danube fleet played a decisive role in frontier security and supply. And there are some sources on these fleets, examples of which will be presented here: The Classis Flavia Pannonica existed at the latest since the reign of Emperor Domitian (81–96 AD) and operated in the Pannonian Danube section. It is already mentioned by Tacitus in 51 AD. From Carnuntum, we also know from a gravestone for the late 2nd century AD of a magister navaliorum of the XIII Legion Gemina, i.e., a high-ranking commander from a special fleet for the legion. Another fleet is the Classis Flavia Moesica. This was first documented in 92 AD on a military diploma from Dacia. After the division of Moesia into Superior and Inferior, the command structure remained unclear, but the numerous archaeologically documented landing sites in Moesia Superior attest to intensive fleet activities.

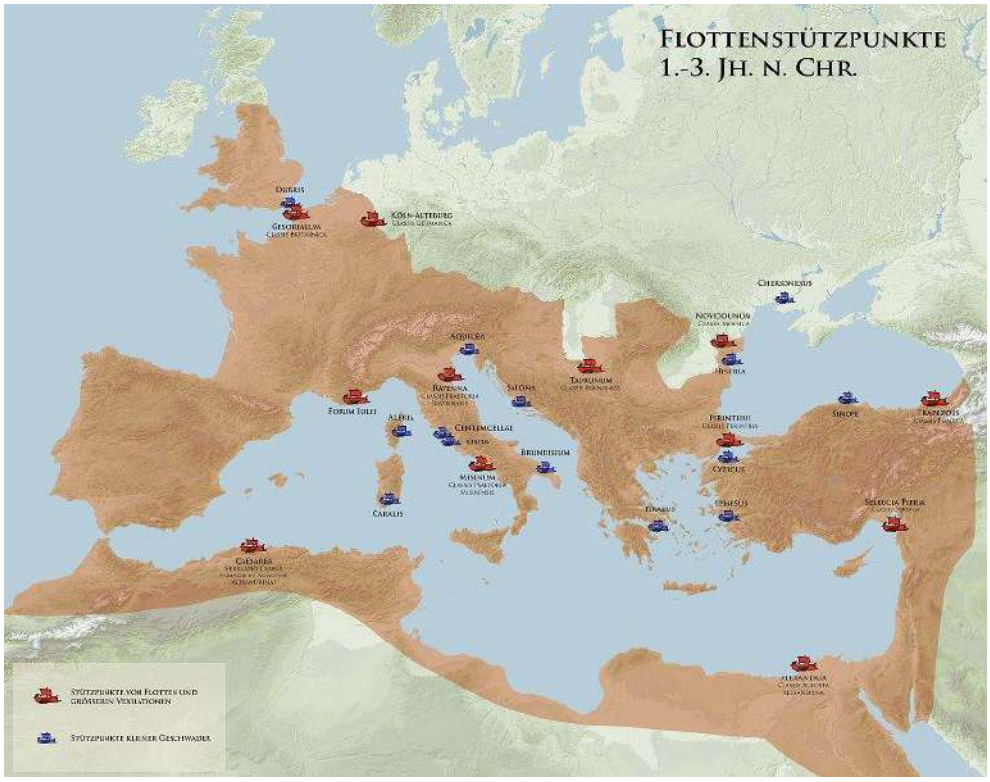


Figure 41: Mapping of naval bases and ship-based units mentioned in literature in the Roman Empire from the 1st to 3rd centuries AD (© Leibniz-Zentrum für Archäologie (LEIZA) / J. Ribbeck).

In the late Roman state handbook Notitia Dignitatum, several fleet units are also listed, which thus gives us indications about the late antique situation and the locations of the military fleets. A Classis Histricae is mentioned with bases including in Carnuntum, Viminacium and Egeta, as well as a Classis Ratiarensis with prefect in Ratiaria (today Arčar, Bulgaria) and the Classis Stradensis et Germensis in Margum at the mouth of the Morava.

3.2.2 Organization of Navigation for Trade and the Civilian Population

In addition to military use, civilian commercial shipping was also highly developed: The nautae, for example, were professional inland navigators who organized goods transport on the waterways. They joined together in collegia that functioned similarly to medieval guilds. From Gaul and Germania Superior, we know epigraphically, for example, the nautae Rhodanicae (Rhône) and nautae Moselliaci (Moselle). Their mention on inscriptions and monuments simultaneously attests to their social importance. In Viminacium, an inscription was found about the reconstruction of a Neptune temple by the Collegium Nautarum – also an impressive proof of the religious and social significance of this professional group.

The civilian population also used ships intensively, both for commercial and private purposes. Ships were of course important for fishing. Dugout canoes, for example, were used for fishing into modern times and we also know original finds from the Roman period, such as a dugout canoe

from Lake Klopein in Austria. The great economic importance that inland navigation had, for example, for the transport of grain, was primarily due to the significantly lower transport costs (see above). Possibly as part of a funerary monument of a wine merchant from Neumagen (around 220 AD), the stone top of a magnificent funerary monument in the form of a trading ship has been preserved (Fig. 42). The relief shows a river-suitable cargo ship with an eight-man crew, 22 oars and four large barrels as cargo. A fine proof that barrels (in addition to amphorae) could also be transported very well by ship.



Figure 42: A part of the tomb of Neumagen in the shape of a ship (source: photo by Stefan Kühn, CC BY-SA 3.0, https://commons.wikimedia.org/wiki/File:Neumagener_Weinschiff.jpg, 29.06.2026).

What one sees in museums or on site:

- **Ship finds** (e.g., from Lake Klopein, Austria: a late Roman dugout canoe, 320-480 AD; Oberstimm near Ingolstadt, Germany: three naval ships, displayed in the Kelten Römer Museum Manching, late 1st/early 2nd century AD, Fig. 43); ship models (e.g., small dugout canoe model – toy? – from Bedaium/Seebruck on Lake Chiemsee, Germany).
- **Funerary monuments and reliefs with depictions of ships or mentions of ship personnel** (fleet names, members of the collegium).
- **Remains of bridges and harbor installations along the Danube**: e.g., bridge Pons Trajani in Serbia/Romania near Drobeta Turnu Severin/Kladovo; bridgehead fort "Ödes Schloss" near Stopfenreuth/Carnuntum; protected landing sites with defensive walls at Hajdučka vodenica, Diana/Karataš, Egeta/Brza Palanka in Serbia.



Figure 43: The shipwreck from Oberstimm, Manching Museum (Bavaria, Germany) (© kelten römer museum / photo: Michael Heinrich).

4 Civilian Life Along the Danube and in the Hinterland – Selected Aspects

4.1 Settlement Types

4.1.1 Settlements Around Military Bases (canabae and vici)

Characteristics of Civilian Settlements

Civilian settlements emerged in the immediate vicinity of nearly all auxiliary forts and legionary fortresses and formed a spatial and social unit with the military installations. In the case of legionary fortresses, the associated settlements are referred to as canabae or canabae legionis, whereas in the case of auxiliary forts they are called a vicus. The canabae lay within a specific radius around the legionary fortress (the scholar Ioan Piso assumes a leuga of approximately 2.22 km) and were directly subordinate to military administration. The land was ager publicus owned by the imperial treasury. Civilian settlements that developed beyond this boundary were also called vici and were subordinate to provincial administration.

The settlement structure of the canabae was often oriented to the main roads leading from the base gates (portae) and frequently exhibited orthogonal parceling. Geophysical surveys around the legionary fortress of Carnuntum have proven that here certain areas or strips for construction were systematically parceled long in advance. This is indicated by still unbuilt building parcels in the Carnuntum canabae. Typical infrastructure of the canabae and vici around military bases included road networks, aqueducts, sewerage, baths, amphitheaters, temples, guesthouses (mansiones), as well as workshop districts and necropoleis.

Function/Functions

The canabae primarily fulfilled supply functions for the troops: here trade, crafts and services took place. Merchants and craftsmen settled in the immediate vicinity of the fortresses to supply the soldiers (for examples of professions and craft branches see chapter 4.3 on the inhabitants of the Province). At the same time, the permanent stationing of Roman troops represented a significant economic factor and sales market for the local population, which is also evident from the fact that many civilian settlements were then abandoned after the withdrawal of troops. The settlements also served as residences for the families of soldiers, who from the Severan period were officially allowed to live together with their relatives.



Figure 44: Reconstruction of the Carnuntum military bases and the civilian settlements that grew up around them. The canabae legionis sprang up around the legionary fortress (right in the picture); the municipium was located approx. 2 km away (left) (© 7reasons).

Inhabitants

In the canabae lived Roman citizens (cives Romani consistentes ad canabas), veterans, merchants, craftsmen, as well as peregrini and in part also native population. When one compares the gravestones from the Carnuntum necropoleis with the gravestones from rural settlements of the hinterland (see chapter 2.4), it becomes clear that around many military bases a multinational, militarily shaped population predominated. In contrast to the rural population, which consisted mainly of native persons and veterans. Self-administration in the canabae lay with the Roman citizens, who were represented by magistri or decuriones, even though they were subordinate to the legionary legate. The inhabitants of the canabae had limited rights: for example, they could not own land, though they could lease it.

Datings and Changes

Canabae legionis and vici emerged simultaneously with or shortly after the establishment of military fortresses and existed as long as the troops remained stationed. In the 2nd century AD, some canabae experienced legal upgrading and received municipal status (on the municipia see below), such as the canabae around the base of Brigetio (Pannonia, today Hungary) and Apulum (Dacia, today Romania).

Fundamental changes appeared in late antiquity (from the late 3rd century AD onward): The increasing external threats led to the migration of the population from the outlying settlements into the better-protected settlements associated to military bases and finally into the fortified installations themselves. In Favianis/Mautern (Noricum, today Lower Austria), this population migration is archaeologically demonstrable: in Period 6 (370/80–450 AD), the base was transformed into a multifunctional, civilly characterized settlement, while the vicus was largely

abandoned. Simple timber and mud-brick buildings replaced the military structures, large refuse pits and latrines attest to civilian use and newborn graves document the presence of women and children here. Something similar is also assumed for the legionary fortress in Regensburg (Raetia) in late antiquity.

Examples

Apulum/Alba Iulia (Dacia): At the legionary fortress of the legio XIII Gemina, two urban communities developed: the municipium Aurelium Apulense (founded under Marcus Aurelius, later colonia Aurelia Apulensis) and the canabae legionis directly at the legionary fortress, which was then elevated to municipium Septimium Apulense under Septimius Severus.

4.1.2 Life, Work and Residence in the Hinterland of the Danube Frontier

Municipia

A municipium in the Roman Empire was a city with special legal status. Originally it designated cities in Italy whose inhabitants had the same obligations as Roman citizens. In the imperial period, cities in the provinces outside Italy also received this status. A municipium was thus an autonomous administrative unit within the framework of Roman law, whose inhabitants – or at least their upper class – already possessed Roman or Latin citizenship before the general grant of citizenship in 212 AD.

In the Danube provinces of Raetia, Noricum, Pannonia and Moesia, municipia played a central role in Romanization and urbanization. Under Emperor Claudius (41–54 AD), five municipia alone were founded in Noricum, as Pliny the Elder reports (nat. hist. III 146): Virunum, Celeia, Teurnia, Aguntum and Iuvavum – all with the cognomen "Claudia" (e.g., Municipium Claudium Virunum). Under Emperor Vespasian, Flavia Solva followed as the sixth municipium. Only under Emperor Hadrian did municipalization reach the northern Danube section. Thus, Aelium Cetium (today St. Pölten) was probably elevated by Hadrian to municipium in 122 AD; in the province of Raetia, only Augusta Vindelic(or)um (today's Augsburg) is known to have been elevated to municipium status under Hadrian.

The Municipium Claudium Virunum on the Zollfeld near Maria Saal in Carinthia was founded around 45 AD as a systematically planned city. As successor to the older merchant settlement on the Magdalensberg, Virunum became the capital of the province of Noricum. The city possessed Latin citizenship and was until the second half of the 2nd century the seat of the provincial governor (procurator Augusti provinciae Norici). The urban area comprised about 2 km² and exhibited all characteristics of a typical Roman city: a right-angled street system with regular residential quarters (insulae), a forum with Capitoline temple, a theater, as well as an amphitheater. After the Marcomannic Wars (around 170 AD), the provincial administration was transferred to Ovilava (Wels), but financial administration remained in Virunum. After the division of Noricum under Emperor Diocletian, Virunum again became a provincial capital, now of Noricum mediterraneum (Interior Noricum).

The Municipium Aelium Cetium lay on the Roman long-distance road from Ovilava (Wels) to Vindobona (Vienna) at the Traisen crossing. The city emerged at the end of the 1st century AD and officially received the status of municipium from Emperor Hadrian in 122 AD. With about 25

hectares of urban area (216,000 m²), Aelium Cetium was among the smaller administrative cities. As a civilian supply and administrative center of northeastern Noricum, it lay only one day's march from six auxiliary forts on the Danube limes. Aelium Cetium possessed no military character – troops were never stationed here – yet military equipment was manufactured in the city's smithy workshops! The city plan followed the typical grid of streets intersecting at right angles. The forum was presumably located in the area of today's Herrenplatz. In the 4th century, the city served as the seat of the civilian governor of Noricum ripense (Riparian Noricum).

The administration of the municipia followed Roman standards. At the head stood two annually elected duumviri iure dicundo (supreme magistrates with judicial powers). Other offices were the aediles (for public buildings and markets), quaestores (financial administration) and the ordo decurionum (city council). Priestly offices such as that of the flamen rounded out the administrative structure. The population of the municipia was composed of Roman and strongly Romanized citizens. Inscriptions show this very clearly, as Italic gentile names appear particularly frequently in the urban centers. Also, the officeholders and council members (aediles, quaestors, duumviri iure dicundo) in the first municipia of Noricum show in 70% a connection to immigrants from Italy or the Mediterranean region. Virunum's population is estimated at the beginning at about 3,000 persons, who partly came from the predecessor settlement on the Magdalensberg. Inscriptions also show that inhabitants of the municipia could hold offices in several cities, as the funerary inscription of Publius Aelius Flavius attests (CIL 03, 05630), who held high offices in both Aelium Cetium and Colonia Ovilava (Wels).

The municipia of the Danube provinces were more than administrative centers: they were places of encounter between Roman and local culture, economic centers and infrastructure nodes that significantly shaped the integration of the Danube region into the Roman Empire.

Settlements of Native Form (non-urban settlements)

In the hinterland of the Danube frontier, rural settlements are very well studied in the territory of Eastern Pannonia (today Hungary). Rural settlements are designated as places that had no city rights (like Roman municipia), were not military installations and were also not villas. These are often rather loosely arranged, village-like settlements that fulfilled important economic and craft functions for the nearer and wider surroundings. In the specialist literature, these can be designated, based on epigraphic sources, as vicus (pl. vici). However, they differ fundamentally from the vici at military sites mentioned above! They were probably subordinate central places. Since the Pannonian vici are particularly well known, the peculiarities in this province will be discussed here.

In addition to the function as possible trade hubs, vici had other functions: crafts were practiced here (metal processing, ceramic production, or other commercial activities). Many vici had a strongly agricultural character with animal husbandry and farming and they supplied the surrounding areas and the Danube frontier with their goods. We know this because, in addition to archaeological finds, ancient animal bones from these settlements have been examined that indicate surplus production.

The extents of these settlements are sometimes difficult to grasp in their entirety. For many of the settlements have only been archaeologically excavated in sections. Based on the known vici of Pannonia, however, one can reckon with sizes of 2–4 hectares and up to 70 hectares (Győr-Ménfőcsanak). The size of the agriculturally used periphery belonging to a vicus with its fields and

pastures is hardly definable. These, however, should not have been underestimated (see chapter 4.2). The internal structure of the settlements was usually organically grown. Unlike in the western provinces (see below) or in the settlements around military bases (see above for canabae legionis), there was no systematic division into narrow strip parcels (so-called strip houses) in the rural settlements of Pannonia. Instead, rectangular or square areas were demarcated by ditch systems, a procedure that we also know from the Latène period. The houses stood either in rows or in groups. A multitude of sunken-featured buildings ("Grubenhäuser") are known especially for the Pannonian vici – i.e., houses in timber construction half-sunk into the ground, which could also partially have walls of stone. Based on some settlements of Pannonia, it can be demonstrated that these sunken-featured building settlements already existed in the late Celtic period and then these construction methods continued to be applied in the Roman imperial period until late Roman times. Some of these settlements were later also equipped with stone buildings, entirely in Roman tradition. Paved road networks were rare in these rural settlements and mainly found in larger vici around Aquincum. It is also noteworthy that the settlement cores often did not lie directly on main roads, which contradicts the western definition of vici as roadside settlements.

Most rural vici of Pannonia emerged in the 1st century AD, frequently in the Flavian period. However, in northeastern Pannonia there are also very few pieces of evidence of continuity from the late La Tène period into the Roman imperial period. They experienced their golden age in the 2nd and early 3rd centuries. The settlements typically existed for two to three centuries, which corresponds to about six to ten generations. The inhabitants of the rural vici were mainly craftsmen (metal workers, potters, tanners), merchants and traders, farmers and livestock breeders, veterans and their families and of course and predominantly a native (Celtic-descended) population.

Only limited information is available about the late antique development of rural vici, since often the latest structures of the settlements have been removed by soil erosion. Many vici were abandoned in the 3rd century only to be resettled after a hiatus in the 4th century AD; others were used continuously and probably also had an important supply function for the army in the 4th century AD (see also chapter 3.1 on interior fortresses of late antiquity).

What is important: a Pannonian vicus differed in appearance, structure and function from vici or rural settlements from other provinces. This distinctiveness of rural settlements in the diverse regions of the Roman Empire is also reflected in technical terminology, for today there are quite different definitions and designations for these settlement forms of non-urban character, such as "small town", "Kleinstadt", "bourgs et villages", and "agglomération secondaire".

Villae Rusticae

When we travel through the landscape along the Danube today, we see the remains of a long-vanished world: Roman rural estates that once formed the backbone of the provincial economy. But what exactly lies behind the term "villa rustica"?

A Roman villa rustica was far more than just a farm. It was a complex estate that united residential area and economic operation under one organizational roof. At the center usually stood a stone main building – the pars urbana – in which the owner lived with his family. Here one frequently found heated rooms, baths and sometimes even magnificent mosaic floors and wall paintings. Around this were grouped the economic buildings of the pars rustica: barns, stables, workshops and accommodations for the workers, slaves, or free tenants.

The main task of the villas initially lay in agricultural production. Grain cultivation probably often stood in the foreground, as numerous finds of sickles, plowshares and storage pits attest. From these estates, similar to some rural settlements (see above), large cities and military centers along the Danube limes were supplied. But the Roman estates were far more diverse and differently specialized: they operated animal husbandry, viticulture and possibly also fish farming in specially constructed ponds.

What makes the villas particularly interesting is their industrial component. Many estates developed into veritable production centers. In Dacia, brick kilns were found, such as in Hobiţa, where bricks with the stamp "LDP" indicate the existence of a brick kiln. Potteries were also widespread: in Peşteana (Dacia), imitations of the popular terra sigillata (see chapter 2.5) were produced. In Pannonia, the situation was similarly diverse. The villa in Gyulafirátót had a pottery workshop that produced, in addition to utilitarian ceramics and bricks, also high-quality relief ware (terra sigillata imitations). In Croatia, the site AN 2 Beli Manastir – Popova Zemlja may be mentioned in this context. Particularly noteworthy are also the metal workshops found here: in Gyulafirátót, small votive statues of lead for offering were cast, depicting Isis-Fortuna, matrons and Silvanus.

The Development of the Villa Landscape

The development of the villa landscape proceeded differently in the various Danube provinces. In Dacia – present-day Romania – the situation was particularly striking. After the conquest by Emperor Trajan in the period 101–106 AD, the entire territory became ager publicus, i.e., imperial state land. This land was systematically distributed to veterans and colonists. The oldest documented land distribution (centuriatio – the division into geometric parcels) took place already in 108/109 AD at the founding of the colony Ulpia Traiana Sarmizegetusa. The land was surveyed, divided into theoretically rectangular parcels of 200 iugera (about 50 hectares) and is said to have been distributed by lot to veterans, whereby the size depended on military rank.

What happened to the native Dacian population? This question occupies research to this day. In the heavily urbanized west of Dacia, the native presence is hardly archaeologically demonstrable. The large Dacian settlements from the time before the conquest – with their workshops, their intensive economic activity and even coin minting – disappeared completely. There is no evidence of continuity between the pre-Roman settlements and the Roman villas. The large fortresses (oppida) of the Dacians were either destroyed or integrated into the Roman defense system, their inhabitants presumably resettled into the interior – possibly even deported, as a contested interpretation of Trajan's Column (in Rome) suggests.

The Roman villas in Dacia thus emerged on largely newly organized land, without recognizable connection to pre-Roman structures. The Roman settlement network differed fundamentally from that of the late Iron Age and the native population was absent both as a closed community and as inhabitants of the settlements founded by colonists. At least this cannot be archaeologically demonstrated.

In Pannonia – the present-day territories of Austria, Hungary, Croatia, Serbia, Bosnia and Herzegovina as well as Slovenia – the situation was more complex. Before the Roman conquest, Celtic tribes lived, particularly the Boii, in parts of Austria and Hungary. Partly they lived in fortified hilltop settlements (oppida) such as Velem or on the Gellért Hill, partly in smaller, village-like settlements without fortification. Some of these areas, such as the region around Lake Neusiedl (Fertő Lake), were according to written sources very probably settlement territory of the Boii, while

the direct area around Aquincum (Budapest) was inhabited by the Eraviscans. Further downstream along the Danube, the region was inhabited by a variety of other local tribes, including the Scordisci, Breuci, Amantini, Moesi, Triballi, and the Dacians, among others.

But here too applies: direct structural continuity between pre-Roman settlements and Roman villas can hardly be demonstrated. Although scattered finds of late Iron Age ceramics (La Tène period) are found in many villa territories and also some of the rural vici (see above) probably show continuous use from the late Iron Age, these pieces of evidence are very rare. One of the exceptions is, for example, the settlement of Szakály in the Kapos Valley. Here, continuity from the late Iron Age into the Roman period (even into the 4th century AD) can actually be demonstrated. The settlement consisted of sunken-featured buildings and post-built structures. Numerous storage pits attest to agricultural use; in one was even found a deer skeleton, possibly a sacrifice for a fertility cult. But Szakály is the exception that proves the rule: most Celtic settlements ended with the Roman conquest and where villas later emerged, evidence of continuous settlement is lacking.

The Roman administration dealt with the Celtic settlements differently. Fortified oppida were destroyed or their inhabitants resettled to secure the border area. Auxiliary troops took over the defense along the limes. In strategically less important regions, native settlements were probably allowed to continue to exist partially.

The Economic Foundation: Roman Wheat Instead of Celtic Emmer

An informative detail about Romanization is provided by archaeobotany. In the Celtic settlement of Szakály, Triticum dicoccum (emmer) was cultivated, a wheat species widespread among the Celts and in the barbarian world. In the Roman villas – such as in Baláca – on the other hand, remains of Triticum aestivum are found, the higher-yielding common wheat of the Romans. Emmer and common wheat, however, were also cultivated together and common wheat had already been present since the prehistoric period but its true expansion in Pannonia began only with Roman colonization, as archaeobotanical evidence shows a marked increase in the presence of Triticum aestivum in Roman strata. This change of grain variety marks the transition to Roman agricultural methods.



Figure 45: Emmer was cultivated long before the Romans (source: Von Whgler – own work, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=90069637, 29.06.2026).

Types of Roman Villa Buildings

Roman villas show remarkable architectural diversity. In the specialist world, there are therefore different type classifications for the diverse villa types. In Dacia, most villas were rather modest. Of the examined installations, most were small- to medium-sized estates with 200 to 1,000 iugera (50–250 hectares). The Dacian villas were frequently installations with several buildings scattered within an enclosure (Type C according to Henning). The main building was usually modestly equipped, with relatively small rooms. Between one and five ancillary buildings served as barns, stables, workshops, or accommodations for workers. The villas were preferably located in valleys on hillside terraces, near flowing water and roads, mostly near cities or military bases. They experienced their golden age in the Severan period (around 200 AD), i.e., about 90 years after becoming a province.

In Pannonia, a greater range of variation appears. Near Carnuntum lies one of the best-known villas of the region, the villa of Bruckneudorf (11 km from the city). Here an interesting building history can be reconstructed: the oldest documented building was a timber structure whose floor plan already anticipated the later stone version – a courtyard house with surrounding colonnade (porticus). The oldest stone building phase dates from the 2nd century AD and corresponds to this type of courtyard house with porticus. In the late 2nd/early 3rd century AD, the façade was emphasized by projecting building parts (risalits), a villa with risalits at its corners ("Eckrisalitvilla") emerged. In the 4th century AD, this villa was expanded as a large axial installation. It now possessed numerous inner courtyards and interconnected rooms. The mosaics inside the villa and the increasing monumentalization of this installation, with walls surrounding the villa, attest to a high need for representation and also protection. The originally primarily agricultural purpose of the installation probably changed over the centuries. Some scholars even speculate that the villa of Bruckneudorf was the temporary residence of Empress Iustina, wife of Emperor Valentinian I.

Furnishings and Standard of Living

As evident from the above-mentioned examples, the furnishings of the villas varied considerably and reflected the social status of their owners. In Dacia, luxury was limited. Most houses were small, with stone or wooden walls and tile roofs. The rooms often had rammed clay floors, less frequently brick slabs or opus signinum (a waterproof mortar screed). Some villas had heating systems and baths. Occasionally, porticos (covered colonnades) were found on the façades or external apses (semicircular extensions). The owners probably mostly lived year-round on their estates; only a few used them as pure summer residences. The latter were reserved for an upper class.

In Raetia, too, most estates were rather simple. Large and richly furnished villas are known mainly from the vicinity of the provincial capital Augsburg, such as the villa in Stadtbergen. In the stone-poor regions of Lower Bavaria and the Munich gravel plain, wooden estates predominated, with only a few buildings, such as the baths, being constructed in stone. Evidence of upscale furnishings such as marble, mosaics or high-quality wall paintings has rarely been found in the province of Raetia.

In Pannonia, there was a greater range. The richest known villa is Baláca in the Balaton Highlands. Here magnificent mosaic floors were found: in one room, for example, a black-and-white checkerboard pattern with floral ornaments from the Severan period, in another room similar geometric patterns. The most beautiful polychrome mosaics lay in rooms 31 and 21 (the numbers already show how large and rich in rooms the estate was): square main fields with attached apse, in the apse a kantharos (drinking vessel), in the main field geometric, floral patterns and pelta

patterns and in the central pictorial field a fruit tree with two birds, surrounded by multicolored interlace decoration. Even more impressive are the rich wall paintings of Baláca. These attest to a colorful and magnificent design of the walls, which even bore stucco decoration. Only a few other Pannonian villas reach this level! The shadows of these villas can only be guessed at when one considers their economic background. The elaborate operation of the estates was based on the labor of numerous slaves (see chapter 4.4).

Who Owned the Villas?

The owners of the villas can sometimes be identified through inscriptions and archaeological finds. In Dacia, votive altars for Roman gods indicate that the owners largely came from the first wave of veterans and colonists (reminder: Dacia became a Roman province in 106 AD). Particularly informative is the example of the villa of Ciumăfaia, from which alone 7 votive altars from the mid-2nd century AD are known: Aelius Iulius, a veteran and former centurion, received the land here at the end of his military career. This is indicated by his name as donor on the altars.

In Pannonia, the source situation is even better and even allows developments to be recognized: in the area of Aquincum, urban medium-sized estates played only a subordinate role before the Marcomannic Wars. While in other regions villae were already emerging in the 1st and 2nd centuries AD, their construction here only began in the Severan period. Previously, free peasant land ownership (see above on settlements of native form/non-urban settlements) shaped the agricultural structure; the few medium-sized landowners were mostly settled veterans. Only occasionally do inscriptions document the presence of slaves or freedmen. With the elevation of Aquincum to municipium in 124 AD, lands were detached from the possession of former village communities and transferred to members of the ordo decurionum, whereby urban medium-sized estates gradually developed. The family names of these decuriones indicate predominantly native origin. After the Marcomannic Wars and the elevation of Aquincum to colony (194 AD), the situation changed fundamentally: while in other parts of Pannonia the early villae declined as a result of war destruction, in the area of Aquincum the first estates emerged precisely at this time and the urban possessions gained increasing importance. At the same time, inscriptions mentioning slaves and freedmen increased. The most important labor force on these estates! The social and ethnic composition of the landowners also changed: alongside Romanized natives, owners of eastern origin now increasingly appear, such as Bithynia Severa or M. Aurelius Aepictetianus.

What one sees in museums or on site: *Foundation walls of stone buildings of the villas, mosaic floors and remains of wall paintings, ceramics of daily use (for cooking, eating and for the transport of goods), agricultural iron tools such as sickles and plowshares, loom weights and spindle whorls (textile production); votive statuettes and votive altars from the household altars (lararia).*

4.2 Military and Civilian Population – Interactions on the Danube Limes

The arrival of the Roman army at the Danube in the 1st century AD fundamentally changed the lives of people in the border provinces. Where previously in some areas sparsely populated landscapes and small Celtic settlements shaped the picture, within a few decades military bases,

bustling camp villages and a dense network of roads and supply lines emerged. The presence of thousands of soldiers triggered a chain reaction of economic, social and cultural changes that would shape the region forever.

The Economic Power of the Legion

A Roman legion with its approximately 5,000 to 6,000 men represented an enormous economic factor. The soldiers required not only food daily, but also clothing, weapons, equipment, building materials and countless other goods. This demand could not be met solely through imports from distant provinces – the local population was inevitably integrated into the army's supply. For the native population, this meant on the one hand new economic opportunities, but on the other hand also obligations and burdens. The massive population increase through the army opened new sales markets for local products and led to an increase in prosperity for those natives who traded with the Roman army. Through the inclusion of local elites in the administration of the newly conquered territories, an attractive field was created for native men to advance socially.

The supply of grain, the soldiers' staple food, was of central importance. Archaeobotanical analyses from the fort sites show that the soldiers mainly ate grain porridge and bread, plus meat, fish, vegetables and native fruits. These staple foods had to be brought in in large quantities. Farmers in the vicinity of the forts were very probably required to increase their production and generate surpluses.

For the legionary fortress of Vindonissa in Switzerland, excellent calculations of a legion's grain requirements exist. If one assumes a troop of 5,500 legionaries, 120 horses as cavalry and 690 mules as transport animals, as well as a civilian train of 1,000 persons with additional transport animals (120 animals), then one arrives at a total number of 6,500 persons with 930 animals. Overall, with these numbers, one arrives at an annual grain requirement of 4,000 m^3 of grain. Based on ancient written sources and experimental archaeological experiments, an ancient yield of 1.5 m^3 of grain per hectare of cultivated area can be assumed. This means that to cover the annual needs of a legion including civilian train and the animals, around 2,700 hectares (27 km^2) of cultivated area were necessary. In an area like northwestern Pannonia, with the simultaneous stationing of two legions (Vindobona, Carnuntum), auxiliary forts and the extensive civilian settlements, significantly more grain demand can be assumed. Calculated for the legions of Vindobona and Carnuntum, that would be 13,000 soldiers + civilian population. Calculations for the civilian city of Carnuntum vary, but we can assume for the 2nd century AD another 30,000 to 50,000 inhabitants for Carnuntum alone! All the food requirements for these people were covered from the surrounding area and the estates and village settlements installed here.

A Multicultural Society Emerges

Inscriptions on gravestones from the fort sites make clear that already from the 1st century AD onward, a multicultural society emerged on the limes. Roman soldiers were recruited from all parts of the empire – in the Near East, in Greece and Macedonia, in northern Italy and Gaul, present-day France and then sent to the middle Danube and other parts of the empire for military service. This ethnic diversity shaped the coexistence of military and civilian population from the beginning.

The multi-ethnicity of the army was viewed quite critically. The Roman historian Tacitus, in his biography of the general Agricola, has the Roman auxiliary troops described in a fictitious speech as people who “either have no homeland at all or a different one.” This passage shows how aware one was of the heterogeneous composition of the Roman army.

The presence of soldiers' families in the canabae legionis and the military vici was probably also formative. Although official marriage for soldiers was only permitted under Emperor Septimius Severus, many soldiers entered partnerships – often with native women – during their active service, contrary to the official prohibition on marriage. These unions contributed considerably to the integration of the provincial population. Gravestones show families, such as veterans with native women and document the close interweaving of military and civilian population.

Roman infrastructure also fundamentally changed the quality of life. The better standard of living was due to good public infrastructure, which above all brought considerable hygiene measures, for example good water supply and disposal with aqueducts and canals as well as public latrines. Bath complexes were erected around the military bases, equipped with underfloor heating, mosaic floors, wall paintings and water basins, which were also open to the civilian population. With these new living conditions, health and medical care improved for some social classes.

Trade, Crafts and New Foods and New Professions

In addition to agricultural production, a diverse trade quickly developed. In the camp villages (vici) that formed immediately before the fort gates (see chapter 4.1), merchants, craftsmen, innkeepers and service providers of all kinds lived. The characteristic strip houses along the main streets housed workshops for potters, smiths, leather workers and many other trades.

The army constantly needed supplies of ceramic dishes, tools, wagon parts, leather products, weapons and countless other products. Cities like Wels and St. Pölten (Austria) probably also developed into important supply and production centers for the border zone. On the Raetian Danube Limes, Regensburg and Straubing were the largest settlements until the Marcomannic Wars and thus certainly also the most important supply centres for everyday goods. The Roman settlements were very often built on virgin soil without Celtic predecessor settlements – which is also a sign that completely new urban-economic structures emerged here.

For the native population, this opened up possibilities that had not existed before. Whoever was skillful enough to do business with the army could attain relative prosperity. At the same time, the Romans brought new technologies and production methods. Through the Roman army, new eating habits and ways of preparing food as well as new crop plants came to the Danube provinces. The walnut and fruit trees such as plum, pear and cherry were only widespread here from the Roman period onward! This is very surprising today, because they are now a matter of course in our eating habits. The animal breed spectrum also changed with the arrival of Roman troops. Whereas previously there were small-statured cattle, the Roman cattle were significantly larger and also more resistant for work before the plow and as draft animals. An important prerequisite for increasing agricultural yields (see above)!

Shadow Sides of Military Presence

For all the economic dynamism and cultural enrichment, military presence also brought problems. The native population was of course massively affected by the newcomers and the expansion of the border system. And even though many aspects of autochthonous culture were tolerated, Rome was nevertheless an occupying power that, for example, also mercilessly pursued and punished deserters.

The intense economic dependence on the army made the region vulnerable. During troop transfers or in times of crisis, demand suddenly collapsed. Conversely, the soldiers were dependent on supply from the hinterland – a mutual dependence that certainly shaped both sides.

Anthropological examinations of skeletons from Roman cemeteries provide information about the reality of life. Although individual persons reached a very old age – rarely gravestones record lifespans of 60 to even 100 (!) years – life expectancy was not particularly high. And this despite the fact that the Roman way of life also introduced new hygiene standards to the world of the Danube provinces (see above chapter 4.1 on baths near military sites). A death age of 20 to 30 years was relatively normal. As seniores or senes (old people), for example, the generation of 45–60-year-olds was already counted. We know this from a written list by Pliny with a "catalog of the long-lived." Child mortality was – incidentally until the introduction of protective vaccinations from the mid-19th century – particularly high. Child mortality today in well-developed industrialized countries is only 4%. For antiquity, one assumes a shockingly high number. One-third of children died in the first year of life. Determining total child mortality is difficult, but perhaps only 50% reached adulthood.

Examinations in the military base of Lauriacum (Enns, Austria) revealed that soldiers not infrequently sustained cutting and stabbing injuries from military exercises or even died from them. Even though baths around military bases are documented and the soldiers had access to medical care, anthropological findings from Lauriacum show a contradictory picture. Among the deceased here, persistent sinus infections were very widespread. These infections were so severe that they can still be recognized today on the skull bones. Caries was also very common, which comes from very poor dental hygiene and a very carbohydrate-rich diet. The death age among the soldiers from Lauriacum was also quite low, namely between 20 to 40 years. This suggests what luck one had if one made it through military service to honorable discharge (honesta missio) and the associated privileges (see chapter 4.3 on Roman citizenship).

A Network of Mutual Bonds

The relationship between military and civilian population on the Danube frontier was complex and multifaceted. The army created demand, jobs and new opportunities, brought new technology, infrastructure and a certain degree of novel medical care. It promoted cultural exchange and integration. At the same time, it made demands, exercised control and fundamentally changed traditional ways of life. This network of mutual dependence between military bases and hinterland functioned surprisingly well over centuries. It enabled the Roman army to secure a long frontier and offered the local population access to some of the advantages of the Roman way of life. The archaeological finds – from imported amphorae to gravestones with Latin inscriptions to public bath complexes – testify to a living space in which military and civilian population, "Romans" and natives, were closely intertwined economically, socially and culturally.

Entertainment at the Edge of the Empire: Amphitheaters on the Danube

Along the Danube Limes—the frontier that once marked the northern boundary of the Roman Empire—amphitheaters were important public buildings in several military and urban centers. These structures were primarily used for spectacles such as gladiatorial combats, animal hunts, and public performances, which played a significant role in Roman social life and entertainment. Amphitheaters were typically located near legionary fortresses or major settlements, reflecting the presence of large military communities and urban populations who formed the main audience for such events.

Well-known examples can be found at Carnuntum (Austria) and Aquincum (Budapest, Hungary), where both military and civilian amphitheaters existed, illustrating the close relationship between the army and nearby urban communities. Further downstream along the Danube, amphitheater

remains are also known from Viminacium (Serbia), a major legionary base and provincial capital, and from Durostorum (Bulgaria), an important Roman military center on the Lower Danube. Today, these sites provide valuable insights into everyday life, leisure, and cultural practices along the Roman frontier. For heritage interpretors, amphitheaters offer a vivid way to illustrate how Roman traditions of spectacle and public gathering reached even the distant border regions of the empire, connecting frontier communities to broader Roman cultural life.

4.3 The Inhabitants of the Provinces – Legal and Social Conditions

The Roman Empire was a world full of differences. Not all people had the same rights – and this depended primarily on whether one was a Roman citizen or not.

4.3.1 Roman Citizenship – A Precious Privilege

Whoever possessed Roman citizenship (civitas Romana) belonged to the privileged group. One was allowed to marry a Roman citizen (ius conubii), conduct business (ius commercii) and – particularly important – one could defend oneself against arbitrary punishments (ius provocationis). One inherited this right from one's parents, but one could also have it conferred by the emperor. This was possible for individuals, but sometimes inhabitants of entire cities also received citizenship. Even freed slaves received it, albeit with restrictions. If a Roman citizen was punished, for example in the form of banishment, certain rights could also be revoked from him for this time.

But in the provinces, initially non-citizens – peregrini – lived predominantly. Although they were free, they could not independently exercise rights in Rome. They needed a Roman citizen as patron (patronus) and a special praetor was responsible for their legal matters (praetor peregrinus). Only in 212 AD did Emperor Caracalla truly grant Roman citizenship to all free inhabitants of the empire – a revolutionary step that completely changed the legal landscape.

4.3.2 The Roman Family – More Than Father, Mother, Child

The Roman familia was far more than our modern nuclear family. At its head stood the paterfamilias with almost unlimited power (patria potestas): his familia included not only wife and children, but also married sons with their families, adopted sons, slaves and the complete wealth. The paterfamilias alone decided about everything and everyone: he could impose punishments, expose newborns, sell children. Only the moral supervision of the censors, who punished abuse, set limits for him. Legally speaking, the familia was thus a legal association and a community of property. The familia was also a sacred community: one venerated together the household gods (Lares and Penates) and the deceased ancestors as di parentes.

4.3.3 Children in the Roman World

The life of Roman children depended heavily on the family into which they were born. Freeborn children (ingenui) of Roman citizens enjoyed special privileges. The rank and legal status of a child were decisive for growing up and later for professional career. These privileges were also displayed:

What one sees in museums: *the bulla (a spherical amulet capsule) identified freeborn children (Fig. 46). One sees the bulla also on grave reliefs (Fig. 47).*



Figure 46: A golden bull, found in Ostia (Italy), dated to the Augustan period (by Daderot – own work, Public domain, https://commons.wikimedia.org/w/index.php?curid=79436625, 25.11.2025).



Figure 47: Funeral relief from Rome. The boy, surrounded by his parents, wears the bulla around his neck. This identifies him as a person with Roman citizenship. Augustan age. Found near the Via Cassia, near Acquatraversa. Now kept in the Vatican Museums. Inv. No. 2167. (By Sergey Sosnovskiy from Saint Petersburg, Russia - Funerary relief, CC BY-SA 2.0, https://commons.wikimedia.org/w/index.php?curid=132525678, 25.11.25)

A Letter from Antiquity – The Defiant Theon

That children in antiquity, as today, were quite individuals with strong wills is shown by a remarkable letter from Egypt. In the 2nd or 3rd century AD, little Theon wrote to his father. Although the letter comes from a region far from the Danube provinces, since it provides special and unique insights into the father-child relationship of that time, we want to present this special find here:

The boy was angry because his father had not taken him to Alexandria. In his still faulty Greek, he complained vehemently and threatened his father with withdrawal of love: he would no longer write to him, no longer speak with him, no longer shake his hand, no longer wish him health. At the end he even threatens a hunger strike: "So send for me, I beg you. If you don't send, I neither eat nor drink. So there!" But then he softened and signed lovingly with the diminutive form of his name: "To be delivered to Theon from his son little Theon."

This letter shows: children of antiquity could and were allowed in a certain way to be cheeky, defiant – and still deal lovingly with their parents. The boy apparently knew exactly how to wrap his father around his finger! But one must note that the very fact that this boy could write well shows that he certainly belonged to a well-educated upper class. Children of the lower class, including slaves, were probably often less free in their expressions of opinion and education remained distant from them.

Childhood Between Education and Hard Work

For children from wealthy families, childhood primarily meant education and play. They had tutors (paedagogi), teachers (praeceptores) and nurses (nutrices) who took care of them. A thirteen-year-old girl named Minicia Marcella is praised by Pliny the Younger because she already possessed "the wisdom of an old woman" and read "how diligently, how intelligently."

But for the vast majority of children, reality looked quite different. Children of the lower class or slave children had to help out early, in the field, in crafts, in the household. This applied to the city of Rome just as to the children in the Danube provinces. Childhood was often over by the age of nine. For slave children (vernae) there was practically no real childhood. They automatically belonged to the master of their parents, i.e., the pater familias (see above) and were put to work from about five years old. For example, as table servants, for cleaning work, for herding livestock, or in agriculture. The work of boys and girls in agricultural operations is documented by numerous ancient authors. Frequent activities in viticulture were, for example: weeding, pruning vines and hoeing vineyards and removing tendrils.

But the work of the youngest was also praised and in some cases also received great recognition. For example, there is a funerary inscription that documents that a boy had done wonderful work as a bookkeeper. This boy Melior had been born as a slave into his master's house. The appreciative and personally familial bond with the slave Melior also becomes clear after his death at only 13 years. This gravestone was erected for him, on which his activities are honored.

Freeborn children from simple families also had to help – in the field, in the workshop, in the shop. In Egypt, census texts show that entire families – parents, sons and daughters – worked together in weaving or other crafts. Often families practiced the same craft over generations. There are even apprenticeship contracts for children. These also come again from Egypt. From these it becomes clear: the training lasted between six months and six years. The children had to work from sunrise to sunset, with perhaps only 18–20 days of vacation per year. Here too, the source situation for

Egypt – through the numerous preserved texts on papyri (see chapter 2.1) – is again unique. But one can imagine that similar conditions also prevailed in the Danube provinces. Most of these children mentioned on Egyptian papyri (24 of 30) were trained as weavers. For the people of antiquity, working children were something completely natural. Ancient writers mentioned working children quite casually – their readers found nothing unusual or offensive about it.

What Professions Did Children Practice?

The diversity was astonishing! Funerary inscriptions and other sources document children as: **Craftsmen** (stonemasons, mirror makers, coppersmiths, goldsmiths, silversmiths, bakers, weavers), **Merchants and sellers** (even as managers of shops), **Services** (waiters, dressing attendants, maids, hairdressers), **Entertainment** (flute players, acrobats, "entertainers").

Games and Toys – Joy in All Classes

Despite all the work: children in antiquity played! And some of their toys we would still recognize today.

Toys for the smallest: Already babies and toddlers had their own toys: rattles (crepitacula) of metal or clay, often in the form of small animals. They were not only supposed to entertain but also drive away evil spirits through noise.

Popular games of older children: Older children played with nuts. Nuts were, for example, rolled down an inclined plane and one tried to hit other nuts with them. There was even an expression that goes "to say goodbye to the nuts": this became a winged word for becoming an adult!



Figure 48: Children playing with nuts – an activity that we also know from literature (AI-generated with CoPilot, M. Kukula, University for Continuing Education Krems, 2025).

Particularly widespread were astragals – game pieces from ankle bones of sheep. But there are also astragals made of other materials, such as stone, metal, or glass. One threw five astragals into the air and tried to catch them again with one hand. Or one had to guess whether the number of

hidden pieces in a hand was even or odd – like "matchstick guessing." Ball games were also enormously popular already in antiquity. Interestingly, the oldest depictions show primarily girls playing ball, already from Egyptian tombs around 1900 BC! And a mosaic from the 4th century AD in the world-famous Villa del Casale in Piazza Armerina (Sicily) shows ten girls in a kind of bikini playing sport with a ball. Other popular toys were tops, the yo-yo (yes, that already existed too!), swings, small wagons to pull behind and of course dolls.

The dolls of antiquity would seem very familiar to us in part! The most famous ancient doll is the ivory doll of Crepereia Triphaena from Rome (150–160 AD). This came from a girl's grave. This 23 cm tall doll had an artfully crafted face, a magnificent hairstyle, ear holes for earrings, movable arms and legs. She even wore two gold rings on her finger. One of them with a tiny key for a jewelry box with combs and little mirrors for the doll! In Emona, in present-day Slovenia, precious, exquisitely crafted ivory dolls were found, which were placed in the grave of a girl from a wealthy family.

But there were also simple dolls: cloth dolls made of linen without an elaborated face. Or simple wooden dolls, carved from one piece, without facial features recognizable today. Perhaps these dolls were also lovingly designed in color and details, such as the face, depicted painted on?

What one sees in museums: *rattles, small ceramic animals, astragals, dices, merrels, game pieces and dolls.*

Playing Was Important!

Unfortunately, there are few written documents by ancient authors about playing in childhood. But the Roman writers Cicero, Quintilian and Horace all emphasized: playing belongs to childhood! A child who never plays cannot properly learn and work later either. Playing served for recreation, but in antiquity also for preparation for adult life. Just as today!

4.3.4 Women – Between Rightlessness and Influence

Blanket judgments about the social position of women in the Roman Empire would be misguided. The life worlds of girls and women differed considerably depending on region – a woman in the North African provinces lived under completely different conditions than one in the territories of the Danube provinces. Social origin, cultural traditions and economic conditions decisively shaped women's scope for action and professional prospects.

As everywhere in the ancient world, women in Rome also possessed no political participation rights whatsoever. However, their legal and social position was multifaceted and underwent considerable changes over the centuries. Initially, a wife was subject to the legal control (manus) of her husband, who also disposed of her property. From the late 3rd century BC onward, however, a form of marriage increasingly spread in which this power was eliminated: the property either remained with the woman herself or with her father (paterfamilias). As a result, Roman female citizens (naturally only those with Roman citizenship!) finally achieved more scope in inheritance and property law.



Figure 49: Women in typical Roman clothing at a festival in the Carnuntum Archaeological Park (Lower Austria) (© T. Mauerhofer, Römerstadt Carnuntum).

Women and Work in Antiquity

We learn little about working women from ancient texts – no wonder, as these almost exclusively came from male authors. Although women were present everywhere in working life, they remained largely unmentioned in literary sources. All the more important therefore are other testimonies: funerary inscriptions with professional designations, Egyptian papyrus documents about apprenticeship contracts and business transactions, as well as relief depictions on gravestones showing women at their work. A special example comes from the Danube province of Raetia showing a woman in a position of responsibility: Flora, known from the epitaph she dedicated to her husband – which was found in Rotthof (Lower Bavaria) – served as the owner or administrator of an estate. The orator and politician Cicero (1st century BC) disparagingly described most craft activities as "dirty business." The craftswomen and craftsmen themselves, however, judged their work completely differently: on their funerary monuments they had themselves depicted with pride in the practice of their profession. Between the contempt of the elite and the self-understanding of the working people gaped obviously a considerable gulf.

The Gulf Between Rich and Poor Women

Wealthy women with their own legal status (sui iuris) could call considerable possessions their own: cash, estates, trading ships and even brick-making operations are documented as possessions for women from the Roman Empire. However, even they needed a male guarantor for concluding contracts.

Slave women and free women from modest circumstances, in contrast to the wealthy upper class, practiced various craft activities. In somewhat better-situated families, small shops were probably often family businesses in which the wife functioned as saleswoman and some slaves worked. Funerary inscriptions also mention shoemakers, bakers, bean and vegetable sellers. Pictorial

evidence (for example on a stone shop sign from Ostia in Italy) shows saleswomen with poultry, fruit, rabbits in cages and even monkeys on the sales table!

What one sees in museums: *funerary inscriptions and pictorial evidences with women in numerous professions*

Textile Production – Women's Work Between Honor and Contempt

Textile production in the Danube provinces of the Roman Empire combined household activity with a well-developed sector of professional craft production. Archaeological evidence from military sites, vici, and towns along the frontier—such as loom weights, spindle whorls, and workshop remains—shows that spinning and weaving were widely practiced, but not confined to the domestic sphere. While elite ideology, especially since the time of Augustus, praised wool-working as a moral virtue of the ideal matrona, this image reflects cultural norms rather than everyday economic reality. In practice, most clothing for soldiers and civilians in these provinces was produced by specialized artisans, often organized in small-scale workshops and sometimes connected to military supply systems. Both free and unfree workers, men as well as women, participated in different stages of textile manufacture, from raw wool processing to weaving and finishing.

At the same time, textile work remained socially stratified and context-dependent. Certain tasks, such as fine spinning, could carry symbolic prestige in elite self-representation, as seen in funerary iconography depicting women with spindles. However, inscriptions and documentary sources indicate that professional textile workers – spinners, weavers, fullers, and menders – were frequently of modest or low social status, including slaves and freedpersons, though not exclusively so. Especially in urban and military contexts along the Danube, repair work and clothing maintenance were often carried out by independent artisans. Thus, textile production in the region should be understood as a spectrum ranging from ideologically charged domestic practices to economically significant, market-oriented craft activity embedded in the frontier economy.

What one sees in museums: *tools of textile work such as spindles (of bone or in rare cases of wood), loom weights (of ceramic or stone) and sewing needles (of bone, non-ferrous metal), as well as grave stelae with depictions of women holding a spindle*

Midwives and Female Physicians – Respected Specialists

The midwife (obstetrix) appears in inscriptions more frequently than any other female healing profession (Fig. 50). However, the boundaries with the female physician blur; a clear demarcation of both fields of activity often cannot be drawn. Possibly there was no strict separation between these professional designations.

The medical profession was not subject to any state control or licensing requirement, so basically any person could call themselves a doctor or female doctor and complete appropriate training. Accordingly numerous are satirists' mockery stories and reports about incompetent physicians. Nevertheless, female physicians must have enjoyed considerable social esteem: their gravestones frequently highlight their own profession, while that of the husband remains unmentioned. Female physicians usually treated exclusively female patients. In medical couples, it is assumed that the woman primarily practiced as a midwife.

What one sees in museums: *finds from female physicians' graves with surgical instruments. Known are, for example, finds of a dentist (with iron dental forceps) and of female surgeons (with scalpels, razors, probes).*



Figure 50: Grave inscription for the midwife Aelia Sotera from Solin / Salona (Croatia) (© F. and O. Harl, lupa.at/24515).

Services – In the Service of the Mistress

The profession of hairdresser (ornatrix) was learned by freed women. Freeborn women in this field of activity are not documented, presumably because they would thereby have entered into a service relationship with free women. The age structure is remarkable: almost exclusively young women worked as hairdressers. The youngest known was just nine years old! Their area of responsibility included, in addition to hair care, also the application of cosmetics.

The wet nurse (nutrix) naturally had to be a mother herself. This profession is extraordinarily well documented! The explanation lies in the fact that former foster children frequently donated gravestones to their wet nurses out of gratitude. A wet nurse cared for and nursed the infant, but many remained afterward in the household and took over educational tasks as well as other arising work. This applies especially to those wet nurses of whom it is known that they cared for several children. In wealthy upper-class families, the employment of wet nurses was a matter of course. Slave children from large households also received wet nurses so that the mothers could quickly work again. Poorer families could not afford this luxury. The richest simply chose a wet nurse from the circle of their numerous slave women; less wealthy had to hire a wet nurse temporarily. However, the payment was low: wet nurses earned two to five times less than weaving slaves.

What one sees in museums: *metal spatulas, twisted glass rods and small stone slabs for mixing cosmetics; hair combs, hairpins; rare finds are hair nets with golden tube beads.*

There are mother goddesses (mater nutrix, known e.g. from Pannonia superior – Poetovio – or the province Germania inferior) depicted as terracotta figures breastfeeding or mentioned on votive altars; depictions of wet nurse figures on grave steles and inscriptions mentioning wet nurses are

known for example from Pannonia and Noricum (who are also named as donors of gravestones or altars).

Taverns and Prostitution – The "Dishonorable" Professions

Female innkeepers and waitresses in taverns (cauponae, popinae) were often not only responsible for serving but also offered sexual services. In hiring these women, physical appearance played a decisive role. The legal link between tavern work and prostitution is shown by the fact that someone who acquired a slave woman with a prostitution ban was not allowed to employ her as a waitress.

Prostitution itself was not legally prohibited, but prostitutes (meretrices, lupae – literally "she-wolves") were considered infamis, dishonorable. In the brothels (lupanaria) predominantly slave women worked, but freed and even freeborn women also practiced this profession. All had to register with authorities. Prostitutes were recognizable by their appearance: they wore more conspicuous clothing in garish, bright colors of transparent fabrics, often the male toga instead of the female cloak, plus artful hairstyles and conspicuous makeup.

Wall inscriptions from Pompeii give us astonishingly precise insights into pricing: payment was between 2 and 23 asses per service, whereby 2 asses corresponded approximately to the price for two loaves of bread. For no other professional group are we so well informed about wages as about those of prostitutes!

The social evaluation is remarkable: while the prostitutes themselves were considered dishonorable, brothel visits for men were by no means disreputable. On the contrary – men were even praised for satisfying their sexual needs in this "harmless" way, instead of, for example, harassing honorable women or young girls.

What one sees in museums: *wall scratchings (graffiti) like "TECVM IN MAN(sione)" – "I was with you in the lodging" – in which customers immortalized themselves and noted prices; oil lamps with erotic depictions, which were by no means used only in brothel rooms but also in ordinary living and bedrooms.*

Women in Politics and Society – The Invisible Power

A remarkable contradiction characterizes the position of Roman women in political affairs: legally they were denied all formal participation possibilities. They could neither assume offices nor participate in elections and votes; Senate sessions remained closed to them. Nevertheless, upper-class women exercised considerable political influence, just through other channels and in other contexts. It is striking that from the late Republican period onward, the sources increasingly record politically active women. This is connected first with a better source situation, but second it should probably also be explained by the fact that from this time onward, more political influence (also in court) was really possible for women. Already in the 2nd and 1st centuries BC, some women possessed profound legal knowledge. When in 100 BC Fannia from Minturnae (Italy) divorced her husband, who wanted to withhold her dowry under the pretext of alleged adultery, she sued him herself and conducted her defense personally. She won the trial and is considered the first woman to appear as prosecutor. Maesia from Sentium (also in Italy) formulated her defense speech with such convincing argumentation that she was acquitted; the outraged Senate thereupon consulted the oracle. Because Afrania, wife of Senator Licinius Buccus, appeared so frequently before the praetor, a ban was issued in the early 1st century BC on her account and because there had probably been similar cases too frequently: women were henceforth not allowed to act as legal

representatives (as lawyers) for other persons. Already under Emperor Augustus, every fifth court decision was based on a lawsuit filed by women. Women thus knew about legal situations and demanded rights.

The most significant area of female influence, however, was family politics. Women engaged politically primarily to safeguard the interests of their kinship group (gens). Since the direct path to offices was blocked for them, it appeared strategically more sensible to realize political intentions through support of husband and sons. Central here was strategic marriage: political alliances were regularly sealed through marriages. In the 1st century BC, weddings and separations in the upper class occurred largely according to political calculation.

How the situation looked for native women in the Danube provinces is again less well documented through the source situation. What is clear is that native men, through service in auxiliary troops and thus intensive contact with Roman-military culture, experienced adaptation to Roman-military culture much more quickly and thus professional advancement opportunities opened up to them more quickly as well. The self-confident depiction of peregrine women in the so-called Noric-Pannonian manner of dress (i.e., a manner of dress with mostly two fibulae over the shoulders and possibly additional fibulae on the upper garment of the dressed ladies) (see chapter 2.4) also leaves room for alternative interpretive approaches. For a long time, it was assumed that the depiction on grave stelae in native clothing was supposed to mean a kind of resistance against Roman culture. However, it could also be that a strong self-confidence of the women is reflected here. After all, during the occupation period of the Danube provinces, numerous able-bodied men had been withdrawn from their homelands to serve in Roman auxiliary troops. The native women in the later territories of the provinces of Noricum and Pannonia then very probably bore a large part of the organization of the domestic farm and craft businesses. This self-confidence could be reflected in depictions on grave stelae.

4.4 Slaves and Freedmen – People as “Things”

How Did One Become a Slave?

Slavery is not only a phenomenon of Roman antiquity. Slaves and slave trade were components of numerous past cultures before and after Roman antiquity. Roman slavery, however, was a complex, elaborate system with its own rules and laws. There were even ways out of slavery and these were also strictly regulated.

The paths into slavery in the Roman Empire were diverse. The most common was birth: children of slave women automatically became slaves themselves – regardless of who the father was. These “house-born slaves” (vernae) were particularly popular because they were considered more docile. Frequently, the children of slave women were raised and nursed by wet nurses so that their biological mothers could quickly return to their actual work (see chapter 4.3 Women and Work).

Another source for slaves was war captivity. It is recorded that Julius Caesar enslaved about one million Gauls; on one day in 57 BC he is said to have sold 53,000 Atuatuci to slave traders; Trajan's campaigns against the Dacians is said to have brought at least 100,000 prisoners. The accounts of ancient authors probably also represent exaggerations in some places that pursued propagandistic purposes. Nevertheless, captivity after wars will have been a not-to-be-

underestimated source for the flourishing slave market. Also along the Danube frontier, war prisoners will have been regularly taken during battles.

Child exposure was also significant: exposed newborns were systematically collected by slave traders, raised by wet nurses and sold as infants. Over forty preserved wet nurse contracts document this practice. Until the age of about 2 years, these children remained with the wet nurse, then they went back to the slave traders to be sold at about 5 years. In late antiquity, Constantine even permitted impoverished parents to sell their children. This rule was primarily intended to prevent parents from killing their children (because the exposure of children could lead to death). This should also prevent children who grew up in severe poverty from being forced into prostitution. The lesser evil seemed here a life in slavery.

How Many Slaves Were There?

With the rise of Rome from the 3rd century BC onward, the number of slaves also increased rapidly. Estimates assume that on the Italian peninsula in the 1st–2nd centuries AD, 15–25% of the population were enslaved. That would be about 1 to 1.5 million persons out of 6–7 million inhabitants. For Egypt, preserved censuses show about 11% slaves. The proportion could thus vary greatly and was certainly highest on the Italian peninsula. Thus, in contrast, free tenants dominated in North Africa; in Italy, slaves were the main workforce on large estates and were thus an important pillar of the Roman economy and society. We can only roughly estimate the number of slaves along the Danube limes. If we consider, for example, the northwestern Pannonian region with the legionary sites of Vindobona and Carnuntum, here – considering only legionary soldiers, civilian population and civilian settlement of Carnuntum – 43,000–63,000 inhabitants would be expected along the Danube frontier. With an assumed proportion of 10% slaves, that would be 4,300–6,300 slaves in this region.

Hierarchy and Tasks – Not All Slaves Were Equal

Roman slavery knew an enormous range. Slaves were legally not considered humans but as "things" (res), over which the owner could dispose at will. Permission also had to be obtained from the owner if one wanted to live in a domestic partnership and have children.

Agricultural slaves had it the hardest. It is estimated that approximately 90% of slaves on the Italian Peninsula worked in the production of food – i.e., agriculture (Fig. 51). On large estates they worked under an overseer (vilicus), often himself a slave. Cato recommended in his work "De agricultura" – a handbook on agriculture – meager rations of about 3,500 calories daily. In addition, the slaves should receive a new tunic, blanket and wooden shoes every two years. They lived in small chambers of 4–9 m²; some were chained at night. Particularly hard was the work in mills, bakeries, mines and as gladiators. Craft slaves manufactured ceramics, metalware and textiles. Some workshops employed up to 60 slaves.

Domestic slaves of the upper class often had better conditions. Empress Livia is said to have possessed at least 49 different types of servants, including a "pearl keeper" and several hairdressers. Domestic slaves worked as cooks, tutors, wet nurses, hairdressers, doorkeepers and in many other functions. Thus, they also often accompanied their owners on excursions – for example, to the baths – to transport everything necessary.

Highly qualified slaves were physicians, architects, secretaries and administrators. The imperial bureaucracy was led in the 1st century AD by imperial slaves (servi Caesaris). Cities also owned their own slaves (servi publici) for administrative tasks and maintenance tasks (such as cleaning

aqueducts, street cleaning). Some of the highly qualified slaves were given assets (peculium) that they could manage and with which they could buy their freedom.

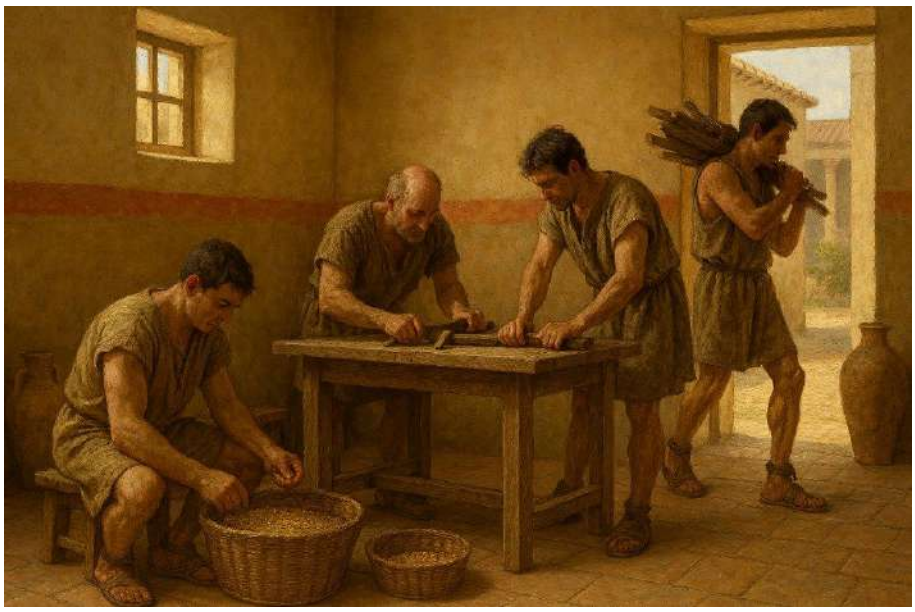


Figure 51: This is roughly how one might imagine the work of slaves on at a villa rustica (AI-generated with CoPilot, M. Kukula, University for Continuing Education Krems, 2025).

Violence and Resistance

The life of a slave was characterized by constant violence. Slaves could be beaten, tortured and killed – often without legal consequences. The poet Martial wrote cynically about beating a cook for bad food. The physician Galen reported of masters who bit slaves or gouged out an eye with a stylus. An inscription from Puteoli (Pozzuoli, Italy) from the Augustan period (early 1st century AD) shows that firms specialized in the torture and crucifixion of slaves and one paid for these services with different prices. Only in 319 AD did Emperor Constantine prohibit intentional killing, but allowed wide scope for "corrective punishment."

Hunger was also a control tool to make slaves compliant. Older, incapacitated slaves were often exposed. Those willing to flee were bound with fetters and chains; repeat offenders were tattooed in the face. After Constantine's prohibition of this practice of tattooing, slave collars with engraved inscriptions were used (Fig. 52), such as "Hold me fast, for I am fleeing" or: "Capture and return to Apronianus, minister in the imperial palace."

Sexual exploitation was also omnipresent. Owners could have sex with their slaves without consequences. Especially young male slaves sometimes had to wear long hair and were abused by masters and their friends.

Despite this oppression, many resisted. We know of three large slave uprisings in the late Republican period, including the famous Spartacus uprising (73–71 BC) and two large uprisings in Sicily. All these uprisings required the deployment of Roman armies. This shows that the social class of slaves also had not-to-be-underestimated potential. More frequent, however, was silent resistance, such as refusal to work, flight and theft.



Figure 52: Bronze plaques and metal collars were used to identify slaves. This allowed them to be identified after escaping and returned to their owners. These finds demonstrate that slaves frequently attempted to escape from the violence of their masters. (source: photo by Historym1468; CC BY-SA 4.0, https://www.historyhit.com/app/uploads/2021/12/slaves-agriculture.jpeg, 29.06.2026).

The Path to Freedom – Manumission

A peculiarity was the relatively frequent manumission (manumissio). It is estimated that 30% of urban slaves over 25 years could thus count on freedom. Freedom was therefore a great opportunity for slaves, but if we consider the low life expectancy in ancient times, it was really a matter of luck to be able to take advantage of this opportunity at all (see in chapter 4.2 “Shadow Sides of Military Presence” on the low life expectancy).

Manumission was granted as a reward for loyal service, but also certainly had economic reasons for some of the masters, because manumission was often purchased by the slaves themselves through their special savings. Freedmen (liberti) remained connected to their former masters. They retained the family name of the patronus, owed obedience and work services and often a part of their inheritance. They were excluded from most political rights; the shadow of former slavery persisted. Only their freeborn children no longer had restrictions. Two children of freedmen even made it to emperor: Macrinus and Diocletian.

Sources: How Do We Know All This?

From written sources such as Cato's “De agricultura” with instructions for slave management, historical works on slave uprisings and literary texts such as comedies. There are also preserved contracts for sales of slaves and wet nurse contracts (see above in chapter 4.3). The contracts have been preserved on papyrus, wood and leather.

What one sees in museums or on site:

- **Stone monuments**: funerary inscriptions of freedmen (pl. liberti/sg. libertus) with names, professions and former owners; gravestones of former owners (patronus) who received the gravestone from their freedmen; reliefs of slave traders and auctions.
- **In building features**: Roman estates (villae rusticae) with slave chambers.
- **Archaeological small finds**: fetters, chains and slave collars with inscriptions.
- **For the Danube limes**, funerary inscriptions mentioning liberti as well as archaeological remains of villae rusticae and workshops as former workplaces of slaves are important sources.

5 Death as Part of Life: Understanding Mortality and Funeral Traditions

5.1 Between Roman Tradition and Local Customs

“Wealthy citizens are buried as follows: The dead person is laid out for three days and after one has mourned him and sacrificed all kinds of animals, one begins to celebrate. Then they bury him, either through cremation or through burial in the earth without cremation. They erect a burial mound and organize competitions of all kinds, in which the greatest prizes are awarded to the victors in the martial arts.”

With these words, the Greek historian Herodotus described the burial rituals of the Thracians. But what did a Roman burial look like and what happened when Roman legions and settlers brought their traditions to the Danube frontier? How did burial customs mix and when was burial typically “Roman”?

A Roman burial was far more than the mere interment of a deceased person – it was an elaborate, strictly ritualized event that could last several days. As soon as death had occurred, the so-called conclamatio began, the ritual wailing of relatives. The corpse was washed in one's own house, anointed and wrapped in the best clothing. The room in which the deceased was laid out was often decorated with flower garlands. Wealthy citizens wore the toga praetexta with their insignia of office; simple citizens wore the white toga. A coin was placed in the mouth – originally intended as fare for Charon, the ferryman of the underworld, this soon developed into a meaningless but widespread custom.

Probably the most elaborate phase for wealthy citizens was the funeral procession, the pompa funebris (Fig. 53). Led by musicians with horns and flutes, who were supposed to attract onlookers, the procession moved through the streets. Professional mourning women, the praeficae, sang laments, while among nobles even wax masks of deceased ancestors were worn – an impressive demonstration of family pride. The deceased himself was transported on a bier, possibly depicted as a wax figure, protected by a canopy. The number of participants and the splendor of the procession reflected the social status of the family and so important families spared neither cost nor effort to make the pompa funebris as elaborate as possible.

What one sees in museums or on site: *bone parts of funeral beds, depictions on stone monuments (e.g., the pompa funebris or the laying out of the corpse), glass vessels for ointments and fragrant essences (so-called balsamaria)*



Figure 53: The relief from Armiternum (central Abruzzo, Italy) comes from the tomb of a freedman. It depicts a magnificent pompa funebris (funeral procession). Music groups and imagines (wax masks of ancestors) were carried, followed by the family, the deathbed with a wax figure of the deceased, and below it the coffin (© Erin Taylor, CC BY-NC-ND 2.0).

5.2 Fire and Ash: Cremation

From the 5th century BC to the 1st century AD, cremation was the predominant burial form in Rome and its provinces. The crematio took place on a funeral pyre that had to be professionally erected: about 190 kg of wood, stacked to a height of almost 2 meters, was necessary. At temperatures of 900 degrees, the corpse burned for at least seven hours. The fire was accelerated with essential oils and possibly these essences also served to mask unpleasant odors (see also above chapter 2.5 on glass – balsamaria). After the cremation, relatives collected the bone remains, sometimes washed them with wine and placed them in a vessel, frequently a ceramic urn. But it was also possible to place the cremated remains in a glass urn, a stone container, or in a cloth bag. The vessel with the mortal remains was then lifted three times while one called “Vale!” or “Salve!” This was the final farewell. Then the urn was buried at the appropriate place in the cemetery. Sometimes the place was marked with a gravestone; even richer families could afford elaborate grave monuments or entire burial precincts. For many poor persons, however, no decoration of the grave will have taken place.

Archaeologically, we distinguish different types of cremation burials: in the bustum burial, the funeral pyre was erected directly over the really large grave pit, so that cremated remains and grave goods fell directly into it. The vitrified grave pit walls still testify today to the enormous temperatures. More frequently, however, the cremation took place on a separate cremation site, the ustrinum. The cremated remains were then collected and brought to the final place of burial.

What one sees in museums: *urn vessels (ceramic or glass urns), large bulbous glass vessels that served as urns; stone cremation containers. Sometimes one also still sees the cremated remains together with grave goods in the urns.*

5.3 Where the Dead Dwell: Roman Burial Streets

Roman necropolises were not quiet cemeteries on the city outskirts – they were lively places of remembrance, laid out along the arterial roads (Fig. 54-55). The most monumental tomb structures stood directly at the city gate, exposed and clearly visible to every passerby. Wealthy families used their tomb monuments for self-representation: elaborately decorated grave stelae, walled grave monuments, sometimes even park-like installations with benches for lingering. The graves of better-situated persons were frequently separated by enclosures – stone walls, ditches, or fences – that not only demarcated the parcels but also offered legal protection against plundering and desecration. The size of the burial precinct could also be recorded on inscriptions. This offered legal protection, but one could also thus present what size one could afford. Regular funerary festivals belonged to Roman everyday life: between February 13 and 21, the Parentalia took place; in May or June, one decorated the graves with roses at the Rosalia festival. This day was variable, depending on when the rose bloom fell. On these festival days, food and drink offerings were brought to the deceased, sometimes through special libation tubes that led directly into the grave pit. Relatives and friends also met at the graves to eat and drink together. These rituals served not only for remembrance; they were supposed to prevent the dead from being forgotten, for only forgetting meant, according to Roman tradition, the final death.



Figure 54: The excavations of the necropolis on Via Triumphalis in Rome. Here, in addition to grave steles, you can also see the so-called libation tubes – brick tubes that were buried in the ground so that offerings to the dead (such as drinks) could be poured into them (© L. Formato, 2024).

What one sees in museums or on site: *burial precincts and grave monuments (often only the foundation walls remain), architectural parts of elaborate grave monuments, libation tubes (openings that lead into the grave for the drink and food offerings), pottery sherds and food remains (bones, stone fruit pits, for example) from the offerings at the grave; grave goods.*



Figure 55: Roman grave steles and the appearance of a Roman burial road are vividly displayed in the Carnuntum Archaeological Park. The inscriptions and depictions on the steles also reveal the multicultural and strongly military character of the site (© T. Mauerhofer, Römerstadt Carnuntum).

5.4 Tumulus Graves in Northwestern Pannonia

How cemeteries and burial traditions could change and mix with the arrival of Roman rulers is shown by numerous cemeteries. An example is the cemetery of Leithaprodersdorf (today Burgenland, Austria), which was used from the late 1st to the early 5th century AD.

Under the earliest burials (late 1st to mid-2nd century AD) are burial mounds made of earth and round graves with a special construction: ring-shaped arranged post holes surrounded the central cremation burial – the remains of wooden grave structures (Fig. 56). These features are so far unique for the Pannonian region. The posts could have served as stabilization of an earth mound or as a dense fence for enclosure. The smaller round graves of Leithaprodersdorf with diameters of 3–5 m seem to be reminiscent of monumental models from the Augustan period, as they are

known from Haltern in Germania (there with painted wooden cladding and over 10 m diameter), but it is also possible that these emerged through local influences.



Figure 56: This is what the Leithaprodersdorf necropolis might have looked like in its early phase (late 1st/early 2nd century AD). Round graves with wooden cladding lie between burial mounds made of earth in the local tradition (reconstruction: 7reasons).

From the mid-2nd century onward, the burial site changed quite impressively: stone grave monuments of Roman-Mediterranean character replaced the above-mentioned round graves and burial mounds. The graves where now oriented to at least two road systems; grave stelae lined the paths. Just as one knows it from typical Roman burial streets. This change documents a profound cultural process – the mixing of an originally locally characterized population with Roman burial customs.

The burial mounds must have their roots in pre-Roman traditions of the region. Their emergence in late La Tène tradition (LT D2) and their occurrence mainly in the rural hinterland, not on the heavily militarized Danube frontier, underscore their local character. The cemetery of Leithaprodersdorf thus becomes a mirror of a society in transition: from native customs to the Roman burial street, from earthen burial mounds to stone monuments. That numerous persons with pre-Roman roots were buried at this place is shown by the inscriptions on the grave stelae. The overwhelming majority reveal Celtic-derived names. Apparently, Roman veterans who had served the military for a long time also lived in the ancient settlement. This is documented for Leithaprodersdorf by a stele of the veteran with the name Marcus Vinius Longinus.

Also in the lower Danube provinces, tumulus graves, or burial mounds, have been found, though they are neither as numerous nor as extensive as those in Pannonia. In Moesia Inferior, examples include the burial mound at the auxiliary site of Capidava, where multiple inhumation and cremation burials were placed under small mounds in the frontier cemetery outside the fort's vicus, reflecting both Roman military and local funerary traditions. Furthermore, archaeological investigations at Stari Jankovci near Vinkovci in western Syrmia (modern Croatia) have confirmed that previously known prehistoric tumuli were reused or re-evaluated as Roman-period burial

mounds, with large grave chambers and cremation burials accompanied by horse harness and chariot remains, indicating elite or hybrid local-Roman funerary practices. In the territory of Dacia, burial mounds have also been documented in Danubian contexts where indigenous and Romanised burial practices co-occur, showing continuity of local rites alongside imperial forms. These graves frequently combine indigenous customs – such as mound construction and cremation or inhumation rituals – with Roman elements like grave goods and stelae inscriptions, indicating processes of cultural integration. Many of these tumuli continue pre-Roman burial traditions, demonstrating the persistence of local identities even under imperial administration.

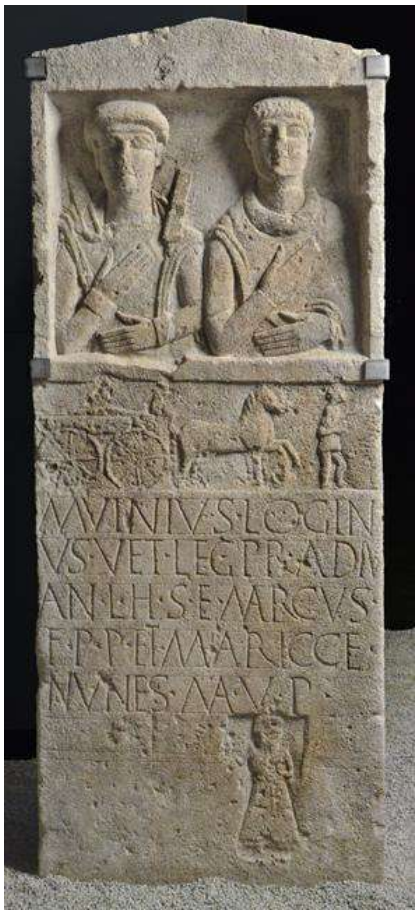


Figure 57: Grave stele of the veteran Marcus Vinius Longinus from the cemetery at Leithaprodersdorf. Late 1st century/early 2nd century (© F. and O. Harl, lupa.at/16736, Austrian Federal Monuments Office, photo: O. Harl 2011).

5.5 Body or Ash? The Change in Burial Customs

One of the great questions of Roman archaeology is: why did one switch from cremation to inhumation? It is namely the case that fundamentally in the 1st and 2nd centuries AD cremation predominated, which was then partially replaced from the 3rd century AD onward and almost completely replaced by the custom of inhumation in the 4th century AD. For a long time, one

believed Christianity was the cause – Christians wanted to rise intact on the day of the Last Judgment. But this explanation falls short: in Rome, the transition to inhumation began already in the early 2nd century, almost 200 years before Emperor Constantine tolerated Christianity in 313 AD and even more years before it became the state religion under Emperor Theodosius in 393 AD.

Other factors probably rather played a role in the choice of burial form: on one hand, it can relate to pre-Roman customs, as shown by Thracian customs. Herodotus records that the Thracians practiced both cremation and inhumation (see above). The Roman writer Pliny reported that cremation in Rome was a relatively recent custom, introduced for protection against grave robbery in times of war. This shows that inhumation was also common before that. For the emergence of the custom of inhumation, some scholars also suspect economic reasons, because firewood became more expensive. The ancient historian Arthur Nock proposed a cultural explanation: when the Flavian emperors (69–96 AD) filled the Senate with men from central Italy, they brought their Umbrian and Samnite traditions with them, including inhumation. What began as self-confidence of local elites in Rome became fashionable and spread in this way.

In the Danube provinces, inhumation only became established from the 3rd century AD onward and dominated almost completely in the 4th century. Climate deterioration and wetter weather could have favored the transition – a poorly burning funeral pyre in rain made inhumation the more practical alternative.

By far the largest burial ground on the Danube Limes in Raetia was the so-called Great Burial Ground of the Legionary Fortress in Regensburg. It stretched along both sides of the main road from the western suburbs to the south. It was occupied from the mid-170s through late antiquity into the 7th century, i.e. the early Middle Ages. Around 4,300 cremations and 3,800 burials have been documented to date. Until the second half of the 3rd century, the dead were cremated. Later, the deceased were buried in graves or above ground in sarcophagi.



Figure 58: Body grave from the necropolis at Leithaprodersdorf (Burgenland, Austria). In this grave from the second half of the 4th century AD, elements of funerary monuments from the Middle Imperial period were reused. This grave dates from a period when the practice of body burial was predominant in Pannonia (© Bundesdenkmalamt, photo: F. Sauer).

Overall, it shows that in searching for causes for the choice of burial type, one should always consider many aspects. A generally valid statement about why the custom of cremation was replaced by the type of inhumation cannot be made.

What one sees in museums or on site: *sarcophagi, graves "alla capuccina" (graves each covered with roof tiles leaning against each other to form a "roof"), skeletons from inhumation graves, grave goods from inhumation graves (often much better preserved than in cremation graves).*

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Microsoft Copilot: For creating AI-generated images.

Appendix: Prominent Archaeological Sites

Austria

Carnuntum – Metropolis on the Danube Limes

Nisa Kirchengast

Significance and Location

From the 1st to the 4th century AD, Carnuntum was one of the most important urban centres in the northern border zone of the Roman Empire. Situated on the Danube at the intersection of the north–south running Amber Road and the west–east oriented Limes Road, the city served as the capital of the province of Pannonia Superior and as a central hub for trade, military logistics, and administration. At its peak, the settlement area extended over around 10 km² and probably accommodated several tens of thousands of inhabitants.

From winter camp to provincial capital

The rise of Carnuntum began in AD 6, when the later emperor Tiberius had a fortified winter camp constructed here. This military base soon developed into a permanent legionary fortress, where, among others, the Legio XV Apollinaris was stationed. Extensive extramural settlements (canabae legionis) grew up around the camp, inhabited by merchants, craftsmen, service providers, and the families of soldiers.

To the west of the military area, a civilian settlement emerged which, under Emperor Hadrian, received municipal self-government as municipium Aelium Carnuntum. Under Septimius Severus, Carnuntum was elevated to colonia Septimia Aurelia Antoniniana Carnuntum and thus attained the highest status within the Roman urban hierarchy. The city now functioned as the administrative centre of Upper Pannonia and as a stage for political decisions of imperial significance.

Carnuntum was not only a military base and provincial capital, but also the setting for events of empire-wide importance. In AD 193, Septimius Severus was proclaimed emperor here by his troops. A high point in its political history was the imperial conference of AD 308, when the tetrarchs Diocletian, Galerius, and Maximian met in Carnuntum to deliberate on the reorganisation of the Empire. The city was at the same time a religious melting pot. Alongside the official state cult, centred on the sanctuary of Jupiter on the Pfaffenberg, numerous so-called oriental cults, such as those of Mithras and Jupiter Dolichenus, can be attested. In Late Antiquity, Christianity gradually gained the upper hand.

With the political crises of the 4th and early 5th centuries, changes in frontier defence, and increasing external pressure, Carnuntum gradually lost its significance. The last ancient settlement traces in the fortress area date to the first half of the 5th century; in AD 433 Pannonia was formally ceded to the Huns. In the centuries that followed, the extensive ruins field largely fell into oblivion.

Rediscovery and History of Research

Only in the late 18th century did more systematic engagement with the remains of Carnuntum begin, in the form of antiquarian descriptions. In the 19th century, research intensified through the activities of the Carnuntum Society and the Imperial–Royal Central Commission. With the foundation of the Museum Carnuntinum in 1904, the finds received a central place for exhibition and storage. After the ideological instrumentalisation of the site during the National Socialist period, a clear scientific reorientation took place after 1945. Since the 1990s, geophysical prospection, aerial archaeology, and landscape-archaeological approaches have fundamentally refined our picture of the city.

Archaeological Monuments

Over the more than 400 years of its settlement history, Carnuntum consisted of several clearly differentiated zones: the legionary fortress with its fortifications, an auxiliary fort for non-citizen troops, the extensive canabae, and, to the west, the civilian town in the area of modern Petronell-Carnuntum. This functional and spatial division continues to shape the archaeological landscape today.

The most important monuments visible today include two amphitheatres – one in the area of the civilian town, one near the military settlement – which testify to a lively public life with games and spectacles. The so-called Heidentor, a monumental late antique triumphal structure, still serves as the landmark of Carnuntum (Fig. 59). The central area of today's museum complex "Roman city of Carnuntum" lies in the Roman city quarter, where part of the civilian town has been archaeologically investigated and reconstructed as fully functional buildings (Fig. 60): residential houses such as the Villa Urbana, merchants' houses, and a fully operational Roman bath make ancient comfort and everyday practices vividly tangible.



Figure 59: The landmark of Carnuntum: the so-called Heidentor (© T. Mauerhofer, Roman City of Carnuntum).



Figure 60: Aerial view of the Roman city quarter in the open-air area of the Roman City of Carnuntum (© T. Mauerhofer, Roman City of Carnuntum).

Carnuntum Today: Archaeological Park and Cultural Monument

Today, Carnuntum presents itself as an extensive archaeological park in which research, heritage conservation, and public interpretation are closely intertwined. The Roman city of Carnuntum

comprises several sites: the Roman city quarter, the two amphitheatres, the Heidentor, and the Museum Carnuntinum. The open-air area of the civilian town, where archaeologically documented remains have been translated into reconstructed architecture, forms a core element of the interpretive concept: visitors can experience Roman domestic culture, heating technology, crafts, and bathing practices in a historically grounded yet immediately accessible environment. As Austria's oldest excavation museum, the Museum Carnuntinum displays original finds from the excavations at Carnuntum, including inscriptions, sculptures, small finds, and architectural elements.

In this combination of large-scale ruins landscape, museum infrastructure, and experimental reconstruction, Carnuntum today serves as a model site for the management of Roman cultural heritage. It offers an impressive window onto the world of a provincial metropolis on the Danube limes and makes long-term processes of urbanisation, frontier policy, religious change, and cultural interaction within the Roman Empire perceptible.

Website: https://www.carnuntum.at/en/ (13.03.2026)

Lauriacum

Eva Thysell

Lauriacum, now known as Enns in Upper Austria, is one of the most significant Roman sites along the Danube. Its unique location at the confluence of the Enns and the Danube made the town a strategic hub from an early stage. In addition to the waterway along the Danube, the Enns provided an important route into the inner Alpine region, whilst to the north there were connections towards the Vltava region and Bohemia. As early as the 1st century AD, the first settlement was established here along the Limes Road, which ran through the Roman Empire as a major transport and trade artery.

However, the military presence in the region did not begin in Lauriacum itself. As early as the Flavian period (second third of the 1st century) until around 180 AD, an auxiliary fort was built east of Lauriacum in what is now the district of Stein (municipality of St. Pantaleon-Erla). This served to secure important roads and the crossing over the Danube, as well as to control the northern Enns Valley. An associated settlement attests that not only soldiers but also craftsmen and traders were resident here. For Lauriacum, the fort at Stein meant that the region was part of a military network securing the Danube frontier from the very beginning.

Later, another military construction project appears at Albing (also St. Pantaleon-Erla), situated between the Enns and Stein, although its dating remains uncertain. Archaeological investigations suggest a very short construction phase – presumably only a few months – before the legionary fortress was abandoned again. Albing thus remained a short-lived, presumably experimental station that had no long-term influence on the military presence in the region.

It was not until 180 AD at the latest that legio II Italica was permanently stationed in Lauriacum, elevating Enns to the status of the central military base of the province of Noricum. Covering an area of more than 20 hectares, a strictly organised legionary fortress emerged, complete with barracks, workshops, bathhouses, a base hospital and the legion's administrative centre. Mighty walls, towers and a sophisticated system of ditches protected the approximately 6,000 soldiers. The base followed a standardised layout, but was adapted to the topographical conditions and thus took the form of a parallelogram. In particular, the northern corner and the preserved pointed ditch provide a rare insight into Roman military base planning today. The legionaries were not only fighters, but also engineers and craftsmen: they maintained roads, bridges, workshops, brick kilns and lime kilns to ensure the supply of the fortress and the surrounding settlement.

A lively civilian settlement, known as the canabae legionis, developed around the fortress. Residential buildings, workshops, markets and public spaces sprang up along planned streets. The northern zone of Lauriacum in particular, stretching from the presumed harbour to the Kristeinbach stream, illustrates the close interconnection between military infrastructure, trade and craftsmanship: this area housed storage yards, a battery of lime kilns, brick kilns and workshops for metal, leather and textile processing. The 'House of Medusa' offers insights into the prosperity of individual residents: underfloor heating, elaborate wall paintings and decorative details suggest wealthy officers or rich merchants. The settlement reached a maximum area of around 85 hectares and became a central economic and cultural hub on the Danube frontier.

With the rise of Christianity, Lauriacum underwent a gradual transformation. As early as the 3rd and 4th centuries, the first Christian communities began to form, serving not only religious

purposes but also providing social stability. Basilicas became places of assembly, centres for the care of the poor and sick, and hubs of community life. Figures such as Saint Severinus organised aid for the needy and acted as mediators between the population and the rulers, whilst Saint Florian was venerated as a martyr and patron saint. Today, the Basilica of St Laurentius preserves Roman architectural remains, early Christian artefacts, relics of St Florian's companions, and the votive stone of legio II Italica, which honoured the legion's guardian spirit.

Even after the legion's withdrawal in the late 4th century, Lauriacum remained inhabited. Parts of the former fortress continued to be used, whilst the town centre shifted to the higher-lying Stadtberg over the course of the Middle Ages. The Roman garrison town developed into the settlement of Lorch, from which, in turn, the present-day town of Enns emerged.

Lauriacum is therefore not only regarded as an archaeologically significant site of national importance, but, particularly when viewed in conjunction with the sites at Stein (the Flavian fort and vicus), the short-lived military installation at Albing and the temporary camps at Obersebern (Naarn im Machlande), it can be considered an outstanding region for research into military organisation along the Roman Danube Limes.



Figure 61: Interior view of the Basilica of St. Laurenz with the visible foundation walls of older structures (© Manuel Zauner, blickwerk).



Figure 62: Excavation photo of kiln 9 of the lime kiln battery in Lauriacum/Enns (© R. Koch).

Flavia Solva

Shriranga Wirth, Sarah Kiszter

About 40 km south of Graz, in what is now the municipality of Wagna, lies Flavia Solva, the only municipium (Roman city with special rights) in modern day Styria. Away from the strife of the Danube Limes but connected to the transcontinental Amber Road via Celeia and Poetovio, Flavia Solva was a vibrant centre of commerce and civil life within the ancient province of Noricum south of the Alps.

History

The settlement that would become Flavia Solva was likely based on the local Celtic population that, with increasing romanization of the recently incorporated province, moved down from their hilltop town to the Mur River around the early first century CE. In the following decades the town would quickly grow to a proud city and after Emperor Vespasian of the gens Flavia (hence the city's name) bestowed upon it the rights of a municipium in the year 70 CE, it would continue to prosper for the next three centuries.

Though at first growing organically, the city was soon planned, adhering to the ideal Roman city plan: a rectangular street network (with main axes cardo and decumanus) forms building blocks (insulae) that accommodate all necessary functions, from housing and commerce to public life such as baths. To entertain the local populace, an amphitheatre was erected in the southwest of the city that can still be discerned in the landscape. Large and diverse groups of burial sites flank the entryways into the city. Distant enough from the Roman empire's border, no city fortifications were deemed necessary, Flavia Solva was a civilian city through and through. Instead of a central temple district within the city limits a nearby hilltop sanctuary, today called Frauenberg, would serve this purpose. Where Flavia Solva's original inhabitants had flocked down from, overlooking the Mur River plains, watching over the city below, a complex of three temples stood, considered to be dedicated to such Romanized Noric-Celtic gods as Isis Noreia or Mars Latobius.

At its zenith Flavia Solva boasted a population of approximately 10.000 citizens over an area of up to 40 hectares.

After stable years of prosperity and the division of Noricum into the Danube bordering Noricum ripense and the cis-alpine Noricum mediterraneum under emperor Diocletian, an eventual decline set in with the weakening of the empire's borderlands. By the 4th century, as the western empire was waning, the population withdrew back uphill to more defensible positions, using the city's building materials for new habitation and leaving the once grand city in ruin. By the mid 5th century Flavia Solva was fully abandoned.

Discovery and Research

With the city desolated and with little mention in ancient texts, the location of Flavia Solva and the identity of the archaeological remains in the area remained unknown until 1848, when epigraphist (a person specialized in rock and clay inscriptions) Richard Knabl was able to determine the now known settlement based on rocks collected around Wagna and Leibnitz. Ever since, researchers under the aegis of the Universalmuseum Joanneum have continuously conducted surveys and excavations (systematic excavations were first organized by Walter Schmid in 1911) to recover countless artefacts, reconstruct the city layout and learn more about how the city and its

surrounding landscape looked and functioned and how the people of Noricum south of the alps lived.

This wealth of archaeological finds sets Flavia Solva among the pinnacle of ancient Roman sites in Austria. Their analyzation and systemization are an ongoing process: Only recently (end of 2025) a first volume of an extensive inventory was published following years of research and a plenitude of resources.

Flavia Solva Today

Today little is visible of the once great municipium Flavia Solva. Over the years much was destroyed and lost, most of the ancient city's remains are now covered by modern buildings or agricultural land. While large sections have been excavated in various instances, all but the foundations of a part of a single insula have been backfilled after documentation to protect the remains from weathering, erosion, vandalism, and vegetation growth. The outlines of some insulae are marked on a meadow with corten steel plates.

A museum pavilion was constructed on stilts on these grounds and offers some information on Roman life in and around Flavia Solva, including a large board with annually changing topics. The archaeological site and pavilion are open for visit all year round and host a café / ice cream parlour. Besides the Archaeology Museum in Graz (part of Universalmuseum Joanneum) that is responsible for Flavia Solva and presents many artefacts from there, more can be seen close by at the Tempelmuseum Frauenberg and Seggau Castle. Much of the castle's walls are made up of stones gathered from Flavia Solva's remains, those with inscriptions and depictions have been set into the walls of an arcade to be presented as a lapidarium. The Frauenberg archaeological site hosts its own museum with changing exhibits and activities. Two of the temples are graspable through remaining foundations and pillar stumps.



Figure 63: Flavia Solva, hypocaust (© Universalmuseum Joanneum, photo: L. Wonnebauer).



Figure 64: Flavia Solva, exterior view (© Universalmuseum Joanneum, photo: J. J. Kucek).

Conclusion

Flavia Solva was a major city in the Roman province of Noricum, and a blooming regional centre between the alps and the Amber Road. Its abundance of archaeological artefacts and diverse research history help paint a better picture of various aspects of Roman life in Noricum. Safely nestled behind the fortified Danube Limes and the alps, throughout its existence it remained a purely civilian settlement. Its surrounding hills, reminiscent of Italy's vineyards, were dotted with villas. This is where legionaries, after long years of securing the Pax Romana, would spend their retirement, and where agriculture and artisanship brought prosperity not only to the region but to the whole of the vast Roman empire.

Bulgaria

Sexaginta Prista

Team of the Rousse Regional Museum of History

In 45 AD, the Odrysian Kingdom (the last independent Thracian kingdom) ceased to exist as a sovereign state and was annexed by the Roman Empire. Its northernmost territories were incorporated into the province of Moesia, which expanded to the Danube River delta. The new Roman authority initiated large-scale construction related to the establishment of the Danubian Limes military bases, watchtowers, and road stations connected by a military road. One of the newly built bases was Sexaginta Prista. Its name means "Sixty Ships."

At the end of the 19th century, Felix Kanitz, based on distances recorded in Roman itineraries, identified the location of Sexaginta Prista at the mouth of the Rusenski Lom River, in the northwestern part of present-day Ruse. The early years of the base remain shrouded in mystery. To this day, scholars are not entirely certain when it was founded. Some suggest that this occurred during the reign of Emperor Claudius (41–54 AD), immediately after the annexation of the Odrysian Kingdom. Others associate its construction with the establishment of the Roman Danube fleet under Emperor Vespasian (69–79 AD).

It is also debated whether the base originally bore this name or whether, in keeping with Roman tradition, it was first named after the nearby river Plester, at whose mouth it was built Plestridava. It is possible that the castellum received its current name in connection with Emperor Domitian's Dacian Wars. At that time, a Roman legion of 6,000 soldiers was transported across the Danube at the mouth of the Rusenski Lom River by 60 ships of the "pristis" type. In honor of the victory over the Dacians, the base of Plestridava received its new name Sexaginta Prista, by which it is known to this day.

The first evidence of archaeological research in the territory of Ruse dates back to 1877, when, according to Karel Škorpil, the local Catholic bishop discovered a room with a mosaic floor. Škorpil, rightfully regarded as the father of Bulgarian archaeology, lived and worked in Ruse for some time in the late 19th century. He described and systematized some of the artifacts discovered accidentally during various excavation activities in the city.

The beginning of systematic archaeological research at Sexaginta Prista dates to the period 1976–1978, when the northwestern base wall with a late Roman defensive corner tower and the adjacent buildings were uncovered.

In 2005, in connection with construction activities, new archaeological investigations began, continuing annually with some interruptions. As a result, a tower and part of the southeastern base wall were studied, the location of the main gate of Sexaginta Prista was identified, and the principia (the headquarters of the military unit) and several residential buildings were uncovered. Archaeological research indicates that the base was built during the reign of Emperor Constantine I and functioned until the end of the 6th century, when it was abandoned during one of the major Avar-Slavic invasions.

Archaeologists have also established that the earliest traces of habitation on the hill where the fortress stands date back to the Late Hellenistic period until the arrival of the Romans (3rd century BC – 1st century AD). More than 160 pits have been studied, in which the local Thracian population performed various rituals and cult practices. The diversity of the offerings discovered, as well as the origin of some of them, has led archaeologists to believe that the nearby Thracian settlement functioned as an emporion a trading center with a port where goods arriving from Asia Minor and the Mediterranean were exchanged.

The significance of this Thracian cult center is further evidenced by the fact that several decades after its abandonment, a temple dedicated to Apollo was built on its central part, where the deity was also identified as the Thracian Horseman. Around this temple, during the 2nd–3rd centuries AD, a civilian settlement (vicus) developed. It shared the temple's fate and fell victim to the great Gothic invasion in the mid-3rd century.

In 2002, an open-air exhibition of Sexaginta Prista was established in the northwestern corner of the late Roman military installation. Each year it welcomes thousands of Bulgarian and international tourists, revealing the memory of a bygone grandeur. Since 2012, the ancient remains have served as a natural setting for the "Roman Market of Sexaginta Prista" festival. The event presents to visitors reenactments of everyday practices, games, and scenes from the Roman era. A marketplace is constructed with designated tents and stands of local farmers and craftsmen from Bulgaria and abroad, as well as artistic workshops. The event includes demonstrations and culinary tastings of daily Roman dishes and beverages, prepared exclusively with pre-Columbian plant species. An artistic reenactment of everyday life in a Roman town from millennia ago is presented to the audience, featuring warriors, slaves, nobles, street actors, storytellers, and barbarians.

The festival is an important part of the presentation of the Roman cultural heritage and the Danubian Limes, which is included in the Tentative List of UNESCO World Cultural Heritage.



Figure 65: Archaeological remains of Roman Sexaginta Prista (© Nikolay Nenov).



Figure 66: Roman reenactors at Sexaginta Prista (© Nikolay Nenov).

Dimum

Asya Duleva, Tsvetomir Tsvetanov

On the road from Nikopol to Svishtov, a turnoff leads to Belene town with the ruins of Dimum standing above the Danube. Once a marshy plain of Belene, we find the ancient Dimum mentioned by Ptolemy, which was also marked on the Tabula Peutingeriana and recorded in the Itinerarium Antonini. Dimum castellum has been established in the 1st Century as the seat of an auxiliary cavalry unit; it later grew in importance as a major customs post, providing the current local authorities with the means to advertise Belene and Dimum as "the customs of the Moesia province." The fort of Late Antiquity was rectangular in shape with U-shaped towers in the corners and entrances on every side defended by rectangular towers. A considerable part of the ruins are under water today.

The Dimum fort and customs is part of the Lower Danube limes. The limes in this northernmost part of the Roman Empire was organised as early as the first decades of the Empire under the reign of Augustus (Octavian) (27 BC-AD 14). He secured protection of the northeast border of the Empire. With the first march in the Lower Danube region the Romans appreciated the strategic importance of the Belene lowlands. To the north the lowland borders on the Danube, while in the remaining three directions it borders on hills. The natural fortification of the lowlands is further enhanced by the numerous branches and firths of the big river. These create favourable conditions for the docking of military and commercial ships. A considerable number of coins from the period of the Roman Republic have been discovered in the Danube plain, mainly in north-western and central northern Bulgaria. The spread of the coins to the east could be traced to the Osam river. The Belene lowland territories are being considered part of the Romans' economic and political zone of interest even at the end of the period of the Roman Republic (2nd century BC).

The dislocation of military units in the Belene lowlands was part of the process of organising the Lower Danube limes and setting up the Moesia province. The later was most probably formed between AD 10 and AD 12. Roman auxiliary military units were stationed in the region at the time when the territories east of the Osam river mouth were formally part of the Thracian Kingdom. The Dimum military fort was built at the heart of the lowlands close to the riverbank.

As the excavations have been quite limited there are still no remains of the earth-wooden fortification of the Dimum fort available. Latin sources, inscriptions, coins and small finds discovered during the excavations are the main source of information about the history of Dimum in the first half of the 1st century AD.

The Roman army in the Lower Danube region was reorganised after the end of the Second Dacian War of the Emperor Trajan in AD 106. At that time the border of the empire was moved north to the Carpathian Mountains. Military units, especially those based west of the Asamus (Osam) river, were reduced considerably. Most probably still the Dacian wars the military unit at Dimum was stationed in another location and the fort in the northern parts of the modern-day town of Belene was vacated. Many stamps on ceramic building materials have been discovered in Dimum and its surroundings. The stamps of legio I Italica are prevailing. Only several coins from the second half of the 2nd century and the first half of the 3rd century were discovered during the 1980s rescue excavations. No remains of building materials from the 2nd and the first half of 3rd century have so far been discovered. However, ruins of buildings, a well and tombs were discovered when

digging in the town of Belene. Artefacts from Belene region are exhibited in museums including National Archaeological Museum of Sofia, the Svishtov city museum of History, the Regional Museums of History in Pleven and Ruse. Parts of limestone columns could be seen in the walls of the principia built in during repairs and in Late Antiquity buildings.

The Dimum fort of the Late Roman period was built over the remains of the early Roman castellum and in all likelihood was similar in size and had the same rectangular layout. A new defensive wall was built over the remains of the earlier wall; most of the stone was reused in the building of the new wall. The late Roman defensive wall was 2.30-3.50 m thick. It was made using the opus mixtum technique that was quite new at that time. The section of the south defensive wall that was investigated has a preserved height of 1.10m above the ground. Small-sized stone blocks were used to build it. Above the stones there were several cross layers of bricks.

The principia were the main building of the Dimum military fort. It had a central position on the layout of the Roman military bases (castellum). As a construction it was common to all military bases of the period of the Roman Empire. It functioned as an administrative centre, headquarters of the military commander and a holy place where the flag of the military unit was kept. Through it has been studied only partially the Dimum principia could be dated to the period of the Late Roman Empire.

In 1968 the Roman city of Dimum in Belene was declared a monument of culture of national importance. The ancient Dimum was part of the Roman empire's Danube limestone fortification system. The monument has significant historical, artistic, scientific and cognitive value and it can become an original tourist destination. Its uniqueness is related to the open remains of the first, most ancient customs post in Moesia (a Roman province encompassing present-day Northern Bulgaria) when the Danube River became a border of the Roman Empire.



Figure 67: Archaeological remains of Roman Dimum (© Christina Lyubenova).



Figure 68: Archaeological remains of Roman Dimum (© Christina Lyubenova).

Croatia

Osijek – Colonia Aelia Mursa

Ema Kosnica

The archaeological site of ancient Mursa, today beneath the city of Osijek in eastern Croatia, was one of the most significant urban centres in the Roman province of Pannonia. Located on the right bank of the Drava River, near its confluence with the Danube, Mursa occupied a strategic crossroads of land and river routes that connected the interior of the empire with its border and trade networks.

History of Research

Interest in the ancient city of Mursa began before modern archaeological excavations. From the 18th century onwards, scholars and travellers noted Roman remains in the area of present-day Osijek, although their exact interpretation remained uncertain for a long time. Early observations were based on accidental finds and visible stone structures, leading to debates about the size, location, and importance of the Roman settlement.

Systematic archaeological research began much later. A decisive breakthrough came in the late 20th and early 21st centuries, when large-scale rescue and research excavations were carried out in connection with urban development. Since 2008, archaeological investigations conducted by the Croatian Academy of Sciences and Arts (HAZU) and local institutions have revealed substantial remains of the Roman city in several areas of Osijek, including Park Katarine Kosače, the University Campus, and Trg bana Josipa Jelačića. These discoveries have significantly changed our understanding of Mursa, showing it to be a carefully planned Roman city rather than a minor frontier settlement.

Mursa in Roman Times

The Roman city was officially founded in 133 AD, during the reign of Emperor Hadrian, as a colony under the name Colonia Aelia Mursa. Colonial status placed Mursa among a select group of Roman cities with full civic rights, reflecting its importance within the province of Pannonia. Notably, Mursa was one of the last colonies founded in the Roman Empire, making it a unique example of late Roman colonial urbanism.

Archaeological evidence shows that Mursa possessed all the key features of a Roman town: a network of paved streets, residential quarters, workshops, and public spaces. Excavations have uncovered elements of urban infrastructure, such as street layouts and monumental architectural fragments, indicating a well-organised and prosperous community.

Military and strategic significance also shaped Mursa's development. Located close to the Danube Limes, the city was connected to road and defence networks that stretched across Pannonia. Although no extensive military base has yet been identified within the city limits, epigraphic evidence and artefacts suggest a strong military presence and interaction with auxiliary units stationed in the region before and after the official founding of the colony.



Figure 69: Remains of Roman Bridge, view towards Mursa (©Ana Mutnjaković, Područni konzervatorski odjel Osijek).

Beyond the Roman Period

After the decline of Roman authority, urban life in Mursa gradually faded, but the area did not become deserted. Archaeological and historical evidence indicates continued settlement in the wider region during Late Antiquity and the early Middle Ages. Over time, the centre of habitation shifted, laying the foundations for medieval Osijek.

During the Ottoman period, the settlement developed into an important river crossing and fortified town. This was followed by a major transformation under Habsburg rule, when the Baroque fortress of Tvrđa was constructed in the 18th century. These later phases of urban development largely erased the visible remains of earlier periods, including much of the Roman and medieval times, creating the layered historical landscape that characterises Osijek today.

Today's Site and Cultural Importance

Today, the remains of ancient Mursa lie mostly hidden beneath the modern city, preserved under streets, parks, and buildings. Although the Roman city is not visible as a single archaeological site, its presence is revealed through carefully documented excavations and numerous artefacts displayed in museums. Together, these finds allow visitors to reconstruct the image of a once-important Roman urban centre on the edge of the empire.

Mursa holds a key place in the cultural heritage of eastern Croatia and forms part of the wider narrative of the Roman Danube frontier. As a site included in the UNESCO Tentative List for the Frontiers of the Roman Empire – The Danube Limes (Croatia), it contributes to international efforts to understand and present the shared heritage of Roman border regions. Mursa offers a compelling story of continuity, transformation, and the deep historical roots of Osijek. This story is made even clearer by the nearby Archaeological Museum Osijek, where finds from various time periods help visitors better understand the long history of the city.

Elija Mursa: Novo čitanje grada – https://hrcak.srce.hr/file/403175

Mursa i njezin most između mita i stvarnosti – https://hrcak.srce.hr/file/490778

Sotin – Cornacum

Ema Kosnica

Sotin is a village in eastern Croatia, located about 10 kilometres southeast of Vukovar, on the right bank of the Danube River. Its position at the meeting point of river routes, fertile plains, and gentle loess hills made this area attractive for settlement from prehistoric times onward. Beneath the modern village lies a complex archaeological landscape that preserves traces of human activity spanning several millennia, from prehistory through antiquity and into the medieval period.

Archaeological interest in Sotin dates back to the 19th century, when early accidental finds drew the attention of scholars and museum institutions, particularly the Archaeological Museum in Zagreb. Over the decades, artefacts collected during agricultural work and construction activities indicated a long and varied history of occupation. A major step forward came in 2008, when systematic archaeological investigations were launched by the Institute of Archaeology in Zagreb in cooperation with the Vukovar Municipal Museum. These campaigns, carried out over several seasons, explored larger areas of the site and significantly improved our understanding of Sotin's development through time.

Excavations revealed evidence of prehistoric settlement and burial activity. Particularly notable are more than seventy cremation graves dated to the 9th–7th centuries BC, associated with the Dalj cultural group.

Cornacum in Roman Times

An important chapter in Sotin's archaeological story belongs to Roman antiquity, when the site functioned as a military and civilian centre known as Cornacum. Located on a loess plateau overlooking the Danube, near the hill locally known as Popino Brdo, Cornacum occupied a strategically crucial position along the Roman frontier – it formed part of the Danube Limes.

Archaeological and historical evidence suggests that a Roman auxiliary fort was established at Cornacum as early as the 1st century AD. Although no monumental stone architecture is visible today, excavations and geophysical surveys have documented defensive features such as ditches, as well as traces of Roman roads radiating eastward and southeastward from the site. These roads connected Cornacum with other key centres of Roman Pannonia, including Cibalae (modern Vinkovci), and ensured efficient movement of troops, supplies, and goods along the frontier zone.

Finds from the Roman period include coins, pottery, fragments of building material, and military-related artefacts, which together confirm a continuous Roman presence from the 1st to at least the 4th century AD. Based on written sources and archaeological evidence, several auxiliary units are thought to have been stationed at Cornacum over time, including cohors I Montanorum, cohors II Aurelia Dacorum Antoniniana, and equites Dalmatae. This changing garrison reflects the dynamic nature of frontier defence and the strategic importance of the site within the wider Danube border system.

Importantly, Cornacum was not only a military installation. Archaeological evidence indicates the presence of a civilian settlement in the vicinity of the fort. Everyday objects such as domestic pottery, personal items, and coins point to a mixed population of soldiers, merchants, craftsmen, and local inhabitants who lived and worked alongside the military. Roman-period cemeteries discovered near ancient roads, containing both cremation and inhumation burials, further

demonstrate that Sotin was a permanently inhabited frontier community rather than a temporary outpost.

Other Historical Layers

In addition to its Roman remains, Sotin has yielded evidence of earlier prehistoric occupation (Late Stone Age, Copper Age and Iron Age) and later medieval activity, particularly in the northeastern part of the modern village. These finds remind us that Sotin was not a temporary point, but part of a continuously inhabited landscape shaped by many different cultures over millennia.

Sotin Today and UNESCO Status

Today, the archaeological remains of Sotin are largely hidden beneath modern layers, with most finds preserved in museum collections and documented through scientific research. Despite the lack of visible monuments, the site plays a key role in understanding Roman frontier life along the Danube.

Sotin is included on Croatia's UNESCO Tentative List as part of the nomination Frontiers of the Roman Empire – The Danube Limes (Croatia). This status recognises Cornacum as an integral element of one of the most important border systems of the ancient world and highlights its value not only for Croatian heritage, but also for the shared cultural history of Europe.

Prilog poznavanju topografije Sotina (Cornacum) u rimsko doba:
https://repozitorij.iarh.hr/object/iarh:238/FILE0

Sotin – Srednje polje i Zmajevac, istraživanja višeslojnih nalazišta u Podunavlju 2015. godine:
https://hrcak.srce.hr/file/246671

Sotin – Cornacum: http://baza.iarh.hr/public/locality/detail/2268



Figure 70: Parade Helmet Mask from Sotin, inv. no. A-16908_6 (©Igor Krajcar, Archaeological Museum Zagreb).

Kopačevo (Ad Labores?)

Ema Kosnica

Kopačevo is a small village in the Baranja region of Croatia, part of Osijek-Baranja County and the Municipality of Bilje. It lies on a slightly elevated terrace above the extensive wetlands of the Kopački Rit Nature Park, near the meeting point of the Drava and Danube rivers – landscapes that have shaped human settlement here for thousands of years. Today Kopačevo is known as a peaceful rural community with deep ties to fishing, agriculture, and the floodplain environment. Beneath this calm surface, however, lies a significant archaeological heritage that connects the village with the Roman Empire's frontier system along the Danube.

Location and Protected Status

The archaeological remains around Kopačevo extend across fields and beneath the modern village. In the Croatian Register of Cultural Goods, the Roman-period site known as Arheološko nalazište "Mali Sakadaš" (possibly corresponding to the ancient settlement of Ad Labores) is legally protected as an immovable cultural good dating to the 1st–4th centuries CE. The site lies on the western bank of the Danube frontier – a key location within the ancient Roman border system known as the Danube Limes.

Brief History of Research

Interest in the Roman remains around Kopačevo goes back to the late 19th and early 20th centuries, when Hungarian archaeologists documented several burial grounds (necropoleis) around the site. Some of these were lost or disturbed during mid-20th-century infrastructure works, including dam and mound construction.

In the later 20th century, small portions of the site were examined archaeologically, including a section interpreted as part of a Roman drainage or sewage system dated to the 2nd–4th centuries CE.

More recently, geophysical surveys, advanced non-invasive methods that map buried structures using radar and magnetic instruments, have been carried out in and around the village center as part of the Living Danube Limes project. These surveys revealed sections of wall foundations and built features consistent with a Roman military or logistical installation beneath modern soils.

The Roman Site in Kopačevo

Archaeologists believe the settlement may correspond to a Roman site sometimes referred to in research as Ad Labores?, though the ancient name is not securely established. This place likely functioned as a small military or watch station integrated into the broader Danube frontier system that stretched across today's Croatia.

During the 2nd to 4th centuries CE, the Roman Empire fortified river borders (limes) to monitor movements, communicate between forts, and manage regional transport and trade. Kopačevo's position overlooking the wetland corridors and near major routes connecting to Bilje, Mursa (modern Osijek), and other inland towns made it a strategic point – likely serving as a link between larger forts and local roads.

Excavated finds, including building remains, coins, and funerary monuments, support this interpretation and suggest continuous use through the Late Imperial period.

Current Condition and Conservation

Today, most of the Roman site lies underground, covered by soil and modern structures. Only a few small excavation trenches have been opened in the past, and once studied, these were backfilled to preserve the remains. Geophysical data now guide researchers to understand the layout of walls and other features without the need for extensive digging.

Although no large standing ruins are visible on the surface, the site's protected status and its inclusion in the Register of Cultural Goods confirm its importance within Croatia's heritage of Roman archaeology. Ongoing documentation and research enhance its value for regional cultural tourism, helping interpret how this quiet village once played a role in the long history of the Roman Danube frontier. In addition, Kopačevo forms part of a wider archaeological landscape listed on Croatia's Tentative List for nomination to the UNESCO World Heritage List under the title Frontiers of the Roman Empire – The Danube Limes (Croatia), further highlighting its international cultural significance.

Its present-day potential also lies in its close connection with the surrounding natural landscape, as the site is located within the area of Kopački Rit Nature Park. This setting offers opportunities to integrate archaeological heritage with nature-based tourism, allowing the story of the Roman frontier to be presented alongside the region's ecological attractions and expanding the visitor experience and overall appeal of the locality.

Geophysical survey in the area of the village of Kopačevo (Baranja) – https://www.researchgate.net/publication/376966189_Geofizicka_istrazivanja_na_prostoru_sela_Kopacevo_BaranjaGeophysical_survey_in_the_area_of_the_village_of_Kopacevo_Baranja

Kopačevo – Ad Labores? – http://baza.iarh.hr/public/locality/detail/3081

Czechia – Roman Heritage Beyond the Danube Limes

Mušov-Burgstall (Hradisko)

Balázs Komoróczy

Mušov-Burgstall (see fig. 9-12), known in Czech as Hradisko near Mušov, is the most significant Roman-era military site north of the Danube in the Czech Republic. Located in the centre of the Marcomannic settlement zone, it is generally seen as the main command and logistical hub of Roman operations during the Marcomannic Wars. Research at the site dates to the late 1920s, when the first Roman building remains were discovered. Later excavations, field surveys, aerial photography, and especially geophysical prospection have gradually changed our understanding of the hill from an isolated fortification into the core of a much larger, well-organized military landscape.

What has emerged from this research is a notably complex internal built-up area. The most well-known structure is a representative complex, typically identified as a mansio, consisting of a residential building and a bath equipped with a hypocaust heating system. The use of bricks stamped with the Legio X Gemina Pia Fidelis mark indicates the direct involvement of the Roman army in its construction, while the building itself likely combined masonry foundations with timber-earth superstructures. Excavations on the southeastern slopes also uncovered a workshop quarter with pyrotechnological installations and small, single-room wooden buildings, as well as other substantial timber-earth structures, including one generally interpreted as a valetudinarium (military hospital) and another high-status residential building.

Mušov also differs from ordinary Roman field camps in the scale and durability of its fortifications. On the south and east, the hill was protected by the floodplain system of the Dyje and its tributaries; to the north and north-west, a 2.1-kilometre outer defensive line enclosed almost 4 square kilometres between the Dyje and Jihlava rivers. Excavation and geoarchaeological analysis indicate that parts of the fortification system employed mudbrick - a relatively demanding building material in this context - suggesting an effort to create a more durable and substantial defensive circuit than would normally be expected in a temporary campaign installation.

Mušov should be regarded as part of a larger military zone rather than just a single fortified hilltop. Nearby temporary camps at Mušov-Na Pískách, Ivaň, and Drnholec seem to have protected key routes, river crossings, and fords leading to the main base. Notably, Mušov-Na Pískách, located about 2 km south of the hill on the southern bank of the Dyje River, features multiple stages of a large camp, a smaller fortification on the river terrace, and long lines of military field ovens, indicating ongoing Roman activity and its strategic role in supervising movement through the river landscape.

The importance of Mušov becomes even clearer when the Roman military complex is considered alongside the Germanic evidence from the surrounding area. Just a short distance away lies the richly equipped princely grave of Mušov and the settlement at Pasohlávky-U vodárny, whose occupation partly overlapped with the period of Roman military activity. Excavations at Pasohlávky uncovered an unusually large settlement with storage facilities, craft and metallurgical workshops,

and a significant number of Roman artifacts, indicating close contact with the Roman base and possibly even a cooperative relationship with the occupying forces. Taken together, the grave, the settlement, and the fortress demonstrate that Mušov was not only a military stronghold but also a site where Roman power directly intersected with local Germanic elites and their social networks.

Today, the site is one of the best-presented Roman-period locations in Moravia. Visitors can start at the Visitor Centre Mušov - Gateway to the Roman Empire, continue along the educational trail across Burgstall itself, follow the connected route to the princely grave and the Germanic settlement zone near Pasohlávky, and then view key finds from the region in the Regional Museum in Mikulov's permanent exhibition.

Přibice

Balázs Komoróczy

The concentration of Roman camps at Přibice, about 8 kilometers north of Mušov, is one of the clearest examples of how the Roman army organized its presence in occupied Marcomannic territory. Spanning roughly 1.5 kilometres along a terrace on the left bank of the Jihlava River, the site includes at least three camps of distinctly different sizes and characteristics. Camp 3 was the largest, covering an estimated 43 hectares; Camp 1 formed a relatively regular trapezoid of 25.8 hectares; and Camp 2, located at the edge of the last terrace step near the alluvial landscape, enclosed only about 1 hectare.

Přibice is particularly useful for understanding what Roman field camps in this area looked like. Their defenses were mainly composed of V-shaped ditches of the fossa fastigata type, originally with earthen ramparts, the remains of which mostly occur as redeposited material in the ditch fills. As seen at several Middle Danube camps, these ramparts may have been fortified with mudbrick in some places. The camps featured rounded corners and well-planned entrances: for example, Camp 1 had as many as six gates, five of which were protected by so-called titulus.

Topography played a notably important role at Přibice, and the camp layout is especially revealing. In Camp 1, some openings on the long sides measured over 20 meters wide, while others were closer to 10 meters wide, and one entrance on the corrected western side appears to have opened directly toward neighbouring Camp 2. This variation indicates that the camps were not arranged according to a strict, standard template but were adapted to local movement routes, visibility, and the internal organization of the garrisons. With an elevation difference exceeding 20 meters, Camp 1 at Přibice is among the steepest known Roman temporary camps in the Middle Danube region, with parts of the enclosed area situated on pronounced slopes rather than on flat ground. This might suggest that some sectors were used not for tent lines but for other purposes, potentially including stabling, storage, or logistical activities.

Camp 2 presents a particularly interesting functional question. Due to its very small size and the lack of an apparent fortification line on the riverside – a feature similar to the riverside installation at Mušov-Na Pískách – it can reasonably be seen as a protected landing area for riverboats. Such an installation would have supplied the much larger troop numbers housed in Camps 1 and 3 with provisions and other military essentials.

The overall spatial arrangement suggests that all three camps at Přibice could have operated simultaneously. If so, they would provide evidence for the concentration of a large army early in a new campaign. The largest enclosure, Camp 3, may have housed the main fighting units, while the protected river landing and nearby Camp 1 – with its large areas unsuitable for tent rows – may have served logistical purposes, including storage and housing for support personnel. Modelling of communication routes indicates that troops moving from Přibice could have advanced toward Modřice on the southern outskirts of Brno and, further to the northeast, toward camps at Olomouc-Neředín, Jevíčko, and Hulín-Pravčice.

Although the site is less impressive than Mušov, it is important for understanding how Roman campaigns operated north of the Danube. It demonstrates how camps were placed within the landscape, how access routes and river corridors could be monitored, and how standard Roman military engineering was adapted to challenging local conditions. Přibice is also beginning to

receive more organized public interpretation: ongoing presentation efforts include new information panels and a local educational trail designed to help visitors better understand the camp landscape.

Jevíčko

Balázs Komoróczy

The camp at Jevíčko occupies a somewhat different position within the archaeology of the Marcomannic Wars. Situated in the Malá Haná region on the northern edge of the known Roman military reach into Moravia, it marks a peripheral zone of the occupied area. In this regard, Jevíčko can be compared to sites such as Olomouc-Neředín and Hulín-Pravčice: all are located away from the main southern cluster of camps and illustrate how far Roman military operations extended into the interior.

Jevíčko is particularly valuable because the Roman camp can be studied alongside nearby evidence of Germanic settlements and burials. The temporary camp - currently the northernmost known Roman fortification associated with the Marcomannic Wars - is situated near a Germanic burial ground and settlement. Excavations revealed about 120 meters of the western ditch, along with baking ovens on its inner side, while terra sigillata finds from the bottom of the V-shaped ditch firmly date the camp to the wartime period. A Roman lead sling bullet found nearby further illustrates the military nature of the site.

Although only part of the camp is known, its likely size and shape suggest a substantial installation rather than a small outpost. Based on current evidence, it may have had a rhomboid shape with sides of roughly 430 meters, resulting in an area of about 18.5 hectares in a square layout or up to 27.7 hectares in a more elongated rhomboid form. This would place Jevíčko in the same category as medium- to larger-sized Moravian field camps like Olomouc-Neředín, Modřice, Přibice 1, or Hulín-Pravčice, reinforcing the idea that this was an important forward installation on the outer edge of the occupied zone.

The Malá Haná region has also produced Roman and Germanic militaria from settlement areas and more challenging hilly terrains. This suggests that Jevíčko may hold not only signs of Roman encampments but also evidence of movement, tension, and possibly episodes of conflict on the northern edge of Rome's activities north of the Danube.

Today, the site is firmly established in local public presentation. Jevíčko has an information point and an official educational route through the town, while Roman and Germanic finds from the area are included in the town's own presentation centre. In this way, Jevíčko highlights a landscape that was once on the periphery of Roman occupation but is now key to understanding how far the footsteps of Roman legionaries extended.

Germany

Regensburg legionary fortress

Helene Sedlmaier

The Regensburg legionary fortress was located on the northernmost point of the Danube, only about 30 km linear distance downstream from the transition of the Upper Germanic-Raetian Limes in Eining. It was the only legionary fortress in the Bavarian Section of the Danube Limes and formed the military centre of the province of Raetia from 179 AD until the 3rd century AD. The names Legio, Reginum and later Castra Regina have been handed down as names for Roman Regensburg.

The strategically important location is based on the conjuncture of the Naab and Regen rivers, which flow from the north into the Danube and represent long-distance routest o central Germany and Bohemia.

The first confirmed Roman settlement can be traced back to the construction of the cohort fort on Königsberg hill in what is now the Kumpfmühl district. It was first built around 80 AD as a wooden structure covering an area of approximately 2.1 hectares, before being rebuilt in stone during the 2nd century and shortly afterwards expanded to cover an area of 2.8 hectares. Surrounding the fort was a vicus with residential buildings and various craft workshops, as well as a confirmed bathhouse. Around 170 AD, the fort was destroyed during the Marcomannic Wars. Significant evidence of this is the so-called Kumpfmühl treasure trove, a bronze cauldron containing over 600 coins and other valuables. In addition to this auxiliary fort, there is archaeological evidence of a civilian settlement in what is now the city centre, the so-called Danube settlement, which suggests the existence of another fort directly on the Danube that is no longer traceable. The settlement was probably destroyed at the same time as the fort and its vicus in Kumpfmühl. As a result, construction began on the legionary fortress, surrounded by a large civilian settlement (canabae legionis). In addition to the legionary fortress, there was another small fort in Großprüfening measuring only approx. 79 m by 62 m. From 179 to the 280s AD, this fort overlooked the mouth of the Naab River. In the 4th century, the construction of a burgus is documented there. Structures of a presumed brewery in the local settlement can be viewed under a protective structure.

The preserved inscription on the eastern gate of the base proves that the legionary fortress was completed around 179 AD under Emperor Marcus Aurelius. Legio III Italica had been stationed there since the beginning. The fortress covered an area of 542 m by 453 m and faces north towards the Danube. It had four gates with towers, of which the north gate, the Porta Praetoria, is still visible today, integrated into the medieval building structure. With its 11 m high roman masonry, it is the highest preserved monument from roman times in Bavaria. The wall can be reconstructed to a height of 8 m and a width of 2 m. It had a total of 4 corner towers and 18 intermediate towers. The large chalk sand and limestone blocks from which the wall was built can still be seen regularly in Regensburg's cityscape today. Around the wall there was a pointed ditch approximately 7 m wide and 3 m deep. Little is known about the interior development due to continuous constructions up to modern times. Only a few roman buildings, such as the remains of the crew barracks and parts of a bathing complex, have been documented in small excavation areas. Parts of the barracks can be viewed on a guided tour under the Niedermünster Church.

The surrounding civilian settlement has also only been explored to a limited extent. What is certain is that the canabae were built at the same time as the legionary fortress, initially in wood and then, from the first quarter of the 3rd century onwards, largely in stone. By then, redensification was also necessary and public infrastructure such as bathing facilities had become an integral part of the settlement. There are a few known sanctuaries, such as the temple district on Ziegetsberg, which was maintained until late antiquity, and a Mithraeum just outside the western Canabae. The large burial ground in Regensburg is noteworthy. It stretches along the road to the provincial capital of Augsburg and shows continuous occupation from the late 2nd century AD to the early Middle Ages.

Both inside the legionary fortress and in the civilian settlements, there is evidence of extensive fire and destruction in the middle of the 3rd century, dating from around 254 AD. The vicus and the fort in Großprüfening were destroyed at this time, as were the estates in the surrounding area. As a result, the civilian population retreated to the interior of the legionary fortress. After the army reform under Emperor Diocletian, only a sub-unit of Legio III Italica remained stationed in Regensburg as an occupying force. According to the military handbook 'Notitia Dignitatum', the legionary fortress was occupied until the middle of the 5th century. Archaeological and written sources from the following period are sparse. The presence of the Bavarian dukes in Regensburg is documented from the 7th century at the latest and can be seen as the beginning of medieval Regensburg.

The Regensburg Historical Museum has a separate section dedicated to roman Regensburg, displaying finds not only from the forts and their civilian settlements, but also from the surrounding countryside. In addition to the original finds, reconstructions and scenes from everyday life are also on display.

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Straubing

Veronika Fischer

Straubing is located between Regensburg and Passau, south of the Danube in eastern Bavaria. The Bavarian Forest begins north of the Danube. From Straubing, it was easy to cross the forest via the Cham-Further depression. This transport route was monitored by the Roman military. In addition, today's city lies in the middle of the Gäuboden region, which is known for its fertile loess soil.

Roman settlement in Straubing probably began with a small fort on what is now St. Peter's Church Hill, as isolated small finds from the time of Emperor Claudius (41-54 AD) have been recovered from there. Small forts formed the first phase of Roman security along the Danube in the province of Raetia.

However, the large, central settlement core from the late 1st to the mid-3rd century was located on the large Danube terrace, the so-called Ostenfeld, east of today's old town of Straubing. From the end of the 1st century AD to the early 170s, there were two forts here at the same time, making Roman Sorviodurum a central point on the Bavarian Danube Limes. At least as many soldiers were stationed there as in Regensburg, if not more at times. There was also a harbour here, one of the few archaeologically documented harbours with several piers and quays. The so-called West Fort, now covered by the modern hospital, was completely destroyed in the Marcomannic Wars shortly after 170 AD. Until then, it had accommodated an auxiliary force of 500 foot soldiers, the cohors II Raetorum. The 3.2-hectare East Fort III was the location of a 1,000-strong archery unit, the cohors I Flavia Canathenorum milliaria sagittariorum (equitata).

Few findings have been excavated from the wooden construction phase (around the middle of the 2nd century AD). The stone extension was built before the Marcomannic Wars. It underwent changes after the warlike invasion, but apparently was not destroyed like the western fort. Almost the entire floor plan of the fort can be reconstructed from the final phase of the stone fort using aerial photographs, geophysics and partial excavations. It shows that there were six cavalry barracks for about 240 men and ten infantry barracks. This composition corresponds to what the ancient author known as Pseudo-Hyginus reported for a partially mounted, milliary cohort. The Straubing East Fort is the only archaeological evidence of this information to date. A large civilian settlement (vicus) soon developed around the fort, which merged with the abandoned Fort IV after the Marcomannic Wars at the latest.

The fort and vicus were destroyed and abandoned around the middle of the 3rd century AD. The famous Straubing treasure hoard, which includes richly decorated ceremonial armour and statuettes, dates from this period. In late antiquity, a fort of unknown size was built, the remains of which now lie beneath St. Peter's Church and the surrounding cemetery. After a very short-lived wooden construction phase, which probably burned down at the beginning of the 4th century AD, a stone fortification was erected, which was used until the 5th century AD. Only a short section of the wall was recorded in excavations, and few findings are available from radar measurements. However, the range of finds is clear evidence of the fort, which was built on the prominent hill, typical for its location. A vexillation of Legio III Italica was probably stationed there, which was divided into several units in late antiquity. Three late antique burial grounds are also known from Straubing.

In Straubing's Roman Park, visitors can find a variety of information about Roman Straubing. The floor plan of the market building in the civilian settlement has been laid out in brickwork, and the trenches of the eastern fort have been marked with plants. This is complemented by several casts of important Roman stone monuments from Bavaria. The municipal Gäubodenmuseum presents 7,000 years of human history from Straubing and the surrounding area in high quality and without gaps. The centrepiece, but not the only highlight, is the Roman treasure. It is considered one of the most important archaeological museums in southern Germany.

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Hungary

Brigetio

Dávid Bartus and Emese Számadó

Brigetio was a thriving, genuinely multicultural provincial town with a population of approximately 15,000–20,000 inhabitants. People arrived here from all corners of the Roman Empire, either as soldiers or as participants in the intensive commercial traffic that moved along the limes road passing through the settlement. Modern archaeological research in Brigetio has been ongoing since 1992, conducted in close cooperation between the Klapka György Museum of Komárom and the Department of Classical and Roman Archaeology of Eötvös Loránd University.

Located on flood-free river terraces in the area of present-day Komárom/Szőny, the military garrison stationed at Brigetio played a key role in safeguarding the northern frontier of the Roman province of Pannonia—the ripa Pannonica—for more than 300 years, from the early 2nd century AD onwards. Events of empire-wide significance took place here, as clearly attested by archaeological finds. Nearly forty temporary marching camps visible on aerial photographs are connected to the Marcomannic Wars led by Emperor Marcus Aurelius (AD 167–180). Moreover, Emperor Valentinian I died here on 17 November AD 375 in a representative building uncovered within the legionary fortress, and it was also here that his son was proclaimed emperor.

The settlement complex of Brigetio consisted of three main components: the legionary fortress, the military town (canabae), and the civilian town.

The civilian population lived in the municipium, which had already attained urban status by AD 205. The town possessed all the essential public buildings of a Roman city, including an amphitheatre, and its everyday needs were met by various workshops and production facilities. Between 1992 and 2016, archaeological excavations were carried out for 25 years at the Komárom/Szőny-Vásártér site, corresponding to the area of the former civilian town. These investigations made it possible to reconstruct the urban layout, building structures, and aspects of daily life of the town's inhabitants.

In the canabae—the military settlement without municipal rights—lived the families of legionaries as well as supply personnel, craftsmen, servants, priests, and merchants. The area contained painted residential buildings, streets, temples, an amphitheatre, and a public bath complex, which from the 4th century onwards were gradually replaced by Late Roman cemeteries. Archaeological work in the military town has mainly consisted of smaller excavations and geophysical surveys. Between 2014 and 2017, large-scale research was conducted over an area of one hectare north of the former limes road, where Iron Age features (houses, graves, pits, and ovens) as well as monumental Roman public buildings were uncovered. On the western side of the site, a bath complex was identified, preserving extensive terrazzo floors, hypocaust heating systems, numerous channels, and road surfaces. On the eastern side, two large storage buildings with an economic function, known as horrea, were documented.

The legionary fortress of Brigetio, measuring 540 × 430 metres, was constructed during the reign of Emperor Trajan (AD 97–118). Archaeological excavations and geophysical surveys have identified several key elements of the fortress, including the northern gate (porta praetoria), the

headquarters building (principia), the military hospital (valetudinarium), bathhouses (thermae), granaries (horrea), and large sections of the internal street network. Excavations within the fortress area have been ongoing since 2015. In recent years, research has confirmed the location of the central administrative zone (principia), the northern gate, granaries, and the military hospital. A bath complex covering more than 6,000 square metres was also uncovered within the fortress. Excavations revealed exceptionally well-preserved, massive walls, floors paved with red limestone slabs, complete underfloor heating systems, as well as cold- and hot-water pools and drainage channels. One of the most remarkable buildings of the fortress is a representative apsidal structure of approximately 600 square metres, founded on massive stone walls and constructed in the early 370s. According to historical and archaeological interpretations, this is the building where Emperor Valentinian I received envoys of the Quadi on 17 November AD 375, suffered a fatal stroke, and died on the spot.

At present, the area of the Roman settlement complex of Brigetio does not feature a permanent open-air archaeological park. However, the ongoing excavations are open to visitors during the summer season, from early July to mid-August. Archaeological finds, wall paintings, and architectural reconstructions can be viewed year-round in the permanent exhibition of the Brigetio Heritage Visitor Centre, in Komárom, Hungary.

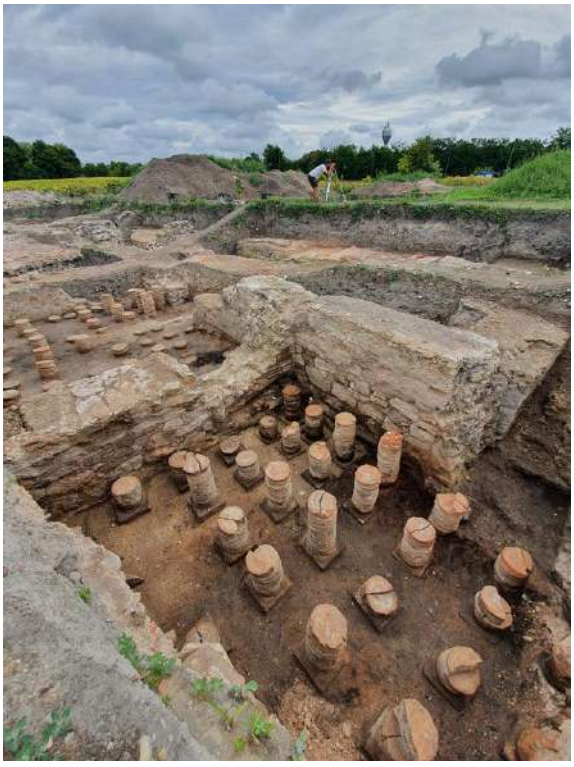


Figure 71: Snapshot of the excavation of the Roman bath (©Dávid Bartus).



Figure 72: Brigetio Heritage Visitor Centre in Komárom (©Dávid Bartus).



Figure 73: Open day at the Brigetio archaeological excavation (©Dávid Bartus).

Savaria – Szombathely

Andrea Csapláros

The Savaria Museum is one of Hungary's largest county museums, operating several exhibition sites across Szombathely and offering a wide range of cultural tourism experiences. For more than 20 years the city has hosted the Savaria Historical Carnival, a multi-day summer festival that evokes the Roman past and attracts tens of thousands of visitors each year. This tradition is based on Colonia Claudia Savariensium, the Roman predecessor of present-day Szombathely. Although Savaria is among the best-researched settlements of Roman Pannonia, little can be seen on the surface today because the ancient city lies beneath the modern urban fabric.

Savaria was founded in the mid-1st century AD by Emperor Claudius (41–54 AD), who settled veterans of the XV Apollinaris Legion along the Amber Road. The settlement soon obtained Roman municipal rights and, at the latest during the reign of Trajan (98–117 AD), became the administrative center of the province of Pannonia Superior, hosting the provincial assembly (concilium) and the imperial cult (ara Augusti provinciae). The city flourished under Hadrian (117–138 AD), when aqueducts, a complex sewerage system, basalt-paved streets, temples, public buildings and representative squares were constructed.

After Diocletian's administrative reform (284–305 AD), the province was divided and Savaria became the center of Pannonia Prima. At this time construction began on the governor's residence, later transformed into a palace suitable for imperial stays, and several emperors visited during the 4th century. Christianity played an important role: Bishop Quirinus of Siscia was martyred here in 304 AD, and Saint Martin of Tours (316–397 AD) was born in the city. Charlemagne (747–814 AD) also visited Savaria after his campaign against the Avars in order to see the birthplace of the saint he revered. The city gradually declined as infrastructure deteriorated, yet a small Roman population remained and preserved its ancient name through the centuries.

István Járdányi Paulovics Ruin Garden

Excavations since 1937 in the Bishop's Garden have uncovered major structures from the western part of the Roman city. The early-4th-century imperial palace was visited by Constantine the Great, Constantius II and Valentinian. Visitors can see the foundations of the palace complex, including a 50 × 17-meter reception hall, the bathhouse remains and the sanctuary of Mercury beneath shaded trees. A preserved basalt road recalls the Amber Road traffic of soldiers, merchants and caravans transporting northern amber and gold.

The site also contains remains of the medieval inner castle built in the 9th century. It belonged to the Bishop of Győr until 1777, gained military importance in the 15th century and was besieged in 1532 by the Ottoman army of Suleiman II. Roman, Carolingian, medieval and Baroque layers together illustrate the continuous urban history of Szombathely.

Crossroads beneath the OTP Bank

Travelers entering through the southern gate once reached a T-shaped intersection where the Amber Road met an east-west street forming the city axis. Beneath the streets ran vaulted stone sewers; the sewage network of Savaria exceeded 12 km in length, demonstrating advanced Roman engineering. The remains excavated between 1991 and 1998 can now be viewed through a glass floor and in an underground exhibition space.

The Iseum – Sanctuary of Isis

In autumn 1955 marble carvings and architectural remains of the temple of the Egyptian goddess Isis were discovered in Szombathely. Measuring 72 × 43 meters and nearly 3,000 m², it was the third largest known sanctuary of Isis in the Roman Empire after Alexandria and Rome. The site quickly gained cultural importance and achieved national and international recognition in the 1960s; a stylized facade even became part of the city's coat of arms.

The reconstructed Iseum Savariense opened in 2011. Today it hosts fine arts and architectural exhibitions, theatre and musical performances, conferences, workshops and educational programs. The permanent exhibition *The Home of Isis in Savaria* presents Roman religious life and the Isis-Serapis cult through artifacts, interactive installations and public activities for both professionals and general audiences.

The Savaria County Museum's exhibitions and public programs are built on its extensive archaeological collections and decades of scholarly research, providing the professional foundation for preserving and presenting the Roman heritage of Szombathely.

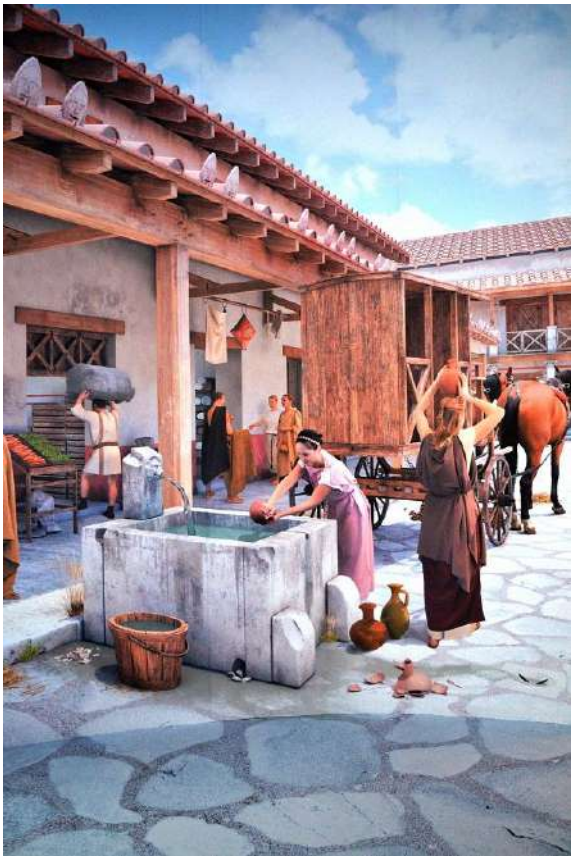


Figure 74: Savaria Museum (©Savaria Museum).



Figure 75: Iseum Savaria (©Savaria Museum).



Figure 76: Archaeological remains of Savaria (© Savaria Museum).

HNM Campona Victrix Archaeological Park and Visitor Centre

Zsolt Mráv

The Campona Victrix Archaeological Park and Visitor Centre is located in present-day Budapest–Nagytétény, on the site of the Roman auxiliary fort and settlement of Campona. In the 4th century AD, the fort was the scene of an event of imperial importance: Emperor Constantine I (the Great) claimed a glorious victory here over the Sarmatians—an episode remembered in Roman historical and literary tradition. In commemoration of this triumph, the fort and its personified goddess acquired the epithet *Victrix*, meaning "Victorious".

For decades, the remains of the fort were known primarily through archaeological excavations, while the area itself lay largely neglected and overgrown. With the aim of unlocking the site's long-overlooked heritage and visitor potential, the Hungarian National Museum established an archaeological exhibition site and visitor centre here. Opened in 2023, the archaeological park combines architectural and horticultural interventions with spectacular virtual reconstructions to evoke the Roman fort's former appearance—its fortifications, towers and gates, as well as its main buildings and principal roads.

The visitor centre presents a comprehensive exhibition featuring outstanding artefacts, scale models, a lapidarium, a photo gallery, short films, interpretative texts, and spacious open-air areas. Because an auxiliary cavalry unit was once stationed at Campona, the exhibition places special emphasis on the Roman army's cavalry, cavalry forts, horse archery, and the cultural history of horses in antiquity.

Please note that the site operates seasonally: every year from April to October, we are open from Wednesday to Saturday, 10:00–18:00. Easily accessible by car, train and public transport, the first phase of the "Campona Victrix – Campona the Victorious" site provides a strong foundation for further developments and new historical displays, offering visitors a rich and engaging experience.



Figure 77: © Exhibition of the Campona Victrix.



Figure 78: © HNM Campona Victrix Archaeological Park and Visitor Centre.

Montenegro – Roman Heritage Beyond the Danube Limes

Dolclea – Duklja

Dragan Radović

The ancient city of Doclea, also known as Duklja, represents the most important Roman urban center in the territory of present-day Montenegro. It is located in the immediate vicinity of Podgorica, about four kilometers upstream along the Morača River, on a spacious, irregularly shaped plateau bordered on three sides by the Zeta, Morača and Širalija rivers.

The city's location held exceptional strategic importance. The area, surrounded by river courses, was difficult to access, especially during periods of high water, while steep cliffs further impeded approach. Although naturally protected, Duklja was encircled by massive walls 2 to 2.5 meters thick, featuring towers, bastions and fortified gates. The strongest fortification system was located on the only naturally unprotected northeastern side.

The founding of Duklja is associated with the beginning of the 1st century CE, most likely after the year 9, during the rule of the Flavian dynasty, possibly under Emperor Vespasian, when the city received the status of a municipium. During the Roman period, Duklja was the most important urban center in the territory of present-day Montenegro and a significant hub within the province of Dalmatia.

The city was located near the intersection of several important Roman roads, particularly the route connecting Narona with Scodra, passing through the interior of Montenegro. Although it was not situated directly on the main road, Duklja played an important role in the traffic and administrative network of the Roman Empire. The city's name derives from the Illyrian tribe of the Docleatae, on whose territory it was founded. In written sources, it is first mentioned by Ptolemy, while in later sources it appears under the name Dioclea.

Duklja was a planned city, designed according to the classical Roman urban scheme. Two main streets, the cardo and decumanus, intersected at right angles, dividing the city into regular residential blocks. The forum, the central city square, was located near the intersection of these two streets, and the Capitoline temple was erected alongside the square.

The main city street, the via principalis, ran in an east-west direction and connected the bridges over the Širalija and Morača rivers. Along the main street, the most significant public buildings were located: the triumphal arch dedicated to Emperor Gallienus, the temple of the goddess Roma, the temple of the goddess Diana, as well as a large residential palace with an atrium. A special place was occupied by the city baths, built according to the standard Roman scheme, with palaestras, bathing and relaxation rooms and a library, richly decorated with mosaics and sculptures.

The forum, featuring a monumental basilica, was located opposite the baths - a three-naved building constructed in massive stone. A preserved inscription indicates that the basilica was dedicated to Flavius Frintanus Balbinus, whose gilded equestrian statue adorned the city square.

Although surrounded by rivers, Duklja was supplied with water through a developed aqueduct system that brought water from the springs of the Cijevna River, located several kilometers away, reflecting the city's high level of technical and engineering sophistication.

From the 4th century onwards, a strong Christian community was developed in the eastern part of Duklja, with several churches and a large episcopal basilica, confirming the city's important role as an early Christian center. After the Gothic destructions at the end of the 5th century and the devastating earthquake of 518, Duklja gradually lost its significance and was abandoned, leaving behind impressive remains that still testify to its former grandeur.



Figure 79: Archaeological remains of Doclea (© Museums and Galleries Podgorica).



Figure 80: Glass finds from Doclea (© Museums and Galleries Podgorica).

Artifacts and Archaeological Finds

Archaeological research in Duklja began in the second half of the 19th century and continues to this day. A large number of artifacts have been discovered: stone and bronze sculptures, reliefs, inscriptions, coins, jewellery, pottery, glass items, as well as richly furnished tombs that testify to the high standard of living and the city's intensive trade connections with the rest of the Roman Empire. Most of these finds are now preserved in the Museum of the City of Podgorica.

The discovery of the so-called "Podgorica Cup," is of special importance. It is an early Christian glass plate engraved with scenes from the Old and New Testaments, which represents one of the most important works of early Christian art found in the Balkans. This exceptional object became part of the collection of the Russian collector Vasilievsky and today it is preserved in the Hermitage Museum in Saint Petersburg.

The most recent research, conducted by the Public Institution Museums and Galleries of Podgorica, is focused on the temple complex near the forum, significantly expanding knowledge about the urban development, religious life and transformation of the city during late antiquity.

Duklja Today – Appearance and Infrastructure

Today, the archaeological site of Duklja is a protected cultural monument and one of the most important ancient sites in Montenegro. On the grounds of the former city, the remains of fortifications, city gates, the street network, the forum, a basilica, thermae and early Christian sacred buildings are visible, with preserved foundations and walls clearly attesting to the city's planned urbanism and former splendor. The site has been developed as an open-air archaeological park with secured access and informative signage and its authentic atmosphere and natural surroundings make it an important cultural and educational space, with significant potential for further valorization and presentation.

Municipium S... – Roman site in Komini, Pljevlja

Petar Ćosović

In the village of Komini, in the immediate vicinity of the town of Pljevlja, there are remains of a Roman city known as Municipium S. The name of this ancient city is known only from a single epigraphic monument on which the abbreviation M.S. appears. That the settlement had municipal status is evidenced by numerous inscriptions on monuments mentioning duoviri, decurions and other titles of city administrative bodies, which reliably testify that it was a settlement of an urban character. The city settlement existed from the 1st to the 4th century in the territory of the then Roman province of Dalmatia.

The first mentions of antiquities in Pljevlja appear in the accounts of Dubrovnik ambassadors from 1792, who, while passing through the town on their way to Constantinople, recorded impressive remains of an ancient city. Later, in the mid-19th century, Otto Blau, the Prussian royal consul, was the first to systematically document epigraphic inscriptions from Roman funerary monuments, whose observations were published in 1866 by the Prussian Royal Academy of Sciences in Berlin. In addition to several other researchers who left records of the remains of this Roman city throughout history, Arthur Evans stands out as the most significant. He was a renowned English archaeologist whose observations were invaluable to later researchers.

The first non-professional, short-term investigations at the Roman necropolis in Komini were conducted by the Austrian army in 1899, and their results were later published by Karl Patsch.

The first systematic excavations of the Roman site in Komini began in 1964 under the leadership of Aleksandrina Cermanović-Kuzmanović and Dragoslav Srejović, organized by the Institute for the Protection of Cultural Monuments of Montenegro, the Pljevlja Museum and the Faculty of Philosophy in Belgrade. The research yielded significant results and lasted until 1976, with brief interruptions in 1968 and 1969. The first findings were published in Arheološki pregled 7 in 1965, and numerous results and publications on this site have continued to be published up to the present day.

Excavations during this period indicated the existence of two larger urban necropolises. The older necropolis (Necropolis I) comprised 390 graves of cremated individuals, who were buried in circular pits with or without urns, in which the cremated remains of the deceased were deposited together with grave goods. In addition to this type, stone cists containing cremated remains were also found.

The younger necropolis (Necropolis II) comprised a total of 295 graves. In addition to the previously mentioned types of burials with cremated remains, which were also dominant in Necropolis II, this necropolis also featured inhumation burials. These were placed in monumental stone tombs with funerary monuments.

Archaeological movable material and funerary monuments indicate that burials in Necropolis II were carried out from the 2nd to the 4th century. Scholarly studies and further analyses based on the examination of material remains and epigraphic evidence point to a local, Romanized indigenous community that inhabited this area.

Furthermore, analysis of the epigraphic material has led to the conclusion that families holding titles related to the administration and development of the city had migrated from the coastal regions of the then Roman province of Dalmatia. These monumental tombs testify to an urban

elite whose status and position within the community are reflected in their luxurious tombs and in the very rich assemblage of grave goods deposited with them.

A largely unexplored urban settlement covering several dozen hectares lies west of the necropolis, where the first excavations began in 2007. Excavations in the urban part of the site during the 2007 and 2008 campaigns revealed a large area of the city core. Trial excavations confirmed the existence of remains of collapsed urban infrastructure, including fortifications with gates and towers, a forum, public buildings (baths) and workshop facilities.

The best-researched structure at the site is the thermae (public baths with auxiliary buildings). This luxurious complex was equipped with an underfloor heating system (hypocaust). Analysis of movable archaeological material found during the excavations confirmed that the building was constructed in the mid-2nd century. The dominant construction material consisted of semi-worked stone blocks, most often tufa, while particularly interesting finds include bricks bearing local workshop stamps (METR, PAS), which were used in the construction of the hypocaust system and floors. Their presence indicates production in local workshops, which further supports the conclusion that the city had a high level of organization and developed administrative bodies. Excavations of this site have also significantly contributed to understanding the processes of infrastructure development, showing changes in the modification and expansion of buildings through different phases, from the 2nd to the end of the 4th century, when the city was finally abandoned.

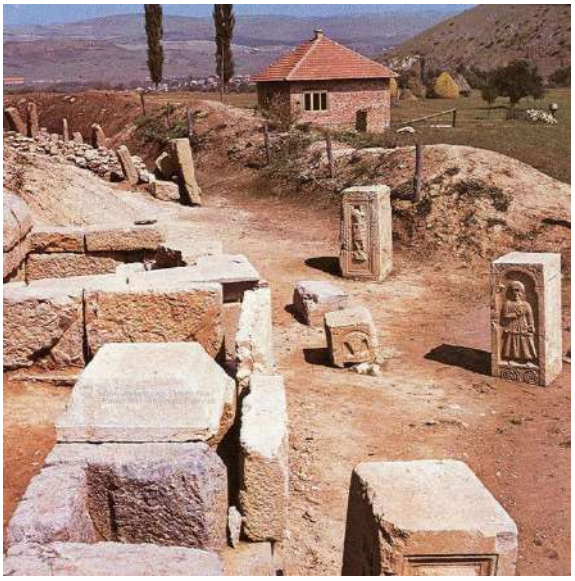


Figure 81: Archaeological remains of Municipium S (© Homeland Museum Pljevlja).



Figure 82: The glass cup “diatreta” (© Igor Shevchenko).

The archaeological material from excavations carried out during the 1960s and 1970s is exceptionally significant and rich, representing one of the most important parts of the archaeological collection of the Pljevlja Heritage Museum. The movable material includes outstanding examples of luxury glass, jewelry, ceramics, as well as tools and weapons, which were found as part of grave goods in two necropolises. The most representative pieces are displayed

today in the permanent archaeological exhibition “Along the Paths of Homo sapiens.” One artifact that stands out as the most significant find is the “diatreta.”

The glass cup, better known as the “diatreta,” was discovered in 1975 in a previously looted luxury tomb, along with three other luxury glass vessels. The value of the diatreta lies in its rarity and exceptional craftsmanship, which represented the pinnacle of glassmaking skill in ancient times. Only a few diatreta have been found in their preserved form, among them the diatreta from Pljevlja. It belongs to the type of network-patterned diatreta; its base is made of crystal-clear glass, while the network decoration with a textual inscription is crafted from cobalt blue glass.

The textual inscription on the neck of the vessel reads “VIVAS PANELLENI BONA,” with a missing letter that is assumed to be “M” – an abbreviation for memoria. In the generally accepted translation, it would mean “May you, Panelleni, live in good memory.”

Numerous finds from the Roman site, numbering several thousand artifacts, are preserved in the museum, while dozens of monuments with epigraphic inscriptions are kept on the site itself. Unfortunately, the site does not have facilities for visitors, nor does it have a proper lapidarium where the monuments could be studied. Additionally, almost the entire area beneath which the archaeological site lies is privately owned, which continues to limit further systematic research. The site has enormous potential and awaits its tourist and scientific valorization.

Romania

Drobeta

Andra Comiati

Drobeta represents an essential link between the Danube limes and the Dacian limes, being an integral part of both frontiers. For the Dacian limes, Drobeta marks the beginning of the imperial road forming Dacia's south-western frontier and crossed the entire province from south to north.

The site is situated on the northern bank, in a strategic location near the place where the river exits the Iron Gates, a peculiarly narrow and dangerous gorge between the Carpathians and the Balkan Mountains. An early earthen fortification may have existed here already during the first Dacian campaign (101-102 CE). The importance of the area greatly increased starting with the year 103 CE, when the construction of the permanent bridge was commenced.

Drobeta marks the beginning of the imperial road that crossed the entire province from south to north. Trajan's bridge, planned by the famous architect Apollodorus of Damascus, is illustrated on Trajan's Column in Rome. It was built surprisingly quickly, between 103 and 105 CE, by several troop detachments. It stands among the great achievements of Roman architecture and engineering. The segmental arch bridge had a total length of 1.135 km, spanning between Drobeta and Pontes (Kostol, Serbia). It was supported by 20 large piers made of masonry and stone, held together by a special concrete based on hydraulic-setting cement. Monumental portals marked the two ends of the bridge. Its superstructure, including the arches, was made of timber and was intentionally dismantled during antiquity. It is probable that it was, in fact, repeatedly destroyed and rebuilt. In 1857, during a major drought, 16 preserved piers were still visible in the water. In 1909, in order to make the navigation safer on the Danube, the first two piers from the riverbed on the Romanian side were demolished under archaeological supervision. Thus, important data about their structure was recorded.

During another drought in 1932, the remaining elements of the bridge were visible again for a short period of time. After the building of two major hydroelectric power stations in this part of the Danube in the latter half of 20th century, however, the water level rose considerably. For this reason, today only the ruins of the portal and abutment (the first piers still on land) can be seen. The ruins on the other side of the river, along with the neighbouring auxiliary fort (Pontes) are protected by Serbian heritage laws.

In parallel with the bridge, auxiliary forts (Drobeta and Pontes) were constructed next to it, on either side of the Danube. The large concentration of military power around Drobeta (detachments of three legions and at least three more infantry auxiliary units are attested during the building works) is proof that it acted as one of the centres of operations during the second Dacian campaign (105-106 CE). The auxiliary fort was the first stone fortification on the territory of the future province of Dacia. The site, having many visible ruins, sparked the interest of historians already during the 15th century. Excavations were almost continuously undertaken here since the middle of the 19th century. As a result, the fort has the best-known plan in Dacia. A small part of its north-eastern corner has been reserved for future research. In its Trajanic form, the fortification (137.5 × 123 m) presents the general characteristics of a Roman auxiliary fort. What sets it apart, however,

is the unprecedented symmetry of its internal layout, the eastern side mirroring almost perfectly the western side. From its southern corners, two walls ran towards the Danube.



Figure 83: Archaeological remains of Drobeta (© MNIT, Limes Romania).

Between these walls was the archaeologically attested military harbour, unfortunately destroyed at the end of the 19th century. The internal layout of the fort was slightly modified around the middle of the 3rd century. After further armed conflicts and the abandonment of the Dacia (circa 271/275 CE), it remained under Roman rule, being an important bridgehead. During the 4th century, the interior of the fort was entirely rebuilt to accommodate new troops. The site was finally abandoned by the Romans only around 420-430 CE, during the Hunnic invasions.

Besides the bridge and fort at Drobeta, Trajan's Column also depicts an amphitheatre. The structure (35 × 37 m) was identified only in 2010, during renovation works in the courtyard of the regional museum. Further to the west, at approximately 250 m from the fort, the military baths are located, excavated during the 1930s.

Next to the auxiliary fort, towards the north and west respectively, two settlements prospered. The civilian settlement to the west received the urban rank of municipium already during the reign of Hadrian (r. 117-138 CE), followed by that of colonia at the end of the 2nd century, sometimes mentioned with the epithet 'the most splendid' (splendissima). The remains of these settlements lie today under the modern town of Drobeta-Turnu Severin. For this reason, they were only very sporadically researched.

During its history, the strategic importance of the Roman site at Drobeta never decreased. Outliving the Dacian province, it demonstrates the adaptability of Roman frontier policy. The main moments of the fort's existence are reflected by its successive construction phases. Initially, during the second Dacian campaign (105-106 CE), the bridge over the Danube and the adjacent fortification acted as the most important and reliable gateway into the future province. After the wars, the role of the fort shifted from the protection of the bridge towards the control of the military harbour, as well as of the fluvial traffic on the Danube. As a crucial bridgehead, it remained under Roman rule even after Dacia was abandoned, until the Hunnic invasions of the 5th century.

The remains of Trajan's bridge over the Danube are a tangible proof of one of the greatest achievements of Roman architecture and engineering. A true marvel of the period, built by military units in a matter of a few years (103-105 CE), it is also a reminder of Roman imperial ambition and determination to rule over the entire known world. The military baths and amphitheatre, a hallmark of Roman civilization, are placed just as depicted on Trajan's Column, in close vicinity of the bridge and fort. They allow a glimpse into the daily life of Roman soldiers. The complexity of the site thus reflects the different nuances of military life.

The site is located on the territory of the Iron Gates Region Museum, close to the city centre of Drobeta-Turnu Severin. The open-air archaeological park can be accessed with a valid ticket during the opening hours of the museum. Between 2013 and 2016, the whole area underwent a thorough restoration and renovation process. There are several explanatory panels near the ruins, presenting them both in Romanian and in English. Inside the monumental building of the museum, a permanent exhibition presents in detail many aspects of the ancient Drobeta, along with numerous finds from the excavations. The site is also popularized through different types of events organized here. Among these, one of the most important is a re-enactment festival ('Drvbeta'), where the Dacian and Roman cultures are presented to a large number of visitors.

Ulpia Traiana Sarmizegetusa

Andra Comiati

Colonia Ulpia Traiana Augusta Dacica Sarmizegetusa was the first Roman city of Dacia. It is situated at the south-western edge of the Haţeg Depression, along the imperial road coming from Tibiscum through the Bistra corridor and Porțile de Fier ale Transilvaniei pass. It was strategically emplaced halfway between the initial legionary fortresses of Dacia – Berzovia and Apulum. It was protected to the south and north, by the massifs of Retezat and Poiana Ruscă. The powerful auxiliary garrisons at Tibiscum and Micia closely guarded the incursion routes from the west and north, respectively. This defensive arrangement failed only once, at the beginning of the Marcomannic Wars (166–180 CE), when invaders reached the city walls. Sarmizegetusa is also only 12 km away from the Bucova quarry, proven to have been the major marble quarry for the city.

The city was founded by Emperor Trajan within a few years after the conclusion of the second Dacian War (106 CE), as the Roman Empire needed to establish not only the military infrastructure, but also an economic and administrative base for the new province. Possessing from the start the highest urban rank, colonia, its role was symbolically legitimised by adopting the name of the destroyed royal Dacian residence situated approximately 40 km away.

The initial phase of Sarmizegetusa, comprising public buildings and the defensive system, was built by a detachment of the legion IIII Flavia felix. It followed a typical Roman architectural formula, based on symmetry and grid patterns. The colonia was enclosed with a massive curtain wall. At some point, this was expanded towards the west, the walled perimeter ultimately measuring approximately 540 × 600 m (32.4 ha). Inside, the most significant administrative and public buildings were located, as well as private residences, arranged in regular city blocks (insulae).



Figure 84: Forum vetus, Sarmizegetusa – aerial view (© MNIT, Limes Romania).



Figure 85: Domus Procuratoris, Sarmizegetusa – aerial view (© MNIT, Limes Romania).

As in any other Roman cities, from Gaul, Italy or Greece we can observe at Sarmizegetusa the traces of a scamnatio and strigatio in centuriis, that is of a centuriation. A significant part of this centuriation has been preserved and, showing limits oriented according to the city enclosures, and to the imperial road. The orientation of the lines is aligned or perpendicular to the Roman imperial road which turns left exactly where the limites are more westward inclined. The elements of the

Trajanic plan are still being utilized as modern streets or field and property lines. At the centre of the town stood the main public space, the forum (conventionally called forum vetus), built during the reign of Trajan. It could be accessed through a monumental edifice with four portals (tetrapylon), marking the intersection of the two main orthogonal streets. There were public marble fountains dedicated to the nymphs on either side of this gateway, built in the second half of the 2nd C when marble columns and marble cladding has been used for the entire structure. South of the old forum, over a previous marketplace, a new one was open around AD 153 (forum novus) and at its western end the first Capitolium of the province, i.e. the temple of the most official of Roman deities, Jupiter, Juno and Minerva, was dedicated. This edifice marked Sarmizegetusa as the religious centre of Dacia.

The headquarters of the financial procurator of Dacia Apulensis was built north-east of the forum. This compound included offices, baths, residential areas, cult places and interior courtyards and was flanked to the north and east by two granaries. Outside the city walls, the settlement continued especially towards the north and east, finally covering an area of approximately 100 ha and accommodating more than 20,000–25,000 inhabitants. The most notable structure here is the amphitheatre (an ellipsoidal structure of c. 88 × 69 m). An initial timber phase built in the early period of the colonia was subsequently rebuilt in stone around the middle of the 2nd century CE. South of the amphitheatre, a large bathhouse complex was unearthed, while towards the east stretches the 'sacred area' with several temples and sanctuaries. The most important of these is the so-called 'Large temple', because it yielded votive inscriptions dedicated to several Roman gods. Other smaller sanctuaries, belonging to Nemesis, Liber Pater, Silvanus, Domnus and Domna, Aesculapius and Hygeia were at least partially excavated. Temples and other civil buildings (e.g. the baths) have been excavated starting with the 19th C also in some other places outside the enclosure walls. A few large-scale buildings have been recently identified on LiDAR images outside the eastern city wall and about 500 m far away a necropolis is partially excavated. Another cemetery is located north at about the same distance, as usually, outside the inhabited area.

Since the conquest of Dacia was a violent event, significantly affecting the local population and especially the elites, the city had to be populated with veterans of the Dacian wars and colonists from across the Empire. Therefore, the city was profoundly Roman from the start, as also evidenced by the monumental architecture and artistic works. Most of the veterans settled here from the very beginning were from the western provinces, however there are proofs for communities from the East as well. Sarmizegetusa's continuous growth and prospering earned it the title of metropolis in the first part of the 3rd century.

After the official abandonment of Dacia, the population of Sarmizegetusa decreased dramatically. At some point, the small remaining community moved inside the amphitheatre. By blocking the entrances with earlier funerary monuments, an easily protected small 'fortification' was created, inhabited until the end of the 4th century. The antiquarian interest in Sarmizegetusa began at the end of the 15th century, when the Roman city was firmly identified. Many monuments found their way into the structure of stone churches of the region or into large epigraphic collections of the time. When the neighbouring village started to develop, in the 19th and early 20th centuries, the site suffered from continuous stone robbing, affecting mostly the marble elements. Systematic archaeological investigations have been carried out, with some interruptions, since the last part of the 19th century and until present times, revealing a significant part of the city's layout and major structures.

The site is located at the centre of the modern settlement of Sarmizegetusa, borrowing, as for the case of Drobeta, the ancient name, south of the national road DN68. Today, the ruins of the old forum, part of the financial procurator's headquarters, the amphitheatre and several sanctuaries are conserved, minimally restored and presented to the public inside an open-air archaeological park. An entrance fee must be paid. Information boards in four languages are placed in front of each monument. Representative archaeological materials resulting from the excavations are exhibited in a small on-site museum. Some of the most valuable artefacts, however, can be seen in the Museum of Dacian and Roman Civilization in Deva, approximately 60 km away.

Serbia

Sirmium – One of the Great Cities of the Roman World

Dragana Šarac

Sirmium was one of the most important cities of the ancient world and one of the four capitals of the Roman Empire. It stood on the site of present-day Sremska Mitrovica, in northern Serbia, and is mentioned in historical sources as early as the 4th century BCE.

The region was originally inhabited by the Pannonian tribes, particularly the Amantini, and later by the Celtic Scordisci. Ancient authors also mention the nearby Thracian tribe of the Triballi, whose king Sirmus is sometimes linked to the name and origins of Sirmium, although scholars continue to debate this connection. At the end of the 1st century BCE, the city was conquered by the Romans and incorporated into the province of Illyricum.

Thanks to its strategic position near the confluence of the Bosut River and the Sava, as well as its excellent river connections, Sirmium developed rapidly. Between the 1st and 4th centuries CE, it became one of the most important urban centers in the Roman province of Pannonia. Following administrative reforms, it served as the capital of Lower Pannonia and later of Pannonia Secunda. It was also the seat of the Diocese of Pannonia and the Prefecture of Illyricum, making it a major political, military, and administrative hub of the Empire.

Because of its border location near the Danubian limes, Sirmium was also a key military center and frequently served as an imperial residence. On March 1, 293, it was officially proclaimed one of the four capitals of the Roman Empire, becoming the seat of Caesar Galerius. For several decades thereafter, it functioned as an imperial capital. In the 4th century, ancient sources describe Sirmium as the richest and most beautiful city of Illyricum.

Remarkably, seven Roman emperors—according to some sources, as many as ten—were born in Sirmium or its surroundings. These include Trajan Decius, Aurelian, Probus, Maximian, Hostilian, Constantius II, and Gratian.

The Imperial Palace

The Imperial Palace formed an integral part of Sirmium and today lies within the central core of modern Sremska Mitrovica. It is first mentioned in the 2nd century, during the stay of Emperor Marcus Aurelius. The palace complex was deliberately placed in the safest area of the city, directly along the Sava River, which could be crossed quickly in case of danger. At the same time, it was positioned farthest from the northern city wall, traditionally the most exposed and vulnerable section of Sirmium's defenses.

Decline and Fall

By the late 4th century, Visigoths had entered Pannonia, yet Sirmium remained under imperial control until 441, when it was captured and devastated by the Huns. In the decades that followed, the city passed between the Ostrogoths and the Gepids, who fought repeatedly for control of this strategic stronghold.

Sirmium was briefly restored to Byzantine rule in 535, but was seized again by the Gepids the following year. In 566, the Gepid king Cunimund offered to surrender the city to Emperor Justin II

in exchange for military assistance against the Avars, but negotiations failed. After the collapse of the Gepid Kingdom in 567, the Byzantines regained control, only to face renewed pressure from the Avars. Despite prolonged disputes, Byzantine rule lasted until 582, when Sirmium was finally conquered by the Avars and Slavs. This event marked the definitive end of ancient Sirmium.

Archaeology and Legacy

Archaeological research has revealed much of ancient Sirmium's layout and grandeur. The city was extensive, fortified by walls and moats, and contained an imperial palace, a hippodrome, public baths, granaries (horrea), necropolises, and thriving commercial and craft districts. Excavations carried out since the mid-20th century have uncovered numerous luxurious houses and villas decorated with frescoes and mosaics. Finds from 74 archaeological sites show that these artworks were produced by highly skilled, first-rate artists and decorators.

Today, much of ancient Sirmium lies beneath the modern city and can only be partially presented, as excavations are constrained by contemporary buildings. Nevertheless, the remains testify to the city's former splendor.

At the height of its power in the 4th century, Sirmium may have had more than 100,000 inhabitants—comparable, in modern terms, to the status and importance of a major global city such as London.





Figures 86 (left) – 87 (right): Archaeological remains of Roman Sirmium (© Arhiva TOV – Dragoslav Ulić, Carska palata, Sremska Mitrovica).

Religion

Archaeological evidence shows that religious life in and around Sirmium was diverse. Early worship included Illyrian, ancient Greek, and Roman polytheistic traditions. Over time, various Eastern religions such as Mithraism and Judaism appeared, followed eventually by the spread of Christianity.

In recognition of its outstanding historical and cultural value, the Government of the Republic of Serbia declared Sirmium an archaeological site of exceptional importance in 1990.

Viminacium – Archaeological Park – Scientific Research and Tourist Center

Olivera Đurić

History

Viminacium, now one of the most significant archaeological sites in Serbia, was once the capital of the Roman province of Moesia Superior (later Moesia Prima) and the fortress of the Legio VII Claudia. The remains are located approximately 12 km from the city of Kostolac. The military base, which gradually developed into the provincial capital, served as an important communication hub connecting the northern Balkans with the rest of the Roman Empire. It was a multicultural center, a trading post, and a meeting point of eastern and western influences. Viminacium flourished due to its favorable geographical position and the proximity of two rivers – the Danube and the Mlava. The city prospered in its strategic, military, and commercial roles. Founded in the 1st century AD, Viminacium reached an estimated population of around 40,000 inhabitants at its peak. In the mid-5th century, it was destroyed by the Huns. Although it was rebuilt in the 6th century under Emperor Justinian I, the city never regained its former importance and was largely abandoned before the arrival of the Slavic tribes.

Viminacium Today / Modern-day Viminacium

The archaeological area of Viminacium covers more than 450 hectares of the ancient city, much of which today lies beneath agricultural land, with Roman artifacts scattered throughout the site. Viminacium is the first officially recognized archaeological site in Serbia. In 1882, Mihailo Valtrović initiated the first archaeological excavations in the area. An architect by profession, Valtrović is considered the founder of Serbian archaeology and became the first university professor of archaeology at the University of Belgrade. More extensive archaeological research began in 1977 in the necropolis area southwest of the Castrum, prompted by the planned construction of the thermal power plant and surface mining operations at the Drmno open-pit mine. The findings were numerous and highly significant. Today, research continues through the work of an interdisciplinary team that includes archaeologists, mathematicians, electrical engineers, geophysicists, geologists, petrologists, and experts in remote sensing, three-dimensional modeling, formal analysis, and artificial intelligence.

Archaeology

Archaeologists first explored the necropoleis (burial grounds) of Viminacium, leading to the discovery of lead sarcophagi. Subsequent excavations revealed Roman baths, the Porta Praetoria (north gate of the base), Funerary Memoriae, and Roman Aqueducts.

Tourist Attractions and Infrastructure

Viminacium Archeological Park has been open to public since the 5th of October, 2006. There is a tavern for refreshment during visits, and a souvenir shop that caters to all with its selection of books and authentic educational board games, such as “Mystery of the Emperor’s Death” and “Itinerarium Romanum Serbiae”.

Seven Covered Facilities Open to Visitors:

- The north gate of the base – Porta Praetoria
- Roman Baths

- Roman Amphitheatre
- The Mausoleum (identified as a possible burial site of the Roman Emperor Hostilian)
- Mammoth Park
- Domus Scientiarum Viminacium – Scientific Research and Tourist Center
- Craft Center with pottery kilns and furnaces

These facilities are open to visitors throughout the year. The park also hosts various science fairs, conferences, celebrations, concerts, thematic events, exhibitions, and children's camps.



Figure 88: Scale model of Viminacium (©Olivera Đurić).



Figure 89: Domus Scientiarum Viminacium (©Olivera Đurić).

Accommodation

The Domus Scientiarum Viminacium Center offers 16 guest rooms, each furnished and decorated in the Roman style and equipped with an en-suite bathroom.

International Passenger Terminal Kostolac Port (nautical tourism)

The river port serves commercial cruise tours and operates 24/7. It provides transportation to and from the archaeological site by prior arrangement.

Roman Meals Tasting Experience

Visitors may enjoy meals prepared according to ancient Roman recipes. This experience is available by prior appointment.

Limes Park is a newly built addition to Viminacium Archaeological Park, designed for hosting conferences and summer educational camps. It is a replica of an unearthed structure from Viminacium and includes a reconstructed Roman legionaries' training ground with obstacle courses, as well as workshop spaces for presentations, lectures, and training sessions.

Domus Scientiarum Viminacium is conceived as a scientific research center available to archaeologists and other professionals involved in the study of Viminacium. The complex includes accommodation for researchers, assistants, staff, and students, as well as a library, museum space, research offices, and classrooms for summer programs. The center is housed within a complex designed in the style of a Roman villa.

Scale Models of the City and the Military Base

Following years of multidisciplinary research, a scale model presenting ideal reconstructions of Roman-built structures was created and presented to the public. The model was produced by academic painter and set designer Dragomir Gane Petrović. Its modular design allows it to be packed, transported, and exhibited at touring exhibitions showcasing discoveries from Viminacium.

Events

- Scientific conferences are regularly organized at Viminacium, including:
- Rei Cretariae Romanae Fautores – International Symposium on Ancient Pottery
- UNESCO IX Regional Summit – Contemporary Art and Reconciliation in South-East Europe
- Danube Limes Conference in Serbia

Children's Camps

Both science and sports summer camps are organized at Viminacium Archaeological Park several times a year. These programs are intended for children and adolescents aged 10 to 14.

Festivals and Concerts

- The Roman Night
- The Danube Limes Day
- Concerts and cultural events

Slovakia

In the 1st to the 4th centuries, the territory of today's south-west Slovakia, inhabited by the German tribes of Marcomans and Quadi, was situated in the immediate vicinity of the Roman Empire. The expansion of the Roman Empire contributed to the incorporation of the territory of south-west Slovakia in the European context of historical events in this period. The natural northern border of the Empire in the province of Pannonia was formed by the Danube River, along which the Romans gradually built an extensive fortification system. Its parts were also the Roman Military Camp (Fort) Gerulata in Bratislava - Rusovce and the Roman Military Camp (Fort) in Iža – "Kelemantia". Both camps, as parts of the border system of the Roman Empire, constituted an inseparable part of its Danube Frontier.

The Roman military camp in Iža was an outpost fort on the left bank of the Danube in the immediate bridgehead of the legionary fortress of Brigetio. It served mainly for border control and protection of the borders and the wider territory of the bridge head of Brigetio. Gerulata was situated within the territory of Pannonia on the right bank of the Danube. Both camps (forts) are proof of the long-term (approximately 200 years) Roman military presence in the territory of present Slovakia.

Roman castellum Gerulata in Bratislava and the Roman Military Camp in Iža were inscribed on the UNESCO World Cultural and Natural Heritage List in 2021 as part of the Frontiers of the Roman Empire – The Danube Limes (Western Segment). It is the only UNESCO site in western Slovakia and, at the same time, a site that provides evidence of the life of Roman soldiers and the presence of the Roman Empire in the territory of Slovakia.

Gerulata – National Heritage Site Roman castellum Gerulata

Bratislava City Museum

The exposition of Ancient Gerulata presents the history of the construction and life of the inhabitants of the fort primarily through archaeological findings discovered at the site. The outdoor part of the exposition consists of a 4th-century fort, as well as the earlier foundations of fort structures from several construction phases.

The indoor part of the exposition, known as the Lapidarium, has housed a new, modern permanent exposition entitled Gerulata on the Frontiers of the Roman Empire since 2022. It presents the most interesting archaeological findings discovered at this site, including weapons, pottery, jewellery and everyday objects, parts of horse harnesses, a helmet, Roman tombstones, reliefs and Roman coins.

In the rear part of the indoor exposition, in the so-called treasury, visitors can find Virtual Gerulata – a virtual 3D model of the camp offering both walking and game modes. In an engaging way, using a gamepad, visitors can learn a great deal of new and interesting information about life in Gerulata and about the objects discovered there.

History

Complex conservation and restoration works of the site started in 1975. In order to present the archaeological finds excavated on this site, a modern exhibition hall was built that has been housing an exhibition of Roman era artefacts from 1987. Restored remains of the original structure of the castellum in the Museum's grounds were open for public in 1987 and became a part of the exhibition.

The name Gerulata was probably adopted by the Romans from the original Celtic population. On the basis of the sections of the fort researched so far, it is possible to reconstruct its four building stages, the location of burial grounds and the civilian settlement, the so-called vicus, as well as agricultural settlements and a villa rustica. The establishment of Gerulata is dated to the reign of the Flavian dynasty. The fort was founded by the military unit Cohors V Lucensium during the reign of Domitian (81–96 AD). From the beginning of the 2nd century AD, the cavalry unit Ala I Cannanefatum was stationed here. The only brick stamped with the mark of this unit comes from Rusovce.

The earliest camp had a rectangular ground plan and was a wood-clay structure. Further construction activities were recorded in the 2nd century AD, during the reign of the Antonine dynasty, in connection with efforts to improve the defence system, attempts to expand the Empire into new territories, and also with the unrest known as the Marcomannic Wars.

The fort of the third building stage had a square ground plan and was encircled by a massive stone wall. The reduction in the size of the camp was connected with the military reforms of the 3rd century AD, when both the number of army units and their internal strength changed. The main construction activity of the fourth building stage was the creation of a tower-like late-antique fortification, built into the corner of an earlier architectural structure. The tower had twelve massive pillars which delimited a courtyard. This tower-like structure has parallels with similar fortifications recorded in several forts only along the Danube section of the Limes.

Findings from the research of a Lombard burial ground with 166 graves in the outskirts of Rusovce, Slavic huts, as well as an Old Hungarian burial ground in Rusovce, testify to the favourable location of this site also in the subsequent historical period known as the Migration Period.



Figure 90: Gerulata, Bratislava: presentation of uncovered walls in a part of the post-Valentinian fortification from the 4th building stage (© Lujza Stopková, archive of BCM).



Figure 91: Gerulata, Bratislava: exposition of findings (© Lujza Stopková, archive of BCM).

Roman Military Camp (Fort) in Iža – “Kelemantia”

Pavel Paterka

The structure of location consists of a partially uncovered Roman military building which, at first sight, has the character of ruins made up of stone masonry remains. Originally, it was a Roman castellum – a stone fortified military camp. It was built on the site of an earlier, destroyed, burnt-down Roman wood-clay camp as an outpost fort of the legionary fortress (castrum) of Brigetio, situated on the opposite bank of the Danube. The wood-clay camp was built during the Marcomannic Wars (166–180 AD). According to several indications, it existed only between 175 and 179 AD.

A stone camp was built on the site of the wood-clay camp in the 180s AD. At a certain period, the castellum and the fort of Brigetio were connected by a stone-and-wood bridge. The camp was strengthened and rebuilt in the era of the Constantinian dynasty, at the beginning of the 4th century, and especially at the end of the 4th century, during the reign of Emperor Valentinian I (364–375 AD). Shortly after the death of Valentinian I in Brigetio, the Romans abandoned the camp.

The structure itself consisted of a thick, approximately 2-metre-wide stone fortification of square ground plan with rounded corners. The fortification covered an area of approximately 175 × 175 metres. In the centre of each side there was a gate, protected on both sides by two guard towers. Guard towers also stood at the four corners of the fortification. Additional intermediate towers were placed between the corner towers and the gates, making a total of 20 towers. The interior contained barracks, the commander’s house, storehouses, stables, baths and a training hall. The area was also surrounded by several water-filled defensive ditches.

Today, the archaeological site is presented through selected sections of conserved and supplemented masonry of the Roman castellum. Other parts of the Roman torso architecture remain underground. The uncovered walls, including the baths, the north-eastern and north-western corner towers and the northern gate, are presented through conservation and partial reconstruction using technologies close or identical to the original ones.



Figure 92: Roman military fort in Iža –"Kelemantia", uncovered parts of walls with a supplement of their estimated course and objects identified by georadar (© Danube Region Museum in Komárno, Slovakia).



Figure 93: Roman military fort in Iža –"Kelemantia, northern gate after reconstruction in 2025 (© Danube Region Museum in Komárno, Slovakia).

Human communities settled among the walls of the castellum also during the Migration Period, in the Middle Ages and in the modern period. The massive stone walls became a source of building material, especially in the second half of the 19th century, when the fortress was almost completely destroyed.

The archaeological research of the Roman castellum is associated in particular with the local teacher János Tóth Kurucz, who investigated the fort between 1906 and 1914. In 1978, modern systematic archaeological research was launched by the Archaeological Institute of the Slovak Academy of Sciences in Nitra, under the leadership of Klára Kuzmová and Ján Rajtár. With minor interruptions, this research continues to the present day. The excavations have revealed many details about the history of the Romans in the territory of present-day Slovakia.

Findings and collections are deposited in the Danube Museum (Podunajské múzeum) in Komárno – in the exposition Roman Lapidarium, and in other expositions of this museum.