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# MEDICAL INSTRUMENTS IN ROMAN DACIA: A SURVEY BEYOND TYPOLOGY AND FUNCTIONALITY

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**Abstract:** Although a relatively large quantity of the medical instruments found in Roman Dacia have been published in various articles throughout the years, they were confined strictly to a typological and functional perspective, omitting any social meanings that could emerge from their archaeological contexts, the association with other artifacts or a particular decoration. Corroborating information from various literary, epigraphic and archaeological sources has led to the conclusion that both a noble confection material like silver, or a particular decoration, were meant to increase the doctor's prestige in the eyes of a patient, inspiring likewise more confidence in its medical qualities, in a period when medical procedures, due to a lack of antiseptics and anesthetics, seemed a measure of last resort. Of particular interest are votive images that suggest the placement of medical instruments under the auspices of a divinity and implicitly set the physician under a healing god's patronage. The archeological contexts of the medical instruments can also provide us additional information regarding the social implications derived from the use of medical instruments i.e. finding them in refuse pits or funerary contexts can reveal us some of the perceptions of the ancients regarding medical instruments and their association with disease and death, while finding them in religious contexts can help us realize the faint line that existed between rational, magical and respectively sacerdotal medicine.

**Keywords:** medical instruments; healing images; archaeology of medicine; social archaeology; Roman Dacia.

**Rezumat:** Deși diferite articole de specialitate publicate de-a lungul anilor au tratat o cantitate relativ mare de instrumente medicale descoperite în Dacia, ele s-au mulțumit să o facă doar din perspectivă tipologică și funcțională, omițând conotațiile sociale care se desprind din contextele lor de descoperire, asocierea cu alte artefacte sau modul particular de decorare. Coroborarea informațiilor oferite de diverse surse literare, epigrafice și arheologice a dus la concluzia că atât un material de confecție mai nobil, ca argintul, sau un decor specific erau menite sa augmenteze prestigiul unui medic în ochii pacientului, inspirând totodată mai multă încredere în calitățile medicale ale acestuia, într-o perioadă în care antisepticele și anestezicele erau ca și inexistente. Contextele de descoperire ale instrumentelor medicale ne pot oferi informații adiționale privind implicațiile sociale comportate de acestea. Astfel, descoperirea lor în gropi de gunoi sau în contexte funerare poate reflecta modul în care oamenii au perceput instrumentele medicale și asocierea lor cu boala și moartea, în timp ce contextele religioase ne pot ajuta să apreciem linia subțire care exista între medicina rațională, cea teurgică și cea sacerdotală.

**Cuvinte cheie:** instrumente medicale; imagini vindecătoare; arheologia medicinii; arheologie socială; Dacia romană.

In 2003 S. Cociș estimated that the number of the medical instruments discovered in the territory of the Roman province of Dacia would reach up to nine hundred pieces, out of which around four hundred discovered in military contexts[1]. However,

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[1] Cociș 2003, 63.

to the best of my knowledge, a thorough search of the relevant literature would yield at most half of this estimated number. In addition, if we rule out all the pieces with uncertain interpretation i.e. various types of spoons, more likely used for domestic purposes, some of the spatulas, used for decorating pottery, small-sized tweezers, used for cosmetic purposes etc. we would only be able to sum up around three hundred pieces published in the specialty literature[2].

Typologically speaking, we encounter almost the whole spectrum of the Roman classical medical instruments, with the exception of dental ones, around a quarter of them having double functionality. This is the case of the probes (Lat. *specillum*), with one end shaped like a spoon (*cyathiscomele*[3]) or a spatula (*spathomele* < Gr. σπαθομήλη) and the other shaped like an olive (Gr. πυρήν[4]), which were used for spreading various ointments, and also to mix, chop and apply medicine, or to investigate injuries or cauterize wounds by heating in advance the olivary end etc. Occasionally, we also encounter medical probes with both ends under the form of spatulas (Lat. *spatha* < Gr. σπάθη)[5], perhaps used as tongue depressors, or for elevating a bone and casting a plaster. More often encountered are scalpels with spatula (Lat. *scalpellum*), the most standard type, used for cutting, incising, dissecting and cauterizing a wound. Additionally tweezers (Lat. *vulsella* or *volsella*) provided with a spatula or a hook can also be seen among the medical instruments found in Dacia.

Other medical instruments that are often encountered among the small finds of Dacia are the probes used for the investigation and cleaning of the ears (*specillum oricularium*), while paramedical tools like ointment bone or stone slabs, used for grinding and mixing different ointments are fairly common as well. Various categories of tweezers have also to be taken into account. It is clear that the ones with large arms, serrated extremities, retaining ring or one hook shaped extremity are undoubtedly medical instruments, but smaller tweezers could also be used for medical purposes, to remove a foreign body from the eye or nose for example.

Regarding the decoration of the pieces, most of them show humble ornaments that consist in successions of rings or/and nodules, sometimes having the extremity shaped like a chess pawn. Some of them however, show geometric/abstract motifs i.e. rhomboid decorative portions, zigzag or lattice patterns, striations, spirals, gutiform extremities etc., vegetal motifs i.e. the ivy or vine leaf pattern or zoomorphic representations, real or fantastic i.e. wolf (?) or gryphon depictions.

In an overwhelmingly proportion, more than three quarters of them are made out of bronze, but we also encounter diametrically opposed versions regarding the

[2] A full bibliography regarding the medical instruments found in Roman Dacia would be too vast to cite. Articles dedicated exclusively to this subject include: Igna 1933-1935, 223-227; Dumitrașcu 1983, 111-114; Alicu, Cociș 1989, 223-236; Gudea, Bajusz 1992, 249-291; Cociș 1993, 241-249; Stanciu 2000, 457-470; Pribac, Timoc 2002-2003, 164-171; Cociș 2003, 63; Bondoc 2005, 138-147; Flutur, Flutur 2007, 75-83; Gui 2011, 115-130; Tamba 2015, 239-248.

[3] Erroneously taken by scholars as the Latin equivalent for the "spoon probe", this is in fact Milne's invention and not the ancient name of the instrument: Milne 1907, 61-63.

[4] This is the most frequently used term in Greek medical literature for the probes with one or both ends enlarged in an ovular or round shape. Its literal translation would be that of a seed or pit of fruit. Its equivalent in Latin is hard to guess because Latin authors usually refer to it in periphrastic ways. Theodorus Priscianus names it *baca/bacula*, meaning berry: Theodorus Priscianus, *Euporiston*, 1.37, 44.

[5] Bliquez believes this is the most likely candidate for the tool's name: Bliquez 2014, 123.

confection material i.e. medical instruments made out of bone versus ones made out of silver. The blades of the scalpels, razors and skin cleansing devices are made out of iron or steel, bonded with copper and lead.

## Aesthetic medical instruments as promoters of the skilled physician

Lucian of Samosata recalls the use of medical instruments made out of ivory, gold and silver, a brief mention accompanied by the ridicule of the incompetent doctors that allegedly would have owned and used them[6]. Paradoxical as it may seem, we cannot reproach Lucian with trying to kill a mockingbird through this juxtaposition of expensive tools – medical malpractice, because he is merely reflecting upon the reality of that time, obviously under the form of his already well-known satire.

The reality is that back in his time (the 2nd century AD) antiseptics and anesthetics were at least ineffective if not quasi-non-existent, making thus medical procedures seem a measure of last resort. Unfortunately that also meant that although doctors were good theoreticians, they lacked some significant qualities that could only be achieved through a genuine medical practice[7]. But how could they even obtain that, one might naturally ask, if they frequently raised suspicion among commoners. It did not help either when this suspicion was further more augmented by the opprobrium of more eminent figures like Plinius the Elder, who accused doctors of unethically experimenting on patients, without apprising them of the risks involved and refusing to take any kind of blame in case of a failure[8].

In fact if we compare various medical literary sources from the imperial time, we will notice the prevalence of two antagonistic perceptions regarding the use of rational medicine. On the one hand we have Celsus, the one who actually introduced this very term, who was against the assignment of a divine origin to any kind of disease or the deposition of *ex vota* in the temples of the healing gods[9]. On the other hand we have other prominent physicians like Galenus[10] and Rufus[11], that assure us in their writings that medical treatments conducted through the *incubatio* ritual in *Asklepieia* were still of great interest and even of great efficiency during Imperial time. Obviously one should bear in mind that Rufus practiced medicine in Ephesus, while Galenus lived the majority of his life in Pergamum, both well-known religious centers for the cult of Aesculapius and for practicing the *incubatio* ritual inside its temples. Nonetheless this still proves that rational medicine was still not unanimously accepted as being the most appropriate solution to someone's disorder or disease.

In this context, we should not be surprised by what might seem an unusual preoccupation of the Roman doctors for the aesthetics of their medical instruments, especially if we compare them with the ones used nowadays that seem rather dull, because

[6] Lucianus, *Adversus Indoctum*, 29: While satirizing an ignorant book-collector, he compares it to a physician that owns expensive tools but does not even know how to hold them in his hand.

[7] Galenus, XIV, 649-650.

[8] PLIN. *Nat.* 29. 8.

[9] Celsus, *De Medicina*, Proemium.

[10] Galenus, *Subfiguratio empirica*, X, 78.

[11] Oribasius, *Collectiones Medicae*, XLV, 30, 10-14; passage taken from Rufus.

as Bliquez pointed out in a recently published study, both a more noble confection material like silver, or a particular decoration, were meant to increase the doctor's prestige in the eyes of a patient, inspiring likewise more confidence in its medical qualities[12].

There are no medical instruments made out of gold so far found in the Roman province of Dacia, but we encounter a few that are either made out of silver, either decorated with it. Two of the ear probes found in Dacia are made entirely out of silver, one found in the amphitheater of Ulpia Traiana Sarmizegetusa[13], the other one in a house from Alburnus Maior, next to a fragment of a silver mirror, two fibulae and one bronze coin[14].

Although made out of bronze, a scalpel with leaf shaped dissector found in the auxiliary fort of Gilău (Pl. I/1), has the rectangular handle decorated with *niello* inlays in silver, portraying a vegetal motif, either ivy or vine leaves[15]. This motif seems to have been exclusively assigned to scalpels, as the findings seem to indicate so far, thus to an instrument linked to a painful operation that could endanger the patient's life, making us therefore return to our sub-title's idea, that the more aesthetic was a surgical instrument, the more it raised the patient's confidence that such a risky operation will be a success.

Similar scalpels decorated with ivy or vine leaves were found in Germania Inferior at Köln[16] (Pl. I/6), in Germania Superior at Hofheim[17] (Pl. I/10) and Rheinzabern[18] (Pl. I/12), in Gallia Belgica at Trier[19] (Pl. I/13) and Reims[20] (Pl. I/2), in Moesia Inferior at Dionysopolis[21] (Pl. I/3-4), in Thracia at Karanovo[22] (Pl. I/5, 7-8), plus one from Asia Minor[23] (Pl. I/9) and another from Dalmatia[24], without the precise find spot. A slight variation can be noticed at the scalpels decorated with grape vines and clusters, found in Britannia at Cramond[25], in Germania Inferior at Xanten[26] (Pl. I/14) and in Noricum at Traismauer[27] (Pl. I/11).

## Healing images. Placing instruments under the auspices of a healing divinity

By adding this silver decoration to the scalpel, not only has the metalworker increased its material value, but it has also charged the instrument with a suggestive

[12] Bliquez 2014, 19.
[13] Nicolaus 1981, no. 134; Alicu, Cociș 1989, 227, no. 2, Pl. I/2.
[14] Rusu-Bolindeț et alii 2010, 372, 378, Cat. no. 2, Fig. 17/2.
[15] Diaconescu, Opreanu 1987, 57-58, no. 19, Fig. 3/19.
[16] Künzl 1986, 504, C1, Abb. 9.
[17] Künzl 1982, 61, Abb. 4.
[18] Kirova 2006, 542, Abb. 7, 2b.
[19] Künzl 1984, 160, B1, Taf. 6.
[20] Künzl 1983b, 63, Fig. 36/25, 30.
[21] Kirova 2006, 538-539, Nr. 4, 5, Abb. 3, 1-2.
[22] Kirova 2006, 537-538, Nr. 1-3, Abb. 2, 1-3.
[23] Künzl 2002, 28, B3, Taf. 17.
[24] Giunio 2010, 67, no. 11.
[25] Gilson 1983, 387-389.
[26] Künzl 1986, 493, 1, Abb. 2.1, 6.
[27] Kirova 2006, 542, Abb. 7, 2 a.

symbolic value. Pliny the Elder labels ivy as *medicatissima*, mentioning that this very powerful healing plant can be administered orally in combination with wine or as a plaster in various medical treatments[28]. In addition, Bliquez suggests that due to its vigorous growth ivy could play in fact the role of a metaphor for life and survival[29].

What seems at first sight another vegetal decoration, the so called "knotty limb" motif that appears on some of the Roman surgical tools (Pl. II/6-7), has been recognized by various scholars as a stylized depiction of the club of Hercules[30]. Based on the fact that it usually appears on surgical tools that cause intense pain, Bliquez believes that the "knotty limb" pattern was meant to act as some sort of apotropaic device, raising the patient's endurance to the pain of the operation[31].

Although Hercules is not a medical figure in mythology, he is sometimes surnamed in votive inscriptions *Salutaris / Salutiferus*[32], while some of the healing spring sanctuaries proved to enjoy his patronage[33]. Nonetheless, Bliquez claims that his occurrence on surgical tools is the reflection of his image as a "paragon of endurance and resolute suffering"[34], rather than that of a healing god, and in this matter he provides examples of medical instruments portraying either the club of Hercules ended under the form of a lion's head[35] or a fist[36] (Pl. II/7), either the bust of Hercules itself, wearing the skin and the head of the Nemean lion (Pl. II/8)[37].

The Hercules / knotty club motif is closely paralleled by that of Aesculapius / snake or rooster motif that also appears on some of the Roman medical instruments. The rooster motif[38] can be seen on a stirring rod found at Augst (Pl. II/2)[39], while the snake one is more frequent and appears on a medical box[40] or as a decorative part on the handles of various medical instruments like tweezers (Pl. II/3), medical hooks and lancets, *specilla* (Pl. II/4) and uterine *specula*[41]. Aesculapius' standing figure decorates an ivory medical box found at Jena[42] and a bronze one from Xanten[43], while the extremity of a stirring rod found at Ephesus takes the form of the god himself (Pl. II/1)[44]. He even appears accompanied by Hygia on a bronze medical box from

[28] PLIN. *Nat.* 24.75-80, 28.79.

[29] Bliquez 2014, 19.

[30] Hassel, Künzl 1980, 407; Riha 1986, 82; Bliquez 1992, 36-50; Bliquez, Jackson 1994, 99-106.

[31] Bliquez 1992, 44.

[32] ILS 3445, 3664, 7315; RIU II 392.

[33] In this matter see the healing springs from Deneuvre: Moitrieux 1987, and Băile Herculane: CIL III 1572 = IDR III/1, 64; Bărbulescu 1977, 228-230.

[34] Bliquez 1992, 44.

[35] Künzl 1983b, 45, Fig. 15; Bliquez 1992, 36, B1, Fig. 2.

[36] Bliquez 1992, 36, E, Figs. 4-5.

[37] Bliquez 1992, Figs. 6-8; Bliquez, Jackson 1994, 99-106; Bliquez 1999, 296-297.

[38] For the presence of the rooster motif on medical instruments, due to it being one of the sacred animals of Aesculapius, pleads a terracotta figurine found in a tomb from Bonn, together with an ointment slab and an oculist stamp: Künzl 1983b, 86, Figs. 61-62.

[39] Riha 1986, no. 116, Taf. 66/116.

[40] Sobel 1991, Abb. 1.

[41] Milne 1907, Pl. XII/2, 4; Künzl 1983b, Abb. 7, 18/8, 80/1; Künzl 1984, Taf. 8/D2; Taf. 28/M6; Künzl 1994, Taf. 59/67.

[42] Künzl, Zimmermann 1994, no. 82, Taf. 64.

[43] Sobel 1991, Abb. 3; Künzl 1996, 2634, Abb. XXXII/2.

[44] Künzl 1983b, Abb. 17/1; Künzl 1999, Taf. 16/1.

Herculaneum[45] (Pl. II/5) and an ivory one from Sion (Switzerland)[46], while another ivory medical box kept in the Dumbarton Oaks Collection in Washington portrays a seated Hygia[47].

Unfortunately none of the two motifs can be found so far on the medical instruments found in Dacia, but hopefully their brief mention can prove useful in the event of future similar finds. Another particular decoration found in the Danubian province i.e. the so called "mouse-shaped handle"[48], has been claimed to imply a symbolic value as well. Two of these unusual small finds have been initially published in the specialty literature as instruments with possible medical use (Pl. III/7-8)[49]. Gudea and Bajusz mentioned briefly in their article that according to Künzl's researches this particular iconography would equal with their placement under the auspices of Apollo Smintheus and Asklepios Soter[50].

Künzl suggested that these instruments must have a direct link with Apollo surnamed Smintheus, a healing divinity worshipped mainly in Asia Minor[51]. This divinity was associated by the Greeks initially with mice and implicitly with disease[52] and worshipped eventually for driving away plague[53]. His idea was not new however, bronze mouse statuettes of this type being associated to Apollo Smintheus at least from the 18th century, idea grounded mostly on the fact that one of them had the inscription *sacrum Secund(i)* on its back (Pl. III/1)[54].

This unique iconographic analysis was assumed as well by other prominent researchers from the field of the history of medicine e.g. R. Jackson[55], L. J. Bliquez[56], P. Baker[57]. Nobody seemed to dare to challenge it, till more recently, when in an article entitled *The Bronze Mice of Apollo Smintheus*, Ph. Kiernan raised some serious questions regarding its validity[58].

His opposition brought forth some solid arguments i.e. the lack of a religious context and their spreading all over the Roman Empire, and not just in Asia Minor where Apollo Smintheus was venerated.

More importantly, if we look at the analogies we will notice that none of the pieces can be undisputedly attributed with a medical functionality, on the contrary

[45] Sobel 1991, Abb. 2; Künzl 1996, 2634, Abb. XXXII/1.

[46] Sobel 1991, Abb. 26.

[47] Sobel 1991, Abb. 27a.

[48] Two of them, one from Porolissum, the other somewhere from Transylvania, were initially published as handles belonging to medical instruments: Gudea 1989, Pl. CCXLVIII/8; Gudea, Bajusz 1992, 252; Cociș 1993, no. 28, Pl. 1/8; Țeposu-Marinescu, Pop 2000, no. 160; another small bronze statuette, very similar to the others, was found at Apulum: Țeposu-Marinescu, Pop 2000, no. 159, Pl. 77; Petculescu 2003, 125, no. 133. More recently the statuettes from Apulum and Porolissum made the object of a study that discussed their interpretation as decorative features affixed on bronze lamp lids: Egri 2015, 225-230.

[49] Gudea, Bajusz 1992, 252; Cociș 1993, no. 28.

[50] Gudea, Bajusz 1992, 252.

[51] Künzl 1983a, 111-116.

[52] Homer, *Iliad*, 1, 36-42.

[53] Aelianus, *De natura animalium*, 12.5.

[54] Kiernan 2014, 118.

[55] Jackson 2014, 217-231.

[56] Bliquez, Jackson 1994, 102. However in his more recent studies Bliquez has not mentioned this theory again, although he did not contest it either.

[57] Baker 2013, 83.

[58] Kiernan 2014, 601-626.

they are more likely decorations attached to bronze oil lamps, candelabra, lamp stands or furniture (Pl. III/2-5), referring to a rather common problem in Roman time, that of mice gnawing at wicks and drinking the lamp oil[59]. More recently this theory has been validated for the pieces found in Dacia as well, in M. Egri's article entitled *One little mouse, two little mice…*[60]. Although she omitted one piece from her analysis, she concluded that the two mice found at Apulum (Pl. III/6) and Porolissum (Pl. III/8) were more likely decorative features affixed on bronze lamp lids[61].

Although the theory of placing these instruments under Apollo Smintheus' divine power had to be dismantled, another of Künzl's ideas revolves around a similar association, that of Apollo Lykios / Medicus and the wolf motif on medical instruments[62].

One of the scalpels found in Dacia at Micia (Pl. II/9) has been published as having the bone handle decorated with two animal heads, the wolf with a question mark being given in parenthesis as a possible identification[63]. If this is indeed the case, we might have a surgical instrument invested with Apollo's healing powers to ease the pain and assure the patient of the success of the operation, by hinting to the fact that the physician is under the patronage of the god. Similar representations can hardly be found and include a bronze scalpel handle from Augst[64] (Pl. II/10), a ring that holds bathing utensils from Pompei[65] (Pl. II/11) and a handle belonging to an indeterminable medical instrument (Pl. II/12)[66]. However, the first two were identified as dog depictions and since the dog is known to be one of the animal companions of Aesculapius[67] we might have in fact surgical instruments invested with Aesculapius' healing powers instead of those of Apollo.

## Medical instruments as a gate towards the mindset of the ancients regarding healing, disease and death

This transfer of divine or magical figures on medical instruments can work as a mirror through which we can easily enter into the mentality of the ancients. It can help us understand how in the eye of a patient empirical therapies mingled with medico-magical performances or healing cult practices, forming a harmonious single unit that was perceived, generically speaking at least, simply as medicine. Thus there was no need for making a real distinction between the conventional or the alternative therapies engaged, as the modern signification of the word would demand it.

This faint line between rational, magical and respectively sacerdotal medicine can be spotted in the literary or epigraphic sources of the time as well. However when it is also archaeologically attested through medical instruments it transforms into palpable

[59] Kiernan 2014, 608-616.
[60] Egri 2015, 225-230.
[61] Egri 2015, 229-230.
[62] Künzl 1993, 99-100, apud Bliquez 2014, n. 89; Künzl 1996, 2608-2609, Abb. XVII/3.
[63] Alicu, Cociș 1993, 121, no. 149, Pl. XVI/4.
[64] Riha 1986, Taf. 11/87, 65/87.
[65] Riha 1986, Abb. 1; although quintessentially toiletry objects, Bliquez has demonstrated that according to various literary sources *strigilia* were used for medical purposes as well: Bliquez 2014, 146-147.
[66] Künzl 1996, 2608-2609, Abb. XVII/3.
[67] FEST. 110 M.

information regarding the Roman physician and his need to adapt to his patients, for some of whom rational medicine was more likely still a rather questionable thing.

Therefore we can imagine that placing a medical instrument under divine auspices was meant first of all to transfer a religious legitimacy upon the physician and thus to confer a certain closeness between him and his patient. D. Aparaschivei draws attention onto the fact that although there are sources that question the quality of physicians, sacerdotal medicine is nowhere properly incriminated[68]. Thus, a medical instrument with a healing divine figure or attribute was meant to drive away any suspicion regarding the physician's efficacy by hinting to the fact that he owes his healing abilities to Aesculapius' patronage for example, therefore in the healing process he is merely the god's instrument.

The same perception develops in an inscription found in Rome. Although dedicated to Aesculapius for a successful healing, it also mentions the doctor's name, adding as well *qui curam mei diligenter egit secundum deos*[69]. By this, the inscription seems to suggest that the physician is just a supporting actor in the healing process, while the leading role still belongs to Aesculapius.

Masked under the form of a general act of veneration this inscription can be in fact a testimony regarding the existence of a dual belief system, suggesting that a patient would have more likely understood his cure to be the result of the joint efforts of his physician on one hand and Aesculapius and Hygia on the other. For Ido Israelowich this shows that "From the patients' point of view, all the practitioners were operating within the same health care system, with a shared medical language, and this included healers who were both human and divine"[70].

In fact some of the medical instruments discovered in Dacia have been found in religious contexts, outlining again this strong bond between religion and healing. Various types of bronze *specilla* were found in the *Asklepieion* of Ulpia Traiana Sarmizegetusa[71]. This seems to indicate, in correlation with the epigraphic sources, that the miraculous healings occurred during the *incubatio* ritual did not rely solely on theurgic elements, but approached empirical medicine as well[72].

Even though we cannot confirm for sure the double function of a physician-priest of Aesculapius, we could however suspect that, some of them at least, played the role of *therapeutae*, as it is indicated in some of the literary sources as well e.g. Galenus and Aelius Aristides[73]. If this is the case however, if we take into consideration the relatively small number of the medical instruments, the temple would have been more likely reserved merely for medical consultations, while the actual medical procedures took place elsewhere.

From this same statistic reason, another theory might be more accurate i.e. their presence in the temple not due to their use as medical instruments, but as *ex vota* offered to Aesculapius. Arguments pleading in this regard can be found in the inventories that

[68] Aparaschivei 2016, 148.
[69] ILS 2194 = CIL VI 19.
[70] Israelowich 2015, 52.
[71] Alicu, Cociş 1989, no. 9, 12-14.
[72] For the *incubatio* ritual in the *Asklepieia* of Dacia see Varga 2015, 241-251.
[73] Meier 2003, 55.

list the dedications from the *Asklepieia* of Athens, Piraeus and Delos that include various medical instruments in their records e.g. cupping vessels, scalpels, surgical probes, cauterizing instruments etc.[74]. Although they refer to the Hellenistic period we can imagine that this custom would have propagated in the Roman period as well.

This act of veneration, made by physicians in honor of their patron god, worked more likely as part of a symbiotic relationship i.e. on one hand through the doctors' acts of beneficence it increased the wealth of the *Asklepieia*[75], but on the other hand it also assured an increased prestige and visibility for the physician.

Another double ended bronze *specillum* was found in the perimeter of a Roman temple from Cioroiul Nou[76], while a bone handle believed to have been part of a medical instrument was discovered in the temple of Malagbel from Ulpia Traiana Sarmizegetusa[77].

More interesting is perhaps the placement of a magical figure on a medical instrument, usually on a *collyrium* stamp, like the one found at Augst that shows a hawk holding a circular object in its beak, perhaps a ring, next to a frog, alluding to the use of an amulet with the same iconography, used for curing a large range of affections from hemorrhage and vomiting of blood to jaundice and stings or bites of venomous animals[78].

Véronique Dasen believes this iconography would not only add a magical value to the instrument, but it could even allude to a parallel procedure used by the physician, imagining that the oculist that used it would have utilized both medical and magical procedures e.g. rings kept in a vessel together with a green lizard[79], creating thus the image of a medicine man, rather than one of a physician. Indeed Künzl, studying various tombs belonging to physicians, has remarked upon the presence of both amulets and silver *phylacteria* among the funerary inventory that associated with standard medical equipment form a rather unusual surgeon's kit[80].

Finding medical instruments among funerary inventories can reveal us some of the perceptions of the ancients regarding medical instruments and their association with disease and death. Several medical instruments have been found in the necropolis of Sucidava: one ear scoop (*specillum oricularum)* (Pl. IV/1), found in an inhumation burial, placed on the chest of the deceased, together with a double-handled pitcher and a coin bearing the effigy of Constantine the Great[81] and two ointment slabs found in cremation burials (Pl. IV/5), one of them associated with two double-handled pitchers, a glass vessel, a fragmentary fibula and three bronze coins, among them one bearing the effigy of Hadrian and another that of Diadumenian[82].

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[74] Aleshire 1989, III.34.a, IV.84.a, V.155.c, V. 161.c; Wickkiser 2006, 36.

[75] Prominent physicians like C. Stertinius Xenophon, doctor of the emperor Claudius and Galenus, doctor of the emperor Marcus Aurelius, both felt the need to accentuate their close relationship to Aesculapius, either through lavish dedications in *asklepieia*, either through stories that emphasized their close bond: Wickkiser 2008, 56-57.

[76] Tudor, Diaconescu, Popilian 1967, 598, Fig. 4/4; Bondoc 2005, 140, no. 4, Fig. 4.

[77] Alicu, Nemeş 1982, Pl. IV/6; Alicu, Cociş 1993, 121, no. 146, Pl. XI/5.

[78] Dasen 2014, 186, Fig. 7.

[79] Dasen 2014, 186.

[80] Künzl 1996, 2464-2473.

[81] Popilian, Bondoc 2012, 22, Pl. CXCV/4.

[82] Toropu, Tătulea 1987, 90; Popilian, Bondoc 2012, 67, Pl. CXCV/3.

During the XXII[nd] edition of the International Congress of History of Medicine, held at Constanța – Bucharest in 1970, a medical set formed out of a *specillum* (*non vidi*) and an ointment slab has been presented together with a similar one found at Potaissa[83]. The instruments discovered at Sucidava were described as being part of the funerary inventory of a double grave with two sarcophagi, one destined for a woman and the other for a man, the last one being the one that contained the instruments. Based on the coins and the analogies the instruments were dated in the first half of the 3[rd] century AD.

Another four medical instruments were found in the necropolises of Potaissa as well. Among them is the already mentioned set of a bronze double ended *specillum* (Pl. IV/3) and an ointment slab, discovered together in a brick tomb from the southern necropolis of Potaissa, tomb that have been thought to belong to a physician, because the instruments were deposited together inside a wooden box[84].

From another brick tomb discovered in the southern necropolis comes a *specillum* with spherical head, found together with two pottery sherds and some bone fragments[85], while a bronze double ended *specillum* (Pl. IV/4) has been recorded in I. Téglás' notes among the funerary inventory found in another brick tomb, but this time in Valea Sândului[86].

Besides these we have to mention another bronze double ended *specillum* (Pl. IV/2) discovered in a funerary context, in the necropolis found at south of the fort and settlement of Porolissum[87].

All of them show traces of usage from none to a small degree and from this particular motif we have to raise a new set of questions, namely what conception lays behind the deposition of medical instruments in funerary contexts and whether we can see them as "impure" after being used in a failed medical operation or after entering in contact with a disease or death.

This whole idea of a "pollution" of the medical instruments emerges again at Porolissum, where several medical instruments have been found in the refuse pit from Coasta Viei[88] (Pl. V/3, 5-6), while others were recovered from a disaffected water tank[89] (Pl. V/1-2, 4, 7-10), turned into a refuse pit during the 3[rd] century AD[90], between them being two scalpels[91] and one surgical forceps with jagged ends[92], therefore instruments with a strong medical character. A similar situation can be seen at Vindonissa as well, where 62 out of the 326 medical instruments found here came from a flooded area, considered a rubbish deposit[93]. The fact that most of them are in very good condition, determined P. Baker to see them as ritual depositions of medical

[83] Wolski, Hamparțumian 1972, 309-310 apud Künzl 1983b, 55.
[84] Milea, Hopârtean, Luca 1978, 203-205, Figs. 3-4.
[85] Luca, Hopârtean 1980, 118-121, Fig. 4/1.
[86] Bajusz 2005, 628-629, 24/86/3.
[87] Gudea 1989, 680, IX C/7, Pl. CCXXV, 1; Gudea-Bajusz 1992, 257, no. 5, Pl. IV/5.
[88] Gudea, Bajusz 1992, 255, no. 3, 259, no. 11, 262, no. 10, 266, no. 1.
[89] Gudea, Bajusz 1992, 254, nos. 5-6, 256, no. 6, 258, no. 6, 14, 259, no. 1, 268, no. 4.
[90] Gui 2011, 125.
[91] Gudea, Bajusz 1992, 254, nos. 5, 6, Pl. I/5, 6.
[92] Gudea, Bajusz 1992, 259, no. 1, Pl. VI/1.
[93] Baker 2004, 9-11.

instruments considered perhaps contaminated after entering in contact with the disease or the death of its owners / patients.

## Conclusions

As I have stated before, a great percentage of the medical instruments discovered in Roman Dacia has yet to be published, while some of those already published lack unfortunately vital information i.e. their archaeological context. In these conditions I will refrain myself to draw some, perhaps cautious, but to my belief pertinent conclusions.

The great majority of the medical instruments found in Roman Dacia are made out of bronze and show humble to none decorations. Some of them however reveal the preoccupation of the Roman doctors for the aesthetics of their medical instruments, either through the confection material, either through a particular design.

This is the case of the two silver ear probes found in Dacia, one at Alburnus Maior, the other at Ulpia Traiana Sarmizegetusa, and the scalpel found at Gilău. Certainly only reputed physicians had the financial means to purchase such instruments, so obviously a noble confection material increased the doctor's prestige in the eyes of a patient, inspiring likewise more confidence in its medical qualities.

Other medical instruments show gutiform or chess pawn shaped extremities, geometric, abstract, vegetal or zoomorphic motifs. In some of these cases, by adding these decorations, not only has the metalworker increased their material value, but it has also charged the instrument with a suggestive symbolic value. This is the case of the scalpel found at Gilău decorated with ivy or vine leaves. This decoration did not work only as an indication of the physician's prestige, but it also worked as an apotropaic device. Due to its vigorous growth ivy could play in fact the role of a metaphor for life and survival and numerous medical treatments used in antiquity employed its use.

One of the scalpels found in Dacia at Micia has been published as having the bone handle decorated with two animal heads, possibly a wolf or a dog's. Künzl associated the wolf representations on medical instruments with Apollo Lykios' healing powers, while the dog is known to be one of the animal companions of Aesculapius. Either way we might have a medical instrument placed under the divine auspices of Apollo or Aesculapius. In an epoch when scientific and sacerdotal medicine were barely split by a faint line, these images were meant first of all to drive away any suspicion regarding the physician's efficacy, by hinting to the fact that he owes his healing abilities to Aesculapius' patronage.

The archeological contexts of the medical instruments can also provide us additional information regarding the social implications derived from the use of medical instruments. Some of the medical instruments discovered in Dacia have been found in religious contexts, outlining again this strong bond between religion and healing. Interesting are the four bronze *specilla* that were found in the *Asklepieion* of Ulpia Traiana Sarmizegetusa. They could have either been used during the *incubatio* ritual, either they were in fact *ex vota* offered to Aesculapius.

Ten medical and paramedical tools, all showing traces of usage from none to a small degree, were found in funerary contexts at Sucidava, Potaissa and Porolissum,

while eleven were found in refuse pits at Porolissum. These make us question whether we can see them as "impure" after being used in a failed medical operation or after entering in contact with a disease or death.

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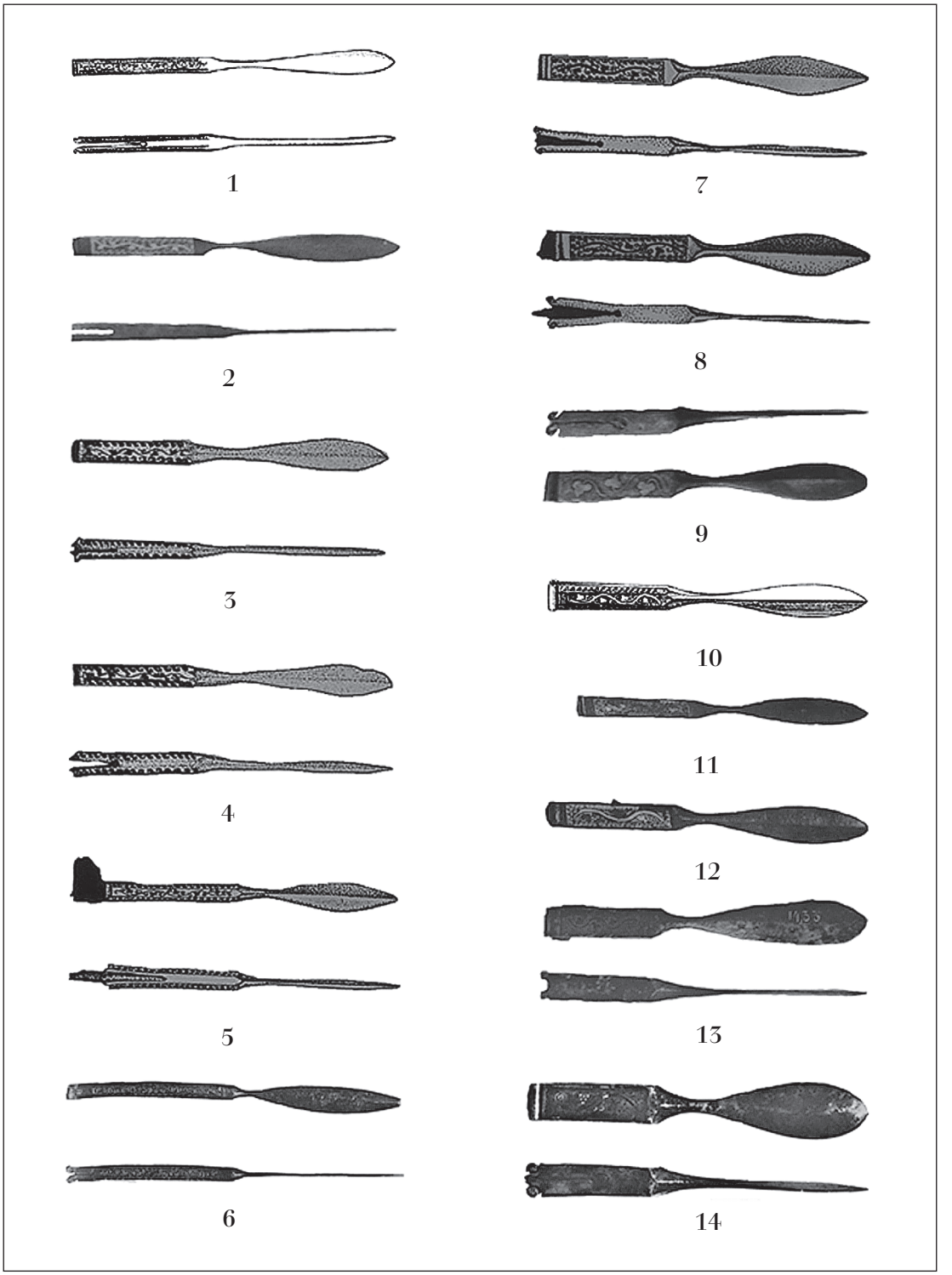
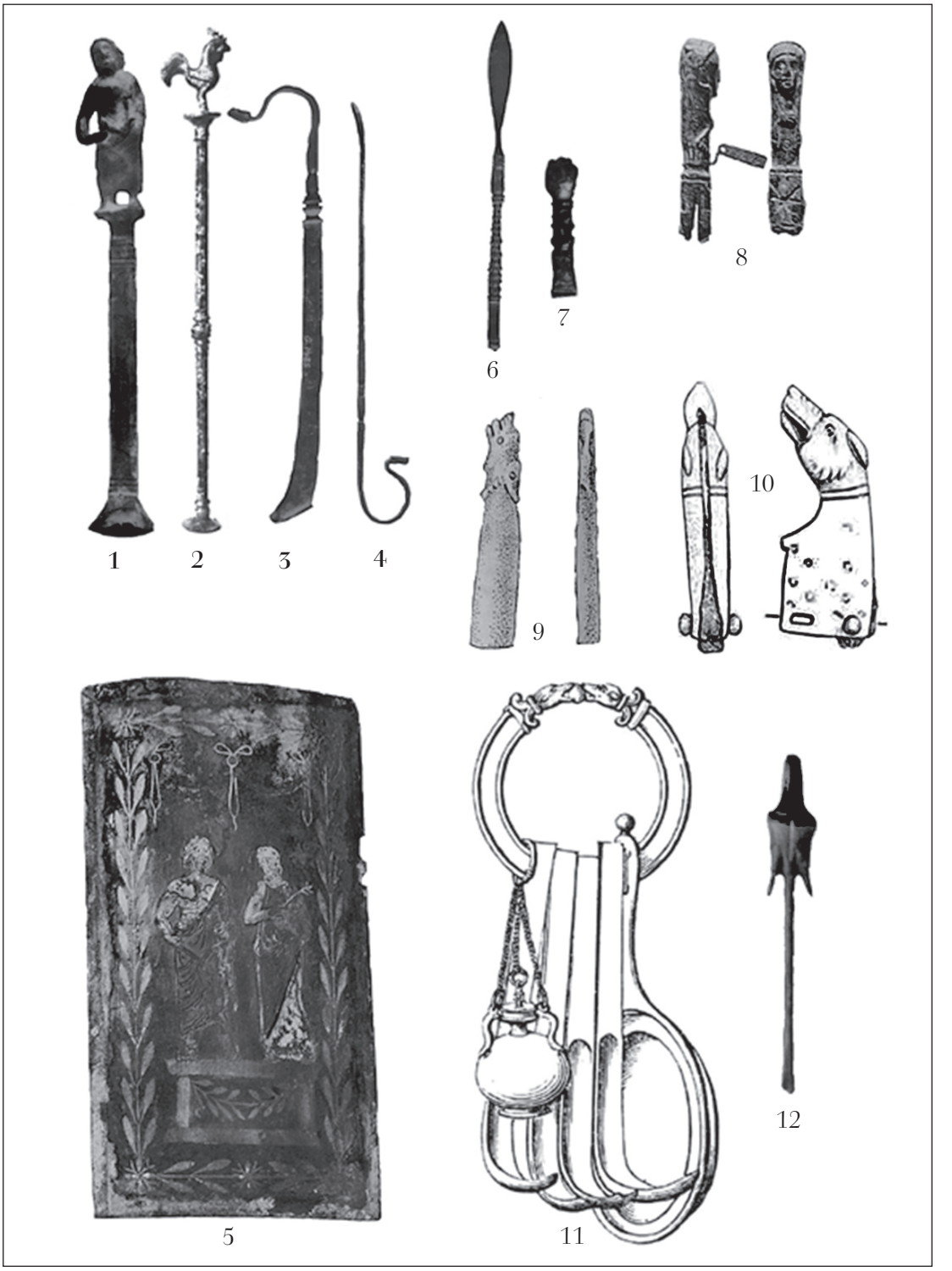
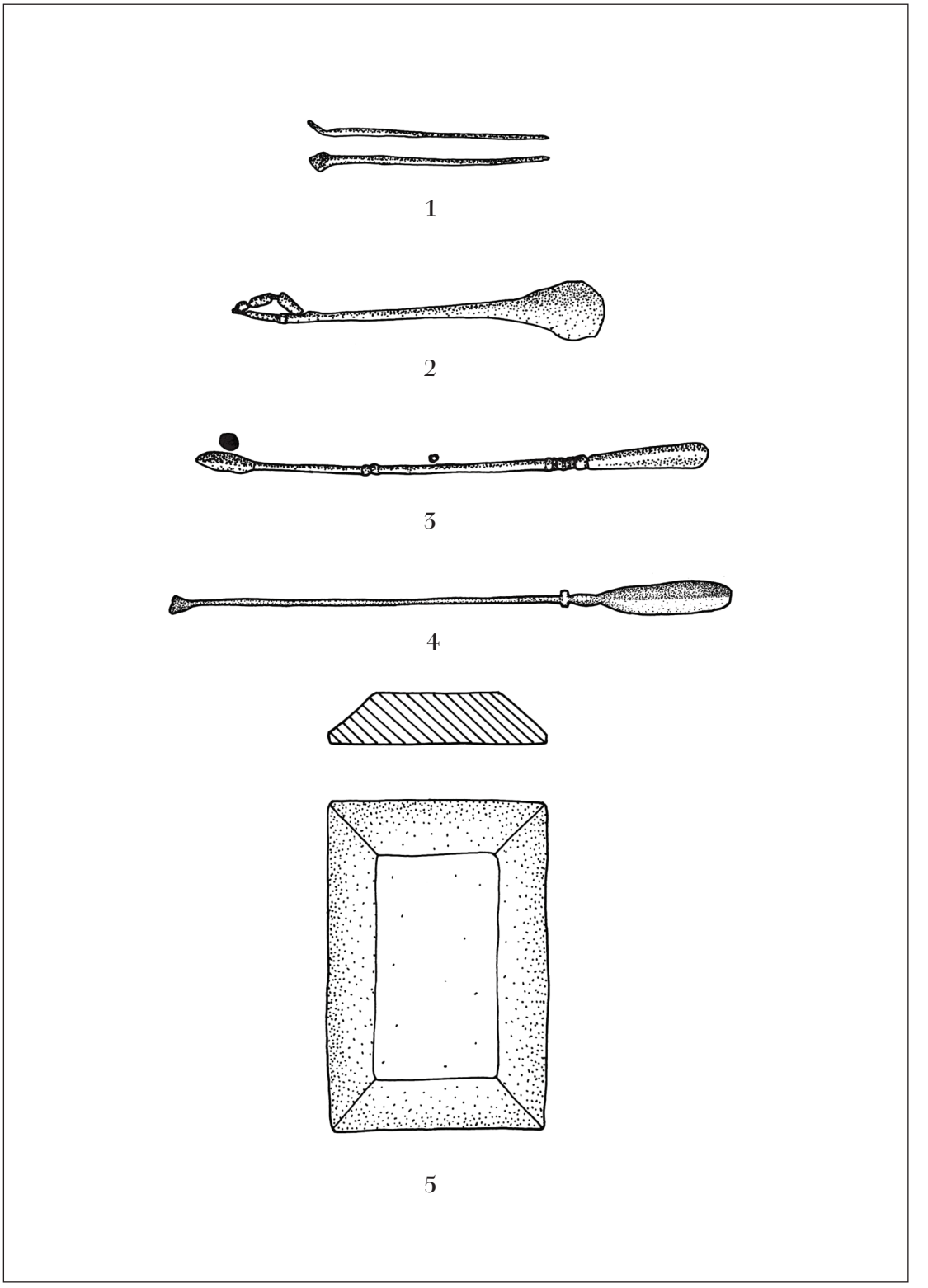



**Pl. I.** Scalpels with handles decorated with ivy or vine leaves. **1.** Gilău (after Gui 2011, Pl. I/2); **2.** Reims (after Künzl 1983, Fig. 36/30); **3-4.** Dionysopolis (after Kirova 2006, Abb. 3, 1-2); **5, 7, 8.** Karanovo (after Kirova 2006, Abb. 2, 1-3); **6.** Köln (after Künzl 1986, Abb. 9); **9.** Asia Minor (after Künzl 2002, Taf. 17); **10.** Hofheim (after Künzl 1982a, Abb. 4); **11.** Traismauer (after Kirova 2006, Abb. 7, 2a); **12.** Rheinzabern (after Kirova 2006, Abb. 7, 2b); **13.** Trier (after Künzl 1984, Taf. 6); **14.** Xanten (Künzl 1986, Abb. 2.1, 6).

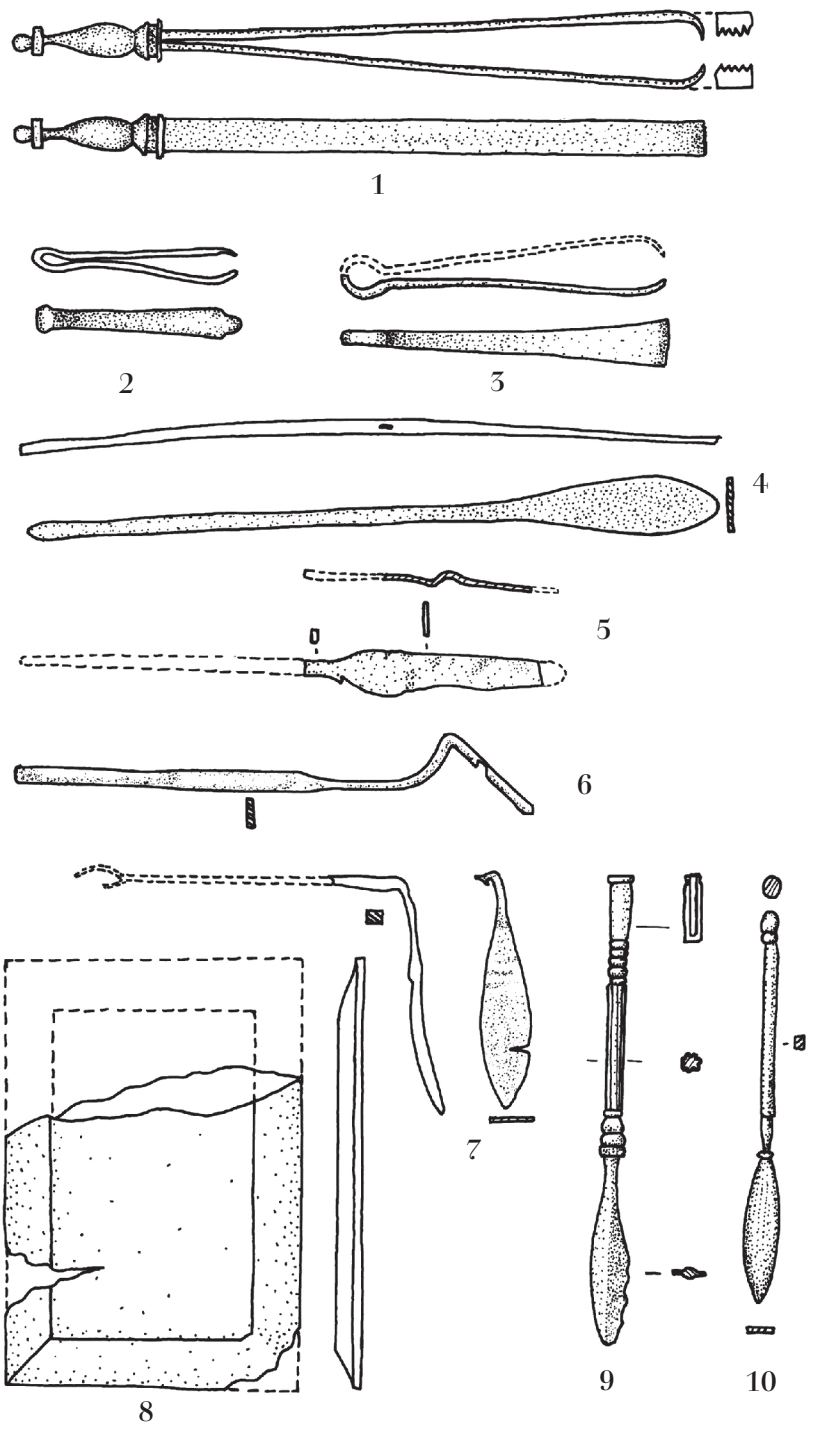



**Pl. II.** Medical instruments placed under the auspices of a healing divinity. **1, 4.** Ephesus (after Künzl 1983, Abb. 17/1; Abb. 18/8); **2.** Augst (after Riha 1986, Taf. 66/116); **3.** Trier (after Künzl 1984, Taf. 8/D2); 5. Herculaneum (after Sobel 1991, Abb. 2); **6-7.** Mainz (after Bliquez 1992, Fig. 5); **8.** Pompeii (after Bliquez 1992, Fig. 7); 9. Micia (after Alicu, Cociș 1993, Pl. XVI/4); **10.** Augst (after Riha 1986, Taf. 11/87); **11.** Pompeii (after Riha 1986, Abb. 1); **12.** Mainz (after Künzl 1996, Abb. XVII/311).


**Pl. III.** The so called medical instruments connected to Apollo Smintheus. **1.** Barone collection (after Kiernan 2014, Fig. 5); **2.** Mainz (after Künzl 1982b, Fig. 1); **3.** Pompeii and other unknown proveniences (after Kiernan 2014, Fig. 13); **4.** Asia Minor (after Kiernan 2014, Fig. 12a); **5.** Augusta Raurica (after Kiernan 2014, Fig. 9); **6.** Apulum (after Ţeposu-Marinescu, Pop 2000, Pl. 77); **7.** Dacia – with unknown provenience (after Cociş 1993, no. 28, Pl. 1/8); **8.** Porolissum (after Gudea 1989, Pl. CCXLVIII/8).




**Pl. IV.** Medical instruments from Dacia found in funerary contexts. **1, 5.** Sucidava (after Popilian, Bondoc 2012, Pl. CXCV/3, 4); **2.** Porolissum (after Gudea, Bajusz 1992, Pl. IV/5); **3-4.** Potaissa (after Milea, Hopârtean, Luca 1978, Fig. 4; Bajusz 2005, 24/86/3).




**Pl. V.** Medical instruments found at Porolissum in the refuse pits from Coasta Viei **3, 5-6.** Coasta Viei (after Gudea, Bajusz 1992, Pls. II/3, V/11, VIII/10); **1-2, 4, 7-10.** The disaffected water tank (after Gudea, Bajusz 1992, Pl. I/5, 6, Pl. III/6, Pl. IV/14, Pl. V/6, Pl.VI/1, Pl. XV/4).