

Equestrian Military Equipment of the Eastern Roman Armies in the Sixth and Seventh Centuries

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I. Introduction

The importance of horsemen, in particular horse archers, in the Eastern Roman armies during the sixth and seventh centuries AD, is well acknowledged in both ancient sources and modern studies. Even in the most famous military treatise of the period, the *Strategikon* by Emperor Maurice Tiberius, at least half of the books of which it is composed deal specifically with cavalry equipment, training, and deployment on the battlefield.¹

However, modern studies somewhat neglect the most important component of the Eastern Roman horseman – the horse. In particular, there seems to be a lack of detailed studies dealing with the military equipment of Eastern Roman warhorses during the sixth and seventh centuries. This is probably partially due to the brief, but detailed, description of equestrian equipment in the *Strategikon* which, however, is perhaps taken too much for granted given the reliability of the treatise, and without a proper cross-comparison with other sources. Also, in the *Strategikon* we do not have any direct or detailed information on some specific matters, such as the production of the equipment itself and the actual diffusion of some of its components (such as armor and stirrups) in the army, neither of which has been adequately explored. The *Strategikon*, however, remains an essential source from which every study on the subject of the Eastern Roman

¹ For a detailed analysis of the warfare of the sixth and seventh centuries and the role of horsemen, see Philip Rance, “Narses and the Battle of Taginae (Busta Gallorum) 552: Procopius and Sixth Century Warfare,” *Historia: Zeitschrift für Alte Geschichte* 54:H.4 (2005): 424-472.

equestrian military equipment during sixth and seventh centuries must begin.

II. Horse armor

The military equipment of warhorses is described briefly but accurately near the beginning of the treatise:

The horses, especially those of the officers and the other special troops, in particular those in the front ranks of the battle line, should have protective pieces of iron armor about their heads and breast plates in iron or felt, or else breast and neck coverings such as the Avars use.

The saddles should have large and thick cloths; the bridles should be of good quality; attached to the saddles should be two iron stirrups, a lasso with thong, hobble, a saddle bag large enough to hold three or four days' rations for the soldier when needed. There should be four tassels on the back strap, one on the top of the head, and one under the chin.²

As is evident from the text of the *Strategikon*, horse armor is probably the most important piece of military equestrian equipment. Its importance, especially for animals in the front line of battle, is also stressed in the possibly contemporary treatise *Perì Strategias*.³ In this work, horse armor is described as comprising protection made of iron for the head, neck, and breast and this is prescribed specifically for horses in the first rank.⁴ Also, the treatise recommends iron plates to defend their hooves from caltrops – a defensive measure strangely not included in the *Strategikon*, considering that its author recommended the use of caltrops in various situations.⁵

² *Maurice's Strategikon. Handbook of Byzantine Military Strategy*, ed. George T. Dennis (Philadelphia: University of Pennsylvania Press, 1984), 13.

³ The actual dating of this treatise is disputed among scholars. While in *Three Byzantine Military Treatises*, ed. George T. Dennis (Washington D.C.: Dumbarton Oaks, 1985), it is claimed that the treatise was written in the sixth century, other studies date the work much later, to the eighth or even ninth century; e.g. see Salvatore Cosentino, "The Syrianos' Strategikon: a 9th century source?" *Bizantinistica. Rivista di studi bizantini e slavi* 2 (2000): 243-280.

⁴ *Three Byzantine Military Treatises*, 56-57.

⁵ *Three Byzantine Military Treatises*, 56-57, *Maurice's Strategikon* 53: 151-152, 160.

Horse armor described in treatises of the sixth and seventh centuries AD, which protected only the front areas of the animal, is apparently different from that of the Roman heavy cavalry of previous and later periods, these seeming to have been generally more protective and enclosing.⁶ This kind of “half horse armor” is often described by modern authors as a new borrowing from the Avars, on the basis of the famous description in the *Strategikon*.⁷ However, it must be noted that the treatise actually seems to refer to two different “combinations” of horse armor, only one of which is directly referred to as “Avar.”

The first horse armor described is a combination of a head protection and a breastplate, apparently without any armor for the neck of the horse. By the sixth century, this solution had long been in use in the Roman world, at least from the second century AD, as seen from archaeological finds and from descriptions in literary sources of later periods.⁸

The “Avar style” of horse armor adds a neck guard to this combination – something that, by itself, does not represent a novelty to the Romans, considering that horse armors with neck guards were already known and used in previous periods. What actually seems to be new is the form of the armor – complete with neck guard but only covering the front of the horse, as opposed to the previous periods when complete horse armor enclosed the entire body of the animal. Its lamellar construction does not seem to have ever been in use before for horse armor amongst the Romans. But it has to be noted that in the *Strategikon*, the horse armor of the Avars is described as similarly made from iron or felt, so that it does not seem that the author is referring to the method of construction.

The clearest example of the Avar style horse armor comes from a non-Roman source, a famous and detailed Sasanian relief from Taq-i Bostan in Iran, evidence that this form of horse protection was actually widespread and used not only by the Romans and the Avars, at least in

⁶ For references for the period before the sixth to seventh centuries, see the synthesis by Raffaele D’Amato, *Roman Heavy Cavalry (I). Cataphractarii & Clibanarii. 1st century BC-5th century AD* (Osprey: Oxford, 2018), 44-48, 50-56, while references for later periods can be found in *Sowing the Dragon’s Teeth. Byzantine Warfare in the Tenth Century*, ed. Eric McGeer (Washington D.C.: Dumbarton Oaks, 2008), 36-37, 114-115.

⁷ Georgios Kardaras, “The nomadic art of war. The case of the Avars,” *Acta Militaria Mediaevalia* 11:2 (2015): 15.

⁸ D’Amato, *Roman Heavy Cavalry*, 44-57.

the eastern Mediterranean.⁹

For the authors of both *Strategikon* and *Perì Strategias*, iron seems to have been the material of choice for horse armor. This is in line with known Roman military gear that dates at least three centuries earlier. The complete horse trapper and the bits of what has been identified as horse armor made of iron scales from Dura Europos all can be dated to the third century AD, while many literary sources of the fourth and fifth centuries describe elite heavy cavalry.¹⁰ The use of iron for horse armor is also mentioned in later written sources from the Middle Byzantine period, in both military treatises and literary texts.¹¹

We do not have any direct archaeological evidence for iron horse armor from the sixth and seventh centuries; in many cases, it could be difficult to distinguish iron laminae for horse armor from those meant for the armor of soldiers, as they are often of similar dimensions. Thus, the copper-alloy scales of the horse trappers from Dura Europos which, although earlier, could provide a good parallel, are nearly identical in size to those of the armor of soldiers from the same site. Further, in many cases, the laminae are scattered and in such small numbers that it is impossible to reconstruct the original form of the armor to which they belonged.

However, taking the third-century Dura Europos horse trappers again as a reference for the size of horse armor laminae, we know that many iron scales from Dura Europos, identified as pieces of horse armor, are indeed quite large compared to the scales intended for armor protecting the torso.¹² Considering the size, they could be somewhat comparable to a large lamina of the sixth-seventh centuries measuring about 11x8 cm, which was found during the excavation of the Eastern Roman fort of Gradina on Jelica Mountain, Serbia.¹³ Even if its use as part of a cuirass cannot be ruled out, one should consider the possibility that the Gradina scale could have been a component of a horse armor.

⁹ For an analysis and a tentative reconstruction of the lamellar horse armor, see Timothy Dawson, *Armour Never Wears. Scale and Lamellar Armour in the West, from the Bronze Age to the 19th Century* (Stroud: The History Press, 2013), 72-75.

¹⁰ D'Amato, *Roman Heavy Cavalry*, 44-57.

¹¹ McGeer, *Sowing the Dragon's Teeth*, 214, 216.

¹² D'Amato, *Roman Heavy Cavalry*, 52-56.

¹³ *Gradina on Jelica Mountain. Thirty Years of Archaeological Research (1984-2014)*, ed. Mihailo Milinkovic, Perica Spehar (Čačak: Cultural Institution of National Importance, 2014), 150.

Horse armor made of copper-alloy laminae, although widely known from both archaeological and written sources from the third century onwards,¹⁴ are not to be found anywhere in sources of the sixth and seventh centuries. It could be argued that, since pieces of gilded bronze armament from this period have been found, and that gilded armor for officers and military élites are mentioned in literary sources, at least high ranking officers could have protected their horses also with gilded copper-alloy armor as well, but there is nothing to support this hypothesis.¹⁵

Even if iron seems to be the material of choice for the horse armor, “softer” materials were also considered suitable for the purpose, such as felt (most probably used as padding between layers of textile or leather), which is mentioned in the *Strategikon*. Even if not directly stated in any written source, padded horse armor was probably also used by the Romans between the fourth and fifth centuries, as a mosaic from the ancient city of Cirta (now Constantine, Algeria) seems to indicate.¹⁶ The use of padded horse armor during the sixth and seventh centuries is also confirmed by, admittedly later, literary sources. In his chronicle, Theophanes the Confessor described the Emperor Heraclius in action during the battle of Nineveh (627 AD). According to the author, Heraclius' horse was hit by numerous sword blows to the face, but its sturdy padded armor prevented the animal from being injured.¹⁷

No archaeological evidence has been found so far of padded armor from the sixth and seventh centuries, neither for soldiers nor horses, but this could be easily explained by the perishability of the materials. References to leather, another perishable material that could have been used to produce horse armor, are surprisingly absent from any kind of

¹⁴ D'Amato, *Roman Heavy Cavalry*, 44-57.

¹⁵ References of gilded officers' armours in period written sources can be found in *The Iohannis or De Bellis Lybicus of Flavius Cresconius Corippus*, ed. George W. Shea (Lewiston-Queenston-Lampeter: The Edwin Mellen Press, 1998), 124-126, while examples of gilded pieces of armament were found in the excavation of the *Crypta Balbi* in Rome, see *Roma. Dall'antichità al medioevo. Archeologia e Storia nel museo nazionale romano Crypta Balbi*, ed. Maria Stella Arena et al. (Milano: Electa, 2012), 399-402.

¹⁶ D'Amato, *Roman Heavy Cavalry*, 57. A picture of such caparisoned horses can be seen in Simon MacDowall, *Adrianople AD 378. The Goth's Crush Rome's Legions* (Oxford: Osprey Publishing, 2001), 68.

¹⁷ *The Chronicle of Theophanes the Confessor. Byzantine and Near Eastern History. AD 284-1083*, ed. Cyril Mango and Roger Scott (Oxford: Clarendon Press, 1997), 449.

period source. This absence is even more striking, considering the fact that we know that leather as material was widely used in the Roman army for horse armor, both in earlier and later periods.¹⁸ Even if we cannot exclude the use of leather for horse armor in the sixth and seventh centuries, it must be admitted that there is no clear evidence that could attest to its use in this period.

Given at least the written evidence of the use of horse armor in Eastern Roman armies of the sixth and seventh centuries, a problem arises when looking at the visual sources from the imperial territories, from which horse armor is totally absent. P. Grotowski, who studied the iconography of warrior saints of the Middle Byzantine period and likewise faced the same issue with later visual sources, gave three possible reasons for this absence.¹⁹ While his third explanation, firmly linked with the later iconography of the warrior saints (“the lack of hagiographic evidence that might link the warrior saints with cataphract formations”), is not related to our subject, the two others may be applicable to the context of the sixth and seventh centuries.

The first possibility is what Grotowski called “iconographic traditionalism,” rightly pointing out that in the traditional representation of Roman horsemen, at least in terms of the art of the imperial propaganda, the mounts are usually unarmored and, consequently, this model could have been followed by later artists. According to Grotowski, representations of caparisoned horses in Late Antiquity are to be found mainly in “folk art” (e.g. the famous Dura Europos graffities), and more broadly in non-propagandist art. If this is generally true, it could be argued that caparisoned horses were probably represented at least on the Column of Theodosius in Constantinople, even if this is difficult to ascertain since we have only much later drawings of the monument.²⁰

This first hypothesis could be applied to the art of the sixth and seventh centuries, in which armored horsemen are indeed represented seating on horses that have no armor. However, it has to be noted that, among the few representations that we have, only a very small number can be regarded properly as propaganda art – e.g. the imperial mounted

¹⁸ D’Amato, *Roman Heavy Cavalry*, 51, 57. McGeer, *Sowing the Dragon’s Teeth*, 36-37, 114-115.

¹⁹ Piotr L. Grotowski, *Arms and Armour of the Warrior Saints. Tradition and Innovation in Byzantine Iconography (843-1261)* (Leiden-Boston: Brill, 2010), 395-397.

²⁰ D’Amato, *Roman Heavy Cavalry*, 57.

portrait on the Barberini diptychs, the gold medallion depicting Justinian, and maybe also the Isola Rizza silver dish, while all of the other representations of horsemen may be categorized as belonging to the so-called minor arts. Indeed, applying this hypothesis to the art of the sixth and seventh centuries may lead to biased conclusions.

Grotowski's second hypothesis deals with the actual use of horse armor by the army in the tenth and eleventh centuries, which was confined to élite heavy cavalry cataphract formations, a minor component of forces; such better equipped but uncommon cavalry, could have had a direct reflection in art. This last explanation could probably be better applied to contexts of the sixth and seventh centuries than the previous one. If indeed horse armor never appears in the few depictions that we have, possibly indirectly indicating its limited use, this seems to be confirmed by a careful reading of the written sources.

In military manuals, it is stated very clearly that mainly – if not only – the horses of commanders and of other “special troops,” in particular those deployed in the first line of battle, should be equipped with horse armor. This, of course, means that only a small percentage of the cavalry would have been provided with caparisoned horses. This is also confirmed indirectly by the passage in Theophanes referenced above, which describes the horse of the emperor himself as caparisoned – even if that does not mean that other Eastern Roman warhorses could not have been equipped with horse armor. As an aside, it is curious how the armor of the emperor's horse, which we assume should have been of the richest and most solid materials, was, in fact, made of felt.

In other literary sources of the period, for example Procopius, horse armor or other devices of protection for the horses in general are never mentioned. This contrasts with detailed descriptions of the equipment of the cavalrymen, possibly indicating indirectly that horse armor was not the norm.

III. Saddles

As it is commonly acknowledged by modern scholars, during the sixth and seventh centuries, the Eastern Romans used saddles with a wooden framework made up of a seat, a pommel, and a cantle. This type of saddle originated in the Far East – between China, Korea, and the

Eurasian Steppe – between the third and fourth centuries AD, and is usually accepted as having been adopted by the Romans, between the fourth and fifth centuries, under the influence of the Steppe people such as the Huns and the Avars (hence the common name of “Hunnish” or “Turkic” saddle).²¹ It is still not entirely clear if it would be possible to distinguish between an earlier “Hunnish” and a later “Avar” saddle. A feature that possibly could enable the establishment of a typology is the inclination of the cantle, which indeed seems to have been more pronounced towards the sixth and seventh centuries, in contrast to earlier examples which seemed to have vertical cantles – although examples of depictions of quite vertical pommels and cantles are also known from later periods.²²

Considering the materials from which the saddle was made, it is unsurprising that there have been no finds from the Eastern Roman area of the wooden framework or of the leather covering. However, other pieces belonging to this kind of saddle, such as the metallic decorations that were attached to the pommel, have been found, particularly in Italy. Usually in bronze, sometimes even gilded, these metallic laminae have been found both in Rome and in Lombard necropolises such as Castel Trosino, the laminae from the latter site most probably having been produced in Rome itself.²³ A really unique example of such decorative plates, now unfortunately lost, is a pair decorated with cloisonné from Ravenna, popularly known as the “Armour of Theoderic,” because of an initial misunderstanding of their actual use.²⁴ Such decorations of the pommel, also in other materials such as horn, are known from the *Barbaricum* and from the Steppe area in the same timeframe, demonstrating the widespread use of this kind

²¹ Toshio Hayashi, “Development of saddle and stirrups,” in *The Silk Roads and Sports* (Nara: Research Centre for Silk Roadology, 1997), 67–68; Anatoly M. Khazanov, “The Eurasian Steppe Nomads in World Military History,” in *Nomad Aristocrats in a World of Empires*, ed. Jürgen Paul (Wiesbaden: Dr. Ludwig Reichert Verlag, 2013), 199.

²² I. Bugarski, “Carved antler tools from Mosa and Mandelos reassessed: a glimpse into the Avar pictorial evidence,” in *Close to the bone: current studies in bone technologies*, ed. Selena Vitezovic (Belgrade: Institute of Archaeology, 2016), 89–90.

²³ *La necropoli altomedievale di Castel Trosino. Bizantini e Longobardi nelle Marche*, ed. Lidia Paroli (Ascoli Piceno: Silvana Editoriale, 1995), 231–232; *Roma. Dall'antichità al medioevo. Archeologia e Storia nel museo nazionale romano Crypta Balbi*, ed. Maria Stella Arena, Lidia Paroli, and Laura Vendittelli (Milano: Electa, 2012), 392.

²⁴ Cinzia Cavallari, *Oggetti di ornamento personale dell'Emilia Romagna bizantina: i contesti di rinvenimento* (Bologna: Ante Quem, 2005), 95.

of saddle.²⁵ Taking for granted that the wooden framework saddle with pommel and cantle was used, since these latter parts are also specifically mentioned in the *Strategikon*,²⁶ some problems emerge when examining the iconographical evidence.

In fact, no clear contemporary image, from either the Eastern Roman area or from surrounding cultures, really shows such a type of saddle.²⁷ In the case of representations of a rider in action (e.g., the cavalymen of Isola Rizza and the ivory plaque from Nocera Umbra), it could be reasonable to conclude that the artist simplified the subject to make it easier to depict. However, this kind of reasoning does not fit with other sources. This is the case of the illumination of the *Passage of the Red Sea* in the Pentateuch of Tours, and the Pentateuch of Ashburnham, where the horses of Pharaoh's soldiers (represented as Roman warriors) depicted without their riders are clearly shown with a saddle without either pommel or cantle. Depictions of eastern Roman horses without riders seem almost non-existent in this period. With no other sources to provide comparisons, one can only suppose that the depiction in the Pentateuch represents either a simplification of the regular wooden framework saddle, or else perhaps a totally different kind of saddle. Unfortunately, if it had a wooden seat or a softer type of saddle, it is not possible to tell from the iconographical evidence alone.

In combination with the saddle, the *Strategikon* advises the use of "large and thick cloths." While the Greek word for these cloths should imply their use as a cover for the saddle tree, some scholars identify them with proper saddlecloths that were put under the saddle itself.²⁸ Saddlecloths are quite well-represented in a number of visual sources from the period – i.e., the Pentateuch of Tours and on the Isola Rizza silver dish – even if they do not appear as extensive as described in the *Strategikon*. However, there is at least iconographical evidence from the

²⁵ Bugarski, "Carved antler tools," 92-93; F. Chris, "The archaeological evidence for equestrianism in early Anglo-Saxon England, c. 450-700," in *Just Skin and Bones? New Perspectives on Human-Animal Relations in the Historical Past*, ed. Aleksander Pluskowski (Oxford: British Archaeological Reports, 2005), 57-61, 64.

²⁶ *Maurice's Strategikon*, 30.

²⁷ A notable exception is a carved bone tool coming from the Avar milieu, see Bugarski, "Carved antler tools," 86-88.

²⁸ Grotowski, *Arms and Armour of the Warrior Saints*, 384; Giuseppe Cascarino, Carlo Sansilvestri, *L'esercito romano. Armamento e organizzazione. Vol IV: l'Impero d'Oriente e gli ultimi Romani* (Avellino: Il Cerchio, 2012), 177, fig. 5.63.

Avar milieu, datable between the sixth and seventh centuries, depicting a really large saddlecloth, maybe of the same type to which the *Strategikon* refers.²⁹

IV. Stirrups

Exactly when and how stirrups were invented is still a matter of debate, probably as much as that surrounding the possible existence of stirrups in organic materials (e.g., wood or leather) prior to the introduction of metal versions.³⁰ Scholars generally agree that, just like the wooden framework saddle with pommel and cantle, metal stirrups originated in the Far East and were spread to the West by the movements of the nomadic peoples of the Eurasian Steppe, particularly the Avars.³¹

The first mention of iron stirrups in Eastern Roman sources is in the chapter of the *Strategikon* which deals with equestrian military equipment; it would appear that they were well known, since the author does not provide a detailed explanation. Even if it is not stated specifically in the treatise that stirrups were adopted from the Avars, it is generally agreed that they were adopted from them; since, in the same chapter, there is an abundance of references to devices and items that should be made “such as the Avars use.”³²

A question that apparently only rarely arises amongst scholars concerns the actual spread of stirrups to the Eastern Roman army. It is clear from other sources that they were not adopted simultaneously by every army; for example, widespread use among the Arabs only began much later. Thus, the sudden and widespread adoption of the stirrup by the Eastern Romans following their first encounters with the Avars should not be taken for granted, based solely on references in the *Strategikon*. We might expect a significant number of stirrups from the Balkans, the area where Avars and Eastern Romans had their major encounters. Still, archaeological finds of iron stirrups from the period between the end of the sixth and beginning of the seventh centuries,

²⁹ Bugarski, “Carved antler tools,” 87.

³⁰ Grotowski, *Arms and Armour of the Warrior Saints*, 380; Hayashi, “Development of saddle and stirrups,” 69-73; Khazanov, “The Eurasian Steppe Nomads,” 199-200.

³¹ For a general contribution about the spreading in Europe of Asiatic military gear, see Witold Swietosvlaski, “The role of Avars in spreading Asiatic forms of armament in Europe,” *Acta Universitatis Lodzianensis. Folia Archaeologica* 23 (2001): 75-85.

³² *Maurice's Strategikon*, 13; Kardaras, “The nomadic art of war,” 10.

the timeframe during which the *Strategikon* was written, are remarkably few.

In fact, the vast majority of finds of the earliest form of stirrup from that area – apple-shaped with elongated suspension loops – cannot be dated securely earlier than c. 630 AD.³³ A possible explanation is that, in the Eastern Roman forts in the Balkans, there were no truly professional cavalry soldiers who might have been equipped with stirrups. Indeed, in the earlier Avar contexts in the Balkans, stirrups are usually associated with lance-heads, part of the main weaponry of both Eastern Roman and Avar cavalry shock troops.³⁴ Other archaeological evidence seems to indicate that stirrups were not adopted by the Eastern Romans prior to the seventh century, in any case later than the reference to *skalae* in the *Strategikon*.

No stirrups that could be dated earlier than the seventh century have been found in Eastern Roman territories or even at sites neighboring the Empire. A stirrup with circular bow and eyelet-like suspension was found at Pergamon,³⁵ while a number of others, all to be dated to c. 600–650 AD, have been found in Lombard necropolises in Italy – and it must be noted that their typology is different from the earliest Avar models.³⁶ No stirrups have been found at Eastern Roman sites in Italy. Thus, at the *castrum* of San Antonino di Perti and in *Crypta Balbi* in Rome, finds of equestrian equipment were limited to saddle parts, horse bits, and spurs, and this is also the case in the Lombard necropolises before the seventh century.

Unfortunately, iconographic evidence does not help in understanding when and how quickly stirrups were introduced in the Eastern Roman armies. While we know for certain that they were depicted from the eighth century onwards,³⁷ there is a general problem of dating precisely the visual evidence within the period from the sixth

³³ Florin Curta, “Horsemen in Forts or Peasants in Villages? Remarks on the Archaeology of Warfare in the 6th to 7th Century Balkans,” in *War and Warfare in Late Antiquity. Current Perspectives*, ed. Alexander Sarantis and Neil Christie (Leiden-Boston: Brill, 2010), 813.

³⁴ Curta, “Horsemen in Forts or Peasants in Villages?” 820-821.

³⁵ *Ibidem*, 818.

³⁶ *La necropoli altomedievale di Castel Trosino*, 301, 303; Longobardi. *Un popolo che cambia la storia*, ed. Gian Brogiolo Pietro, Federico Marazzi, and Caterina Giostra (Milan: Skira, 2017), 193.

³⁷ Grotowski, *Arms and Armour of the Warrior Saints*, 381.

to the seventh centuries. Given the dates provided by archaeological finds, it could be inferred that instances of iconographic depictions of stirrups must be dated after the first quarter of the seventh century, even if it is possible that representations of horses without stirrups can only be dated earlier.

V. Decorative devices: tufts, pendants, and *phalerae*

The first chapters of the *Strategikon* emphasize the importance of soldiers presenting themselves in good order, both to boost morale and to impress the enemy,³⁸ and this is the policy also laid down for the appearance of Eastern Roman warhorses. Emperor Maurice decreed that horses should be decked out with various tufts or tassels on the backstrap, on the top of the head, and under the chin. Such decorations are clearly visible in some iconography of the period, both Eastern Roman and Avar. These include an ivory fragment from the Lombard necropolis of Nocera Umbra, and the famous dish from the treasure of Nagyszentmiklós, Hungary.

Back and front straps, as well as the bridles, were decorated with various metal fittings and pendants. These not only appear in contemporary depictions, for example, on the horses of the Pentateuch of Ashburnham, as well as in archaeological assemblages. A good number of plaque attachments for horse harness, dating to the sixth or seventh centuries as well as a series of little bells with probably the same decorative function were found in Crypta Balbi in Rome.³⁹

Other decorative devices used by the Eastern Romans were *phalerae*. While none are known directly from Eastern Roman sites or territories, *phalerae* produced in Imperial workshops or inspired by Eastern Roman models are known from Germanic sites, such as the famous examples from Ittenheim and a Lombard specimen with a Latin inscription from Reggio Emilia.⁴⁰

³⁸ *Maurice's Strategikon*, 12.

³⁹ *Roma. Dall'antichità al medioevo. Archeologia e Storia nel museo nazionale romano Crypta Balbi*, ed. Maria Stella Arena et al. (Milan: Electa, 2012), 389-391.

⁴⁰ *Roma. Dall'antichità al medioevo*, 83-84; Caterina Giostra, "Goths and Lombards in Italy: the potential of archaeology with respect to ethnocultural identification," *PCA* 1 (2011): 19 n. 30.

VI. Production of equestrian military equipment

A major problem concerning equestrian military equipment, including horse armor, between the sixth and seventh centuries relates to its production. We should probably expect that their production was in the first instance left to imperial *fabricae* that produced military gear and were still active during the time. From the *Notitia Dignitatum* we know of at least three *fabricae clibanariae* in the Eastern Roman Empire, located in Antioch, Caesarea in Cappadocia, and Nicomedia.⁴¹

It is not known exactly what kind of items were produced in such *fabricae clibanariae*, but it can most probably be inferred that at least horse armor could have been produced there. Armor, even if only that worn by soldiers, was amongst the items that, by a law of Emperor Justinian, could only be produced by the imperial workshops, while private traders and producers were forbidden to make or sell both weapons and armors.⁴² Apart from the imperial *fabricae*, it was often up to the army itself to produce its own military gear by groups of specialized personnel under the supervision of the officers. This is also directly specified in the *Strategikon*, particularly for the time when the army was in winter quarters.⁴³

Other items, such as saddles and ornaments, which were neither armor nor weaponry and probably not used exclusively by soldiers, were most likely produced outside the imperial workshops. This is clearly demonstrated by the finds in the Crypta Balbi in Rome, an *ergasterion* [workshop] with a mixed production of military and non-military gear, which also produced decorative pieces for saddles and straps, as well as decorated spurs, horse bits, and possibly also saddles.⁴⁴

VII. Conclusions

While it must be admitted that Emperor Maurice's *Strategikon* is an essential source for the study of the Eastern Roman equestrian military equipment, a comparative analysis of the text with other sources reveals certain discrepancies between the treatise itself, the assumptions of

⁴¹ *Notitia Dignitatum*, ed. Otto Seeck (Berlin: Weidmann, 1876), 32.

⁴² *Imp. Iustiniani Novellae. Vol. II*, ed. Zachary Von Ligenhal (Lipsia: Teubner, 1881), 59-63.

⁴³ Specialized personnel within the army (armorers and weapon makers) is mentioned in *Maurice's Strategikon*, 14, 140.

⁴⁴ *Roma. Dall'antichità al medioevo*, 331-334, 388-394.

some scholars and the actual situation revealed by archaeology, art, and written sources. Horse armor was surely one of the most important pieces of equestrian military equipment. According to the *Strategikon*, it existed in two variants, both protecting mainly the frontal areas of the horse, meaning that it was a lighter form of protection than those developed in Late Antiquity and in the Middle Byzantine period. The armor was made of iron or felt, and while other materials such as horn or leather are known to have been used in earlier and later periods, they seem not to have been used during sixth and seventh centuries. Also, despite the importance given to it, horse armor probably had limited use, something also implied in the *Strategikon* itself. It was reserved for officers and troops deployed in the front line of battle, which seems to be confirmed by the almost absolute lack of archaeological, iconographic and written references outside the *Strategikon*.

The production of such horse armor was possibly limited to the imperial *fabricae clibanariae*, at least if we assume that the restriction on producing weapons and armors imposed by law was also extended to equestrian armor. It is also possible that could the army provide the necessary horse armor through its specialized personnel.

Saddles with seat, pommel, and cantle were certainly known and used by the Eastern Romans, as confirmed at least by archaeological finds of the metal decorations interpreted as being mounted on the pommel, and by a direct reference to the pommel in the *Strategikon*. Visual references of such type of saddle, however, are almost non-existent in the Eastern Roman milieu. This could be explained by artists creating simplified depictions of saddles, or by postulating that alongside the wooden frame saddle of Eastern origin, at least one other type of perhaps softer saddle, without pommel and cantle, existed.

The reference to stirrups in the *Strategikon* has always encouraged the assumption that as soon as the Eastern Romans encountered the Avars in the sixth century, they adopted the new riding device extensively. It should be remembered that in Emperor Maurice's treatise stirrups are described as being employed in a specialized way, on special saddles with two stirrups on one side, to help injured soldiers to mount. However, archaeological finds do not seem to confirm this picture, since the earlier forms of stirrups do not appear before the first quarter of the seventh century, even in the Balkan territories where the first encounters between the Avars and the Eastern Romans occurred.

Elsewhere, for instance in Italy, stirrups do not seem to appear before the first quarter or the middle of the seventh century. Also, iconography does not help to resolve the problem of the actual introduction and widespread adoption of stirrups by the Eastern Roman army, given the difficulty in dating precisely the majority of the depictions of the period. It could be inferred that, even if the emperor had realized the potential of the new riding device, and even if it had been introduced into the Eastern Roman army by the end of the sixth century, it was not used widely until later.

While some of the equipment accessories, such as saddle bags and lassos, referred to in the *Strategikon* are unfortunately nowhere to be found either in art, archaeological finds, or written references, the decorative devices adorning Eastern Roman warhorses are much less elusive. Tufts and tassels like the ones described in the treatise are clearly represented in art, both from the Eastern Roman and Avar milieus, while metallic plates and *phalerae* that were attached to horse harnesses are both depicted in iconographical sources and found on archaeological sites.

To sum up, given the results of the analytical comparison of Emperor Maurice's work with other sources, the most reasonable approach is to bear in mind that the *Strategikon* is a treatise, so it need not offer a faithful picture of the contemporary reality, and that despite its accuracy and reliability as a source, it should be approached with due caution.

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