

【論 文】

# Diocles of Carystus and Hippocratic Medicine in the History of Psychopathological Arguments of Ancient Greece

Masahiro IMAI

Faculty of Humanities and Social Sciences, University of Hirosaki, Japan

masahiro@hirosaki-u.ac.jp

Haec apud priscos erant quae memoramus remedia, medicinam ipsa quodammodo rerum natura faciente, et diu fuere. Hippocratis certe, qui primus medendi praecepta clarissime condidit, referta herbarum mentione invenimus volumina, nec minus Diocli Carysti, qui secundus aetate famaue extitit.

C. Plinius Secundus, *Naturalis Historia*, XXVI 6, 10–11.

## Introduction

In what follows, I intend to shed new light on Diocles of Carystus (c.375–295 BC) and his relationship to Hippocratic medicine, with a specific focus on his psychopathological arguments concerning mental disturbances, including madness.<sup>1</sup> I think that they deserve noting in our approach to his psychopathological doctrine, because the author of the Hippocratic treatise *On the Sacred Disease* (*Morb.Sacr.*), who was the first to offer us a scientific etiology of epilepsy, describes them as occurring due to abnormal changes of the brain on the basis of his encephalocentric model of a human body. It is true that Diocles was standing in opposition to Hippocratic encephalocentrism, because he posited a cardiocentric model of a human body as a basis of his psychopathological arguments concerning mental disturbances. This fact does not necessarily mean, I would insist, that Diocles did not share anything in common with the Hippocratic author in his

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<sup>1</sup> The chronologies of all the ancient physicians mentioned in this paper, including Diocles of Carystus, are provisional, following the dating of them by modern scholars. I would follow the dating of Diocles by Ludwig Edelstein, who seems to me to have given us the most plausible dating of the physician. See text to nn.11–12 below. At the same time, however, I would refer to the arguments concerning the chronology of Diocles by Philip van der Eijk, *Diocles of Carystus: A Collection of the Fragments with Translation and Commentary*, 2 vols. (Leiden / Boston / Köln: Brill, 2000–2001), who concludes that any reasonable pair of dates between 400 and 300 BC is theoretically possible as regards the chronology of the physician. See text to n.17 below.

psychopathological doctrine. In my discussion below, I will confirm that Diocles was well aware of encephalocentric psychopathology by the author of the Hippocratic treatise *On the Sacred Disease*, by making it clear that the physician may have given a critical response to the psychopathological arguments by the Hippocratic author, while he may also have taken over some of crucial points from the Hippocratic author with a view to develop his own cardiocentric arguments concerning mental disturbances.

### **Modern Scholarship on Diocles of Carystus: An Overview**

Before I begin my discussion, I will make some preliminary remarks on modern scholarship on Diocles of Carystus as concerns his medical views and doctrines and his contribution to the development of medical knowledge of a human body. Diocles was born in the city of Carystus on the south coast of the island of Euboea in the western area of the Aegean Sea. He was regarded through antiquity as one of the most famous physicians after Hippocrates of Cos (c.460–375 BC), as Pliny the Elder (c.23 / 24–79 AD) reports that Diocles was second in age and fame to Hippocrates (secundus in aetate famaue extitit).<sup>2</sup> In the tradition of medical doxography, Diocles was enumerated with Hippocrates, Praxagoras of Cos (c.300 BC), Herophilus of Chalcedon (c.330–250 BC), Erasistratus of Ceos (c.320–240 BC), etc. as one of the representative physicians of the Rationalist School.<sup>3</sup> There are good reasons to believe that Diocles made a great contribution to the advancement of scientific medicine in the fields of anatomy and physiology of a human body, gynaecology and embryology, pathology, surgery, therapeutics, dietetics, etc., with a number of his medical treatises on a large variety of medical topics. In fact, Diocles was the first in the history of medicine to write a book specialized in systematical anatomy of a human body, as is reported by Galen (129–c.210 AD).<sup>4</sup> His medical treatises are almost entirely lost, but there are a large number of fragments from his medical treatises and testimonies on his medical views and doctrines in works by later medical authors, including Galen and Caelius Aurelianus (the fourth century AD), who give us information about Diocles and his medical views and doctrines.

There is no doubt, then, that Diocles of Carystus was one of the most significant figures for us to have

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<sup>2</sup> C. Plinius Secundus, *Naturalis Historia*, XXVI 6, 10–11 [=Fr.4 P. van der Eijk (2000)]. See the passage cited from the Latin text at the beginning of this paper. The report would suggest that the fame of Diocles had been established by the time of Pliny the Elder, who is the earliest testimony to his fame, but Pliny himself may have relied on some earlier evidence for it.

<sup>3</sup> See ps.-Galen, *Introductio sive Medicus*, 4 [=Fr.13a P. van der Eijk (2000)]. According to Celsus, the first century AD Roman encyclopedist, *De Medicina*, I, prooem.7 [=Fr.2 P. van der Eijk (2000)], Diocles of Carystus belonged to a group of physicians who after Hippocrates developed medical art into three principal branches of healing (i.e. dietetics, pharmacology, and surgery). It should be noted, however, that it is not clear how much historical value such reports have, because, as P. van der Eijk (2001), pp. xxxi–xxxiii, perceptively points out, they may only intend to establish intellectual relationships between physicians without making distinction between similarity of doctrine and actual historical contact.

<sup>4</sup> Galen, *De Anatomicis Administrationibus*, II 1 [=Fr.17 P. van der Eijk (2000)].

more exact understanding of the historical development of ancient Greek and Roman medicine. However, the physician does not seem to have attracted as much attention of modern scholars as he may deserve. This is mainly due to the fact, as I have mentioned above, that his treatises are almost entirely lost and they are only accessible to us in fragments cited by later medical authors from them and their testimonies on his medical views and doctrines. In modern scholarship, Max Wellmann, who published a collection of fragments and testimonies of ancient Greek physicians after Hippocrates, including Diocles, was the first to give us a detailed discussion of Diocles' medical theory and methodology.<sup>5</sup> By placing him in the tradition of 'Sicilian' medicine, which he held to go back to Empedocles of Acragas (c.492–432 BC), Wellmann concluded that Diocles was a pupil of the Sicilian physician Philistion of Locri and a member of 'Sicilian' school of medicine.<sup>6</sup> Wellmann also supposed that that Diocles may have been active between 400 and 350 BC.<sup>7</sup> In his philosophical study in the pneuma theory in Lyceum, Werner Jaeger went a step further to maintain that both Philistion and Diocles may have been theoretical sources for Aristotelian physiology and biology.<sup>8</sup> However, in a most famous monograph on Diocles of Carystus which he published in 1938, Jaeger drastically changed his opinion on Diocles' connections to Aristotle and the Peripatetic school, by suggesting that Diocles was a younger contemporary and a pupil of Aristotle, and placing the dates of his activity much later around the end of the fourth century BC.<sup>9</sup> In an article published in the same year, Jaeger went as far as to propose a more specific dating of his lifetime between 340 and 260 BC.<sup>10</sup> Jaeger's opinion was examined by Ludwig Edelstein in his Book Review of Jaeger's monograph on Diocles in 1938.<sup>11</sup> Edelstein was ready to accept Jaeger's fundamental point that Diocles may possibly be regarded as a contemporary of Aristotle. But Edelstein supposed that the dates of his activity may have been much earlier, with a conclusion, which I would think is the most plausible dating for the physician, that Diocles may have been alive between 375 and 295 BC.<sup>12</sup>

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<sup>5</sup> M. Wellmann, *Die Fragmente der sikelischen Ärzte Akron, Philistion und des Diokles von Karystos* (Berlin, 1901), pp.1–93, and pp.117–207.

<sup>6</sup> M. Wellmann (1901), pp.67 ff. The concept of 'Sicilian' school has now been abandoned, but some scholars have still connected Diocles with 'Sicilian' medicine. See e.g. James Longrigg, *Greek Rational Medicine: Philosophy and Medicine from Alcmaeon to the Alexandrians* (London and New York: Routledge, 1993), p.162.

<sup>7</sup> M. Wellmann (1901), pp. 66–67.

<sup>8</sup> W. Jaeger, 'Das Pneuma im Lykeion', *Hermes* 48 (1913), pp.29–74.

<sup>9</sup> W. Jaeger, *Diokles von Karystos. Die griechische Medizin und die Schule des Aristoteles* (Berlin, 1938).

<sup>10</sup> W. Jaeger, 'Vergessene Fragmente des Peripatetikers Diokles von Karystos nebst zwei Anhängen zur Chronologie der dogmatischen Ärzteschule', *Abhandlungen der Preussischen Akademie der Wissenschaften*, Phil-hist. Klasse, no.3 (1938), pp.1–46.

<sup>11</sup> L. Edelstein, 'Review of Diokles von Karystos', *American Journal of Philology* 61 (1940), pp.483–489, reprint in Owsei and C. L. Temkin (edd.), *Ancient Medicine: Selected Papers of Ludwig Edelstein* (Baltimore: The Johns Hopkins Press, 1967), pp.145–152.

<sup>12</sup> See L. Edelstein (1967), p.149.

Jaeger's views on the chronology of Diocles of Carystus and his intellectual background have been controversial and are now regarded as no longer acceptable, but his approach has made most impact on modern scholarship on the history of ancient Greek medicine and ancient Greek thought in general.<sup>13</sup> It should be noted, above all, that his work on Diocles may be regarded as an attempt to discover a 'missing link' between ancient Greek medicine and its contemporary philosophy, by defining the historical connections between the most prominent Greek philosopher of the fourth century BC and one of the most famous physicians after Hippocrates. Aristotle was undoubtedly a most highly motivated philosopher to establish a comprehensive theory of soul (ψυχή) as 'life principle' for all living things, including humans, which made it necessary for him to determine the structures and functions of all parts and organs of their bodies. Above all, Aristotle was the first to introduce an anatomical research on the structures and functions of animal bodies and their parts and organs. It is probable that Aristotle may have shared a common interest in physiological and pathological matters with many of his former and contemporary physicians, as is confirmed by his own words about the matters common both to the philosophy of nature and to medicine at the beginning of his physiological treatise *On Sense and Sensible Objects*.<sup>14</sup>

One could easily imagine, however, that Jaeger was faced with much difficulty in the case of Diocles, especially because of the scanty nature of information about his medical views and doctrines, which should be reconstructed from fragments cited by later authors from his medical treatises and from their testimonies on them. If it is true that Diocles was then active in Athens as a medical practitioner and also as a medical thinker and writer, as is indicated by the unknown author of the medical treatise, sometimes known as *On the Seed*, who reports that the Athenians valued him most highly, calling him a younger Hippocrates ([Diocles], quem Athenienses juniorem Hippocratem vocaverunt), one would be tempted to think it most plausible that the physician was familiar with biological researches developed by Aristotle and his disciples in Lyceum.<sup>15</sup> In fact, there are some similarities in Diocles' medical theory and methodology with Aristotle's own physiology and his scientific methodology in general.<sup>16</sup> These points, however, would not necessarily lead us to draw a decisive conclusion, as indeed Jaeger did, that he was a pupil of Aristotle and a member of the Peripatetic school.

The situation surrounding modern scholarship on Diocles of Carystus has changed amazingly for the

<sup>13</sup> For details of the impact of Jaeger's controversial views on modern scholarship, see e.g. H. von Staden, 'Jaeger's "Skandalon der historischen Vernunft": Diocles, Aristotle and Theophrastus', in W. M. Calder, III (ed.), *Werner Jaeger Reconsidered* (Atlanta: Scholars' Press, 1992), pp.227–265.

<sup>14</sup> Aristotle, *De Sensu et Sensibilibus*, I, 436a17–b1. For the same topic, see also *De Juventute*, 27 (*De Respiratione*, 21), 480b22–30.

<sup>15</sup> Anonymus Bruxellensis, *De Semine*, 2 [=Fr. 3 P. van der Eijk (2000)].

<sup>16</sup> For the similarity with Aristotle's physiology, see Galen, *De Diebus Decretoriis*, II 5 [=Fr. 60 P. van der Eijk (2000), and his comment on the relevant passage in the volume of Commentary (2001, p.131)]. For the similarity with Aristotelian scientific methodology, see Galen, *De Alimenterum Facultatibus*, I 1, 3–6 [=Fr. 176 P. van der Eijk (2000), and his comment on the relevant passage in the volume of Commentary (2001, p.332)].

better since 2000 and 2001, when Professor Philip van der Eijk published a new and comprehensive collection of more than two hundred fragments of his medical treatises and testimonies on his medical views and doctrines, which he had assembled from works by later medical authors. In his monumental work on Diocles, P. van der Eijk strongly emphasizes that we need to take a fresh and unbiased approach to his medical thought through a meticulous analysis of them, by arguing that, only when his extant fragments have been well reexamined, all the questions as to the intellectual background and context of Diocles' medical views will be answered legitimately, including the question of his dates for which P. van der Eijk concludes that any reasonable pair between 400–300 BC is theoretically possible.<sup>17</sup> I would agree with P. van der Eijk, who prefers to think that Diocles of Carystus was rather an independent thinker, writer and practitioner of medicine without having any connections to particular groups of physicians and philosophers of his time, arguing that Diocles may have developed his own medical views and his own medical practice.<sup>18</sup> I would insist, on the other hand, that this would not be incompatible with the fact that the physician may have shared some of the most fundamental points in his own medical thinking with physicians and philosophers of his time, sometimes taking them over from their treatises, since indeed P. van der Eijk stresses that Diocles' medical works did not develop in a vacuum.<sup>19</sup>

In my discussion below, I will focus on the question how Diocles of Carystus was related to Hippocratic medicine, by drawing attention to his psychopathological arguments concerning mental disturbances, including madness. In doing so, I will evaluate how much the physician contributed to the development of medical psychopathology in the fourth century BC, by giving a critical response on the basis of his cardiocentric position to psychopathological arguments by the author of the Hippocratic treatise *On the Sacred Disease*, while taking over some of the crucial points from the Hippocratic author to form a new psychopathological doctrine of his own.

### **Diocles of Carystus and Medical Treatises in the Hippocratic Corpus**

I begin my discussion by referring to passages of the medical treatise, sometimes known as *On the Seed*, which is preserved as a Latin text in a Brussels manuscript dating from the eleventh or twelfth century AD. The author of this treatise is unknown, so hereafter I will call him the Anonymous of Brussels, following the custom of modern scholarship on this treatise.<sup>20</sup> The relevant passages (ch.1–8) constitute the first section of

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<sup>17</sup> See P. van der Eijk (2001), pp. xxxiii–iv.

<sup>18</sup> See P. van der Eijk (2001), p. xxxvi.

<sup>19</sup> See P. van der Eijk (2001), p. xxxi.

<sup>20</sup> For details of the structure and contents of this treatise, see Armelle Debru, 'Doctrine et tactique doxographique dans L'anonyme de Bruxelles: une comparaison avec L'anonyme de Londres', in P. van der Eijk (ed.), *Ancient Histories of Medicine: Essays in Medical Doxography and Historiography in Classical Antiquity* (Leiden / Boston / Köln: Brill, 1999), pp.453–471, and P. van der Eijk (2001), pp.79–81.

the treatise, which I think deserves noting, because Diocles of Carystus, who is entitled a ‘follower of Hippocrates’ (sectator Hippocratis), is presented as arguing against the view that the seed (σπέρμα) is substantially the froth of blood, as propounded by Diogenes of Apollonia, Aristotle, Herophilus, Erasistratus, and the Stoic philosophers.

I draw specific attention to the most intriguing passage (ch.5) of the treatise, where Diocles is now presented as referring to the arguments in some of the Hippocratic treatises in his critical response to the haematogenetic view on the nature of the seed, with an intention to argue for his own view that the seed originates not from the blood, but from the nutriment which the animal body takes into itself as food and drink.

Diocles his assertionibus respondens ait. ‘In libro trigesimo octavo Hippocrates, quem graece περὶ ὀκταμήνων appellamus, suo testimonio affirmavit de seminis natura < et > eo, quo de nutrimento, quod graece τροφήν appellamus; sicuti et omnes humores, ut musculi, nervi, venae et arteriae vel reliquorum membrorum seu cordis et cerebri, ubi principaliter anima consistit, suum alimentum vel nutrimentum percipiunt ex cibo et potu, sic itaque et seminales viae, quas graece σπερματικούς πόρους appellamus, ex nutrimento replentur et sic calefacti, incitati a venere, derivatio seminis fit. quae et ipsae viae seminales a cerebro initium alimenti percipiunt ad conficiendum animal.’<sup>21</sup>

In this passage, the Anonymous of Brussels presents Diocles as expressing himself in direct speech, though it does not seem to be credible that the physician would have used exactly the same wording in a medical work of his own. In fact, we can discern some strange words and phrases in the passage cited above, including the ones such as ‘the thirty-eighth book, which we call περὶ ὀκταμήνων in Greek (In libro trigesimo octavo [...], quem graece περὶ ὀκταμήνων appellamus)’ and ‘that [book] in which he (i.e. Hippocrates) spoke about nutriment, which we call τροφή in Greek (eo, quo de nutrimento, quod graece τροφήν appellamus)’, etc. It seems to be difficult to imagine that Diocles himself would have used such words and phrases when expressing himself in a medical treatise of his own, because there is no doubt at all that he himself wrote it in his own language.

I would agree with P. van der Eijk, who persuasively gives us an answer to the question why the Anonymous of Brussels wanted to present Diocles as expressing himself in direct speech as his critical response to the rival view, if it were not the case that he would be citing directly from Diocles’ medical treatise. It is obvious that the Anonymous of Brussels himself had greater sympathy for what he considered

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<sup>21</sup> Anonymus Bruxellensis, *De Semine*, 5 [=Fr. 40 P. van der Eijk (2000)].

the Hippocratic view on the nature of the seed against the one that it is the froth of blood, as propounded by Diogenes of Apollonia, Aristotle, Herophilus, Erasistratus, and the Stoic philosophers. Then, he may have decided to rely on Diocles as a ‘follower of Hippocrates’, who he thought would be the most appropriate to expound the Hippocratic position with reference to some of the Hippocratic treatises. It does not necessarily follow that the Anonymous of Brussels fabricated the whole of the physician’s critical response to the rival view on the nature of the seed. Rather, he may have made it up out of important elements that constitute Diocles’ own medical views and doctrines.<sup>22</sup>

In the passage cited above, Diocles is presented as referring to the Hippocratic treatises *On the Children of the Eighth Month* and *On Nutriment*, which would seem to have been the most crucial for the Anonymous of Brussels to draw attention of his readers and persuade them to share his sympathy for the Hippocratic position with them. Thus, it is conceivable that Diocles himself may have referred to these treatises in his arguments for his view on the nature of the seed. This would lead us to suppose that the physician may have been well aware of the arguments in some of the Hippocratic treatises, as is confirmed by the fact that the physician is reported by Galen to have paraphrased a passage from the Hippocratic treatise *On Joints* in his medical work entitled *On Bondage*.<sup>23</sup>

The point of the arguments by Diocles in the passage in question, as is presented by the Anonymous of Brussels, is that, because all bodily parts and organs (or, to be more exact, the humours that constitute them) obtain their own sustenance or nutriment from food and drink, the ‘seminal ducts’ (σπερματικοὶ πόροι) are also full of nutriment from the brain as its source. Of the two Hippocratic treatises to which the physician is presented as referring here as evidence for his position, the treatise *On the Children of the Eighth Month* does not seem to have any support for it.<sup>24</sup> The treatise *On Nutriment* is more promising, I think, because there is a close parallel to the physician’s arguments in ch.7 of the Hippocratic treatise. I cite below the whole passage from it, which runs as follows.

Δύναμις δὲ τροφῆς ἀφικνεῖται καὶ ἐς ὀστέον καὶ πάντα τὰ μέρη αὐτοῦ, καὶ ἐς νεῦρον καὶ ἐς φλέβα καὶ ἐς ἀρτηρίην καὶ ἐς μῦν καὶ ἐς ὑμένα καὶ σάρκα καὶ πιμελήν καὶ αἷμα καὶ φλέγμα καὶ μυελὸν καὶ ἐγκέφαλον καὶ νωτιαῖον καὶ τὰ ἐντοσθίδια καὶ πάντα τὰ μέρη αὐτῶν, καὶ δὴ καὶ ἐς θερμασίην καὶ πνεῦμα καὶ ὑγρασίην.<sup>25</sup>

<sup>22</sup> I owe this point to P. van der Eijk (2001), pp.83–85, who I think is most successful in detecting the situation in which this intriguing text was written by the unknown author in the tradition of medical doxography.

<sup>23</sup> Galen, *In Hippocratis De Articulis Commentarius*, III 3 [=Fr. 162 P. van der Eijk (2000)].

<sup>24</sup> See M. Wellmann (1901), p.54, who assumed that the passage of this treatise, to which Diocles may have referred, is missing from the text that we have today.

<sup>25</sup> Hippocrates, *De Nutrimento*, ch.7, W. H. S. Jones (ed.), *Hippocrates*, vol. I, Loeb Classical Library (Cambridge / Massachusetts / London: Harvard University Press, 1923), pp.344–345.

In this passage, the Hippocratic author expresses his opinion to the same effect as what Diocles says by referring to this Hippocratic treatise in the passage cited above, that all bodily parts and organs, such as the bone and all its parts, sinew, vein, artery, muscle, membrane, flesh, fat, blood, phlegm, marrow, the brain, etc., obtain their sustenance from nutriment. It should be noted, however, that there is no explicit mention here of the seed that may have its source from the nutriment in the brain, and, more importantly, there is no mention of the brain as the seat of the soul, whereas the physician is presented by the Anonymous of Brussels as explicitly describing it as the organ 'where the soul resides principally (*ubi principaliter anima consistit*).'

I think that this phraseology deserves attention, especially because Jaeger regarded it as evidence for his own position that the whole passage in question is no more than a summary of Hippocratic views given by the Anonymous of Brussels, not Diocles' arguments.<sup>26</sup> Jaeger was reluctant to attribute the whole passage, including this phraseology, to Diocles himself, because he thought that it would be incompatible with the fact that the physician posited a cardiocentric model of a human body. I would be inclined to think that P. van der Eijk is more persuasive in regarding the phraseology as an addition given by Diocles himself to show the Hippocratic encephalocentric position, as is propounded, among others, by the author of the Hippocratic treatise *On the Sacred Disease* in the following passage.

Κατὰ ταῦτα νομίζω τὸν ἐγκέφαλον δύναμιν ἔχειν πλείστην ἐν τῷ ἀνθρώπῳ· οὗτος γὰρ ἡμῖν ἐστὶ τῶν ἀπὸ τοῦ ἠέρος γινομένων ἐρμηνεύς ἢν ὑγιαίνων τυγχάνη· τὴν δὲ φρόνησιν αὐτῷ ὁ ἀῆρ παρέχεται. Οἱ δ' ὀφθαλμοὶ καὶ τὰ ὦτα καὶ ἡ γλῶσσα καὶ αἱ χεῖρες καὶ οἱ πόδες οἷα ἂν ὁ ἐγκέφαλος γινώσκῃ, τοιαῦτα ὑπηρετεῖουσι. Γίνεται γὰρ ἐν ἅπαντι τῷ σώματι τῆς φρονήσιος, τέως ἂν μετέχη τοῦ ἠέρος. Ἐς δὲ τὴν σύνεσιν ὁ ἐγκέφαλος ἐστὶν ὁ διαγγέλλων· ὅταν γὰρ σπάσῃ τὸ πνεῦμα ὠνθρωπος ἐς ἑωυτόν, ἐς τὸν ἐγκέφαλον πρῶτον ἀφικνεῖται καὶ οὕτως ἐς τὸ λοιπὸν σῶμα σκίδνεται ὁ ἀῆρ καταλειπῶς ἐν τῷ ἐγκεφάλῳ ἑωυτοῦ τὴν ἀκμὴν καὶ ὅ τι ἂν ἦ φρόνιμόν τε καὶ γνώμην ἔχον.<sup>27</sup>

In this passage, the Hippocratic author assigns two fundamental functions to the brain as the central organ of a human body. First, he defines its role as the interpreter to us of the phenomena originating from the air (ἡμῖν [···] τῶν ἀπὸ τοῦ ἠέρος γινομένων ἐρμηνεύς). In his definition of the brain, the author seems to offer a psychophysiological model that will be described as follows. When our sense organs receives stimuli from external objects, these stimuli are transformed there into sensory impressions, which are then

<sup>26</sup> See W. Jaeger, *Diocles von Karystos* (1938), p.204.

<sup>27</sup> Hippocrates, *Morb. Sacr.*, ch.16, Jacques Jouanna (éd), *Hippocrate, La maladie sacrée* (Paris: Les Belles Lettres, 2003), p.29.

transmitted by the flow of pneuma (πνεῦμα) running through the vessels to the brain, whereby they will be formed into our perceptual experiences of seeing or hearing some particular objects. Then, the author goes on to define another important function of the brain as the messenger for comprehension (ἐς τὴν σύνεσιν [...] ὁ διαγγέλλων), by explaining that eyes, ears, tongue, hands and feet act in accordance with the judgment of the brain. He seems to think that these parts or organs will do their function, when instructions from the comprehension are transmitted through the brain as its messenger by the flow of pneuma through the vessels to each part of the body. When the flow of pneuma is blocked by the flux of phlegm which runs down from the brain flooded with this humour, there will be bodily abnormalities like paralyses and spasm, and also some kinds of unusual psychic states, such as lack of intelligence, speechlessness, etc.

It would seem to be conceivable that Diocles, who is presented by the Anonymous of Brussels as mentioning the brain as the principal residence of the soul when referring to the Hippocratic position, as I have mentioned above, may have had in mind the definition of these two functions of the brain by the author of the Hippocratic treatise *On the Sacred Disease*, though, of course, the physician did not share the encephalocentric position in psychopathological arguments by the Hippocratic author. Diocles himself was standing in opposition to Hippocratic encephalocentrism, because he posited a cardiocentric model of a human body as a basis of his psychopathological arguments concerning mental disturbances.

In the following section, I will make it clear that Diocles may have given a critical response on the basis of his cardiocentric position to psychopathological arguments by the author of the Hippocratic treatise *On the Sacred Disease*, while taking over some of the crucial points from the Hippocratic author to form a psychopathological doctrine of his own.

### **Diocles of Carystus and Hippocratic Psychopathology by the Author of the Treatise *On the Sacred Disease***

As a document which I think will be most informative for us in our analysis of Diocles' psychopathological doctrine and its relation to the psychopathological arguments in the Hippocratic treatise *On the Sacred Disease*, I draw attention to passages of the medical treatise, often known as *On Acute and Chronic Diseases*. The treatise is preserved in a Paris manuscript (Codex Parisinus Supplementi Graeci 636), with two other manuscripts (Codex Parisinus Graecus 2324, and Codex Vindobonensis Medicus Graecus 37), in which parts of it are preserved. The author of the treatise is unknown, so hereafter I will call him the Anonymous of Paris, following the custom of modern scholarship on this treatise.<sup>28</sup>

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<sup>28</sup> For details of the structure and contents of this treatise, see P. van der Eijk, 'Anonymus Parisinus and the Doctrines of the 'Ancients'', in P. van der Eijk (1999), pp.295–331.

### 1) The Case of Melancholy (μελαγχολία)

The treatise deals with sixteen types of acute diseases and then with thirty five types of chronic diseases, by referring to pathological accounts by the ‘ancients’, with a specific mention of Erasistratus, Praxagoras, Diocles and ‘Hippocrates’ by name. The Anonymous of Paris often couples Diocles and his younger contemporary Praxagoras in his discussion about their accounts of acute and chronic diseases, including some mental disturbances. Such is the case with their account of melancholy (μελαγχολία) in the passage below.

#### Μελαγχολίας αἰτία

Πραξαγόρας καὶ Διοκλῆς μελαίνης χολῆς περὶ τὴν καρδίαν συστάσης καὶ τὴν ψυχικὴν δύναμιν τρεπούσης φασὶ γίνεσθαι τὸ πάθος

Ἴπποκράτης δὲ ὀρμησάσης ταύτης ἐπὶ τὴν κεφαλὴν καὶ φθειρούσης τὸν ἐν τῷ ἐγκεφάλῳ ἱερὸν νοῦν φησι τὸ πάθος ἀποτελεῖσθαι<sup>29</sup>

In this passage, the Anonymous of Paris discusses Diocles and Praxagoras together, by reporting that both attributed melancholy to the humour called black bile (μέλαινα χολή), which, gathering around the heart as the seat of the soul, affects its function as the principle of our psychic states and activities. Then, the Anonymous of Paris turns to ‘Hippocrates’, who is reported to have argued that the disease is at its peak, when the humour, which rushes to the head, destroys the function of intellect (νοῦς) in the brain.

Melancholy had been one of the most serious mental diseases since the time of Hippocrates, as is confirmed by the Hippocratic author of the *Epidemics*, Books V and VII, who reports on a patient named Parmeniscus, who had long been afflicted with what we may now call depressive disorder, which the author may have regarded as occurring due to black bile, before he was treated by a Hippocratic doctor.<sup>30</sup> Thus, it would seem to be legitimate for us to suppose that the ‘Hippocratic’ account of melancholy, as is reported by the Anonymous of Paris in the passage cited above, may reflect general contexts of encephalocentric arguments on various kinds of mental disturbances by the author of the Hippocratic treatise *On the Sacred Disease*, although there is no passage in the Hippocratic treatise, which seems to correspond to it with a specific mention of this humour.

In cases where Diocles is coupled by the Anonymous of Paris with Praxagoras in his discussion of their account of diseases, it is not always easy for us to understand Diocles’ own position, by distinguishing it from

<sup>29</sup> Anonymus Parisinus, *On Acute and Chronic Diseases*, 19 [=Fr. 108 P. van der Eijk (2000)].

<sup>30</sup> Hippocrates, *Epidemics*, V 84 [Jacques Jouanna (éd), *Hippocrate, Épidémies V et VII* (Paris: Les Belles Lettres, 2003), p.39] = VII 89 [Jouanna (2003), p.103]. The *Epidemics*, Books V and VII include some other interesting clinical cases of patients suffering from mental diseases, such as obsessional neurosis, etc. See *Epidemics*, V 81 and 82 [Jouanna (2003), pp.37–38] = VII 86 and 87 [Jouanna (2003), pp.101–102].

that of Praxagoras. In the passage cited above, however, the Anonymous of Paris explicitly describes both physicians as sharing in common the account of the cause of melancholy, by presupposing that psychic faculty resides in the heart as the central organ of a human body.

Thus, we may draw a conclusion from this point that the Anonymous of Paris may give us enough evidence to confirm the fact at least that Diocles as well as Praxagoras was standing in opposition to psychopathological arguments on the basis of encephalocentrism by the author of the Hippocratic treatise *On the Sacred Disease*.

## 2) The Case of Phrenitis (φρενίτις)

In the following passage of the treatise *On Acute and Chronic Diseases*, on the other hand, it would seem to be easier for us to specify Diocles' own position, as distinct with Praxagoras', because the Anonymous of Paris is referring here to psychopathological accounts of phrenitis (φρενίτις) by Erasistratus, Praxagoras, Diocles and 'Hippocrates' respectively.

### Φρενίτιδος αἰτία

Ἐρασίστρατος μὲν ἐξ ἀκολουθου τῶν ἑαυτοῦ δογμάτων φησὶ γίνεσθαι τὴν φρενίτιν κατὰ τι πάθος τῶν κατὰ τὴν μήνιγγα ἐνεργειῶν· οὗ γὰρ τόπου κατ' αὐτὸν νόησις φρόνησις ἐπὶ τούτου ἢ παρανόησις παραφρόνησις ἂν εἴη.

Πραξαγόρας δὲ φλεγμονὴν τῆς καρδίας εἶναι φησὶ τὴν φρενίτιν, ἧς καὶ τὸ κατὰ φύσιν ἔργον φρόνησιν οἶεται εἶναι· ὑπὸ δὲ τῆς φλεγμονῆς ταρασσομένην τὴν καρδίαν τοῦδε τοῦ πάθους συστατικὴν γίνεσθαι.

ὁ δὲ Διοκλῆς φλεγμονὴν τοῦ διαφράγματος φησὶν εἶναι τὴν φρενίτιν (ἀπὸ τόπου καὶ οὐκ ἀπὸ ἐνεργείας τὸ πάθος καλῶν) συνδιατιθεμένης καὶ τῆς καρδίας (ἔοικε γὰρ καὶ οὗτος τὴν φρόνησιν περὶ ταύτην ἀπολείπειν)· διὰ τοῦτο γὰρ καὶ τὰς παρακοπὰς ἔπεσθαι τούτοις.

ὁ δὲ Ἴπποκράτης τὸν μὲν νοῦν φησὶν ἐν τῷ ἐγκεφάλῳ τετάχθαι καθάπερ τι ἱερὸν ἄγαλμα ἐν ἀκροπόλει τοῦ σώματος, χρῆσθαι δὲ τροφῇ τῷ περὶ τὴν χορ<ι>οειδῆ μήνιγγα αἵματι· ὅταν δὲ τοῦτο ὑπὸ τῆς χολῆς φθορῆς ὑπαλλάττει καὶ τὸ τρεφόμενον τῆς ἰδίας δυνάμεως· οὗ γὰρ ἢ ἔντακτος καὶ κατὰ φύσιν κίνησις φρόνησις ἦν, τούτου ἢ ἄτακτος καὶ παρὰ φύσιν παραφρόνησις ἂν εἴη.<sup>31</sup>

The disease called phrenitis had been known since the time of Hippocrates as one of the most dangerous

<sup>31</sup> Anonymus Parisinus, *On Acute and Chronic Diseases*, 1 [=Fr. 72 P. van der Eijk (2000)].

acute diseases, accompanied by high fever and mental derangements, such as frenzy, frightful dreams, hallucinations, etc. In the passage cited above, Erasistratus of Ceos, who contributed a great deal to the discovery of the nerves in early Alexandria, is reported by the Anonymous of Paris to have argued on the ground of his own encephalocentric model of a human body that phrenitis occurs when the activities of the cerebral membrane, where the function of intelligence (φρόνησις) is placed, are affected.

Then, the Anonymous of Paris turns to the accounts of it by Praxagoras and Diocles respectively. Praxagoras is reported to have argued on his cardiocentric model of a human body that the disease occurs due to an inflammation of the heart in which the function of intelligence is located. Diocles, on the other hand, is reported to have argued that it occurs due to an inflammation of the diaphragm (διάφραγμα), because, the Anonymous of Paris explains, the physician wanted to derive the name of this disease from the Greek word 'φρένες' which denotes the diaphragm as a place or organ (τόπος) near the heart, but *not* from an intellectual activity, i.e. intelligence (φρόνησις). Diocles is also reported to have argued that the disease is accompanied by mental disturbances, because the heart, around where intelligence is located, is also affected by the inflammation of the diaphragm. The Anonymous of Paris completes his report, by arguing that 'Hippocrates' argued on his encephalocentric position that it occurs when the blood, which the brain as the seat of intellect uses as its nutriment, is corrupt because of bile rushing to the brain and changing it contrary to its nature.

Now, I wish to draw attention to a passage of the Hippocratic treatise *On the Sacred Disease*, which I think is useful for us to determine the relation between psychopathological arguments by the Hippocratic author and Diocles' account of the cause of phrenitis, as is reported by the Anonymous of Paris in the passage cited above.

Διότι φημι τὸν ἐγκέφαλον εἶναι τὸν ἐρμηνεύοντα τὴν ξύνεσιν. Αἱ δὲ φρένες ἄλλως ὄνομα ἔχουσι τῇ τύχῃ κεκτημένον καὶ τῷ νόμῳ, τῷ δ' ἐόντι οὐκ οὐδὲ τῇ φύσει· οὐδ' οἶδα ἔγωγε τίνα δύναμιν ἔχουσιν αἱ φρένες ὥστε φρονεῖν τε καὶ νοεῖν, πλὴν ἢν τι ὄνθρωπος ὑπερχαρῆ ἐξ ἀδοκίτου ἢ ἀνιαθῆ, πηδῶσι καὶ ἄλσις παρέχουσιν ὑπὸ λεπτότητος καὶ ὅτι ἀνατέτανται μάλιστα ἐν τῷ σώματι· καὶ κοιλίην οὐκ ἔχουσιν ἐς ἣντινα χρὴ δέξασθαι ἢ ἀγαθὸν ἢ κακὸν προσπίπτον, ἀλλ' ὑπὸ ἀμφοτέρων τούτων τεθορύβηνται διὰ τὴν ἀσθένειαν τῆς φύσιος. Ἐπεὶ αἰσθάνονται γε οὐδενὸς πρότερον τῶν ἐν τῷ σώματι ἐόντων, ἀλλὰ μάτην τοῦτο τὸ ὄνομα ἔχουσι καὶ τὴν αἰτίην, ὥσπερ τὰ πρὸς τῇ καρδίῃ ὠτα καλεῖται οὐδὲν ἐς τὴν ἀκοίην ξυμβαλλόμενα.

Λέγουσι δὲ τινες ὡς καὶ φρονέομεν τῇ καρδίῃ καὶ τὸ ἀνιώμενον τοῦτ' ἐστὶ καὶ τὸ φροντίζον. Τὸ δὲ οὐχ οὕτως ἔχει, ἀλλὰ σπᾶται μὲν ὥσπερ αἱ φρένες καὶ μᾶλλον διὰ ταύτας τὰς αἰτίας· ἐξ ἅπαντος τοῦ σώματος φλέβες ἐς αὐτὴν τείνουσι, καὶ

Ξυγκλείσασα ἔχει ὥστε αἰσθάνεσθαι ἢν τις πόνος ἢ τάσις γένηται τῷ ἀνθρώπῳ. Ἀνάγκη δὲ καὶ ἀνιώμενον φρίσσειν τε τὸ σῶμα καὶ συντείνεσθαι καὶ ὑπερχαίροντα τὸ αὐτὸ τοῦτο πάσχειν. Διότι ἢ καρδίη αἰσθάνεται τε μάλιστα καὶ αἱ φρένες τῆς μέντοι φρονήσιος οὐδετέρῳ μέτεστιν, ἀλλ' ἀπάντων τούτων αἴτιος ὁ ἐγκέφαλος ἐστίν.<sup>32</sup>

In this passage, the Hippocratic author, who has completed his arguments for his own encephalocentric position, now begins to argue against the view that the diaphragm is responsible for our psychic states and activities, including intelligence. The Hippocratic author explains that the diaphragm has nothing to do with our psychic functions, because it has obtained its name 'φρένες' only by chance and by custom, but not by its essence nor by its nature as the alleged seat of our psychic states and activities. He insists that it may only react physically because of its thin structure in cases when a human being has intense emotions in an unexpected manner. The Hippocratic author proceeds to argue against those who held that the heart (καρδίη) is the organ by which we are intelligent and also undergo various kinds of emotional states. This is not the case at all, he insists, because the heart, which has the structure of an organ for the vessels extending to it from the whole body, may only react physically whenever a human being suffers some kind of pain or tension.

His arguments against both of these views seem to indicate that they were older in the history of ancient Greek psychology, since indeed their origin may be traced back to the period of Homer (active around 750 BC), who locates psychological life of a human being in his or her breast. It should be noted, above all, that cardiocentrism was influential at the time of Diocles, because Aristotle was then one of the most representative proponents of it. Aristotle is often referring critically to those who insisted that the brain is responsible for our psychic states and activities, when he argues for his own cardiocentric model of animals, including humans, in his biological treatises, such as *On the Parts of Animals* and *On the Generation of Animals*.<sup>33</sup>

Diocles was a younger contemporary of Aristotle and may plausibly have been familiar with biological researches developed by the philosopher and his disciples in Lyceum. It would seem to be natural for us to suppose, then, that the physician may have shared Aristotle's cardiocentrism to form a psychopathological doctrine of his own. This would also lead us to have an idea that Diocles may have thought it necessary to respond to the arguments by the Hippocratic author against the views that the diaphragm or the heart is responsible for our psychic states and activities in the passage cited above from his treatise, because the Hippocratic author was undoubtedly regarded as one of the most representative proponents of encephalocentrism.

In the passage cited above from the treatise by the Anonymous of Paris, Diocles argued that phrenitis

<sup>32</sup> See Hippocrates, *Morb. Sacr.*, ch.17, Jouanna (2003), pp.30–31.

<sup>33</sup> See *De Partibus Animalium*, Book II 7, 652b6–27, *De Generatione Animalium*, Book II 6, 743b25–32.

occurs due to an inflammation of the diaphragm, which affects the heart, where intelligence is located, and so causes mental disturbances, with his remark that the disease derives its name from the Greek word 'φρένες', which denotes the diaphragm *as* a place or organ near the heart, but *not* from an intellectual activity, i.e. intelligence. I would insist that his arguments, as is reported by the Anonymus of Paris, should be taken as a response to the Hippocratic author, who argues against the view that the diaphragm is responsible for our psychic states and activities, including intelligence, because it may presuppose that the diaphragm (φρένες) would be the alleged seat of intelligence (φρόνησις).

The Hippocratic author insists that the diaphragm has nothing to do with any of our psychic functions, nor with intelligence, because, he claims, the diaphragm has obtained its name φρένες only by chance and custom, but not by its essence nor by its nature. Diocles would agree with the Hippocratic author to this point, as is indicated in his remark that phrenitis derives its name from the Greek word 'φρένες', which denotes the diaphragm *as* a place or organ near the heart, but *not* from an intellectual activity, i.e. intelligence. On the other hand, Diocles may be in opposition to the encephalocentric position of the Hippocratic author, because it does not seem to be incompatible with his own cardiocentric position that the heart, not the diaphragm, may be defined as the seat of our psychic functions, including intelligence.

### 3) The Case of Madness (Μανία)

Finally, I draw attention to another passage of the treatise *On Acute and Chronic Diseases*, because I think it is promising for us to confirm the fact that Diocles, who was well aware of psychopathological arguments by the author of the Hippocratic treatise *On the Sacred Disease*, may have taken over some of the crucial points from the Hippocratic author with a view to develop his own cardiocentric arguments concerning mental disturbances.

#### Μανίας αἰτία

Πραξαγόρας τὴν μανίαν γίνεσθαι φησι κατ' οἴδησιν τῆς καρδίας, οὔπερ καὶ τὸ φρονεῖν εἶναι δεδόξακε· μὴ ἐπιγίνεσθαι δὲ αὐτῇ πυρετοῦς διὰ τὸ μηδὲ τὰ ἐκτὸς οἰδήματα ποιεῖν πυρώσεις

ὁ δὲ Διοκλῆς ζέσιν τοῦ ἐν τῇ καρδίᾳ αἵματος φησιν εἶναι χωρὶς ἐμφράξεως γινομένην, διὰ τοῦτο γὰρ μηδὲ πυρετοῦς ἔπεσθαι· ὅτι δὲ ἐπὶ ζέσει γίνεται τοῦ αἵματος δηλοῖ ἢ συνθήεια, τοὺς γὰρ μανιώδεις τεθερμάνθαι φαμέν.

Ἴπποκράτης δὲ κατὰ τὴν ἐκχόλωσιν καὶ πύρωσιν τοῦ ἐν τῇ κεφαλῇ νοεροῦ πνεύματος συνίστασθαι τὴν μανίαν φησίν· εἶναι δὲ ταύτην τοπικὴν διὰ τὸ πυρετοῦς μὴ ἐπιφέρειν.<sup>34</sup>

<sup>34</sup> Anonymus Parisinus, *On Acute and Chronic Diseases*, 18 [=Fr. 74 P. van der Eijk (2000)].

In this passage, the Anonymous of Paris discusses Praxagoras, Diocles and 'Hippocrates' respectively on their accounts of madness (μανία). First, he discusses Praxagoras, by reporting that the physician attributed madness to a swelling of the heart, where he held that intelligence is also located. And then, he turns to Diocles, who is reported to have attributed it to a boiling of the blood in the heart (ζέσιν τοῦ ἐν τῇ καρδίᾳ αἵματος).

The Anonymous of Paris completes his arguments in the passage cited above, by referring to the encephalocentric account of madness by 'Hippocrates', who is reported to have attributed it to the dysfunction of psychic pneuma in the head, which occurs when it is mixed with bile and heated (τὴν ἐκχόλωσιν καὶ πύρωσιν τοῦ ἐν τῇ κεφαλῇ νοεροῦ πνεύματος). It should be noted that this 'Hippocratic' account would remind us of encephalocentric arguments about madness and other mental disturbances closely related to it by the author of the Hippocratic treatise *On the Sacred Disease*. I cite below the whole passage that runs as follows.

Γίνεται δ' ἡ διαφθορὴ τοῦ ἐγκεφάλου ὑπὸ φλέγματος καὶ χολῆς· γνώσει δὲ ἑκάτερα ὧδε· οἱ μὲν ὑπὸ φλέγματος μαινόμενοι ἡσυχοὶ τέ εἰσι καὶ οὐ βοηταὶ οὐδὲ θορυβῶδεις, οἱ δὲ ὑπὸ χολῆς κεκρακταὶ τε καὶ κακοῦργοι καὶ οὐ ἀτρεμαῖοι ἀλλ' αἰεὶ τι ἄκαιρον δρῶντες· ἦν μὲν οὖν συνεχέως μαίνωνται αὐταὶ αἱ προφασιές εἰσιν.

Ἦν δὲ δαίματα καὶ φόβοι παριστῶνται ὑπὸ μεταστάσιος τοῦ ἐγκεφάλου· μεθίσταται δὲ θερμαινόμενος, θερμαίνεται δὲ ὑπὸ τῆς χολῆς ὅταν ὀρμήσῃ ἐπὶ τὸν ἐγκέφαλον κατὰ τὰς φλέβας τὰς αἱματίτιδας ἐκ τοῦ σώματος, καὶ ὁ φόβος παρέστηκε μέχρι ἀπέλθῃ πάλιν ἐς τὰς φλέβας καὶ τὸ σῶμα ἔπειτα πέπνυται.

Ἀνιάται δὲ καὶ ἀσῶται παρὰ καιρὸν ψυχομένου τοῦ ἐγκεφάλου καὶ ξυνισταμένου παρὰ τὸ ἔθος· τοῦτο δὲ ὑπὸ φλέγματος πάσχει. Ἐπ' αὐτοῦ δὲ τοῦ πάθεος καὶ ἐπιλήθεται.

Ἐκ νυκτῶν δὲ βοᾷ καὶ κέκραγεν, ὅταν ἐξαπίνης ὁ ἐγκέφαλος διαθερμαίνηται· τοῦτο δὲ πάσχουσιν οἱ χολώδεις οἱ δὲ φλαγμαώδεις οὐ διαθερμαίνεται δὲ καὶ ἐπὶ τὸ αἷμα ἐπέλθῃ ἐπὶ τὸν ἐγκέφαλον πολὺ καὶ ἐπιζέσῃ· ἔρχεται δὲ κατὰ τὰς φλέβας πολὺ τὰς προειρημένας, ὅταν τυγχάνῃ ὠνθρωπος ἐνύπνιον ὀρῶν φοβερόν καὶ ἐν πόνῳ ἢ Ὡσπερ οὖν καὶ ἐγρηγοροῦσι τότε μάλιστα τὸ πρόσωπον φλογιᾶ καὶ οἱ ὀφθαλμοὶ ἐρεύθονται ὅταν φοβῆται καὶ ἡ γνώμη ἐπινοῇ τι κακὸν ἐργάσασθαι, οὕτω καὶ ἐν τῷ ὑπνῷ πάσχει. Ὅταν δ' ἐπέγρηται καὶ καταφρονήσῃ καὶ τὸ αἷμα πάλιν σκεδασθῇ ἐς τὰς φλέβας πέπνυται.<sup>35</sup>

<sup>35</sup> Hippocrates, *Morb. Sacr.*, ch.15, Jouanna (2003), pp.27–29.

In this passage, the Hippocratic author argues that people suffer from continuous madness due to the deterioration (διαφθορή) of the brain, which is caused not only through phlegm (φλέγμα) but through bile, with a description of symptoms characteristic of those who suffer from it through either of the two humours. And then, he proceeds to give an account of terrors and fears as mental disturbances closely related to madness, arguing that they occur due to an abnormal change in the brain, when it is heated by bile rushing into the brain from the body through the blood vessels (θερμαίνεται ὑπὸ τῆς χολῆς ὅταν ὀρμήσῃ ἐπὶ τὸν ἐγκέφαλον κατὰ τὰς φλέβας τὰς αἱματίτιδας ἐκ τοῦ σώματος). His account of these disturbances may deserve noting, I think, because it almost corresponds to the one ascribed to ‘Hippocrates’ by the Anonymous of Paris, who reports that ‘Hippocrates’ attributed madness to the dysfunction of psychic pneuma in the head, which occurs when it is mixed with bile and heated. It would follow, then, that the Anonymous of Paris, when reporting on ‘Hippocrates’ concerning his account of madness, may have relied on the relevant account given by the author of the Hippocratic treatise *On the Sacred Disease*.

Now, we return to the account of madness by Diocles, as is reported by the Anonymous of Paris in the passage cited above from the treatise *On Acute and Chronic Diseases*. It has turned out that Diocles may have been of a different view on the cause of madness from Praxagoras, for the physician is reported to have attributed it to a boiling of the blood in the heart (ζέσιν τοῦ ἐν τῇ καρδίᾳ αἵματος), while the other is reported to have attributed it to a swelling of the heart as the location of intelligence. It is evident that the account of madness by Diocles, as is reported by the Anonymous of Paris, may reflect his own psychopathological arguments about madness and other mental disturbances, as is confirmed by an interesting passage of the Latin medical treatise *On Chronic Diseases* by the fourth century AD medical author Caelius Aurelianus.

Item alii frigidis usi sunt rebus passionis causam ex fervore venire suspicantes, ut Aristoteles et Diocles, nescii quoniam fervor innatus sine dubio tumoris est signum et non, ut existimant, passionis est causa. quare peiorare necesse est et maiorem furorem fieri, cum frigida curatione corpora densantur.<sup>36</sup>

In this passage, Caelius Aurelianus argues against those who made use of cold substances for the cure of madness, because they supposed that the cause of the disease comes from heat (passionis causam ex fervore venire), as did Aristotle and Diocles. It is significant to note here that the medical author couples Aristotle and Diocles on their account of madness, reporting that they attributed it to ‘fervor’. P. van der Eijk translates the word into ‘heat’ in English, but I would rather translate it into ‘boiling or raging’, because I think that

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<sup>36</sup> See Caelius Aurelianus, *Tardae Passiones*, I 5, 173 [=Fr.75 P. van der Eijk (2000)], with an English translation of the passage given by P. van der Eijk (2000), pp.147–149.

'fervor' would be taken commonly as a Latin equivalent of the Greek word 'ζέσις'. On this point, I would also draw attention to a very well-known passage of the treatise *On the Soul*, where Aristotle introduces two different types of definition of anger (ὀργή), given by a dialectician and by a physicist respectively. According to the philosopher, the dialectician would define anger as the desire for revenge or something like that, while the physicist would define it differently from the former as a boiling of the blood or warm substance around the heart (ζέσιν τοῦ περὶ καρδίαν αἵματος καὶ θερμοῦ).<sup>37</sup> Of course, there is much room for us to argue about who it is that Aristotle may have had specifically in mind as the physicist, when referring to his definition of anger as a boiling of the blood or warm substance around the heart. However, we cannot rule out the possibility at all that the philosopher would rely here on a psychopathological account of madness by Diocles.<sup>38</sup>

Much more importantly, I would suggest that the physician might possibly have derived a most crucial point of his own psychopathological account of madness from psychopathological arguments by the author of the treatise *On the Sacred Disease*. In the last paragraph of the passage cited above from it, the Hippocratic author goes further on to give a description of those who shout and scream at nights, arguing that they occur, when the brain is suddenly overheated by bile. And then, he gives an additional account of overheating of the brain, when the blood rushes to it in abundance and boils (διαθερμαίνεται καὶ ἐπὶ τὸ αἷμα ἐπέλθη ἐπὶ τὸν ἐγκέφαλον πολὺ καὶ ἐπιζέση).

This account may deserve noting, especially because it may lead our attention to the report by the Anonymous of Paris on the account of madness by Diocles, who attributed it to a boiling of the blood in the heart (ζέσιν τοῦ ἐν τῇ καρδίᾳ αἵματος), *not* in the brain. It would seem to be conceivable, then, that Diocles may have intended to provide a corrective to the Hippocratic psychopathological arguments about mental disturbances, including madness, from a perspective of his own cardiocentric model of a human body.

## Conclusion

Thus far, I have discussed how Diocles of Carystus was related to Hippocratic medicine, with a specific focus on his psychopathological doctrine and its relation to Hippocratic psychopathology, as is represented by psychopathological arguments about various kinds of mental disturbances, including madness, by the author of the Hippocratic treatise *On the Sacred Disease*.

In the first section of my discussion, I made it clear that Diocles was well aware of some of the medical treatises preserved today in the Hippocratic Corpus, including the treatise *On the Sacred Disease*. I drew specific attention to the most intriguing passage of the medical treatise, sometimes known as *On the Seed*,

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<sup>37</sup> Aristotle, *De Anima*, I 2, 403 a29–403 b1.

<sup>38</sup> See P. van der Eijk (2001), p.153, who draws attention to the passage of Aristotle's *De Anima*, I 2, by pointing out that the account of madness by the physician, as is reported by the Anonymous of Paris, resembles the definition of anger by the physicist there.

which is preserved in a Brussels manuscript dating from the eleventh or twelfth century AD. In this passage, Diocles is presented by the Anonymous of Brussels as referring to the arguments in some of the Hippocratic treatises in a critical response to the haematogenetic view on the nature of the seed, with an intention to argue for his own view that the seed originates not from the blood, but from the nutriment for the animal body. Through an analysis of the passage in question, where Diocles is presented as mentioning the brain as the principal residence of the soul when referring to the Hippocratic position, I suggested that the physician may have had specifically in mind the definition of two functions of the brain as the central organ of a human body by the author of the Hippocratic treatise *On the Sacred Disease*.

In the second section of my discussion, I focused on Diocles' psychopathological doctrine and its relation to Hippocratic psychopathology, as is represented by psychopathological arguments by the author of the Hippocratic treatise *On the Sacred Disease*. I drew specific attention to some passages of the medical treatise, often known as *On Acute and Chronic Diseases*, with a view to confirm the fact that the physician may have given a critical response on the basis of his cardiocentric position to encephalocentric arguments by the author of the Hippocratic treatise *On the Sacred Disease*, while taking over some of the crucial points from the Hippocratic author to form a new psychopathological doctrine of his own.

In the passage, where the Anonymous of Paris couples Diocles and his younger contemporary Praxagoras on their account of melancholy, both of them are reported to have attributed it to the humour called black bile, which, gathering around the heart as the seat of the soul, affects its function as the principle of our psychic states and activities. I took this passage as evidence for us to confirm the fact that Diocles as well as Praxagoras was standing in opposition to the encephalocentric position of the Hippocratic author. Secondly, I drew attention to the passage of the treatise, where the Anonymous of Paris refers to Diocles' account of the disease called phrenitis. In this passage, the physician is reported to have attributed it to an inflammation of the diaphragm, which may affect the heart as the seat of intelligence, and so cause mental disturbances. I focused on his remark that the disease derives its name from the Greek word 'φρένες', which denotes the diaphragm as a place or organ near the heart, but not from an intellectual activity, i.e. intelligence, especially because the Hippocratic author argues against the view that the diaphragm is responsible for our psychic states and activities, including intelligence, with an indication that the diaphragm (φρένες) would be the seat of intelligence (φρόνησις). I suggested that Diocles' arguments should be taken as a critical response to the arguments by the Hippocratic author against the view on the diaphragm as the seat of our psychic states and activities for that reason.

And thirdly and most importantly, I focused on Diocles' account of madness in the passage of the treatise, where the Anonymous of Paris also reports on the 'Hippocratic' account of it. I hope to have made it clear that the 'Hippocratic' account may reflect psychopathological arguments by the author of the Hippocratic treatise *On the Sacred Disease*, because his account of madness and other mental disturbances related to it

almost corresponds to the one ascribed to 'Hippocrates' by the Anonymous of Paris. It should be noted, above all, that Diocles is reported to have attributed madness to a boiling of the blood in the heart, *not* in the brain, especially because the Hippocratic author gives an account of overheating of the brain, when the blood rushes to it in abundance and boils. I suggested that Diocles may have intended to provide a corrective to the Hippocratic psychopathological account of madness from a perspective of his own cardiocentric model of a human body.

Thus, we may draw a conclusion from these points that Diocles of Carystus contributed a great deal to the development of medical psychopathology in the fourth century BC, by giving a critical response on the basis of his cardiocentric position to psychopathological arguments by the author of the Hippocratic treatise *On the Sacred Disease*, while taking over some of the crucial points from the Hippocratic author to form a new psychopathological doctrine of his own.

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