

Roman Military Medicine and Croatian Archaeological Perspectives

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ABSTRACT

This article offers a general examination of the sources responsible for understanding Roman military medicine, starting with literal and epigraphical sources all the way to archaeological remains consisting of hospitals, the infrastructure of military garrisons and small medical tools. Given that not one of the literary sources does not directly mention the medical personnel within the various military units, epigraphical discoveries widely represent the main source of our knowledge on the subject. On the other hand, the archaeological exploration of military garrisons offers proof of the medical care of Roman soldiers. If at first it appears that Roman military medicine is perfectly obvious and clear, actually this is not the case as many questions remain to be answered and debated. In all this, Croatia has its own archaeological perspective, where notably, one site stands out, which could hold a key role according to the layout of buildings within the garrison including its hospital.

Key words: Roman Military Medicine, epigraphy, archaeology, Roman military camps, Burnum

Introduction

The Roman army of the Principate was certainly one of the most efficient and most organized armies of all time. Military organisation and hierarchy, defined pattern of military advancement, but also the art of warfare itself were perhaps Rome's greatest achievement and legacy. It was the pillar on which all other civilizational acquisitions stood – from art and urbanization to economy and commerce.

A clearly defined hierarchical system, logistical backup and the art of discipline were the main conditions for the success of Roman army, but one thing that certainly developed its efficiency was the organisation of military medical service.

Although there is a lot of evidence, which proves that Roman military units had different varieties of medical services inside their forts and fortresses, none of the sources speak of it directly, so many claims about Roman military medicine are still the questions of debate. Consequently, it would be helpful to present the primary

sources on the matter, but also to show what the main evidence and problems are regarding reconstructing the organisation of Roman military service and present Croatian archaeological perspectives in contributing and answering the question.

Secondary Sources

Many authors have written on the subject of Roman military medicine, but the work of Roy Davies is still the most fundamental one¹⁻⁴. He processed the literary sources and epigraphical evidence, as well as the archaeological remains, and not much has changed since he wrote his articles. Patricia Baker has handled the matter from a strict archaeological view⁵, and recently Lawrence J. Bliquez has published a monograph on Greek and Roman medical tools⁶. The last, thoroughly interesting paper on the matter has come from the pen of Duncan Campbell⁷. There are also some works that tried to re-open some of the questions, but they will be presented below.

Literary Sources

There are not many literary sources that address Roman military medicine, and as we said before, none of them is strictly devoted to it. The work of Vegetius is certainly the most important one (and is certainly the most detailed one), but with the main problem being that 'was neither a historian nor a soldier: his work is a compilation carelessly constructed from material of all ages, a congeries of inconsistencies'⁸. It is not clear when actually Vegetius wrote his work, but it was certainly written at the end of the fourth and the beginning of the fifth century AD. Since he wrote in the period when the Roman state had lost its influence and strength, and when the military glory of Rome had vanished long ago, it is not surprising that Vegetius often criticised the army of his age calling upon the days of glory. The most important passage of Vegetius on the matter of military medicine is in the third book of his *De re militari* where he writes on the means of preserving the health of soldiers (Vegetius, *On military matters*, 3.2):

»Now, I shall discuss a matter which must be given the utmost care: the means whereby the health of the army may be preserved, namely by situation, water-supply, season, medicine, and exercise. As far as situation is concerned, do not keep the troops in an unhealthy region in the vicinity of marshes that bring diseases, on arid plains or hills lacking trees to provide shade, or in summer out of doors without tents. Do not let them contract ailments through the heat of the sun and the fatigue of the journey as a result of setting out too late, but rather in time of excessive heat they should start the journey before day-break, and thus reach their destination in good time. In the depths of winter do not let them march through snows and frosts by night, nor suffer from lack of firewood or inadequate supplies of clothing. A soldier who is compelled to freeze, is not suited for campaign or health. Do not allow the army to use water that is unwholesome or marshy, as drinking bad water, just like poison, causes illnesses for the men. It is the constant duty of senior officers, commanding officers, and generals to seek diligently that sick soldiers should be brought back to health by suitable food and cured by the skills of the doctors. Men who are hard pressed by the exigencies of war and illness, are badly off. But experts in military matters have been of the opinion that as far as the health of the troops is concerned, daily exercises with arms is of greater benefit than doctors. Accordingly, they wished the infantry to be exercised under cover without interruption from rain or snow and on other days in the open. Similarly, they ordered the cavalry to exercise rider and horse continually in the plains and also on broken ground and difficult terrain pitted with gullies; their aim was so that nothing could happen in the exigency of battle that was unknown to them. From this, one may learn how much more assiduously an army must be always trained in the art of weapons, as practice in hard work can bring health in the camp and victory in battle. If a large number of troops remain for some considerable amount of time in summer or autumn in the same place, this can cause very unwholesome diseases from the con-

tamination of water and the fouls the smell itself, as the drinking water is tainted and the air infected. The only way to prevent this is frequent changes of encampment.«

As can be seen, Vegetius does not tell anything about the organization of the physicians in the Roman army, but is simply saying what an army should or should not to do in certain situations. But still, his words show that health was of great importance to the army's efficiency and that the health of soldiers was the duty of their officers and commanders. Although he emphasized that regular exercise is more beneficial to health than any kind of medicine (i.e. that the best way to treat the illness is not to get it at all), Vegetius' passage is important because it proves that physicians had a certain role in the organisation of the Roman army.

There is another reference on military medicine by Vegetius, where he mentions that the prefect of the camp is in charge of the medical organisation of the legion (Vegetius, *On military matters*, 2.10):

»He was responsible for the sick soldiers and the medici by whom they were looked after, and also the expenses involved.«

The rest of the sources about military medics are very poor. For instance, Galen – one of the most famous physicians in antiquity – criticises the army doctors during the Marcomannic wars of Marcus Aurelius, for not using the bodies of death barbarians in their own improvement of knowledge (Galen, *On the composition of medicine*, 13.604.). According to the *Historia Augusta*, the emperor Aurelian declared that the soldiers should get medical care without charge (*Historia Augusta*, *Life of Deified Aurelian*, 7.8.):

»Let one yield obedience to another as a soldier and no one as a slave, let them be attended by the physicians without charge, let them give no fees to soothsayers, let them conduct themselves in their lodgings with propriety, and let anyone who begins a brawl be thrashed.«

There is also the statement of Modestinus (preserved in Justinian's *Digest*) that the military doctors were exempt from taxation because their profession served the state (*Digest of Roman law*, 4.6.33.2). Justinian's *Codex* preserved an edict of Emperor Antoninus Pius in which it is stated that the legionary physician was exempt from civic duties while he served the state, and that he would enjoy his profession's privileges on his return to civilian life (*Codex Iustinianus*, 10.53.1).

»If, as you allege you are serving as the physician of the Second Legion, you cannot be compelled to perform civil services as long as you are absent on business for the State. After your connection with the army has ceased, however, and you have returned, you will be entitled to exemption, if you are included in the number of those physicians to whom this privilege has been granted.«

The only other ancient source referring to military doctors is Paternus' statement preserved in Justinian's *Digest* where it is said that the military *medici* belonged to a group of *immunes*, which means that during the service, they were freed (i.e. immune) from physical labor (*Digest of Roman law*, 50.6.7).

Although all of these written sources are scarce at best, they are still very useful because they confirm that the doctors were involved in the military organisation and that they had a certain status and position in the overall military hierarchy. However, the literary sources cannot answer other interesting and numerous questions; for example those concerning the overall organisation of the medical corps. In order to answer these and similar questions we need to examine the epigraphic evidence.

Epigraphic Sources

Generally speaking, epigraphy is the single most important source for the study of Roman military hierarchy, career advancement and positioning of military units⁹. So far, several hundred thousand inscriptions have been recorded in the entire Roman world, and they greatly complement (and often correct) literary sources. The inscriptions are mostly published in large epigraphic corpora, such as *Corpus Inscriptionum Latinarum* (CIL), *Inscriptiones Latinae Selectae* (ILS), or journals such as *L'Année épigraphique* (AE), and the vast majority of them are included in the Epigraphik-Datenbank Clauss / Slaby (EDCS). Concerning Roman military medicine, the epigraphic monuments bring to light not only the knowledge about various medical positions in the army, but also the fact that the medical staff was detached to almost all types of military units. In addition to the main striking force of the Roman empire – the legion – medical staff was included among the auxiliary units (*cohortes* and *alae*), within the units garrisoned in the city of Rome (*cohortes praetoriae*, *cohortes urbanae*, *cohortes vigilum*, *equites singulares Augusti*), but also within the navy (*classis Ravennas*, *classis Misensis*) and irregulars (*numeri*).

From the epigraphic monuments we can observe that the doctors in the army were not only general practitioners (*medici*), but there was also a whole range of specialists (*medicus chirurgus* – surgeon; *medicus ocularius* – oculist) and additional staff personnel (e.g. *capsarii* – dressers, *librarii* – secretaries, *marsi* – experts for antidotes, *seplasiarii* – pharmacists specialised in ointments).

Although, according to the Vegetius, the prefect of the camp was in charge for the medical organisation of the legion, the entire medical staff was led by *medicus*, while the hospital was run by *optio valetudinarius*, whose function was more administrative, and it seems that he was not obliged to have any medical training. Although Paterus states that the *medici* and *optiones valetudinarii* belonged to a group of soldiers liberated from physical work, it is more likely that they were *principales*, or in today's terms non-commissioned officers who received double pay. In the navy physician had the title *medicus duplicarius*, which means that he was on double pay.

There are also several functions, or better to say titles, for which a satisfactory explanation has never been displayed, not only due to lack of literary and epigraphic sources, but also because of the etymology of certain words in those titles. It is still not clear what is hiding behind the terms *medicus clinicus* and *medicus ordinarius*. Some

authors thought that the *medicus ordinarius* was a military doctor with the rank of a centurion, but the title should probably be linked with the rank of *miles medicus*. Consequently, it seems that the phrase *medicus ordinarius* comes from the fact that the physician emerged from the ranks of the army (*in ordine militat*) as opposed to a doctor who joined the army from civilian life on a short term contract. Thus it seems that they were professional soldiers attached to units until the end of the prescribed conditions of service.

Therefore, epigraphy provides a number of additional facts on medical functions in the Roman military units, and proves that the Romans had quite impressive and superbly organised medical care for their soldiers. But neither literary nor epigraphic sources can tell us about the health conditions of individual Roman soldiers. The only way one could answer those questions is to conduct a systematic archaeological excavations.

Archaeological Sources

In terms of military medicine, archaeological remains can be broadly divided into two main groups. First, of course, are the remains of architecture – not only the remains of military hospitals (figure 1), but all architectural infrastructure that had some kind of influence on human health, such as water supplies, sewerage systems etc¹⁰. Others are small archaeological finds, such as medical tools that are found in large numbers within the military camps¹¹, which again prove the high level of medical care within the Roman army. Through their examination, scholars can do comparisons with, for example, surgical tools of our time, but also observe what skills the ancient physicians possessed. But there is one problem in all of this – the fact that the material remains of Roman *valetudinaria* and of medical tools have often been in the cause-effect relationship. The military camps had really complex architecture and internal distribution of rooms, with a wide range of different buildings, such as the commander's household, barracks, stables, baths, granaries, reservoirs, sanctuaries and so on¹². In the early years of



Fig. 1. Valetudinarium at Novae (photo Ž. Miletić)

archaeological excavations (more than 100 years ago), the structure where large quantities of medical tools were found was characterised as *valetudinarium*, which led to a general acceptance in all the works that followed after. Even if in the buildings that should represent *valetudinarium* no medical tools were found during the excavations, that building would be characterized as a hospital, because of the position and/or layout of the structure (the hospital is in general, the building with an internal courtyard which is surrounded by various rooms) was analogue to fit as *valetudinaria* from earlier investigated encampments.

Because of that, Patricia Baker questioned whether Roman *valetudinaria* were fact or just a fiction, and in purely archaeological terms, she concluded that according to analogies with earlier research – and according to the findings of medical tools – the character of *valetudinarium* cannot be determined without doubt¹³. Sometimes medical tools were found in great numbers in other structures, which we know had different purposes, and buildings that have been determined as *valetudinarium* subsequently turned out to have had a completely different function. Yet Ernst Künzl tried to refute the theory of P. Baker, by publishing an altar dedicated to Aesculapius and Hygiea found inside the structure, which has long been designated as *valetudinarium* within the legionary camp Novae on the lower Danube¹⁴.

However, criticism of P. Baker, though perhaps inaccurate, is very important for anyone involved with this issue. In other words, one should never follow someone else's opinion and conclusions without constant reviewing and proofing. A question of the organisation of the Roman military medicine is by no means a closed chapter, and will certainly open up new questions and reach new conclusions with new evidence. All in all, Croatia has its archaeological perspectives on the subject, and there is one important archaeological site that in terms of spatial organisation of military camps (*valetudinarium* including) could have a key role.

Croatian Perspectives

The territory of present-day Croatia was divided mainly between two provinces: Pannonia and Dalmatia (earlier province of Illyricum),^{15–16} while the region of Istria belonged to one of the eleven regions of Italy (*Regio X Venetia et Histria*). The Roman army was present in Pannonia as well as in Dalmatia, but the archaeological research was – in general – more focused on the Dalmatian part. During the last years of the Republic and in the early years of the Principate, one of the main military strongholds in Pannonia was Siscia¹⁷. But although in the vicinity of present-day Sisak extremely large amount of Roman military equipment have been found¹⁸, up to this day, the exact position of the military camp has not been precisely determined. In the most easternmost parts of Croatia, on the western banks of the Danube, several auxiliary camps were perceived, but neither of them has undergone systematic archaeological excavations¹⁹.

On the other hand, military encampments in Dalmatia have been the subject of archaeological excavations (with large interruptions) for more than a century. The two main military centres in Dalmatia were the legionary fortresses Tilverium and Burnum, and both camps are the subject of systematic archaeological excavations started in late 1990s and early 2000s^{20–21}. Besides them, in the hinterland of the province, a small number of auxiliary camps have been spotted, but only those located in present-day Bosnia and Herzegovina were the subject of archaeological excavations^{23–25}.

However, with all due respect, of all the military camps in the province of Dalmatia – and in Croatia in general – the legionary fortress of Burnum has the greatest perspective to become an archaeological site of national and world importance. In the first place because of its location, but also because of the fact that it is a so-called 'dead site', meaning the location where there are no later building phases, which of course provides extremely good conditions for free research maneuvers (fig. 2). Also, the fact that Burnum is located within the Krka National Park, is what gives the site the qualities to become a usable archaeological dig, i.e. the potential can meet both scientific and economic goals.



Fig. 2. The legionary fortress of Burnum (courtesy of Archeological Collection Burnum)

Regarding the topic of Roman military medicine, Burnum has already spawned some interesting information, such as the funerary stele of *Satrius Rufus* showing the box with medical tools (fig. 3)^{26–27}. This is a unique case, because the text on the monument states that Rufus was an ordinary soldier of legion XI Claudia Pia Fidelis (*miles legionis XI Claudiae Piae Fidelis*; AE 1903, 376), but the displayed medical tools show that the deceased obviously had medical training, and that he was connected within the medical staff of legion XI. His case can be linked with the title of *miles medicus* that occur in inscriptions, and it seems that the title was used to separate those doctors who emerged from the ranks of the army, from those who joined the army as civilians. In any case, Rufus was probably not a real physician, but perhaps only a medical tech-



Fig. 3. Stele of Satrius Rufus (after N. Cambi; cited in the references)

nician or medical orderly. Unlike *Satrius Rufus*, on one monument from Burnum a real *medicus legionis* is recorded²⁸, whose name was probably *Varius Aristo* (fig. 4). During the systematic archaeological excavations of Burnum, a large quantity of medical tools was found (fig. 5), which are yet to be processed and published.

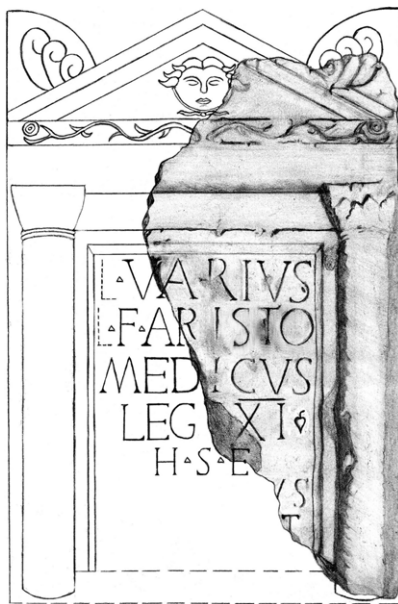


Fig. 4. Ideal reconstruction of funerary stele of Varius Aristo, medicus of legio XI (drawing by V. Medić)



Fig. 5. Medical tools from Burnum (courtesy of Archeological Collection Burnum)

But what stands out, and why Burnum can greatly contribute to our knowledge about the organisation of medical care within the Roman military encampments, is the fact that there is a completely unexplored *valetudinarium* (fig. 6). In addition, the fact that Burnum became a legionary fortress at the end of Augustus' and the beginning of Tiberius' reign, and that as such it served approximately to the beginning of Hadrian's rule, provides exceptional opportunities for understanding the layouts of military fortresses during the 1st century AD. Therefore, the site has a worldwide importance, since many of so far investigated camps in the Roman world were used for many centuries, so many alterations annulled earlier ones, and often they are located in the hearts of today's European capitals such as Vienna (*Vindobona*), Budapest (*Aquincum*) or Belgrade (*Singidunum*).



Fig. 6. Proposed location of valetudinarium at Burnum (courtesy of Archeological Collection Burnum)

Conclusion

If until now questions exist whether the Roman military *valetudinaria* are fiction or fact, we are sure that a detailed and systematic archaeological research of the legionary camp in Burnum would certainly sort out (or expand) our current views and knowledge on the subject. From this approach, the benefit could not have only archaeological significance, but also the part of the public which focuses on the general history of medicine. In addition, the site also has exceptional economic perspective, because its location can attract a large number of volun-

teers and visitors, which means that Burnum could become a sustainable project which can create surpluses, and not just the cost.

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RIMSKA VOJNA MEDICINA I HRVATSKE ARHEOLOŠKE PERSPEKTIVE

SAŽETAK

Članak donosi opći pregled izvora za poznavanje rimske vojne medicine, počevši od literarnih i epigrafskih izvora pa sve do arheoloških ostataka poput bolnica unutar vojnih logora i sitnih medicinskih alata. Budući da niti jedan od literarnih izvora ne govori direktno o ustroju medicinskog osoblja unutar vojnih jedinica, epigrafski nalazi u mnogočemu predstavljaju glavni izvor po tom pitanju. S druge strane arheološka istraživanja vojnih logora pružaju dokaze o samoj medicinskoj skrbi rimskih vojnika. Iako se naočigled čini da je po pitanju rimske vojne medicine sve čisto i jasno, to ipak nije tako, te su mnoga pitanja o toj temi i dalje predmet debata. U svemu tomu i Hrvatska ima svoje arheološke perspektive, a posebno se ističe jedan lokalitet koji bi po pitanju rasporeda prostorija unutar vojnih logora, pa tako i vojnih bolnica, mogao imati i ključnu ulogu.