

New views on the *forfex* of Virilis the veterinarian: shears, emasculator or twitch?

Stijn Heeren



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Abstract

During the excavations of the Roman period rural settlements and cemetery in Tiel-Passewaaij (The Netherlands), a large pair of pincers was found. Following an article from 1973, the object was published as an emasculator at first. However, several equine veterinarians suggested that the pincers may in fact be a twitch (Dutch: praam, German: Bremse, French: mouraille). If it can be established that this new view is correct, it sheds important light on two epigraphical sources: the Vindolanda tablet (TV II, 320) which mentions the veterinarian Virilis and a forfex, and the Aix-en-Provence altar depicting a veterinarian at work. However, this alternative interpretation of the object is not uncontested. This article will discuss the available evidence, both archaeological and veterinarian in nature, to discuss the function of the pincers, as well as some consequences of the identification.

Keywords: archaeology, The Netherlands, veterinary instruments, horse care, twitch, castration, vindolanda tablets, cavalry, roman period, rural settlement

1 Varying interpretations of pairs of pincers

In the Tiel-Passewaaij excavations many metal objects were discovered (Roymans, Derks & Heeren 2007; Heeren 2006). Some large iron tools are connected to daily practices relating to the local economy: three pitch-forks, several knives (some of which could be sickles or small scythes), axes, a chisel, and a pair of shears. Special attention is given here to a large pair of pincers (Fig. 1). The iron pincers are 31 cm. in length and consist of two arms, hinged at one end. The upper part of each arm has a dented rim and the lower part ends with a knob. Following an example from Pompeii, the object was initially seen as a clamp for stretching pieces of leather, since the Pompeii find was associated with two half-moon knives, suitable for scraping leather (Franchi dell'Orto & Varone 1992, 159-161). Such large pincers have previously been interpreted as emasculators (Kolling 1973). The article by Kolling presented an overview of the available evidence, which included several iron pincers, a few decorated pieces in bronze, and a votive altar from Aix-en-Provence. The centre of this altar depicts a large pair of pincers in the centre, clearly recognisable as one of the objects under discussion. To the left, a man with such an object in his left hand is holding the head of a horse, while he has a pair of shears in his right

hand, with which he seems to be clipping the mane of the horse's head. The right part of the altar shows a person holding the bent leg of a horse (Fig. 2). The altar was first published in 1907 by Espérandieu, who described the persons depicted as veterinarians or stable boys, and the central object as a twitch (Espérandieu 1965 (1907), nr. 104, 82).

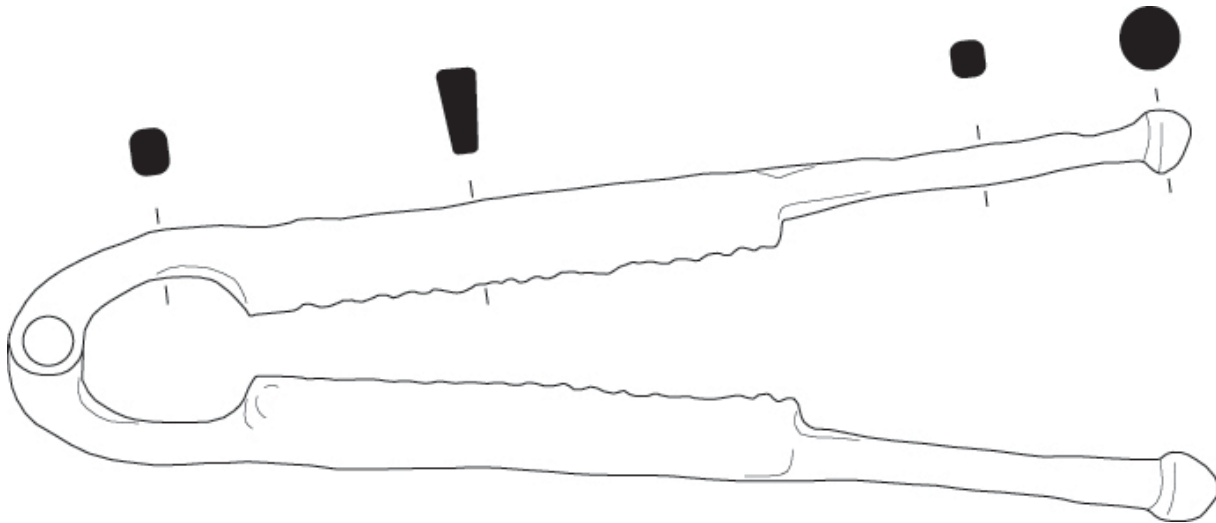
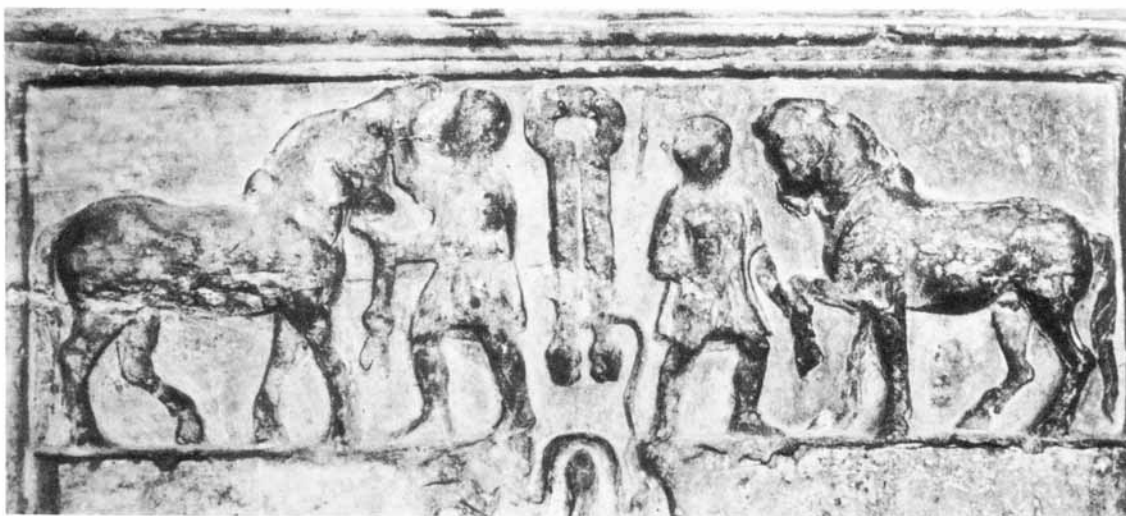


Fig. 1 Dented pincers of iron, found in Tiel-Passewaaij (length 32 cm.).

A twitch is placed on the upper lip of a horse, in order to sedate the animal. By clenching the many nerves concentrated in the upper lip, the horse settles down and will feel less pain. Both equine veterinarians and farriers use this object when treating difficult horses. Nowadays, most twitches consist of a looped piece of rope connected to a wooden handle: the rope is wound around the upper lip of the horse and the horse's head is controlled by holding the handle, twitching the rope tighter if necessary. This type of twitch, however, is a relatively recent innovation: a twitch used to be a pair of pincers. Some modern veterinarians prefer the pincers and these are still available in stores today (Fig. 3). The resemblance between this modern twitch on the one hand and the pincers found in Tiel-Passewaaij and presented by Kolling on the other hand is striking indeed.



3 Weiherelief im Museum Aix.

Fig. 2 The Aix-en-Provence altar showing a pair of pincers and treatment of horses (after Kolling 1973, Tafel 70).

Notwithstanding Espérandieu's identification of the pincers as a twitch, Kolling believed that the central object on the altar represents a castrating clamp, since he was familiar with the modern twitch as a rope only, and not the pincers. Following Kolling's article from 1973, the Tiel-Passewaaij pincers were presented to the press as being the oldest emasculator found to date (NRC Handelsblad, March 20th, 2008). As a reaction to that publication, several veterinarians contacted the author and suggested that the object should be seen as a twitch and not as a castration clamp. However, further correspondence made clear that the interpretation of the large pincers as a twitch is not unanimously accepted by all veterinarians. Some still prefer the interpretation as castrating clamps, arguing that the edges of the pincers would squeeze the horse's upper lip too hard and that the objects are too heavy to be a twitch.

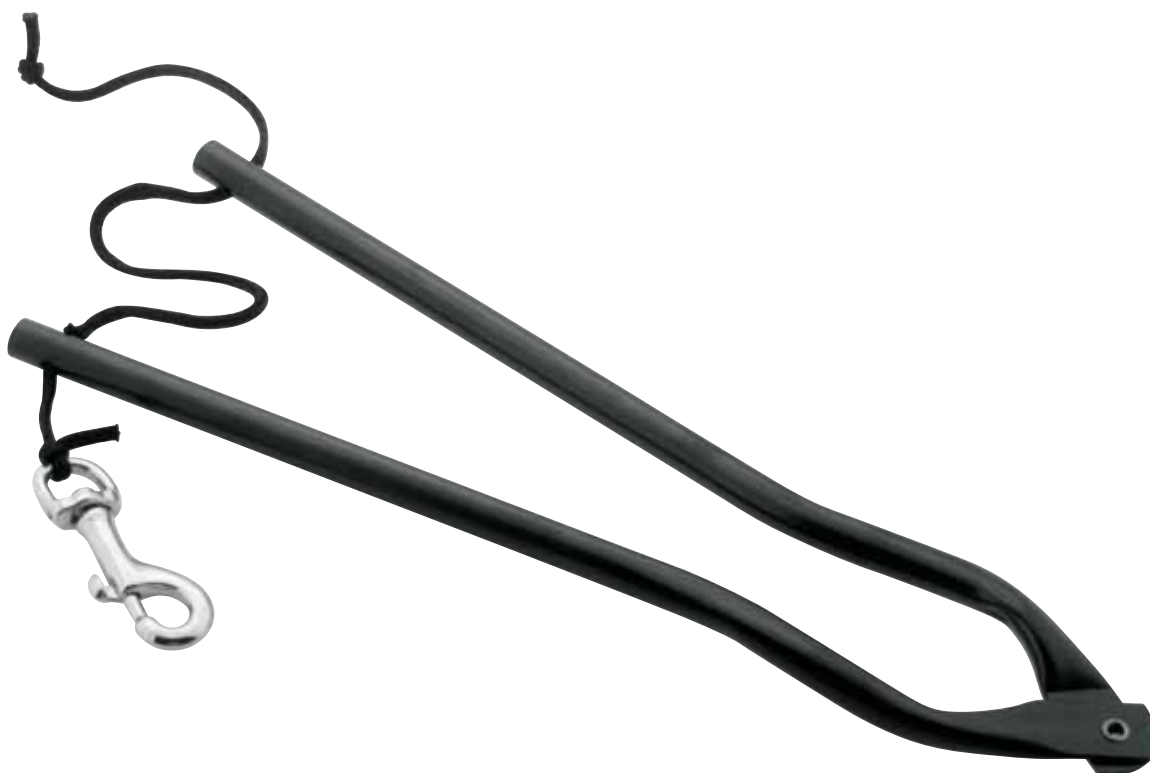


Fig. 3 Modern twitch (picture kindly provided by Nederinum BV, Riding sports gear).

Before it can be established whether these large iron objects are twitches or castration clamps, it is necessary to approach the available evidence systematically. The subject of ancient methods of castration can be summarized in short, since this was already discussed more extensively some years ago (Adams 1990). After that, the arguments for and against an interpretation as a twitch will be put forward.

2 Twitch or castration clamp?

Our main sources for ancient methods of castration are Columella's *De re rustica* and an anonymous work on care for equines, referred to as the *Mulomedicina Chironis*. Columella described the castration of calves by destroying the testicles gradually with a piece of cleft fennel. This has been taken as clamping the scrotum and spermatic cords between pieces of wood, thereby cutting of the blood supply, resulting in the slow atrophy of the testicles. Older bulls received the same treatment, followed by an operative procedure: the scrotum was incised and the testicles exposed. The epididymal tissues were removed from the testicles, but left attached to the

spermatic cords and cremaster muscles. It was believed that haemorrhage was less likely to occur after this procedure (Adams 1990, 268, 270).

The *Mulomedicina* has several passages that describe the castration of equines. The cases show some variety, but all require an operative procedure. *Mulomedicina* 726 instructs that to start with, a ligature should be tied, apparently around the neck of the scrotum, to prevent the testicles to 'flee back', that is, move up into the inguinal canal. Then an incision is made by a sharp knife (*ferrum acutum*). After that, the testicles are exposed and removed with the knife. *Mulomedicina* 683 starts differently by exposing the spermatic cord and breaking it, or cutting it where it is thinnest. However, the testicles are eventually cut out as well, so it is not very clear why the initial procedure differs. *Mulomedicina* 317 concerns castrating 'by fire'. This also starts with an incision in the scrotum and exposing the testicles. Then the testicles are cut with white hot irons. This procedure was followed to avoid bleeding, which was assumed to increase the risk of infection of the wounds (Adams 1990, 268-270). Now that we have knowledge of some procedures for the castration of cattle and equines as described in ancient texts, we have enough information to argue the function of the large pincers.

2.1 *The Aix-en-Provence altar*

The scene to the right of the altar (Fig. 2) shows a man holding the bent leg of a horse, possibly a farrier trimming the hoof.¹ The scene to the left shows the clipping of the mane. There is no reference to castration found in the picture at all. If the object shown was used for castration, the person handling the horse would be depicted to the rear or beside the horses. If one accepts that the object at the centre of the altar is in any way connected to the two scenes, an interpretation of the object as a twitch is the only realistic option. One could argue that the twitching of the horse is not recognisable exactly, but at least twitching could be applied to the horses during both actions.

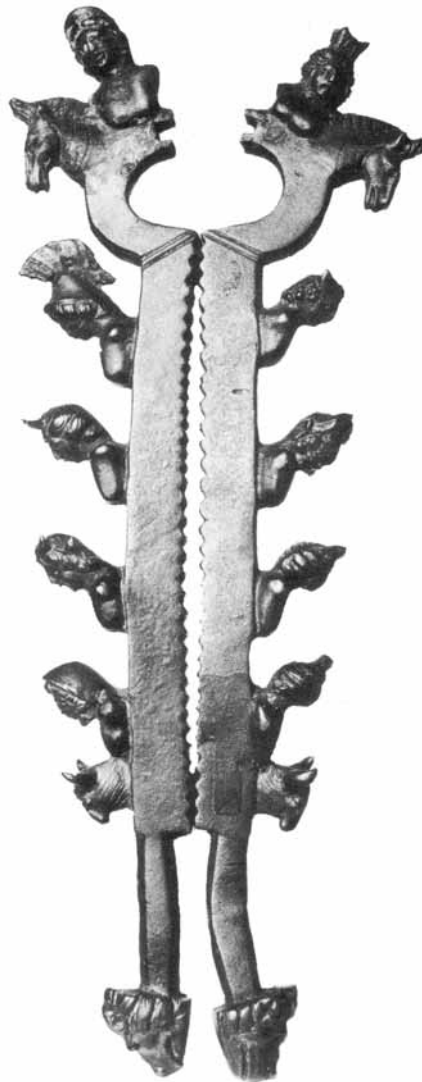
2.2 *The physiology of a horse in relation to castration*

In the ancient sources concerning castration mentioned above, clamping the scrotum only refers to cattle, sometimes combined with an operative procedure. In the case of equines, the scrotum is tied with a cord and castration always involves an operation. There is a good physiological reason for this. Bulls have a low hanging scrotum, which leaves ample room to place clamps. The scrotum of a stallion on the other hand is situated higher up, almost in the abdomen. There is no room to place a clamp, only to tie it with a cord to prevent the testicles moving back up into the abdomen. Since the objects under discussion were definitely used on equines (see the Aix-en-Provence altar above), the physiology of horses indicates that these objects could not have been used as castration clamps.

2.3 *The decorated pincers from London*

Fig. 4 shows a pair of dented pincers in bronze, decorated with large horse heads at the top, close to the hinge, and slightly smaller heads of several divinities and bulls along the arms of the object, and finally lion heads forming the knob of the handles. An argument against an interpretation as a twitch could be that the heads on the London pincers depict both horse and cattle, and that a twitch is not used on cattle (or at least not in the same form). However, the presence of divinities and lions make clear that the heads are not necessarily connected to the

function of the object. Most likely the heads are symbolic in nature, referring to a ritual use of the object, not to the specific function.



1 Kastrierzange London, Bronze. M = 1:2.

Fig. 4 The decorated pincers from London (after Kolling 1973, Tafel 70).

2.4 Functionality and appearance of the pincers

If we take a closer look at the pincers that were published by Kolling, it appears that most of the pincers do not close completely. The decorated pincers from Augst are the best example (Fig. 5 left): in a closed situation, the serrated edges of the pincers are about 1 cm. apart. This is also true of other examples (Fig. 5 right). This is consistent with a twitch, since the upper lip of a horse must be pushed but not squashed completely. This is however in conflict with castration clamps, since the clamping of a bull's scrotum would need the total closure of the clamp.

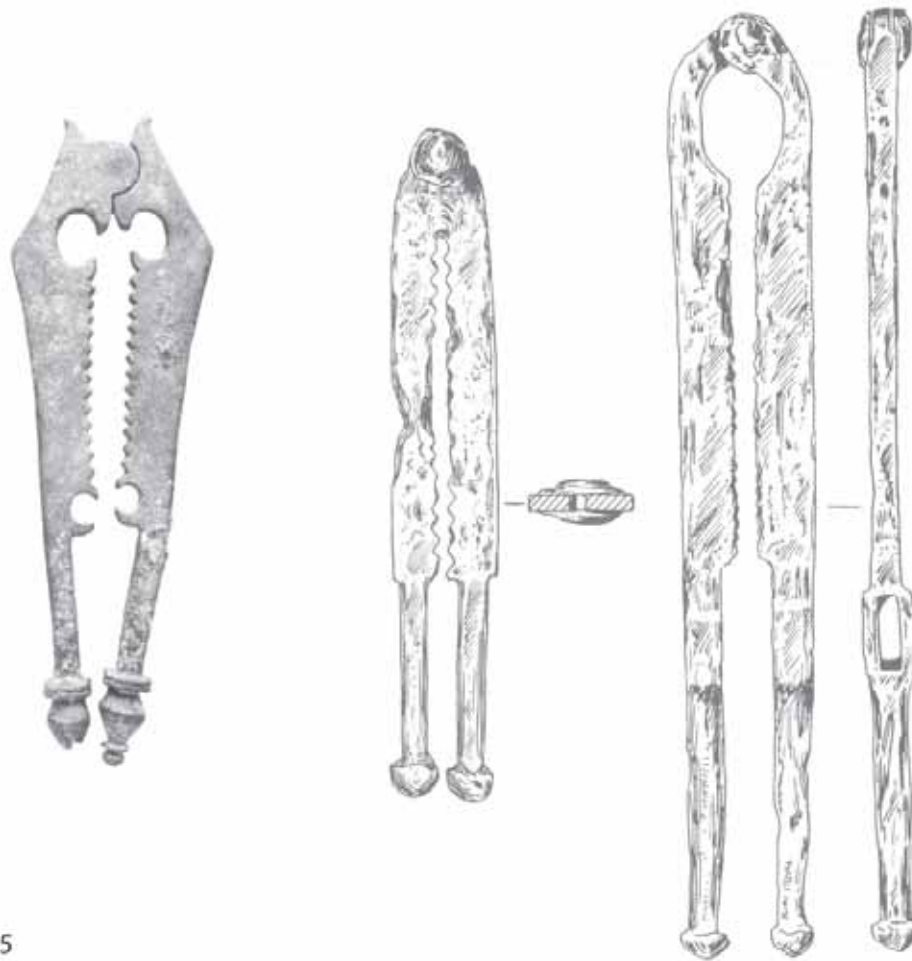


Fig. 5

Fig. 5 Left: the decorated bronze pincers from Augst. Right: iron pincers from the Saarland (after Kolling 1973, Tafel 70 and Abb. 1).

In figure 6, several 19th-century castration clamps are shown to the left and in the middle, and a 19th-century twitch on the right. The first observation is that the twitch is made from iron and shows resemblance both to the Roman period pincers as well as to the 21st-century twitch in figure 3. The second observation is that the castration clamps do not resemble the Roman period pincers at all, and are made from wood. This is consistent with the ancient sources concerning castration, which mention wooden clamps.

2.5 Weight of the iron pincers

An argument against an interpretation as a twitch is that the iron objects are too large and heavy. However, the twitch could have been held by the owner of the horse (as is custom today), so not all the weight of the object is on the horse's head. Furthermore, the object in figure 5 (right) shows a slit, which could be used to attach the object to the horse's bridle, so the weight is not dragging on the lip. The same argument can also be brought forward against the use as castration clamps. The clamping of the scrotum of cattle should be maintained for several hours. Given the weight of the iron objects, that would be really painful. No doubt this is

one of the reasons that the ancient texts mention wooden clamps only, and that the surviving clamps are also from wood (Fig. 6).

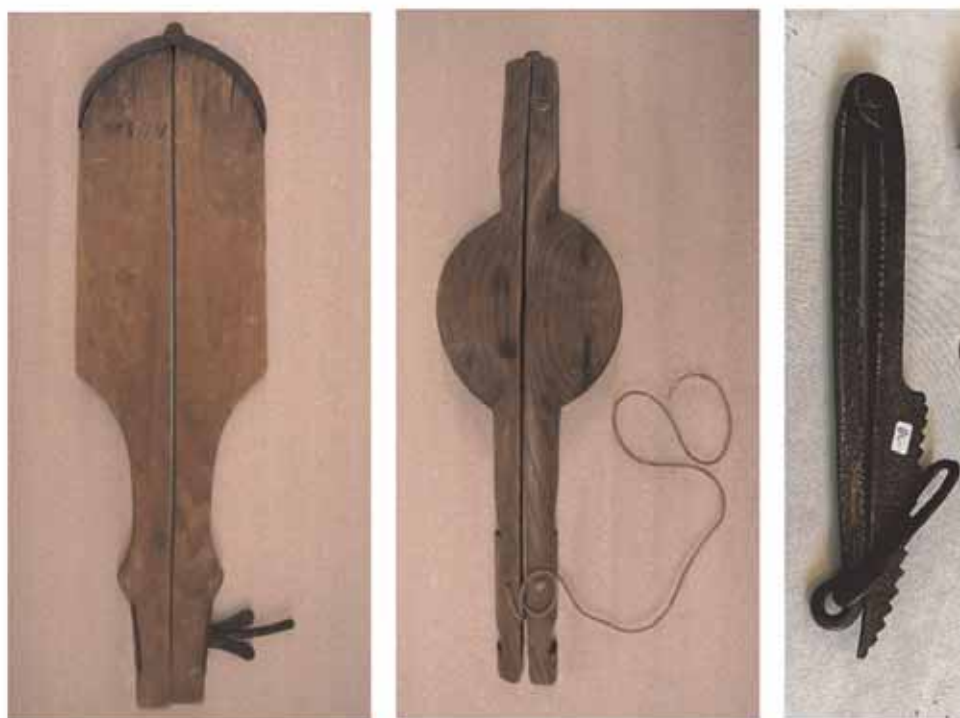


Fig. 6

Fig. 6 Left and middle: 19th-century castration clamps. Right: 19th century twitch (photographs kindly provided by the Museum for Veterinary Medicine, Utrecht University).

In my opinion, there is no good reason to assume that the objects under discussion have ever been used as castration clamps. All available evidence points to the interpretation as twitches, used to sedate horses.

3 The *forfex* of Virilis the veterinarian: a twitch

From the 1970s onwards, hundreds of writing tablets have been found at Vindolanda (modern Chesterholm), a military fort on Hadrian's Wall in the north of England. The tablets are written in ink on leafs of wood. The contents of the letters vary widely: some concern military matters like marching orders or furlough, but others are personal correspondence of soldiers and their families. The letters offer a fascinating insight into the everyday life of soldiers in a peacetime Flavian fortress (Birley 2005; Bowman & Thomas 1983).

Highly relevant to the above discussion on twitches and castration clamps is the writing tablet TV II, 310. The text mentions a *veterinarius* named Virilis "...ask him whether you may send through one of our friends the *forfex*, which he promised me in exchange for money..." (translation Bowman & Thomas 1994, 291).

Adams (1990) discussed the possible translations of *forfex* and a synonym, *forceps*. In Republican times *forceps* meant pincers or shears in general, and *forfex* was used more specifically for dented pincers used for firm grip on an object, for instance to remove an arrow from a wound. However, from the Principate onwards both words were used interchangeably. In relation to the knowledge that Virilis was a veterinarian, Adams thought that there were two possible

translations for the word *forfex*: either 'shears' (for the clipping of the mane for instance) or 'emasculator', since those are known to be dented pincers – following Kolling. Adams then proceeded to investigate all ancient literary references to methods of castration, as summarized above. Almost all procedures involve an operation, where a scalpel or a knife is used. No procedure concerning castration mentioned in the sources would require dented pincers. Adams concluded his overview with the observation that only *tonsura*, the clipping of the mane, would be an activity of a veterinarian that would involve an object named *forfex*, and therefore proposes to translate *forfex* with shears (Adams 1990).

There are two objections against this interpretation. The first is that shears are quite simple objects available almost everywhere. The writing tablet makes clear that the request to the veterinarian to send the object was made earlier and is now repeated. It seems unlikely that the writer of this letter would make this double effort when it concerns a widely available object like shears. It makes far more sense if the object was a specialised tool. This might have been the reason that T. Derks, in his Dutch translation of *TV II*, 310, chose Adams' second possibility, 'castration clamp' (Roymans, Derks & Heeren 2007, 28). The second objection is that the pincers that were seen as castration clamps before, are now interpreted as twitches. The twitch is an object that could easily be associated with a veterinarian, much more than clipping shears, which will only incidentally be used by a veterinarian, as Adams himself pointed out. More importantly, the twitch is a pair of dented pincers, exactly the more specific meaning of the word *forfex* over *forceps*. We can therefore establish that *forfex*, in general translated as 'shears' or 'pincers', is to be translated as 'twitch' when found in a veterinarian context.

4 Importance

The occurrence of a twitch suggests the existence of advanced veterinary practice involving specialized tools in combination with complex physiological knowledge (the concentration of nerves in the upper lip). Advanced veterinary practice can be expected in cavalry stables of the Roman army for instance, since we know that these units employed professional *veterinarii* (Adams 1995, 51-65; Dixon & Southern 1992, 220-233; Davies 1989, 212-214). However, for agrarian communities like Tiel-Passewaaij, this advanced practice is less self-evident. It was already established that horse breeding was an important part of the local economy of Tiel-Passewaaij on the basis of the zoological remains (Groot 2008, 77-91), but the find of a twitch provides us with complementary evidence about the care for animals.

Apart from procedures involving castration mentioned above, specific information on procedures and instruments concerning the care for and treatment of horses is scarce. Written sources like the *Mulomedicina*, Columella and Pelagonius dwell on diseases, injuries, grooming and feeding in general terms mostly. The treatments mentioned are general in nature and only rarely provide details on the instruments used (Dixon & Southern 1992, 202-233; Hyland 1990, 49-60, 122-129; Adams 1995, *passim*).

To conclude: in sharp contrast to the enormous importance of equines in the Roman world, the practices surrounding the treatment of horses are hardly ever traceable archaeologically. The identification of a twitch is a welcome addition to our knowledge of practices around horse care. Given the fact that twitches are found in cities (Pompeii; Franchi dell'Orto & Varone 1992), military camps and villa's (Kolling 1973) as well as non-villa rural settlements (Tiel-Passewaaij), it can be inferred that civilian, military and agricultural communities made use of the twitch to sedate horses while treating them.

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Stijn Heeren
Archaeological Centre of VU, Amsterdam
s.heeren@hazenbergarcheologie.nl

Notes

1. Although some sort of horseshoe existed (the so called hipposandal), it is not likely that horses were shod in the modern sense, that is, using nails. Hipposandals were probably used for treating injured animals or as decorative elements (Dixon & Southern 1992, 229-233). Most likely hoofs were taken care of by trimming (Hyland 1990, 123-125).

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