„BABEȘ-BOLYAI" UNIVERSITY CLUJ-NAPOCA

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Medicine in Roman Dacia

Doctoral Thesis Summary

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SUMMARY: Especially beginning with the second half of the 20th century, the spectacular advances in modern medicine have led to a significant increase in scholarly activity related to the field of ancient medicine. Such studies have allowed readers to observe the ascending evolution of medicine, but have also surprised them by showing that at least some modern medical treatments have their origins in Antiquity, while many medical instruments have ancient correspondents with almost imperceptible differences.

The subject of this doctoral thesis is dedicated to Roman medicine in the province of Dacia and was written as a monograph with six chapters. Although various studies have analyzed a fairly large number of medical instruments, a monograph dedicated to medicine in Roman Dacia proved to be necessary, given that these studies have refrained to discuss Roman medical instruments strictly from a typological and functional perspective, without considering other interpretative directions . Moreover, the only attempt to systematically treat the subject of the healing cults within the province of Dacia belongs to N. Igna and dates from 1935, thus proving to be far outdated both in terms of information and research methodology. The popularization study written by D. Alicu and I. H. Crișan, *Medicina la romani*, treats the subject in a general way, indicating only concisely the situation of Dacia. In addition, it fully omits to mention the existence of theurgical medicine elements. Due to the scarcity of medico-magical gemstones, as well as the lack of a definite archaeological context, theurgical medicine did not benefit from a separate chapter within this thesis. However, the tripartite structure of Roman medicine — rational medicine, sacerdotal medicine, theurgical medicine — can be found in most of the chapters and subchapters, urging the reader to erase from his mind the modern meaning of the word medicine, already by simply consulting the table of contents.

V. Nutton pointed out that although at first glance the term "medicine" seems easy to be defined, there are many hidden pitfalls that we tend to fall into because of our own tendency to project modern meanings into the distant past. Healing or diseases are concepts that can vary from one society to another, and the idea of a dichotomy between magical-religious and secular medicine is certainly irrelevant in the context of Antiquity. The presence of a relatively significant amount of medical instruments in the province of Dacia, but also of reliefs and votive altars dedicated to the healing gods, seems to reveal that in the mentality of the ancients empirical therapies mingled with medico-magical or healing cult practices, forming a harmonious single unit that was perceived, generically speaking at least, simply as medicine. Therefore, there was no need for a real distinction between conventional and alternative medical therapies, as the modern meaning of the word medicine would demand it today. In fact, there is enough evidence that confirms that doctors themselves recognized the effectiveness of the *incubatio* ritual practiced in the temples of Aesculapius and collaborated with the priests of the god, while others occasionally even prescribed medico-magical treatments to their patients.

The first chapter tries to capture the existence of civilian or military physicians within the provincial milieu, while also raising the possibility of the presence of specialized physicians, as well as discussing the increasing rationalization of medicine practiced in the temples of Aesculapius, whose priests could have been perceived as some sort of sacerdotal doctors.

Unfortunately, the epigraphic sources did not prove to be too rich in information in this respect, so far only one inscription mentioning the presence of a *medicus legionis* in the territory of Dacia. Even though the epigraphic and literary sources have sometimes caustic remarks against Roman doctors, that were often named executioners or categorized as incompetent, unable to treat even a trivial fever, we can suspect that this is not the case of Marcus Valerius Longinus at Drobeta. The physician of the 7th legion Claudia, stationed at Viminacium, in Moesia Superior, arrives in Drobeta in the context of the Marcomannic wars and receives *ornamenta decurionalia* from the city, most likely as a reward for the medical services offered for the community. Although the epigraphic formula does not reveal his exact career path, we can suspect that receiving the insignia of the supreme magistracy is the consequence of his professional mobility, from the military to the civilian milieu, although the reverse cannot be completely excluded either. Similar epigraphic examples appear in other provinces as well and show that for a young aspiring doctor the army was the most suitable environment that could

guarantee his continuing professional development, ultimately working as a real business card in the event of his subsequent retirement in the civilian milieu. Although M. Valerius Longinus dies at the young age of 23 years, the perception of the young doctor as inexperienced is certainly a modern concept. Celsus himself tells us that the ideal physician is young and although he does not disclose exactly what age he is referring to, numerous epigraphic sources attest that the learning of the medical art began at an early age, probably somewhere around the age of 15.

The discovery of specialized medical instruments, such as the surgical pliers from Potaissa, the forceps with hook from Bersobis and the rectal dilator from Micia could indirectly suggest the possibility of the presence of specialized medical staff within the province of Dacia. The technical language of the medical prescriptions written on the two *signacula ocullariorum* discovered at Apulum and Gârbou seems to suggest that the use of these stamps was reserved only for ophthalmologists, but archaeological finds indicate that these instruments were used by a wide range of healers, including general practitioners or itinerant doctors, street vendors of pharmaceutical products or even magical healers. No medical kit has been recovered so far from Dacia, although four have been reported in the scientific literature. However, the so called "kits" from Potaissa and Sucidava consist of a simple medical probe, accompanied by a stone slab and could have served as toilet kits, while another alleged kit was mentioned by D. Benea in the military fort of Drobeta, but has remained unpublished to this day. S. Dumitrașcu has also identified a medical kit based on disparate pieces found in the collections of the Țării Crișurilor Museum in Oradea, but the unclear archaeological contexts of these instruments require some reservation in this case as well.

Epigraphic sources suggest that patients often perceived the healing power of the gods as complementary to that of physicians. Although there is certainly no incompatibility between priestly and secular medicine, only the gods are able to treat a sick person whom dozens of doctors may not have been able to cure. Galen himself observed that patients seemed to prioritize a good relationship with the healing gods over that with doctors, blindly trusting the medical prescriptions offered by Aesculapius, in which they found not only physical healing, but also a sense of comfort and safety. The motives underlying such behaviors can be explained through multiple scenarios, from the predominant mentality of the time, according to which the disease had a divine origin, to the feeling of belonging to a religious community and the increasing rationalization of medical practices in the temples of Aesculapius. If a doctor could make

mistakes at any time, Aesculapius is a physician par excellence and the entire community of pilgrims is ready to praise his virtues as proof. The healing gods certainly enjoyed a great popularity in the province of Dacia, but it is difficult to say whether the six medical instruments discovered in the temple of Ulpia Traiana Sarmizegetusa can be seen as the working tools of some doctors-priests or should be rather attributed to doctors who visited *Asklepieia* and worked side by side with the priests of the god. Moreover, it shouldn't be excluded that these medical instruments were offered by physicians as *ex vota* for their divine patron, or that their storage in the *Asklepieion* was intended to endow them with the *numen* of the god. It is also difficult to say whether Septimius Asclepius Hermes, a former slave of the *Asklepieion* of Apulum, received *ornamenta decurionalia* due to some medical services offered to the city. The interpretation seems to be based only on the surname of the freedman and finds an echo in the inscription of M. Valerius Longinus.

The second chapter aims to trace a possible list of ailments or diseases that the inhabitants of Dacia might have suffered of during Roman period, while also indicating the therapeutic options that a patient could have resorted to, alternating from elements of rational medicine to other alternative methods and magical-religious practices. The corroboration of the anthropological, archaeological, iconographic and epigraphic sources suggests that eye diseases, musculoskeletal disorders, gallbladder or kidney stones, reproductive system disorders, anorectal diseases and dental problems were common medical conditions among the provincial population. Ultimately, the available sources also reveal that the medical market was extremely diverse even in the provincial milieu, where braver patients could be willing to undergo surgery, while others preferred to appeal to less invasive procedures, which involved taking homeopathic medicine, wearing magical amulets, frequenting thermal spas or *Asklepieia*.

Eye diseases were among the most common and difficult to treat diseases of the Antiquity and have certainly affected the population of Dacia as well. Some of the known causal factors of eye conditions are poor hygiene, household crowding, lack of access to water or contaminated water and open latrines. The two *signacula ocullariorum* discovered at Gârbou and Apulum register concrete cases of conjunctival diseases (*aspritudo*, *lippitudo/post lippitudo, impetum*), corneal conditions (*veteres cicatrices*) and eyelid disorders (*genae callosae*). The two stone stamps also reveal the treatments that were used to alleviate these conditions, from resin-

based antiseptic ointments (*diasmyrnes*, *nardinum*, *dialibanu*) or vegetal ones (*chelidonium*, *opobalsamatum*), to metallic powders (*diapsoricum*; *diamysus*). A votive inscription discovered at Apulum mentions that a veteran of the 5th Macedonica Legion, Caius Iulius Frontonianus, erected an altar honoring the healing gods Aesculapius and Hygia, as a thank offering after receiving his eyesight after a dream. It remains unclear whether this was a miraculous healing that occurred after performing the ritual of *incubatio*, or if his healing was the result of the joint efforts of the god and an ophthalmologist. Finally, even if we do not have any specimens of medical instruments specialized in ophthalmologic practice, we can assume that at least some of the many probes discovered in the province could have been used for eye examinations, for the preparation and application of ophthalmic ointments, for the removal of ulcers or for fine cauterizations around the eyes, while tweezers would have proved to be useful for extracting a foreign body or for plucking eyelashes. Archaeological discoveries have also shown that stone plaques made of green stone, often associated with a *cyathiscomele* can be linked to ophthalmological practices.

The few osteological and paleopathological studies carried out for the province of Dacia, have attested the existence of spondylitis, rheumatism or ligament ruptures that occurred as a result of muscle overload. For the treatment of various rheumatic and neurological diseases or post-traumatic diseases that can affect the musculoskeletal system, the provincials could have frequented the thermal spas of Băile Herculane or Germisara. They could have also worn medico-magical gemstones such as those representing "Chronos the reaper”or they could have worshiped the healing gods, offering them *ex vota* in the form of legs. In this context, two votive inscriptions of the *sanationes* type, discovered at Băile Herculane and Germisara, drew particular attention by mentioning concrete cases of healing infirmity by attending the thermal springs placed under the divine power of the healing gods. Like in the case of these votive inscriptions, the dedication of anatomical *ex vota* in the *Asklepieion* of Ulpia Traiana Sarmizegetusa must have occurred after the healing had taken place, because it is difficult to believe that a patient suffering from any locomotor disability could have been able to withstand the effort and fatigue implied by the pilgrimages to the temples of Aesculapius. These offerings are generally thought to represent healthy anatomical parts, but the reasons why the ancients preferred to illustrate only the affected part may be multiple. The motives could vary from economic reasons, to the need to attract divine protection on the anatomical parts that are more disease-prone, and even the

operation of a symbolic deconstruction that would facilitate the reconstruction of a whole, healthy body as a result of divine intervention.

Among neurological disorders, provincials were certainly familiar with epilepsy, given that this affection appears mentioned in the sale contract of a slave named Apalaustus, written on a wax tablet discovered at Alburnus Maior.

Based on some analogies, the fastening mechanism and the blunt hook of the forceps discovered in the military fort of Bersobis plead for the specialization of this instrument for the extraction of gallstones, while a specimen of bivalve rectal dilator discovered at Micia proves the presence of anorectal diseases, although the functionality of this tool could also be adapted to widena wound cavity and extract arrowheads embedded in the flesh. Out of the many altars erected by Quintus Axius Aelianus at Ulpia Traiana Sarmizegetusa, one draws particular attention due to the unusual divine associations, which suggest that the dedicator was suffering of a venereal disease or fertility problem. These medical problems can also be intuited from the deposition of six statuettes with the representation of Venus or an *ex voto* shaped like a uterus in the *Asklepieion* of Ulpia Traiana Sarmizegetusa. Another notable find is the fragmentary figurative terracotta, representing the head of a wrapped child at Napoca, as well as the gemstones with the representation of a schematic uterus or the leontocephalous snake Chnoubis that can also be linked to fertility issues, pain relief at birth and prevention of abortions or uterine pain.

The existence of dental problems could be archaeologically identified on a series of skeletons found in this province, although dental forceps have not been discovered until now. It is possible however that some medical probes, especially those with sharp edges, as well as an iron scalpel with curette from Porolissum may have been used during dental procedures.

The third chapter aims to capture primarily the typology and functionality of the medical instruments, but will also try to address the possible social connotations that emerge from the archaeological contexts, the association with other artifacts or the particular way of decorating medical instruments. Therefore, both a noble confection material like silver, and a particular decoration, could have been meant to increase the doctor’s prestige in the eyes of a patient, inspiring likewise more confidence in his medical qualities. We should bear in mind that this

happened in a period when medical procedures seemed a measure of last resort due to a lack of antiseptics and anesthetics. Two ear probes were made entirely of silver, a scalpel discovered in the auxiliary camp of Gilău has been decorated *a niello* with silver inlays that show ivy and vine leaves, while traces of gilding can be found on a fragment belonging to a bronze medical instrument discovered at Apulum. 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 symbolic value, by hinting to the healing proprieties of these plants.

Erroneously including different small finds in the category of medical instruments is a persistent problem in the Romanian literature — some knives have been interpreted as scalpels, some spatulas or wide spoons as specialized tools for abortions, while some writing implements, spoons for eating or spatulas used to decorate pottery were often mistakenly taken as medical probes due to the stylistic similarities that these pieces share. Some of these attributions continue to be taken for granted, although more recent literature has shown that such interpretations can no longer be considered valid today.

The creation of a catalogue of medical instruments discovered in the province of Dacia revealed the existence of 269 instruments of medical or paramedical nature, although most probably museums still house a large number of unpublished medical instruments. The instruments were divided into eight broad typological categories, with the amendment that two other short subchapters were dedicated to pieces that were frequently erroneously attributed with medical functionality — spoons, either placed in the category of medical probes or interpreted as curettes used in gynecological practices. By consulting this catalog, one could reach a few general conclusions regarding the typology of the pieces. A first observation would be that typologically speaking, we encounter almost the whole spectrum of the Roman classical medical instruments, with the exception of dental and gynecological ones, including probes, scalpels, tweezers, hooks and retractors, and even specialized instruments such as a surgical forceps, a cautery and a rectal dilator. Other finds were placed in the category of the paramedical instruments, like stamps for eye ointments, slabs, storage boxes for medical instruments or drugs, and also *strigilia* and *novacula* for which literary sources occasionally mention medical uses. With the exception of stone slabs, due to its high resistance, the vast majority of the medical instruments were made of bronze, although occasionally we can also find specimens of bone, iron or even silver.

The most common medical instrument found among the discoveries in Dacia is certainly the medical probe, a general category where we can distinguish the probe with spatula and olivary end (*specillum spathomele*), the probe with double spatula (*spathe*?), the probe with spoon (*cyathiscomele*), the probe endowed with one olivary end (*puren*) or two (*dipurenon*) and the ear probe (*specillum oricularium*). Among the particular specimens we notice a probe discovered in the camp of Arcobadara having the spatula bent at an obtuse angle, suitable for dissections and even cauterization. Other notable finds include probes with both ends shaped like spatulas, suitable for elevating bones, immobilizing fractures, or perhaps as tongue depressors, spoon probes with sharp edges and grooved outer surface used in surgery and two ear probes made entirely of silver at Alburnus Maior and Ulpia Traiana Sarmizegetusa. A cyathiscomele from Potaissa seems to have been improvised by attaching a spoon to the tip of a stylus needle.

Almost half of the scalpels discovered on the territory of Dacia have the standard shape found in the Empire, with a rectangular bronze handle and one end shaped like a spatula, with different variations given by the longer or shorter spatula, as well as the decoration of the handle with bone plates or silver inlays. Other variations of the standard type, relatively common, are scalpels with octagonal or hexagonal handles, initially provided with small and thin iron blades. Truly remarkable, however, is the scalpel made entirely of iron, which was provided with both a blade and a curette instead of the usual spatula. Due to the high rate of corrosion of iron, such pieces appear extremely rarely among medical discoveries throughout the Empire. A specimen of this type can be seen in the largest and richest Roman medical kit known to this date, discovered somewhere in Italy. Also due to the corrosive material, cauteries are rarely found among medical discoveries. A possible specimen in the shape of an iron spoon, with a twisted handle and the end shaped in the form of a hook comes from Ulpia Traiana Sarmizegetusa.

Small tweezers, made by bending a simple metal bar, were included in the category of medical forceps, although attributing tweezers with medical functionalities can only be made with certainty in the case of larger sized pieces, having handles shaped like chess pawns and arms provided with serrated, notched or smooth clamps, and sometimes even with a retaining ring. The appearance of the fixing mechanism in the case of smaller tweezers, generally considered to serve only cosmetic purposes, advocates for their inclusion in the analysis of the medical instruments. Due to its reduced size and concave extremities, a forceps with chess pawn

shaped handle discovered in the auxiliary fort of Buciumi, could have been used in ophthalmological procedures, while the forceps with serrated clamps, blunt hook and fixing ring, discovered in the military fort of Bersobis seems to have been specialized in lithotomy operations. Due to the fragmentariness of the piece, it is not clear whether the hook was initially modeled in the form of the serpent of Aesculapius, a healing symbol that can be seen at Trier as well. The discovery of medical pliers in the legionary fort at Potaissa, with handles carefully decorated with geometric and vegetal motifs and strong, straight, finely notched clamps to facilitate good adhesion to bone tissue, could be linked perhaps to the existence of a *valetudinarium*. These instruments were mainly used to remove arrows or bone debris resulting from fractures. Another rare piece discovered in Dacia is the rectal dilator from Micia; there are only 11 specimens of this type discovered in the whole Empire.

The archaeological contexts of the medical instruments reveal a high concentration of discoveries in the soldiers' barracks, which can be explained through a number of scenarios. We can imagine that these tools were used by the soldiers themselves in the privacy of their rooms, or that healthcare was provided by their comrades, or by a visiting doctor. Other medical instruments have been discovered in amphitheaters, pottery workshops, baths or temples. Thus, medical instruments can indicate the distribution and frequency of medical care, in some cases even providing evidence for the presence of specialized medical staff and the mobility of physicians outside their area of competence. However, the archaeological context and their association with other everyday objects could also reflect how people perceived medical instruments and whether they associated them with illness or death. In this case we can ask ourselves what was the concept that stood behind the deposition of medical instruments in the funerary inventories and whether these were instruments that the deceased was treated with and had become "impure" in contact with the disease or following a failed operation. A relatively small number of instruments were also discovered in the *Asklepieion* of Ulpia Traiana Sarmizegetusa, which raises another issue related to mentality, namely to what extent did the Romans prefer to resort to empirical medicine and if they appealed to the parallel use of magic or religion to facilitate healing.

Regarding the existence of *valetudinaria* in Dacia, we do not have any reliable identification so far, although the investment of some buildings with such functionality has been occasionally promoted in the literature. However, given the planimetry and the lack of medical

instruments within their perimeter, their identification remains rather uncertain. Although we do not have a *medicus legionis* attested in the legionary fort of Potaissa, the existence of a specialized instrument such as the surgical forceps certainly seems to suggest the existence of a *valetudinarium*.

In the Roman province of Dacia, we can notice that empirical medicine begins to impose itself more and more and we find, with the exception of gynecological or dental instruments, almost the whole spectrum of classical medical instruments. However, we must not neglect the other aspects of Roman medicine. The last two chapters discuss the numerous votive inscriptions dedicated to the healing gods in Dacia, some of which can be included in the special category *sanationes*. These chapters also discuss the religious organization and the possibility of practicing the ritual of *incubatio* in the temples of Aesculapius in Dacia. The high popularity of the healing cults in Dacia suggests that the perception that healing occurred primarily due to the help of the gods still prevailed in the collective mentality and it is not excluded that doctors were seen as mere intermediaries in this process. Several medical instruments have been recovered from the perimeter of the *Asklepieion* at Ulpia Traiana Sarmizegetusa, suggesting the possibility that Aesculapius' priests also occasionally played the role of therapists.

The cult of Aesculapius and Hygia is well documented in Roman Dacia by over one hundred sculptural pieces and votive inscriptions, as well as an archeologically researched *Asklepieion* at Ulpia Traiana Sarmizegetusa and two other temples epigraphically attested at Apulum and Ampelum.

Although most of the votive inscriptions dedicated to the healing gods in Dacia follow some stereotypical formulas, a special feature of the cult in this province is given by the presence of *sanationes* inscriptions, as well as formulas that suggest the involvement of the divine will, sometimes transmitted during the sleep. Another special feature of the healing cults in Dacia is the presence of different personages from the close entourage of the god — Apollo Salutaris, Epione, Panacea, Telesphorus and Hypnos. In addition, Aesculapius and Hygia share the task of being divine patrons of the healing waters with Hercules Salutiferus at Băile Herculane or with the Nymphs, named in a votive altar discovered at Germisara Nymphae *Salutiferae*. Moreover, the healing gods extend their patronage even over the military baths, associating themselves with a Fortuna Balnearis / Salutaris in the legionary fort of Potaissa.

Among the different ways to address Aesculapius and Hygia, we note the preference for epithets that capture the popular character of these gods in the provincial environment, *θεοί επήκοοι*, *θεοί φιλάνθρωποι* și *Dii magni et boni*. The toponymic epithet Pergamenos at Ulpia Traiana Sarmizegetusa makes us wonder whether this divine appellation reflects the mythological knowledge of the dedicator or if it rather suggests a part of the itinerary of the god of Pergamum and the vital role he played in the evolution of other *Asklepieia*, perhaps even the one at Ulpia Traiana Sarmizegetusa. The same itinerary can be guessed in the case of the child-god Telesphorus. For some the genius of convalescence, for others a proper healing god, Telesphorus appears as a secondary deity in the entourage of Aesculapius and Hygia in the *Asklepieion* of Pergamum somewhere in the first century A.D. From Pergamum the cult reaches the *Asklepieion* of Epidaurus, experiencing a rapid spread in Attica and Thessaly in the context of a plague epidemic in which the little god had proved his healing qualities along with Aesculapius and Hygia. However, the epigraphic evidence suggests that from Epidaurus, the god's itinerary followed another route as well, reaching the Thracian area, where the association of the three gods on coins and votive reliefs is rather common. The appearance of Telesphorus with Aesculapius and Hygia on votive reliefs with pseudo-aedicula frame can be distinguished as a special iconographic style, typical for this area, most specimens being discovered at Pautalia, Batkun or Glava Panega in Thrace and Tomis, Odessos and Nicopolis ad Istrum in Lower Moesia. It is interesting to note that a variant of this iconographic type can be found in areas adjacent to the Thracian space, a similar relief being discovered in Pannonia, while two other local variants were discovered in Dacia at Potaissa and Porolissum.

Starting from the premise that in Antiquity images could also be used as a means of communicating a message, which today can escape the less versed eye, the image of the divine personification of sleep together with the healing gods on reliefs or votive statues discovered in the east of The Roman Empire can play the role of a metaphor for *incubatio*, if we consider that in this case it plays the role of the personification of therapeutic sleep. Surprisingly, Dacia offers the highest incidence rate of iconographic representations of Hypnos in association with the healing gods, with at least two reliefs and a votive statue, as well as a bilingual votive inscription dedicated to the Nymphs, to Aesculapius, Panacea, Artemis and Hypnos at Germisara. Even if the association of Hypnos / Somnus with the healing gods seems to be unusual in the context of Dacia and we do not have de facto epigraphic evidence for the practice of the *incubatio* ritual,

archaeological sources certainly do not exclude this possibility. The two fountains, the sacrificial altars, the large number of lamps, the anatomical *ex* vota, the *sanationes*, the few medical instruments and the presence of Hypnos in this special iconographic scheme urge us to reconsider the diffusion map of the *incubatio* ritual in the Roman Empire, including Dacia as well.

Future archaeological and anthropological researches will certainly keep continuing to fill the gaps in our limited knowledge regarding the medical care provided in the provincial environment, perhaps outlining a more detailed picture of the dynamics between patient and doctor / healer in Dacia, both civilian and military.

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