SAPIENZA
UNIVERSITÀ DI ROMA

E-ISSN 2531-7288
ISSN 0394/9001

MEDICINA NEI SECOLI
Journal of History of Medicine and Medical Humanities
35/2 (2023) 9-26

Received: 05.05.2023
Accepted: 15.05.2023
DOI: 10.13133/2531-7288/2771

Corresponding Author:
franco.giorgianni@unipa.it

The Art of Democedes and Atossa's Oath (Hdt. 3, 133)

Franco Giorgianni

Dipartimento Culture e Società - Università degli Studi di Palermo, Italia

ABSTRACT

The Art of Democedes and Atossa's Oath (Hdt. 3, 133)

My interest in the long account that Herodotus (*Histories* III 125; 129-137) gives of the biographical vicissitudes of the physician Democedes of Croton (VI-V century BC) arises from the examination of some terms (the adverb ἀτρεκέως and the compound verb ἐξορκόω) which define the ways in which, in Herodotus' representation, the doctor-patient relationship must necessarily be worked out in order to be able to speak of true medical art. In the narrative of Democedes' forced stay at the Persian court, there stands out the clinical story of Queen Atossa, Darius' wife: with her Democedes established a relationship of trust as a physician based on respect for her prerogatives as a female patient. From a detailed comparison between Herodotus' testimony and some documents of Hippocratic medicine, a marked consonance, or even coincidence, emerges of terms and concepts that identify principles and values that the physician from Croton already shares with a significant part of the tradition of thought that lies at the origins of the Hippocratic *Oath*, as we know it in its historical form. It can be concluded that the ethics of Democedes and of the Hippocratic physician *speak the same language*.

Key words: Democedes of Croton - Queen Atossa of Persia - King Darius I of Persia - Herodotus - Ancient Greek Medicine - Medical ethics - Swearing and the Hippocratic Oath

Democedes of Croton, a Greek physician at the court of the Great King of Persia. A fully known story?

In the III book of the *Histories*, dedicated to Persia and its great sovereigns, Herodotus' narration intertwines the events of the royal couple constituted by the Great King Darius and his wife Atossa (who reigned in the last twenty years of the VI century BC and in the first years of the V) with those of a Greek physician originally from the Magna Graecia city of Croton, named Democedes. This narration (which is in chapter 125 and chapters 129 to 137), has aroused the keen interest of scholars for various reasons: with the fable-like theme of the slave who redeems himself and rises to the role of confidant of the sovereign, on the Old Testament model of Joseph[1], there are associated properly historical and historiographical reasons which are inserted in the broader Herodotean account of the distant origins of the Greco-Persian conflict, and also of the relations between Greece and Magna Graecia. Furthermore, the long excursus on the physician from Croton, for possible references to historical events and not only this, appeared relevant for the sharing, by the historian of Halicarnassus, of a vast conglomeration of knowledge and technical terms typical of medical thought. In this sense, over and above the extreme difficulty of recognizing precise therapeutic techniques in Herodotus' account, the affinity was underlined between the operating modalities of Democedes, on the one hand, and on the other hand, forms of thought and terminology typical of some surgical and gynecological writings of the Hippocratic *Corpus*[2]; naturally, the question has arisen and continues to arise not only of the dating of these writings[3], but also of whether Herodotus had more or less direct knowledge of them, in the form in which they have come down to us, or if he drew on medical knowledge that can be generically defined as pre-Hippocratic[4].

What undoubtedly seems to unite the Herodotean testimony on Democedes and the methods of therapeutic intervention of the Hippocratic physician is the particular delicacy and attention towards the patient, which in the case of the treatment practiced by Democedes not only translates into the use of "bland remedies" (ἤπια) in contrast to the violence that the Egyptian physicians present at the Persian court appear to have previously exercised on the foot of the Great King Darius, but also concerns the level of the interpersonal trust relationship that the Croton physician establishes with Queen Atossa, Darius' wife. In this sense, even from such a well-known and studied episode, if re-examined from the point of view of medical ethics and the use of a particular terminology, relatively new implications and new elements of reflection on the history of the doctor-patient relationship in Greek antiquity can still emerge. It is indeed from this point of view that the research of another scholar, Stefania Fortuna, an expert on the Hippocratic *Oath*, was also oriented in parallel. Her study, just published, on women, ancient medicine and the Hippocratic *Oath*[5], helps to corroborate the idea that there is a strong consonance, terminological and regarding ethical-medical thought, between Herodotus' testimony on Democedes and some Hippocratic texts, including the *Oath*. But before anticipating possible conclusions, it will first be appropriate to read Herodotus' text once again.

1. Treatment of disarticulated talus

The episode (III 129-130) was particularly impressive due to the technical competence demonstrated by the Greek historian in the field of medicine[6]. I will summarize here the main outlines of the story. Darius, like all Persian sovereigns and great dignitaries, was passionate about hunting, and it was during a hunt that he suffered a painful injury to his foot, which has been variously explained as a simple sprain or dislocation of the bone indicated by historians with a term as anatomically rare as it is absolutely technical, i.e. *astragalus*[7]. The Egyptian physicians called on to intervene could do nothing with their traditional methods consisting in "twisting and forcing the foot" of poor Darius (chapter 129,2: στρεβολῦντες καὶ βιώμενοι τὸν πόδα). Indeed, after several attempts, the Great King's health conditions worsened considerably, to the point that due to the pain he could no longer sleep a wink[8]. It is at this point that Herodotus has the Croton physician intervene in the narration: someone at the court of Darius remembers the presence, in the prisons of Susa, of a Greek physician who already in Sardis, in the service of the satrap Oroetes, had distinguished himself with his skill, and therefore informs the Great King, who has him immediately called.

Democedes thus makes his appearance as a protagonist on the scene of Herodotus' *Histories* in chains, as ragged and squalid as a slave of the time, and a prisoner to boot, could be[9]. I wonder, on the sidelines of these reflections, if it is not possible that Herodotus wanted to suggest to his audience a resemblance, of an intellectual and cultural order in an oppositional key with respect to the Eastern and Persian world in this case, between Democedes and Odysseus. And therefore, we have a Democedes who, like a new Odysseus, misrepresented by the dramatic experience of imprisonment and under threat of torture, only partially reveals his identity without however denying his knowledge as a Greek physician. In the meantime, the hypothesis would find some confirmation in the circumstance that the Croton physician, just like Odysseus, is brought before the Great King "dressed in rags" (chapter 129,3: παρῆγον ἐς μέσον … ῥάκεσι ἐσθημένον)[10], and it would be further supported by the coincidence that Democedes, like the Homeric hero, yearns above all things to return to his homeland[11]. Departing as a young man from the Achaean colony following conflicts with his grumpy father Calliphon, also a physician, Democedes, according to the detailed testimony of Herodotus, is said to have practiced the medical art as an itinerant physician in various locations, first in Greece (including Aegina and Athens and in Samos at the court of the tyrant Polycrates), then in the East, and in particular in Lydia, in Sardis, in the service of Oroetes, the local satrap previously mentioned[12]. His prestige, earnings and fame as the best therapist of the time had grown up to the moment in which he shared the fate of his Lydian master, militarily defeated by Darius, and he would have died completely forgotten in prison, if the Great King had not needed his intervention to heal his bad foot.

2. The art and tricks of a Greek physician

In Herodotus' reconstruction, Democedes represents the prototype of the Greek physician, technically versed, quick-witted and capable of using any means to regain his lost homeland; in the meeting with Darius, the physician dissimulates, not immediately revealing his identity, and pretending not to know the art of medicine out of the fear (which turns out to be well-founded) that Darius will make him his trusted physician, thus preventing him forever from returning to home, the longed-for *nostos*. Darius realizes Democedes' capacity for dissimulation, and Herodotus uses a verb in this regard that is *par excellence* indicative of the possession of technical know-how (the verb τεχνάζω) which indicates the ability to carry out a cunning plan[13]. To extract the confession, Darius has instruments of torture brought in and at that point Democedes is forced to give in, so that he claims "that he does not know exactly" (ἀτρεκέως οὐκ ἐπίστασθαι) medical art (indicatively called *techne*), but only knows a little of it (φλαύρως ἔχειν τὴν τέχνην) for having frequented a physician (ὁμιλήσας ἰητρῷ)[14]. In fact, as the outcome of this story will demonstrate, in the very moment in which he denies his own great technical competence, Democedes implicitly suggests through the use of terms that belong to the specialized lexicon of medicine what is the correct *modus operandi* of the physician; if we take into consideration the use of the adverb indicating knowledge of the action performed in *a correct, precise manner* on the part of the physician (i.e. ἀτρεκέως), we find that it is a term, already present in Homer, and proper to the Ionian language, recurring above all in Herodotus and in various Hippocratic writings[15]. Among the numerous Hippocratic occurrences (as many as 19 considering the use of the adjective and the adverb), it is worth mentioning here those contained in surgical writings such as *Articulations* (chapters 14 and 33)[16] and *Mochlikós* (chapter 36)[17], but also in an epistemologically foundational text of Hippocratic medicine, *Prognostic* (chapter 20)[18]. The term also occurs in other texts that are relevant to us, and among these two passages of the short deontological writing entitled *Law* (chapters 2 and 4)[19], as well as in Book I of *Diseases of Women* (chapters 21, 38 and twice in chapter 62[20], to which it will be appropriate to return later). We are therefore dealing with a term, of clear poetic ancestry, which over time has become a real keyword in the scientific and specifically medical lexicon, and which characterizes the correct exercise of a profession such as medicine that more and more during the fifth century B.C. was defining itself epistemologically as a real *techne*.

Thus, the overall impression that one gets from reading this first part of the episode is that Herodotus wants to suggest the exact opposite of what his Democedes initially affirms: far from having an imprecise and vague knowledge of (φαύλως), the Croton physician knows "perfectly" (ἀτρεκέως) the medical art, that *techne par excellence* which at the time when Herodotus was writing the *Histories* (second half of the 5th century) was increasingly establishing itself for its method of investigation and treatment[21]. In Herodotus' representation, Democedes embodies the quintessence of the

Greek therapeutic method, and this is evidently in clear ideological and cultural contrast with the approach of the Egyptian physicians (who were also considered on a par with the most expert specialists). And again, in Herodotus' narration, the method of the Croton physician seems to coincide, or in any case not to be in disagreement, with the testimony of the Hippocratic texts[22].

In conclusion, the therapeutic remedies put into practice by Democedes, significantly defined as "Greek" in the Herodotean text, are successful, whether they involve the use of a gentle Greek-style therapy after the so-called violent interventions of the Egyptian physicians, or involve the application by Democedes himself, according to the most modern techniques of reduction of fractures illustrated by the Hippocratic texts, of initially energetic and then bland methods (bandages, massages, application of ointments)[23]: a short time after the beginning of the new therapy (chapter 130,3: ἐν χρόνῳ ὀλίγῳ), Darius actually recovers sleep and health, his foot returns to what it was before and the Great King can thus savor the pleasure of hunting.

But this is only the first picture of what overall can be defined as a diptych of Herodotus' representation of the episode involving the physician from Croton at the court of Darius.

Meanwhile, the consequences of the therapeutic success put Democedes, so to speak, on the pedestal, from the dust of prison he passes to the honors of the Persian court, the king covers him with gold and favors, makes him a *protégé* and confidant, even capable of interceding for the life of Egyptian medical colleagues otherwise condemned to death for not having been able to heal the sovereign, but still – and this is the painful point for Democedes – does not free him, and on the contrary binds him even more to himself by symbolically giving him two pairs of gold fetters (chapter 130,4).

3. Curing the Queen: Atossa's phyma

But soon another occasion will present itself to Democedes in which he can demonstrate his skills as a therapist, and this time it is no longer Darius who is involved as a patient, but his wife, Queen Atossa[24], who just at that time is suffering from a so-called breast *phyma*.

It is worth reading the whole part of the text that Herodotus (chapter 133) dedicates to this new therapeutic case[25]:

> *1. After, in a short time, the following other events happened: Atossa, daughter of Cyrus and wife of Darius, grew an abscess in the breast* (ἐπὶ τοῦ μαστοῦ ἔφυ φῦμα)*, then it broke and was spreading. As long as it was small enough, Atossa hid it out of modesty* (κρύπτουσα καὶ αἰσχυνομένη) *and didn't tell anyone about it* (ἔφραζε οὐδενί)*, but when she found herself in bad shape* (ἐν κακῷ)*, she summoned Democedes and showed it to him* (οἱ ἐπέδεξε)*. 2. The doctor, saying that he would heal her, made Atossa swear* (ἐξορκοῖ μιν) *that she would give him in return what he asked of her,* even if he would not ask her *for anything that might bring dishonor* (ἐς αἰσχύνην ἐστὶ φέροντα).

This short text has aroused much discussion among specialists, who above all have wondered what kind of disease it was, whether it was mastitis due to puerperium, or a real tumor (benign or malignant, more likely benign)[26]. At the center of my interest is not so much the properly diagnostic and paleo-pathological question. What I would like to stress, instead, is what emerges from Herodotus' representation of the doctor-patient relationship that binds Democedes to Atossa. Indicative in this sense is above all the vocabulary used, as well as the comparison with various literary, medical and non-medical testimonies. We can add to this that, as the great storyteller which he is, Herodotus says some things explicitly, while on others he is silent or lets the reader/hearer capable of understanding understand.

Meanwhile, one thing is clear: Democedes is no longer dealing with a generic orthopedic disease, but with an area that requires specific competence, of a gynecological type, and consequently particular attention on the part of the male therapist, towards the intimate sphere of the patient. As has been observed several times, the one used by Herodotus to indicate the formation on Atossa's breast is a technical term (φῦμα), which literally indicates a fleshy excrescence, an 'abscess', in this case probably purulent, which is treated like an ulcer, and one whose nature appears, as they say technically, *herpetic*, that is, it increases in volume and extension[27]. Again, as already observed in the case of the astragalus, it is an absolutely technical term, but this time with a prevalent use in gynecological contexts of the Hippocratic *Corpus*[28].

With respect to the pathology, the patient's attitude is worthy of the utmost consideration: Atossa, in fact, feels shame about her illness and at first does not reveal it, but later is forced to call in the court physician when the situation worsens and evidently the pain overcomes her shame. This concept of modesty (indicated here by the verb αἰσχύνομαι) proves to be an essential component of the psychology of the female gender patient; what matters most, in this regard, is that the Greek physician seems to be fully aware of it. This is part of what is unsaid in Herodotus' account, but it can be assumed that Atossa completely trusted Democedes as a physician, if she called him and showed him the affected part, entrusting him with the treatment of the abscess.

4. The pact of trust between Atossa and Democedes

As an illustration of the condition in which Atossa may have found herself, and in which the Croton physician may have found his patient, it is useful to make a comparison with the following passage from Book I of the Hippocratic writing *Diseases of Women* (chapter 62 G.), which explicitly refers to women's modesty as a central factor in the dynamics of the treatment of female diseases. The latter are presented as difficult to cure, in particular due to the fact that:

> *not even the women themselves know what disease they suffer from, before becoming experts on the diseases due to menstruation and before becoming older, and at that point the need*

> *will arise and the time will come to instruct them on the cause of the diseases; and there are cases in which women do not know what pathology they are suffering from, and their disease becomes incurable, until such time as the physician is properly instructed* (ὀρθῶς) *by the patient on what disease she is suffering from. And indeed, patients are ashamed to talk about it* (αἰδέονται φράζειν) *even if they know, and believe that it is something shameful* (αἰσχρὸν) *due to their inexperience and ignorance. But for their part, even the physicians make mistakes* (ἁμαρτάνουσιν)*, because they do not know exactly* (ἀτρεκέως) *the prime cause* (τὴν πρόφασιν) *of the disease, and instead treat it as if it were a matter of male pathologies* (ὡς τὰ ἀνδρικὰ νοσήματα)*, so that I have seen many patients perish in consequence of these maladies. On the contrary, one must immediately ask exactly* (ἀτρεκέως) *what is the cause, if it is true that the treatment of female diseases is very different from those of men.* (my transl.)

The terminological and conceptual correspondences between the Herodotean passage and the Hippocratic one are in effect noteworthy; as already pointed out by Stefania Fortuna[29], to the pudor of the patients of the Hippocratic physician (αἰδέονται) there corresponds the effective shame (αἰσχυνομένη) of Atossa, with women consequently keeping silent (Hdt. ἔφραζε οὐδενί = Hp. αἰδέονται φράζειν). In fact, to the 'pudor' (αἰδώς) that Greek ethics attributed as a traditional value to women together with silence, here there is added the particular pathological condition that exposes patients to the clinical examination of the male physician, and to the consequent social discredit that could have ensued in the case of sexual abuse and non-compliance with what we now call *professional secrecy*. Like the patients of the Hippocratic physician, Atossa too must have been a young and inexperienced woman at the time, or one who could be considered such, from a gynecological point of view. It can also be hypothesized that, when her illness had progressed to the point that she was forced to overcome all pudor and call on the aid of the court physician who had earlier so successfully cured her husband, she was probably still in time for the treatment to be successful, so much so that Democedes agreed to cure her.

What is most striking about Herodotus' testimony is not only (as already argued in previous studies)[30] that Democedes' therapeutic intervention was based on a relationship of full mutual trust between physician and patient, but – an aspect that has never been sufficiently underlined up to now, in my view – also the fact that at the basis of this mutual trust there was the idea according to which correct practice of the medical art, a principle recalled here by the use of the adverb ἀτρεκέως, is all one with observance of a precise deontology on the physician's part. Democedes is perfectly aware of this, when he promises Atossa that he will not ask her, in exchange for taking care of her, for anything that could "bring her dishonor" (133,2 ἐς αἰσχύνην φέροντα). In short, correct exercise of the medical art and respect for ethics coincide in Herodotus' narrative, as indeed in the conception of the Hippocratic physician[31].

But there is more, in my opinion: in Herodotus' account of Atossa's illness the doctor-patient relationship is based on a real pact of trust, sealed orally by the pronounce-

ment of an oath, as is evident from the use of the verbal form ἐξορκοῖ μιν with which Democedes binds Atossa[32].

The verb used is ἐξορκόω, denominative, a compound with the preposition ἐξ marking the completion of the action, which indicates the act of making someone swear on something, so that the concrete object on which one swears becomes the pledge of the oath, and in this case it is Atossa's body itself that is the pledge of the oath. This therefore seems to imply that the efficacy of the treatment depends on keeping one's word. In addition, the promise is mutual[33], because, if it is true that Atossa, after recovery, undertakes to render a favor to Democedes, when he asks for it, in turn the physician also hastens to guarantee that he will not ask for anything of which the queen may be ashamed, and therefore implicitly nothing to do with violation of the sexual sphere.

By virtue of these significant coincidences, the use of the verb ἐξορκόω[34] can only bring to mind the text of the Hippocratic *Oath* (ὅρκος), and in particular the wording of a prescription, contained in the section dedicated to the rules governing the doctor-patient relationship[35], which appears entirely consistent with the principles that clearly inspired Democedes' ethical behavior and therapeutic action according to Herodotus' account. This is the precept with which the Hippocratic physician personally undertakes not to take advantage sexually, during visits, of the body of his patients, and in the order, not surprisingly, women are mentioned first, being socially weaker and more exposed to possible embezzlement, and then men, whether they are free or slaves (*The Oath*, chapter 5b Fortuna = chapter 6, p. 4 J.)[36]:

> *Into whichever houses I enter, I will go for the benefit of patients, keeping myself free of any intentional injustice or corruption, particularly in sexual matters* (ἀφροδισίων ἔργων)*, involving both female and male bodies, both of the free and of slaves.*

Beyond the strong linguistic and conceptual consonances, what is most characteristic of the pact sealed between Atossa and Democedes is that it is an oath uttered by the patient, at the physician's request, in exchange for the promise of cure and healing, and not, as sanctioned by the ancient text of the Hippocratic *Oath*, an oath sworn by a physician to another physician. Another significant difference is that the oath is exclusively linked to orality-aurality, and there is no trace, in contrast to what happens in the historical *Oath*, of a written contract (called ξυγγραφή, chapter 1a J.). Since the professional relationship that binds the student to the teacher of medicine, which instead finds expression in the first part of the Hippocratic *Oath*, does not come into play here, the pact of trust revolves around a real exchange of services or favors, a *do ut des* between physician and patient. What matters is that both keep their word.

Indeed, at the origins of every oath – and the one sworn by Atossa to Democedes is no exception – there must have been a strong religious and legal dimension, which explains the need to swear by invoking the name of some divinity as the guarantor of the promises. Moreover, there were those who wanted to attribute the art of the

Croton physician to the context of templar medicine, and specifically to the sanctuary of Asclepius in Cnidus, where his father Calliphon had served as a priest[37]. But still it must have been a Cnidian tradition transplanted to Magna Graecia, if Hippys of Rhegium, known to Herodotus for frequenting the environment of the Panhellenic colony of Thurii which the historian had co-founded and where he had lived for some years, is traditionally indicated as the main source of notices about Democedes[38]. Indeed, judging by fr. 2 of Hippys (554 F 2 *FGrHist* Jacoby), invoked several times, and strongly characterized as linked to templar medicine (it reports a case of miraculous healing of a woman suffering from tapeworm who is hospitalized at the sanctuary of Epidaurus), there emerges a very different orientation regarding the conception of the medical art and its effective possibilities. Indeed, Herodotus' testimony seems to me in line with the coeval affirmation of the physician's full confidence in his own therapeutic and epistemic possibilities, of which some Hippocratic writings, especially the one *On the Art*, offer clear expression, where the fragment of the Rhegium historian attests not only to the incurability of some diseases, but for their solution calls exclusively on divine intervention[39].

5. The oath of Atossa for an archeology of the Hippocratic Oath?

An in-depth examination of Herodotus' testimony on Democedes on a conceptual and linguistic level perhaps allows us to get a glimpse of the origins of the oath in ancient Greece, and in particular of that specific form of oath that found its definitive form in Hippocrates' *Horkos*. The formal details of the oath pronounced by Atossa to Democedes are completely unknown, but it can be hypothesized with some likelihood that the effectiveness of the oath passed both through the invocation of some divinity (but on which divinity Democedes made Atossa swear is not known to us), and through the ritual correctness of the repetition of the oath formula.

We have indirect but significant confirmation of this from a famous testimony, that of the Platonic *Charmides*, in which Socrates advises his young interlocutor, suffering from an annoying headache, to follow the therapeutic indications recently learned in Thrace (at Potidea, where as a good citizen he participated in the Athenian military expedition of 432 BC) from a pupil of Zalmoxis, a mythological healer and shaman who believed in the immortality of the soul and practiced holistic medicine, capable of curing the whole and not just a part[40]. Now, Socrates recommends the use of a plant as a medicine to Charmides, but specifies that without the formula (a ἐπῳδή) there would be no use for the plant (Pl. *Charm*. 155 e). An even more interesting aspect for our discussion is that in order to guarantee the maximum effectiveness of the therapy consisting in the harmonious convergence of drug and magic formula, Zalmoxis and his followers bind the patient to an oath, so much so that Socrates claims that he swore an oath and that he pledged to obey him (*Charm*. 157 c)[41].

In this way, important evidence emerges: the case of a patient's oath to the physician, as we know from Herodotus' testimony on Democedes, is not unique. In addition, the (ritually correct) pronouncement of the oath formula (*horkos*) is an indispensable prerequisite for the success of the proposed therapeutic treatment. It should be noted at this point that the attention of the witness in the case of the oath first of Atossa and then of Democedes clearly shifts from the plane of the formal correctness of the formula (on which Herodotus reports nothing) to its broadly ethical content. This implies a doctor-patient relationship based on mutual respect and a total pact of trust, in which the particular sensitivity of the therapist to privacy and to the sexual sphere of female patients emerges.

Herodotus's testimony allows us to date this peculiar mindset of the physicians from Croton and more generally Greek physicians already at the time in which Democedes was active, unless we want to think that Herodotus anachronistically updated a practice that had actually established itself in a more recent or even coeval epoch. In any case, it seems clear to me that the episode of Atossa and Democedes was considered by Herodotus and his contemporaries as a model of correct ethical behavior of a Greek physician towards his patients. In this sense, the physician's abstention from any sexual contact with patients, in a manner consistent with what is prescribed in the section of the Hippocratic *Oath* considered above, must already have taken on paramount importance in the consideration of medical ethics in the time of Herodotus.

What has just been said could be proven, albeit by difference, by another historically relevant episode which attests to the presence of a Greek physician at the Persian court. I am referring to the story of the physician Apollonides of Cos, also an Asclepiades like Calliphon and Democedes, and a contemporary of the great Hippocrates, on which we are informed by a detailed testimony by Ctesias of Cnidus, a physician with historical interests who lived for a long time at the court of the Great Persian King Artaxerxes II in the mid-4th century B.C.

In line with the tradition of the presence of Greek physicians at the Persian court, certainly facilitated by the therapeutic success of Democedes, a generation later, Apollonides of Cos, thanks to his therapeutic successes, had become an esteemed court physician of Artaxerxes I. Everything had gone for the best, until Apollonides fell in love with Princess Amytis, the sister of the Great King. He had thus taken advantage of a genital infection of the princess to examine her and prescribe a treatment based on sexual intercourse with men, which had allowed him to abuse her repeatedly. However, when, despite Apollonides' therapeutic indications, Amytis's health conditions had not improved, she revealed everything to her mother, who decreed the death of the Greek court physician after long and atrocious tortures[42]. Clearly built on the implicit comparison with Herodotus' testimony on Democedes, Ctesias' narration of Apollonides' alternating biographical vicissitudes at the Persian court is significant for our discussion on at least two levels: a) the first is that of the comparison with the historiographical model; b) the second is the one with the ethical-medical model rep-

resented by Democedes and by his relationship with his patient Atossa, with respect to which the story of Apollonides must count as a warning that no Greek physician must commit such a crime by betraying the pact of trust and respect with their patients sealed by the oath.

By contrast, both Democedes and Atossa had fulfilled their oath: one by healing the queen in an ethically correct way and in accordance with a model that finds a precise documentary correspondence in a section of the text of the Hippocratic *Oath*, the other by honoring the commitment to return the favor to the physician from Croton, having extorted from her husband the promise to organize a military exploration campaign towards Greece, to be led by the trusted Democedes[43]. At that point, the longed-for *nostos* could easily have been achieved; having set foot once again in Croton, Democedes would happily remain there for the rest of his life, relying on his marriage to the daughter of the multiple Olympic champion Milo, then known and respected throughout the world, against the Persian demands to return the prisoner to Darius[44].

6. Conclusions

My re-reading of Herodotus' long narration on Democedes has made it possible once again, if needed, to affirm that Herodotus' testimony and the Hippocratic texts taken into consideration, the *Oath* and *Diseases of Women* I 62 in particular, *speak* essentially *the same language*. Precisely on the front of terminological examination it has been possible to take a few more steps forward, compared to previous researches, in the direction not only of clarifying the relationships between Hippocratic medicine and Herodotus' historiography in general, but also and above all the historical-cultural and scientific reasons of the marked consonance of the sources examined here in terms of the conception of medical ethics and the doctor-patient relationship[45]. Indeed, it is not so much the adventurous Croton physician himself that towers on the scene of Herodotus' representation, but rather his ethical behavior and his delicate empathy towards patients. What emerges is a picture that sees in the Croton physician the professional model of medicine of the time, and in Greek medicine the art, i.e. *techne*, *par excellence*. The proposed model is not only not in contrast, indeed it is absolutely in conformity, on both the deontological and epistemic levels, with the watchwords of Hippocratic medicine, as it was developing in the last quarter of the fifth century B.C. Although partly contemporary, it seems unlikely that Herodotus saw Hippocrates' texts, as they have come down to us in the medieval manuscript tradition, but certainly, as has been claimed by specialists in this area, the historian of Halicarnassus and the physician of Cos drew, in all likelihood independently of each other, on the same cultural and intellectual milieu[46]. They were nurtured on the same stimuli and breathed the same cultural atmosphere; the paths of knowledge and thought came both from the East and from the West.

As for the conception of medical ethics, Herodotus' Democedes and the Hippocratic *Oath* put the relationship with the patient at the center of their attention, especially if female. This relationship passes through the uttering of an oath, which binds both parties to respect what they swore. Above all, the physician undertakes not to violate the sexual intimacy and privacy of the patients. The words used are the same and insist on the concept of modesty and shame on the part of patients, but nevertheless on the need for a precise and truthful investigation (ἀτρεκέως) on the physician's part. If we want to recognize some historical credibility in Herodotus' testimony, as indeed is legitimate, and not thus project onto the time of Democedes the image that the man from Halicarnassus possessed of contemporary medicine, then we can conclude that already between the sixth and fifth centuries there were physicians, like the one from Croton, who placed medical ethics and respect for the patient at the center of their professional activity, taking into the highest consideration those principles and values that would sooner or later merge into the text of the Hippocratic *Oath* that we know.

Bibliography and notes

Asheri D, Medaglia SM (ed.), Erodoto. Le Storie. Libro III. Introduzione e commento di Asheri D, Testo critico di Medaglia SM, Traduzione di Fraschetti A, (Fondazione Lorenzo Valla). Milano: Arnoldo Mondadori; 1990.

Benveniste É, Vocabolario delle istituzioni indoeuropee. Potere, diritto, religione. Vol. 2. Torino: Einaudi; 2001 (Italian trans., orig. ed.: Paris: Les Éditions de Minuit; 1969).

Chantraine P, Dictionnaire étymologique de la langue grecque. Histoire des mots. Vol. 1. Paris: Klincksiek; 1968.

Chantraine P, Dictionnaire étymologique de la langue grecque. Histoire des mots. Vol. 2. Paris: Klincksiek; 1974.

Cilione M, Pythagorica medica. Scienza e sapienza nella tradizione preippocratica. Roma: L'Erma di Bretschneider; 2022.

Cilione M, Gazzaniga V, L'astragalo di Dario. Giornale Italiano di Ortopedia e Traumatologia 2017;43:163-165.

Di Benedetto V, Il medico e la malattia. La scienza di Ippocrate. Torino: Einaudi; 1986.

Fortuna S (ed.), Il dovere della cura. Giuramento di Ippocrate. Milano: Garzanti; 2021.

Fortuna S, Women, Ancient Medicine, and the Hippocratic Oath. In: Pinheiro C, Silva GAF, Fonseca RC, Mota B, Pinheiro J (eds), Gynecia. Studies on Gynaecology in Ancient, Medieval and Early Modern Texts. Porto: Afrontamento; pp. 27-41 (In press).

Grensemann H, Hippokratische Gynäkologie. Die gynäkologischen Texte des Autors C nach den pseudohippokratischen Schriften De Muliebribus I, II und De Sterilibus. Wiesbaden: Franz Steiner; 1982.

Grmek M, Ancienneté de la chirurgie hippocratique. In: Lasserre F, Mudry Ph. (eds), Formes de pensée dans la Collection Hippocratique, Actes du IVe Colloque International Hippocratique (Lausanne, 21-26 Septembre 1981). Genève: Librairie Droz; 1983. pp. 285-295.

Jacoby F (ed. *FGrHist*), Die Fragmente der griechischen Historiker. Dritter Teil, B. Leiden: Brill; 1964 (reprint).

Jacoby F (ed. *FGrHist*), Die Fragmente der griechischen Historiker. Dritter Teil, C. Leiden: Brill; 1958 (reprint).

Kuhrt A, Sancisi-Weerdenburg H, s.v. Atossa (1), in *DNP*, vol. 2 (1997), 220.
Jouanna J, Ippocrate. Torino: SEI; 1994 (Italian trans., orig. ed.: Paris: Les Belles Lettres; 1992).
Jouanna J (ed.), Hippocrate, Tome I, 2e partie. Le serment, Les serments chrétiens, La loi. Paris: Les Belles Lettres; 2018.
Lopez F, Democede di Crotone e Udjahorresnet di Saïs. Medici primari alla corte achemenide di Dario il Grande. Pisa: University Press Pisa; 2015.
Michler M, Demokedes von Kroton. Der älteste Vertreter westgriechischer Heilkunde, Gesnerus 1966;22:213-229.
Potter P (ed.), Hippocrates. Volume I. Edited and Translated (Loeb Classical Library 147), Cambridge (MA): Harvard University Press; 2022.
Raaflaub KA, Herodotus and the intellectual trends of his time. In: Bakker EJ, de Jong IJF, van Wees H (eds), Brill's Companion to Herodotus. Leiden-Boston-Köln: Brill; 2022.
Raviola F, Erodoto a Thurii. In Erodoto e l'Occidente. Kokalos (Supplemento) 1998;15:373-392.
Sammartano R, Erodoto e la storiografia magnogreca. In Erodoto e l'Occidente. Supplemento a Kokalos 1998;15:393-429.
Sancisi-Weerdenburg H, Exit Atossa: Images of Women in Greek Historiography on Persia. In: Averil Cameron A, Kuhrt A (eds), Images of Women in Antiquity. London and Canberra: Croom Helm; 1983. pp. 20-33.
Sommerstein A, Fletcher J (eds), Horkos. The Oath in Greek Society. Liverpool: Liverpool University Press; 2007.
Squillace G, I mali di Dario e Atossa. Modalità di intervento, tecniche terapeutiche, modelli di riferimento di Democede di Crotone (nota ad Erodoto III 129-134, 1). In: De Sensi Sestito G (ed.), L'arte di Asclepio. Medici e malattie in età antica. Atti della Giornata di studio sulla medicina antica, Università della Calabria 26 ottobre 2005. Soveria Mannelli: Rubbettino; 2008. pp. 28-62.
Thomas R, Herodotus in Context. Ethnography, Science and the Art of Persuasion. Cambridge: Cambridge University Press; 2000.
Wenskus O, s.v. Demokedes von Kroton. In: Leven KH (Hrsg.), Antike Medizin. Ein Lexikon. München: Beck; 2005. 212-213.

1. This is the opinion expressed by Squillace G, I mali di Dario e Atossa. Modalità di intervento, tecniche terapeutiche, modelli di riferimento di Democede di Crotone (nota ad Erodoto III 129-134, 1). In: De Sensi Sestito G (ed.), L'arte di Asclepio. Medici e malattie in età antica. Atti della Giornata di studio sulla medicina antica, Università della Calabria 26 ottobre 2005. Soveria Mannelli: Rubbettino; 2008. pp. 28-62, p. 30, 41. In the story of Democedes, the mythologem appears transfigured to the extent that the traditional hero takes on the traits of the itinerant physician who, after a long absence and wanderings, manages to return home and marry, cf. Wenskus O, s.v. Demokedes von Kroton. In: Leven KH (ed.), Antike Medizin. Ein Lexikon. München: Beck; 2005. 212f., p. 213. In their commentary, the following authors also refer to motifs from the oriental short story tradition: Asheri D, Medaglia SM (eds), Erodoto, Le Storie. Libro III: la Persia (Fondazione Lorenzo Valla). Milano: Mondadori; 1990. p. 341.
2. As regards the operation on Darius' sick foot, see the frequent comparisons with the treatment of similar cases in the Hippocratic treatise *Fractures* chapters 10 and 13-14, esp. the extensive treatment by Lopez F, Democede di Crotone e Udjahorresnet di Saïs. Medici primari alla corte achemenide di Dario il Grande. Pisa: University Press; 2015. pp. 167-173.

In relation to the treatment of Atossa's breast, especially valid here are the comparisons with *Diseases of Women* II chapter 133 and *Glands* chapter 17, see *ibid*., pp. 174-179.

3. The hypothesis, formulated on the basis of the comparison with the Herodotean passage, that the *Articulations/Fractures* treatises or at least their contents were known to Democedes and can be counted among the most ancient testimonies of the Hippocratic collection (first half of the 5th century BC), was supported by Grmek MD, Ancienneté de la chirurgie hippocratique. In: Lasserre F, Mudry Ph (eds), Formes de pensée dans la Collection Hippocratique, Actes du IVe Colloque International Hippocratique (Lausanne, 21-26 Septembre 1981). Genève: Librairie Droz; 1983. pp. 285-295, but strongly contested by Di Benedetto V, Il medico e la malattia. La scienza di Ippocrate. Torino: Einaudi; 1986. pp. 263-266, who on the contrary highlighted the considerable differences, in terms of therapy and terminological uses, between the Herodotean testimony on Democedes and Hippocratic praxis.
4. The category of the latter would include both knowledge of the "Cnidian" ancestry, and influences from the original Croton environment, pervaded by the Pythagorean tradition and medical-sports culture, cf. Cilione M, Gazzaniga V, L'astragalo di Dario. GIOT 2017;43:163-165, p. 164. It is above all Squillace G, Ref. 1. p. 34f. that refers to the Cnidian environment, both medical and templar.
5. Fortuna S, Women, Ancient Medicine, and the Hippocratic Oath. In: Pinheiro C, Silva GAF, Fonseca RC, Mota B, Pinheiro J (eds), Gynecia. Studies on Gynaecology in Ancient, Medieval and Early Modern Texts. Porto: Afrontamento; pp. 27-41 (in press). The definitive form of my study takes into account the in-depth and fruitful discussion with the author, whom I thank for the suggestions she made and for making the press version of her article available to me.
6. A greater awareness of Herodotus "della identità del *talus* entro la struttura del piede", with respect to both the surgical treatises of the Hippocratic *Corpus* and Aristotle, is suggested by Lopez F, Ref. 2. p. 169 with n. 17.
7. The expression used by the Greek historian (III 129,2: ὁ γάρ οἱ ἀστράγαλος ἐξεχώρησε ἐκ τῶν ἄρθρων, "the astragalus came out of his joints") is rather detailed and seems to refer to the dual articulation of the astragalus affected by the injury, both the one above, talo-crural, and the one below, talo-calcaneal, cf. Di Benedetto V, Ref. 3. p. 264; Lopez F, Ref. 2. p. 172. From a comparison with the documentation afforded by the surgical treatises of the Hippocratic Corpus, Cilione M, Gazzaniga V, Ref. 4. p. 165, consider in the case of the dislocation of the foot of Darius "l'ipotesi di una lussazione tibio-tarsica sopratalare" (i.e. one affecting the upper joint) "…seducente", but they do not exclude "la possibilità di una diastasi sub talo.", cf. Lopez F, Ref. 2. p. 383f.
8. The intensity of the pain is explained by the probable presence of a fracture, which often accompanies cases like the one that occurred to Darius of violent dislocations of the foot joints, as already observed by Michler M, Demokedes von Kroton. Der älteste Vertreter westgriechischer Heilkunde. Gesnerus 1966;23(3-4):213-229, p. 226f. The acute phase of pain lasts for approximately seven days and seven nights (chapter 129,3); on the eighth day Democedes is sent for. On the role of numerology in Greek and Egyptian surgery, see Lopez F, Ref. 2. p. 384f.; Cilione M, Gazzaniga V, Ref. 4. p. 164.
9. In effect, Democedes had been mentioned for the first time shortly before (chapter 125,1), as the best doctor of the time, active in the retinue of the tyrant Polycrates of Samos.
10. Compare, respectively, the scenes in which Odysseus (*Odyssey* 6, 178) asks Nausicaa for rags to cover himself and be able to present himself to the Phaeacians, and in which later,

once he returns to Ithaca (*Odyssey* 18, 67), covered in rags he challenges Iros to a fight and as a beggar faces the suitors in his own palace.

11. On the intertextual implications, as well as, so to speak, the ideological ones from the Herodotean point of view, of the possible comparison between Democedes and Odysseus, I would possibly like to return later with a specific study.
12. The Herodotean one is the most complete and documented ancient testimony on the life of the Croton physician, and beyond some fable-like details it appears to be based on criteria of substantial historical reliability. See in particular the judgment by Michler M, Ref. 8. p. 222, who places the arrival of Democedes at the court of Darius in the first years of the reign of the Great King (c. 522-486 BC), as well as the physician's *akmé* between 530 and 500 BC (*ibid*., p. 220f.). Testimonies about Democedes were collected by Squillace G, Ref. 1. pp. 42-57.
13. Cf. chapter 130,2 "it was clear to Darius that despite knowing the art he was dissimulating" (κατεφάνη δὲ τῷ Δαρείῳ τεχνάζειν ἐπιστάμενος).
14. I would not rule out the possibility that Herodotus, in his reconstruction of the episode which seems to fluctuate continuously between saying and not saying, wanted to imply that for Democedes the mediocre master of medicine in question was his father Calliphon, which would not only correspond to a historical datum, but would also express a highly ironic swipe at the education received from his embarrassing parent. On the first medical education of Democedes in his youth in Croton especially by his father Calliphon, see Squillace G, Ref. 1. pp. 36-38; 41.
15. As for its etymological meaning, it expresses what is "exact, precise, truthful" since it is "not distorted", thus probably referring to the formation of a compound with privative *alpha* and *τρέκος assimilable to the Latin *torqueo*, cf. Chantraine P, Dictionnaire étymologique de la langue grecque. Histoire des mots. Vol. 1. Paris: Klincksiek; 1968. s.v. ἀτρεκής. Noteworthy is the fact that, never used in Attic prose, the term is associated in its first epic uses with verbs such as καταλέγω and ἀγορεύω, and that in Pindar, *Nemea* 5, v. 17 it refers to the 'truth' (ἀλάθεια), so that true and correct end up coinciding.
16. With ἀτρεκέως, reference is made, respectively, to the correct methods of reducing a clavicular dislocation (chapter 14, twice), as well as to the difficulty of producing a precise written account of all surgical operations (chapter 33).
17. In the case of spinal deviations, a strict dietary regimen must first be adhered to (διαίτης τὰ πρῶτα ἀτρεκέως), to soften later.
18. Here the use of the adverb is applied to the irreducibility of the trend of some fevers to precise calculation (ἀριθμέεσθαι ἀτρεκέως) for whole days.
19. Where it applies, respectively, to the ways in which "correctly" (precisely ἀτρεκέως) there is achieved "understanding" (ξύνεσις, in chapter 2a) and "knowledge" (γνῶσις, in chapter 4) of medicine by the apprentice physician.
20. All these passages are attributed, in the edition by Grensemann H, Hippokratische Gynäkologie. Die gynäkologischen Texte des Autors C nach den pseudohippokratischen Schriften De Muliebribus I, II und De Sterilibus. Wiesbaden: Franz Steiner; 1982, to the so-called layer C of Hippocratic gynecology. In chapter 21, it is stated that the physician could become aware of the internal conditions of the uterus "by asking questions precisely" (εἰ ἐρωτῴη ἀτρεκέως); chapter 38 argues for the need, in the event that the uterus is ulcerated, to conduct the clinical examination "in a precise way" (τὴν μελέτην ἀτρεκέως ποιεῖσθαι ἑλκέων). On the uses of the term in chapter 62, see below.
21. Cf. Thomas R, Herodotus in Context. Ethnography, Science and the Art of Persuasion. Cambridge: Cambridge University Press; 2000. p. 41.

22. Cf. Lopez F, Ref. 2. p. 170. On the delicacy of Greek medicine, as opposed to the therapeutic modalities of other civilizations, as a common trait of the image provided by Herodotus and the writings of the Hippocratic *Corpus*, see Jouanna J, Ippocrate. Torino: SEI; 1994 (Italian trans.). p. 132.
23. This is the interpretation by Lopez F, ref. 2, p. 387f. of the expression ἤπια μετὰ τὰ ἰσχυρά (chapter 130,3), from which Cilione M, Gazzaniga V, Ref. 4. p. 165 with n. 18 distance themselves.
24. The daughter of Cyrus II, born around 550 BC, she married in sequence her brother Cambyses, the false usurper Smerdis, and then Darius, a descendant of a cadet branch of the Achaemenid dynasty, with whom she had four children, including Xerxes, the future Great King and continuer of the war of the Persians against the Greeks. On the biographical events and the life of Atossa, see above all Sancisi-Weerdenburg H, Exit Atossa: Images of Women in Greek Historiography on Persia. In: Cameron A, Kuhrt A (eds), Images of Women in Antiquity. London and Canberra: Croom Helm; 1983. pp. 20-33; as well as Kuhrt A, Sancisi-Weerdenburg H, s.v. Atossa (1), in *DNP*, vol. 2 (1997), 220, according to whom there would be no proof that Atossa survived the death of Darius (486 BC), not even the testimony of Aeschylus's *The Persians*, in which the queen always remains anonymous.
25. Here in the English version of the Italian translation by Fraschetti A, …. In: Asheri D, Medaglia SM, Ref. 1. pp. 167-169. My changes to Fraschetti's translation are in round.
26. A detailed analysis of the clinical picture and the history of the diagnostic hypotheses is provided by Lopez F, Ref. 2. pp. 174 ff., who formulates the hypothesis, *ibid*., p. 179, in many ways fascinating, that it may have been puerperium mastitis due to the breastfeeding of the firstborn Xerxes.
27. See in the original text the expression "(the *phyma*) broke and was spreading" (ἐκραγὲν ἐνέμετο πρόσω, chapter 133,1).
28. For cases of puerperium mastitis, comparisons with chapter 17 of the writing *Glands* are especially valid; on the etiology of *phýmata* see *Affections* chapter 34, and on the treatment of breast cancers, Book 2 of *Diseases of Women*, chapter 133. All of these passages are dealt with by Lopez F, Ref. 2. pp. 174ff.
29. Fortuna S, Ref. 5. p. 32f. with an extensive discussion about the taboo of sexual involvement of the ancient physician in the relationship with the patient.
30. See, before Fortuna S, *ibid*., the extensive treatment in Michler M, Ref. 8. p. 222, who speaks of the existence of a *Vertrauensverhältnis*.
31. Cf. the commentary on the passage by Asheri D, Medaglia SM, Ref. 1. p. 344: "è il problema etico del rapporto medico-paziente, impostato ai tempi di Erodoto dalla scuola ippocratica".
32. Cf. Fortuna S, Ref. 5. p. 32.
33. On the lexicon, semantics and practice of the oath see, respectively, Chantraine P, Ref. 16. Vol. 2. Paris: Klincksiek; 1974, s.v. ὅρκος; Benveniste É, Vocabolario delle istituzioni indoeuropee. Potere, diritto, religione. Vol. 2. Torino: Einaudi; 2001 (Italian trans.). pp. 406-415, esp. p. 409f.; and the extensive treatment in Sommerstein A, Fletcher J (eds), Horkos. The Oath in Greek Society. Liverpool: Liverpool University Press; 2007.
34. Not attested in the Hippocratic *Corpus*, in Herodotus ἐξορκόω occurs twice as well as in the passage in question (*Histories* 4, 154; 6, 74) with the same accusative construction, respectively of the person (τοῦτον referring to a merchant named Themison) or of the thing (τὸ Στυγὸς ὕδωρ) bound by oath. Herodotus (4, 154) also knows the noun

ἐξόρκωσις. Among the Hippocratic writings, the term ὅρκος is present, as well as in the title, also twice within the text of the *Oath* itself (p. 2,1.5; p. 5,5 J.), and for the rest, also in *Ius*., p. 3,7 J., the verb ὁρκίζομαι is attested in the form ὡρκισμένοις (where Π9 gives the variant ἐφωρκισμέ]νοις).

35. On the sections into which the text of the Hippocratic *Oath* can be divided, on their content and origin, see the excellent overview by Fortuna S (ed.), Il dovere della cura. Giuramento di Ippocrate. Milano: Garzanti; 2021. p. 26ff.
36. The English translation of the passage is by Potter P (ed.), Hippocrates, Vol. I. Cambridge (MA)-London: Harvard University Press; 2022.
37. Squillace G, Ref. 1. p. 35 ff., clearly leans towards this hypothesis while Cilione M, Gazzaniga V, Ref. 4. p. 164f. support the coexistence in Democedes' training of the Cnidian templar tradition and that of sports medicine.
38. The hypothesis is considered plausible for Democedes by Squillace G, Ref. 1. p. 40f., starting from Sammartano R, Erodoto e la storiografia magnogreca e siceliota. In: Erodoto e l'Occidente. Supplemento a Kokalos 1998;15:393-429, p. 397f., which generally poses the problem of Herodotus' relationship with the sources regarding notices on the entire western Magna Graecia. There was no shortage of those who traced Herodotus' information on Democedes directly to the Croton environment, see Raviola F, Erodoto a Thurii, in Erodoto e l'Occidente. Supplemento a Kokalos 1998;15:373-392, p. 380ff.
39. The fragment of the historian from Rhegium is counted among the testimonies on Democedes in Squillace G, Ref. 1. p. 62f. under the rubric "Ippi di Reggio fonte di Erodoto?" The same fragment has also been cited as proof of the possible Pythagorean inspiration of Magna Graecia medicine, and specifically Croton medicine, in particular in relation to the ability of the god Asclepius to bring the patient back to the original harmony of soul and body with his prodigious intervention (ἐς τὴν ἀρχαίαν ἁρμονίαν).
40. An account of his prodigious life is found in Hdt. IV 94-96.
41. The testimony of the Platonic *Charmides* on Zalmoxis has been widely discussed by Cilione M, Pythagorica medica. Scienza e sapienza nella tradizione preippocratica. Roma: L'Erma di Bretschneider; 2022. pp. 133-138, and interpreted in continuity with Ludwig Edelstein's investigations into the shamanistic-Pythagorean origins of the Hippocratic *Oath*.
42. Cf. Ctesias 688 F 14 *FGrHist*. The testimony of Ctesias had already been adequately evaluated for the purposes of the history of the Hippocratic *Oath* by Michler M, Ref. 8. p. 222f. The whole story is illustrated in detail by Jouanna J, Ref. 23. p. 24f.
43. Cf. Hdt. III 134.
44. Cf. Hdt. III 135-137.
45. On the importance of the linguistic comparison with the Herodotean text as a comparative dating criterion in the study of the Hippocratic writings see Jouanna J (ed.), Hippocrate, Tome I, 2e partie. Le serment, Les serments chrétiens, La loi. Paris: Les Belles Lettres; 2018. p. XL.
46. On the cultural, stylistic and intellectual, as well as chronological proximity between the first writings of the Hippocratic *Corpus* and Herodotus, see Thomas R, Ref. 21. p. 23f. On the relationship of Herodotus with the scientific, philosophical and rhetorical thought of the time and therefore also with the tradition of medical thought, see also the essay by Raaflaub KA, Herodotus and the intellectual trends of his time. In: Bakker EJ, de Jong IJF, van Wees H (eds), Brill's Companion to Herodotus. Leiden-Boston-Köln: Brill; 2022. 149-186, pp. 161-164.