

Sleep and Dreams in Ancient Medical Diagnosis and Prognosis

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Περὶ δὲ τῶν τεκμηρίων τῶν ἐν τοῖσιν ὕπνοισιν ὅστις ὀρθῶς
ἔγνωκε, μεγάλην ἔχοντα δύναμιν εὐρήσει πρὸς ἅπαντα.

Hip. Vict. IV. 86

Sleep and Dreams in Ancient Medical Diagnosis and Prognosis

(thesis abstract)

This thesis aims to improve our understanding of sleep and dreams in ancient medicine, and allot dreams their own place among ancient diagnostic and prognostic procedures. First, a systematic overview of Hippocratic and Galenic diagnostic and prognostic procedures is provided. As yet, no such overview is available for the Hippocratic Corpus. To form a diagnosis or prognosis, the Hippocratics and Galen apply observation and semiotic inference, combining universal, external information concerning matters like the weather and the environment, with individual information such as a patient's symptoms and regimen and, occasionally, his dreams. Secondly, the (physiological) processes, which, according to the Hippocratics, Galen and Aristotle pertain to sleep and waking, are described in detail. A systematic account of Galen's theory of sleep is offered here for the first time. In Galen and Aristotle's accounts especially, digestion takes a central position. In all three approaches, the primary qualities – hot, cold, wet, and dry – play an important role. Lastly, the discussion of the Hippocratic and Galenic approaches to dreams is taken beyond the standard treatises, and Aristotle's views are also examined in detail. The various Hippocratic ideas on dreams show much greater consistency than has previously been suggested. In a broad spectrum of views, *On Regimen* most strongly emphasises the role of dreams as significant indicators of the dreamer's physical condition. Galen, elaborating Hippocratic ideas, prominently includes factors outside of the dream in the medical interpretation of dreams. Aristotle offers the most fully fledged physiological account of the occurrence of dreams. As in *On Regimen*, he provides a theoretical basis for the use of dreams as a source of information about the condition of the body. This thesis shows that sleep and dreams were duly considered in ancient medical thought.

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Introduction

In antiquity, the importance of dreams as a means of communication for the gods, divine indicators of present or future events, or in a role of guidance was widely accepted: dreams and their content were associated with almost every aspect of ancient society.¹ In medicine, too, dreams played a role. On the one hand, the religious approach to healing included the practice of incubation – the cult of the healing god Asclepius is the most famous example of this.² Patients came to sleep in the sanctuary of their healing god, hoping to have a dream in which the god would, in some miraculous way, heal them or at least give advice on how to become healthy again.³ The cult of Asclepius has received ample attention in past scholarship,⁴ and will not be discussed in this thesis, which focuses on the more ‘rational’ medical approach to dreaming. On the other hand, then, rationally based medicine also made regular use of dreams – at least, according to previous scholarship: Hanson, for example, is convinced that “medicine, for all its rational and empirical methods, made regular use of the dream as a diagnostic tool”;⁵ Oberhelman contends that “the ancient physician accepted dreams for their diagnostic and prognostic utility. While we would classify medical diagnosis through dreams as superstitious quackery, if not magic, the ancients did not. (...) The significance of the reality of diagnostic and

¹ Cf. e.g. van der Eijk (2004), 192; Oberhelman (1993), 122; Winkler (1990), 25; Del Corno (1982), 55; Kessels (1969), 390; Dodds (1951), 108; Björck (1946), 307. Due to their divine origin, dreams were of special interest in cult life. Cf. Hanson (1980), 1398.

² In a few isolated areas, this cult is already attested in the sixth century BC in the Greek world, it only really took flight towards the end of the fifth century, after the god had been introduced into Athens around 420 BC –for sure not unrelated to impact of the great plague of Athens in 430-427/425 BC. Cf. *IGII*².4960a (= Edelstein & Edelstein (1945) T720: Vol.1, 374-5). See also Edelstein & Edelstein (1945) Vol.2, 55; Longrigg (1998), 13ff.

Other healing deities are for instance Amphiaraos of Oropos, and Sarapis. Cf. van Straten (1981), 98.

³ There is a clear difference between the objective of incubation between, for instance, the stories that have come down to us in the form of *iamata* found in Epidauros, which can be typified as miracle healing, and the divine medical advice patients sought from about the second century AD onward, of which Aelius Aristides is the most famous example. Ilberg is the first to note that the god “hat offenbar Medizin studiert, man sieht den Einfluss der Wissenschaft auf die Tempelpraxis um 100 nach Chr.” J. Ilberg (1905), *N.Jahrb.*, XV, 8.

⁴ Cf. e.g. Herzog (1931); Edelstein & Edelstein (1945); Kerenyi (1956); LiDonnici (1996); Schäfer (2000); Hart (2000).

⁵ Hanson (1980), 1396.

even mantic dreams was accepted by physicians from Hippocrates to Galen”,⁶ and later argues that the dream “became in function an integral part of the Graeco-Roman physician’s practice”;⁷ and Holowchak asserts that “In medicine, dreams often determined a course of treatment in both established secular practice and at religious healing sanctuaries.”⁸ Such notions with regard to the use of dream interpretation in ancient medical practice are usually based on a combination of two different facts. One fact is the above-mentioned widely accepted importance of dreams that existed in Graeco-Roman times, generated by the widespread belief in the divine origin of dreams. The most well-known expression of this belief is the dream cult of Asclepius, but it is also duly acknowledged in, for instance, chapter 87 of the Hippocratic *On Regimen IV*, despite the essentially rational character of the text. A second fact consists in the conspicuous use of dreams in three ancient medical texts: the Hippocratic *On Regimen IV*, the treatises on respectively sleep, dreams and divination in sleep in Aristotle’s *Parva Naturalia*, and Pseudo-Galen’s *On Diagnosis from Dreams*. A fourth source some find in Herophilos’ enigmatic views on dreams, reflected in a short text fragment on their classification, which lacks a contemporary explanatory interpretation. However, the majority of primary sources are conspicuously silent on the specific topic of medical dreams, and Herophilos’ alleged belief in medical dreams is disputable. True, diagnosis through dreams indeed seems to have been practised at the beginning of the fourth century BC, as is clear from *On Regimen IV*. Yet after this Hippocratic treatise, it is not until the second century AD that we encounter another strong medical source on the subject in the work of (Pseudo-) Galen, followed by some exhortative remarks in the writings of Rufus of Ephesus.⁹ It is by no means certain, then, that medical dream interpretation was as widely practised as it is so often claimed to have been. Oberhelman briefly touches upon this matter of

⁶ Oberhelman (1987), 48.

⁷ Oberhelman (1993), 156.

⁸ Holowchak (2001), 382. Additional examples are Miller (1994), 46, and Schäfer (2000), 270.

⁹ Ruf.Eph.*Quaest.Med.*28-33; *Fragm.*345-348.

popularity, but refrains from a clear assessment, veering off into a discussion on the differences between medical and non-medical specialists' views;¹⁰ and while Holowchak asks interesting and critical questions with regard to the practical side of the *On Regimen* IV theory, he skips the fundamental question of its importance in the ancient medical field.¹¹ Evidently, a re-evaluation of the sources is in order.

This thesis will focus on three main corpora: the Hippocratic Corpus, the Galenic Corpus, and the Aristotelian Corpus.¹² There are several reasons for this. First of all, their size, importance, and undeniable influence make these three collections of texts an excellent place to start a re-evaluation of existing views on ancient material. Secondly, the three corpora are interconnected: there are clear links between the Hippocratic Corpus and Aristotle,¹³ and the influence of both these corpora on Galen is indisputable. Thirdly, due to the richness of the material present in the three corpora, to discuss all sources on medical dreams is beyond the scope of this thesis.

When considering remarks on and mention of dreams in the Hippocratic Corpus, our first impression is that, at least by Hippocratic physicians, the *occurrence* of dreams was certainly considered in medical practice – usually alongside, or within the enveloping framework of sleep – but that their *contents* were of little consequence. The focus appears to have been on establishing *if* (troubling) dream experiences and anomalies in sleep behaviour occurred, and, when this was the case, determining, by means other than studying the contents of the dream, which underlying ailment might have caused it. It is well known that the treatise *On Regimen* IV is an exception to this way of thinking; as we shall see, it innovatively – as the author himself

¹⁰ Cf. Oberhelman (1993).

¹¹ Cf. Holowchak (2001).

¹² Searches of the Hippocratic and Galenic Corpora I have conducted mainly through the Thesaurus Linguae Graecae (TLG). Treatises outside of that collection of texts are, with a few exceptions, not included in my research. With regard to Aristotle, I have focused primarily on the treatises *On Sleep and Waking*, *On Dreams*, and *On Divination in Sleep* from Aristotle's *Parva Naturalia*.

¹³ Extensively discussed by Oser-Grote (2004).

claims – combines the physiological and the hermeneutic approach to the dream event, merging the practical and the interpretative, and giving importance not only to the phenomenon itself, but also to its contents, thus using dreams as a valuable aid to medical diagnosis. That the other Hippocratic treatises in the Corpus should disregard a potentially helpful aid in medical practice is noteworthy at the least, even if we take into consideration that a number of treatises predate *On Regimen* IV. Was its author really such an exception among his peers? Or was his approach accepted in Hippocratic medical views, and just had not had time to seep through? Alternatively, was the author perhaps less innovative than he claims to have been? As for evidence from the Galenic Corpus, the most elaborate, lucid, and frequently quoted evidence, *On Diagnosis from Dreams*, is spurious – though it must be acknowledged that a large part of it also occurs in Galen's commentary on the Hippocratic *Epidemics* I. Outside the corpora of medical writers, there is also evidence of an interest in medical dream interpretation. Clear examples are Aristotle, who, as we shall see in the discussion of his views in the third section of the third chapter, reserves a place for belief in the value of medical dream interpretation in his altogether incredulous physiological explanation of sleep and dreams,¹⁴ and Cicero, who, despite his refutation of dreams as prophetic aids, acknowledges the significance of dreams in their medical capacity.¹⁵ It would seem, then, that while the secondary sources extrapolate a great significance attributed to medical dream interpretation by ancient physicians, the primary sources offer only a few marked texts and passages, which, to be sure, form relatively little corroboration of such a confident claim. More evidence from the medical sources is required to justify it. Therefore, the first two sections of the third chapter will be dedicated to a careful examination of all the evidence on dreams available in the Hippocratic and Galenic Corpora, and to a discussion of the passages that have been dealt with in previous scholarship, as well as some new passages.

¹⁴ Explicitly at 463a3-7.

¹⁵ Cic.*Div.*II.142.

In an investigation concerning the status of dreams and dream interpretation in ancient medicine, we have to realise that it fell within two wider contexts. One of these is sleep. To better understand the dream and the circumstances that produce it, a discussion of ancient (medical) views on sleep is indispensable. In previous scholarship, sleep has received attention mostly as a topic of literary or philosophical studies, leaving the medical side poorly under-investigated. As it is, we only know that the Hippocratics and Galen regarded sleep – or the lack of it – in two ways: as a part of medical anamnesis, and as a constituent of dietetics, i.e. as an adjustable factor in a patient's regimen.¹⁶ Outside the medical sources, Aristotle is the only one to provide a complete treatment of sleep and dreams, and he explicitly links the physiological process of sleep to that of dreaming. Since sleep is a precondition for dreaming, it would be of great interest to understand the processes that the Hippocratic physicians and Galen believed to produce sleep, and to know if they, too, thought that sleep and dreams were connected on a physiological level, and whether or not the processes that led to sleep could be of influence on dream content. To resolve these matters, the second chapter of this thesis is dedicated to providing a better insight into Hippocratic, Galenic, and Aristotelian theories of sleep.

Secondly, medical dream interpretation is enveloped in the wider context of diagnostic and prognostic procedures. If we are to give dream interpretation a place among these procedures, it is imperative that we know what they encompass for both the Hippocratics and Galen. This area of ancient medicine has also received comparatively little attention. As regards the Hippocratic Corpus, Edelstein has written his famous article on 'Hippocratic Prognosis',¹⁷ Langholf has made an extensive comparison of prognosis and divination,¹⁸ and Potter and Jouanna have widely discussed Hippocratic nosology and practice,¹⁹ while others have provided

¹⁶ Cf. Jouanna (1999), 169-170; Byl (1998).

¹⁷ Edelstein (1967), 65-85.

¹⁸ Langholf (1990), 232-254.

¹⁹ Potter (1988) & (1990); Jouanna (1999).

more detailed discussions of one or several treatises, or parts of treatises,²⁰ and discussions of a more general nature.²¹ As for Galen, the only scholars to have dealt with his diagnostic and prognostic methods in detail are García-Ballester, Barnes, and Nutton.²² In the first chapter, a – necessarily cursory – overview will be given of Hippocratic and Galenic diagnostic and prognostic procedures. Which techniques and methods did they use, what did they deem important and what was thought safe to disregard, how did they approach the formation of a diagnosis or prognosis?

By investigating these three main topics, dreams, sleep, and diagnostic and prognostic procedures, we will attempt to provide an answer to the central question of this thesis: What was, for the Hippocratic authors and Galen, the status of dream interpretation among other ancient medical diagnostic and prognostic procedures?

²⁰ E.g. Stover (2005); Graumann (2000); García Novo (1995); Manetti (1990); Roselli (1990).

²¹ E.g. Nutton (2004); Lichtenthaeler (1982).

²² García-Ballester (1981;1994); Nutton (1993); Barnes (1991).

1 Diagnostic and Prognostic Procedures

In order to assess the status of dream interpretation in medical diagnosis and prognosis, it is necessary first to give a general outline of what these procedures involved for the Hippocratic authors and Galen. The objective of this chapter is to provide a general overview of the evidence for the theory and practice of diagnosis and prognosis available to us from the Hippocratic and Galenic corpora, to identify the specific diagnostic and prognostic tools the Hippocratic physicians and Galen had at their disposal, and the moments or circumstances in which these would have been used. However, our aim is not to describe every detail of diagnostic and prognostic procedures, but to create a setting in which the practice of dream interpretation can be placed. First, however, some preliminary remarks about diagnosis are in order.

Ever since Daremberg and Littré,¹ prognosis has been hailed not only as *the* accomplishment of Hippocratic medicine, but also as one of the most important activities of the Hippocratic authors.² Prognosis did not just refer to the future, but also took account of the past and the present. Additionally, it was not only a clever tool to win patients' trust and reverence as a knowledgeable physician and to secure one's livelihood by building a respectable reputation, but it was also potentially useful in a medical way, because it could help a physician to really deserve that good name and *be* the distinguished physician that truly healed his patients. In short, prognosis was an excellent thing for a physician to practise (ἄριστον ἐπιτηδεύειν).³ But what of Hippocratic diagnosis? Was there, in Hippocratic practice, no activity designed to enable the conscious recognition of a disease or ailment? Especially with regard to the Hippocratic Corpus, historical medical scholarship has been, and still is, somewhat ambivalent as to the status of diagnosis; indeed, some have even questioned its very existence in the Hippocratic writings. In

¹ Littré (1839); Daremberg (1855).

² Langholf (1990), 232; Edelstein (1967), 65.

³ Progn.1 (193,1 Alexanderson; 2.110 L.).

this debate – a more elaborate discussion of which can be found in Appendix A – I take the view that in the Hippocratic writings, there is, without doubt, evidence of diagnostic activity and, to a certain extent, even of the emergence of the concept of diagnosis. Of course, at all times we have to bear in mind that the diverse nature of the Corpus makes it impossible to create a generally applicable description of ‘Hippocratic’ diagnosis or prognosis.⁴

1.1 The Hippocratic Corpus

At the time of the Hippocratic Corpus, people lived in a positively ‘prognostischen Klima’, as Lichtenthaeler calls it.⁵ Prophecy and divination were a part of almost every aspect of life, and in this future-oriented society, those in the medical profession also developed a method of forecasting, one that was *technê*-specific: medical prognosis. However, as the business of prophesying the future was not always conducted by those who could base their practice on professional schooling, it was imperative that the Hippocratic physician do his utmost to disassociate his prognostic actions from the many forms of false divination that had found a foothold in ancient society; to be associated with soothsayers could be most unfortunate for a medical man’s reputation.⁶ A result of this was a schism within the medical profession, as *Prorrhetic* II makes clear:

Τῶν ἰητρῶν προρρήσιες ἀπαγγέλλονται συχναί τε καὶ καλαὶ καὶ θαυμασταί, οἷας ἐγὼ μὲν οὕτ’ αὐτὸς προεῖπον οὕτ’ ἄλλου τοῦ ἤκουσα προλέγοντος. Εἰσὶ δ’ αὐτῶν αἱ μὲν τοιαίδε· ἄνθρωπον δοκέειν ὀλέθριον εἶναι καὶ τῷ ἰητρῷ τῷ μελεδαίνοντι αὐτοῦ καὶ τοῖσιν ἄλλοισιν, ἐπεισιόντα δὲ ἰητρὸν ἕτερον εἰπεῖν ὅτι ὁ μὲν ἄνθρωπος οὐκ ἀπολείται, ὀφθαλμῶν δὲ τυφλὸς ἔσται· καὶ παρ’ ἕτερον δοκέοντα παγκάκως ἔχειν εἰσελθόντα προεῖπεῖν τὸν μὲν ἄνθρωπον ἀναστήσεσθαι, χεῖρα δὲ χωλὴν ἔξειν καὶ ἄλλῳ τῷ δοκέοντι οὐ

⁴ Nutton also remarks that “a more detailed reconstruction of the diagnostic methods of the Hippocratic physician would risk serious error in implying a dubious precision”. Cf. Nutton (1993), 9.

⁵ Lichtenthaeler (1982), 148.

⁶ Lloyd (1987), 42; Stover (2005), 353.

περιέσεσθαι εἰπεῖν αὐτὸν μὲν ὑγίεια ἔσεσθαι, τῶν δὲ ποδῶν τοὺς δακτύλους μελανθέντας ἀποσαπῆσεσθαι· καὶ τᾶλλα τοιουτότροπα προῤῥήματα λέγεται ἐν τοιούτῳ τῷ εἶδει. "Ἐτερος δὲ τρόπος προῤῥήσιος, ὠνεομένοισι τε καὶ διαπρησσομένοισι προειπεῖν τοῖσι μὲν θανάτους, τοῖσι δὲ μανίας, τοῖσι δὲ ἄλλας νόσους, ἐπὶ πᾶσι τούτοις τε καὶ τοῖσι προτέροις χρόνοις προφητίζειν καὶ πάντα ἀληθεύειν." Ἄλλο τε δὲ σχῆμα προῤῥήσεων τόδε λέγεται· τοὺς ἀθλητὰς γινώσκειν καὶ τοὺς τῶν νόσων εἵνεκα γυμναζομένους τε καὶ ταλαιπωρούοντας, ἥν τι ἢ τοῦ σιτίου ἀπολίπωσιν, ἢ ἑτεροῖόν τι φάγωσιν, ἢ ποτῷ πλέονι χρήσωνται, ἢ τοῦ περιπάτου ἀπολίπωσιν, ἢ ἀφροδισίων τι πράξωσι· τούτων πάντων οὐδὲν λαμβάνει, οὐδ' εἰ σμικρὸν τι εἴη ἀπειθήσας ὄνθρωπος. Οὕτως ἐξηκριβῶσθαι οὗτοι πάντες οἱ τρόποι λέγονται τῶν προῤῥησίων. Ἐγὼ δὲ τοιαῦτα μὲν οὐ μαντεύσομαι, σημεῖα δὲ γράφω οἷσι χρὴ τεκμαίρεσθαι τοὺς τε ὑγίειας ἔσομένους τῶν ἀνθρώπων καὶ τοὺς ἀποθανουμένους, τοὺς τε ἐν ὀλίγῳ χρόνῳ ἢ ἐν πολλῷ ὑγίειας ἔσομένους ἢ ἀπολουμένους.⁷

There are predictions of physicians bringing frequent, good and wondrous news, such as I have never predicted myself, nor even heard anyone else make. The following are [examples] of these. A man appears to be mortally ill both to the physician attending him and to others, but another physician comes in and says that the man will not die, but will be blind in both eyes. In another case where the person seemed to be doing very poorly, [a physician] came in and foretold that the man would recover, but be disabled in his arm, and to another person who seemed not to be going to survive, [a physician] said that he would become healthy, but that his toes would become black and gangrenous. Other such predictions are reported in like form. A different type of prediction is to foretell with regard to merchants and adventurers death to some, madness to others, and other diseases to others, and to make divinations about present and past times and tell the truth about everything. Another form of prediction is reported as follows: to know, with regard to athletes and in people exercising and exerting themselves because of illnesses whether they have left out something of their food, or have eaten something different, or have drunk too much, or omitted part of their walk, or had sex; none of those things escapes their notice, not even if the man disobeys but a little. All these kinds of predictions are said to be that accurate. But I shall not prophesy such things; rather I write down the signs from which it must be deduced which of the people will become healthy and which will die, and which of them will, in a short or long time, become healthy or perish.

⁷ *Prorrh.* II.1 (218,1-220,11 Potter; 9.6,1-8,5 L.). All translations are mine, unless indicated otherwise. I have consulted existing translations where possible.

The author of *Prorrhetic* II evidently wishes to set himself apart not only from diviners, but also from those of his colleagues who, according to him, practise prognosis as if it were divination.⁸ He describes how one is to recognise these impostors – they base their predictions on nothing substantial and they claim detail and precision, while in reality their predictions are pure divination.⁹ He then proceeds to explain how he differs from them, and how his prognostications are superior and far more reliable, because they are based on those signs and symptoms in a patient that are actually significant to his condition. Despite the dangers of wrongful association, the author still emphasises the importance of the ability to give accurate prognoses. As do other authors in the Hippocratic Corpus, the author of *Prognostic* informs us of his reasons:

Τὸν ἰητρὸν δοκεῖ μοι ἄριστον εἶναι πρόνοιαν ἐπιτηδεύειν· προγινώσκων γὰρ καὶ προλέγων παρὰ τοῖσι νοσέουσι τὰ τε παρεόντα καὶ τὰ προγεγονότα καὶ τὰ μέλλοντα ἔσεσθαι, ὅκοσα τε παραλείπουσιν οἱ ἀσθενέοντες ἐκδιηγούμενος πιστεύοιτο ἂν μᾶλλον γινώσκειν τὰ τῶν νοσεόντων πρήγματα, ὥστε τολμᾶν ἐπιτρέπειν τοὺς ἀνθρώπους σφέας ἐωυτοῖς τῷ ἰητρῷ. τὴν δὲ θεραπείην ἄριστα ἂν ποιέοιτο προειδὼς τὰ ἐσόμενα ἐκ τῶν παρεόντων παθημάτων. (...) Οὕτω γὰρ ἂν τις θαυμάζοιτό τε δικαίως καὶ ἰητρὸς ἀγαθὸς ἂν εἴη.¹⁰

I think it is an excellent thing for a physician to practise forecasting. For knowing and declaring beforehand unaided by the side of his patients the things that are, the things that were and the things that will be, supplying the things the sick have left out [of their story], he will be more believed to understand the matters of the patients, so that men will confidently turn themselves towards the physician for treatment. He will also carry out the treatment best if he can know beforehand what will be from the symptoms present. (...) For in this way he will justly win respect and be a good physician.

⁸ For an elaboration on the disdainful tone of the passage, see Stover (2005), 351ff. It is interesting to consider this passage in light of Stover's view that the ultimate goal of the author of *Prorrhetic* is to win students over to his methods of prognosis. Remarkably, physicians' aversion to being associated with diviners still existed in Galen's time. Galen defensively declares: "It is ridiculous to think that the prognoses made by physicians are like those which seers pronounce." Cf. *Const.Med.* 17 (116,1-2 Fortuna; 1.292 K.).

⁹ The Greek words used in the text to refer to divination have a pejorative quality. Cf. Stover (2005), 352-3; García Novo (1995), 545.

¹⁰ *Progn.* 1 (193,1-7/194,5-6 Alexanderson; 2.110; 112 L.).

Prognostic highlights two closely interrelated topics that were of great importance to a physician's success: his reputation, and the ability to provide good, or better, care. A physician's reputation was his most prized possession, for in an era when there was no such thing as a medical degree to attest to one's skill, all a physician had to prove his competence was his good name. There were several ways in which the ability to prognosticate could play a role in creating and upholding it. Not only looking to the future, but also drawing in the present and the past,¹¹ the ancient physician would paint his patient a very complete picture of his situation. This in itself might already corroborate a physician's proficiency in the eyes of a patient, but, as *Prognostic* points out, it would be even more impressive if he were to reach his conclusions all on his own, without asking anyone for additional information.¹² Moreover, if he inferred from the patient's present condition what must have happened before, and from there extrapolated what was going to happen in the future, this made him independent from information provided to him by the patient or third parties, who might lie or omit important information.¹³ In fact, *The Art* even complains that problems in diagnosis often do not lie with the physician, but with the patient:

Καὶ γὰρ δὴ, καὶ ἃ πειρῶνται οἱ τὰ ἀφανέα νοσέοντες ἀπαγγέλλειν περὶ τῶν νοσημάτων τοῖσι θεραπεύουσιν, δοξάζοντες μᾶλλον ἢ εἰδότες ἀπαγγέλλουσιν.¹⁴

Indeed, even those things which sufferers from unseen diseases attempt to report about their diseases to those who treat, they report based on what they think rather than on what they have seen.

¹¹ Cf. *Progn.* 1 (2.110 L.); *Epid.* 1.5 (2.634 L.).

¹² *Progn.* 1 (2.110 L.).

¹³ Edelstein (1967), 69.

¹⁴ *Art.* 11 (237,17-238,1 Jouanna; 6.20 L.).

If a patient reported symptoms in such a way as to confirm a theory or illness of his own devising, a physician would be hard pressed to find out the truth of the matter. If a physician could base his conclusions on his personal observations alone, he was more likely to reach a correct diagnosis and commence appropriate treatment. As a result of this, the patient's confidence in his physician was bound to increase, along with his willingness to submit to any treatment he would prescribe, making things easier for the physician and enhancing his overall chances of success.¹⁵ A wholly different advantage was that an understanding of a patient's condition in terms of past, present and future also enabled a physician to refuse treatment should he deem this necessary: if, for instance, a patient's imminent death was evident and unavoidable, medical intervention could of course only harm the treating physician's reputation, as such a case would end in death no matter what.¹⁶ The ability to prognosticate, then, was a powerful weapon in a physician's ongoing battle for public recognition.¹⁷

The simile of battle was also applied to medical practice itself. As von Staden points out, the Hippocratic Corpus is teeming with terminology drawn from athletic and military spheres which give the relation between the illness and those who fight it a positively agonistic character: the illness is the enemy, and the patient and his physician together wage war against it.¹⁸ Looking at medical practice in these terms helps to clarify why diagnosis and prognosis are so important: to be able to prognosticate is to know the enemy's next move. Good timing was crucial in the healing process on many levels. The author of *Prognostic*, for instance, even makes it sound like

¹⁵ Lichtenthaeler (1982), 148.

¹⁶ Von Staden lists four reasons found in the Hippocratic Corpus why a physician might choose not to treat someone: medical intervention can only aggravate the patient's condition; ineffective medical intervention will cause needless suffering; if a patient's death is unavoidable, medical intervention can only harm the treating physician's reputation; and lastly, awareness of the limitations of the medical craft may compel a physician to refrain from intervening. However, he also points out that not all Hippocratic authors subscribe to these arguments. Cf. von Staden (1990), 107ff.

¹⁷ Cf. also Edelstein (1967), 77.

¹⁸ Perhaps most clearly exemplified in *Epid.* I.5 (190,3-6 Kühlewein; 2.636 L.): 'The art consists of three parts: the disease, the patient, and the doctor. The doctor is a servant of the art; and the patient must fight the disease together with the doctor (ἡ τέχνη διὰ τριῶν, τὸ νόσημα καὶ ὁ νοσέων καὶ ὁ ἰητρός· ὁ ἰητρός ὑπηρέτης τῆς τέχνης· ὑπεναντιοῦσθαι τῷ νοσήματι τὸν νοσέοντα μετὰ τοῦ ἰητροῦ.)'. Cf. also von Staden (1990), 97-102; cf. also Stover (2005), 347.

patients only die if they send for a doctor too late or not at all.¹⁹ When a physician was indeed called in, he would rely on his diagnostic and prognostic skills to assess his patient's condition. In the worst cases, he might refuse treatment based on his findings, on the one hand on account of his reputation – as we have seen above, an early announcement of incurability would protect his name – but on the other hand because it might be in the patient's best interest.²⁰ If treatment was to be undertaken, a correct prognosis was indispensable for a physician who tried to provide his patient with the best care possible. The prognostic tactical advantage consisted of an understanding of the enemy that enabled pre-meditated actions and prevented wrong or unfortunate decisions – which might otherwise have occurred in the heat of the moment²¹ – while at the same time strengthening the physician's status in the eyes of his client. Additionally, knowledge of the direction a patient's condition was going to take was of course also the basis of any prophylactic treatment.²²

1.1.1 *Universal vs. individual*

An ancient physician, then, had no want for reasons to be able to practise good prognostication. So what did ancient prognosis encompass? For a start, the physician had to know what he was dealing with; in other words, he had to 'take stock', i.e. make an inventory of all the relevant information and symptoms available. Let us, by means of illustration, consider the diagnostic 'checklist' of *Epidemics I*, in which the author lists all the factors to which he has been paying attention for his diagnoses:

¹⁹ *Progn.I* (2.110 L.).

²⁰ Cf. von Staden (1990), 107ff.; Stover (2005), 348.

²¹ Edelstein (1967), 75.

²² Cf. Stover (2005), 348; Edelstein (1967), 70.

Τὰ δὲ περὶ τὰ νοσήματα, ἐξ ὧν διεγινώσκωμεν, μαθόντες ἐκ τῆς κοινῆς φύσιος ἀπάντων καὶ τῆς ἰδίης ἐκάστου, ἐκ τοῦ νοσήματος, ἐκ τοῦ νοσέοντος, ἐκ τῶν προσφερομένων, ἐκ τοῦ προσφέροντος – ἐπὶ τὸ ῥᾶον γὰρ καὶ χαλεπώτερον ἐκ τούτων –, ἐκ τῆς καταστάσιος ὅλης καὶ κατὰ μέρη τῶν οὐρανίων καὶ χώρης ἐκάστης, ἐκ τοῦ ἔθους, ἐκ τῆς διαίτης, ἐκ τῶν ἐπιτηδευμάτων, ἐκ τῆς ἡλικίης ἐκάστου, λόγοισι, τρόποισι, σιγῇ, διανοήμασιν, ὕπνοισιν, οὐχ ὕπνοισιν, ἐνυπνίοισιν, οἴοισι καὶ ὅτε, τιλμοῖσι, κνησμοῖσι, δακρύσιν, ἐκ τῶν παροξυσμῶν, διαχωρήμασιν, οὔροισιν, πτυάλοισιν, ἐμέτοισι, καὶ ὅσαι ἐξ οἴων ἐς οἶα διαδοχαὶ νοσημάτων καὶ ἀποστάσιες ἐπὶ τὸ ὀλέθριον καὶ κρίσιμον, ἰδρώς, ῥίγος, ψύξις, βῆξ, πταρμοί, λυγμοί, πνεύματα, ἐρεΐξεις, φύσαι, σιγῶσαι, ψοφώδεις, αἰμορραγίαι, αἰμορροῖδες. ἐκ τούτων καὶ ὅσα διὰ τούτων σκεπτέον.²³

The circumstances of the diseases, from which we have diagnosed, having learned from the common nature of all [persons and things] and from the individual nature of each [person and thing]; from the disease, from the patient, from the things administered, from the one who administers – because these things, too, contribute to an easier or more difficult development –, from the entire constitution (*katástasis*) and according to the parts of the heavens and of each country; from habits, regimen, occupational activities, and age of each [patient]; through utterances, manners, silence;²⁴ thoughts, sleep, insomnia, dreams – including their kind and timing –; plucking, itching, tears; from the paroxysms, stools, urines, excretions, vomits; the successions of diseases – including their number and which kinds led to which – and their culminations in death or *krisis*; sweat, rigor, chill, cough, sneezing, hiccups, breaths, belchings, flatulence – with or without a noise? – nose-bleedings, haemorrhoids. And based on these things [mentioned above], the things that happen because of these things [mentioned above] must be considered.

Immediately at the beginning of this chapter, we recognise the *modus operandi* he employs in the *katastaseis* that make up the first half of the treatise, and in which he gives information about the location, the character of the seasons and the weather (placed within the astronomical context derived from the movements of the heavenly bodies), the diseases that occurred, the patients, and

²³ *Epid.*I.10 (199,8-200,2 Kühlewein; 2.668-670 L.).

²⁴ This semicolon is mine, as I believe that utterances, manner and silence should be set apart from thoughts, sleep, insomnia, and dreams. Although I can see why Langholf has put them in one big group, when subdivided like this the latter group is reminiscent of *Epid.*VI.8.5 and VI.8.9-10, wherein that which occupies the mind, sleep, and dreams are all linked together, as will be shown in chapter three.

their symptoms. From this, and from the checklist, we can conclude that it is clearly important to this author to take into account general (external) circumstances, and build a general framework within which the case-specific aspects of individual patients can be interpreted; this enables a physician to distinguish between what is typical and what is atypical in every new case. The checklist illustrates more specifically what this means in practice. When faced with a patient, a physician should already be familiar with the diseases natural to the area, so that if the patient suffers from one of these, he will be able to recognise it.²⁵ In addition, he should acquaint himself with his patient – what is and what is not normal for him? what sort of constitution does he have? etc. – and with anything the patient may have ingested, of his own accord or because someone else has given it to him; in the latter case, it is also important to know what sort of person this was. In addition, the physician should factor in the external influence of a patient's surroundings. In other words, he is expected not only to have paid attention to and familiarised himself with the character of the heavens, the weather, and the nature of the country in which the patient lives, but also to know what sort of effects these may have on people in general, and on the patient specifically. Armed with this background knowledge, he can better interpret information concerning the patient himself, and, taking into account things like age and gender, habits, regimen followed, and activities undertaken, establish what is normal and healthy for his patient. This, then, forms the background against which the deviations from normality, i.e. symptoms of disease, can be set. The physician must observe his patient and pay attention to what he does and does not say, and to the way he behaves; he must investigate what is on a patient's mind, whether his sleeping behaviour shows anomalies, and what sort of dreams he has and when they occur; in case of exacerbation, it is important that he examine anything the patient discharges; he must

²⁵ Langholf interprets ἐκ τοῦ νοσήματος as 'the types of diseases or nosological units'. Cf. Langholf (1990), 197. Langholf's interpretation makes sense, since it is not very likely that a diagnostic/prognostic investigation should be undertaken when the disease in question is already known. In light of this, we could speculate that the author may be referring to the acquisition of some basic medical knowledge, i.e. what collection of diseases is already known. This could be supported by Robert's modified view of nosology and semeiotics (Robert (1983), 104, quoted below).

closely monitor the progression of the disease and know where it is headed; and lastly, he must attend to any other symptoms the patient may have. When all these things have been taken into account,²⁶ and it has become possible to give a thought-through, reliable diagnosis, the time has come to also consider *ὅσα διὰ τούτων*: when the past and the present have been assessed, it is time to turn to the future, and consider what is going to happen *because* all the other things in the list have happened. In other words, it is time to cast a prognosis.

The general gist of this succinct yet detailed enumeration was, to a greater or lesser extent, subscribed to by other authors of the Corpus. *On the Nature of Man*, for instance, says that to understand any case at hand wholly and to be able to offer the best treatment possible,

δεῖ τὸν ἰητρὸν ἐναντίον ἴστασθαι τοῖσι καθεστηκόσι νοσήμασι καὶ εἶδεσι καὶ ὥρησι καὶ ἡλικίῃσι (...).²⁷

(...) the physician must set himself against the established character of diseases, constitutions, seasons and ages (...).

If a physician wants to practise medicine well, he must have a sound knowledge of diseases, different constitutions,²⁸ be familiar with the character of the different seasons, and of the different ages of men. In other words, a physician must have a background of universal information against which he may set the specifics of each new individual case, a notion that harks back to what we have seen in the first half of *Epid.I.10*. We encounter something comparable again in *On Humours*:

²⁶ In the case-studies following the *katastaseis*, the *aition*, or the *prophasis* (sc. of a disease) is sometimes mentioned. Hankinson (1998), 57: 'A *prophasis* is an evident cause, and a sign of what is likely to happen. If the physician is aware of it, he will be able to modify his prognosis accordingly.'

²⁷ *Nat.Hom.9* (189,6-8 Jouanna; 6.52 L.).

²⁸ There is no specification as to what sort of constitutions the author is referring to, so we should bear in mind here that not only patients were thought to have constitutions, but also surroundings, diseases etc.

συγγενές εἶδος, χώρα, ἔθος, ἡλικία, ὥρη, κατάστασις νούσου, ὑπερβολή, ἔλλειψις, οἷσιν ὁκόσον λείπεται, ἢ οὐ.²⁹

Innate constitution, country, habit, age, season, constitution of the disease, excess, defect, both what sort of things are lacking and to what degree, or the contrary.

This physician too collects general information to offset case-specific symptoms. The author of *Airs, Water, Places* lays the emphasis a little differently, though it is clear that he greatly values the collection of general information before dealing with a specific case:

Ἱητρικὴν ὅστις βούλεται ὀρθῶς ζητεῖν, τάδε χρὴ ποιεῖν· πρῶτον μὲν ἐνθυμεῖσθαι τὰς ὥρας τοῦ ἔτεος, ὅτι δύναται ἀπεργάζεσθαι ἐκάστη· οὐ γὰρ εἰκόσιν ἀλλήλησιν οὐδὲν, ἀλλὰ πολὺ διαφέρουσιν αὐταί τε ἐωυτέων καὶ ἐν τῇσι μεταβολῇσιν· ἔπειτα δὲ τὰ πνεύματα τὰ θερμά τε καὶ τὰ ψυχρά, μάλιστα μὲν τὰ κοινὰ πᾶσιν ἀνθρώποισιν, ἔπειτα δὲ καὶ τὰ ἐν ἐκάστη χώρῃ ἐπιχώρια ἔοντα. δεῖ δὲ καὶ τῶν ὑδάτων ἐνθυμεῖσθαι τὰς δυνάμεις.³⁰

He who wants to follow the art of medicine in the right way, must do the following. First, he must think about the seasons of the year, about what effect each can have. For they are unlike one another, but are very different, both amongst themselves and at their changes. Furthermore, he must think about the warm and the cold winds, most about those that are common to all people, but also about those that are in each country separately. And he must think about the powers of the waters.

Airs, Waters, Places believes a physician should always consider the surroundings first. He should be well aware of the seasons and their effects, understand hot and cold winds, both the universal kinds and those that are typical to specific countries, and know what sort of effects

²⁹ *Hum.1* (64,1-3 Jones; 5.476 L.).

³⁰ *Aer.Aq.Loc.1* (24,3-9 Diller; 2.12 L.).

different types of water may have, since all of these are of greater or lesser influence on individuals and their health. A tendency from universal to specific is evident.

On Regimen represents a relatively new³¹ approach in medical practice, i.e. that of prophylaxis by adjusting a person's regimen. The author explains what sort of things have to be taken into consideration if regimen adjustment is to be effective:

Φημὶ δὲ δεῖν τὸν μέλλοντα ὀρθῶς συγγράφειν περὶ διαίτης ἀνθρωπίνης πρῶτον μὲν παντὸς φύσιν ἀνθρώπου γινῶναι καὶ διαγινῶναι (...), μετὰ δὲ ταῦτα σίτων καὶ ποτῶν ἀπάντων, οἷσι διαιτῶμεθα, δύναμιν (...), τῶν πόνων διαγινώσκειν τὴν δύναμιν καὶ τῶν κατὰ φύσιν καὶ τῶν διὰ βίης γινομένων, (...) καὶ οὐ μόνον ταῦτα, ἀλλὰ καὶ τὰς συμμετρίας τῶν πόνων πρὸς τὸ πλῆθος τῶν σίτων καὶ τὴν φύσιν τοῦ ἀνθρώπου καὶ τὰς ἡλικίας τῶν σωμάτων, καὶ πρὸς τὰς ὥρας τοῦ ἐνιαυτοῦ καὶ πρὸς τὰς μεταβολὰς τῶν πνευμάτων, πρὸς τε τὰς θέσιας τῶν χωρίων, ἐν οἷσι διαιτῶνται, πρὸς τε τὴν κατάστασιν τοῦ ἐνιαυτοῦ.³²

I say that he who wants to describe man's regimen correctly, must first know, and know thoroughly, man's nature in general. (...) after that, the power of all foods and drinks in our regimen (...) know thoroughly the power of natural or violent exercises (...) and not only those, but also the moderation of exercises in relation to the quantity of foods, and the nature of the person, and the ages of the bodies, and in relation to the seasons of the year and the changes of the winds, and the situation of the lands in which they live, and the constitution of the year.

Similar to what we have seen in other treatises, this author too considers the general things first: the common nature of man, the qualities of different food types, the effects different exercises have, seasons, winds, location, and the constitution of the year; in the more individual sphere, he mentions the quantity of food ingested by the patient, the patient's constitution, and his age. But to look only at these things is not sufficient, the author says; medical research that considers only these factors will let the presence of a lurking disease go unnoticed until it is too late. No, he has

³¹ Besides *On Regimen*, see also *Art. 3* (6.4-6 L.).

³² *Vict.I.2* (122,22-23/122,27-124,1/124,9-10/124,10-14 Joly/Byl; 6.468-470 L.).

something to add to the list, something that will enable a physician to provide prophylactic rather than remedial treatment:

ἐμοὶ δὲ ταῦτα ἐξεύρηται, καὶ πρὸ τοῦ κάμνειν τὸν ἄνθρωπον ἀπὸ τῆς ὑπερβολῆς, ἐφ' ὅποτερον ἂν γένηται, προδιάγνωσις. Οὐ γὰρ εὐθέως αἱ νοῦσοι τοῖσιν ἀνθρώποισιν ἐπιγίνονται, ἀλλὰ κατὰ μικρὸν συλλεγόμεναι ἀθρόως ἐκφαίνονται. Πρὶν οὖν κρατεῖσθαι ἐν τῷ ἀνθρώπῳ τὸ ὑγιὲς ὑπὸ τοῦ νοσηροῦ, ἃ πάσχουσιν ἐξεύρηταί μοι, καὶ ὅπως χρὴ ταῦτα καθιστάναι ἐς τὴν ὑγίειν.³³

What has revealed these things to me – even before a man falls ill due to excess (in whichever direction that excess might occur [viz. too much or too little]) – is *prodiagnôsis*. For diseases do not surface in people all of a sudden, but they develop little by little, without being noticed, and then suddenly appear. Thus I have discovered what people suffer before health is mastered by disease, and how one should change these things into a state of health.

The author claims to have found a way to tease out the presence of a disease before it has established itself enough to cause any clear symptoms, something he calls *prodiagnôsis*. The problem, he explains, is that people do not know how to see what cannot be perceived by the senses. His new way of looking at things will solve this:

Οἱ δὲ ἄνθρωποι ἐκ τῶν φανερῶν τὰ ἀφανέα σκέπτεσθαι οὐκ ἐπίστανται· τέχνησι γὰρ χρεώμενοι ὁμοίησιν ἀνθρωπίνῃ φύσει οὐ γινώσκουσι· (...) Ἐγὼ δὲ δηλώσω τέχνας φανεράς ἀνθρώπου παθήμασιν ὁμοίας εἶσας καὶ φανεροῖσι καὶ ἀφανέσι.³⁴

People do not know how to see the unseen things based on the things we do see; for they do not know that the techniques they use are similar to the nature of man. (...) I will show that the observable techniques are similar to man's ailments, whether those are observable or unobservable.

³³ *Vict.I.2* (124,28-126,3 Joly/Byl; 6.472 L.).

³⁴ *Vict.I.11; I.12* (134,21-22/136,5-6 Joly/Byl; 6.486-88 L.).

The new techniques he is talking about include the interpretation of dreams, to which he dedicates the whole fourth book of his series on regimen. But we will return to this topic in the third chapter.

It would seem, then, that the Hippocratics were well aware of the fact that universal factors and symptoms, such as location, climate, and general *katastaseis* had an important influence on individual patients, with specific characteristics themselves, and that it was imperative that they take all information into consideration. As Hankinson declares: ‘The Hippocratic writers are the first explicitly to distinguish between those internal, constitutional factors which render some people more susceptible to particular diseases than others, and the external triggering causes which set the pathogenic process in motion.’³⁵

1.1.2 *Universal*

A tendency we seem to be able to discern in the diagnostic activities described in most of the Hippocratic treatises is that the point of departure lies in the universal things surrounding the patient; from there they zoom in, as it were, on the individual. Let us have a closer look at the things in that universal sphere. In many of the Hippocratic treatises, there is mention of heavenly bodies, such as the Pleiades, Arcturus, and the Dog Star.³⁶ Why would the rising, presence, or setting of different constellations be of interest to a physician? The author of *On Regimen* reports their use:

τὸν μὲν ἐνιαυτὸν ἐς τέσσαρα μέρη διαιρέω, ἅπερ μάλιστα γινώσκουσιν οἱ πολλοὶ, χειμῶνα, ἡρ, θέρος, φθινόπωρον· καὶ χειμῶνα μὲν ἀπὸ πληιάδων δύσιος ἄχρι ἰσημερίας ἡαρινῆς, ἡρ δὲ ἀπὸ ἰσημερίας μέχρι

³⁵ Cf. Hankinson (1998), 55.

³⁶ For examples of this, see for instance the *Epidemics* treatises, *On Regimen*, and *Airs, Waters, Places*.

πληιάδων ἐπιτολῆς, θέρος δὲ ἀπὸ πληιάδων μέχρι ἀρκτούρου ἐπιτολῆς, φθινόπωρον δὲ ἀπὸ ἀρκτούρου μέχρι πληιάδων δύσιος.³⁷

I divide the year into four parts, which most people know best: winter, spring, summer, autumn. And winter lasts from the setting of the Pleiades until the spring equinox, spring from the spring equinox until the rising of the Pleiades, summer from the Pleiades until the rising of Arcturus, and autumn from Arcturus until the setting of the Pleiades.

It was vital for a physician to have some basic astronomical and meteorological knowledge: the stars were a way of identifying the seasons, which played an important role in ancient medical diagnosis. The author of *Airs, Waters, Places* explains:

περὶ δὲ τῶν ὥρέων ὧδε ἂν τις ἐνθυμεύμενος διαγιγνώσκει, ὁκοῖόν τι μέλλει ἔσεσθαι τὸ ἔτος, εἴτε νοσερὸν εἴτε ὑγιερὸν. ἦν μὲν γὰρ κατὰ λόγον γένηται τὰ σημεῖα ἐπὶ τοῖσι ἄστροισι δύνουσί τε καὶ ἐπιτέλλουσιν ἔν τε τῷ μετοπώρῳ ὕδατα γένηται καὶ ὁ χειμὼν μέτριος καὶ μήτε λίην εὐδῖος μήτε ὑπερβάλλων τὸν καιρὸν τῷ ψύχει ἔν τε τῷ ἥρῳ ὕδατα γένηται ὠραῖα καὶ ἐν τῷ θέρει, οὕτω τὸ ἔτος ὑγιεινότατον εἰκὸς εἶναι. ἦν δὲ ὁ μὲν χειμὼν αὐχμηρὸς καὶ βόρειος γένηται, τὸ δὲ ἥρ ἔπομβρον καὶ νότιον, ἀνάγκη τὸ θέρος πυρετῶδες γίνεσθαι καὶ ὀφθαλμίας ἐμποιέειν. ὁκόταν γὰρ τὸ πνίγος ἐπιγένηται ἐξαίφνης, τῆς [τε] γῆς ὑγρῆς ἐούσης ὑπὸ τῶν ὀμβρῶν τῶν ἐαρινῶν καὶ ὑπὸ τοῦ νότου, ἀνάγκη διπλόον τὸ καῦμα εἶναι ἀπὸ τε τῆς γῆς διαβρόχου ἐούσης καὶ θερμῆς καὶ ὑπὸ τοῦ ἡλίου καίοντος.³⁸

With regard to the seasons, one should consider them in the following manner, if one wants to understand how the year will be, either sickly or healthy. For if the signs are normal when the stars set and rise, if it rains in autumn, if winter is moderate and neither too mild nor excessively cold and when it rains at the right time in spring and summer, then the year is likely to be very healthy. But if winter is dry and visited by a Northern wind, and in spring it rains and a Southern wind blows, then summer is bound to be feverish and accompanied by eye-diseases. For when

³⁷ *Vict.* III.68 (194,22-196,2 Joly/Byl; 6.594 L.).

³⁸ *Aer.Aq.Loc.* 10 (46,16 – 48,4 Diller; 2.42 L.).

the stifling heat suddenly occurs, while the earth is still moist from the spring rains and Southern wind, the heat is bound to be redoubled, coming from the earth, which is soaked through and warm, and because of the burning sun.

The character of the seasons was of direct influence on public health. If the seasons behaved as they should, and the meteorological features were within normal parameters, it was to be expected that the year would be relatively disease-free. If, however, there was deviation from the most favourable meteorological pattern, this was bad news. Specific deviations had specific effects: the author mentions that if spring is rainy and has a wind coming from the south, this means that summer will see fever and afflictions of the eye. The essence of this is that normality is good, and abnormality is bad – a concept we encounter regularly in the Hippocratic Corpus.³⁹

On Humours is of a similar opinion:

ἤν αἱ ὥραι ὠραίως, εὐτάκτως, εὐκρινέας νούσους ποιέουσιν· αἱ δὲ ἐπιχώριοι τῇσιν ὥρησι νοῦσοι δῆλαι τοὺς τρόπους· ὅ τι δ' ἂν ἐξαλλάξῃ ἡ ὥρη, ὅμοια ἢ ἀνόμοια ἔσται τὰ νοσήματα, οἷα ἐν τῇ ὥρῃ ταύτῃ γίνεται· ἤν δ' ὁμοίως ἄγῃ, τοιουτότροπα καὶ ἐπὶ τοιοῦτο εἰλκυσμένα (...).⁴⁰

If the seasons proceed normally and regularly, they produce diseases that have proper *crises*. The diseases that are typical to the seasons are clear with regard to their ways. Depending on the changes in a season, the diseases such as arise in that season will be either like or unlike [the usual]. If the season proceeds normally, the diseases will be similar or somewhat similar to the normal (...).

Not surprisingly, diseases that ran their usual course were easiest to treat: a physician would know exactly what to do and how to time his treatment. But what happened if something was different?

³⁹ Very clearly in *On Regimen* IV; see 3.1.1 of this thesis.

⁴⁰ *Hum.*13 (84,14-20 Jones; 5.492-4 L.). An interesting detail is that in chapter 17 the author claims that since it is possible to make conjectures about diseases based on the seasons, it is, similarly, sometimes also possible to forecast rains, winds and droughts based on diseases. Cf. *Hum.*17 (5. 98 L.).

Ἐν τοῖσι καθεστέωσι καιροῖσι καὶ ὠραίως τὰ ὠραῖα ἀποδιδούσιν ἔτεσιν εὐσταθεῖς καὶ εὐκρινέσταται αἱ νοῦσοι, ἐν δὲ τοῖσιν ἀκαταστάτοισιν ἀκατάστατοι καὶ δύσκριτοι.⁴¹

In stable times and years which produce seasonal things at their proper times, diseases are dependable and have proper *krisis*, but in unstable years they are unstable and have difficult *krisis*.

Normal seasons produced diseases with a proper – and so predictable – *krisis*, the most crucial moment in a disease, aptly summarised by the author of *Affections*:

Κρίνεσθαι δὲ ἐστὶν ἐν τῇσι νούσοισιν, ὅταν αὖξωνται αἱ νοῦσοι, ἢ μαραίνωνται, ἢ μεταπίπτωσιν εἰς ἕτερον νόσημα, ἢ τελευτῶσι.⁴²

To come to *krisis* in diseases is when the diseases increase, or diminish, or change into another disease, or end.

If seasons did not run their normal course, diseases did not have normal *krisis*, which in essence meant that a physician would not be able to predict the course they were likely to take, and so was unable to give a correct prognosis. Naturally, the result of an inaccurate prognosis would be that a physician's ability to prescribe correct treatment became severely compromised. Was there a solution? The authors of the *Epidemics* treatises offered some assistance with their *katastaseis*, the descriptions of the constitution of an area in which the characterisation of seasons played a central role. If a physician was aware of the combination of specific *katastaseis* and the diseases they seemed to prompt, the chances he would recognise certain patterns could improve dramatically.

⁴¹ *Epid.* II.1.5 (20,9-12 Smith; 5.72-4 L.).

⁴² *Aff.* 8 (16,15-17 Potter; 6.216 L.).

There were other ways of knowing what the seasons held in store for man. The author of *On the Nature of Man* explains how the time of year was related to a predominance of one of the four humours he believed were contained in the body, and how this predominant humour might engender specific seasonal diseases:⁴³

Αὖξεται δὲ ἐν τῷ ἀνθρώπῳ τὸ μὲν φλέγμα τοῦ χειμῶνος· τοῦτο γὰρ τῷ χειμῶνι κατὰ φύσιν ἐστὶ μάλιστα τῶν ἐν τῷ σώματι ἐνεόντων· ψυχρότατον γάρ ἐστιν. (...) Τοῦ δὲ ἤρος ἔτι μὲν ἰσχυρόν τὸ φλέγμα ἐστὶν ἐν τῷ σώματι, καὶ τὸ αἷμα αὖξεται· τά τε γὰρ ψύχρα ἐξανίει καὶ τὰ ὕδατα ἐπιγίνεται, τὸ δὲ αἷμα αὖξεται ὑπὸ τε τῶν ὀμβρῶν καὶ ὑπὸ τῶν θερμημεριῶν· κατὰ φύσιν γὰρ αὐτῷ ταῦτ' ἐστὶ μάλιστα τοῦ ἐνιαυτοῦ· ὑγρόν τε γάρ ἐστι καὶ θερμόν. (...) τοῦ δὲ θέρους τό τε αἷμα ἰσχύει ἔτι, καὶ ἡ χολὴ αἶρεται ἐν τῷ σώματι καὶ παρατείνει ἐς τὸ φθινόπωρον· ἐν δὲ τῷ φθινοπώρῳ τὸ μὲν αἷμα ὀλίγον γίνεται· ἐναντίον γὰρ αὐτοῦ τὸ φθινόπωρον τῇ φύσει ἐστὶ· ἡ δὲ χολὴ τοῦ θέρους κατέχει τὸ σῶμα καὶ τοῦ φθινοπώρου. (...) Τὸ δὲ φλέγμα τοῦ θέρους ἀσθενέστατόν ἐστιν αὐτὸ ἐωυτοῦ· ἐναντίη γὰρ αὐτοῦ τῇ φύσει ἐστὶν ἡ ὥρη, ξηρὴ τε γὰρ ἐοῦσα καὶ θερμή. Τὸ δὲ αἷμα τοῦ φθινοπώρου ἐλάχιστον γίνεται ἐν τῷ ἀνθρώπῳ· ξηρόν τε γὰρ ἐστὶ τὸ φθινόπωρον καὶ ψύχειν ἤδη ἄρχεται τὸν ἄνθρωπον· ἡ δὲ μέλαινα χολὴ τοῦ φθινοπώρου πλείστη τε καὶ ἰσχυροτάτη ἐστίν. ὅταν δὲ ὁ χειμὼν καταλαμβάνῃ, ἢ τε χολὴ ψυχομένη ὀλίγη γίνεται, καὶ τὸ φλέγμα αὖξεται πάλιν ὑπὸ τε τῶν ὑετῶν τοῦ πλήθεος καὶ τῶν νυκτῶν τοῦ μήκεος. Ἔχει μὲν οὖν ταῦτα πάντα αἰδία τὸ σῶμα τοῦ ἀνθρώπου, ὑπὸ δὲ τῆς ὥρης περισταμένης τοτὲ μὲν πλείω γίνεται αὐτὰ ἐωυτῶν, τοτὲ δὲ ἐλάσσω, ἕκαστα κατὰ μέρος τε καὶ κατὰ φύσιν. (...) Ἰσχύει δὲ ἐν τῷ ἐνιαυτῷ τοτὲ μὲν ὁ χειμὼν μάλιστα, τοτὲ δὲ τὸ ἔαρ, τοτὲ δὲ τὸ θέρος, τοτὲ δὲ τὸ φθινόπωρον· οὕτω δὲ καὶ ἐν τῷ ἀνθρώπῳ τοτὲ μὲν τὸ φλέγμα ἰσχύει, τοτὲ δὲ τὸ αἷμα, τοτὲ δὲ ἡ χολή, πρῶτον μὲν ἡ ξανθὴ, ἔπειτα δ' ἡ μέλαινα καλεομένη. (...) Ὀφείλει οὖν, τούτων ὡδε ἐχόντων, ὅσα μὲν τῶν νοσημάτων χειμῶνος αὖξεται, θέρος φθίνειν, ὅσα δὲ θέρος αὖξεται, χειμῶνος λήγειν, (...) ὅσα δὲ γίνεται ἤρος νοσήματα, προσδέχεσθαι χρόνῳ φθινοπώρου τὴν ἀπάλλαξιν ἔσεσθαι αὐτῶν· ὅσα δὲ φθινοπωρινὰ νοσήματα, τούτων τοῦ ἤρος τὴν ἀπάλλαξιν ἀνάγκη γενέσθαι· ὅτι δ' ἂν τὰς ὥρας ταύτας ὑπερβάλλῃ νόσημα, εἶδέναι χρόνῳ ἐνιαύσιον αὐτὸ ἐσόμενον.⁴⁴

⁴³ It must of course at all times be borne in mind that not all treatises subscribed to the same ideas as to the humours present in the body – if they subscribed to any humoral theory at all.

⁴⁴ *Nat.Hom.* 7-8 (182, 4-6/15-19; 184, 3-6/9-19; 186, 5-9/13-20 Jouanna; 6.46-52 L.).

In winter, phlegm increases in a person; for of the humours in the body it is most similar to the nature of winter, for it is coldest. (...) In spring, phlegm is still strong in the body, and the blood increases; for the cold is lifting and the rains arrive, and the blood increases because of the rains and the hot days; for those things of the year are most similar to the nature of that [humour]; for the blood is moist and hot. (...) In summer, the blood is still strong, and the bile builds up in the body and persists until autumn. In autumn, the blood becomes less, for autumn is contrary to its nature. Bile predominates in the body in summer and autumn. (...) Phlegm is at its weakest in summer, for that season is contrary to its nature, being dry and hot. The blood becomes weakest in man in autumn, for autumn is dry and already begins to chill a person. Black bile is at its most and strongest in autumn. But when winter returns, bile, chilled, becomes less, and phlegm increases again because of the abundance of continuous rains and the longevity of the nights. So all [the humours] exist always in the human body, each of them now increasing, then diminishing according to its turn and nature, due to the cycle of the seasons. (...) And in the year, sometimes winter predominates, sometimes spring, sometimes summer, and sometimes autumn. Likewise, sometimes phlegm predominates in man, sometimes blood, sometimes bile, first yellow [bile], then what is called black [bile]. (...) Now, as these things are so, such diseases as increase in winter, must disappear in summer, such as increase in summer, must cease in winter (...). For such diseases as come into existence in spring, it is necessary to persist and for their retreat to be in autumn. Such diseases as are autumnal, of those the retreat has to occur in spring. But as to a disease that transgresses these seasons, one must know that it will last a year.

Individual seasons stimulate the dominance of specific humours – winter is good for phlegm, spring for blood, summer for yellow bile, and autumn, finally, for black bile – and specific humours engender specific diseases. If diseases are seasonal, they should keep to their own particular seasons, and end with the beginning of the next season. However, the author warns, if diseases cross the boundaries between the seasons, they will last an entire year. In short, there is a major difference between seasonal diseases and diseases that are unaffected by the change in seasons and dominance of humours. Of course, all of this is based on the assumption that the seasons always behave as they should. In seasons that run their course as expected, diseases should also run their normal course, and thus be recognisable to a physician, who will be able to

provide an accurate diagnosis and prognosis, and choose treatment accordingly.⁴⁵ *Epidemics II* explains how it is that autumn brings the most dangerous diseases:

Ἐν φθινοπώρῳ ὀξύταται νοῦσοι καὶ θανατωδέσταται. τὸ ἐπίπαν ὅμοιον τῷ δειλῆς παροξύνεσθαι· ὡς τοῦ ἐνιαυτοῦ περίοδον ἔχοντος τῶν νόσων οἷον ἡ ἡμέρη τῆς νόσου.⁴⁶

In fall, diseases are most acute and most lethal. In general, this is similar to paroxysm in the afternoon. Just like the year has a cycle of diseases, so the day has [a cycle] of [one] disease.

A year's seasons are its phases, each containing its own characteristic diseases. In the same way, each day of a disease had its phases, and the afternoon, most similar to the season of autumn, would be the most dangerous period of day for a patient. *Aphorisms* presents a catalogue that summarises which diseases are most likely to occur in which seasons:

19. Νοσήματα δὲ πάντα μὲν ἐν πάσῃσι τῇσιν ὥρῃσι γίνεται, μᾶλλον δ' ἓν κατ' ἐνίας αὐτέων καὶ γίνεται καὶ παροξύνεται.

20. Τοῦ μὲν γὰρ ἥρος, τὰ μελαγχολικὰ, καὶ τὰμανικὰ, καὶ τὰ ἐπιληπτικὰ, καὶ αἵματος ῥύσιες, καὶ κυνάγχαι, καὶ κόρυζαι, καὶ βράγχοι, καὶ βῆχες, καὶ λέπραι, καὶ λειχῆνες, καὶ ἄλφοι, καὶ ἐξανθήσιες ἐλκώδεις πλεῖσται, καὶ φύματα, καὶ ἀρθριτικά.

21. Τοῦ δὲ θέρος, ἓνιά τε τούτων, καὶ πυρετοὶ συνεχέες, καὶ καῦσοι, καὶ τριταῖοι πυρετοί, καὶ ἔμετοι, καὶ διάρροiai, καὶ ὀφθαλμῖαι, καὶ ὠτων πόνοι, καὶ στομάτων ἐλκώσιες, καὶ σηπεδόνες αἰδοίων, καὶ ἰδρωα.

22. Τοῦ δὲ φθινοπώρου, καὶ τῶν θερινῶν τὰ πολλὰ, καὶ πυρετοὶ τεταρταῖοι, καὶ πλανήτες, καὶ σπληῆνες, καὶ ὕδρωπες, καὶ φθίσιες, καὶ στραγγουρίαι, καὶ λειεντερῖαι, καὶ δυσεντερῖαι, καὶ ἰσχιάδες, καὶ κυνάγχαι, καὶ ἄσθματα, καὶ εἰλεοί, καὶ ἐπιληψίαι, καὶ τὰμανικὰ, καὶ τὰ μελαγχολικά.

⁴⁵ Cf. e.g. *Vict.* III.68 (6.594-604 L.) for different sorts of regimen in different seasons.

⁴⁶ *Epid.* II.1.4 (20,1-4 Smith; 5.72-4 L.). Cf. *Epid.* VI.1.11 (5.272 L.) for the same idea of parallels between the daily cycle of a disease and the cycle of diseases in a year.

23. Τοῦ δὲ χειμῶνος, πλευρίτιδες, περιπνευμονίαι, κόρυζαι, βράγχοι, βήχες, πόνοι πλευρέων, στηθέων, ὀσφύος, κεφαλαλγίαι, ἱλιγγοί, ἀποπληξίαι.⁴⁷

19. All diseases occur at all seasons, but some [diseases] are more likely to occur and exacerbate at certain of those [seasons].

20. For in spring occurs melancholia, madness, epilepsy, bloody flux, angina, colds, sore throats, coughs, skin eruptions turning usually to ulcers, tumours, and affections of the joints.

21. In summer, some of these [diseases occur], and also continuous fevers, ardent fevers, tertians, vomiting, diarrhoea, eye diseases, pains of the ears, ulcerations of the mouth, mortification of the genitals, sweats.

22. In autumn, most summer diseases also [occur], and quartans, irregular fevers, enlarged spleen, dropsy, consumption, strangury, lientry, dysentery, sciatica, angina, asthma, ileus, epilepsy, madness, melancholia.

23. In winter, pleurisy, pneumonia, lethargus, colds, sore throat, coughs, pains in the sides, chest and loins, headache, dizziness, apoplexy.

For *On Humours*, it was not just the time of year that had an influence on the kind of diseases that surfaced; the author draws the lay of the land into the equation:

αἱ δὲ χῶραι πρὸς τὰς ὥρας κακῶς κείμεναι τοιαῦτα τίκτουσι νοσήματα, ὅποιή ἂν ἡ ὥρη, ταύτῃ ὁμοίως.⁴⁸

Countries that are positioned badly with respect to the seasons produce diseases just like the season, in a way similar to it.

It did matter where people lived, as the character, or constitution, of an area was of direct influence on the constitutions of its inhabitants. The treatise *Airs, Waters, Places* is of course the ultimate advocate of this concept. An example:

⁴⁷ *Aph.* III.19-23 (128,13-130,11 Jones; 4.468-70 L.).

⁴⁸ *Hum.* 12 (84,4-6 Jones; 5.492 L.).

ἥτις μὲν πόλις πρὸς τὰ πνεύματα κεῖται τὰ θερμά – ταῦτα δ' ἔστι μεταξὺ τῆς τε χειμερινῆς ἀνατολῆς τοῦ ἡλίου καὶ τῶν δυσμέων τῶν χειμερινῶν – καὶ αὐτῇ ταῦτα τὰ πνεύματά ἐστι ξύννομα, τῶν δὲ ἀπὸ τῶν ἄρκτων πνευμάτων σκέπη, ἐν ταύτῃ τῇ πόλει [ἐστὶ] τὰ τε ὕδατα πολλὰ καὶ ὑφαλυκὰ ἀνάγκη εἶναι, μετέωρα τοῦ μὲν θέρεος θερμά, τοῦ δὲ χειμῶνος ψυχρά· τοὺς τε ἀνθρώπους τὰς κεφαλὰς ὑγρὰς ἔχειν καὶ φλεγματώδεις τὰς τε κοιλίας αὐτέων πυκνὰ ἐκταράσσεσθαι ἀπὸ τῆς κεφαλῆς τοῦ φλέγματος ἐπικαταρρέοντος τὰ τε εἶδεα ἐπὶ τὸ πλῆθος αὐτῶν ἀτονώτερα εἶναι, ἐσθίειν δ' οὐκ ἀγαθοὺς εἶναι οὐδὲ πίνειν· ὁκόσοι μὲν γὰρ κεφαλὰς ἀσθενέας ἔχουσιν, οὐκ ἂν εἴησαν ἀγαθοὶ πίνειν· ἡ γὰρ κραιπάλη μᾶλλον πιέζει. νοσήματά τε τάδε ἐπιχώρια εἶναι· πρῶτον μὲν τὰς γυναῖκας νοσερὰς καὶ ῥοώδεις εἶναι· ἔπειτα πολλὰς ἀτόκους ὑπὸ νούσου, καὶ οὐ φύσει τιτρώσκεσθαι τε πυκνά· τοῖσί τε παιδίοισιν ἐπιπίπτειν σπασμούς <τε> καὶ ἄσθματα <καὶ> ἃ νομίζουσι τὸ τε θεῖον ποιεῖν καὶ ἱερὴν νοῦσον εἶναι, τοῖσι δὲ ἀνδράσι δυσεντερίας καὶ διαρροίας καὶ ἡπιάλους καὶ πυρετοὺς πολυχρονίους χειμερινούς καὶ ἐπινυκτίδας πολλὰς καὶ αἱμορροΐδας ἐν τῇ ἔδρῃ. πλευρίτιδες δὲ καὶ περιπνευμονίαι καὶ καῦσοι καὶ ὁκόσα ὀξέα νοσήματα νομίζονται οὐκ ἐγγίγνονται τὰ πολλὰ· οὐ γὰρ οἷόν τε, ὅκου ἂν κοιλίαι ὑγραὶ ἔωσι, τὰς νούσους ταύτας ἰσχύειν. ὀφθαλμίαι τε ἐγγίγνονται ὑγραὶ καὶ οὐ χαλεπαὶ, ὀλιγοχρόνιοι, ἣν μὴ τι κατάσχη νόσημα ἐκ μεταβολῆς μεγάλης. καὶ ὁκόταν τὰ πεντήκοντα ἔτεα ὑπερβάλλωσι, κατάρροι ἐπιγενόμενοι ἐκ τοῦ ἐγκεφάλου παραπληκτικούς ποιεῦσι τοὺς ἀνθρώπους, ὁκόταν ἐξαίφνης ἡλιωθέωσι τὴν κεφαλὴν, ἢ ῥιγώσωσι. ταῦτα μὲν τὰ νοσήματα αὐτοῖσιν ἐπιχώρια ἐστὶ.⁴⁹

When a city lies in the direction of the warm winds, – i.e. between the winterly rising and setting of the sun – and in it these winds are daily, but it is sheltered from the Northern winds, in that city the waters are necessarily abundant and somewhat salty, and, lying close to the surface, they are hot in summer and cold in winter. The people have moist heads full of phlegm and their bellies are disturbed by condensations, when the phlegm runs downward from the head, their appearances are usually rather feeble, and they are not good at eating or drinking; for those who have weak heads, are not good at drinking; for they suffer more from intoxication. The following diseases are indigenous: first the women become somewhat ill and suffer from fluxes; then many become infertile because of disease, not naturally, and they have frequent miscarriages; the children suffer from convulsions and shortness of breath and those things that they say are divinely brought on and a sacred disease, but the men suffer from dysentery and

⁴⁹ *Aer.Aq.Loc.*3 (26,22-28,23 Diller; 2.14-18 L.).

diarrhoea, ague, chronic fevers in the winter, many pustules that are most painful by night, and from haemorrhoids. Pleurisy, pneumonia, ardent fever, and such as they call acute diseases do not occur often; for those diseases cannot be strong where the bellies are moist. Watery eye diseases occur, which are not bad and last only a short time, unless there is a disease due to a big change. And when they are over the age of fifty, catarrhs from the head cause people to suffer from hemiplegia, when they suddenly put their heads in the sun or chill it. These diseases are indigenous for them.

Every country, every area, every town had its specific characteristics, which inevitably had an influence on the natural constitution of the local inhabitants. In the case of the above example, the native people are likely to have a constitution that allows their heads to become moist and filled with phlegm. In the human body, within which health was the result of a balance between its constituents,⁵⁰ such an excess was bound to have consequences. Naturally, specific imbalances engendered specific diseases, which a smart physician, who had been paying attention to his surroundings, would be able to anticipate. For this very reason, the author of *Airs, Waters, Places* recommends that a physician, when he arrives in a new town, inspect its orientation, the quality of its waters and soil, and the prevailing regimen, so that he may have an inkling of the nature of the inhabitants and the diseases from which they are most likely to suffer, so that he would be least likely to be surprised, and perhaps even already devise possible treatments.⁵¹ The author of *Regimen* is of a comparable persuasion:

Χωρέων δὲ θέσιν καὶ φύσιν ἐκάστων ὧδε χρή διαγινώσκειν. Κατὰ παντὸς μὲν εἰπεῖν ὧδε ἔχει· ἢ πρὸς μεσημβρίην κειμένη θερμότερη καὶ ξηροτέρη τῆς πρὸς τὰς ἄρκτους κειμένης, διότι ἐγγυτάτω τοῦ ἡλίου

⁵⁰ Cf Hankinson (1998), 53: 'The paradigm of diseases as imbalance (which perhaps originated with Alcmaeon), and the associated allopathic principle of treatment, became dominant (although not unchallenged) throughout the history of Greek medicine.' Cf. also Nutton (2004), 47-8; Jouanna (1999), 262.

⁵¹ *Aer.Aq.Loc.*1-2 (24-26 Diller; 2.12-14 L.).

ἐστίν. Ἐν δὲ ταύτησι τῇσι χώρησιν ἀνάγκη καὶ τὰ ἔθνηα τῶν ἀνθρώπων καὶ τὰ φυόμενα ἐκ τῆς γῆς
ξηρότερα καὶ θερμότερα καὶ ἰσχυρότερα εἶναι ἢ ἐν τῇσιν ἐναντίησιν.⁵²

It is necessary to discern exactly the situation and the nature of each region. To speak in general terms, it is as follows: the [region] towards the South is warmer and dryer than the [region] lying towards the North, because it is closer to the sun. In those lands it is necessarily so that the races of people and the things that grow from the earth are dryer and warmer and stronger than [those] in the opposite [lands].

Each region must be considered separately, and its conditions must be duly noted. Proximity to the sun, for instance, is of considerable influence: in regions that are closer to the sun, both flora and fauna are drier and hotter, but also stronger, as the author explains.

Breaths is of the opinion that all diseases have one cause only: the air people breathe.⁵³

He reports:

ὅταν μὲν οὖν ὁ ἀήρ τοιούτοις χρωσθῇ μιάσμασιν, ἃ τῇ ἀνθρωπίνῃ φύσει πολέμιά ἐστίν, ἄνθρωποι τότε νοσέουσιν, ὅταν δὲ ἑτέρῳ τινὶ ἔθνει ζώων ἀνάρμοστος ὁ ἀήρ γένηται, κείνα τότε νοσέουσιν.⁵⁴

So when the air has been infected with such miasmas as are hostile to the human nature, then men will be ill; but when the air becomes unfit for another species of animal, those will be ill.

Nature of Man, on the other hand, is of the opinion that air is not the cause of *all* diseases, although this author, too, absolutely acknowledges the potentially ruinous influence of polluted air:

⁵² *Vict.* II.37 (158,1-6 Joly/Byl; 6.528 L.).

⁵³ *Flat.* 5 (108,8-109,2 Jouanna; 6.96 L.).

⁵⁴ *Flat.* 6 (110,6-9 Jouanna; 6.96-98 L.).

ὅταν δὲ αἱ νοῦσοι γίνωνται παντοδαπαὶ κατὰ τὸν αὐτὸν χρόνον, δῆλον ὅτι τὰ διαιτήματά ἐστιν αἷτια ἕκαστα ἐκάστοισι (...) ὅταν δὲ νοσήματος ἐνὸς ἐπιδημίη καθεστήκη, δῆλον ὅτι οὐ τὰ διαιτήματα αἷτια ἐστιν, ἀλλ' ὃ ἀναπνέομεν, τοῦτ' αἷτιόν ἐστιν, καὶ δῆλον ὅτι τοῦτο νοσερὴν τὴν ἀπόκρισιν ἔχον ἀνιᾷ.⁵⁵

But when diseases of all types occur at the same time, it is clear that each particular regimen is the cause in each case; (...) When, however, an epidemic of one disease is predominant, it is clear that not regimen is the cause, but what we breathe, that is the cause, and it is clear that it contains a noxious excretion.

A Hippocratic physician, then, would study the surroundings in which his patients lived, and familiarise himself with all the external aspects that might have an influence on his patients' constitutions. By studying the behaviour of the seasons, the character(istics) of the area – such as the lay of the land, and the quality of the waters and the air –, and the climate, a physician created a basis for further, individual, diagnosis and prognosis. In each new case, the physician would consider the patient's circumstances, and decide which of the surrounding influences he was to factor in with his diagnosis and prognosis. Thus, gaining familiarity with various aspects of a patient's surroundings was an important and very fundamental part of diagnosis and prognosis.

1.1.3 *Individual*

Now that the groundwork for diagnosis and prognosis has been laid, the next step takes us into the sphere of the individual patient, and we shall now consider which patient-specific factors were thought to be of diagnostic and prognostic significance. In several Hippocratic treatises, age is referred to as a factor that should be taken into account. It is, for example, mentioned in the checklist from *Epidemics* I quoted above, and in *On Regimen* age is also put forward as a point of

⁵⁵ *Nat.Hom.*9 (190,2-3/12-15 Jouanna; 6.52 L.).

consideration.⁵⁶ *Aphorisms* even provides a classification of diseases according to the various periods of life:

24. Ἐν δὲ τῇσιν ἡλικίῃσι τοιάδε συμβαίνει· τοῖσι μὲν σμικροῖσι καὶ νεογνοῖσι παιδίοισιν, ἄφθαι, ἔμετοι, βῆχες, ἀγρυπνίαι, φόβοι, ὀμφαλοῦ φλεγμοναὶ, ὠτων ὑγρότητες.

25. Πρὸς δὲ τὸ ὀδοντοφυεῖν προσάγουσιν, οὖλων ὀδαξήσμοι, πυρετοὶ, σπασμοὶ, διάρροιαι, μάλιστα ὅταν ἀνάγῃ τοὺς κυνόδοντας, καὶ τοῖσι παχυτάτοις τῶν παίδων, καὶ τοῖσι τὰς κοιλίας σκληρὰς ἔχουσιν.

26. Πρεσβυτέροις δὲ γενομένοις, παρίσθμια, σπονδύλου τοῦ κατὰ τὸ ἰνίον εἶσω ὥσιες, ἄσθματα, λιθιάσιες, ἔλμινθες στρογγύλαι, ἀσκαρίδες, ἀκροχορδόνες, σατυριασμοὶ, χοιράδες, καὶ τᾶλλα φύματα.

27. Τοῖσι δὲ πρεσβυτέροις καὶ πρὸς τὴν ἡβὴν προσάγουσι, τούτων τὰ πολλὰ, καὶ πυρετοὶ χρόνιοι μᾶλλον, καὶ ἐκ ῥινῶν αἵματος ῥύσιες.

28. Τὰ δὲ πλεῖστα τοῖσι παιδίοισι πάθεα κρίνεται, τὰ μὲν ἐν τεσσαράκοντα ἡμέρησι, τὰ δὲ ἐν ἑπτὰ μῆσιν, τὰ δὲ ἐν ἑπτὰ ἔτεσι, τὰ δὲ πρὸς τὴν ἡβὴν προσάγουσιν· ὅκοσα δ' ἂν διαμείνῃ τοῖσι παιδίοισι, καὶ μὴ ἀπολυθῇ περὶ τὸ ἡβάσκειν, ἢ τοῖσι θήλεσι περὶ τὰς τῶν καταμηνίων ῥήξιας, χρονίζειν εἴωθεν.

29. Τοῖσι δὲ νεηνίσκοισιν, αἵματος πτύσιες, φθίσιες, πυρετοὶ ὀξέες, ἐπιληψίαι, καὶ τᾶλλα νουσήματα, μάλιστα δὲ τὰ προειρημένα.

30. Τοῖσι δὲ ὑπὲρ τὴν ἡλικίην ταύτην, ἄσθματα, πλευρίτιδες, περιπλευμονίαι, λήθαργοι, φρενίτιδες, καῦσοι, διάρροιαι χρόνιαι, χολέραι, δυσεντερίαι, λειεντερίαι, αἰμορροΐδες.

31. Τοῖσι δὲ πρεσβύτησι, δύσπνοιαι, κατάρροιαι βηχώδεις, στραγγουρίαι, δυσουρίαι, ἄρθρων πόνοι, νεφρίτιδες, ἱλιγγοί, ἀποπληξίαι, καχεξίαι, ξυσμοὶ τοῦ σώματος ὅλου, ἀγρυπνίαι, κοιλίης καὶ ὀφθαλμῶν καὶ ῥινῶν ὑγρότητες, ἀμβλυωπία, γλαυκώσιες, βαρυηκοΐαι.⁵⁷

24. In the ages, the following things occur: to small and newborn children, aphtae, vomiting, coughs, insomnia, terrors, inflammation of the navel, watery discharges from the ears.

⁵⁶ Cf. *Epid.*I.10 (2.668-670 L.); *Vict.*I.2; *III.*67 (6.470; 592 L.).

⁵⁷ *Aph.*III.24-31 (130,12-134,3 Jones; 4.496-502 L.) The observant reader will note similarities between the diseases of the different ages and the diseases of the different seasons *Aphorisms* mentions.

25. At the approach of dentition, irritation of the gums, fevers, convulsions, diarrhoea, especially when cutting the canine teeth, and in the case of very fat children, and in those who have hard bellies.
26. Among those who are older occur affections of the tonsils, curvature of the vertebrae by the neck, asthma, stone, round worms, ascarides, warts, swellings by the ears, scrofulous swellings in the glands of the neck, and other tumours.
27. Older children and those approaching puberty suffer from most of the preceding maladies, from more chronic fevers, and from bleeding at the nose.
28. Most diseases of children reach a *krisis*, some in forty days, some in seven months, some in seven years, some at the approach of puberty; but such as persist in boys and do not cease at puberty, or, in the case of girls, at the commencement of menstruation, are likely to become chronic.
29. Young men suffer from spitting of blood, phthisis, acute fevers, epilepsy, and the other diseases, especially those mentioned above.
30. Those who are beyond this age suffer from asthma, pleurisy, pneumonia, lethargus, phrenitis, ardent fevers, chronic diarrhoea, cholera, dysentery, lientery, haemorrhoids.
31. Old men suffer from difficulty of breathing, catarrh accompanied by coughing, strangury, difficult urination, joint complaints, kidney disease, dizziness, apoplexy, cachexia, itching of the whole body, insomnia, watery discharge from bowels, eyes and nostrils, dullness of sight, glaucoma, hardness of hearing.

Prognostic, too, betrays an interest in the effects of the different life stages, and indicates a difference between patients under and over certain ages, as can be seen, for instance, in the author's warnings with regard to treatment of patients suffering from acute pain of the ear:

ἀπόλλυνται δὲ οἱ μὲν νεώτεροι τῶν ἀνθρώπων ἑβδομαῖοι καὶ ἔτι θᾶσσον ὑπὸ τούτου τοῦ νοσήματος, οἱ δὲ γέροντες πολλῶ βραδύτερον· οἱ γὰρ πυρετοὶ καὶ αἱ παραφροσύναι ἦσσαν αὐτοῖσιν ἐπιγίγνονται καὶ τὰ ὦτα αὐτοῖσι διὰ ταῦτα φθάνει ἐκπνύμενα· ἀλλὰ ταύτησι μὲν τῇσιν ἡλικίῃσιν ὑποστροφᾷ τοῦ νοσήματος ἐπιγενόμεναι ἀποκτείνουσι τοὺς πλείστους. Οἱ δὲ νεώτεροι, πρὶν ἐκπνῆσαι τὸ οὖς,

ἀπόλλυνται· ἐπεὶ ἦν γε ῥυῇ πῦον ἐκ τοῦ ὠτός, ἐλπίς περιγενέσθαι τῷ νεῷ, ἦν τι καὶ ἄλλο χρηστὸν αὐτῷ ἐπιγένηται σημεῖον.⁵⁸

The younger ones among men die from this disease on the seventh day or even earlier, the old much later; for the fevers and deliria manifest themselves less in them and because of that their ears quickly suppurate. But at this time of life, relapses occur, killing most. The younger ones die before the ear suppurates; when pus flows from the ear, hope remains for a young man, if there is also some other favourable symptom in him.

Apparently, people of different ages may well react differently to the same disease,⁵⁹ and events that are characteristic for diseases in the young may occur at entirely different moments for older people, making age a factor very much worthy of a physician's consideration; also, a physician will know it to be more worrying when someone displays symptoms of a different nature or at a different moment than is the norm for their age group, or seems to be suffering from a disease not usually encountered in their age group.

Unsurprisingly, children were a very vulnerable group – just as they are today – and the Author of *Epidemics* VI dedicates a chapter to children's afflictions and their consequences:

Νηπίοισι βηχίον ξὺν γαστρὸς ταραχῇ καὶ πυρετῷ ξυνεχεῖ σημαίνει μετὰ κρίσιν, διμηνιαίῳ τὸ ξύμπαν εἰκοσταίῳ, καὶ οἰδήματα ἐς ἄρθρα· καὶ ἦν μὲν κάτω τοῦ ὀμφαλοῦ καταστῇ, τὰ ἄνω ἐν τοῖσι κάτω ἄρθροισιν, ἀγαθόν· ἦν δὲ ἄνω, οὐχ ὁμοίως λύει τὴν νοῦσον ἢ μὴ ἐκπυήσῃ· τὰ δὲ ἐν ὤμοισιν ἐκπνεῦντα τοῖσι τηλικούτοις γαλιάγκωνας ποιεῖ· λύσειε δ' ἂν καὶ ἐλκυδρίων κάτω ἔκθυσις, ἢ μὴ στρογγύλα καὶ βαθέα ἦ, τὰ δὲ τοιαῦτα ὀλέθρια καὶ ἄλλως παιδίοισι· λύσειε δ' ἂν καὶ αἷμα ῥαγὲν, μᾶλλον δὲ τοῖσι τελειότεροις ἐπιφαίνεται.⁶⁰

⁵⁸ *Progn.*22 (223,9-224,5 Alexanderson; 2.174 L.).

⁵⁹ Cf. also *Prorrh.*II.11 (9.30-32 L.).

⁶⁰ *Epid.*VI.1.12 (12,6-14,10 Manetti/Roselli; 5.272 L.).

In infants, a cough together with an upset stomach and continuous fever indicates that, after the *krisis*, commonly in the second month and on the twentieth day, there will also be swellings in the joints. And if they settle below the navel, and the upper [material settles] in the lower joints, it is good; but if [they settle in] the upper [joints], it does not resolve the disease in a similar way, unless there is suppuration; suppurations in the shoulder of children of that age makes them weasel-armed;⁶¹ eruption of pustules below can resolve that, if they are not round and deep, but such ones are also in other ways deadly to children; it can also be resolved by a haemorrhage, but that happens more in older children.

Epidemics VI is aware of the existence of specific ailments that afflict mostly, or even only, children. He does not, however, see children as one homogenous group; based on their different reactions to ailments, he makes a distinction between younger and older children – as the last sentence of this passage illustrates – although it remains unclear where exactly he draws the line.

Another apparent distinctive factor was gender. A considerable number of treatises in the Hippocratic Corpus are explicitly dedicated to the diseases of women, mainly with regard to the subjects of fertility, conception, and pregnancy.⁶² However, since there was no dissection of the human body at the time of the Hippocratic authors, any beliefs or theories regarding the female body were based on assumption, imagination, chance observation, superficial anatomy disclosed by wounds or decay, deduction of the inside from the outside, and analogies with findings in dissected members of the animal kingdom.⁶³ While the external differences were of course apparent, many ancient medical theories, employing a ‘one sex model’, regarded woman simply

⁶¹ Manetti and Roselli explain that this paragraph is “relativo al valore prognostico delle apostasi nei bambini: un po’ di tosse, accompagnata da turbamenti del ventre e febbre continua indica che vi sarà apostasi nelle articolazioni. Il deposito verso il basso, al di sotto dell’ombelico, è segno buono; se invece si avrà nelle articolazioni superiori avrà effetto positive per la coluzione della malattia solo se accompagnato da suppurazione: ma una suppurazione alla spalla ha come effetto secondario una malformazione.” In addition, they notice a connection with *Epid.* IV.36 (5.178 L.), where coughs, upset stomach, and suppuration in the shoulder are also mentioned. Cf. Manetti/Roselli (1982), 13.

⁶² Jouanna discusses the topic in more detail. Cf. Jouanna (1999), 171ff.

⁶³ Cf. King (1998), 37.

as a ‘variation on man’.⁶⁴ Although there was an ongoing debate regarding the question to what extent women were like or unlike men,⁶⁵ the general Hippocratic view confirmed the structural and functional difference between the sexes.⁶⁶ Apart from the numerous diseases they could contract due to menstrual retention,⁶⁷ women might also respond differently to afflictions that assailed men as well, or the same symptoms might manifest themselves in a different manner. *Epidemics VI*, for instance, notices that

‘Ρίγηα ἄρχεται γυναιξὶ μὲν μᾶλλον ἀπὸ ὀσφύος καὶ διὰ νώτου, καὶ τότε ἐς κεφαλὴν· ἀτὰρ καὶ ἀνδράσιν ὀπισθεν μᾶλλον ἢ ἔμπροσθεν.⁶⁸

Shiverings begin, for women, more from the loins and along the back, and then to the head; but for men [they occur] more on the back than on the front.

Besides the fact that women might respond differently than men to afflictions from which women and men alike could suffer, there was also an awareness of the existence of diseases that were specific to the female gender. The author of *Diseases of Women I* emphasises the fact that not all physicians knew what to do when treating women:

“Αμα δὲ καὶ οἱ ἰητροὶ ἀμαρτάνουσιν, οὐκ ἀτρεκέως πυνθανόμενοι τὴν πρόφασιν τῆς νόσου, ἀλλ’ ὥς τὰ ἀνδρικὰ νοσήματα ἰώμενοι· (...) διαφέρει γὰρ ἡ ἵησις πολλὸν τῶν γυναικείων νοσημάτων καὶ τῶν ἀνδρείων.⁶⁹

⁶⁴ I adopt this phrase from Flemming (2000), 183. Although she speaks about Roman medicine, the same concept applies here.

⁶⁵ Aristotle, for instance, sees woman as a ‘deformed male’ or ‘mutilated male’. Cf. *GA* 728a17ff.; 737a.

⁶⁶ King (1998), 39. *Prorrhetic II*, for instance, dedicates a number of chapters to the discussion of matters surrounding pregnancy and pregnant women, and some ailments that seem to afflict only women; in chapter 24, he gives specific instructions as to the uterus. Cf. *Prorrh.* II.24-28 (9.54-60 L.).

⁶⁷ King (1998), 39.

⁶⁸ *Epid.* VI.3.11 (62,4-6 Manetti/Roselli; 5.296-8 L.).

⁶⁹ *Mul.* I.62 (114,2-4/6-7 Grensemann (layer C); 8.126 L.).

At the same time, physicians are mistaken, not finding out exactly the origin of the disease, but treating it like a masculine disease (...). For the treatment of women's diseases differs greatly from that of men's diseases.

Apparently, some physicians were insufficiently aware of the differences between the genders.

Some individual information was less obvious than age or gender, and could only be learnt by verbal communication with the patient.⁷⁰ In *Prognostic* we see how the physician complements the information he acquires via observation with the answers to questions he asks the patient. In case of one-sided empyema, for instance, the reader is told that

... καταμανθάνειν χρὴ ἐπὶ τούτοισι, μή τι ἔχει ἄλγῆμα ἐν τῷ πλευρῷ· καὶ ἥν θερμότερον ἢ τὸ ἕτερον τοῦ ἑτέρου κατακλινομένου ἐπὶ τὸ ἕτερον πλευρὸν ἐρωτᾶν, εἴ τι αὐτέῳ δοκεῖ βάρος ἐκκρέμασθαι ἐκ τοῦ ἄνωθεν. εἰ γὰρ εἴη τοῦτο, ἐκ τοῦ ἐπὶ θάτερά ἐστιν τὸ ἐμπύημα ἐφ' ὁκοτέρῳ ἂν πλευρῷ τὸ βάρος γίνηται.⁷¹

... it is necessary to inquire, in such a case, whether he has a pain in the side; and if one side be hotter than the other, ask him, while he is lying on the other side, if he seems to feel a weight hanging from the upper part. For if this is the case, the empyema is one-sided, on whichever side the weight occurs.

Family history is another example of information that can only be obtained by asking questions. Hippocratic physicians postulated the existence of inborn illnesses, and family history could be of influence in the formation of a diagnosis and prognosis: it was significant to know if more than one member of the same family had suffered from one specific disease. The author of *Prorrhetic II* gives several examples of potentially hereditary diseases and warns the reader:

⁷⁰ On the importance of questioning the patient, see Jouanna (1999), 134-6; Langholf (1990), 58.

⁷¹ *Progn.*16 (214.9-13 Alexanderson; 2.152 L.).

Περὶ δὲ ὑδρώπων τε καὶ φθισίων, καὶ τῶν ποδαγρῶν, τῶν τε καὶ λαμβανομένων ὑπὸ τῆς ἱερῆς νόσου καλεομένης, τάδε λέγω, κατὰ μὲν τι περὶ πάντων τὸ αὐτό· ᾧ γὰρ ξυγγενές τι τούτων τῶν νοσημάτων, ἔστιν εἰδέναι δυσάπλλακτον εἶναι.⁷²

About dropsies, consumptions and gouty conditions as well as persons taken by what is called the sacred disease, I say the following, that they all have something in common: for in whomever these diseases are to a degree hereditary, one should know that [such a disease] is hard to get rid of.

In other words, diseases could ‘run in the family’, and it could be a diagnostic advantage to be aware of this.

The sort of regimen a patient had been keeping to prior to his disease was also of diagnostic interest, and to reconstruct it, a physician was largely dependent on information provided by the patient – largely, but not entirely, because a physician might be able to make inferences based on what he observed. The author of *Prorrhetic* II, for instance, claims that it is possible to know whether or not someone is keeping to his prescribed regimen, and tells the reader how to recognise deviations from a healthy regimen.⁷³ *Epidemics* II explains how a person’s way of life may effect tell-tale signs in a person’s appearance.⁷⁴ Regimen covered *every* aspect of a person’s lifestyle, from what he had been eating, and what sort of exercises he had been doing to their bathing habits, their sleeping behaviour and their sexual activity. The author of *Epidemics* VI reminds the reader we guard our health through

... διαίτησι, σκέπησι, πόνοισιν, ὕπνοισιν, ἀφροδισίοισι, γνώμῃ.⁷⁵

... diet, covering, exercise, sexual activity, mental activity.

⁷² *Prorrh.* II.5 (234,23-236,1 Potter; 9.20 L.).

⁷³ *Prorrh.* II.3-4 (9.10-20 L.).

⁷⁴ *Epid.* II.1.8 (5.80 L.).

⁷⁵ *Epid.* VI.8.23 (184,13-14 Manetti/Roselli; 5.352 L.).

If, then, these are the things that produce health, they can also produce illness when employed in a manner unhealthy for the patient.⁷⁶ This is the basis of the rising development of regimen treatment, i.e. the adjustment of a patient's regimen to produce a wholesome effect upon the patient's constitution, at the time of the Hippocratic Corpus. *Regimen in Acute Diseases* points out that this branch of medicine is a relatively new one:

ἀτὰρ οὐδὲ περὶ διαίτης οἱ ἀρχαῖοι συνέγραψαν οὐδὲν ἄξιον λόγου· καὶ τοι μέγα τοῦτο παρήκαν.⁷⁷

But the ancients wrote nothing worth mentioning about regimen; although this is a big omission.

The Hippocratic Corpus contains much information that would have helped a physician assess the information a patient provided with regard to his lifestyle. The second book of *Regimen*, for instance, contains a sizeable number of chapters on the powers of foods, as does *Affections*.⁷⁸ *Regimen* II also explains the effects of different types of baths,⁷⁹ and informs the reader of the consequences of different actions and exercises.⁸⁰ Though most of this information would have been used in the treatment phase, rather than in the diagnostic phase, there were still certain elements that could be of use in diagnosis. This is confirmed by what we find in *Aphorisms*: a few of the remarks concerning the various aspects of regimen have an immediate bearing on diagnosis or prognosis; spontaneous weariness, for instance, is an indication of the presence of a disease,⁸¹ and an excessive intake of food will probably cause illness.⁸² There are three ways in

⁷⁶ Moderation, for instance, was a very important guideline in these matters. Cf. 2.1.1 of this thesis for an elaboration of this concept.

⁷⁷ *Vict.Morb.Acut.*1 (37,2-4 Joly; 2.226 L.).

⁷⁸ *Vict.*II.39-56 (6.534-570 L.); *Aff.*39-61 (6.248-270 L.).

⁷⁹ *Vict.*II.57 (6.570 L.).

⁸⁰ *Vict.*II.39-56 (6.570-592 L.).

⁸¹ *Aph.*II.5 (4.470 L.).

⁸² *Aph.*II.17 (4.474 L.).

which this information could be put to use in diagnosis. Firstly, a physician could, based solely on his medical knowledge, draw a conclusion with regard to the cause of an illness – *Prognostic* would probably typify this as declaring the past or present unaided by the patient or others. Secondly, the physician could attempt to supplement a patient's account with his own ready knowledge about illnesses and their causes – in *Prognostic*: filling in the gaps in the account given by the sick. Lastly, the physician could of course simply verify his suspicions by talking to the patient and asking him questions, which would be the easiest way – though perhaps frowned upon by the author of *Prognostic*. Information concerning a patient's regimen could be important in diagnosis and prognosis, and the best way to obtain it was usually through communication with the patient. Though it perhaps seems fairly straightforward, this communicative process should not be underestimated: it must often have required considerable skill, and it is only right that Jouanna should point out that "To know how to question a patient was indispensable."⁸³

1.1.4 *The five senses*

Even though all the diagnostic details that have been discussed so far were important contributors to the accuracy of diagnosis and prognosis, the most crucial information was acquired through observation. The most important signs, those that indicated impending death, or the opposite, imminent recovery, were often signs that were clearly perceptible. The famous *Facies Hippocratica*, for example, which not only in Hippocratic times,⁸⁴ but even today, is associated with looming death, is described in *Prognostic*:

⁸³ Jouanna (1999), 135.

⁸⁴ As all the treatises of the Hippocratic Corpus together cover approximately 6 centuries, it is perhaps useful to clarify that by 'Hippocratic times' I mean the period covering roughly the second half of the fifth century and the fourth century BC, in which the majority of the Hippocratic treatises are thought to originate. Cf. Jouanna (1999), 373-416.

ῥῖς ὀξεῖα, ὀφθαλμοὶ κοῖλοι, κρόταφοι συμπεπτωκότες, ὦτα ψυχρὰ καὶ ξυνεσταλμένα, καὶ οἱ λοβοὶ τῶν ὠτῶν ἀπεστραμμένοι, καὶ τὸ δέρμα τὸ περὶ τὸ μέτωπον σκληρόν τε καὶ περιτεταμένον καὶ καρφαλέον ἐόν καὶ τὸ χρῶμα τοῦ ξύμπαντος προσώπου χλωρόν ἢ μέλαν ἐόν.⁸⁵

Sharp nose, hollow eyes, sunken temples, cold and contracted ears, the lobes of the ears turned outward, the skin around the brow hard and tense and parched, and the colour of the face in general being yellow or black.

If trained well, a physician would know at once that he was dealing with a very serious, and probably even hopeless case when he saw a patient with such a countenance. But there was more to observation than sight. Although the eyes were of course the first to be employed upon meeting a patient, a physician would appeal to all his five senses in order to reach his final diagnosis or prognosis.⁸⁶ The author of *In the Surgery* typifies an examination:

Ἡ ὅμοια ἢ ἀνόμοια, ἐξ ἀρχῆς ἀπὸ τῶν μεγίστων, ἀπὸ τῶν ῥηίστων, ἀπὸ τῶν πάντη πάντως γνωσκομένων, ἃ καὶ ἰδεῖν, καὶ θιγεῖν, καὶ ἀκοῦσαι ἔστιν, ἃ καὶ τῇ ὄψει, καὶ τῇ ἀφῇ, καὶ τῇ ἀκοῇ, καὶ τῇ ῥινί, καὶ τῇ γλώσσει, καὶ τῇ γνώμῃ ἔστιν αἰσθέσθαι, ἃ, οἷς γινώσκομεν ἅπασιν, ἔστιν γινῶναι.⁸⁷

What is like or unlike [the normal], beginning with the biggest signs, and those easiest to recognise, open to all kinds of investigation, which can be seen, touched and heard, which can be perceived by sight, touch, hearing, the nose, and the tongue, and by the intellect, which can be known by all the things by which we know.

Evidence of sense perception in the service of clinical observation we find throughout the Hippocratic Corpus, which is riddled with symptoms that have, in one way or another, been obtained through perception: the treatise *Prognostic* is one big example of how sense-perception

⁸⁵ *Progn.*2 (194,13-195,2 Alexanderson; 2.112-4 L.).

⁸⁶ Cf. Jouanna (1999), 291-301.

⁸⁷ *Off.Med.*1 (30,2-6 Kühlewein; 3.272 L.).

was the very basis of a reliable prognosis, *Humours* contains several catalogues of symptoms,⁸⁸ and the checklist in *Epidemics* I.10 of course provides the ultimate emphasis on the significance of perception for diagnosis and prognosis. *Epidemics* IV advises the reader that using the senses does not necessarily mean using one's *own* senses:

“Ὅτι τοῖσιν ὄμμασι, τοῖσιν οὐάσι, τῇσι ῥίσι, τῇ χειρὶ αἱ κρίσιες, καὶ τὰλλα οἷσι γινώσκομεν. ὁ ἀσθενέων, ἢ ἰδὼν ἢ θιγὼν ἢ ὀσφρανθεὶς ἢ γευσάμενος, τὰ δ' ἄλλα γνούς. τρίχες, χροιή, δέρματα, φλέβες, νεῦρα, μύες, σάρκες, ὀστέα, μυελὸς, ἐγκέφαλος, καὶ τὰ ἀπὸ τοῦ αἵματος, σπλάγχνα, κοιλίη, χολή, οἱ ἄλλοι χυμοὶ, ἄρθρα, σφυγμοὶ, τρόμοι, σπασμοὶ, λύγγες, ἀμφὶ πνεῦμα, ἄφοδοι, οἷσι γινώσκομεν.”⁸⁹

We know *krises* by the eyes, the ears, the nose, and hands, and the other things by as many [ways]. The ill person: seeing, touching, smelling, or tasting, and knowing in the other ways. Hair, complexion, skin, veins, tendons, muscles, flesh, bones, marrow, brain, the things from blood, the intestines, belly, bile, the other humours, joints, pulses, trembling, spasms, hiccoughs, things related to breathing, the exits, such [are] the things by which we [i.e. physicians] know.

While the physician, with his medical training, can of course recognise symptoms more easily, it is the patient who can observe his own sensations most accurately. Moreover, he has additional means of gaining knowledge.⁹⁰ This passage also provides a concise overview of the parts and processes of the body that might be observed in medical examination – though not all of the items on the list were to be reached or observed with equal ease.

⁸⁸ Notably *Hum.*2 and 4 (5.478; 480-482 L.).

⁸⁹ *Epid.*IV.43 (136,9-15/138,1-2 Smith; 5.184 L.). In his Loeb edition, Smith chooses to reverse Littré's reorganisation of the text. I, however, believe Littré had a point, and I have reinstated his reorganisations; in this way, a distinction appears between the things a patient can know and observe for himself, and the things a physician can know by observing all the different body parts and processes mentioned.

⁹⁰ Langholf too notes the fact that observation by both physician and patient was important, and puts forward *Morb.*II.12-75 (7.18-114 L.) as representative of this. Langholf (1990), 54. It is very possible that this 'knowing in other ways' includes information gained through (medical) dreams. Considering the fact that *Epid.*IV was probably a product of the same author who wrote *Epid.*VI (cf. Jouanna (1999), 389), this is not at all unthinkable. Cf. section 3.1.2 of this thesis.

Prorrhetic II clarifies the different uses of the senses:

πρῶτον μὲν γὰρ τῇ γνώμῃ τε καὶ τοῖσιν ὀφθαλμοῖσιν ἄνθρωπον κατακείμενον ἐν τῷ αὐτῷ καὶ ἀτρεκέως διαιτώμενον ῥᾶόν ἐστι γνῶναι, ἥν τι ἀπειθήσῃ, ἢ περιοδοιπορέοντα καὶ πάμπολλα ἐσθίοντα· ἔπειτα τῇσι χερσὶ ψαύσαντα τῆς γαστροῦ τε καὶ τῶν φλεβῶν ἥσσόν ἐστιν ἐξαπατᾶσθαι ἢ μὴ ψαύσαντα. αἱ τε ῥῖνες ἐν μὲν τοῖσι πυρεταίνουσι πολλά τε καὶ καλῶς σημαίνουσιν· αἱ γὰρ ὀδοὶ μέγα διαφέρουσιν· ἐν δὲ τοῖσιν ἰσχύουσιν τε καὶ ὀρθῶς διαιτωμένοισιν οὐκ οἶδα τί ἂν χρησαίμην, οὐδ' ἐν τούτῳ τῷ δοκιμίῳ. ἔπειτα τοῖς ὡσὶ τῆς φωνῆς ἀκούσαντα καὶ τοῦ πνεύματος, ἔστι διαγινώσκειν, ἃ ἐν τοῖσιν ἰσχύουσιν οὐχ ὁμοίως ἐστὶ δῆλα.⁹¹

For, firstly, it is easy to know by your intellect and your eyes, if a person lying ill in the same place and charged with a strict regimen is somewhat disobeying, or whether he does take walks and eats a great deal. Furthermore, by lightly touching his abdomen and the vessels with your hands, you are less likely to make a mistake than if you do not touch. In patients with fevers your nose indicates many things and truly; for their odours differ greatly; but in persons that are well and following a proper diet, I do not know what use at all I would have for this means of testing. And then there is the fact that, by listening with your ears to the voice and the breathing, it is possible to discover things that are not equally clear in healthy persons.

In the first place, the situation should be assessed based on sight and common sense: apparently, it is easy to confirm by means of sight whether someone who has an illness that causes him to lie in one place all day is obeying a recommended regimen of taking walks and eating plenty – we recognise *Prognostic*'s unaided declaration of past or present here. Besides that, the hands are used in palpation, and the nose in judging the smells surrounding a patient. Smell, the author points out, 'indicates many things and truly' in fever patients, whose odours are characteristic – although it is not clear what exactly should be deduced from these odours. In healthy people, however, smell does not seem to yield any information. Last mentioned is hearing: some illnesses

⁹¹ *Prorrh.* II.3 (224,27-226,11 Potter; 9.12 L.). Another example of instructions on how to employ the five senses can be found in *Epid.* VI.8.7-8 (5.344-6 L.).

amplify certain qualities of the voice and breathing – the author plainly states that the same things are not clear in the same way in healthy people – so that they are clearly discernable to one who listens.⁹² Even though *Prorrhetic* II does not go into detail here, and does not indicate what exactly should be learnt from the information thus gathered, it is clear that the senses were essential, indispensable tools in a physician's quest for accurate diagnosis and prognosis; they were the most important, often indeed even the only, way to ascertain the physical anomalies that constituted the signs and symptoms on which he had to base his conclusions. And this brings us to the final aspect of diagnosis and prognosis.

1.1.5 Intellectual Activity

All the symptoms a physician could observe, however, meant nothing if he did not process them in some way that enabled him to understand what they meant. The passage from *Prorrhetic* II quoted above is a good example of this: it is not only the senses, but also the intellect, the *γνώμη* that is put to use. In several of the quoted passages we have already encountered terms like *λογισμός* and *γνώμη*. In observation for diagnostic and prognostic purposes, it was necessary not only to use sense perception, but also to think about what had been perceived. *Epidemics* VI even mentions *λογισμός* together with the senses, underlining their close interrelation:

Τὸ σῶμα ἔργον ἐς τὴν σκέψιν ἄγειν, ὄψις, ἀκοή, ῥίς, ἀφή, γλῶσσα, λογισμὸς [καταμανθάνει].⁹³

The body is instrumental in observation: sight, hearing, nose, touch, tongue, intelligence.

⁹² It is not unthinkable that, in this passage, the author means to indicate a hierarchy for the various types of information gained through the different senses (*πρῶτον ... ἔπειτα... ἔπειτα...*). However, the approaches to the various specific diseases described by the author in *Prorrh.*II.5-43 (9.20-74 L.) illustrate only the prominence of sight (and the intellect), and do not seem to indicate any order or hierarchy in the application of the other senses.

⁹³ *Epid.*VI.8.17 (180,3-4 Manetti/Roselli; 5.350 L.).

Intelligence and reason were employed to process perceptual information, to interpret and weigh symptoms and to place them in the context that was applicable to each new individual patient.⁹⁴ On the one hand they were needed to ‘translate’ the symptoms, i.e. to attach meaning to the data from the individual sense organs, and on the other hand, they enabled a physician to combine all the different data streams and bring together their input into a conclusion that was based not on one type of sign or symptom at one moment alone, but on the conglomerate of symptoms available from all the sense organs together. *Epidemics* VI further explains how important it is to combine different forms of sensory observation and to study the collected information as a whole:

Κεφάλαιον· ἐκ τῆς γενέσιος καὶ ἀφορμῆς καὶ πλείστων λόγων καὶ κατὰ σμικρὰ γινωσκομένων
ξυνάγοντα καὶ καταμανθάνοντα εἰ ὅμοιά ἐστιν ἀλλήλοισιν, <αὖθις τὰς ἀνομοιότητας τούτοις>, εἰ
ὅμοιαι ἀλλήλοισιν [εἰσίν], ὥς ἐκ τῶν ἀνομοιοτήτων ὁμοιότης γένηται μία· οὕτως ἂν ἡ ὁδός· οὕτω καὶ
τῶν ὀρθῶς ἐχόντων δοκιμασίη, καὶ τῶν μὴ, ἔλεγχος.⁹⁵

In summary: from the origin and the cause, and the many accounts, and the things learned little by little, when one gathers them together and thoroughly studies whether they are alike, <again if they have dissimilarities >, [and] if those [sc. dissimilarities] are like one another, so that from the dissimilarities one similarity comes forth. This would be the way to go. It is also the test of things that are correct, and refutation of things that are not.

The author wants to convey that the senses, reasoning and intelligence are not only of great importance in individual cases, but also in the overarching process of creating a more general database of symptoms and what they imply – which indeed appears to be the objective of the

⁹⁴ Cf. Jouanna (1999), 302-3; Langholf (1990), 52. Potter provides a ‘schematic overview of clinical reasoning in the Hippocratic writings’. Potter (1988), 52-3.

⁹⁵ *Epid.* VI.3.12 (64,1-66,3 Manetti/Roselli; 5.298 L.).

Epidemics. This processing of symptoms could take place in three ways: based on experience, based on a concept or theory, or a combination of both.⁹⁶

Another aspect of diagnosis to which reason and intellect were indispensable, was finding out what was going on *inside* the body, as most of the time there was no way to see what was going on under the skin. The author of *On the Art* states:

ὅσα γὰρ τὴν τῶν ὀμμάτων ὄψιν ἐκφεύγει, ταῦτα τῇ τῆς γνώμης ὄψει κεκράτῃται.⁹⁷

For such things as escape the eyesight are mastered by the vision of the mind.

To be able to begin treatment, a physician had to form for himself some idea of what it was he was going to treat. There were two ways to gain knowledge of the unseen. One was the method of analogy, applied, for instance, by the author of *On Ancient Medicine*:

Καταμανθάνειν δὲ δεῖ ταῦτα ἔξωθεν ἐκ τῶν φανερῶν. Τοῦτο μὲν γὰρ τῷ στόματι κεχηνῶς ὑγρὸν οὐδὲν ἀνασπάσαις· προμυλλήνας δὲ καὶ συστείλας πιέσας τε τὰ χεῖλεα, ἀνασπάσεις· καὶ ἐπὶ τε αὐλὸν προσθέμενος, ῥηιδίως ἀνασπάσαις ἂν ὃ τι θέλῃς. Τοῦτο δὲ αἱ σικύαι προσβαλλόμεναι ἐξ εὐρέος ἐς στενότερον συνηγμέναι πρὸς τοῦτο τετεχνέαται πρὸς τὸ ἔλκειν ἐκ τῆς σαρκὸς καὶ ἐπισπᾶσθαι, ἄλλα τε πολλὰ τοιουτότροπα. Τῶν δ' ἔσω τοῦ ἀνθρώπου φύσις καὶ σχῆμα τοιοῦτον· κύστις τε καὶ κεφαλὴ καὶ ὑστέραι γυναιξίν.⁹⁸

It is necessary to learn these things thoroughly from the apparent external things. For, on the one hand, with the mouth open wide, you can draw in no fluid; but if you protrude and contract it, compressing the lips, you can; and if you put a tube [against your lips], you can easily draw up anything you wish. On the other hand, cupping

⁹⁶ For a discussion of the naturalistic, physiological model of human pathology that underlay the rationale reflected in the Hippocratic writings, see Hankinson, (1998), 51-69, 82-3.

⁹⁷ *Art.* 11 (237,11-13 Jouanna; 6.20 L.).

⁹⁸ *Vet.Med.* 22 (149,15-150,7 Jouanna; 1.626-628 L.).

instruments, which are broad and tapering, are made like that specifically to draw and attract blood from the flesh, and there are many other things like that. Of the parts inside the human [body], these are of such a nature and form: the bladder, the head, and the womb of a woman.

By comparing things that cannot be seen, and about which we know little to nothing, to things that can be seen, examined, and known, it is, according to this author, possible to gain knowledge about what the author of *On the Art* refers to as ἄδηλα,⁹⁹ obscurities.¹⁰⁰ The second method was that of semeiotics, i.e. drawing conclusions about internal things not by analogy, but by reading the external phenomena that can be freely observed: the σημεία. Diller explains that

diese Phänomene sind nicht Parallelen (Analogien), sondern Zeichen des zu erkennenden Vorgangs, es wird keine Analogie als Gerüst einer Hypothese aufgebaut, sondern von der sichtbaren Wirkung auf die unsichtbare Ursache zurückgeschlossen; man geht mit einem Wort nicht analogisch, sondern semeiotisch vor.¹⁰¹

This second, semeiotic method was a fundamental part of ancient medical diagnosis and prognosis. In fact, this method combines the ways of collecting data described above with intellectual effort: the intellect cannot work on its own, it needs information to process. *On the Art* illustrates this:

Ἱητρικὴ δὲ, τοῦτο μὲν τῶν ἐμπύων, τοῦτο δὲ τῶν τὸ ἥπαρ ἢ τοὺς νεφροὺς, τοῦτο δὲ τῶν συμπάντων τῶν ἐν τῇ νηδύϊ νοσεύντων ἀπεστερημένη τι ἰδεῖν ὅψει ἢ τὰ πάντα πάντες ἱκανωτάτως ὁρῶσιν, ὅμως ἄλλας εὐπορίας συνεργοὺς εὔρε· φωνῆς τε γὰρ λαμπρότητι καὶ τρηχύτητι, καὶ πνεύματος ταχυτήτι καὶ βραδυτήτι, καὶ ῥευμάτων, ἃ διαρρεῖν εἴωθεν ἐκάστοισι δι' ὧν ἔξοδοι δέδονται [ὧν] τὰ μὲν ὀδυμήσι τὰ δὲ

⁹⁹ Art.11 (237,5 Jouanna; 6.18 L.).

¹⁰⁰ Cf. also *Morb.*IV.35 (7.548-450 L.); *Vict.*I.12 (6.488 L.); Joly (1960), 62ff.; Jouanna (1999), 317-322. Diller (1932) provides an overview of how ancient philosophy, medicine, and historiography have dealt with 'obscurities' in his *Opsis Adélôn ta Phainomena*.

¹⁰¹ Diller (1932), 19-20.

χροίησι τὰ δὲ λεπτότητι καὶ παχύτητι διασταθμωμένη τεκμαίρεται ὧν τε σημεῖα ταῦτα ἅ τε πεπονθότων ἅ τε παθεῖν δυναμένων.¹⁰²

Medicine, being prevented, in cases of empyema, and in afflictions of the liver or the kidneys, and in all diseases of the cavity, from seeing something with the sight by which everyone sees everything most satisfactorily, has nevertheless discovered other means of help: taking as criterion clearness or roughness of the voice, rapidity or slowness of respiration, and, in case of the fluxes, which are wont to flow through any way or exit with which they are presented, of some their smell, of some their colour, of some their thinness or thickness, [the physician] decides from which [parts of the body] those things are signs, and what things they have suffered and can suffer.

Based on all the symptoms displayed by a patient, a physician could reason his way into an understanding of their cause. But symptoms were not always readily available. Sometimes, they needed to be coaxed into showing themselves. *On the Art* explains:

“Ὅταν δὲ ταῦτα τὰ μηνύοντα μηδ’ αὐτὴ ἡ φύσις ἐκοῦσα ἀφίη ἀνάγκας εὔρηκεν ἥσιν ἡ φύσις ἀζήμιος βιασθεῖσα μεθήσιν· ἀνεθεῖσα δὲ δηλοῖ τοῖσι τὰ τῆς τέχνης εἰδόσιν, ἃ ποιητέα.”¹⁰³

When these things are not revealed, and nature herself yields nothing readily, [medicine] has found means of compulsion, whereby nature, unharmed, is forced to give up her secrets. When these are given up she makes clear, to those who know about the art, what they should do.

The author refers to, for example, the administration of phlegm producing foods or drugs, or making a patient run in order to make breath heavier and bring out sweats. Once the symptoms are available, the intellect can use them to reach its conclusions.

As we shall see, medical dream interpretation occupies its own space in the art of seeing invisible things through visible ones. As we have seen, *On Regimen*, interpreter of dreams, also

¹⁰² *Art.* 12 (240,1-10 Jouanna; 6.22-24 L.).

¹⁰³ *Art.* 12 (240,10-13 Jouanna; 6.24 L.).

speaks of visible and invisible ailments.¹⁰⁴ By treating dreams and their contents as symptoms, to be interpreted by means of analogy or semeiotics, they could provide a window into the body's interior.

1.1.6 *Practice: an overview*

What does all this mean for Hippocratic diagnosis and prognosis in practice? Again, we must bear in mind that not all diagnostic and prognostic procedures that have been described above were used by all the authors within the Corpus. Even if prognostic and diagnostic procedures were the basis of Hippocratic medical practice, everyone seems to have had their own approach to matters. Some procedures or theories were used more widely than others, but there is no way of knowing for certain which or to what extent. It remains impossible to give a description of *the* Hippocratic diagnostic-prognostic process, for there was no such thing. We can distill a few tendencies from the evidence. There is an interest in general, i.e. external, matters, such as the time of year and the constitution (*katastasis*) of the seasons, the *katastasis* of the area, the weather, the wind, the lay of the land, and the air people breathe, which together formed a sort of framework within which results of further, individual examination should be interpreted. In individual examination, there are, again, some basic elements that occur in various treatises, like age, gender, hereditary conditions, a person's regimen or lifestyle, and things about the patient that can be discovered through use of the 5 senses. To top it all off, the importance of intellectual activity is emphasised, whose application was absolutely indispensable in diagnosis and prognosis. As for dreams, the only Hippocratic treatise so far to give them a clear and prominent position in diagnosis is *On Regimen* – and that is not even completely true, since the author speaks of their role in *prodiagnôsis*. In chapter 3, we shall discuss the position of this treatise and

¹⁰⁴ *Vict.*I.11;12 (134,21-22/136,5-6 Joly/Byl; 6.486-88 L.).

its ideas within the Corpus, and investigate role of dreams and the popularity of dream interpretation as a diagnostic technique in the Hippocratic treatises.

1.2 Galen

As a great admirer of Hippocrates, it should not surprise us to find Galen following in his medical hero's footsteps. Galen's approach to diagnosis and prognosis built on concepts and procedures for which the groundwork had already been laid by the authors of the Hippocratic Corpus. García-Ballester asserts that "Galen did no more than develop certain very concrete aspects of the Hippocratic writings."¹⁰⁵ In a more positive fashion, Nutton describes Galen as setting himself forward "as the very model of the modern Hippocratic physician, developing the insights of his great predecessor both practically and theoretically".¹⁰⁶ Even Galen himself acknowledges his great debt to Hippocratic medicine:

*(...) τὰ γεγραμμένα μοι περὶ τούτων ἀπάντων ὧν ἐθεάσω με προλέγοντα γινώσκεις ἐπιδεδειγμένα πρὸς Ἱπποκράτους εἰρῆσθαι, μόνην αὐτοῖς προσθέντος τὴν περὶ τοὺς σφυγμοὺς θεωρίαν, ἣν περ καὶ μόνην οὐκ ἐξείργασατο (...).*¹⁰⁷

(...) know that I have said that the things I have written about all the predictions you have seen me make were demonstrated by Hippocrates, and that to those I only added the theory of pulses, which was the only thing he had not worked out (...).

In his unceasing attempts to improve on his predecessors, Galen formed his base theories for diagnosis and prognosis by elaborating existing theories, rearranging emphases, and creating new

¹⁰⁵ García-Ballester (1994), 1637.

¹⁰⁶ Nutton (1993), 9.

¹⁰⁷ *Praecogn.* 12 (134,1-4 Nutton; 14.665 K.).

or honing old methods. And now that we have the above inventory of Hippocratic diagnostic and prognostic techniques to hand, it becomes obvious how much Galen owed to his colleagues of the past.

The objective of this section is to provide a concise overview of Galen's diagnostic and prognostic theories and techniques. Unlike the Hippocratic Corpus, the Galenic Corpus consists mostly of treatises which can and should be juxtaposed and linked, so as to reconstruct the diagnostic and prognostic views and procedures Galen employed – a sizeable task indeed. Fortunately, Luis García-Ballester has already undertaken it, and his 1981 article on the subject, along with the elaborated and revised 1994 version of it, will serve as the basis of this section. In addition, two more specialised articles by Barnes and Nutton will be drawn upon.

In diagnosis and prognosis, Galen relies on three main sources of information: perception,¹⁰⁸ of both universal and individual things, dialogue with the patient, and reasoning.¹⁰⁹ All three components sound very familiar, and from this alone it is already obvious that the Hippocratic tradition is never far from his mind. In his *Therapeutics to Glaucon*, he refers to the sort of symptoms and patient characteristics which, put together, should give a physician a fairly accurate idea of the nature of his patient. We see the three information sources clearly reflected:

εἰ γὰρ διωρίσασιτό τις πρῶτον μὲν τὴν κατὰ τὰς ἡλικίας διαφορὰν, ἐφεξῆς δὲ τὴν κατὰ τὰς κράσεις καὶ τὰς δυνάμεις καὶ τὰλλα τὰ τοῖς ἀνθρώποις ὑπάρχοντα, χροιάς λέγω καὶ θερμασίας καὶ σχέσεις καὶ σφυγμῶν κινήσεις καὶ ἔθη καὶ ἐπιτηδεύματα καὶ τὰ τῆς ψυχῆς ἥθη, προσθείη δὲ τούτοις καὶ τὴν ὡς ἄρρενος πρὸς θῆλυ διαφορὰν, ὅσα τε κατὰ τὰς χώρας καὶ τὰς ὥρας τοῦ ἔτους καὶ τὰς ἄλλας τοῦ

¹⁰⁸ Dean-Jones remarks that Galen “believes that although they vary considerably, the senses must be a reliable source of information about the world, because animals, which possess only perception, could not survive if their sense data were not in some degree accurate.” D.E. Dean-Jones (1993), 14. Cf. Hankinson (1991), xxv.

¹⁰⁹ García-Ballester (1994), 1652.

περιέχοντος ἡμᾶς ἀέρος καταστάσεις, ὡς χρὴ διωρίσασθαι, πλησίον ἂν ἦκοι τῆς ἰδίας τοῦ κάμνοντος φύσεως.¹¹⁰

For if someone divided first according to the difference in age, and next according to the temperaments and capacities and all the other factors that pertain to human beings – I mean colour, heat, physical disposition, movements of the pulse, habit, activities, and the disposition of the soul – and if to these he were to add the difference of male and female and whatever else must be divided in terms of place and seasons of the year and the other constitutions of the air surrounding us, he would come close to an idea of the nature of the patient.

Age, physical and psychical disposition, complexion, temperature, pulse, regimen, profession, and gender, but also external factors such as location and season played a role in Galen's assessment of his patient's disposition. All of these factors we also encounter in the Hippocratic Corpus, although the emphasis individual factors receive there differs on more than a few counts with the emphases in Galen's approach.

1.2.1 *The five senses*

Galen is an adamant believer in Hippocrates' skill, and, just as we have seen in the Hippocratic Corpus, the starting point of Galenic diagnosis and prognosis was empirical observation.¹¹¹ Vivian Nutton has provided an overview of the role of the senses in Galenic practice in his 1993 article in a volume dedicated to the importance of the senses to medicine throughout history,¹¹² which is the starting point of my discussion of the role of the five senses in Galenic medicine. Nutton points out that Galen's conclusions with regard to the senses were accurately summarised by the mediaeval Arabic author Ibn Ridwan:

¹¹⁰ *Glauc.Meth.I.1* (11.5 K.).

¹¹¹ García-Ballester (1994), 1652; cf. Nutton (1993), 10.

¹¹² Nutton (1993), 7-16.

“For your diagnosis and the indications you observe, you should always choose things that are extremely powerful and easy to recognise, and these are what can be perceived by sight, touch, hearing, smell, taste and by the intellect. When these are properly grasped, they show the nature of the disease.”¹¹³

Galen was convinced that empirical evidence was requisite in medicine, for it provided the physician with knowledge that was essential for diagnosis. An excellent example of Galen’s belief in the importance of perception is the famous incident in Rome, when Galen, on his first day there, refused to begin experiments, because some members of his audience pointed out to him that they did not have as much faith in the evidence of the senses as he did.¹¹⁴ Observation was the undeniable basis of Galen’s method of diagnosis, not only prior to diagnosis, when it provided an anatomical foundation for the theory on which he based his diagnostic praxis – Barnes remarks that for Galen, “the science of medicine is essentially empirical, and its axioms must include matters of empirical fact”¹¹⁵ – but also during it, in his collection and evaluation of symptoms. To Galen, however, not all senses were equally important; it was especially sight and touch that he developed.¹¹⁶ But let us first have a look at his use of the other senses.

Although the odours of things like urine, sputum, faeces, ulcers, and the patient’s breath may each be taken into consideration during diagnosis, all that can be derived via smell is that *something* is wrong; smell does not indicate *what* is wrong, and therefore the nose does not play a very prominent role.¹¹⁷ Galen has serious doubts about the accuracy of olfactory observation:

“Οθεν οὐδ’ ἀσφαλὲς ἐξ ὁσμῆς τεκμαίρεσθαι περὶ τῆς κράσεως τῶν αἰσθητῶν, ὥσπερ ἐκ τῆς γεύσεως.”¹¹⁸

¹¹³ See Nutton (1993), 10; cf. *In Hip.Med.Off.I.1-3* (18b.632-57 K.) as summarised by Ibn Ridwan (in the translation by Lyons (1963), 103).

¹¹⁴ Cf. García-Ballester (1994), 1653; *Praecogn.5* (14.628-29 K.).

¹¹⁵ Barnes (1991), 71.

¹¹⁶ Cf. Nutton (1993), 10-14; García-Ballester (1994), 1654.

¹¹⁷ Nutton (1993), 10-11.

¹¹⁸ *Simpl.Med.Fac.IV.23* (11.700 K.).

Hence one cannot draw secure inferences about the mixture of sensible objects from their smell, as one can from their taste.

In Galen's diagnostic methods, taste is far more important than smell. He distinguishes seven different flavours:

εἰ μὲν περὶ χυμῶν διαλεγοίμεθα, καὶ ὅλως περὶ τῶν τῆς γλώττης ἰδίων αἰσθητῶν, αὐστηρὸν ἡμῶν λεγόντων καὶ στρυφνὸν καὶ στύφοντα καὶ δακνώδη καὶ ἀλμυρὸν καὶ γλυκὺν καὶ πικρὸν.¹¹⁹

If we talk about the humours, and especially about those which are perceived particularly by the tongue, we speak of harsh, rough, astringent, biting, salty, sweet and bitter.

One of the procedures in which tasting plays a role, for instance, is that of distinguishing sweats: different types of ailments would induce their own specific types of sweats.

εἰ δὲ περὶ τῶν ἀπτῶν, ὑγρὸν σῶμα καὶ ξηρὸν καὶ θερμὸν καὶ ψυχρὸν καὶ τραχὺ καὶ λείον καὶ μαλακὸν καὶ σκληρὸν, ὅξυ τε καὶ ἀμβλύ.¹²⁰

If [we talk] about touch, [we say that the body is] moist, and dry, and warm and cold and rough, and smooth, and soft, and hard, and sharp, and blunt.

However, quantity and temperature of a patient's sweats were more significant than their flavour.¹²¹

¹¹⁹ *Loc.Aff.II.6* (8.87 K.).

¹²⁰ *Loc.Aff.II.6* (8.87 K.). Cf. *Sympt.Caus.I.4* (7.105 K.); *Simpl.Med.Fac.I.37* (11.445 K.); *In Hip.Med.Off.I.3* (18b.653 K.).

¹²¹ Cf. Nutton (1993), 11.

Hearing played an important role in Galenic diagnosis. Via this sense, Galen could assess things like a patient's breathing, coughing, and flatulence. However, actual auscultation, i.e. listening to the internal sounds of the body, such as the sounds of the lungs or other intestines, seems to have received little attention.¹²² The main role for the physician's ears lay in listening to a patient in dialogue. During conversation, attention had to be paid to different aspects of a patient's responses: for example its contents – which was the element deemed most significant and worthy of consideration in a diagnostic context – the ability to form words and phrases, the tone and quality of voice, but also the willingness, or unwillingness, to provide the doctor with an answer – this last aspect might provide information with regard to the patient's psychological condition:¹²³

παρεκλήθην μὲν εἰς τὴν ἐπίσκεψιν τινος γυναικὸς, ὡς ἀγρυπνούσης ἐν ταῖς νυξὶ καὶ μεταβαλλούσης ἑαυτὴν ἄλλοτ' εἰς ἄλλο σχῆμα κατακλίσεως, εὐρὼν δ' ἀπύρετον ἐπυθόμην ὑπὲρ ἐκάστου τῶν κατὰ μέρος αὐτῇ γεγονότων ἐξ ὧν ἴσμεν ἀγρυπνίας συμβαινούσας. ἡ δὲ μόγις, ἢ οὐδ' ὅλως ἀπεκρίνετο, ὡς μάτην ἐρωτωμένην ἐνδεικνυμένη, καὶ τὸ τελευταῖον ἀποστραφεῖσα, τοῖς μὲν ἐπιβεβλημένοις ἱματίοις ὅλῳ τῷ σώματι σκεπάσασα πᾶσαν ἑαυτήν, ἄλλῳ δέ τινι μικρῷ ταραντινιδίῳ τὴν κεφαλὴν ἔκειτο καθάπερ οἱ χρήζοντες ὕπνου. χωρισθεὶς οὖν ἐγὼ δυοῖν θάτερον αὐτὴν ἐνόησα πάσχειν, ἢ μελαγχολικῶς δυσθυμεῖν ἢ τι λυπούμενην οὐκ ἐθέλειν ὁμολογεῖν.¹²⁴

I was called in to see a woman, because she was said to lie awake at night, constantly tossing from one position to another. Having found her free of fever, I asked about each of the details that had happened to her from which we know the presence of insomnia. She replied hesitantly or not at all, as if to show that she was being questioned in vain, and finally turned over, buried her whole body deep in the blankets, covered her head with another small wrap and lay there like those who need sleep. On my departure I decided she was suffering from either of two things: she was either depressed due to black bile or she did not want to confess the thing about which she worried.

¹²² Cf. Nutton (1993), 11; Wittern (1987), 85-6.

¹²³ Nutton (1993), 11. Rufus' *Medical Questions* form an important prequel to this.

¹²⁴ *Praecogn.* 6 (100,15-102,2 Nutton; 14.630 K.).

On further investigation, which includes talking to the woman's maid, and observing the woman's behaviour, Galen finds out that she is in love. As Galen saw it, speaking with a patient, or indeed with those close to the patient, was of immense importance to diagnosis. It was a means to provide the physician with information he would not have been able to obtain by means of simple, direct use of the senses only.

As said before, the two senses Galen used most often, and developed most extensively, were those of touch and sight. Touch was chiefly used in one of the following three ways: sphygmology, i.e. the assessment of the pulse, gauging a patient's temperature, and palpation of the body, especially the abdominal area. The most important of these, and indeed the most important indicator in the whole of the Galenic diagnostic process, was the taking of the pulse.¹²⁵ Galen wrote extensively on the subject,¹²⁶ because, as he says, it is the pulse 'based on which we make diagnoses of things that are and prognoses of things that will be' (ἐξ οὗ καὶ τὰς διαγνώσεις τῶν παρόντων καὶ τὰς προγνώσεις τῶν ἐσομένων ποιοῦμεθα).¹²⁷ A modern reader may marvel at how many different aspects of the pulse Galen is able to discern – a testimony to Galen's meticulousness, perseverance and dedication.¹²⁸ Let us, for example, consider his directions on how to deal with pulses in quartan fevers:

Ὁ δὲ τεταρταῖος, χρὴ γὰρ καὶ τούτου τὰ γνωρίσματα σοι γράψαι, τὸ μὲν ἐναργέστατον ἑαυτοῦ τεκμήριον ἐνδείκνυται κατὰ τὴν ἀρχὴν τῶν παροξυσμῶν, ἡνίκα ῥιγῶσιν ἔτι οἱ νοσοῦντες. ἱκανῶς γὰρ ἀραιοὶ καὶ βραδεῖς αὐτῶν οἱ σφυγμοὶ γίνονται· κατὰ δὲ τὰς ἀκμὰς ἢ καὶ αὐξανομένων ἔτι ταχεῖς μὲν

¹²⁵ Nutton (1993), 12; García-Ballester (1994), 1656.

¹²⁶ Galen himself points out how extensively he has written on the pulse: "I wrote four books 'On the diagnosis of pulses', which precede four more entitled 'On the causes of pulses'. Both these works are essential to the understanding of 'On prognosis through the pulse' – also in four books –, which makes the first two treatises of great practical value." (*Praecogn.* 14 (138,30-140,3 Nutton; 14.671 K.)) For a more elaborate discussion of Galen's pulse, see Harris (1973), 397 -431.

¹²⁷ *Diff. Puls.* IV.2 (8.717,2-4 K.).

¹²⁸ Cf. Nutton (1979), 221.

ἀνάγκη καὶ πυκνοὺς εἶναι· σώζεται δ' ὅμως καὶ τότε ἢ ἴδιος αὐτῶν βραδύτης τε καὶ ἀραιότης, εἰ τὸ προσγεγονὸς τάχους καὶ τῆς πυκνότητος τῶν παροξυσμῶν λογίσαιτο. καὶ γὰρ οὖν καὶ εἰ παραβάλοις τὴν ἀκμὴν τοῦ τεταρταίου πυρετοῦ, τῇ τοῦ τριταίου ἀκμῇ πολλῷ τινί σοι δόξουσι θᾶπτόν τε καὶ πυκνότερον ἐν τοῖς τριταίοις αἱ ἀρτηρίαι σφύζειν· καὶ αὐτῆς δὲ τῆς μιᾶς κινήσεως ἐν τῷ τεταρταίῳ πυρετῷ τὸ ἀνώμαλον ἐνδείκνυται τὴν ἰδέαν αὐτοῦ.¹²⁹

The quartan – for it is necessary also to write for you an account of the things by which it is recognised – exhibits its clearest indication at the beginning of the paroxysms, while the patients are still shuddering. For their pulse becomes quite intermittent and sluggish; but at the acme, or when the pulse becomes even stronger, it is necessarily rapid and frequent. Nevertheless, their particular sluggishness and intermittance persists even then, if you consider the addition of speed and frequency of the paroxysms. For that matter, if you compare the acme of the quartan fever with the acme of a tertian, the arteries will seem to you in most cases to beat both faster and more frequently in the tertians; and it is precisely the irregularity of one movement [of the artery] in the quartan fever that reveals its type.

Seeing as sphygmology required such detailed inspection and perception, only someone with a great deal of experience and appropriate knowledge would be able to use the technique to diagnostic benefit, Galen asserts, and even such a person would need to apply no small amount of logic in the process. Of those physicians who are unable to draw the simplest conclusions from the pulse in the way he does, he says:

“εἰκόασι δ’,” ἔφη, “μὴ μόνον ἀγνοεῖν ὁποῖός ἐστι τῶν ἀγωνιῶντων ὁ σφυγμὸς ἀλλὰ μηδ’ εἴπερ ἔγνω τις αὐτῶν κατὰ τύχην ἂν προσελογίσω προσεπιλογίσασθαι δύνασθαι διὰ τὸ μήτε φύναι συνετοὶ μήτε μαθήσει γεγυμνάσθαι τὸν λογισμόν.”¹³⁰

¹²⁹ *Glauc.Meth.I.6* (11.20-21 K.).

¹³⁰ *Praecogn.7* (110,7-10 Nutton; 14.640-641 K.).

“They seem,” he said, “not only to be ignorant of what the pulse of men under stress is like, but also, if one of them happens to know your conclusions, to be unable to reason them out for themselves because they are not naturally intelligent and have not trained their logical faculty by learning.”

It is clear, then, that the taking of the pulse is a meticulous business, which should be undertaken only by those who have a healthy amount of intelligence, experience and logic at their disposal. Those who think that Galen based his diagnoses on pulse alone are deceived; any diagnosis after having taken the pulse took into consideration many factors that had been learnt or observed previously. When Galen is attending Marcus Aurelius, who is not well, and whose physicians are mistaken as to the cause, ascribing it to an attack of fever, he takes the emperor’s pulse and reasons as follows:

(...) φανέντος μοι τοῦ σφυγμοῦ παρὰ τὸ κοινὸν μέτρον ἀπάσης ἡλικίας τε καὶ φύσεως ἀφεστηκέναι τοῦ δηλοῦντος ἀρχὴν ἐπισημασίας, ἀπεφηνάμην εἰσβολὴν μὲν οὐδεμίαν εἶναι πυρετοῦ (...) ¹³¹

(...) because it seemed to me that his pulse, compared with the general norm for each age and constitution, was far from making clear the beginning of an attack of an illness, I said that there was no attack of fever, (...).

Galen takes into account the age and constitution of his patient, because any pulse must be seen in its proper context. On its own, it was not enough to cast a diagnosis, nor was it enough to know what sort of fever he was dealing with. In his *Therapeutics to Glaucon*, Galen explains that it is important to consider all the signs. His approach is reminiscent of Hippocratic tactics:

ἀλλὰ καὶ τὰ τῆς θερμασίας γνωρίσματα διαφερόντως αὐτοῖς ἔχει. τὸ γὰρ θερμὸν καὶ τὸ διακαὲς καὶ τὸ οἶον ζέον τῶν τριταίων πυρετῶν οὐκ ἂν εὗροις ἐν τεταρταίοις. ταῦτὶ μὲν οὖν τὰ μέγιστα σημεῖα, τὰ δ’

¹³¹ *Praecogn.* 11 (128,9-11 Nutton; 14.659 K.).

ἀλλὰ τὰ ἔξωθεν. οὐδ' γὰρ χρὴ ταῦτα παραλιπεῖν, ἀλλὰ τὴν τε φύσιν ἐπισκοπεῖσθαι τοῦ νοσοῦντος, εἰ μελαγχολικωτέρα· καὶ τὸν καιρὸν τοῦ ἔτους, εἰ φθινόπωρον· καὶ τὴν παρούσαν κατάστασιν, εἰ ἀνώμαλος. οὕτω δὲ καὶ τοῦ χωρίου τὴν φύσιν καὶ τῶν ἐπιδημούντων νοσημάτων.¹³²

But they also have different signs of heat. For you would not find the heat and burning and the quality that is like boiling of tertian fevers in quartans. These, then, are the biggest signs, and the other ones are external. For one should not omit them, but examine the nature of the patient, to see if it is quite atrabilious, and the time of year, to see if it is autumn, and the prevailing *katastasis*, if it is anomalous. Thus also consider the nature of the area and of the endemic diseases.

The bodily humours, the season, the weather, the location and the endemic diseases, all these hark back to what we have found in the Hippocratic corpus. Still, this was not the extent of Galen's use for the sense of touch. Besides taking the pulse and considering the 'external signs', Galen would palpate the patient's body – especially the abdomen, visiting areas of the hypochondrium, the liver, and the spleen, but also the face and the legs of his patients – and assess the temperature and quality of heat emanating from the patient's body.¹³³ The same techniques are also employed in his diagnosis of fevers:

καὶ εἰ σπλὴν μέγας εἴη καὶ ἄτακτοι πυρετοὶ προηγέσαντο καὶ ἡ ἡλικία τῆς ἀκμῆς ἐπέκεινα καὶ εἰ μεθ' ἰδρώτος παύοιντο· χολῆς δὲ ξανθῆς ἔμετον ἐν τούτοις τοῖς πυρετοῖς μὴ προσδοκᾶν, ὥσπερ οὐδ' ἐν τοῖς ἀμφημερινοῖς, ἴδιον γὰρ τῶν τριταίων τοῦτο. παυσαμένων δὲ τοῦ πυρέττειν, εἰ τὸ τοῦ πυρετοῦ σημεῖον ἔτι παραμένει καὶ οἱ σφυγμοὶ τῶν κατὰ φύσιν ἀραιότεροί τε καὶ βραδύτεροι γίνονται, τεταρταῖος ἂν εἴη σαφῶς ὁ τοιοῦτος πυρετός. Ἀμφημερινὸν δὲ πυρετὸν τοῖσδ' ἂν μάλιστα γνωρίσῃς· ὑγροτέρα γὰρ εἶναι χρὴ τὴν θερμασίαν αὐτοῦ μετὰ τινος δριμύτητος. οὐ κατὰ τὴν πρώτην ἐπιβολὴν εὐθὺς ὑποπιπτούσης,

¹³² *Glauc.Meth.I.6* (11.21-22 K.).

¹³³ Cf. García-Ballester (1994), 1657.

ἀλλ' ἐγχρονιζούσης τῆς χειρός. καπνώδῃ γάρ τινα θερμασίαν ἀτμῷ πολλῷ συμμιγῇ δόξαις ἀνιέναι, καταπνιγομένου μᾶλλον ἐν ὑγρότητι τοῦ πυρὸς πολλῇ ἢ αὐτοῦ τῆς ὕλης κρατοῦντος.¹³⁴

And [consider] if the spleen is enlarged and if irregular fevers precede and if the patient is past the zenith of age and if they go away with sweating. Vomiting of yellow bile is not to be expected in these fevers, nor in quotidians, since this is particular to tertians. But when the fever has gone, if the sign of the fever still remains and the pulse becomes more intermittent and more sluggish than is natural, such a fever is clearly quartan. You can recognise a quotidian fever best from the following things: for its heat is necessarily quite moist with a certain pungency – not following immediately, at the first laying on of the hand, but by letting it [sc. the laying on of the hand] continue. For expect a sort of smoky heat mixed with much vapour to arise, which occurs more because the fire is suffocated in much moisture than that it prevails over matter.

Besides checking the pulse, Galen inspects the state of the spleen – we may infer through palpation – but also the presence and quality of the heat generated by the fever, all the time using the sense of touch. Galen instructs the reader that it is not so much the fingers as the palm of the human hand which is most sensitive and through which we are able to detect the smallest of signs:¹³⁵

οὐ μὲν οὐδ' ἐτοιμότερον οὐδ' εὐσχημονέστερον ἐτέρῳ διαγιγνώσκειν ὄργανῳ τοῦ σώματος ὅ τι μὴ τῇ χειρὶ καὶ χειρὸς αὐτῆς οὐ πᾶσιν, ἀλλὰ τοῖς ἐντὸς μέρεσιν, οἷσπερ καὶ ἀντιληπτικὸν ὄργανον ὑπάρχει. (...) συντελεῖ δ' οὐ σμικρὰ πρὸς ἀκριβῇ διάγνωσιν ἀπασῶν τῶν ἀπτῶν ποιότητων καὶ τὸ ἄτριχον τοῦ ταύτη δέρματος ἐκ τῆς τοῦ πλατυνθέντος τένοντος ὑπο φύσεως ἀπεργασθέν.¹³⁶

Furthermore, it was not easier or more suitable to perform a diagnostic examination with any part of the body other than the hand, and not with all parts of that hand, but only with those parts on the inside, by virtue of which it is a

¹³⁴ *Glauc.Meth.I.6-7* (11.22 K.).

¹³⁵ Nutton (1993), 13.

¹³⁶ *Usu Part.II.6* (80,18-22/80,25-81,2 Helmreich; 3.110 K.).

prehensile instrument. (...) the hairlessness of this part of the skin, resulting from the broad tendon spread beneath its surface, contributes no little to an accurate discernment of all the qualities susceptible to touch.

Touch was a vital sense indeed for Galenic diagnosis. As has already been mentioned, however, there was one sense even more important than that of touch. Even in Hippocratic times, sight was the most important of the senses in diagnosis,¹³⁷ as it still was for Galen. With his eyes, a physician could assemble a whole variety of data on his patient's condition. García-Ballester summarises aptly:

Visual inspection not only of the urine, but of the faeces, their colouring, consistency and composition, 'which is very useful for diagnosis' (finding material like pumpkin seeds indicates flat worms, *plateías élmithos*); the appearance of the pupils; the postures the patients adopts when asleep and their characteristics; the characteristic colouring of the cheeks in those affected by inflammation of the lungs, *peripneumonikoi*; the look of the nails which become curved in consumptive diseases; the colouring and dryness of the skin; watering or dryness of the eyes; the appearance of the blood in bleeding; greater or lesser wetness of the tongue in feverish people; inspection of the tonsils and nasal passages, placing the patient in such a position that the sun's rays penetrate the nostrils as far as possible. Equally, Galen also observed signs of the movements of the spirit: dejection, sadness and so forth.¹³⁸

Nutton – who appropriately characterises Galen as a 'medical detective' – adds that Galen not only considered signs read directly from the patient's body. As a good follower of Hippocratic tactics, he also took into account his patient's environment, ranging from the direct environment, such as the sickroom and his house, to the city and region he inhabited and their characteristics.¹³⁹ Testimony to this approach are the many case histories in Galen's oeuvre, perhaps the most famous of which is the story of Galen's diagnosis of a liver inflammation in a

¹³⁷ Nutton (1993), 13; García-Ballester (1994), 1655.

¹³⁸ García-Ballester (1994), 1654-1655.

¹³⁹ Nutton (1993), 13.

patient he attended for the first time, seemingly based only on the patient's pulse. In fact, Galen had based his conclusion not only on many details he had shrewdly observed in the patient's house and sickroom, which had escaped the attention of his onlookers, and thus Galen seemed almost omniscient in their eyes.¹⁴⁰

A few words need to be said about the deceptive image of the Galenic physician who bases his whole diagnosis on urology and sphygmology. True, Galen allots these two techniques very prominent positions in diagnosis, but he is well aware of the fact that other symptoms cannot be ignored and should at least corroborate the conclusions drawn from urine and pulse. He also concedes that some signs might be more apparent than others, but that all should be in accordance when the eventual diagnosis is made:

εἰσελθόντας οὖν χρή πρὸς τὸν ἀσθενοῦντα πρῶτον μὲν ἀπὸ τῶν μεγίστων σκοπεῖσθαι τὰ κατ' αὐτόν· ἔπειτα δὲ καὶ ἀπὸ τῶν ἄλλων μηδὲν ὡς οἶόν τε μηδὲ τῶν ἐλαχίστων παραλείποντας. τὸ γὰρ μᾶλλον ἢ ἥττον τῇ παρὰ τῶν μεγίστων ἐνδείξει πιστεύειν ἐκ τῆς τῶν ἄλλων προσθήκης γίνεται. μέγιστα μὲν δὴ τοῖς πυρέσσουσιν ἅπασιν ἔν τε τοῖς σφυγμοῖς ἐστὶ καὶ τοῖς οὔροις γνωρίσματα· προστιθέναι δὲ χρή τούτοις καὶ τᾶλλα σύμπαντα, τὰ τε περὶ τὸ πρόσωπον παρ' Ἱπποκράτους εἰρημένα καὶ τὰ τῶν κατακλίσεών τε καὶ τὰ τῆς ἀναπνοῆς καὶ ὅσα κάτω τε καὶ ἄνω κενοῦται. (...) κᾶπειδ' ὥσπερ χορὸς συμφώνως ἅπαντα φθέγγωνται, θαρρεῖν τε ἤδη χρή (...) ¹⁴¹

Now, when we go to the patient, it is necessary first to examine the signs that are most predominant in him; then also the other ones, so that we do not leave out even the least of them, as far as is possible. For greater or lesser trust in an indication drawn from the most important signs is born from the other indications. Now, the major signs in all those with fever are in the pulse and the urine; to these must be added all the others, both the things said by Hippocrates about the face, and the things derived from the reclining postures and from respiration and whatever is expelled both

¹⁴⁰ *Loc.Aff.V.8* (8.362-6 K.).

¹⁴¹ *Glauc.Meth.I.2* (11.8-9 K.). Interesting: Galen draws in the still well-known legacy of the Hippocratic face. [There is a grave omission in Dickson's version of the Greek (γίνεται. μέγιστα μὲν δὴ τοῖς πυρέσσουσιν ἅπασιν ἔν τε τοῖς).]

from above and from below. (...) And then, when all chime together harmoniously, there is already reason to be confident (...).

As a rule, the strongest signs, usually provided by urology and sphygmology, are most deserving of attention; at the same time, however, it is the sum of all the symptoms that should form the basis of a diagnosis, which is why the less prominent signs must be considered as well.

1.2.2 *Intellectual Activity*

Similar to what we have seen in the Hippocratic Corpus, Galen not only counted on the usual five senses of sight, hearing, smell, taste, and touch; he reserved an important and considerable space for reason.¹⁴² Information gained through the senses was of no use if it could not in some way be processed, a fact the Hippocratics already recognised well enough. But Galen goes even further than that: he is convinced that all scientists, including physicians, should not only employ reason, they should be trained in logic as well.¹⁴³ According to Galen, logic is the answer to medical malpractice and corruption. Barnes summarises: “Logic is the science of discerning truth and falsity; and logicians are thereby technically equipped to detect falsehoods and to discover truths.”¹⁴⁴ In his treatise *To Thrasyboulos*, Galen states:

Τὴν γὰρ λογικὴν ὀνομαζομένην παρὰ τοῖς φιλοσόφοις θεωρίαν ὅστις ἂν ἱκανῶς ἀσκήσῃ, πᾶν οὗτος ὁμοίως δυνήσεται μεταχειρίζεσθαι ζήτημα.¹⁴⁵

He who is sufficiently practised in what among philosophers is called logical theory, that man can undertake any enquiry with equal success.

¹⁴² Nutton (1993), 10.

¹⁴³ Barnes (1991), 52.

¹⁴⁴ Barnes (1991), 61.

¹⁴⁵ *Thras.4* (35,25-27 Helmreich; 5.810 K.).

Galen's insistence on logic as a part of medicine was novel in his time – indeed, he is credited with its addition to the art.¹⁴⁶ While the basis of diagnosis must always lie in sensory exploration combined with information gained through dialogue with the patient, all this would come to nought if the doctor were unable to process his findings in a logical manner.¹⁴⁷ Barnes praises Galen:

Only Galen's method, which advances beyond the primary indications of the Methodist, systematises the disorganised observations of the Empiricist, and takes the theorising of the Rationalist to its proper end in physical science, can provide a reliable and scientific mode of therapy. And the superiority of Galen's method is attributable to logical theory.¹⁴⁸

The importance of anatomical knowledge must not be underestimated in this. As García-Ballester says,

... what allowed Galen to go a step beyond the Hippocratics and develop diagnosis by reason, which they had already proposed, was the spectacular advance in anatomical knowledge and a more complex vision of the nature of the individual (physiology) and all the individual's relationship with Universal Nature, as a precise and systematic knowledge of the causes capable of affecting, not only the nature of the individual but also his relationship with the rest of the cosmos, and thus of provoking disease.¹⁴⁹

Galen's greatest and most famous contribution to the medical diagnostic process was the localisation of affections. In his *On the Affected Parts*, Galen points out just how important it is to know which part of the patient's body it is that needs treatment. He tells us, for instance, of the

¹⁴⁶ Barnes (1991), 56.

¹⁴⁷ García-Ballester (1994), 1663.

¹⁴⁸ Barnes (1991), 102.

¹⁴⁹ García-Ballester (1994), 1661-2.

man who had lost sensation in three of his fingers, and for whom treatment of these fingers did not have any effect. After learning that the man had received a blow to the upper part of his spine shortly before losing sensation in his fingers, Galen proceeded to treat the spine instead of the fingers, thus curing the man. What Galen had of course realised was that not the fingers were damaged, as his colleague had assumed, but the nerves leaving the spine in the upper part of the back.¹⁵⁰ Obviously, none of this was possible without sound anatomical knowledge. Anatomical knowledge was still not enough, however. To be able to logically infer from perceived signs and symptoms what was not obvious to the naked eye, or indeed the naked senses, it was necessary for the physician to have a good understanding of the human body:

(...) μὴ δύνασθαι τινα καλῶς ἰάσασθαι τὰ νοσήματα, πρὶν ὅλου τοῦ σώματος ἐπισκέψασθαι τὴν φύσιν.¹⁵¹

(...) one cannot cure diseases properly before having carefully studied the nature of the entire body.

In order to recognise diseases, it was necessary to understand the human body. And an understanding of the mechanics of the human body implied intimate familiarity with the workings of the four primary qualities (hot, cold, wet, dry) and their effects: for Galen the four qualities were the causes of both health and disease.¹⁵² Barnes summarises Galen's train of thought succinctly:

In order to cure disease you must know what diseases are; in order to know what diseases are you must know what causes them; in order to know what causes them, you must know what causes the functioning of the healthy body; in

¹⁵⁰ *Loc.Aff.I.6* (8.56-58 K.).

¹⁵¹ *Meth.Med.I.2* (10.17 K.).

¹⁵² Cf. Barnes (1991), 93-94.

order to know what causes the functioning of the healthy body you must know general physics, i.e. the theory of the four elements.¹⁵³

While unwavering in his belief in logic, Galen did recognise the obvious tension between scientific, logical understanding, on which he built his nosography, and the therapeutic reality of individual cases: the universal theory versus the individual patient.¹⁵⁴ In Galen's oeuvre, the grey area between the two is occupied by the case histories,¹⁵⁵ and Galen allots them their place in the following manner:

*μεμνηῆσθαι δ' ὑμᾶς μάλιστα χρὴ τῶν γενικῶν θεωρημάτων, ἃ δὴ καὶ καθόλου προσαγορεύεται, κοινὰ πολλῶν ὄντα τῶν κατὰ μέρος, ἵν' ἐπὶ πάσης ὕλης τῶν κατὰ μέρος πραγμάτων γυμνάζησθε διαγινώσκειν αὐτὰ ταχέως.*¹⁵⁶

It is most necessary for us to remember those of the general principles which are called universal, and which are common to many individual cases, so that in every matter of individual cases you are trained to diagnose them rapidly.

A physician must be aware of the universal, but at the same time be capable of applying this universal knowledge to individual patients: the use of case studies was lost on one who did not have a command of logic. As Barnes has it, logic

... bestows the capacity to discover. Without that capacity a physician may, if he is sensible, achieve some diagnostic and therapeutic success; but his successes will be haphazard and in the lap of the gods.¹⁵⁷

¹⁵³ Barnes (1991), 98 (culmination of the argument that started on page 95).

¹⁵⁴ Cf. García-Ballester (1994), 1644; Barnes (1991), 63 (especially n. 46); cf. van der Eijk (forthcoming), 4-5.

¹⁵⁵ García-Ballester (1994), 1646.

¹⁵⁶ *Loc.Aff.* V.8 (8.366-7 K.).

¹⁵⁷ Barnes (1991), 65.

In his *Therapeutic Method*, Galen declares:

ὥς ἐπειδὴ τὸ τῆς ἐκάστου φύσεως ἴδιον ἀρρήτὸν ἐστὶ καὶ πρὸς τὴν ἀκριβεστάτην ἐπιστήμην ἄληπτον, οὗτος ἂν ἄριστος ἰατρὸς εἴη τῶν κατὰ μέρος ἀπάντων νοσημάτων, ὁ μέθοδόν τινα πορισάμενος ἐξ ἧς διαγνωστικὸς μὲν τῶν φύσεων ἔσοιτο, στοχαστικὸς δὲ τῶν ἐκάστης ἰδίων ἰαμάτων.¹⁵⁸

Since the particularity of every individual's nature is ineffable and cannot be grasped with the most accurate knowledge, he would be the best doctor for all individual diseases who has provided himself with a method by which he can diagnose their natures and conjecture the particular cures of each.

And this was what Galen did. It was impossible to know or describe all individual cases, much less remember them. What was more, it was not necessary to remember them, for although the objective of medicine was to cure the individual Tom, Dick or Harry, this could not be done if there was not some sort of framework in which to place them and their ailments. However, it was

... impossible to arrive at a universal theory by induction from particulars, for each particular case will add new information and it will be a never-ending process,

as van der Eijk recaps Galen.¹⁵⁹ In order to solve this, Galen had a firm belief in the existence of a 'common human nature': based on knowledge and theory about the human body, this common nature would provide a physician with the framework he needs to be able to devise treatment. Still, experience was a major factor in a physician's chances of success, and this is where the case histories come in. Theoretical knowledge alone was insufficient: a physician could never have full knowledge and understanding of a patient's condition, as all he had to go on was what he could discover via perception and intellectual activity. That is why 'the best one can do is to work

¹⁵⁸ *Meth.Med.III.7* (10.206 K.).

¹⁵⁹ Van der Eijk (forthcoming), 5.

on the basis of a combination of general theoretical knowledge and practical experience', van der Eijk summarises.¹⁶⁰ The downside to this is that it makes medicine a conjectural profession (τέχνη στοχαστική), and for this reason a physician can never be *certain* of success.¹⁶¹

1.2.3 *Practice: an overview*

Even though at first sight it may look like the first thing Galen did when he saw a new patient was take his pulse, on closer inspection, it becomes clear that several actions probably preceded this. Galen started with the facts he could observe. Just as for the Hippocratic authors, this observation would commence long before he even saw his patient. He would consider the patient's general surroundings, the seasons, and the weather, he would search his patients' immediate surroundings for signs that could tell him something his patient might forget or withhold from him. Once faced with a patient, Galen would establish a history of what had been happening until that point, either by talking to the patient or to those close to him/her. He wanted to have as much information as possible to support any conclusions drawn from the pulse. We see him hesitant to take people's pulse when they are unfamiliar to him, because in such cases he has no idea of what their pulse is like when they are healthy – even though he does tell us that a physician might understand a great deal already based on study knowledge and experience. When Galen finally did take a patient's pulse, then, he knew he was prepared at least to a certain extent. Taking the pulse, he would see if there were any irregularities that signified a specific affection or ongoing process in body or mind,¹⁶² and any conclusions drawn were based both on what he observed in combination with what he had learnt from study and experience. At this point he might deem additional sensory exploration necessary. After the pulse, a patient's urine was the

¹⁶⁰ Van der Eijk (forthcoming), 7.

¹⁶¹ *Opt.Sect.*4 (1.114-5 K.); *Plen.*11 (7.581 K.). Cf. Barnes (1991), 63 n.46; García-Ballester (1994), 1664-5.

¹⁶² Cf. e.g. *Praecogn.*3 (14.617 K.) on how the beat of the pulse could be a sign of pollution of the humours being expelled, and *Praecogn.*6 (14.632-3 K.) on how the mind can be of influence on the tempo of the pulse.

most important signifier; additional signs might be sought in a patient's face, posture, breathing, and so forth. But no matter which signs were considered, it was important that they were considered together and not individually, and they should all point in the same direction. Only then were the chances good enough to inspire confidence.

García-Ballester includes the interpretation of dreams in the array of Galenic diagnostic tools,¹⁶³ as indeed does Galen himself. In the third chapter we shall discuss in what way Galen thought dreams might be of use, and verify to what extent he is likely to have used the interpretation of dreams in his diagnoses.

¹⁶³ García-Ballester (1994), 1639-40.

Τί δ' ἐστὶ τὸ ἐνύπνιον, καὶ πῶς γίνεται, ἐκ τῶν περὶ τὸν ὕπνον συμβαινόντων μάλιστα' ἂν θεωρήσαιομεν.¹

What a dream is, and how it comes to be, we may best study from the circumstances surrounding sleep.

Aristotle's reasoning is sound: if dreams come to us in sleep, it seems only logical that in order to understand them, we must first conduct an investigation into the workings of sleep.

To be sure, the two most substantial medical corpora that have come down to us from antiquity are the logical place to start. In the Hippocratic Corpus, much has been said with regard to sleep in a context of diagnosis, prognosis, treatment or prophylaxis – albeit only in the form of brief remarks or paragraphs. The same goes for the Galenic Corpus, though luckily Galen's work comprises more elaborate passages on the topic, providing us with a more detailed image of the ideas and theories that underlie the shorter remarks we encounter in his oeuvre. In addition to these medical sources, we will discuss a third source, one that is closely connected with both the Hippocratic and the Galenic Corpus. Aristotle is the only ancient source to provide a complete and organised physiological theory to explain the workings of the processes of sleep, and, as we shall see, in both Hippocratic and Galenic theories – as far as these are retrievable to us – we can clearly discern similarities to this philosopher's ideas. These, then, are the sources we shall study to gain an understanding of ancient medical thought on the phenomenon of sleep – and so of the context within which to place the occurrence of dreams. Using the available material, we will attempt to give a clear account of the ideas and theories with regard to sleep present in each source.

¹ Ari.*Insomn.*459a23-5.

Previous scholarship on the subject of sleep has been written mainly from a literary or a philosophical point of view – I mention for instance Georg Wöhrle's *Hypnos der Allbezwinger* in the Palingenesia series, Thomas Wiedemann and Ken Dowden's theme issue *Sleep* in the Nottingham Classical Literature Studies series, and André Lardinois, Marc van der Poel, and Vincent Hunink's *Land of Dreams* as recent examples of this. Aristotle's sleep theories, for example, have received ample attention, mainly towards the end of the eighties, within the wider context of the *Parva Naturalia* and as a prelude to the Aristotelian theory of dreams,² and also in relation to Aristotle's concept of epilepsy.³ Only recently, the debate on the consistency of the treatise *On Sleep and Waking* by Aristotle has even been re-initiated by Stephen Everson.⁴ The medical side of the matter, however, has received hardly any attention.⁵ Marelli's article on the ancient precursors of Aristotle's theories on sleep is probably the most elaborate and informative source we have, which, due to constraints of space, cannot do justice to a topic so intricate.⁶ It is not unthinkable that this oversight is due at least in part to the fragmentary nature of the information on sleep within the two medical corpora; Aristotle of course provides a clear cut treatise dedicated specifically to the topic, and its accessibility no doubt greatly facilitated the study of it. Although Hippocratic and Galenic views on sleep are not as coherently presented as Aristotle's, to collect and discuss any information on sleep we can distil from scattered remarks will still greatly benefit our understanding of this aspect of the two corpora.

² Cf. e.g. Drossaart Lulofs (1947); van der Eijk (2003A & B); Gallop (1989) & (1996); Holowchak (1996); Lowe (1978); Sprague (1977); Wiesner (1978); Wijsenbeek-Wijler (1978).

³ Debru (1982).

⁴ Everson (2007).

⁵ Cf. Byl (1998), with a word frequency study, an overview of adjectives qualifying sleep, and a brief outline of some of the ideas on sleep and waking to be found in the Corpus; Strobl (2002), an overview study based mainly on literary primary sources, but also including brief synopses of some ancient medical and philosophical views – notably those presented in the Hippocratic Corpus (unfortunately presented by Strobl as the actual, coherent works of Hippocrates), Galen, Aristotle (although Strobl's treatment of pseudo-Aristotelian works as written by Aristotle does create a somewhat inaccurate impression of Aristotle's views) and Celsus. Regrettably, the sheer number of primary sources visited in Strobl's study precludes any in-depth discussion.

⁶ Marelli (1979).

2.1 The Hippocratic Corpus

In studying medical theories about the phenomenon of sleep in the Hippocratic Corpus, it is imperative that we are aware of the diverse nature of this collection of texts. There is no such thing as *the* Hippocratic view, as the corpus contains texts by many different authors, all expressing their own personal ideas and theories. If, then, we are unable to distil a coherent theory of sleep from this corpus, this should not come as a surprise. On the other hand, it is well possible that we find elements in the various different approaches towards sleep on which two or more authors agree, things that were generally considered normal or good and abnormal or bad. In mapping out the theories on sleep in the Corpus, such agreement may help to gain a better understanding of sleep as it was perceived in Hippocratic times, although we must of course remain vigilant, and be careful not to make assumptions about one text based on the theories of another.

2.1.1 *Basics of sleep*

Ἔθος δὲ, ἐξ ὧν ὑγιαίνομεν, διαίτησι, σκέπησι, πόνοισιν, ὕπνοισιν, ἀφροδισίοισι, γνώμη.⁷

And habit, the things that contribute to our health: diet, covering, exercise, sleep, sexual activity, mental activity.

The author of *Epidemics* VI names six things that help maintain our health. From the presence of sleep among them, it seems safe to conclude that he considers sleep to be something beneficial. However, the same author also warns that one should observe moderation in at least some of these areas.

⁷ *Epid.* VI.8.23 (184,13-14 Manetti/Roselli; 5.352 L.).

πόννοι, σιτία, ποτὰ, ὕπνος, ἀφροδίσια, μέτρια.⁸

Exertion, food, drink, sleep, sexual activity, in moderation.

The compiler of *Aphorisms* concurs on that point: in book II he points out that too much sleep or waking are bad symptoms ("Ὑπνος, ἀγρυπνίη, ἀμφοτέρα μᾶλλον τοῦ μετρίου γινόμενα, κακόν."),⁹ and in book VII he warns that such practices may well result in disease ("Ὑπνος, ἀγρυπνίη, ἀμφοτέρα μᾶλλον τοῦ μετρίου γινόμενα, νοῦσος").¹⁰ That *Aphorisms* should emphasise the importance of moderation in sleep or waking is not surprising, as its author believes that there is a natural measure for everything:

Οὐ πλησμονή, οὐ λιμός, οὐδ' ἄλλο οὐδὲν ἀγαθόν, ὅ τι ἂν μᾶλλον τῆς φύσιος ᾔη.¹¹

Neither repletion, nor fasting, nor anything else that is more than natural is good.

Evidence of the importance of moderation to health in general can be found throughout the corpus: for many, if not most of the authors of the Corpus, health was regarded in terms of equilibrium and balance,¹² and excessive influence of any kind on the body would, from that point of view, be illness in the making.

⁸ *Epid.* VI.6.2 (124,2-3 Manetti/Roselli; 5.324 L.).

⁹ *Aph.* II.3 (108,18-19 Jones; 4.470 L.): "Sleep, insomnia, when either of them has become more than due measure, it is bad."

¹⁰ *Aph.* VII.72 (212, 13-14 Jones; 4.602 L.): "Sleep, insomnia, when either of them has become more than due measure, there is disease."

¹¹ *Aph.* II.4 (108, 20-21 Jones; 4.470 L.).

¹² Jouanna (1999), 214-15, 262, 325ff.; Nutton (2004), 80-81. Moderation not only concerns ideas with regard to a balance of the constituents of the human body (e.g. *Vet.Med.* 14 (1.600-604 L.) & *Nat.Hom.* 4 (6.36-40 L.)), but also with regard to a balance between food and exercise (e.g. *Vict.* III.69 (6.604-606 L.)).

Further to basic conceptions of sleep, the authors of *Prognostic* and *Coan Prenotions*¹³ agree that in normal circumstances, a man follows a pattern of being awake during the day and being asleep at night.

Περὶ δὲ ὕπνου ὥσπερ καὶ κατὰ φύσιν ἡμῖν ξύνηθές ἐστιν, τὴν μὲν ἡμέρην ἐγρηγορέναι χρή, τὴν δὲ νύκτα καθεύδειν. Ἦν δὲ τοῦτο μεταβεβλημένον ἦ, κάκιον γίνεται. ἥκιστα δὲ ἂν λυπέοι, εἰ κοιμῶτο πρωὶ ἐς τὸ τρίτον μέρος τῆς ἡμέρης. οἱ δὲ ἀπὸ τούτου τοῦ χρόνου ὕπνοι πονηρότεροί εἰσιν. κάκιστον δὲ μὴ κοιμᾶσθαι, μήτε τῆς νυκτὸς, μήτε τῆς ἡμέρης· ἢ γὰρ ὑπὸ ὀδύνης τε καὶ πόνου ἀγρυπνοίῃ ἂν ἢ παραφρονήσῃ ἀπὸ τούτου τοῦ σημείου.¹⁴

Concerning sleep, as is also naturally habitual to us, it is necessary to be awake during the day, and sleep at night. If this should be changed, it is quite bad. Least harm will be done, if [the patient] sleep from early morning for a third part of the day. Sleep after that time is quite bad. Worst is not to sleep, neither at night, nor during the day. For either pain and distress cause insomnia, or the patient becomes delirious after that sign.

To sleep at night and be awake during the day is exactly how it should be, because it is the natural way of things. If any change should occur in this pattern, it is not a good sign, the reader is cautioned, and subsequently various degrees of harmfulness are established. It is least dangerous if someone sleeps the early first third of the day; sleeping after that time is not good. It is worst when someone does not sleep at all, the reasoning behind this being that the sleeplessness is either caused by pain and distress, or it will be followed by delirium. A complete lack of sleep is seen as a sign of most serious trouble.

¹³ The text of *Prognostic* is one of several that have served as a source for the compilation text of *Coan Prenotions*. Cf. Jouanna (1999), 379.

¹⁴ *Progn.* 10 (205,9-206,2 Alexanderson; 2.134 L.). This passage is found practically *verbatim* in *Coa.* III.27.487 (5.694 L.).

For the author of *On Regimen*, in some seasons this natural pattern seems to be insufficient to maintain health. In book I, he warns that it is important to have short siestas in summer, to prevent the season from drying out the body:

συμφέρει δὲ καὶ ἐν τῷ θερεί τῆς ἡμέρης ὕπνοισι χρῆσθαι βραχέσι μὴ πολλοῖσιν, ὅπως μὴ ἀποξηραίνεται τὸ σῶμα ὑπὸ τῆς ὥρης.¹⁵

It is also useful occasionally to have a short siesta in summer, to prevent the body from being dried up by the season.

Clearly, he believes sleep has a moistening effect on the body.¹⁶ A remark in book III refers to this notion again: the author tells us that after the autumn equinox, one must *not* sleep during the day:

καὶ τοὺς περιπάτους ποιεῖσθαι ἐν ἀλέῃ· θερμολουσίῃσι τε χρῆσθαι, καὶ τοὺς ὕπνους ἡμερινοὺς ἀφαιρεῖν, καὶ τοῖσι σιτίοισι θερμότεροισι καὶ ἥσσον ὑγροῖσι καὶ καθαροῖσι καὶ τοῖσι πόμασι μελαντέροισι, μαλακοῖσι δὲ καὶ μὴ ὑδαρέσι τοῖσί τε λαχάνοισι ξηροῖσιν ἥσσόν τι, τῇ τε ἄλλῃ διαίτῃ προσάγειν πάσῃ τῶν θερινῶν ἀφαιρέοντα, τοῖσι δὲ χειμερινοῖσι χρῆσθαι μὴ ἐς ἄκρον, ὅπως καταστήσει ὡς ἔγγιστα τῆς χειμερινῆς διαίτης, ἐν ἡμέρῃσι δυοῖν δεούσησι πεντήκοντα μέχρι πληιάδων δύσιος ἀπὸ ἰσημερίας.¹⁷

[One should] take walks in the sun, take warm baths, and suppress sleep during the day; one should have warmer, less moist, pure foods, and darker drinks that are mild and not diluted, and dry vegetables, in smaller quantity; one should, in all the rest of the regimen proceed suppressing [the regimen] of summer, and adopt [a regimen] of winter, but not entirely, so that one comes as close to a winter regimen as possible in 48 days, from the equinox until the setting of the Pleiades.

¹⁵ *Vict.*I.35 (156,14-15 Joly/Byl; 6.522 L.).

¹⁶ This idea is supported by what is recommended in a moist regimen: to rest and sleep until recovery comes about (cf. *Vict.*IV.89, l.47) Additionally, this author thought that sleep would come about if the flesh became (too) moist, as in the case of plesmonê (cf. *Vict.*III.71).

¹⁷ *Vict.*III.68 (200,16-22 Joly/Byl; 6.604 L.).

The autumn equinox takes place in September, and signals the beginning of the colder and wetter part of the year, when apparently extra sleep is not required to keep the body sufficiently moistened. That different sleeping habits apply in different seasons was something the compiler of *Aphorisms* also noticed:

Αἱ κοιλίαι χειμῶνος καὶ ἤρος θερμόταται φύσει, καὶ ὕπνοι μακρότατοι.¹⁸

It is natural for bellies to be hottest in winter and in spring, and for sleep then to be longest.

In winter and spring, he remarks, sleep is longer than in other parts of the year; apparently this is due to the increased heat in the belly. The implications of this remark will be discussed in a moment.

Epidemics VI provides some more advice in its fourth chapter. Firstly, the author warns that when sleeping in a cold environment, one would do well to sleep under covers.

Ὕπνος ἐν ψύχει ἐπιβεβλημένῳ.¹⁹

Sleep covered in the cold.

A probable line of reasoning underlying this is that under a blanket, one can stay warm, while at the same time still benefiting from the fresh air.²⁰ In addition, the author says that sleep will be sound if drowsiness overtakes us even before we lie down to sleep.

¹⁸ *Aph.*I.15 (104,26-27 Jones; 4.466 L.).

¹⁹ *Epid.*VI.4.14 (94.1 Manetti/Roselli; 5.310 L.).

Ὕπνος ἐδραῖος, ὀρθῶ νυσταγμός.²¹

Sound sleep, [when] drowsing erect.

If we are really tired, almost sleeping on our feet, as the aphorism suggests, it seems only logical that we should sleep well.²²

Ancient physicians were evidently aware of the fact that sleep was more than something that came over a person at night and happened to be of a good and natural character. Sleep had certain effects on the body of which one ought to be mindful, but also effects that could be put to good use in treatment, if one were to manipulate a patient's habitual sleeping pattern. The views traceable in the Corpus are not merely the result of experience; it is clear that theories were developed about what happened in the body before, during and after sleep. These theories will have strengthened physicians in their practice, and they may even have played a role in gaining patients' co-operation in carrying out treatment.

²⁰ See *Epid.* VI.4.14 (5.310 L.); cf. Littré 5, p.310-11, n.6. This interpretation is supported by *Epid.* II.3.1 (5.102 L.), as Littré points out.

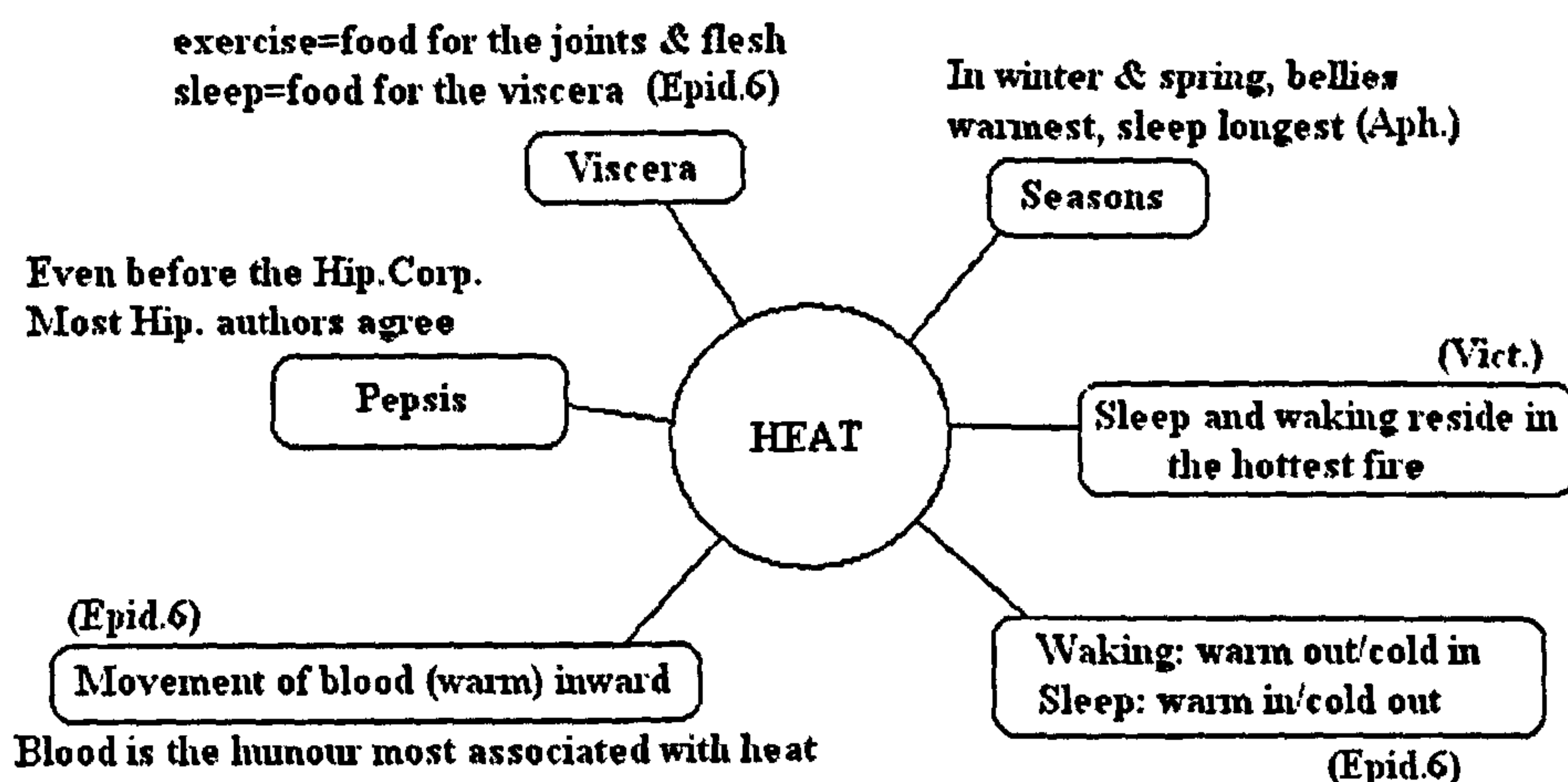
²¹ *Epid.* VI.4.15 (94.2 Manetti/Roselli; 5.310 L.).

²² There are some problems with regard to this passage. See Littré 5.311, n.7; Kühn 17b.175-179; Manetti/Roselli, 94-95. Manetti and Roselli, like Littré and Galen (K17b.175), have ὀρθῶ νυσταγμός, while Smith in his Hippocrates Loeb Vol. VII has chosen to use ὀρθονυσταγμός. I have opted for the former, as it makes more syntactic sense that way. The main problem, however, lies in ἐδραῖος. There are two possible translations here: 1) sitting up, and 2) deep, or firm (sleep). At first sight, the former seems to be preferable, as 'sleep in a sitting position' creates a good contrast with the dozing ὀρθῶ, 'standing upright' of the second half of the aphorism. Both Manetti and Roselli's translation and Smith's Loeb translation prefer this option. However, on closer inspection, it turns out that this translation renders the meaning of the aphorism quite obscure. The second possible translation, opted for by Littré and in the Latin translation provided by Kühn, improves the logic of the aphorism: when someone is dozing while he is still on his feet, he must be so tired that his sleep will be all the more profound when he does lie down. This is also Galen's interpretation.

2.1.2 Cause of sleep

Though nowhere in the Hippocratic Corpus is it exactly explained how sleep comes about, we can still glean something from various scattered passages and remarks, and it would appear that the primary qualities, hot, cold, wet and dry, have something to do with it.

In several Hippocratic treatises, heat is marked as the key ingredient for the beginning of life because of its power to attract breath.²³ No wonder, then, that this quality takes up a very central position in many processes that take place in the body. Sleep and heat are mentioned relatively often in connection with one another. The diagram below charts the position of heat in relation to various processes that take place in sleep as described by various different authors in the Corpus.



Let us begin on the right and follow the diagram clockwise. The author of *On Regimen* is convinced that the body consists of two main elements: water and fire.²⁴ He attributes control of everything in the body to fire in its purest form, 'τὸ θερμότατον καὶ ἰσχυρότατον πῦρ',²⁵ and

²³ Cf. Gundert (2000), 16-17. Cf. *Carn.*2 (8.584 L.); 6 (8.592-594 L.); *Nat.Puer.*12 (7.486-488 L.); *Vict.*I.9 (6.482-484 L.); 27 (6.500 L.).

²⁴ *Vict.*I.3 (126,5-19 Joly/Byl; 6.474 L.).

²⁵ *Vict.*I.10 (134,17 Joly/Byl; 6.486 L.).

declares that it contains what Gundert refers to as ‘the principles of life’, i.e. soul, mind, intelligence, movement, growth, decrease and change, and also the matters of sleep and waking.²⁶ Unfortunately, he never tells us *how* it is that sleep and waking are contained within this purest fire.²⁷

The author of *Epidemics* VI provides some information on what happens to the body when we fall asleep. In sleep, he says, blood withdraws into the inner regions of the body.²⁸ Since blood was the humour most associated with heat, it logically follows that with the blood heat also withdraws into the body, gathering in the belly. This ties in wonderfully with the fact that elsewhere, the author asserts that a person is warm on the outside and cool on the inside when he is awake, and warm on the inside and cool on the outside when he is asleep.²⁹ A whole new aspect of sleep comes into play here. Even before Hippocratic times, heat had been linked to the digestive processes in the body, a concept that was still valid at the time of the Hippocratic authors.³⁰ Digestion, seen as a form of cooking or putrefaction of the ingested food – it was called ‘pepsis’, from πέττω, to cook – depended mainly on the presence of innate heat; the stomach was the ‘cauldron’ in which this process took place. It is no surprise, then, that sleep, the period of time when there is a concentration of heat in the belly, is also the time during which digestion is optimal. The following remark from *Epidemics* VI illustrates this:

Πόνος, τοῖσιν ἄρθροισι καὶ σαρκὶ σίτος, ὕπνος σπλάγχνοισιν.³¹

Exercise is food for the joints and the flesh, sleep [is food for] for the viscera.

²⁶ Cf. Gundert (2000), 17.

²⁷ We might speculate that it has something to do with the suppression of fire and its functions by water, i.e. nourishment, during sleep, which would logically result in a cessation of the body’s ability to move and act.

²⁸ *Epid.* VI.5.15 (5.320 L.).

²⁹ *Epid.* VI.4.12 (5.310 L.). As Byl points out, some of the Presocratics already commented on the change of temperature in the human body at the inception of sleep. Byl (1998), 36.

³⁰ Nutton (2004), 47.

³¹ *Epid.* VI.5.5 (110,1-2 Manetti/Roselli; 5.316 L.). There are various other interpretations of this passage. Littré summarises them: cf. Littré 5, 317 n.8.

We have already seen that the author deemed exercise essential to the maintenance of health. In this passage, the objective of health is the basis for a comparison between food and exercise. Because sleep is the time during which digestion is optimal, it is also the time when the viscera work hardest. The parallel between physical exercise during the day – considered food for the joints and flesh – and digestion during sleep, which can be seen as exercise – and thus food – for the intestines can now be easily understood. But *Epidemics* VI was not alone in its belief that sleep benefited digestion. In the same vein, the author of *On Regimen* recommends sleep after a meal³² and, as does the author of *On Regimen in Health*, he suggests more sleep so as to compensate for indigestion.³³

As mentioned earlier, the author of *Aphorisms* observes that in winter and spring, when the belly and its contents are hottest, sleep is longest. One of the consequences of the increased heat in the belly, the author points out, is that during these colder seasons, more nourishment must be taken in. The complete aphorism reads

Αἱ κοιλίαι χειμῶνος καὶ ἡρος θερμόταται φύσει, καὶ ὕπνοι μακρότατοι· ἐν ταύτησιν οὖν τῇσιν ὥρησι καὶ τὰ προσάρματα πλείω δοτέον· καὶ γὰρ τὸ ἔμφυτον θερμὸν πολὺ· τροφῆς οὖν πλείονος δέονται· σημεῖον, αἱ ἡλικίαι καὶ οἱ ἀθληταί.³⁴

It is natural for bellies to be hottest in winter and in spring, and for sleep then to be longest; so in these seasons more sustenance must be given; for there is much innate heat; so more food must be given; the young and athletes are a sign of this.

³² *Vict.II.60* (182,23-4 Joly/Byl; 6,572-74 L.).

³³ *Vict.Sal.7* (6.82-84 L.); *Vict.III.80* (6.626-628 L.).

³⁴ *Aph.I.15* (104,26-106,3 Jones; 4.466 L.).

Aphorisms seems to be suggesting that people's constitutions in winter and spring are similar to those of athletes and young people: relatively hot. This line of reasoning ties in with what we have already discussed in reference to the belly, heat, and *pepsis*: heat is needed in the belly for the digestive process, and it should logically follow that when there is much heat, there is much digestion. The question why we should eat more when the innate heat is great – and digestion is peaking – has already been answered in the previous aphorism: without sufficient sustenance, a body with great innate heat will literally 'be consumed' (*ἀναλίσκεται*).³⁵

There is some consensus as to heat playing a central role in the processes that take place during sleep, but to say that it actively induces sleep is unsubstantiated. Nowhere is it said, or even implied, that heat has any influence on the actual inception of sleep, even when heat and the absence of heat do seem to play a prominent role in the process. The author of *On Breaths* concurs: he says that

ὅταν γὰρ ἐπέλθῃ τῷ σώματι ὁ ὕπνος, τότε τὸ αἷμα ψύχεται· φύσει γὰρ ὁ ὕπνος πέφυκεν ψύχειν.³⁶

For when sleep comes upon the body, then the blood is chilled; for it is in the nature of sleep to chill.

But that still does not tell us what *causes* sleep to 'come upon the body'; both chill and the accumulation of heat in the stomach area seem to be effects rather than causes of sleep.

Could the two other primary qualities, wet and dry, be more suitable candidates for a role in the causation of sleep than the qualities hot and cold? The closest to an attribution of cause we find in *On Regimen*:

³⁵ *Aph.*I.14 (104,21 Jones; 4.466 L.).

³⁶ *Flat.*14 (121,15-122,1 Jouanna; 6.110-112 L.).

Εἰσὶ δὲ τινες τῶν ἀνθρώπων, οἵτινες, ὅταν κρατέωνται οἱ πόνοι ὑπὸ τῶν σιτίων, καὶ τοιάδε πάσχουσιν· ἀρχομένης μὲν τῆς πλησμονῆς ὕπνοι μακροὶ καὶ ἡδεῖς αὐτοῖσιν ἐπιγίνονται, καὶ τι τῆς ἡμέρης ἐπικοιμῶνται· ὁ δὲ ὕπνος γίνεται τῆς σαρκὸς ὑγρυνθείσης (...) ³⁷

There are some among men, who, when exercise is overpowered by food, experience the following things: at the inception of the surfeit, long and pleasant sleep befalls them, and for part of the day, they slumber; and sleep occurs after the flesh has been moistened (...)

However, although sleep appears to be a result of moistened flesh, we have seen that the same author also prescribes sleep as a means to moisten the body, which suggests that moistness is to be associated with sleep, but is not, in fact, its cause.

Still, dry and moist do play a role: another indication of what might bring about sleep is provided by the author of *Airs, Waters, Places*, who tells us how insomnia dominates in countries where people's constitutions are hard and dry:

“Οκου δ' ἐστὶν ἡ χώρα ψιλὴ τε καὶ ἀνώχυρος καὶ τρηχεία καὶ ὑπὸ τοῦ χειμῶνος πιεζευμένη καὶ ὑπὸ τοῦ ἡλίου κεκαυμένη, ἐνταῦθα δὲ σκληροὺς τε καὶ ἰσχυροὺς καὶ διηρθρωμένους καὶ ἐντόνους καὶ δασέας τό τε ἐργατικὸν ὅξυ ἐνεὸν ἐν τῇ φύσει τῇ τοιαύτῃ καὶ τὸ ἄγρυπνον τά τε ἥθεα καὶ τὰς ὀργὰς αὐθάδεις καὶ ἰδιογνώμονας τοῦ τε ἀγρίου μᾶλλον μετέχοντας ἢ τοῦ ἡμέρου (...) ³⁸

But where the land is bare, waterless and rough, oppressed by winter and burnt by the sun, there, [one will find that the people are] hard, lean, well-articulated, well-braced, and hairy, and that there is a high level of diligence and wakefulness in a nature of such a kind, and that the characters and tempers are stubborn and self-opinionated and more partial to wildness than gentleness.

³⁷ *Vict.III.71* (202,33-204,1 Joly/Byl; 6.610 L.).

³⁸ *Aer.Aq.Loc.24* (82,6-11 Diller; 2.92 L.).

Here, too, moisture is conducive to, and even seems to be a requirement for, sleep: the absence of water in the environment has a profound effect on the constitution of indigenous people, and through it on their sleeping habits.

All in all, based on the available evidence, there appears to be a mild inclination towards moist as a candidate for the cause of sleep – even if there is, as we have seen, still some unclarity as to its exact role. Heat, on the other hand, though central to sleep, does not appear to do anything until *after* the inception of sleep.

2.1.3 *Sleep and Hippocratic medicine*

2.1.3.1 Effects of sleep

According to the author of *On Regimen*, sleep moistens the body. But it does more: the author devotes almost an entire chapter to the different effects it has under different circumstances. From this paragraph, it becomes quite clear that the effect of sleep is not always the same, but depends on the condition of the body prior to and during sleep. After a meal, he asserts, sleep moistens and warms the body.³⁹ This seems to be the ‘normal’ way of things, and it is in keeping with the siesta he recommends in the summer season. The author also recommends sleep after a meal – sleep was, of course, thought to be beneficial for digestion – because, thanks to its warming and moistening qualities, it helps to spread the food over the body.⁴⁰ If one does not sleep after a meal, the author explains, nourishment cannot be distributed in the body. However, during abstinence from food, sleep reduces and cools as it evacuates moisture from the body, but only if sleep is not too long. If sleep is prolonged, it will heat and melt the flesh and on the whole weaken the body; this problem is, however, of less concern to one who fasts. Sleep after a

³⁹ For remarks that further illustrate this author’s belief in the warming quality of sleep see *Vict.III.75* (6.616-618 L.); *78* (6.620-624 L.).

⁴⁰ *Vict.III.78* (6.622-624 L.).

morning walk dries, as labour does also; inaction, on the other hand, moistens the body.⁴¹

Schematically:

<i>On Regimen</i> II.60	moistening	drying	warming	cooling
sleep after a meal	x		x	
sleep when fasting		x		x
prolonged sleep when fasting			x	
sleep after early morning walks		x		
inaction	x			
labour		x		

While the author of *On Regimen* thinks that sleep normally warms and moistens, the author of *On Breaths* is of a different opinion. He states that the reason why the blood cools off when we get the urge to sleep is because it is in the nature of sleep to cause *chill*. The blood, then, is also chilled, and moves through the body more slowly, making it heavy. Because of this, the body gets a downward tendency, as do the eyelids, which is the reason why they close. In addition, the intelligence is altered by the chill, and, as the author has it,

δόξαι τε ἕτεραι τινες ἐνδιατρίβουσιν, ἃ δὲ ἐνύπνια καλέονται.⁴²

certain other fancies linger, which are called dreams.

But we will return to that topic in the next chapter. As to the moistening effect of sleep, this notion appears to be shared by *Internal Affections*, and illustrated by its description of a phlegmatic illness, of which the author says:

⁴¹ *Vict.* II.60 (6.572-574 L.).
⁴² *Flat.* 14 (122,5-6 Jouanna; 6.112 L.).

Τοῦτο τὸ νόσημα γίνεται μάλιστα θέρεος ὥρη ἀπὸ ὑδροπωσίδης καὶ ὕπνου.⁴³

This disease occurs mostly in summer from drinking water and sleep.

It would seem that drinking water and sleeping have the same – moistening – effect on the human body.

In *Epidemics* VI.4, the author links sleeping and waking to the sensations of hunger and thirst, and to the physical process of thinning and fattening.

“Υδωρ βορὸν καὶ ἀγρυπνίη βορὸν. Ἐνθέρμῳ φύσει καὶ θερμῇ ὥρῃ, κοίτη ἐν ψύχει παχύνει, ἐν θερμῷ λεπτύνει. Ἀσκησις ὑγιείης, ἀκορίη τροφῆς, ἀοκνίη πόνων. Ἐν τῷ ἐγρηγορέναι δίψης ἐπιπολαίου ὕπνος ἄκος, τῆς δ’ ἐξ ὕπνου ἔγερσις.”⁴⁴

Water makes one hungry and insomnia makes one hungry. For a warm nature in a warm season, sleep in the cold fattens, while sleep in warmth makes thinner. Maintenance of health: moderation in eating of food, not shrinking away from exertion. Sleep is the cure for superficial thirst that occurs in waking, waking [is the cure] for [thirst] that has its origin in sleep.

It is difficult to fathom what the basis of the first of these statements may be: theory or experience? If we assume that by ‘water’, he means the ingestion of it, it seems only logical to further assume that the author is talking about the effect of water on the body, and thus, by association, about the effect of insomnia on the body. More we cannot deduce without resorting to downright speculation. This also applies to the different sorts of thirst that are mentioned: one variety comes into being during sleep, another is generated in a state of waking. The first is cured

⁴³ *Int.*21 (142,13-14 Potter; 7.220 L.).

⁴⁴ *Epid.* VI.4.18 (94,6-96,3 Manetti/Roselli; 5.312 L.).

by waking, the latter is cured by sleep – the notion that opposites are cures for one another is not uncommon among authors of the Hippocratic Corpus. More than this, however, cannot be inferred for lack of information. Fortunately, the author is more informative with regard to the possible physical effects of sleep. Similar to *On Regimen*, he observes that sleep has different effects under different circumstances: if someone with a hot nature sleeps in the cold in a hot season, this will fatten him; if he sleeps in warm conditions in such a season, this will make him thinner. Although it is again difficult to establish the basis of the author's remarks, in this case we can at least venture an explanation. Earlier, we discussed the author's theories about the concentration of heat in the inner parts of the body in sleep, and the improved digestion that was a result of this.⁴⁵ If heat, then, is the power responsible for digestion, then sleeping in surroundings with a relatively high temperature will only augment this process, while a lower temperature will counter it.

It turns out that a whole range of different effects and characteristics was attributed to sleep. Apparently, moistening, drying, warming, and cooling were all thought to be possible effects of sleep – *Epidemics* VI alone adds hunger and thirst, and fattening and thinning to this list. It should not be a surprise, then, to find that sleep was deemed worthy of a physician's attention.

2.1.3.2 Sleep and insomnia as symptoms

In the Hippocratic Corpus, sleep is mostly mentioned in a diagnostic or prognostic context;⁴⁶ focus is not so much on the processes of sleep itself, but more on the information that can be gained from its presence, absence or (ir)regularity. It would seem, then, that to a Hippocratic physician sleep and insomnia were mainly symptoms, the former generally a good symptom,

⁴⁵ Cf. *Epid.* VI.4.12; 5.5; 5.15 (5.310; 316; 320 L.).

⁴⁶ Cf. Jouanna (1999), 169.

often heralding recovery, the latter a bad one, usually indicating deterioration of the patient's condition, and sometimes even looming death. In the Corpus, we encounter a clear illustration of this particular attention to sleep and waking in the diagnostic 'checklist' provided by the author of *Epidemics* I. In it,

... ὕπνοισιν, οὐχ ὕπνοισιν, ἐνυπνίοισι, οἷοισι καὶ ὅτε, ...⁴⁷

... sleep, insomnia, dreams – including their kind and timing –...

are explicitly mentioned as two of the circumstances of the diseases on which the author bases his medical diagnoses. When examining the remainder of the treatise, it is clear that the author pays attention mainly to sleeping behaviour that is considered to be out of the ordinary, like short or light sleep⁴⁸ and insomnia,⁴⁹ the latter of which has his chief interest. Remarkably, he also appears to notice the absence of anticipated deviances from the norm, for instance when he explicitly refers to the absence of insomnia in the sixth case history. Although in light of the relatively limited understanding of the subject of sleep terms like 'ordinary' and 'norm' may seem out of place here, the use of such words is, in my view, warranted because it is obvious that the author uses some point of reference in his assessment of patients' sleeping behaviour – even though it remains unclear to us what that norm exactly is. Parallels to this we have already seen in *Aphorisms*, *Prognostic*, and *Coan Prenotions*, as discussed under 2.1.1, in which moderation and normality in relation to sleep were central.⁵⁰

⁴⁷ *Epid.*I.10 (199.16-17 Kühlewein; 2.670 L.).

⁴⁸ *Epid.*I.13 (2.684, 2.688, 2.716 L.).

⁴⁹ *Epid.*I.4; I.9; I.13 (2.624, 2.652, 2.692, 2.694, 2.700, 2.704, 2.706, 2.712 L.).

⁵⁰ Cf. *Aph.*II.3; VII.72 (4.470; 602 L.); *Progn.*10 (2.134 L.); *Coa.*III.27.487 (5.694 L.).

As far as we can tell, the Hippocratic physicians who provide information on the topic seem to be of the opinion that sleep is one of the ‘six things that help maintain health’,⁵¹ and they seem to agree that sleep is – or at least should be – good for the body. This concept is set off by the fact that insomnia, on the one hand a clear deviation from natural sleeping habits, on the other a violation of the rule on moderation in waking, is never considered to be a good sign. Remarks in *Coan Prenotions* and *Prorrhetic I*, for instance, indicate that sufferers from insomnia are in a heightened state of susceptibility to bad influences;⁵² similarly, a passage in *Critical Days* warns that patients who after fever have insomnia or sleep badly are likely to have a relapse;⁵³ additionally, *Prorrhetic I* mentions it as a symptom of phrenitis.⁵⁴ And these are but a few examples. That insomnia should be bad news is not entirely unexpected, as it is obviously a signal that the normal order of things, the precious balance that keeps the human body healthy, has in some way been upset.

Insomnia or troubled sleep can play either of the following two roles in disease. Firstly, they can be the result of physical problems. In such cases, the cause may lie in an imbalance in the body, or some other form of physical trouble, like pain. Thus, sleeplessness becomes a factor *within* the process of physical disease, the result – a *symptom* – of some underlying physical ailment. The same goes for bad or troubled sleep. Evidence of this we find, for example, in *Prognostic*, where pain and distress (ὀδύνης τε καὶ πόνου) are mentioned as possible causes of sleeplessness,⁵⁵ and *Ancient Medicine*, where the incapacity to digest wreaks havoc on patients’ ability to sleep peacefully (δυσκοιτέουσι).⁵⁶ Additionally, numerous casual references to sleeplessness as symptoms of specific diseases or in case studies can be found all over the Hippocratic Corpus. In the case histories of *Epidemics I*.13, for instance, there are reports of

⁵¹ *Epid.*VI.8.23 (5.352 L.).

⁵² *Coa.*I.2.36; 41 (5.594; L.) & *Prorrh.*I.68; 74 (5.526; 528 L.).

⁵³ *Jud.*39 (9.304 L.).

⁵⁴ *Prorrh.*I.1; 4 (5.510-512 L.).

⁵⁵ *Progn.*10 (206,1 Alexanderson; 2.134 L.).

⁵⁶ *Vet.Med.*10 (131,8 Jouanna; 1.594 L.).

uncomfortable nights (ἐς νύκτα, ἐπιπόνως or νύκτα δυσφόρως), lack of sleep (οὐκ ἐκοιμήθη or ὕπνοι οὐκ ἐνήσαν), or light sleep (ὕπνοι λεπτοί); *On Regimen* III.73 mentions restless sleep (ἐν τοῖς ὕπνοις ταρασσονται); *Prorrhetic* I.1 and 4 report insomnia (ἀγρυπνέοντες; ἀγρύπνοισιν); and these are but a few illustrative examples. The second possible role of insomnia and bad or troubled sleep manifests itself in a psychological scenario. The cause of too much waking can have its origin in the *psyche*, as is for instance the case in *Humours* 9:

Ψυχῆς, ἀκρασίη ποτῶν καὶ βρωμάτων, ὕπνου, ἐγρηγόρσιος, ἢ δι' ἔρωτάς τινας, οἶον κύβων, ἢ διὰ τέχνας ἢ δι' ἀνάγκας καρτερίη πόνων, καὶ ὧντινων τεταγμένη ἢ ἄτακτος.⁵⁷

Of the *psyche* are: intemperance in drink and food, sleep, waking, endurance of distress, either because of a love of things, like for instance dice, or because of work, or due to necessity, and the regularity or irregularity of such endurance.

If there is a prolonged situation of too much sleeping or too much waking, this in turn is likely to effect physical symptoms. In such a scenario, then, insomnia or troubled sleep can become the cause of physical problems rather than a symptom of them. This does, of course, not imply that it is always good to sleep. Danger of violating the moderation rule aside,⁵⁸ there are several cases in which sleep is actively discouraged, simply because of its potentially detrimental effects on the body:⁵⁹ in book II of *Aphorisms*, the author warns that if sleep causes complaints or suffering during a disease, it is most certainly not a good sign, and the patient may well die;⁶⁰ on the other

⁵⁷ *Hum.*9 (80,1-4 Jones; 5.488 L.).

⁵⁸ Cf. for instance *Prorrh.*I.109 (5.544 L.); *Coa.*II.8.342 (5.656-658 L.); *Epid.*VI.5.15 (5.320 L.), *Epid.*VII.67b (5.430 L.); *Int.*9 (7.186-188 L.) where (too) much sleep has a (potentially) negative effect on the body.

⁵⁹ Cf. e.g. *Epid.*VII.67b (5.430 L.); *Int.*9 (7.186-188 L.); see also sleep management in the purging process (*vide infra*).

⁶⁰ Smith remarks here that *θανάσιμον* means dangerous, and not deadly. I disagree: how often will an illness get worse in sleep? Not very often, and I can imagine that if it does get worse, it may well be a deadly illness. At any rate, I do not really see Smith's reasons for interpreting 'deadly' as 'dangerous', so why deviate from the Greek, which seems clear to me?

hand, if sleep is beneficial for the patient, the disease is not deadly.⁶¹ Put simply, sleep should normally be a healthy thing, which means that if it does cause harm in any way, the condition of the patient must be extremely poor.

2.1.3.3 Treatment

A physician's job was to cure his patients by correcting the wrongs that lay at the basis of their illness. For a long time, the two main ways of doing this had been the rather invasive methods of surgery and pharmaceuticals. It was at the time of the Hippocratic Corpus that a third sort of treatment came to be more and more established: the professional adaptation of a patient's regimen to his body's requirements.⁶² This sort of treatment could affect all aspects of a patient's life style,⁶³ and was adaptable to each individual's needs. Sleep and waking did not play a solely passive role in this type of treatment.⁶⁴ The author of *On Regimen* – an expert in this area, as the title of his book suggests – uses sleep on a number of occasions to cure a variety of ailments. His advice regards the time, quantity, and circumstances in which sleep should take place, and he employs sleep both in a prophylactic and a remedial fashion. He is a firm believer in season-specific regimen:⁶⁵ he recommends a daily short siesta as part of the summer regimen, to prevent the season from drying out the body,⁶⁶ but warns against sleep during the day after the autumn equinox, as this is the beginning of a wet part of the year when no extra moisture is needed within

⁶¹ *Aph.*II.1 (4.470 L.). Cf. *Epid.*VI.8.5 (5.344 L.). See also *Prorrh.*I.109 (5.544 L.); *Coa.*II.8.342 (5.542, 5.544, 5.656-658 L.), where it is explained that spasms may be caused by sleep because of the heat that builds up in the belly; *Int.*21, where the moistening quality of sleep may cause problems; *Coa.*II.4.177 (5.622 L.) where comatose sleep is considered unfavourable, possibly because of its cooling effect.

⁶² Cf. Nutton (2004), 97.

⁶³ Cf. *Vict.*I.2 (6.468-472 L.); Jouanna (1999), 162.

⁶⁴ It is interesting to note here that in the Hippocratic *On the Art*, regimen treatment is mentioned as belonging to the art of medicine. The author argues that even when no physician is called in to heal the sick, the art of medicine is still at work in their recovery; apparently, people still have some clue about what benefits or aggravates their condition, and react to their illness by means of, for example, abstinence or an abundance of food or drink, taking or not taking baths, exercise or rest, waking or sleep, in short, by means of regimen therapy; cf. *Art.*5 (6.6-8 L.).

⁶⁵ This is especially clear in *Vict.*III.68 (6.594-604 L.).

⁶⁶ *Vict.*I.35, III.68 (6.522, 6.602 L.).

the body.⁶⁷ In a particular type of surfeit (πλησμονή), the author prescribes a short sleep after lunch (ὑπνῶ ἀπὸ τοῦ ἀρίστου μὴ μακρῶ).⁶⁸ Which specific quality of sleep he means to make use of in this treatment is not immediately clear. Joly suggests that the author wants to use the moistening quality of sleep, something that can be recognised by the fact that only short sleep is allowed. If prolonged, he explains, referring to chapter 60, sleep would bring warmth, which is contra-indicative in cases of fever.⁶⁹ I have some difficulties with this interpretation. Joly points out that sleep only heats when it is prolonged, but chapter 60 speaks of the effects of sleep in cases of fasting, most likely because these conditions bring out qualities in sleep different from those it would have in normal circumstances. Joly seems to pass over the preceding remark:

“Υπνοὶ δὲ νῆστιν μὲν ἰσχυαίνουσι καὶ ψύχουσιν, ἢν μὴ μακροὶ ἔωσι, κενοῦντες τοῦ ὑπάρχοντος ὑγροῦ.”⁷⁰

Sleep during fast, if it is not long, makes thin and cools, while it empties the body of its moisture.

When only prolonged sleep warms, this is because short sleep has had a cooling and drying effect – not moistening. While sleep does warm and moisten after the intake of food,

Βεβρωκότα δὲ θερμαίνοντες ὑγραίνουσι τὴν τροφήν ἐς τὸ σῶμα διαχέοντες.⁷¹

After a meal, [sleep] warms and moistens, spreading nourishment over the body.

It is never claimed that, under normal circumstances, sleep moistens first and warms only later.

The warming in a later stage of sleep only coincides with abstinence of food. I do not believe,

⁶⁷ Cf. *Vict.* III.68 (6.604 L.).

⁶⁸ *Vict.* III.73 (206,3 Joly/Byl; 6.614 L.).

⁶⁹ Cf. Joly/Byl (1984), 291.

⁷⁰ *Vict.* II.60 (182,21-22 Joly/Byl; 6.572 L.).

⁷¹ *Vict.* II.60 (182,23-24 Joly/Byl; 6.574 L.).

then, that it is the author's intention to moisten his patient's body. A more logical aspect of sleep for the author to employ in treatment is its digestive power. This interpretation is supported by information presented elsewhere in chapter 60, where it is clearly stated that

Ἀγρυπνίη δὲ ἐν μὲν τοῖσι σιτίοισι βλάπτει οὐκ ἐῷσα τὸ σιτίον τήκεσθαι.⁷²

Insomnia during digestion is harmful, because it prevents the food from dissolving.

All of this provided, of course, that the behaviour of the innate heat is within normal parameters, which is not the case in the type of *πλησμονή* (surfeit) subsequently described. In treatment of it, the author makes use of sleep again, but not because of its moistening or digestive properties – at least not primarily –, but for its heating quality.⁷³ In this particular type of surfeit, the belly is cold and cannot digest food at night – which is of course odd, because, as we have seen, night is the time when digestion should be most active. The author remarks that

δεῖ οὖν τούτῳ παρασκευάσαι τῇ κοιλίῃ θερμασίην ἀπὸ τε τῆς διαίτης καὶ τῶν πόνων.⁷⁴

For such a patient, it is necessary to heat up the belly both through regimen and exercise.

As part of this treatment, which is evidently designed to bring warmth,⁷⁵ the author prescribes long sleep (*ὑπνοισί μακροῖσι*), and sleep after exercise (*ὑπνοισί ἀπὸ τῶν γυμνασίων*).

Other authors, too, employ sleep or waking in medical treatment: spasms, for instance, are a tricky sort of ailment: the authors of *Prorrhetic* and *Coan Prenotions* are of the opinion that in

⁷² *Vict.*II.60 (182,25-26 Joly/Byl; 6.574 L.).

⁷³ cf. *Vict.*III.78 (6.622-624 L.).

⁷⁴ *Vict.*III.75 (206,33-34 Joly/Byl ; 6.616 L.).

⁷⁵ Cf. also Joly/Byl (1984), 292.

some cases sleep is good,⁷⁶ and in other cases sleep is not good.⁷⁷ The latter author also discusses treatment that requires a mere good night's rest,⁷⁸ and the author of *On Diseases of Women* recommends sleep after taking certain drugs.⁷⁹ Regulation of sleep and waking also has an important function in the purging process: several authors refer to the counteractive effects sleep has on it. *Aphorisms* explains clearly that a patient should be made to move about in order to increase the effects of ingested hellebore, a potent purgative, and that he should sleep and not move in order to counteract or stop the effects of the drug.⁸⁰ The author of *Epidemics V* tells of a patient who sleeps only a little during purging treatment, an indication that one process counteracts the other,⁸¹ while the author of *Diseases III* recommends prevention of sleep as much as possible, so that *katharsis* may be all the more active and abundant.⁸² If a patient is weak, *Places in Man* warns, a soporific should be taken after an emetic, presumably to cut the purging process short before it can drain the patient of all his energy.⁸³ In the same vein, the author of *Affections* tells us that soporifics bring calm and rest to the body.⁸⁴

In treatment, then, sleep was applied in a variety of ways, most of which put to use one or more of the effects of sleep discussed above: it was employed to moisten or to warm, or to enhance digestion or the effects of certain drugs, or to counteract the effects of purging medicines.

⁷⁶ *Coa.II.8.352* (5.658 L.).

⁷⁷ *Prorrh.I.109* (5.544 L.); *Coa.II.8.342* (5.656-658 L.).

⁷⁸ *Coa.II.26.473* (5.690 L.).

⁷⁹ *Mul.III.215* (8.416 L.).

⁸⁰ *Aph.IV.14-15* (4.506 L.). Similarly, the author of the spurious *Letter 21* (9.388-392 L.) advises movement after drinking Hellebore, and not to give in to sleep, implying that to do so will neutralize its effect.

⁸¹ *Epid.V.15* (5.214 L.).

⁸² *Morb.III.16* (7.148 L.).

⁸³ *Loc.Hom.33* (6.324-236 L.).

⁸⁴ *Aff.36* (6.246 L.). Cf. Byl (1998), 33-4. This notion is also reflected in the spurious *Letter 24*. Its author refers to an effect of sleep we can relate to in modern society, namely that it relaxes the body. This is normally a good thing, unless the body is unexercised, as the author points out, in which case the relaxation will go too far and become measureless. The importance of balance in the processes and constituents of the body is clear once more: in this case, one must not only balance sleep and waking, but also the amount of exercise versus the amount of inactivity.

2.2 Galen

With the exception of a number of texts which we know to be spurious, the Galenic Corpus – as opposed to the Hippocratic Corpus – was written by one man. A great advantage of this is that the ideas expressed in the texts are likely to have their roots in one uniform underlying theory, and will therefore support one another. This is important, for we have to reconstruct Galen's views on sleep from passages scattered throughout the Corpus; no treatise on sleep and waking by his hand has come down to us.⁸⁵ A second advantage of the Galenic Corpus is that it provides much information on the opinions and beliefs of one man, so that we can reconstruct Galen's theories with relative accuracy,⁸⁶ something that is virtually impossible in the case of the authors of individual Hippocratic texts.

In the plethora of data the Galenic Corpus provides, the treatises containing the most substantial passages on sleep, and thus yielding the most information on the subject, are most notably *On the Causes of Pulses* and *On the Causes of Symptoms*, but also *On Fullness*, *On Hippocrates' "Prorrhetic"*, *On the Movement of the Muscles*, *On the Olfactory Organ*, *On the Powers of Foods*, and *On Hippocrates' "On Regimen in Acute Diseases"*.⁸⁷ Besides the relatively elaborate and instructive passages found in these treatises, sleep is mentioned in a more cursory fashion on a considerable number of occasions. We shall commence our investigation with these latter, less extensive passages, and thus create a framework of general information on sleep, reconstructing a first impression of Galen's ideas on what was 'normal' and what was 'abnormal' sleeping behaviour, on sleeping habits of specific types of people, and on the factors

⁸⁵ There is a pseudo-Galenic treatise *On Sleep and Waking* in Arabic, which has been translated into German by R. Nabielek: *Die ps.-Galenische Schrift 'Über Schlaf und Wachsein'*, zum ersten Male herausgegeben, übersetzt und erläutert, Berlin, 1976. According to Nabielek, it is a compilation of information gained from various Galenic texts. There is a summary of it in Oribasius (*Collectiones Medicae* VI.4 (156,8-157,26 Raeder).

⁸⁶ With the exception of a few treatises, everything in the corpus can confidently be attributed to Galen himself – though it must of course always be taken into account that, throughout his long life, Galen also developed his views.

⁸⁷ *Caus.Puls.*3.9-10 (9.131-142 K.); *Sympt.Caus.*1.8 (7.139-144 K.); *Plen.*11 (7.576-577 K.); *In Hip.Prorrh.*1.2.37 (16.592 K.); 1.2.81 (16.669 K.); *Mot.Musc.*2.4 (4.439 K.); *Instrum.Od.*3 (p.58,9-20 Kollesch; 2.880-1 K.); *Alim.Fac.*1 (6.487 K.); *In Hip.Vict.Acut.*2.55 (15.624-5 K.).

he believed could play a role in the preservation or disruption of sound sleep. In this framework, we will subsequently place the more elaborate passages on sleep, in which Galen postulates his theories on the mechanics of the sleeping process. And lastly, once we have established a better understanding of what sleep is and what causes it, we will briefly explore the significance of sleep in Galenic medicine.

2.2.1 *Basics of Sleep*

In his commentary on the Hippocratic *Prognostic*, Galen agrees with its author that to sleep at night and be awake during the day was the natural way of things. He also concurs with the notion that it was a bad thing not to sleep at all, because such sleeping behaviour was probably a symptom of some underlying ailment. However, Galen feels something is lacking. Although it is of course good to follow habits that are natural, Galen points out that the Hippocratic approach does not provide for those whose habit it is to sleep at other times than is considered normal or natural, like some of the rich elite who sleep in the daytime and wake in the night time, and still manage to maintain their health. According to Galen, it has become even more important to follow the pattern one is used to than to do what is *considered* natural.

Περὶ δὲ ὕπνων ὥσπερ καὶ κατὰ φύσιν σύνηθες ἡμῖν ἐστὶ, τὴν μὲν ἡμέρην ἐγρηγορέναι χρή, τὴν δὲ νύκτα καθεύδειν. εἰ δ' εἴη τοῦτο μεταβεβλημένον, κάκιον γίνεται. ἥκιστα δ' ἂν λυπέοι, εἰ κοιμῶτο τὸ πρωτὶ εἰς τὸ τρίτον μέρος τῆς ἡμέρης. οἱ δ' ἀπὸ τουτέου τοῦ χρόνου ὕπνοι πονηρότεροί εἰσιν.

Οὐ μόνον ὀρθῶς ἀπεφώνητο περὶ τῶν κατὰ τοὺς ὕπνους σημείων, ἀλλὰ καὶ τὴν αἰτίαν προσέθηκεν αὐτοῖς εἰς μὲν τὸ κατὰ φύσιν ἀναφέρων ὅσα χρηστά, τὰ δὲ ἐναντία, διότι παρὰ φύσιν ἐστὶ, διὰ τοῦτο μεμψάμενος. οὕτω δὲ καὶ κατὰ τὸ ἔθος ἔχει· τὸ μὲν γὰρ σύνηθες ἀγαθόν, τὸ δὲ ἀσύνηθες μοχθηρόν. ἀλλ' ἐπὶ τῶν Ἰπποκράτους χρόνων οὐκ ἄλλο μὲν ἦν τὸ κατὰ φύσιν, ἄλλα δὲ τὰ ἔθη, νυνὶ δὲ

ἔμπαλιν οἱ πλούσιοι δρῶσιν ἐν ἄλλοις τέ τισι καὶ κατὰ τοὺς ὕπνους, τῆς μὲν ἡμέρας κοιμώμενοι, νύκτωρ δὲ ἐγρηγορότερες. ἐπὶ τούτων οὖν ὥς ἂν παρὰ φύσιν εἰθισμένων ζῆν οὐκ ἀληθὴς ἐστὶν ἡ εἰρημένη πρὸς Ἱπποκράτους διδασκαλία. κυριώτερον γὰρ ἐν γε τοῖς νῦν χρόνοις ἐστὶ τὸ ἔθος τῆς φύσεως, οὐκ ἐπὶ τῶν πλουσίων γυναικῶν μόνον, ἀλλ' ἤδη καὶ ἀνδρῶν οὐκ ὀλίγων.⁸⁸

Concerning sleep, as is also naturally habitual to us, it is necessary to be awake during the day, and sleep at night. If this should be changed, it is quite bad. Least harm will be done, if [the patient] sleep from early morning for a third part of the day. Sleep after that time is quite bad.

Not only did he speak rightly about the signs in sleep, but he also added their cause, referring by 'naturally' to all that is good, and with the opposite things he finds fault because they are unnatural. So, too, it is with habitual behaviour. For that to which someone is accustomed is good, but that to which he is not accustomed is bad. But at the time of Hippocrates, it was not so that 'according to nature' was one thing, and 'according to habit' another, but now the rich do things the other way round, especially in sleep: sleeping by day, and waking at night. Now, concerning those who are used to living counternaturally, the lore proclaimed by Hippocrates does not hold true for them. For in present times, habit is more important than nature, not only for the rich women, but also for not few men.

This does not mean that Galen approved of not sleeping at all. He still thought that a state of permanent wakefulness was not beneficial for someone, for if a man does not sleep at all, Galen contends, he leads the life of a bat, not that of a man.⁸⁹

It is clear that Galen was aware of the fact that his patients would differ from one another in various respects. After all, every individual had different habits, which meant they were all subject to different influences – this had to be borne in mind at all times. Another factor to be taken into account was age. Galen believed that people have a moist constitution when they are young and that, as age advances, they slowly dry out – the result of which is of course a dry

⁸⁸ *In Hip.Progn.* II.10 (269,19-270,12 Heeg; 18b.128-130 K.).

⁸⁹ *In Hip.Epid.* I.3.6 (17a.238 K.)

constitution at old age.⁹⁰ With his patients' relative uniqueness in mind, Galen gives the following advice. Not everyone should indulge in the same things – in the area of, for instance, wine, food, exercise and sexual activity, but also in that of sleep and waking – because what is good for one particular individual may be bad for another. Moreover, what is good for someone when he is young will probably not be good for him all his life due to the changes his body undergoes as he progresses in age.⁹¹

καθάπερ οἴνων τε καὶ σιτίων καὶ γυμνασίων ἐγρηγόρσεώς τε καὶ ὕπνων καὶ ἀφροδισίων ἄλλον ἄλλως ἀπολαύειν προσήκει κατὰ τὰς διαφερούσας ἡλικίας.⁹²

Just as wine and food and exercise, waking and sleep, and sexual activity, it is fitting for different people to enjoy in different ways, according to their various ages.

But it is not only habit or age Galen takes into account, it is the complete individuality of his patient's constitution. When the constitution of the body is optimal, he says, and the surrounding circumstances are also most favourable, it is suitable to have a perfect balance in everything. With regard to sleep and waking this should not be a problem, as they are naturally regulated in cases of optimal constitution and surrounding conditions. If, however, the mixtures of the different components of the body are not optimal, and circumstances are less than perfect, then the balance between for instance sleep and waking must be adjusted accordingly – which of course entailed something different in every individual case.⁹³

Moderation was a key word for the Hippocratic authors, and it remained central to Galen's ideas on what was and what was not good. To keep the body perfect, extremes were to be

⁹⁰ Cf. *On Marasmus* (7.666-704 K.), in which the corruption of the human body due to dryness is discussed.

⁹¹ *San.Tuen.I.11* (6.57 K.)

⁹² *San.Tuen.I.11*; 27,9-11 Koch; 6.57 K.

⁹³ *Ars Med.* 24 (1.370-1 K.)

avoided in every way, because if the body was anything less than its perfect, average self, it became susceptible to all sorts of disorders and ailments:

νυνὶ δὲ τὸ μὲν ἄριστον σῶμα ἐπειδὴ πρόκειται φυλάττειν ἄριστον, ἐξ ἀπάντων οὖν ἐκλεκτέον αὐτῷ τὸ σύμμετρον, ἐκ τρίψεων, ἐκ γυμνασίων, ἐκ λουτρῶν, ἐκ τροφῶν, ἐξ ὕπνων, μήτε μαλακωτέραν αὐτοῦ τὴν ἑξιν τοῦ σώματος ἐργαζομένους μήτε σκληροτέραν (ἢ μὲν γὰρ εὐνίκητος ὑπὸ τῶν ἑξωθεν αἰτίων, ἢ δὲ τὴν αὐξησιν κωλύει) μήτε πυκνοτέραν, ὥς ἴσχεσθαι τι τῶν κατὰ τὴν σάρκα περιττωμάτων, μήτ' ἀραιότεραν, ὥς ἀπορρεῖν τι καὶ τοῦ χρηστοῦ. κατὰ δὲ τὸν αὐτὸν τρόπον οὐδ' ἰσχυροτέραν ἑαυτῆς ποιητέον οὐδὲ παχυτέραν, εἴπερ ἄριστα διέκειτο, γινώσκοντας, ὥς τὸ μὲν ἰσχυρότερον εὐεπηρέαστον ὑπὸ τῶν ἑξωθεν αἰτίων, τὸ δὲ παχύτερον ὑπὸ τῶν ἐνδοθεν καὶ αὐτοῦ τοῦ σώματος ὀρμωμένων.⁹⁴

And now it is our aim to keep the best body in best shape, so above all moderation must be chosen for it, in massage, in exercise, in baths, in food, in sleep, making the condition of the body neither softer nor harder (for one [condition] is more easily overcome by external causes, and the other hinders growth), and neither thicker, for that gets in the way of the residues of digestion in the flesh, nor thinner, because then what we need flows away. And in the same way, [someone] must not be made more slender than his usual self, nor fatter, if he was in the best condition, because we know that the more slender condition is exposed to harm due to external causes, and the fatter condition to [harm] due to [causes] that arise from the inside and the body itself.

Clearly, intemperance was not to be permitted, lest the body become too soft, too hard, too thick, too thin, too slender, or too fat. On a more general level, Galen briefly touches upon the fact that any excess in the four primary qualities of the body should be avoided, emphasising once more how moderation is the key to good health at every turn.⁹⁵

⁹⁴ *San.Tuen.II.12* (70,6-16 Koch; 6.158-9 K.).

⁹⁵ *San.Tuen.II.12* (6.158-9 K.); Galen repeatedly stresses the importance of moderation in relation to sleep. Cf. also *San.Tuen.II.2* (6.84 K.) (cf. *In Hip.Epid.VI.3.29* (17b.84 K.) (*ὕπνος* is missing in the Greek Kühn text. Wenkebach does have sleep, copied from the H manuscript; 169,4 Wenkebach; *San.Tuen.V.2* (6.312-7 K.); *VI.5* (6.403-7 K.); *Alim.Fac.I* (6.464 K.); *Loc.Aff.III.6* (8.162-3 K.); *In Hip.Vict.Sal.* (15.179 K.); *In Hip.Prorrh.I.2.81* (16.669 K.); *In Hip.Aph.73* (18a.189 K.); *In Hip.Artic.III.82* (18a.600 K.); *In Hip.Progn.I.17* (18b.63 K.).

τί δεῖ λέγειν, ὥς οὐδὲ θερμότερον αὐτὸν ἢ ψυχρότερον ἢ ξηρότερον ἢ ὑγρότερον ἀποδεικτέον, εἴπερ ἀμέμπτως ἐκέκρατο; εἷς οὖν ἐπὶ τοῦ τοιούτου σώματος ὁ σκοπὸς ἐν ἀπάσαις ταῖς ὑγιειναῖς ὕλαις τὸ σύμμετρόν τε καὶ μέτριον, ὅπερ ἀκριβῶς ἐστὶ μέσον ἐκατέρων τῶν ἀμετριῶν.⁹⁶

What need is there to say that it [sc. the body] must not be made warmer, or cooler, or drier, or moister, if it is perfectly constituted? So in such a body, the objective in all health matters is moderation and the average, that which is exactly in the middle of both extremes.

Individuality and moderation, then, seem to have been the key-words in Galen's basic considerations with regard to sleep. Although each patient's particular constitution implied different health standards, and thus called for different sleeping habits, it was always important to avoid extremes and strive for moderation in everything, including sleep.

2.2.2 *Cause of Sleep*

We have seen that, in the Hippocratic Corpus, the inception of sleep somehow seemed to be due to the effects of the primary qualities present in the body. The concept endured, and Galen, too, was aware of the fact that hot, cold, wet and dry had something to do with the sleeping process.

2.2.2.1 Qualities & Humours

The matter of sleep is not easy to understand, according to Galen. In his *On Mixtures*, he cautions that it is one of those things that

παμπόλλης μὲν τῆς ζητήσεως δεόμενον, ἴσως δ' οὐδ' εὐρεθῆναι δυνάμενον, εἰ μὴ πρότερόν τις εἰδείη γνωρίζειν ὑγρὰν καὶ ξηρὰν καὶ ψυχρὰν καὶ θερμὴν κράσιν.⁹⁷

⁹⁶ *San.Tuen.II.12* (70,16-20 Koch; 6.159 K.).

... require a very long process of enquiry, and perhaps even then it cannot be found out, if one were not first to understand moist, dry, cold and hot mixtures.

As Galen warns, the role of the four primary qualities in sleep was no straightforward matter. As all four qualities were always present in the body, the influence they exerted is not easily explained. In the body's mixture, or *krasis*, of the two pairs of opposite qualities, the dominance of one or two of the qualities was decisive for its constitution and thus its needs and habits.⁹⁸ This *krasis*, in turn, was closely linked to the dominance or weakness of one or more of the bodily humours. Galen's physiology deals mainly with four humours – yellow bile, black bile, phlegm and blood – each of which is associated with a pair of primary qualities. Yellow bile is dry and hot, black bile is dry and cold, phlegm is cold and moist, and blood is moist and hot.⁹⁹ People of different *kraseis*, i.e. people in whom different humours, and thus different qualities, are dominant, would, logically, display different kinds of sleeping behaviour.

In order to obtain a better understanding of the exact role of the primary qualities, let us have a cursory look at the way in which Galen linked them to sleep throughout his works. The below table will illustrate how the four primary qualities played an important role in the processes that effect the inception, termination and deprivation of sleep.¹⁰⁰

⁹⁷ *Temp.* II.2 (49,5-8 Helmreich; 1.586 K.).

⁹⁸ Secondary qualities, like for instance acrid or sweet, also played a role in the inception or deprivation of sleep – see for instance in *San.Tuen.* IV.4 (6.259 K.) – but it is impossible to draw up a coherent, systematic table accommodating all these.

⁹⁹ For a discussion of Galen's views on humours and their properties, see Siegel (1968), 216-236, with a helpful table on p.218, and of course Galen's own *On Mixtures*.

¹⁰⁰ This table is not intended to be comprehensive, merely illustrative. The most important treatises dealing with sleep have been left out, as they are discussed elaborately elsewhere in this chapter, serving as touchstones, so to speak, for conclusions drawn from the table.

Treatise	Qualities	Effect
<i>Ars Med.</i> 7-8 (1.325-7 K.)	hot & moist brain	require little sleep, which is light (βραχέσιν ὕπνοις, μηδὲ βαθεῖς [ὕπνοι])
	cold brain	prone to sleep (ὕπνωδέστεροι)
	dry brain	insomniac (ἀγρυπνητικοί)
	moist brain	long and deep sleep (ὕπνοι πολλοὶ καὶ βαθεῖς)
	hot & dry constitution	extremely insomniac (ἀγρυπνητικώτατοι)
	hot & moist constitution	trouble staying awake long (οὐ μὴν οὐδ' ἐγρηγορέναι δύνανται μέχρι πλείονος) comatose / insomniac (κωματώδεις / ἄγρυπνοι) prone to image-rich dreams (φαντασιώδεις τοῖς ὄνειρασιν)
<i>Temp.</i> II.2 (1.585 K.)	moist constitution	much sleep (ὕπνους πλείστους)
	dry constitution	little sleep (ἐλαχίστους ὕπνους)
	excessive moistness & cold (from drinking, bathing, drugs)	soporific (ὕπνοποιος)
<i>San.Tuen.</i> IV.4 (6.259 K.)	excess cold humours	coma & longer sleep (κώματα καὶ οἱ μακρότεροι τῶν ὕπνων)
	excess hot (& acrid) humours	insomnia, dreamful & troubled sleep (ἀγρυπνία, φαντασιώδεις τε καὶ θορυβώδεις ὕπνοι)
<i>Plen.</i> 11 (7.576-7 K.)	excess phlegm (cold & moist)	soporific (ὕπνώδεις)
	excess black & yellow bile (dry & cold/hot)	insomnia (ἀγρυπνίαν)
	cold & moist primary sense organ (located in the head)	sleep (ὕπνοι)
	hot & dry prim. sense organ	insomnia (ἀγρυπνίαι)
<i>Loc.Aff.</i> III.6 (8.160-2 K.)	cold foods & drugs	soporific (ἐργάζεται τοὺς ὕπνους)
	heating of head	insomnia (ἀγρυπνητικαὶ)
	cooling of head	sleep (καταφορικαὶ)
	moistening of head	sleep (καταφορικαὶ)
	bilious (dry) & hot disease	insomnia (ἀγρυπνιας)
	phlegmatic (moist) & cold disease	torpor & dozing (νωθρότητάς τε καὶ καταφοράς)

	<i>dyskrasia</i> inclined to hot	insomniac (ἀγρυπνητικῶν)
	<i>dyskrasia</i> inclined to cold	dozing (καταφορικῶν)
	<i>dyskrasia</i> inclined to dry	insomniac (ἀγρυπνητικῶν)
	<i>dyskrasia</i> inclined to moist	dozing (καταφορικῶν)
	moist constitution of youth	soporific (ὑπνώδης)
	dry constitution of old age	insomniac (ἀγρυπνητικῇ)
	excessive moistness	most soporific: it alone brings long and deep sleep (μακροὺς καὶ βαθεῖς ὕπνους ἐργάζεται)
	excessive cold	second most soporific (καταφορικὰ καὶ καρῶδη πάθη συνίσταται)
<i>Praesag.Puls.IV.8</i> (9.407 K.)	excessive dryness of the brain	insomnia (ἀγρυπνία)
	excessive moistness of the brain	sleep, coma (ὕπνος, κῶμα)
<i>Meth.Med.VIII.2</i> (10.543 K.)	yellow bile (dry & hot)	symptoms include light & little sleep (ὕπνοι λεπτοὶ καὶ ὀλίγοι)
<i>Praen.Posthum.6</i> (14.631-2 K.)	black bile (dry & cold)	possible cause of depression and thus of insomnia (μελαγχολικῶς δυσθυμεῖν, ἀγρυπνίας)
<i>Hip.Prorrh.I.2.53</i> (16.646 K.)	dry & hot prim. sense organ	waking (ἐγρηγορσις)
	moist & cold prim. sense organ	sleep (ὕπνον)
<i>Hip.Prorrh.I.2.81</i> (16.669)	choleric humours (dry)	insomnia (ἀγρυπνία)
	phlegmatic humours (cold & moist)	soporific (καταφοραὶ)
<i>Hip.Epid.III.1.5</i> (17a.530 K.)	cold & phlegmatic (moist) humours	sleep; sleep related afflictions (ὕπνοι τε καρῶδεις καὶ τὰ ληθαργικὰ πάθη)
	hot (& acrid) humours	insomnia (ἀγρυπνίαι)

From this table, the following can be deduced. The quality dry is the least sleep inducing of the four; in fact, it causes waking. It is also the only quality that can cause insomnia.¹⁰¹ The quality hot is a close second: though it certainly does not induce sleep, it does not induce insomnia

¹⁰¹ The difference between insomnia and waking may seem somewhat unclear. I take waking (ἐγρηγορσις) to be a normal, natural state, while insomnia (ἀγρυπνία) is more of a pathological condition: one wants to sleep but is unable to. One could say that in between these two is the condition of wakefulness, which means that less sleep is needed, as for instance in old people. Cf. *Thras.*40 (88,22-89,14 Helmreich; 5.884-5 K.).

either, as dryness does. The most sleep inducing quality is moist, which has the power to bring long and deep sleep over a person. Second to it is the quality cold, which can be the cause of a number of sleep related illnesses rather than of natural sleep.¹⁰² Illustrative of the sleep and waking inducing properties of moist and dry respectively is Galen's observation that infants are prone to sleep, while old people are prone to wakefulness, something he attributes to their respective moist and dry dispositions.¹⁰³

Galen worked with combinations of qualities, the *kraseis* mentioned earlier, in which one of the four possible pairs (hot and dry, cold and dry, hot and moist, and cold and moist) was usually dominant. What we can deduce from the table, but what also logically follows from the effects of the qualities on a person's sleeping behaviour, is that the combination of hot and dry will be most causative of waking and insomnia. Cold and dry is somewhat conducive to sleep, while hot and moist is even more so. Lastly, the combination of cold and moist is most conducive of (deep) sleep.

Galen speaks words of warning with regard to the application of some soporifics, because not all of them bring natural sleep. He designates moistening agents as truly *hypnotic*, i.e. sleep-bringing, but he warns that things that do not (only) moisten but (also) cool will bring about unnatural, sleep-like conditions – a discussion of which is irrelevant to our current investigation into the workings of normal, natural sleep. Additionally, too much warmth and dryness are not good either, as they will cause irritation and insomnia, and eventually insanity.¹⁰⁴

That the four primary qualities influenced a person's sleeping behaviour has now been sufficiently illustrated, but the exact process of sleep has not been expounded as yet. How did the interaction of heat and moisture, according to Galen, effect sleep? In *On Mixtures* we find a brief

¹⁰² Cf. *Sympt.Caus.*I.8 (7.143-4 K.).

¹⁰³ *Loc.Aff.*III.6 (8.162 K.); cf. *Temp.*II.2 (1.585 K.).

¹⁰⁴ *Sympt.Caus.*I.8. (7.142-144 K.); *In Hip.Epid.*III.1.5 (17a.530 K.); cf. also *Loc.Aff.*II.5 (8.131-2 K.).

and rather uninformative description of how sleep comes about and what the role of the primary qualities is in this:

καίτοι τούτους γε, φασίν, οὐδὲ μανεῖς ἂν τις ἐτέρως ἡγήσαιο γίγνεσθαι ἢ τοῦ θερμοῦ νικηθέντος πως καὶ βαρυνθέντος ὑπὸ πλήθους ὑγρότητος.¹⁰⁵

Even crazy people, they say, would not think anything else than that [sleep] comes about when the heat is somehow subdued and weighed down by the quantity of the moisture.

In order to find a more satisfying explanation, and learn the details of this mysterious interaction of moisture and internal heat, we will now turn to the treatises that provide more elaborate information on sleep and its mechanics.

2.2.2.2 Sleep and Sense Perception

In his *De Plenitudine*, Galen declares that sleep has its origin in the state of the brain, as insomnia does also.¹⁰⁶ What is more, he claims that it is actually possible to identify the location in the brain where the conditions of the brain known as sleep, waking, insomnia, and suchlike originate:

κεφαλαλγία μὲν ἄντικρυς δηλοῦσα τὸν πεπονθότα τόπον, ἀγρυπνία δὲ τῷ γινώσκοντι κατὰ διαφερούσας ἐγκεφάλου διαθέσεις ἐγρήγορσιν τε καὶ ὕπνον ἀγρυπνίαν τε καὶ κῶμα γιγνόμενα.¹⁰⁷

A headache downright reveals the afflicted spot, and insomnia [shows] to the expert the things that come into existence in the various conditions of the brain, i.e. waking, sleep, insomnia, and coma.

¹⁰⁵ *Temp.* II.2 (48,16-19 Helmreich; 1.585 K.).

¹⁰⁶ *Plen.* 11 (7.577 K.).

¹⁰⁷ *In Hip. Prorrh.* 1.2 (53,15-17 Diels; 16.592 K.).

One should simply observe a patient suffering from both headache and insomnia, and ascertain where in the head it comes from. Once that is clear, it is also clear where processes like sleep come into being.

In his *On the Causes of Symptoms* Galen gives a more detailed explanation of the workings of sleep. As he sees it, there is a direct connection between sleep and sense perception. During the day, when all the sense organs are active, the *prôton aisthêtikon* – which, according to Galen, is located in the brain¹⁰⁸ – sends its agent, a perceiving *dunamis*, to the individual sense organs:



By virtue of the influx of this *dunamis*, the sense organs are able to register change, which constitutes sense perception, and in turn the brain becomes aware of the change as well.¹⁰⁹ However, in the course of the day, the working brain becomes depleted, dry and weary, and by the end of it, the brain is in need of rest, recuperation and replenishment:

διά τε οὖν τὴν κένωσιν ἧς ἔπεμψε δυνάμεως ὁ ἐγκέφαλος, ἔτι δὲ διὰ τὸν κάματον, ὃν ἔκαμε διὰ τὰς πολλὰς ἐνεργείας, ἀναπαύσεώς τε ἅμα καὶ ἀναρρώσεως χρήζει.¹¹⁰

So, because of the emptying of the *dunamis* that is sent away by the brain, and also because of the weariness, which it experiences due to its many activities, it needs rest and at the same time recovery.

¹⁰⁸ Cf. Siegel (1970), 4, 30, 175.

¹⁰⁹ For a more elaborate explanation of the workings of sense perception, see *On the Opinions of Hippocrates and Plato* 7.4 ff. Galen uses the rather broad term *dunamis* in the explanation in *On the Causes of Symptoms*. If we look at his account of sense perception in *On the Opinions of Hippocrates and Plato* 7.4-5 it is likely that the power he is referring to may be identified with *pneuma*. There is no clarity as to the exact location of the primary sense-organ *within* the brain, but Rocca (2003) is keen to point out that it may be anywhere *except* in the ventricles, as this is the location where the (psychic) *pneuma*, the agent of the primary sense-organ, is concentrated, and it is clear that the two are not the same. Cf. Rocca (2003), 196-7; 236; 245.

¹¹⁰ *Sympt.Caus.I.8* (7.141 K.).

The flow of the perceiving *dunamis* to the sense organs ceases and the peripheral sense organs are rendered inactive, because the perceiving *dunamis* has to go in search of replenishment.¹¹¹

This is when and how sleep naturally sets in. People who have worked hard, and whose brains have sent away much *dunamis*, will sleep deeper than people who have worked less hard, and whose brains have sent away less *dunamis*. However, experience shows that people who are asleep are not entirely cut off from perception, as Galen clarifies in his *On the Movement of the Muscles*, they are just not very susceptible to impressions (οὐ γὰρ ἀναίσθητοι παντάπασιν εἰσιν οἱ ὑπνώττοντες, ἀλλὰ δυσαίσθητοι):¹¹² From the fact that sense perception is apparently possible to a certain extent, he concludes that the flow of the *dunamis* to the perceiving parts is not brought to a full stop but is only heavily reduced. The clarity of what sense perception remains depends on how much *dunamis* still flows; therefore, it is likely that sleep is deeper when the influx of *dunamis* is smaller, and lighter when the influx is greater:¹¹³

ἐναργὲς δὲ οὐδὲν ἥττον ἐστὶ καὶ ὡς κατὰ τοὺς ὕπνους ἦτοι παντάπασιν ἀργοῦσιν αἱ αἰσθήσεις, ἢ ἀμυδρῶς ἐνεργοῦσιν. εὐλογον οὖν ὀλίγην τινα ἐπιρρεῖν τηνικαῦτα δύναμιν ἀπὸ τῆς ἀρχῆς τοῖς κατὰ μέρος. καὶ τό γε βαθέως τε καὶ μὴ βαθέως κοιμᾶσθαι, τοῦτο δὴ τὸ συνήθως ἐκάστοτε λεγόμενον, ἐν τῷ ποσῷ τῆς ἐπιρροῆς ἐστὶ. τοσούτῳ γὰρ μείον ἐπιρρεῖν εἰκὸς ἐστίν, ὅσῳ περ ἂν ὁ ὕπνος ᾗ βαθύτερος.¹¹⁴

It is also no less clear that in sleep the senses are either altogether inactive, or they function weakly. So it is likely that under these circumstances a little bit of capacity flows from the *archê* to the individual [sense organs]. And to

¹¹¹ Cf. fragment 25 (156,1-8 Larrain) of Galen's commentary on Plato's *Timaeus* [*Galenī de eis quae medice dicta sunt in Platonis Timaeo*] in Larrain's edition of *Hs.scor.graec.* ΦΙΙΙ-11 (Revilla 230), pp. 123^r-126^v [= Larrain (1992)]. In this fragment, it becomes clear that the perceiving *dunamis*, i.e. the *pneuma psychikon*, needs air and blood to feed upon. Both are to be found in the inner body, which is why it directs itself downward into the body. Cf. Larrain (1992), 156-7.

¹¹² *Mot.Musc.*2.4 (4.439 K.).

¹¹³ *Sympt.Caus.*1.8 (7.139-140 K.).

¹¹⁴ *Sympt.Caus.*I.8 (7.140 K.).

sleep deeply or not deeply, as we are wont to say, depends on the quantity of the flow. For it is likely that the smaller the quantity of the flow is, the deeper sleep will be.

In any case, it seems clear that during sleep accurate sense perception is impossible.¹¹⁵ Sleep comes into being in the brain,¹¹⁶ and it is primarily a relaxation of the processes of sense perception.¹¹⁷

Galen reminds us that to improve sleep, it helps to do exercises, and eat a moderate amount of food; it also helps if one is of a moist disposition, or, failing that, to drink wine, or bathe the head in warm water, because these things too fill the head with moisture. And fullness of the head helps to bring about sleep:

ὥσπερ δὲ ἐπὶ τοῖς γυμνασίοις ἐτοιμότερόν τε καὶ βαθύτερον ὑπνοῦσιν, οὕτω καὶ τροφήν προσενεγκάμενοι, καὶ ὅσῳ περ ἂν ὑγροτέρα τὴν φύσιν ὑπάρχη, τοσούτῳ μᾶλλον ὑπνοῦσιν· οὕτω δὲ καὶ οἶνον πλείονα προσαράμενοι, καὶ λουσάμενοι λουτροῖς δαψιλέσι θερμοῖς κατὰ τῆς κεφαλῆς. ἅπαντα γὰρ τὰ τοιαῦτα φαίνεται πληροῦντα τὸν ἐγκέφαλον ὑγρότητος, ἧς ἄρα δεῖται κεκμηκῶς τε καὶ κατεξηρασμένος ὡσαύτως ἐν ταῖς πολλαῖς ἐνεργείαις. (...) τὸ δὲ εἰς τὰ παρόντα τοῦ λόγου χρήσιμον, ὥς ὁ ἐγκέφαλος ἡνίκα μὲν ἐπιπλέον αὐτὸς ἐνεργήσας ἀναπαύεσθαι βουληθῇ, τὸν κατὰ φύσιν ὕπνον ἐπάγει τῷ ζῳῳ, καὶ μάλιστα ἐπειδὴν ὑγρότητος δαψιλοῦς ἀπολαύειν ἢ ἐν αὐτῷ θρεπτικὴ δύναμις ἔχη.¹¹⁸

Just as after exercises people sleep more easily and more deeply, so too [people sleep more easily and more deeply] after having eaten something, and the more moist someone is by nature, the better they will sleep; so too do those who have drunk quite some wine and those who have bathed their head in plenty of warm bath water. For all those things appear to fill the head with moisture, which it needs when [the brain] has become tired and dessicated in a similar way in its many activities. (...) The usefulness for the present aspects of the discussion [is] that the brain,

¹¹⁵ Cf. also *Sympt. Caus.* 1.8 (7.140 K.); *Instr. Odor.* 3 (2.880-1 K.).

¹¹⁶ *Plen.* 11 (7.576-7 K.).

¹¹⁷ *Sympt. Caus.* 1.8 (7.140-142 K.).

¹¹⁸ *Sympt. Caus.* I.8 (7.141; 7.143 K.).

when full, itself wishes to take a break from its activities, brings over the animal a natural sleep, and especially whenever the nutritive *dunamis* is able to benefit from abundant moisture in itself.

When the head is full, the brain itself, weary and dry, will want to stop working and brings sleep upon the individual, for it needs the excess moisture to recuperate – this is what ‘distracts’ it from sense perception. So the cause of sleep is not only in the brain, it *is* the brain: it instigates sleep because it *wants* to – or so Galen has it – and especially so when the brain contains an abundance of moisture: weariness is the reason why we need a full head and why we need sleep.¹¹⁹

According to Galen, then, the processes concerning perception lie at the basis of the inception of sleep. But there was more: he also linked the process of pepsis, i.e. digestion, to sleep.

2.2.2.3 Sleep and pepsis

Galen agrees with Hippocrates that in sleep, the blood prefers to withdraw into the inner regions of the body: τὸ αἷμα ἐν ὕπνῳ ἔσω μᾶλλον φεύγει.¹²⁰ This retraction, he explains, has to do with the movement of the innate heat, which for the most part consists in blood; and when blood and innate heat make their way to the inner regions of the body, the outer regions become cold as a natural consequence.¹²¹

Καὶ κατὰ τὸν ἔμπροσθεν λόγον αὐτὸς ἔγραψε τήνδε τὴν λέξιν “ὁ ἐγρηγορῶς, θερμότερος τὰ ἔξω, τὴν ἔσω δὲ ψυχρότερος, καθεύδων τὰναντία.” καὶ νῦν οὖν νόμιζε τῆς προκειμένης εἶναι κοινὴν ἐκείνην τὴν ἐξήγησιν. ἃ γὰρ ἐπὶ τοῦ θερμοῦ τῆς κίνησεως καὶ τῆς μεταστάσεως ἤκουσας ἐγρηγορότων τε καὶ

¹¹⁹ *Sympt.Caus.* 1.8 (7.141-143 K.); *Loc.Aff.* 3 (8.162 K.). Cf. also Larrain (1992), 149, 152.

¹²⁰ *Hip.Epid.* VI.5.15 (118,2-3 Manetti/Roselli; 5.320L.).

¹²¹ Cf. *In Hip.Epid.* VI.30 (17b.298-9 K.). Cf. Larrain (1992), 152.

κοιμωμένων, ταῦτα νόμιζε καὶ περὶ τοῦ αἵματος ἀκηκοέναι. τὸ γὰρ ἔμφυτον θερμὸν ἐν τούτῳ τε καὶ τοῖς ἐκ τούτου τρεφομένοις ἐστὶ πλεῖστον.¹²²

Also in the previous aphorism he himself wrote the following phrase: “In waking, the external [regions of the body] are warmer and the internal colder, in sleep the opposite.” And so now consider that to be the common explanation of the aforesaid. For the things you have heard with regard to the warmth of the movement and the change of waking and sleeping, consider to have heard them too concerning the blood. For the innate heat consists for the most part in it [sc. the blood] and in those things which are nourished from it.

The reason why the innate heat retracts into the body is the process of digestion, or *pepsis*, which takes place in the body’s inner regions. The process of digestion had been linked to the innate heat long before the time of the Hippocratic authors, and in Galen’s corpus, it is now clear, the concept still held its ground. In his *On the Causes of Pulses*, Galen further explains the relations between heat, digestion and sleep. According to Galen, the innate heat changes direction when sleep sets in:

τῶν δ’ ὕπνων τῶν κατὰ φύσιν (...) ἡ γένεσις (...) δεομένου μὲν ἅμα καὶ ἀποροῦντος ὑγρότητος δαψιλοῦς τοῦ κατὰ φύσιν ἐν τοῖς ζώοις θερμοῦ καὶ διὰ τοῦτο συνιόντος εἰς τὰ σπλάγχνα καὶ τὴν γαστέρα τῶν ὕπνων γινομένων (...)¹²³

‘The genesis of natural sleep (...) is when the heat that is naturally present in living beings both lacks and needs plenty of moisture, and for this reason gathers in the intestines and the stomach, while sleep comes about (...).’

Note that the innate heat changes direction *because* sleep sets in: the change in direction of the innate heat is not the cause of sleep, which, as we have seen, lies in the suspension of the

¹²² In *Hip.Epid.* VI.30 (311,3-9 Wenkebach; 17b.298-9 K.).

¹²³ *Caus.Puls.* III.10 (9.140 K.).

perceptive processes. The innate heat is the *dunamis* responsible for digestion.¹²⁴ In sleep, this *dunamis* directs itself towards the food situated in the inner regions of the body, because, just as the *dunamis* that is responsible for perception, it is in need and in search of moisture¹²⁵ – after all, ‘all *dunameis* that govern the living being are simultaneously affected’.¹²⁶ The idea that digestion takes place particularly in sleep is reflected in the following Galenic aphorism,

τὸ μὲν γυμνάσιον τοῖς ἄρθροις καὶ ταῖς σαρκὶν ὠφέλειαν παρέχει, σῖτος δὲ καὶ ὕπνος τοῖς σπλάγχνοις.¹²⁷

Sports benefit the joints and the flesh, food and sleep benefit the intestines.

which is Galen’s revised version of the Hippocratic aphoristic remark that

Πόνος τοῖσιν ἄρθροισι καὶ σαρκὶ σῖτος, ὕπνος σπλάγχνοισιν.¹²⁸

Exercise is food for the joints and the flesh, sleep for the intestines.

Galen explains that exercise helps the body maintain its health and good shape, and that the viscera are similarly maintained by the digestion of food, which takes place during sleep; the viscera are at work when the rest of the body is inactive and are thus exercised.

Once the digestive *dunamis* has changed direction for the purpose of digestion, it seems to become weak at first, but that is only a phase. Just as a fire that has received much fuel and is almost smothered by it needs some time to grow and blaze again, the digesting *dunamis* first

¹²⁴ Cf. *Maras*.3 (7.674 K.).

¹²⁵ Cf. *Caus.Puls*.III.9 (9.132 K.); 10 (9.140 K.).

¹²⁶ *Caus.Puls*.III.9 (9.133 K.).

¹²⁷ *In Hip.Epid*.VI.5.10 (279,36-38 Wenkebach; 17b.262 K.).

¹²⁸ *Epid*.VI.5.5 (110,1-2 Manetti/Roselli; 5.316 L.).

needs time to digest some of the food it encounters before it can itself benefit from the digestive process, regain its strength, and cause the heat in the individual to increase again.

διά γ' οὖν τὴν ἔσω κίνησιν καὶ ὅτι περὶ τὴν ὕλην ἐνεργεῖ, τὸ μὲν πρῶτον οἶον ἀρρώστοτέρα καὶ βεβαρημένη γίνεται, μικρὸν δὲ ὕστερον ἀπολαύουσα τῆς τροφῆς, ἣν κατεργάζεται, ῥώννυται τε αὕτη καὶ τὸ θερμὸν αὐξάνει τὸ ἐν τῷ ζώῳ,

(...)

ἔλαττον μὲν γὰρ ἑαυτοῦ γίνεσθαι καὶ οἶον καταπνίγεσθαι φήσουσιν ἐμπεσὼν ἀθρόως εἰς τὸ πλῆθος τῆς ἐντὸς ὕλης, ὥσπερ γε καὶ τὸ πῦρ, ὅταν εἷς τι πλῆθος ξύλων σεσωρευμένων ἐμπέσῃ. ὥσπερ δὲ αὐτὸ τοῦτο τὸ πῦρ, ὅταν ἐγκρατὲς τῆς ὕλης γένηται, ῥώννυται τε καὶ εἰς μέγεθος αἴρεται, οὕτω καὶ τὸ ἔμφυτον θερμὸν, ὅταν ἀπολαύσῃ τῆς τροφῆς, κατεργασάμενον τοὺς χυμοὺς οἷς ἐνέπεσεν ἑαυτοῦ τε πλέον ἤδη καὶ ῥωμαλεώτερον γίνεται.¹²⁹

So because of the inward movement, and because it [sc. the *dunamis*] has an effect upon the matter, it first seems as if it becomes weaker and is weighed down, but if after a while it has benefited from the food, which it digests, it strengthens itself and increases the warmth in the living being.

(...)

For they [sc. Hippocrates et al.] say that it becomes less than its usual self and seems to be smothered when suddenly it encounters a great quantity of internal matter, just like fire, when it encounters a great quantity of stacked wood. Just as that same fire, when it has gained the upper hand over the matter, becomes strong and rises to greatness, so too the innate heat becomes greater and stronger than its usual self, when it has benefited from nourishment, after it has had an effect upon the humours in which it had fallen.

As we have seen, natural sleep comes about when the innate heat, due to weariness and too much dryness, directs itself towards the food situated in the inner regions of the body. If, at the end of sleep, the innate heat is hindered in its outward movement by too much moisture, the result is

¹²⁹ *Caus. Puls.* III.9 (9.132,8-15/133,18-134,8 K.).

unnatural sleep.¹³⁰ Waking ensues when the innate heat has recuperated sufficiently as a result of the digestion of the food in the belly:

αὐτάρκως δ' ἀπολαύσαντος ταύτης, ὡς ἤδη τὴν κατὰ φύσιν ἔχειν ποιότητα, τῆς ἐγρηγόρσεως ἀποτελουμένης.¹³¹

And after it [sc. the innate heat] has benefited enough from this, so that it regained its natural condition, then waking is brought about.

When the innate heat – along with the other *'dunameis* that govern the body' – has been replenished, it 'remembers' its movement outward once more. However, in order to facilitate a renewal of this outward movement, some force is needed to clear the pores and the rest of the body of the damp moistness that is a by-product of the process of digestion and make everything penetrable again for the innate heat:

ἐν ᾧ δὴ καιρῷ τὰς μεταπτώσεις γινομένας ἀναγκαῖόν ἐστιν ἔχειν τι βίαιον. ἐν γὰρ τῇ κατεργασίᾳ τῆς τροφῆς ὑγρότητος ἀτμώδους πολλῆς ὑποτρεφομένης κατὰ τε τὸ θερμὸν αὐτὸ καὶ τοὺς πόρους καὶ πάντα τὰ μεταξὺ σώματα μέχρι τῆς ἐκτὸς ἐπιφανείας, οὐκέτ' εὐπετὴς ὁμοίως ἢ ἐπὶ τὰ ἐκτὸς κινήσις ἐστὶ τῷ θερμῷ. δεῖται τοίνυν, ἵνα ταύτην ἀποσεισῇται τε καὶ διώσῃται καὶ τοὺς πόρους ἐκκαθάρῃ καὶ πάντῃ πόριμον ἑαυτῷ τὸ σῶμα παράσχη, σφοδρῶν καὶ βιαίων τῶν πρώτων κινήσεων.¹³²

At that moment, when the changes take place, it is necessary to use a certain amount of violence. For during digestion of food, much vapourous moistness is produced by the warmth itself and the pores and everything from the

¹³⁰ This helps us understand the 'somehow' in Galen's remark 'καίτοι τούτους γε, φασίν, οὐδὲ μανεῖς ἂν τις ἐτέρως ἡγήσαιτο γίγνεσθαι ἢ τοῦ θερμοῦ νικηθέντος πως καὶ βαρυνθέντος ὑπὸ πλήθους ὑγρότητος. [Even crazy people, they say, would not think anything else than that [sleep] comes about when the heat is somehow subdued and weighed down by the quantity of the moisture.] It would seem, however, that Galen is speaking of unnatural sleep rather than natural sleep. See *Temp.* II.2 (1.585 K.).

¹³¹ *Caus. Puls.* III.10 (9.140, 19-141,2 K.).

¹³² *Caus. Puls.* III.10 (9.141,2-10 K.).

middle of the body to the outside skin. The outward movement is no longer as easy for the heat. So now it is necessary that, for the body to shake and drive this [sc. the vapourous moistness] off and clear the pores well and make itself penetrable all over, the first movements [of the pulse] be violent and forceful.

If innate heat is the driving force behind digestion, it seems only logical that the more innate heat is present in the belly, the better digestion of food will be. Galen emphasises:

καὶ μέντοι καὶ ὅτι κατὰ τὴν γαστέρα τουτὶ τὸ ἔμφυτον θερμὸν πλεονάζον ἀρίστας ἐργάζεται τὰς πέψεις τῶν σιτίων, [ὥς] αὐτὸς ἐν Ἀφορισμοῖς ἐδήλωσεν εἰπών· “Αἱ κοιλίαι χειμῶνος καὶ ἡρος θερμόταται φύσει, καὶ ὕπνοι μακρότατοι· ἐν ταύτησιν οὖν τῇσιν ὥρησι καὶ τὰ προσάρματα πλείω δοτέον· καὶ γὰρ τὸ ἔμφυτον θερμὸν πολὺ· τροφῆς οὖν πλείονος δέονται· σημεῖον, αἱ ἡλικίαι καὶ οἱ ἀθληταί.”¹³³

So it is settled, then, that when that innate heat is plentiful in the belly, it improves the cooking of the food, as he [sc. Hippocrates] made clear in his Aphorisms, when he said: “It is natural for bellies to be hottest in winter and in spring, and for sleep then to be longest; so in these seasons more sustenance must be given; for there is much innate heat: so more food must be given; the young and athletes are a sign of this.”

In the previous chapter, an explanation of the Hippocratic aphorism was found in the fact that a body with disproportionately great innate heat will be consumed.¹³⁴ Galen’s explanation of this aphorism is that in a colder season, people are colder in general, on the one hand because their surroundings are cold and people cool off more, on the other hand because winter offers mostly foods that are transformed into phlegm – a cold humour – and according to Galen, a *dyskrasia* in favour of this humour would logically result in more sleep.¹³⁵ In addition to this technical explanation, he gives a more straightforward reason why sleep should be longer in winter and

¹³³ In *Hip.Epid.VI.4.25* (239,27-240,5 Wenkebach; 17b.205-206 K.). Cf. *Aph.I.15* (4.466 L.).

¹³⁴ Galen refers to *Hip.Aph.I.15* on a number of occasions: In *Hip.Nat.Hom.1.35* (15.89 K.); In *Hip.Epid.VI.4.14*; 24; (17b.170; 205 K.); In *Hip.Aph.1.15* (17b.415-6 K.); *Plac.Hip.Plat.8.7* (5.705 K.).

¹³⁵ In *Hip.Nat.Hom.1.35* (15.89-91 K.)

spring: the nights are simply longer in those seasons.¹³⁶ The belly is warmer in the cold seasons due to the fact that at this time of year, the natural heat flees more from the increased surrounding cold, Galen explains with reference to Aristotle's views on this. It has been shown above that the innate heat is the *dunamis* responsible for the process of *pepsis*. If this *dunamis* is stronger, it would seem only logical that the rate of coction is higher also, and for this reason more food is required.¹³⁷ For a better understanding of why it should be bad for the innate heat to have nothing to digest, let us draw in Galen's explanation of what happens in sleep to people who have been purged:

εἰ μὲν ἐν τοῖς ὕπνοις εἴσω συννεύει τὸ αἷμα καὶ δηλονότι τὸ ἔμφυτον θερμόν, ἐν δὲ ταῖς ἐγρηγόρσεσιν <ἐπὶ τ>ἀκτὸς ἀποτείνεται, πεφθίησεται μὲν ἐν τοῖς ὕπνοις τὰ κατὰ τὴν γαστέρα τε καὶ <τὸ> ἥπαρ, ὅλον δὲ τραφήσεται τὸ σῶμα κατὰ τὰς ἐγρηγόρσεις. ἐν τοίνυν τοῖς κεκενωμένοις εἴσω μὲν συννεύει τὸ θερμόν, οὐδὲν δὲ ἔχον ὃ πέψει μαραίνεται. Πρῶτον γάρ τοι τῶν ἄλλων ὑπὸ τῆς τροφῆς αὐτὸ τρέφεται, καθάπερ τὸ πῦρ ὑπὸ τῶν ξύλων.¹³⁸

If in sleep the blood and of course the innate heat have an inward inclination, but in waking they reach outward, the things in the belly and the liver are cooked in sleep, while in waking the whole body is nourished. So when in an empty person the heat is inwardly inclined and has nothing to cook, then it becomes weak and dies out. For first of all it is itself nourished by food, just like fire is by fuel.

Sleep and the process of *pepsis* it facilitates are not only of importance for the intestines, the cooking process is of vital importance for nutrition and to overcome disease. In his *On the Therapeutic Method*, Galen explains that sleep cooks, and so prevents raw humours from spreading in the body and weighing down the internal organs. Waking, on the other hand, does

¹³⁶ In *Hip.Aph.*1.15 (17b.416-7 K.)

¹³⁷ In *Hip.Aph.*1.15 (17b.415-7 K.)

¹³⁸ In *Hip.Epid.*VI.5.32 (313,30-314,2 Wenkebach; 17b.300 K.).

exactly what sleep does not and spreads (*diaphorei*) humours through the body.¹³⁹ Additionally, coction not only prevents raw humours from spreading, it plays an important role in the healing process, because it ‘cooks’ any illness present in the body.¹⁴⁰ In light of the fact that sleep cooks and waking spreads raw substance in the body, it is logical that if one experiences strong insomnia, this causes food and drink, and even illness, to remain uncooked, while if one’s sleeping habits change to the opposite and sleep is longer than normal, the effect will be overcooking – which dissolves the body and makes it slow – and a heavy head because of all the vapours, a byproduct of *pepsis*, which rise upward from the stomach.¹⁴¹

Practical evidence of the cooking properties of sleep Galen gives in his *On the Natural Faculties*. Ordinary people, he says, can eat things that would be indigestible for people of the upper classes, because they are engaged in manual labour on a daily basis.

καὶ ταῦτ’ ἀγνοοῦντες οἱ πολλοὶ μακαρίζουσιν αὐτῶν τὴν ἰσχὺν τοῦ σώματος ὀρώντες ἐσθίωντάς τε καὶ πέττοντας, ἃ μηδεὶς ἡμῶν δύναται προσενέγκασθαι καὶ πέψαι. ἐπεὶ δὲ καὶ τοῖς πολλὰ ταλαιπωροῦσιν ὕπνοι βαθύτατοι γίνονται καὶ τοῦτ’ αὐτοῖς μειζόνως πρὸς τὰς πέψεις συντελεῖ, διὰ τοῦθ’ ἥττον ὑπὸ τῶν μοχθηρῶν ἐδεσμάτων βλάπτονται· εἰ δ’ ἀναγκάσαις αὐτοὺς ἀγρυπνήσαι πλείοσιν ἐφεξῆς νυξίν, αὐτίκα νοσοῦσιν. ἐκεῖνοι μὲν οὖν ἐν τούτῳ μόνον ἀγαθὸν ἔχουσιν εἰς πέψιν τῶν μοχθηρῶν ἐδεσμάτων.¹⁴²

And, ignorant of these things, the ordinary people praise the strength of their body, seeing themselves eating and digesting things that none of us can take and digest. And since for those who work much and hard sleep is deepest and since this contributes quite a lot to digestion for them, they are harmed less by ingested bad food because of that. If, however, they should be forced to stay away for several consecutive nights, they immediately fall ill. These people, then, have this one good thing in the digestion of ingested bad food.

¹³⁹ *Meth. Med.* XII.3 (10.823 K.).

¹⁴⁰ Cf. e.g. *In Hip. Vict. Acut.* II.2.44 (15.598 K.); *Comp. Med. Loc.* III.1 (12.611 K.).

¹⁴¹ *In Hip. Vict. Acut.* II.55 (15.624-5 K.). A similar concept can be found in Aristotle. *Vide infra*.

¹⁴² *Alim. Fac.* I.2 (220,15-23 Helmreich; 6.487 K.).

Most people who engage in heavy physical exertion sleep deeply, something that contributes greatly to digestion. And this is exactly the reason why they can eat things that would not be digested by someone who has not exerted himself during the day and who would sleep normally. So according to Galen, the deeper one sleeps, the more thorough digestion is.

2.2.2.4 Mechanics of sleep: synopsis

In his *On the Preservation of Health*, Galen asserts that increase and diminution of the innate heat is to be associated, among other things, with sleep and waking.¹⁴³ Now that we have some insight in the mechanics of sleep, we can follow his line of reasoning. When after a day of hard work the *dunamis* of sense perception tires, we can deduce that all the *dunameis* are tired, as all *dunameis* are similarly and simultaneously affected. At this point, the perceiving *dunamis* is in need of food and recuperation – as is the innate heat, which is the *dunamis* that is responsible for the process of *pepsis*. The innate heat then moves to the inner regions of the body, which is reflected in the fact that the perceiving *dunamis* no longer flows toward the peripheral sense organs and causes sense perception to cease. Once there, the innate heat sets about digesting the food it encounters in the belly, transforming it into something that is used for the *dunameis* to recuperate their strength. A side effect of this digestive process is a vaporous residue. After the recuperative process is complete, and the *dunameis* are restored to their normal condition, the innate heat will resume its natural movement outward once more. However, in order to enable this movement, it is first necessary to clear the way outward by vehement motions of the heart and pulse, so that the body can shake off the vaporous residue of digestion. Once the movement

¹⁴³ *San.Tuen.II.11* (6.149 K.).

outward has started, and the remains of the process of *pepsis* have been shrugged off, waking comes about.¹⁴⁴

2.2.3 *The Soul in Sleep*

We have now established that sleep has a profound influence on the functioning of the body. Sense perception is all but suspended, and the body as a whole has entered a state of rest and restoration. All of this, however, depends on the behaviour of the *dunameis*, which fall under the hegemony of the soul.

At this point, it is useful to provide some limited insight into Galen's views on the brain. In his time, those interested in the human body could roughly be divided into two groups: those who thought that the governing principle of the soul, the *hegemonikon* of the body, resides in the heart, and those who thought it resides in the brain.¹⁴⁵ Galen belongs to the latter group, and places the seat of the rational soul in the brain.¹⁴⁶ The rational soul, according to Galen, is responsible for the acts of sensation, voluntary motion, imagination, reason, and memory.¹⁴⁷ It exerts its influence by means of a physical agent Galen calls *pneuma psychikon* (πνεῦμα ψυχικόν), which is formed in the body in several stages in several different locations: air is brought into the body via the lungs, where it is changed into *pneumatôdes* substance. This substance is then transported to the heart, where it is elaborated into *pneuma zôtikon* (πνεῦμα ζωτικόν). This *pneuma* is then transported to the ventricles in the brain, where the choroid and retiform plexuses perform the last stage of elaboration, of which the *pneuma psychikon* is the end product.¹⁴⁸ The

¹⁴⁴ *Caus.Puls.*III.9-10 (9.131-142 K.).

¹⁴⁵ For a more elaborate representation of the views regarding the *hegemonikon*, see e.g. Rocca (2003), 17-46.

¹⁴⁶ Cf. Rocca (2003), 19, 196-7; Larrain (1992), 149.

¹⁴⁷ Cf. Rocca (2003), 245.

¹⁴⁸ *Usu.Part.*VII.8 (3.541-542 K.). Cf. Rocca (2003), 64-65; 210ff. Innate heat is vital for the elaboration of *pneuma*; the whole elaboration process is much like that of coction. Cf. Rocca (2003), 65, 212. Another, more direct way to create *pneuma psychikon* seems to be elaboration of the air that comes in through the nose by these same ventricles (Rocca (2003), 66).

pneuma psychikon is sent out to the individual body parts through the nervous system, which has its origin in the brain. How *pneuma* works, however, is a detail Galen does not explain.¹⁴⁹ How, then, does this fit into what we have already discussed with regard to sense perception? Galen never mentions *pneuma*, psychic or otherwise, in his explanation of the role of the brain in the inception and termination of sleep in *On the Causes of Symptoms*. However, what he does say about the function of the *dunamis* seems to be generally compatible with the working and flowing of *pneuma*.¹⁵⁰ Galen never specifies where exactly in the brain the (perceptive part of the) soul has its seat,¹⁵¹ but he does tell us where it certainly does not reside, and that is in the ventricles of the brain; he appears to be keen on differentiating between the soul and its agent, the *pneuma psychikon*.¹⁵²

During the day, when the individual is awake, the *pneuma psychikon* stretches out over the entire body. At night, however, it is dry and in need of food, rest and blood, and since all these are to be found in the inner regions (τὸ βάθος) of the body, this is where the *pneuma psychikon* retreats in sleep.¹⁵³ Sleep, then, does not only affect the bodily functions, it also affects the functions of the soul, because, in effect, its agent is distracted.

To gain a better understanding of the condition of the soul in sleep, let us consider the following. In his *On the Movement of the Muscles*, Galen explains how it is that people can move in their sleep. He first reminds us that the only muscle position in which the muscles are truly at

¹⁴⁹ Cf. Rocca (2003), 66.

¹⁵⁰ Rocca (2003) encounters the same problem with regard to muscle movement. Cf. Rocca (2003), 66-7, n.97. I agree that the *dunamis* seems to behave in the same way as *pneuma*, as both of them are said to 'flow' to the individual (sense) organs. Cf. *Sympt.Caus.*I.8 (7.140 K.). Cf. Also Siegel (1968), 183; 192; (1970), 47; 71. In this thesis, however, I will continue to use the term *dunamis* rather than *pneuma*, as this is the term Galen uses in the text with which we are concerned here.

¹⁵¹ Cf. Rocca (2003), 245. The interchangeability of the terms 'brain' and '*prôton aisthêtikon*' we see in *On the Causes of Symptoms* seems more understandable now.

¹⁵² Rocca (2003), 196-7; Siegel (1970), 74.

¹⁵³ Cf. fragments 24 and 25 (147,1-9; 156,1-8 Larrain) of Galen's commentary on Plato's *Timaeus*. In addition, see Larrain's commentary on these passages (Larrain (1992), 146-157). In relation to the movement of the *pneuma* / *dunamis*, cf. also *Caus.Puls.*III.9-10 (9.131-142 K.).

rest is the ‘middle position’.¹⁵⁴ Consequently, he explains that, in general, it is rare for the muscles to be completely at rest – i.e. in the middle position – even in sleep. Neither is it possible, on the other hand, to maintain an ‘extreme position’ in sleep. As to all other positions, he reports, we normally maintain them when we fall asleep – after all, some people have been known to sleep sitting upright or even while they were walking. Galen supports his point with an anecdote from his own experience: he once walked close to a *stadion* while he was asleep and distracted by a dream, and didn’t wake up until he walked into a stone.¹⁵⁵ As for people who sleep in a position that is more usual for the dormant, Galen points out that precious few of those who sleep lying down do this with all body parts exactly in the middle position. He gives the example of someone holding something in their hand while asleep, which implies a certain level of muscle tone in that hand. Additionally, he points out that the fact that the lower jaw does not usually come away from the upper jaw in sleep is another piece of evidence that indicates muscle tone. If a sleeping person’s mouth is open when he is lying on his back, this is not a good sign – something which, Galen reminds us, Hippocrates already noted in his *Prognostic*¹⁵⁶ – because this *is* a middle position and indicates complete relaxation in sleep, a condition that is only caused by drunkenness, apathy or extreme exhaustion. So sleep is by no means a guarantee for complete muscle relaxation. How else can one turn¹⁵⁷ or make strange movements¹⁵⁸ in sleep? Even more vital, how else would it be possible to breathe?¹⁵⁹

How does all this translate to the condition of the soul? For the *psyche*, Galen explains, sleep is not a period of complete relaxation, but more a cessation of tension. He puts the case of perception during sleep forward in support of this claim: after all, it is not true that those who

¹⁵⁴ *Mot.Musc.* II.1; II.3 (4.422-26; 4.430-35 K.).

¹⁵⁵ *Mot.Musc.* II.4 (4.435-6 K.).

¹⁵⁶ Cf. *Hip.Progn.* 3 (2.120 L.).

¹⁵⁷ *Comp.Med.Loc.* VIII.2 (13.46 K.).

¹⁵⁸ *In Hip.Epid.* III.3.76 (17a.763 K.).

¹⁵⁹ Cf. *Loc.Aff.* V.1 (8.300-301 K.); *Mot.Musc.* II.6 (on the voluntary and involuntary movement of muscles in sleep); 8-9 (on the workings of the respiratory muscles) (4.444-446; 4.454-464 K.).

sleep cannot perceive at all, as we have seen earlier. They just perceive with difficulty,¹⁶⁰ which is an indication of at least some activity of the soul in sleep: some *dunamis* still flows to the individual sense organs. The soul, which governs muscle movement as well as perception, is apparently not rendered entirely inoperative: movement and perception remain possible, albeit only to a certain extent. If we usually do not remember doing anything in sleep, this is no proof that nothing happens, the soul is entirely inoperative, or that the things we do are done involuntarily. It is merely a matter of how memory works:

τὸ γάρ τοι φαντασιούμενον τῆς ψυχῆς, ὃ τί ποτ' ἂν ᾗ, ταῦτό τοῦτο καὶ μνημονεύειν ἔοικεν. ἂν μὲν οὖν ἐναργεῖς τοὺς τόπους τῶν πραγμάτων ἐν ταῖς φαντασίαις λάβῃ, διασώζει μέχρι παντός, καὶ τοῦτο μὲν τὸ μνημονεύειν ἐστί.¹⁶¹

For in effect, the imaginative part of the *psyche*, whatever that may be, that exactly is also [the part that] appears to remember. So if it were to receive clear places of things in the imagination, it saves [these] forever; and that is remembering.

The imaginative part of the soul (τὸ φαντασιούμενον τῆς ψυχῆς) only stores clear sense impressions in memory; obscure or vague impressions from outside, such as those we receive in sleep, are not stored, and hence we do not *remember* them:

ἂν δ' ἀμυδρῶς καὶ παντάπασιν ἐπιπολῆς, οὐ διασώζει, καὶ τοῦτ' ἐστί τὸ ἐπιλελῆσθαι. καὶ διὰ τοῦτ' ἐν θυμοῖς, καὶ φροντίσι, καὶ μέθαις, καὶ φρενίτισι, καὶ φόβοις, καὶ ὅλως τοῖς ἰσχυροῖς τῆς ψυχῆς παθήμασιν οὐδενὸς ὧν ἂν πράξωσιν εἰς ὕστερον ἔτι μέμνηνται. τί δὴ ποτε οὖν θαυμαστὸν, κἂν τοῖς ὕπνοις, ἀμυδρῶς ἐνεργούσης τῆς ψυχῆς, ἀμυδρὰς καὶ τὰς φαντασίας γίνεσθαι, καὶ διὰ τοῦτ' οὐδὲ μονίμους.¹⁶²

¹⁶⁰ *Mot.Musc.*II.4 (4.439 K.).

¹⁶¹ *Mot.Musc.*II.6 (4.445 K.).

¹⁶² *Mot.Musc.*II.6 (4.445 K.).

But if [it receives] faintly and altogether superficially, it does not save [these things]; and that is forgetting. And that is why afterwards nothing is remembered of the things they have done in anger, sorrow, intoxication, phrenitis, fear, and on the whole in strong affections of the *psyche*. It is hardly amazing, then, that also in sleep, while the *psyche* works faintly, the images also become faint, and because of it unstable.

Voluntary movement is governed by the soul, so if such movements occur in sleep – and Galen adamantly explains that they do¹⁶³ – only the soul can be accountable for it. From all this, then, it can be concluded that, in sleep, the soul is active after all.

2.2.4 *Sleep & Galenic medicine*

2.2.4.1 Treatment

Galen's theory of sleep enables him to use sleep in his treatment of patients.¹⁶⁴ According to him, it is possible to determine which is the dominant *dyskrasia* in a patient by monitoring his sleeping behaviour and *vice versa*.

Παραφυλάττειν οὖν χρή τοὺς ὕπνους τῶν ἀπολωλεκότων τὴν μνήμην, ἢ τὴν σύνεσιν, ἀπώλεια γὰρ τῆς συνέσεως ἢ μώρωσις ἐστὶ, πότερον ὑπνώδεις ἱκανῶς οἱ κάμνοντές εἰσιν, ἢ μετρίως ὑπνώδεις, ἢ τὴν ἀρχὴν οὐδ' ὑπνώδεις, ἀλλ' ὅσον ἐπὶ τούτῳ κατὰ φύσιν ἔχουσιν· οὕτω γὰρ ἂν ἐξεύροις τὴν ἐπικρατοῦσαν δυσκρασίαν.¹⁶⁵

So it is necessary to keep an eye on the sleep[ing behaviour] of those who have lost their memory or wits (for sluggishness is the loss of wits), in particular whether the patients are barely sleepy, or moderately sleepy, or not at

¹⁶³ *Mot.Musc.*II.6 (4.445-6 K.).

¹⁶⁴ Larrain rightly remarks that the main function of sleep is to keep the *pneuma psychikon*'s levels of dryness and moisture balanced and so prevent unhealthy extremes. Larrain (1992), 152.

¹⁶⁵ *Loc.Aff.*III.7 (8.164-5 K.).

all sleepy at first, but to what extent they are in a natural condition on top of that. For in that way you can find out the dominant dyskrasia.

If the body should, for example, become too soft, or too wet, one of the things he would check is whether the patient has slept too much (εἴθ' ὕπνων, εἰ πλείους).¹⁶⁶

To the layman, there may seem to be a slight discrepancy in Galen's ideas on warming or cooling properties of sleep because in one treatment he uses sleep in a diet to warm, in another he employs it in a diet that is designed to cool.¹⁶⁷ This makes things confusing: does sleep warm or cool? The fact that in sleep Galen has the innate heat move inward would suggest that the outer regions of the body cool off. His belief that in winter and spring people cool off more implies the same. Fortunately, Galen provides clarification in his commentary on the Hippocratic *Epidemics* VI:

τοὺς δ' οἰομένους τὸν ὕπνον ἀεὶ ψύχειν ἐπικαιρόν τι τῆς τέχνης ἀγνοεῖν ἡγοῦμαι. διὰ παντὸς μὲν γὰρ ὕπνος ὑγραίνει, καθάπερ ἀγρυπνία ξηραίνει (καὶ τοῦθ' ἡμᾶς αὐτὸς ἐδίδαξεν), οὐ διὰ παντὸς δὲ θερμαίνειν ἢ ψύχειν πέφυκεν.¹⁶⁸

I am of the opinion that those who think that sleep always cools do not know something vital about the *techne*. For sleep always moistens, just as insomnia [always] dries (and this he has taught us himself), but it is not in its nature to always warm or cool.

Galen was a great believer in the importance of regimen treatment, the medical approach which, from the Hippocratics to Galen, had had more than half a millennium to evolve. He divided and subdivided the 'art concerning the body' into two branches, healing and preservative –

¹⁶⁶ *San.Tuen.V.2* (140,3 Koch; 6.316 K.).

¹⁶⁷ Cf. e.g. *Ars Med.*37 (1.406 K.); *San.Tuen.V.2* (6.315-318 K.); VI.4 (6.401 K.); *In Hip.Prorrh.I.3.110* (16.749 K.).

¹⁶⁸ *In Hip.Epid.VI.4.17* (224,21-24 Wenkebach; 17b.177 K.).

preservative, that is, of the existing constitution.¹⁶⁹ The latter of these concerned all matters that constitute a person's regimen: not just eating and drinking, but also rest and exercise, bathing, sexual activity, sleeping, waking, and all things that go on in the human body.¹⁷⁰ Sleep, waking (*egrêgorsis*), and insomnia (*agrupnia*) – note the clear distinction between waking and being unable to sleep – also belong to this 'preservative' branch of the art.¹⁷¹ The main reason why regimen is so important, to Galen's mind, is that things which make up regimen are of immediate influence on the constitution.¹⁷² Additionally, it is simply impossible to avoid some of these things, i.e. factors that cause change in the body, and sleep and waking fall under that heading.¹⁷³

If necessary, Galen knows how to put the characteristics of sleep to good use in the treatment of his patients, as he realises that a change in the arrangement of sleep and waking may be required if the circumstances call for it.¹⁷⁴ Should the body be full of indigestion, for instance, Galen prescribes rest and sleep, and abstention from exercise and motion in general to help digestion of undigested foods.¹⁷⁵

ὅλον ἐμπεπλῆσθαι τὸ σῶμα τῆς κακοχυμίας. οὐκέτι τὸν τοιοῦτον οὔτ' ἐπὶ γυμνάσιον ἄξομεν οὔτ' ἐπὶ κίνησιν ὅλως οὐδεμίαν, ἡσυχάσαι δὲ καὶ ὑπνῶσαι κελεύσαντες ἐν ἀσιτίᾳ διαφυλάξομεν ὅλην τὴν ἡμέραν·

(...)

δεόμεθα δ' ἐπὶ τῶν οὕτως ἐχόντων, ὅσον μὲν ἤδη ἀκριβῶς μοχθηρόν ἐστι, τῆς κακοχυμίας πεφθῆναι μηκέτι δυναμένης, ἰδρῶσί τε καὶ οὔροις ἐκκενῶσαι, τὸ δ' οἶον ἡμίπεπτον ἔτι συμπέψαι τε καὶ χρηστὸν ἀπεργάσασθαι. τοῦτο δὲ μάλιστα δι' ἡσυχίας καὶ ὕπνου ἀποτελεῖται.¹⁷⁶

¹⁶⁹ *Ars Med.* 23 (1.367 K.).

¹⁷⁰ Cf. *San. Tuen.* I.15 (6.79 K.); *In Hip. Epid.* III.3.9 (17a.660 K.).

¹⁷¹ *Thras.* 40 (5.884-5 K.); cf. *San. Tuen.* I.15 (6.79 K.).

¹⁷² *San. Tuen.* I.5 (6.19 K.).

¹⁷³ *Ars Med.* 23 (1.367 K.); cf. also *Thras.* 18 (5.837-8 K.).

¹⁷⁴ Cf. e.g. *Meth. Med.* XIII.3 (10.824 K.).

¹⁷⁵ *San. Tuen.* IV.4 (6.247 K.); cf. also *In Hip. Vict. Acut.* IV.100 (349,25-350,3 Helmreich; 15.887 K.).

¹⁷⁶ *San. Tuen.* IV.4 (108,34-109,2/109,6-10 Koch; 6.246-7 K.).

The whole body is filled with bad humour. We shall no longer make someone like that exercise or move at all, but, ordering rest and sleep during a fast, we shall keep an eye [on him] all day;

(...)

And we must, when things stand thus, evacuate what is already clearly in a bad condition via perspiration and urine, because the bad humour can no longer be digested, and we must cook through what is semi-digested and complete it into something useful. And this is best accomplished through rest and sleep.

Even better would be sleep after a bath, he adds later, because

*οὐδὲν οὕτω πέττει μὲν τὰ πεφθῆναι δυνάμενα, διαφορεῖ δὲ τοὺς μοχθηροὺς χυμοὺς ὥς ὁ μετὰ τὸ βαλανεῖον ὕπνος.*¹⁷⁷

nothing cooks the things that can be cooked and disperses bad humours the way sleep does after a bath.

As we have seen earlier, Galen also employed moistening properties of sleep, alongside the warming or cooling effects it could have.

In a more passive approach, it was useful to observe a patient's sleeping habits, because certain conclusions could be drawn from the sleeping behaviour someone displayed of his own accord:

*ὥς τὰ πολλὰ μέντοι καὶ τῶν πλεοναζόντων χυμῶν ἐξ ὕπνου τε καὶ ἀγρυπνίας ἔνεστί σοι λαβεῖν διάγνωσιν. ἐπὶ μὲν γὰρ τοῖς ψυχροῖς τὰ τε κώματα καὶ οἱ μακρότεροι τῶν ὕπνων, ἐπὶ δὲ τοῖς θερμοῖς καὶ δακνῶδεσιν ἀγρυπνία, καὶ εἰ καθυπνώσειέ γέ ποτε, φαντασιώδεις τε καὶ θορυβώδεις ὕπνοι ὑποπίπτουσιν, ὥς ἐξανίστασθαι ταχέως αὐτούς.*¹⁷⁸

¹⁷⁷ *San.Tuen.IV.4* (114,8-10 Koch; 6.258 K.).

¹⁷⁸ *San.Tuen.IV.4* (114,20-25 Koch; 6.259 K.).

For the most part, moreover, it is also possible for you to make a diagnosis of the excess fluids from sleep and wakefulness. For with cold fluids, there is coma and longer sleep, but with warm and acrid fluids there is wakefulness, and if he should fall asleep, dreamful and troubled sleep come upon him, and they rouse [him] quickly.

Deviations from a normal sleeping pattern were a reflection of the condition of the bodily humours. Only people with a perfectly balanced constitution would have what could be called a self-regulating sleep rhythm: they sleep when the need arises, and wake up when they no longer need sleep.¹⁷⁹

2.2.4.2 Can sleep be harmful?

The question of whether or not sleep could cause damage was of course interesting from a treating physician's point of view. In his commentary on the Hippocratic *Prorrhetic*, Galen tells us that the sophists say that sleep helps, or if it does not help, it at least does no harm – a statement that may remind us of the Hippocratic *Epidemics* I.5, 'to help or do no harm' (ὠφελεῖν ἢ μὴ βλάπτειν). Much sleep sometimes appears to be the cause of convulsions, but Galen does not seem to take that as an indication of the harmful effect of sleep, but of the seriousness of the illness in question:

ὕπνος πολὺς ἐν τούτοις σπασμῶδες ἀφορμὴν παρέχει ζητήσεως τοῖς σοφισταῖς, εἰ δύναται ποτε βλάπτειν ὕπνος. ἢ γὰρ ὠφελεῖν αὐτόν φασιν ἢ εἰ μηδὲν ὠφελεῖ, οὐ μὲν βλάπτειν ποτέ. λέλεκται δέ μοι περὶ τούτου πρόσθεν ἐν τοῖς Εἰς τοὺς ἀφορισμοὺς ὑπομνήμασιν. οὐ μὲν οὐδ' εἰ βλάπτει ὁ πολὺς ὕπνος, δοκεῖ σπασμῶν εἶναι ποιητικός, ἀλλὰ μόνον, ὅτι κινδυνῶδες ἐστὶν τὸ νόσημα, δηλοῖ.

... [the phrase] 'there is much sleep in such people, which is causative of convulsions' provides an occasion for the sophists to enquire whether sleep can sometimes be harmful. For they say that sleep helps or, if it does not help, it [at

¹⁷⁹ *San.Tuen.II.7* (6.131-2 K.).

least] never harms. But I have spoken about this before in my commentary on the *Aphorisms*. It is indeed not the case that much sleep, even if it is harmful, appears to be the cause of spasms, but it only makes clear that the disease is dangerous.¹⁸⁰

In short, there is no answer to our question here. Even if (much) sleep appears to be damaging, this is only a sign of the severity of the disease, and there is no certainty as to the precise role of sleep. However, in his commentary on the Hippocratic *Aphorisms*, to which he refers, Galen discusses the subject more elaborately. There are two passages in this treatise that are likely candidates for this reference.¹⁸¹ The first is the passage in his commentary on *Aphorisms* II.1:

Ἐν ᾧ νοσήματι ὕπνος πόνον ποιεῖ, θανάσιμον· ἣν δὲ ὕπνος ὠφέλεια, οὐ θανάσιμον.¹⁸²

A disease in which sleep causes distress is deadly; but if sleep helps, it is not deadly.

In his commentary on this passage, Galen begins by explaining that there are two types of damage that may have their origin in sleep: one type is of a general nature, i.e. when sleep coincides with the beginning of a paroxysm; the other type is of a specific nature, i.e. when sleep coincides with a particular affliction:

οὐσης δὲ διττῆς τῆς ἐξ ὕπνου βλάβης τῆς μὲν κοινῆς, ὅταν ἐν ταῖς ἀρχαῖς τῶν παροξυσμῶν, ἃς ἐπισημασίας ὀνομάζουσιν, οἱ κάμνοντες κοιμηθῶσι, τῆς δ' ἰδίας, ὡς ἐπὶ τινων νοσημάτων, ὅταν ἐν ἄλλῳ τινὶ καιρῷ, περὶ ταύτης αὐτὸν ἡγετέον λέγειν.¹⁸³

¹⁸⁰ In *Hip Prorrh* I.110 (127,21-27 Diels; 16.749 K.).

¹⁸¹ Although Diels gives only one in his text edition, namely 17b.451ff. K., I believe 17b.747-749 K. is another likely candidate.

¹⁸² In *Hip.Aph.*II.1 (17b.451,5-6 K.). Cf. *Hip.Aph.*II.1 (108,16-17 Jones; 4.470 L.).

¹⁸³ In *Hip.Aph.*II.1 (17b.451,9-452,4 K.).

And the damage from sleep being double, either general, when [this occurs] in the beginnings of the paroxysm – which are called *episêmasias* [symptoms, and hence the ‘access’ of a disease] – the sick sleep, or specific, like [the damage] in some diseases, every time when [it occurs] at a different moment, it must be assumed that he is talking about this [damage].

Galen then explains the first type in more detail. In sleep, there is a general movement inward of blood, pneuma and innate heat, which is the reason why the extremities and outer regions of the body become cold. The opposite is the case in waking; then, the inner regions of the body are cold. If the beginning of a paroxysm coincides with sleep, the inward concentration of heat that occurs in sleep may interfere with the development of a fever. If at such a time there happens to be an inflammation in the viscera, it will increase in sleep; or if there are any bad humours in the body, they will collect in the inner regions and increase, because they remain uncooked in this type of sleep.¹⁸⁴ In such circumstances, it is wiser for the sick to stay awake, because the natural outward movement that attends helps to counteract these things:

διὰ ταῦτά τοι καὶ παρακελευόμεθα τοῖς κάμνουσιν ἐγρηγορέναι τηνικαῦτα τὴν ὑπὸ τῆς ἐγρηγόρσεως ἐπὶ τὰ ἐκτὸς φορὰν τοῦ πνεύματος καὶ τοῦ αἵματος καὶ τῆς ἐν αὐτοῖς θερμασίας, ἀντιτάπτοντες ὡς μέγιστον ἴαμα τῇ κατὰ τὰς ἐπισημασίας ἐπιγινομένη πρὸς τὸ βάθος αὐτῶν φορᾷ. διὸ καὶ φαίη ἂν τις οὐκ ἀλόγως μὲν αὐτὰς τὰς βλάβας ἐν τούτῳ τῷ καιρῷ γίνεσθαι τῇ φύσει τοῦ παροξυσμοῦ, κωλυόμενας δὲ ὑπὸ τῆς ἐγρηγόρσεως, ἐπειδὴν δὲ καὶ ταύτης στερηθῶσιν οἱ κάμνοντες, ἐναργεστέραν ἴσχειν τὴν βλάβην, οὐχὶ τῷ προσέρχεσθαι τινα διὰ τὸν ὕπνον ἐτέραν βλάβην, ἀλλὰ τῷ τὴν ἐκ τῆς ἐγρηγόρσεως ὠφέλειαν ἀπογίνεσθαι. οὗτος μὲν οὖν ὁ λόγος ἐπιδείκνυσι μηδεμίαν ἐν ταῖς ἀρχαῖς τῶν παροξυσμῶν βλάβην ἐξ ὕπνου γινομένην, ἀλλ’ αὐτὸ δὴ τοῦτο μόνον, ἀπουσίαν ὠφελείας.¹⁸⁵

¹⁸⁴ In *Hip.Aph.II.1* (17b.452,6-16 K.).

¹⁸⁵ In *Hip.Aph.II.1* (17b.452,16-453,11 K.).

For those reasons we urge the sick to stay awake, because under those circumstances we can put to use the movement of the pneuma and the blood and the innate heat, which is outward due to the waking state, and which is the best cure against the movement that comes into being during the *episêmasias* (onset), which is directed towards the depths of the body. And therefore it would not be illogical if someone said that those damages occur at those moments because of the nature of the paroxysm, and are hindered by the waking state; and that, when the sick lack that [i.e. waking], they feel the damage more clearly, not because of the approach of some other damage, caused by sleep, but because of the removal of the beneficial effects of waking. So, this explanation shows that no damage at the beginnings of paroxysms comes forth from sleep, but [it shows] only this: the absence of help.

In cases like this, then, the alleged damage due to sleep is not, in fact, damage, but, as Galen says, the absence of help. Next, he goes on to give some examples of ‘specific’ damage that occurs in sleep – such as for instance the development of coma¹⁸⁶ – and explains them as follows:

συμβαίνει δὲ ταῦτα πάντα διὰ τὴν τῶν χυμῶν κακοθήθειαν, οὓς, ὅταν μὲν ἰσχυρότερον ἢ τὸ ἔμφυτον θερμὸν ἡμῶν, ἐκπέττει κατὰ τοὺς ὕπνους· ὅταν δὲ ἀσθενέστερον, ἐνικήθη μὲν ὑπ’ ἐκείνων, βαρύνεται δ’ ὑπ’ αὐτῶν τὰ σπλάγχνα καὶ τοῖς εἰρημένοις ἀλίσκεται παθήμασιν ὁ ἄνθρωπος.¹⁸⁷

And all these things happen due to the badness of the humours, which [sc. the humours], when our innate heat is rather strong, it [sc. the innate heat] cooks in sleep. But when the innate heat is quite weak, and is subdued by those things, the viscera become heavy because of them and man is seized by the afflictions that have been described.

Apparently, not only the time of the paroxysm is important, the condition of the innate heat is also of the essence. If it is inferior, and there are harmful substances in the body, there is a good chance someone will fall ill in sleep. Again, not sleep is to blame in such a case, but the presence of bad humours.

¹⁸⁶ This is not the modern ‘coma’ we know; it is a sleeping, or perhaps better: a sleepy disorder, the workings of which are explained by Galen in his *On Coma According to Hippocrates*.

¹⁸⁷ In *Hip.Aph.II.1* (17b.454,14-19 K.).

Later on in the same treatise, Galen returns to the subject of damage due to sleep, and, in commentary of the aphorism, states that

Ἐν τοῖσι πυρετοῖσιν οἱ ἐκ τῶν ὕπνων φόβοι ἢ σπασμοὶ κακόν.¹⁸⁸

In acute fevers, the fears and spasms that come from sleep are something bad.

Now, some authors, Galen says, do not speak of fears (φόβοι) but of complaints (πόννοι); and they are quite right to do so, he agrees, for he knows fears and complaints and spasms have often come forth from sleep.¹⁸⁹ This happens as follows.

καὶ μέντοι καὶ τεθεάμεθα πολλάκις ἐν ὀλεθρίοις νοσήμασι καὶ φόβους καὶ πόνους καὶ σπασμούς ἐξ ὕπνου γενομένους. ἔοικε δὲ τοῦτο συμβαίνειν, ὅταν ἐν τοῖς ὕπνοις ἐπὶ τὸν ἐγκέφαλον ὁ λυπῶν ἀφίκηται χυμὸς, ἔσω κινουμένης τηνικαῦτα τῆς φύσεως μᾶλλον ἢ περ ἔξω. καὶ μέντοι καὶ ὥσπερ ἐπὶ τῇ τροφῇ κατενεχθέντες εἰς ὕπνον πληροῦνται τὴν κεφαλὴν, οὕτω καὶ ταῖς πληθωρικαῖς διαθέσεσιν οἱ ὕπνοι πληροῦντες αὐτὴν βαρύνουσι τὸν ἐγκέφαλον. εἰ μὲν οὖν μελαγχολικώτερον ἢ τὸ πλήθος, οἱ φόβοι γίνονται, μὴ τοιούτου δὲ ὄντος οἱ πόννοι τε καὶ οἱ σπασμοὶ, καὶ οἱ ὕπνοι δὲ δηλονότι διὰ παντὸς ἂν ἔβλαπτον, ὅσον ἐπὶ τὸ συρρεῖν εἰς τὸ βάθος τε καὶ τὰ σπλάγχνα τὴν ὕλην, εἰ μὴ τῷ τῆς πέψεως λόγῳ πλέων εἶχε τὸ τῆς ὠφελείας ἢ περ τὸ τῆς βλάβης ἐστὶν ἐκ τῆς ἔσω ῥοπῆς. οὐ μόνον δὲ κατὰ τὸν ἐγκέφαλον αὐτὸν ἀθροίζομενοι μοχθηροὶ χυμοὶ τοιαῦτα συμπτώματα φέρουσιν, ἀλλὰ καὶ κατὰ τὸ στόμα τῆς γαστρὸς, ὅθεν καὶ μᾶλλον ἐν τοῖς ὕπνοις αἱ ἀναθυμιάσεις γίνονται, μενόντων ἀπέπτων αὐτῶν, ὡς αἷ γε πέψει τοὺς ὠφελίμους ἐπιφέρουσιν ὕπνους.¹⁹⁰

(...) indeed in lethal diseases we have even often seen fears and complaints and spasms come into being due to sleep.

And that seems to happen, when in sleep the damaging humour comes to the brain, while at that moment the natural

¹⁸⁸ In *Hip.Aph.IV.67* (17b.747,15-16 K.). Cf. *Hip.Aph.IV.67* (152,14-15 Jones; 4.526 L.).

¹⁸⁹ In *Hip.Aph.IV.67* (17b.748,8-9 K.).

¹⁹⁰ In *Hip.Aph.IV.67* (17b.748,9-749,9 K.).

movement is inward rather than outward. And indeed just as in those who after food have fallen asleep the head is filled, so in plentiful conditions does sleep fill it [sc. the head] and weighs down the brain. If, now, the filling be quite melancholic, fears are generated, but if this is not the case, complaints and spasms [are generated], and sleep would of course always do damage, in so far as the flowing together of the matter is into the depth [of the body] and the viscera, unless the benefit [that happens] on account of the digestion is superior to the damage that is there as a result of the tendency inward. Not just the bad humours that collect in the brain itself bring on such symptoms, but also [the bad humours that collect] at the stomach mouth, where, especially in sleep, the rising vapours of exhalation also come into being, while the uncooked [humours] remain; that is how *pepsis* bring beneficial sleep.

In sleep, the head is filled, especially after the ingestion of food – this has already been explained above. Galen now points out the different effects of different types of ‘filling’: if it contains relatively much black bile, the sleeper will be seized by fears; if it is of another nature, complaints and spasms are the result. A third possible scenario is that bad humours collect in the interior of the body and cannot be dealt with by the innate heat – this is the ‘specific’ type of damage, discussed by Galen before. Humours collected at the stomach mouth have the same effect – black bile brings about fears, while other humours will cause complaints and spasms – not only via the brain that is filled with the vapours that rise from the stomach to the head upon digestion, but also via the stomach mouth, if, because of insufficient *pepsis*, uncooked humours remain after *exhalation (anathumiasis)*.¹⁹¹ And that, Galen contends, is how good *pepsis* helps to bring about beneficial sleep: it cooks all the raw humours in the stomach, leaving none left to do damage.

There are two possible ways of regarding sleep in light of the possibility that it may sometimes have damaging effects. One is that sleep, and all the things that occur during it, are seen as a whole, all falling under the same heading: together, they are sleep in the broadest, most

¹⁹¹ It should be noted that Galen also considered too much sleep to be dangerous, because overcooking could result in heaviness of the head due to an excess of the vapours that rise from the stomach and fill the head. Cf. *In Hip. Vict. Acut. II.55* (15.624-5 K.).

inclusive sense of the word. If that is the case, then it appears to be quite clear, based on the above evidence, that sleep can, indeed, be harmful. The other way of regarding sleep is that it is purely and only the incapacitation of the *prôton aisthêtikon* – a process for the express purpose of recuperation, the opposite of harm. How could we, in this case, say that sleep may sometimes have a damaging effect? Ultimately, the latter seems to be exactly Galen's point of view. He may not provide a firm definition of sleep, but he does give us an explanation of the process, which in itself does not seem to leave any room for damage. Based on this and on the evidence from his commentary on the *Aphorisms*, it is safe to say that, if there is any damage *during* sleep, the 'guilty' process is digestion, *pepsis* – or lack thereof – and not sleep. After all, in his commentary on the Hippocratic *Epidemics* VI, Galen states:

βλάβην δέ τινα καὶ ὀδύνην ἐπιφέρειν οὐκ ἀληθές, ἀνωδυνίαν τε γὰρ καὶ ὠφέλειαν μᾶλλον ὁ ὕπνος, οὐ τούναντίον πέφυκεν ἐργάζεσθαι (...).¹⁹²

It is not true that sleep brings any damage or pain, for it sooner brings painlessness and healing; it is not in its nature to cause the opposite (...).

2.3 Aristotle: *On Sleep and Waking*

That philosophy and medicine were closely related in antiquity has become increasingly clear over the past few decades.¹⁹³ It should not come as a surprise, then, that a man we know primarily as a philosopher provides us with the only ancient Greek text that contains a systematic discussion of the phenomenon of sleep. Aristotle's treatise *On Sleep and Waking* gives a

¹⁹² In *Hip.Epid.VI.5.10* (279,30-32 Wenkebach; 17b.261 K.).

¹⁹³ Cf. Nutton (2002); van der Eijk (2005), esp. the introduction for general linkage.

physiological account of the processes surrounding sleep and waking and contains some views akin to earlier and contemporary medical concepts, most notably to certain notions found in Hippocratic texts.¹⁹⁴ In turn, Aristotle is one of the predecessors whose ideas are frequently discussed and emulated by Galen.¹⁹⁵ Hence, apart from the fact that Aristotle's treatise on sleep and waking cannot really be omitted in any discourse on ancient views on sleep, it has an especially important place in the current research into the topic because of the author's apparent ties with the medical side of the story.

2.3.1 *On Sleep and Waking: introduction*

In the first paragraph of his work on sleep and waking, Aristotle tells us which subjects he is going to discuss in the course of this treatise. He announces that he will attempt to find an answer to the question what exactly sleep and waking are, whether they belong to the soul, to the body, or to both, and to which part of the soul and/or the body they belong. He will also investigate how it is that they also belong to animals, and whether they belong to all animals, or just to some. This done, he embarks on his mission to find the answers to these questions.

2.3.2 *Sleep and sense perception*

Aristotle commences his investigation by presenting us with a statement: sleep and waking clearly belong to the same part of the animal. Opposites (*τὰ ἐναντία*), he explains, always pertain to the same part of a living being, and so it is also as regards sleep and waking: absence of the one entails the presence of the other.¹⁹⁶ His next step is to determine which part of the animal it is

¹⁹⁴ Cf. e.g. Lloyd (1978), 224; van der Eijk (2005), 178; Wiesner (1978), 269-70.

¹⁹⁵ Cf. van der Eijk & Hulskamp (forthcoming).

¹⁹⁶ Sprague asks: 'Sleep is a privation of waking, but is waking equally a privation of sleep?' She then proceeds to argue, convincingly, the middle position of sleep in between waking and what she calls a plant-like state 'analogous

that they belong to. It is generally accepted that we recognise whether someone is awake by the fact that they are able to perceive. If waking, then, is nothing more than being able to perform the act of perception, sleeping must consist in the absence of this ability. Either way, the part of the animal that is responsible for perception is also the part that is responsible for sleep and waking.¹⁹⁷

For Aristotle, perception was a joint experience of body and soul, in the sense that it not only affected the body, it also affected the soul.¹⁹⁸ As he puts it,

ἡ δὲ λεγομένη αἴσθησις (...) κίνησις τις διὰ τοῦ σώματος τῆς ψυχῆς ἐστι. ¹⁹⁹

what is called perception (...) is a certain movement of the soul by means of the body.

But not all living beings have the ability to perceive: plants, for example, do not possess the perceptual part of the soul (*αἰσθητικὸν*), and hence they cannot perceive. All animals do possess the part of the soul that is responsible for perception, from which it logically follows that all animals also partake in sleep and waking. However, there is no animal that is always awake; if one condition occurs, then the other condition must also be present in potential in the same animal. The reason for this is that all natural functions, including perception, can only be performed for a limited amount of time before a pause is required, as the organs that were designed to carry out the natural function are subject to fatigue and wear; to ignore the need for pause and recuperation may lead to pain and even damage. Hence, when the amount of time for activity expires, the capacity to act is temporarily lost:

to sleep'. Cf. Sprague (1977), 234-5. Van der Eijk also notes that sleep and waking are not perfect opposites. Cf. van der Eijk (2003A), 33.

¹⁹⁷ Arist. *Somn.* 453b25-454a7.

¹⁹⁸ Cf. Kahn on the question whether Aristotle was a dualist in his theory of sensation.

¹⁹⁹ 454a9-10. For all quotations of the *Parva Naturalia*, I have used Gallop's text edition.

ἐπεὶ ὅσων ἔστι τι ἔργον κατὰ φύσιν, ὅταν ὑπερβάλλῃ τὸν χρόνον ὅσον δύναται τι ποιεῖν, ἀνάγκη ἀδυνατεῖν (...) καὶ παύεσθαι τοῦτο ποιοῦντα (...).²⁰⁰

Because for those of the things that have a natural function, it is necessary, whenever the time for which they can do something is exceeded, that they are unable to do it (...) and that they cease from doing it (...).

In the case of perception, this incapacitation amounts to what we call sleep. In the same vein, no animal can always be asleep. In view of the fact that sleep is an obstruction of the capacity to perceive, whoever sleeps must possess the perceptual part of the soul. It is, however, impossible to actively perceive whilst being asleep, which is why all those who sleep will eventually awake.²⁰¹

If sleep pertains to the αἰσθητικόν, then which sense-organ is – or which sense-organs are – responsible for this condition? Not all animals possess the five senses, but this is not relevant as it seems clear that all senses are affected: ordinary sense perception is impossible during sleep:

(...) ἀδύνατον δ' ἐστὶν ἀπλῶς ὁποιανοῦν αἰσθησὶν αἰσθάνεσθαι τὸ καθεῦδον ζῶον (...).²⁰²

a sleeping animal is generally unable to experience perception in an unqualified way.

This aspect of sleep will be of considerable interest in the next chapter.

²⁰⁰ 454a26-27.

²⁰¹ Arist. *Somn.* 454a7-455a3. Sleep is a state of 'first *entelecheia*', a state of possessing a faculty but not using it. Cf. van der Eijk (2003A), 29, (2005), 177; Sprague, 231. Sprague explains more elaborately how the doctrine of the potential and the actual applies in the case of sleep and waking. See Sprague, 238-40. Cf. also Wijzenbeek-Wijler (1978), 178 on why sleep and waking have to alternate.

²⁰² 455a9-10.

At this point it is useful to have a brief look at Aristotle's ideas on sense perception *per se*. There are several stages to the act of sense perception. Sense objects may be perceived by the sense-organs by means of movements (*κίνησεις*) that are brought about by the sense objects and carried to the sense-organs through an intermediary substance. Once these movements have reached the sense-organs, they cause movement there as well: this is the first part of perception. All individual senses have specific sense objects that they were designed to perceive; the nose was designed to perceive smell, the ears to perceive sound, and so forth. The last stage of perception consists in the movements now present in the individual sense-organs to be transported to the heart, where they are perceived by the master sense-organ, the *κύριον αἰσθητήριον*, or *πρῶτον αἰσθητικόν*.²⁰³ The vehicle for transportation of the sense movements seems to be the blood – although Aristotle remains vague on that point.²⁰⁴ All individual sense-organs have in common their link to this master sense-organ, which acts as a point of convergence for sense perception. Van der Eijk summarises: 'a sensitive impulse is transmitted from the peripheral sense-organs to the heart, where it is received, recorded and noticed, and connected with movements supplied by the other senses.'²⁰⁵ Modrak observes that the great advantage of this is that 'The senses acting together and "perceiving as one" possess powers they do not possess individually.' Put differently, the whole is greater than the sum of its parts. The master sense-organ is able to combine or compare the input from the individual sense-organs to form a unified picture.²⁰⁶ So, while all senses have specific sense objects, they have in common their connection

²⁰³ Aristotle uses several different terms for the common sense-organ.

²⁰⁴ There is an ongoing debate concerning the substance through or by which the movements travel within the body to the heart. Despite the universally recognised inconclusiveness of Aristotle's remarks, there are two camps: one that favours blood as the vehicle for sense-movements (cf. Modrak, 73-75; van der Eijk (1994), 81-87; (2003A), 31; (2005), 183; Oser-Grote, 243) and another that favours *pneuma* (cf. Rocca (2003), 29-30; Johansen (1998), 92-93; Lloyd (1978), 222-223). I find especially Modrak's and van der Eijk's arguments in favour of blood most convincing. Cf. *op.cit.*

²⁰⁵ Cf. Kahn, 56ff; van der Eijk (2003A), 31.

²⁰⁶ The passage in *De Somno* that best summarises Aristotle's theory of sense perception is *Somn.*455a13-21. For a more elaborate discussion of Aristotle's theory of sense perception see Modrak, 55-77; Oser-Grote, 241-282. Kahn argues that the *On the Soul* and the *Parva Naturalia* should be considered together, so that what he refers to as Aristotle's 'progressive exposition' may be fully appreciated. See Kahn, 63. For brevity's sake, I exclude the issue of

to a master sense-organ, and what they perceive is relayed to this master sense-organ, the *κύριον αἰσθητήριον*, in order to combine, for instance, the sensation that something is hard with the sensation that it is sweet and the earlier sensation that it was white and rectangular, so that we may conclude, in the end, that what we have in our mouths is indeed a lump of sugar.

Let us now continue our discussion of *De Somno*. Despite the fact that not all animals possess the five senses, Aristotle contends that all animals do possess a master sense-organ, the *κύριον αἰσθητήριον*. Sleep and waking, now, are experiences that befall all senses at the same time, not just any individual sense. This strikes Aristotle as odd: why would organs that operate on an individual basis be affected simultaneously? From this, he concludes that it must be the master sense-organ, upon which all individual sense-organs are dependent, that is affected in sleep. After all, if this organ is disabled, all other senses will be immobilised, whereas if one individual sense-organ ceases to be active, this would not affect the master sense-organ.

τοῦ γὰρ κυρίου τῶν ἄλλων πάντων αἰσθητηρίου, καὶ πρὸς ὃ συντείνει τὰλλα, πεπονθότος τι συμπάσχειν ἀναγκαῖον καὶ τὰ λοιπὰ πάντα, ἐκείνων δέ τινος ἀδυνατοῦντος οὐκ ἀνάγκη τοῦτ' ἀδυνατεῖν.²⁰⁷

'For when the sense-organ that is master over all the others, and upon which the others converge, has undergone some affection, then all the rest must experience it also, whereas if one of them [sc. the peripheral sense organs] is disabled, it [sc. the *κύριον αἰσθητήριον*, or master sense-organ] need not be disabled as well.

Sleep and waking, then, are conditions of the *πρῶτον αἰσθητικόν*, the primary sense-organ, or *κύριον αἰσθητήριον*, as mentioned before. Sleep is the incapacitation of this primary sense-organ, and thus renders all peripheral sense-organs inoperative also.²⁰⁸

perception of *koina*, things that are perceived by more than one sense-organ at once. For a discussion of this phenomenon, see Modrak, 62ff. I also omit discussion of the phenomenon of apperception, which is the awareness of perception and reflection on what is perceived. Cf. van der Eijk, 2003B, 15-6. Modrak refers to this phenomenon as 'reflexive awareness': Modrak, 56. (Personally, I like to think of it as a sort of 'secondary perception'.)

²⁰⁷ 455a33-455b2.

2.3.3 Sleep and digestion

Nature, Aristotle reminds us, creates things for a reason,²⁰⁹ and that reason always consists in something good.²¹⁰ Rest is both necessary and wholesome for anything that is naturally inclined

²⁰⁸ Arist. *Somn.* 455a4-455b13. There has been some discussion about the interpretation of 455a21-28. First of all, the antecedent of *τούτου* in 455a26-7 is slightly unclear: Aristotle has just remarked that the organ of touch is most closely related to the primary sense-organ, and in this sentence he concludes that ‘it is now clear that waking and sleep are an affection of *this* [*φανερὸν τοίνυν ὅτι τούτου ἐστὶ πάθος ἢ ἐγρήγορις καὶ ὁ ὕπνος*].’ While the remainder of the text makes it clear that *τούτου* refers to the primary sense-organ, and not to the sense of touch, the close relation between the two Aristotle mentions has puzzled interpreters. If he means to designate the primary sense-organ as the organ responsible for sleep, why mention the organ of touch? Wijssenbeek-Wijler’s interpretation of this passage is convincing, even though it may not be entirely waterproof: there is one master sense-organ, and all peripheral sense-organs are dependent on this master sense-organ, yet it is not dependent on them; the only sense common to all animals is touch, which is very closely related to the master sense-organ (she seems to interpret this close relation to be the earlier mentioned dependency of any peripheral sense-organ on the master sense-organ, which is, to my mind, the part of her interpretation that does not hold); seeing that all animals have the sense of touch, all animals must also have the master sense-organ, and thus it follows that sleep and waking are an experience shared by all animals. She draws in Drossaart Lulofs’ interpretation, who attributes the close relation of touch and the primary sense to their respective hot natures (cf. Drossaart Lulofs (1947), xviii-xix) and Wiesner’s, who contends that it is the opposition primary sense-organ vs. peripheral sense-organs that is referred to here (Wijssenbeek-Wijler refers to a German version of the article that was published in English in *Aristotle on Mind and the Senses*). However, while she concedes the possibility that Drossaart Lulofs may have a point, and while she agrees with Wiesner, she gives no conclusive interpretation of the passage. Cf. Wijssenbeek-Wijler (1978), 182ff. Wiesner makes it clear that it is impossible for the sense of touch to be the same as the primary sense-organ, let alone for sleep to be an affection of touch and not of the primary sense-organ. Cf. Wiesner (1978), 244ff. A wholly different approach is that of Gregoric (2007), who believes that Aristotle is not referring to the primary sense-organ, but to the sense of touch (Gregoric (2007), 167-8), and that *τούτου* refers to the organ of touch, not the primary sense organ. I am not convinced by his arguments. Based on the general tendency of the treatise, i.e. that sleep and waking are affections of the primary sense-organ – on which point, by the way, Gregoric also agrees (Gregoric (2007), 168-173) – it seems clear to me that *τούτου* indicates the primary sense organ rather than the sense of touch. I would offer the following, relatively simple solution to this problem. The close relation between the sense of touch and the master sense-organ lies in the status both organs enjoy in relation to the (other) peripheral sense-organs. Both the sense of touch and the master sense-organ are depended *on* by the other peripheral sense-organs, although they do not depend on *them*. Of course, the sense of touch is still dependent on the master sense-organ. The whole objective of this little excurs, then, is to establish that even animals with only a sense of touch are in possession of a primary sense-organ, and since all animals have a sense of touch, all animals are subject to sleep and waking. (Cf. also Gregoric (2007) 171). Van der Eijk’s addition of the word ‘zintuig’ does little to elucidate the meaning of *τούτου* (van der Eijk (2003)), and neither does Gallop’s literal translation ‘this’ (Gallop (1996)); Hett (1957/1975) avoids the whole problem of interpretation by simply placing 455a24-6 in brackets in both the Greek and the translation – like Beare & Ross (1931), who do the same in their translation – which at least gives the reader a clue as to the direction in which to think.

²⁰⁹ In his discussion of the explanation of sleep, Aristotle employs his famous ‘four causes approach’. He announces that he will discuss four explanatory factors: (1) *τὸ τίναος ἕνεκεν*, the final cause, (2) *ὅθεν ἢ ἀρχὴ τῆς κινήσεως*, the efficient cause, (3) *ἡ ὕλη*, the material cause, and (4) *ὁ λόγος αἷτιος*, the formal cause or definition (455b13-17). For more information on Aristotle’s four causes theory, see e.g. Hankinson (1998), 132ff.; Ross (1995), 74-77; Schofield (1991). Cf. also *Phys.* II.3&7; *Metaphys.* I.3-9; V.2, *APo.* II.11, *GA.* I.1. There is some disagreement with regard to whether or not Aristotle keeps his promise to discuss all four causes, which has close relations to the discussion on the unity of the treatise. See e.g. Gallop (1989), 268; (1996), 126-8; Drossaart Lulofs (1947), xv-xliii; (1973); Ross (1967), 260; Wiesner (1978); van der Eijk (2003B), 60-2; 69; Lowe (1978), 279-88. The most recent contribution to this debate comes from Everson (2007), who convincingly argues in favour of the unity of *De Somno*, and against those who believe there are inconsistencies in the text, of whom Lowe is his main target.

to move yet cannot do so indefinitely, as at some point pain or damage will occur. It is logical then that sleep, a form of rest, occurs to preserve the animal's nature and its well-being.²¹¹

(...) ὥστε σωτηρίας ἔνεκα τῶν ζώων ὑπάρχει. ἢ δ' ἐγρήγορσις τέλος· τὸ γὰρ αἰσθάνεσθαι καὶ τὸ φρονεῖν πᾶσι τέλος οἷς ὑπάρχει θάτερον αὐτῶν. βέλτιστα γὰρ ταῦτα, τὸ δὲ τέλος βέλτιστον, ὥστε ἀναγκαῖον ἐκάστῳ τῶν ζώων ὑπάρχειν τὸν ὕπνον.²¹²

(...) so it follows that sleep is for the sake of animal preservation. But waking is the objective. For perceiving and thinking are the objective of all creatures to which either of them belongs. For these are the best, and the objective is what is best, and hence it is necessary for sleep to belong to every animal.

Though sleep is preservative, the final goal of the animal is to be awake, for it is only in this state that perception and intellectual activity may be exercised by those who have the ability to do so; for these are the best activities, and the ultimate goal is to do what is best.²¹³ Hence, all animals must partake of sleep, as it is a necessity to preserve their very existence.²¹⁴

Sleep is not the same as any other condition that deprives the perceptual part of the soul of its capacity to act, like for instance, unconsciousness, choking or fainting, but finds its origin in the nutritional process:²¹⁵

οὐκ ἔστιν ὁ ὕπνος ἀδυναμία πᾶσα τοῦ αἰσθητικοῦ, ἀλλ' ἐκ τῆς περὶ τὴν τροφήν ἀναθυμιάσεως γίγνεται τὸ πάθος τοῦτο.²¹⁶

²¹⁰ According to Aristotle, Nature does nothing in vain. For a list of references to places in Aristotle's work where this is literally mentioned, cf. Gallop (1989), 259 n.3.

²¹¹ Cf. Wijssenbeek-Wijler (1978), 185. See also Gallop (1989), 259.

²¹² 455b22-26.

²¹³ Cf. Chapter 2, p.134 n. 201.

²¹⁴ 455b17-28.

²¹⁵ 456b9-12.

²¹⁶ 456b17-19.

Sleep is not each incapacitation of the perceptual part, but this affection comes into existence from the exhalation²¹⁷ accompanying nutrition.

Now, it has already been established that the primary sense-organ, located in the region of the heart, is the origin of both sleep and waking. In what way, then, does it fulfil this role? *How* is it, that sleep and waking have their origin here and what does it have to do with digestion? Aristotle begins at the beginning. Every animal experiences movement in the primary sense-organ upon perception: this is what constitutes perception.²¹⁸ This movement is only possible if one possesses the strength and power for it, which is why we need to take nutrition, he explains. In animals, now, the last stage of food is blood – in bloodless animals it is the substance that functions as blood.

τῆς μὲν οὖν θύραθεν τροφῆς εἰσιούσης εἰς τοὺς δεκτικούς τόπους γίνεται ἡ ἀναθυμίασις εἰς τὰς φλέβας, ἐκεῖ δὲ μεταβάλλουσα ἐξαιματοῦται καὶ πορεύεται ἐπὶ τὴν ἀρχήν.²¹⁹

When food from outside enters into the parts fit to receive it, *exhalation* into the veins takes place, and, changing there, it [sc. ἀναθυμίασις, the *exhalation*] is transformed into blood, and travels to the point of origin [sc. the heart].

After we have ingested food, and this food has arrived in the place where it can be absorbed – the stomach – it steams up into²²⁰ the blood vessels due to the presence of heat, and is turned into

²¹⁷ I agree with Gallop that ‘exhalation’ is preferable to ‘evaporation’ (cf. e.g. Hett, Ross) as translation of ἀναθυμίασις, as the latter really only suggests the change from liquid to gaseous, while in fact there is also a conversion of solid to gaseous (sublimation). He likens the process to the ‘steaming up’ that occurs in a swamp (Gallop (1996), 131).

²¹⁸ The heart is also the origin of all movement in the body. Cf. PA 665a10-15. See also Ross (1995), 149-151.

²¹⁹ 456b2-5.

²²⁰ Van der Eijk (2003B) translates: ‘een proces van verdamping in de bloedvaten’; Gallop (1996) translates ‘exhalation proceeds *into* the veins’, which I think makes more sense. Cf. also Hett (1975): ‘evaporation of it passes into the veins’ and Beare & Ross (1931): ‘the evaporation arising from it enters into the veins’.

blood there. Then it is transported to the heart, the origin of all blood vessels.²²¹ Aristotle also explains the relation of the ingestion of food to the inception of sleep:

τὸ δὲ θερμὸν ἐκάστου τῶν ζώων πρὸς τὸ ἄνω πέφυκε φέρεσθαι· ὅταν δ' ἐν τοῖς ἄνω τόποις γένηται, ἀθρόον πάλιν ἀντιστρέφει καὶ καταφέρεται. διὸ μάλιστα γίνονται ὕπνοι ἀπὸ τῆς τροφῆς.²²²

The heat of each of the animals is naturally carried upward. But when it has reached the upper parts, it turns back again *en masse* and is carried downward. That is why sleep occurs mostly upon [the intake of] food.

The exhalations, formed in the heating process, rise from the stomach to the head along with the innate heat, which by nature has a tendency to move upward. Once in the upper regions of the body, the hot exhalations come to a halt, cool off and condense, for the brain is the coldest part of the body – and this is what makes the head feel heavy and what causes nodding – before turning around and descending to the area of the heart in a mass.²²³ As a clarification of this process, Aristotle brings the reader in mind of what happens when the tide streams into in a narrow channel: it also has to change course and turn back. When the – now cool – matter returns from the head, the heat in the area of the heart is dispelled, sleep ensues, and the animal lies down to

²²¹ 456a30-b6.

Aristotle saw the heart as the starting point (ἀρχή) of the blood vessels (456b1), but also as the origin of the blood (458a15-16). In this light, the ἀρχή mentioned in 456b3-6 is difficult to interpret with certainty. Most interpreters clearly choose to believe that Aristotle refers to the heart in its capacity of origin of the blood vessels, as do for instance Wijsenbeek-Wijler (1976), Hett (1975), Beare & Ross (1931), and Gallop (1996). Van der Eijk (2003B), however, remains faithful to the Greek and gives a neutral translation: “hier ondergaat deze damp een verandering, wordt in bloed omgezet en beweegt zich naar de oorsprong ervan [my italics].

²²² 456b21-24.

²²³ In Aristotle's explanation of the digestive processes, there is some unclarity concerning the route of the 'food turned blood' to the heart. First Aristotle claims that the blood formed in the blood vessels upon digestion is transported to the heart. Later, he explains how the exhalations from the food first travel to the head along with the innate heat, and *then* descend to the heart, an explanation that seems, at first, to be irreconcilable with the first explanation. As I see it, there seem to be two possibilities. One is that the exhalations and the formed blood are two different products of the digestive processes, the other is that the exhalations are, in fact, the same as the blood that is transported to the heart, and that the blood vessels just take the route via the head. I am partial to this latter option, as will become clear below. It is of course impossible to be conclusive on this point – Aristotle claims to have discussed the digestive processes in his treatise on nutrition, which would be very helpful here, but unfortunately this treatise has been lost to us.

sleep.²²⁴ All this, Aristotle contends, is why sleep occurs especially after the ingestion of food.²²⁵

To summarise, sleep is due to the concentration and natural downward flow of heat that takes place as a consequence of the processes we have just described; this is why movement in sleeping people is considerable.²²⁶ Certain consequences of this moving around of heat and cold are easily noticeable. The cold takes over the upper and outer parts, which causes, for instance, drooping eyelids, while the heat that is dispelled when the cooled matter returns from the head warms the feet and interior of the body.²²⁷

At this point, Aristotle draws our attention to what seems to be a contradiction in his explanation of sleep.²²⁸ The process that leads to sleep finds its origin in heat and things that are hot, while, as we have seen, sleep itself entails a process of cooling. He discusses several solutions to this problem. The stomach, when it is empty, is hot, but when filled with food it cools off because of the movement the digestive process brings with it. Perhaps the same happens in the head when it is filled with the exhalations of the food?

Alternatively, maybe the cooling in the head is similar to what happens when people shiver if hot water is poured over them: the cold rallies against the heat and counteracts it, causing the hotness to lose its strength and subside. A third possibility is that upon the intake of food the heat responds much like a fire does after new logs have been placed on it: just as the fire cools off until it has consumed the new fuel, so the heat diminishes until digestion is complete. Aristotle once more explains how the processes leading up to sleep proceed: the exhalations of ingested food rise up to the head to be cooled off until this is no longer possible because the head

²²⁴ I suggest a slightly altered translation of 'καθεύδει' in 456b28. Hett and Gallop both translate 'falls asleep', and van der Eijk has 'is in slaap gevallen'. Based, firstly, on the general gist of what Aristotle remarks in 457b24-6, secondly, on Aristotle's use of 'καθεύδω' instead of, for instance 'ὑπνώω' (although in this case an argument of *variatio* could apply) or no addition at all to the in itself quite clear 'γίγνεται ὁ ὕπνος', and, lastly, on the literal meaning of the word, I propose the translation 'lies down to sleep'.

²²⁵ 456a30-456b28.

²²⁶ 457b3: διὸ πολλὰ ἢ κίνησις τοῦ ὑπνοῦντος. Meant is the movement *inside* a sleeping person. Cf. Wijsenbeek-Wijler (1978), 192; van der Eijk (2003B); Wiesner (1978), 253.

²²⁷ 457a33-457b6.

²²⁸ 457b6ff.

is full; then it must reverse course and it flows downward. This time, however, Aristotle adds a new, surprisingly modern concept: sleep can apparently be divided into stages. After the material has flown downward it first causes unconsciousness, and in a later stage it causes fantasies (*φαντασίαι*) – this last matter will be discussed elaborately in the next chapter.²²⁹

Yet, however plausible the explanations he has just given seem, Aristotle does not deem them adequate enough. Although they are all valid cooling factors, the region around the brain – or the analogous part in animals that do not have a brain – remains the most dominant cooling factor, and it is the brain that is really mainly responsible for the cooling, as it is the coldest part of the body. This is due in part to the fineness of the blood vessels in the head, which besides aiding the cooling effect also aid the resistance to the exhalations.²³⁰ A simile is again invoked as clarification: Aristotle likens the whole process that leads up to sleep to the evaporation of moisture by the heat of the sun, which, after rising upward until it hits the colder upper atmosphere, condenses and falls back to earth in the form of rain.²³¹ But apparently not all of the exhalations descend. Aristotle discerns two sorts: the superfluous exhalations (*περιττωματική ἀναθυμίασις*) that are transformed into phlegm in the head – which is the reason why a cold always seems to start there, as Aristotle remarks helpfully – and the nutritive and harmless (*τρόφimos καὶ μὴ νοσώδης*) exhalations that gather and travel downward to cool off the heat (*τὸ θερμόν*).²³²

²²⁹ 457b6-26.

²³⁰ I presume in the manner described earlier with the tides and the narrow channel.

²³¹ 457b26-458a10.

²³² Holowchak and Wiesner wonder which heat Aristotle actually means by *τὸ θερμόν* mentioned in 456b27 and 458a5. Holowchak remains fairly vague when he suggests it may be some residual heat in the 'lower regions', possibly around the region of the heart. Cf. Holowchak (1996), 406 n.3. Wiesner states we can only be sure that it must be the 'warmth in the upper parts'. Cf. Wiesner (1978), 260-1. It is a bit unclear what they consider 'upper' and what 'lower' body, but that is of little consequence here, as both seem to agree, that it concerns the area of the heart. Although she does recognise the fact that this area and the upper extremities of the body cool off, Wijssenbeek-Wijler interprets it to be the 'rest of the warm, undigested food'. This seems a bit too indistinct to me, and seems almost to ignore the area of the heart. Cf. Wijssenbeek-Wijler (1978), 191-3. Gallop seems to ignore the problem entirely and translates this *τὸ θερμόν* in the same way as the earlier *τὸ θερμόν* in 456b22: the hot matter. I believe this to be an error in judgment. I believe that *τὸ θερμόν* in 456b27 and 458a5 refers to the innate heat of the heart, which is the generative power behind the working of the primary sense organ. When this heat is no longer present in sufficient quantity, the primary sense organ can no longer function and sleep sets in.

Just before the end of his treatise, Aristotle introduces yet another aspect of the sleeping process. After food has been absorbed into the vascular system, two sorts of blood become intermingled: a pure, thin sort of blood, and a murky, thick sort. Aristotle explains:

διὰ δὲ τὸ γίγνεσθαι ἀδιακριτώτερον τὸ αἷμα μετὰ τὴν τῆς τροφῆς προσφορὰν ὕπνος γίγνεται, ἕως ἂν διακριθῇ τοῦ αἵματος τὸ μὲν καθαρώτερον εἰς τὰ ἄνω, τὸ δὲ θολερώτερον εἰς τὰ κάτω· ὅταν δὲ τοῦτο συμβῇ, ἐγείρονται ἀπολυθέντα τοῦ ἐκ τῆς τροφῆς βάρους.²³³

And sleep comes about because the blood becomes more intermingled after the ingestion of food, [and it lasts] until the purer type of blood has been separated into the upper regions and the murkier type into the lower regions. When that has happened, they [sc. animals], released from the heaviness due to the intake of food, wake up.

In the middle chamber of the heart, the two sorts of blood are separated again.²³⁴ After digestion is complete, and the two types of blood have been successfully divided, meaning that the pure blood has assumed its proper place in the head, while the murky blood has moved to the lower regions of the body where it belongs, and the heat that had been driven into the lower regions of the body and confined in a limited space by the cool material returning from the head has once more – literally – regained the upper hand in the body, the heaviness experienced at the onset of sleep will have lifted completely, and the living being wakes up.²³⁵

²³³ 458a21-25.

²³⁴ Interesting and possibly slightly confusing: on the one hand, Aristotle uses a comparativus (*adiakritôteron*) that suggests a certain degree of intermingling of blood before ingestion of food. On the other hand, he makes it seem as if the living being only wakes up after the two blood types have been separated. Of course, there is no need for the blood to be separated for an animal to be awake; only mixed blood returning from the head *en masse* brings sleep. For an elaboration of the process, *vide infra*.

²³⁵ 458a10-25.

2.3.4 *Soporifics and sleep inducing circumstances*

Aristotle explains the working of soporifics according to his theory regarding the sleeping process. The processes that follow the ingestion of food, as described above, also seem to occur after the intake of soporifics, be they liquid or solid – he mentions poppy, madragora, daniel and wine. As is the case in digestion, a result of these sleep inducers consists in heaviness of the head, which manifests itself in the fact that, close to sleep, the head droops, and one experiences difficulty in keeping the eyes open. Some states of fatigue, Aristotle adds, also have this effect, because fatigue acts as a solvent; the dissolved matter that is a product of this process acts as undigested food does – unless it is cold. The same applies to illnesses that are due to a hot and moist residue, such as lethargy and fever. The reason why young people sleep deeply is that all the food they ingest travels upwards – Aristotle's proof of this is that the higher parts are larger than the lower parts, because growth takes place in that direction. Epilepsy occurs when air moves upward in large quantities and subsequently descends again, thus constricting the passage ways for air; a process very similar to that leading to sleep – Aristotle even classes sleep as a form of epilepsy. Because of this close relation between the two conditions, epilepsy is found primarily in children, because their heads are already full of food, and in those who are (about to fall) asleep. In the same vein, both in drunks and in children much moisture is transported upward to the head. This, then, is the reason why wine, which contains much air, should only be given to children in small doses.²³⁶

2.3.5 *Types of people and their sleeping behaviour*

It is a commonly known fact that some people are more prone to sleep than others. To the first group of people belong those with narrow, unpronounced blood vessels, large-headed people, and

²³⁶ Arist.*Somn.*456b28-457a21. See Gallop (1996), 132 for some elaboration on the mechanics of soporifics and sleep inducing circumstances.

dwarfs. Narrow blood vessels cause moisture to descend only slowly, while in large-headed people and dwarfs, there is much upward movement. In contrast, pronounced, wide blood vessels facilitate the downward movement of moisture, resulting in an inclination to waking. Also prone to waking are melancholics, in whom there is not much heat to cause *exhalation* of food.²³⁷ Black bile is cold, and cools off the body parts and the place where *exhalation* of food should take place. This is also the reason why they can eat much and yet remain thin.²³⁸

2.3.6 *Sleep and its causes*

In conclusion to his treatise on sleep and waking, Aristotle summarises the cause of sleep: 'it is the reverse flow of the solid matter, carried upwards by the innate heat, *en masse* towards the primary sense-organ.' Sleep itself, then, is 'a seizure of the primary sense-organ with the effect of it being incapable of functioning.' The reasons why it occurs are necessity and preservation: sleep preserves the animal, and is therefore a necessary condition for its existence.²³⁹ We may infer from this that the 'reverse flow of solid matter' (ἡ τοῦ σωματώδους ἀντιπερίστασις) somehow impedes the primary sense-organ. However, it would seem that Aristotle has neglected to tell us what this 'somehow' exactly entails. In his discussion of the sleeping process, the two main factors that have been put forward as the causes of sleep are the cooling effected by the brain,²⁴⁰ and the intermingling of blood after the intake of food.²⁴¹ However, for neither of these has it been made clear *how exactly* they would have an effect on the primary sense-organ, or which is the more important factor in the process of sleep. Aristotle does specify *when* the incapacity of

²³⁷ Wijsenbeek-Wijler rightly questions Flashar's explanation of the special nature of the melancholics as due to an excess of warmth. Cf. Wijsenbeek-Wijler (1978), 230; Flashar p.712-3.

²³⁸ Arist.*Somn.*457a21-457a33

²³⁹ 458a25-32.

²⁴⁰ Wijsenbeek-Wijler gives some background information on an animal's need for refrigeration. See Wijsenbeek-Wijler (1978), 193. (Aristotle refers to cooling by breath and moisture in 455b29-456a15.)

²⁴¹ Wiesner believes that the mixed blood is the fetter of the primary sense-organ; Gallop agrees. Cf. Wiesner (1978), 264ff; Gallop (1996), 134. Wijsenbeek-Wijler, however, sees things differently and argues that 'the ultimate cause is the chilling of the blood'. Cf. Wijsenbeek-Wijler (1978), 197.

the primary sense-organ occurs, i.e. when sleep ensues, and when this incapacitation ends and waking comes about. Sleep ensues 1) when the cooled matter returns from the head and dispels the heat in the upper parts, and 2) when the blood that reaches the heart is in need of separation into pure and impure blood. Waking comes about 1) when the heat that was confined to the lower body during sleep once again has the upper hand, and 2) when the blood that was mixed in sleep is now un-mixed and the two types have assumed their respective proper places in the body. Which of these two, then, is the ultimate condition for sleep? According to Wijsenbeek-Wijler, the cooling function of the brain is only of secondary importance to the process of sleep,²⁴² but I disagree. If it was not for the cooling action of the brain, the (no longer) hot matter would not ‘descend to the heart in a mass’. Wiesner acknowledges the importance of the composition of the blood for sense-perception and elaborates on the evidence in *Parts of Animals*. Drawing also on evidence from the subsequent treatise, *On Dreams*, he asserts that it is ‘the mixture of the blood and its turbulent movement’ that ‘are the factors affecting the primary faculty.’²⁴³ According to him, then, the primary sense-organ is not so much impeded by the descending cold, but by the mixture of blood, which explains why this incapacitation mostly occurs after the ingestion of food. I believe there is no need to choose between the two explanations, because both accounts refer to one and the same process. After the intake of food, Aristotle contends that the ἀναθυμίασις is changed into blood – or rather: a sort of blood-like vapour – in the blood vessels, and subsequently proceeds to the ἀρχή, i.e. the heart (456b3-6). It does this *via* the head: the θερμὸν [ἀναθυμιῶμενον] must rise upward in an animal and only after it has been cooled off by the brain – which is, after all, the brain’s specific function – it comes back down to the heart in a mass, and causes sleep (456b20-24). The whole process is very much akin to the formation of rain from moisture on the ground, to which Aristotle astutely likens it (457b31-458a6). The cool mass,

²⁴² Wijsenbeek-Wijler (1978), 198-199 (conclusion to the discussion starting on page 189). She supports her view with evidence from *Parts of Animals*.

²⁴³ Wiesner (1978), 266-7.

consisting of the condensed blood-vapours, which arrives at the primary sense organ from the region of the head brings sleep not just because it cools, or just because there is now mixed blood at the primary sense organ, but both: the mixed blood, in this case, is cold and repels the heat normally present at the heart; the only way to remove this mass from the primary sense organ is to separate it into pure blood and murky blood, so that these two types of blood can go to the region of the body where they belong. Once this has happened, and the pure blood has gone to the head (εἰς τὰ ἄνω 458a23-4) while the less pure blood has gone to the nether regions (εἰς τὰ κάτω 458b24), it logically follows that the heat that had been driven away from the heart can now return and resume its function there. So in fact, there are two processes at work in the generation of sleep and waking. The first process, the *anathumiasis* of food, is instrumental in the generation of sleep, for it results in a cold, mixed matter that ends up in the area of the heart, thus incapacitating the primary sense organ and bringing about sleep. The second process is that which produces waking: the separation of the mixed blood is, basically, the clearing away of the incapacitator of the primary sense organ. Once it is gone, the innate heat can return from its place of exile in the lower regions of the body and resume its role in the area of the heart, thus reviving the primary sense organ, which in itself constitutes waking. If we read the text like this, taking the coolness and the mixed blood to be part of, essentially, one and the same process, Aristotle's own summary of his treatise is now wonderfully complete and satisfying:

τί μὲν οὖν τὸ αἴτιον τοῦ καθεύδειν εἴρηται, ὅτι ἡ [ὑπὸ] τοῦ σωματώδους τοῦ ἀναφερομένου ὑπὸ τοῦ συμφύτου θερμοῦ ἀντιπερίστασις ἀθρόως ἐπὶ τὸ πρῶτον αἰσθητήριον· καὶ τί ἐστὶν ὁ ὕπνος, ὅτι τοῦ πρώτου αἰσθητηρίου κατάληψις πρὸς τὸ μὴ δύνασθαι ἐνεργεῖν, ἐξ ἀνάγκης μὲν γινόμενος (οὐ γὰρ ἐνδέχεται ζῶον εἶναι μὴ συμβαινόντων τῶν ἀπεργαζομένων αὐτό), ἔνεκα δὲ σωτηρίας· σῶζει γὰρ ἡ ἀνάπαυσις.²⁴⁴

²⁴⁴ 458a25-32.

So the cause of sleeping has been stated, [i.e.] that it is the reverse flow of the solid matter, carried upwards by the innate heat, *en masse* towards the primary sense-organ. What sleep is [has also been stated], [i.e.] that it is a seizure of the primary sense-organ with the effect of it being incapable of functioning, which occurs of necessity (for it is not possible for an animal to exist while the conditions that produce it do not coincide), and it is for the sake of preservation: for rest does preserve [an animal].

2.4 Conclusions to chapter 2

2.4.1 *Hippocratics*

Though the Hippocratic Corpus is a collection of a great number of different texts, authored by almost as many different writers, and though nowhere in the Corpus a full explanation of the process of sleep is available, some important notions about sleep and the processes that lead up to, occur within, and terminate it can still be inferred from a selection of Hippocratic texts. There was, for instance, an awareness of the fact that sleep occurred in a specific rhythm, and more than one author believed that this rhythm could be a reflection of a person's physical condition. The grounds for this belief lay in an acceptance of the fact that sleep always had a certain effect on the body, which generally corresponded with one of the four primary qualities; there was no consensus as to which of the qualities this was, but when it concerned sleep under normal circumstances, the majority seems to have been inclined towards moist. This notion, combined with a firm trust in the rule of moderation, which taught that excesses would disturb the precious bodily balance that was the basis of health, stood at the basis of the conviction that too much sleep and too much waking were bad indeed, because they were sure to upset the bodily balance. Theories about the goings on in the body during sleep are also traceable in various Hippocratic treatises, mainly involving the four primary qualities, and they explain, at least in part, how different authors thought sleep worked. For most authors who give information on sleep, heat is

clearly an important factor, central to several different processes in and notions about sleep; examples of these are the movement of heat and cold in the body, the importance of heat for digestion, and the dependance of the duration of sleep on the amount of heat present in the body. Moist is a close second in significance, mentioned only by few authors, and it appears to have a bearing on the occurrence and inception of sleep; dry is, unsurprisingly, its opposite in this. A more general conviction in the Corpus is that normal, natural sleep is a beneficial process. For most, if not all, authors, insomnia – not waking! – is a sign of trouble, because it is a clear deviation from natural sleeping habits and disturbs moderation. Thanks to its effects on the body, sleep was also generally recognised as a process that could be of use in medical practice, both passively, as source of information about the body in diagnosis and prognosis, and actively, to be adapted and manipulated in order to put its effects on the body to good use in treatment.

2.4.2 *Galen*

Normality was important in Galen's views on sleep as well, but it was combined with, and sometimes even overruled by his consideration of the individual and what he or she was used to: for Galen, what was habitual was more important than what was normal, and in that he deviated from the Hippocratics. Galen's views on moderation, however, are very similar. He too believed that extremes were to be avoided if one was to maintain his health, and this rule applied to sleep as well. Something else in which Galen followed the Hippocratics was his belief that the four primary qualities played a central role in sleep. But while in the Hippocratic Corpus, there is no consensus about the components of the body, which makes it impossible to generalise even slightly, Galen follows *On the Nature of Man* and his four humour theory; so for Galen, it is the mixture of these four humours that is accountable for the *krasis* of the primary qualities. And this *krasis*, in turn, showed in a person's sleeping behaviour. As for the effects of sleep, Galen is quite

clear on the matter: sleep always moistens, but it depends on circumstances whether it also heats or cools. Galen's views on sleep are much better attested than the Hippocratics' views on the matter, and from different treatises by his hand we can reconstruct most of his views about its inception and termination – which, we have seen, much resembles Aristotle's. Two processes were central to sleep: perception and digestion. Digestion has a significant role in both Hippocratic and Aristotelian views on sleep, but perception is not really mentioned as a factor in sleep in the Hippocratic Corpus, and so is mainly reminiscent only of Aristotle. In a nutshell: after a day of hard work all the *dunameis* are tired, including the *dunamis* of sense perception, because all *dunameis* are similarly and simultaneously affected. The perceiving *dunamis* is then in need of food and recuperation, just as the innate heat, which is the *dunamis* responsible for the process of *pepsis*. The innate heat then moves to the inner regions of the body, and the perceiving *dunamis* no longer flows toward the peripheral sense organs, thus causing sense perception to cease. In the inner regions, the innate heat sets about digesting the food it encounters there, transforming it into something that is used for the *dunameis* to regain their strength. After the recuperative process is complete, and the *dunameis* are restored to their normal condition, the innate heat will resume its natural movement outward once more. Once the movement outward has started, and the remains of the process of *pepsis* have been shrugged off, waking comes about. Like the Hippocratics, Galen also used sleep in medical treatment, both in diagnosis, for instance in the determination of a dominant *dyskrasia* by his sleeping behaviour, and in treatment, when a change in the arrangement of sleep and waking, and thus of their respective effects on the body, is beneficial. Only people with a perfectly balanced constitution would have what could be called a self-regulating sleep rhythm: they sleep when the need arises, and wake up when they no longer need sleep. Strictly speaking, of course, it is incorrect to say that Galen believed that sleep itself had any kind of effect on the body's organisation of primary qualities. While we cannot reconstruct these matters with regard to the Hippocratic Corpus, because there

is simply no information available, when it comes to Galen, data has come down to us, from which we know that he believed sleep to be purely and only the incapacitation of the *prôton aisthêtikon* – a process for the express purpose of recuperation, perhaps better described as a pause. However, not all processes in the body, i.e. all activities of the soul, were paused in sleep. Experience taught Galen that people move in sleep and some even perceive to a certain extent. And since both these activities are governed by the soul, only the soul can be responsible for them, from which it follows that, despite the reduced flow of *dunameis* in sleep, there is still some activity of the soul.

2.4.3 *Aristotle*

Aristotle's is of course the only complete theory on sleep that has come down to us. In a nutshell: after the arrival of food in the stomach, this food steams up into the blood vessels in the form of a blood-like vapour, because of the heat present in the belly, and from there this vapour, *anathumiasis*, is transported upward to the head. There, it cools off and descends to the heart in a mass, dispelling the heat present in that area, and causing a cessation of perception, which can be identified with sleep. This mass of matter is a mixture of pure blood and murky blood, and the only way to remove it is to separate the two, so that the pure blood can go to its rightful place in the head, while the murky blood can return to the lower regions of the body. Once this has happened, there is nothing left to monopolise the area of the heart, and the heat, that had been driven downward, can now return, bringing about waking. In fact, then, there are two processes at work in the generation of sleep and waking. The first process, the *anathumiasis* of food, is instrumental in the generation of sleep; the second process, the separation of the mixed blood, produces waking: the removal of the occupying mass is what allows the innate heat to return to the heart and revive the primary sense organ, which constitutes waking.

2.4.4 *Sleep in relation to diagnosis and prognosis*

In both the Hippocratic and the Galenic Corpora, sleep, unnatural sleeping behaviour and insomnia all received attention in diagnosis and prognosis. Sleep was usually seen as a good sign, occurring mostly when the patient was on his way to recovery, while unnatural sleeping behaviour and insomnia were signs of trouble. Galen, along with some of the Hippocratic authors, believed that, from a patient's sleeping pattern, much could be inferred with regard to the condition of the body and the dominant components therein. For Galen, this refers to the bodily humours, for the Hippocratics, there was a number of different theories offering different options. All agree, though, that one or all of the primary qualities hot, cold, moist and dry play a role in sleep, and that each one of these can exert influence on the body and thus on the sleeping process.

2.4.5 *Sleep in relation to dreams*

In the whole of the Hippocratic Corpus, there is only one author who directly links the sleeping process to the occurrence of dreams: *On Breaths*. He explains that the reason why the blood cools off when we get the urge to sleep is because it is in the nature of sleep to *cause* chill. The cooled off blood then moves through the body more slowly, and makes it heavy, giving it a downward inclination along with the eyelids, which is why the eyes close at the inception of sleep. Due to this cooling off, the intelligence is altered, enabling 'certain other fancies' to 'linger'; these fancies are what we call dreams.²⁴⁵

Galen does not really say anything about the direct relation between dreams and sleep either, but there are a few things we might infer from what he does say. The rational soul, according to Galen, is responsible for the acts of sensation, voluntary motion, imagination,

²⁴⁵ Cf. *Flat.*14 (122,5-6 Jouanna; 6.112 L.).

reason, and memory. As has been argued, the soul is not completely at rest during sleep, and there is still some activity, some movement, some use of the muscles, some *dunamis* that flows. People can sit up straight, hold things, walk, talk, do all manner of things while they are in a state of sleep; they can even, to a certain extent, perceive, because, for the soul, sleep is not a period of complete relaxation, but one of much diminished activity while its agents, the *dunameis*, are mainly occupied with recuperation. However, we do not remember the things we do in sleep, because our memory cannot retain them. Still, the fact that the soul is active at all is interesting, for, surely, if we dream, this must be an activity of the soul. Galen does not actually say this, but since the soul is indeed able to act in sleep, this suggests that whatever part of it that is responsible for the occurrence of dreams can also be active during that period. Moreover, why would anyone act at all if there were not some sort of exhortative, like, for instance, things seen in a dream? Also of interest to this subject are Galen's views concerning the potential effect of the humours on the emotional state. In his discussion of the question whether or not sleep can cause harm, Galen mentions that if there is much black bile in the stomach or in the head, these will generate fear in sleep. This of course begs the question: how would one experience this fear? The likely answer would be: in dreams.

As for Aristotle, his whole explanation of sleep accommodates the consecutive explanation of dreams. After all, he suggests that to understand dreams, one must first understand sleep. Still, in *On Sleep*, he does briefly refer to dreams, and what he says is very similar to what we have just suggested with regard to Galen's possible views on the relation between sleep and dreams:

κινούνται δ' ἔνιοι καθεύδοντες καὶ ποιοῦσι πολλὰ ἐγρηγορικά, οὐ μέντοι ἄνευ φαντάσματος καὶ αἰσθήσεώς τινος· τὸ γὰρ ἐνύπνιον ἐστὶν αἴσθημα τρόπον τινά· λεκτέον δὲ περὶ αὐτῶν ὕστερον. διότι δὲ τὰ

μὲν ἐνύπνια μνημονεύουσιν ἐγερθέντες, τὰς δ' ἐγρηγορικὰς πράξεις ἀμνημονοῦσιν, ἐν τοῖς Προβληματικοῖς εἴρηται.²⁴⁶

Some people move when they are asleep, and do many waking things [sc. things they would purposefully do in waking], but indeed not without some mental image and some form of sense-perception; for a dream is in a way a sense-impression. We must discuss these things later. The reason why people remember dreams after they have been awakened, but on the other hand fail to remember the waking acts which they have performed [i.e. *while* asleep], has been said in the *Problemata*.

It seems hardly possible that this should be a coincidence. Galen discusses the exact same topics as does Aristotle, movement and memory in sleep, only Galen omits dreams as an explanation for actions undertaken by sleeping people. Of course, this is no reason to believe that Galen had the same convictions as Aristotle, but it does strengthen our position, for Galen knew Aristotle's works well, and the Aristotelian influence on his oeuvre is considerable.²⁴⁷

²⁴⁶ Cf. 456a25-29.

²⁴⁷ This is especially noticeable in his ideas on sleep and waking. Cf. van der Eijk & Hulskamp (forthcoming).

3 Dreams and Dream Interpretation in Medical Practice

Now that we have studied the process enveloping medical dream interpretation, diagnosis, and the process enveloping dreams *per se*, sleep, and have obtained a better understanding of these two processes, the moment has come to investigate what the Hippocratic authors, Galen, and Aristotle respectively say about the subject of our central research question: dreams and their interpretation.

3.1 The Hippocratic Corpus

In the Hippocratic Corpus, we find the earliest known text with a systematic account of medical dream interpretation: *On Regimen* IV, also referred to as *On Dreams*. This fourth book of *On Regimen* has often been considered an oddity, not only with regard to the rest of the treatise – for a long time, *On Dreams* was thought to be only loosely connected to the rest of *On Regimen* –¹ but also within the wider context of the Hippocratic Corpus. As regards the latter point, however, the truth is that insufficient research has been conducted into the position of the treatise *On Regimen* within the Corpus. If little to nothing is known of other Hippocratic authors' ideas on dreams, how are we to assess whether or not the ideas postulated by *On Regimen* were or were not alien to those of his fellow physicians? Van der Eijk asserts: “it would be a gross exaggeration to say that in his overall medical outlook, the author of *On Regimen* is completely at odds with what we find elsewhere in the Hippocratic writings,” and I agree.² In the following, views on dreams held by *On Regimen*, but also those held by other Hippocratic authors will be

¹ As book IV does have the appearance of a separate discussion, some scholars have typified its structure as ‘compilatory’ in the past. Cf. e.g. Fredrich (1899), 221-222; 226ff.; Palm (1933), 99ff. Recent scholarship shows that *On Regimen* I to IV are all part of one coherent argument. Cf. e.g. Diller (1959); Joly (1960), 172-9; (1967), xxii; (1984), 20-22; Oberhelman (1993), 129; Jouanna (1998); Holowchak (2001), 388 n.15; van der Eijk, (2004), 193-4.

² Van der Eijk (2004), 189-190. Cf. also Palm (1933), 99-124; Joly (1960), 183-203; Joly/Byl (1984), 36-44.

considered in order to illuminate the theoretical environment within which the author of *On Regimen* conceived of his system of dream interpretation, and to verify to what extent this system was indeed the novel invention its author claims it to be.

3.1.1 *On Regimen*

As its title already suggests, *On Regimen* is concerned with the protection of people's health by means of careful regulation of their regimen. To this end, the author states in his second chapter, one must of course have a thorough knowledge of human nature in general, and of the things regimen comprises: food and exercise. For although these two have opposite qualities, when they are well balanced they produce health. In addition, it is necessary to be aware of all the things, both internal and external, that may have an effect on either the amount of food or the amount of exercise needed. But, he says, even when all this is known, it is not enough:

εἰ μὲν γὰρ ἦν εὐρετὸν ἐπὶ τούτοις πρὸς ἐκάστου φύσιν σίτου μέτρον καὶ πόνων ἀριθμὸς σύμμετρος μὴ ἔχων ὑπερβολὴν μήτε ἐπὶ τὸ πλεον μήτε ἐπὶ τὸ ἔλασσον, εὖρητο ἂν ἡ ὑγίειη τοῖσιν ἀνθρώποισιν ἀκριβέως.³

For if it were indeed possible, in addition to these things, to find for each individual nature a measure of food and an amount of exercises in proportion to [that measure], with no excess or defect, then one would have exactly found health for everyone.

After briefly lamenting the fact that no one has yet been able to conceive of a way to tailor a person's regimen exactly to his constitution's needs, he boldly states that he has discovered such a way, and, what is more, that he has discovered a way to predict illness:

³ *Vict.I.2* (124,17-19 Joly/Byl; 6.470 L.).

ἐμοὶ δὲ ταῦτα ἐξεύρηται, καὶ πρὸ τοῦ κάμνειν τὸν ἄνθρωπον ἀπὸ τῆς ὑπερβολῆς, ἐφ' ὁπότερον ἂν γένηται, προδιάγνωσις. Οὐ γὰρ εὐθέως αἱ νοῦσοι τοῖσιν ἀνθρώποισιν ἐπιγίνονται, ἀλλὰ κατὰ μικρὸν συλλεγόμεναι ἀθρόως ἐκφαίνονται. Πρὶν οὖν κρατεῖσθαι ἐν τῷ ἀνθρώπῳ τὸ ὑγιές ὑπὸ τοῦ νοσηροῦ, ἃ πάσχουσιν ἐξεύρηταί μοι, καὶ ὅπως χρή ταῦτα καθιστάναι ἐς τὴν ὑγίειν.⁴

What has revealed these things to me – even before a man falls ill due to excess (in whichever direction that excess might occur [viz. too much or too little]) – is *prodiagnôsis*. For diseases do not surface in people all of a sudden, but they develop little by little, without being noticed, and then suddenly appear. Thus I have discovered what people suffer before health is mastered by disease, and how one should change these things into a state of health.

The author has realised that prior to illness, there is a build up towards it in the body, and this build up can be identified if one knows but how. And this is the author's claim: he *does* know how. Integral to the author's methods is the interpretation of dreams, to which the whole fourth book of *On Regimen* is devoted.⁵ Through dreams, it is possible to gain information about the condition of the body that would otherwise have remained hidden. In chapter 86, the first chapter of the fourth book, the author explains how this is possible. In sleep, while the body is at rest, the soul is active: it is aware of everything (*γινώσκει πάντα*), and on its own performs all the acts it would in the daytime perform together with the body, such as seeing, hearing, walking, touching, feeling and thinking.⁶

⁴ *Vict.*I.2 (124,28-126,3 Joly/Byl; 6.472 L.).

⁵ For a more elaborate discussion of the links between books 1-3 and book 4 and the indirect references in the first three books to dream interpretation, see van der Eijk (2004), 194-5.

⁶ *Vict.*IV.86 (218,9-12 Joly/Byl; 6.640 L.) There is some discussion as to the origin of this idea. For arguments in favour of an Orphico-Pythagorean theory cf. Palm (1933), 62-69; Joly (1967), 97 n.1 and (1984), 27-30; Oberhelman (1995), 131; Godderis (2000), 588-90. For the orphic view cf. Dodds (1951), 119. For pythagorean roots cf. Kessels (1969), 415; Hoessly (2001), 298; and for arguments against the orphic element cf. Cambiano (1980), 91ff.; Palm (1933), 62-69; Joly, (1967), 97, note 1; Joly/Byl (1984), 27-30, 92; Dodds (1951), 119; Oberhelman (1993), 131.

ὅταν δὲ τὸ σῶμα ἡσυχάσῃ, ἡ ψυχὴ κινεομένη καὶ ἐγρηγορεύουσα διοικεῖ τὸν ἐωυτῆς οἶκον καὶ τὰς τοῦ σώματος πρῆξιας ἀπάσας αὐτὴ διαπρήσσεται. τὸ μὲν γὰρ σῶμα καθεῦδον οὐκ αἰσθάνεται, ἡ δ' ἐγρηγορεύουσα γινώσκει πάντα, καὶ ὁρᾷ τε τὰ ὁρήτὰ καὶ ἀκούει τὰ ἀκουστὰ, βαδίζει, ψαύει, λυπεῖται, ἐνθυμεῖται, ἐν ὀλίγῳ ἐοῦσα· ὅσαι τοῦ σώματος ὑπηρεσίαι ἢ τῆς ψυχῆς, πάντα ταῦτα ἡ ψυχὴ ἐν τῷ ὕπνῳ διαπρήσσεται.⁷

But when the body is at rest, the soul, being set in motion and awake, manages her own household, and performs all the activities of the body herself. For the sleeping body does not perceive, but she [sc. the soul], since she is awake, knows all, and sees what is visible, hears what is audible, walks, touches, feels pain, ponders, in her limited dwelling space. Functions of the body or of the soul: in sleep, the soul performs all those.

Dreams are made up of the acts the soul performs on its own. It is perhaps impossible to understand the precise mechanics of this, but it is helpful to have an inkling of how sense-perception works in this author's view. Gundert paraphrases it succinctly: "Sense-perception takes place when the sensations coming into the body through sight, hearing, and touch meet the soul on its revolutions, mix with it, shake it, and thus are sensed by it."⁸ But in sleep, although there is still perception by the soul, there is no *sense*-perception, and hence there are no sensations coming into the body from without. Cambiano clarifies the situation: according to him, what takes place when sleep sets in is a change in the *object* of perception. Since sleep prevents there being any connection between the soul and the outside world, the object of perception for the soul can only be the body and all that goes on within it.⁹ That there is a direct link between the things the soul does and experiences during sleep and what someone sees in his dreams is made abundantly clear by the author of *On Regimen* himself:

⁷ *Vict.* IV.86 (218.7-12 Joly/Byl; 6.640 L.).

⁸ Gundert (2000), 23.

⁹ Cambiano (1980), 93.

ὅποῖα γάρ τινα πάσχει τὸ σῶμα, τοιαῦτα ὄρη ἢ ψυχὴ κρυπτομένης τῆς ὄψιος.¹⁰

... as the experiences of the body are, so are the visions of the soul when sight does not function.

Of course, this is still no explanation of the mechanics of the dream. How is it that, in a dream, allegorical representations can appear of the things that are going on in the body? What exactly is the relation between the two? Unfortunately, the author does not provide a straight answer to that question, although he does have much to say about dreams.

At the beginning of the fourth book, he explains that there are different types of dreams.

The first type are divine dreams that

... προσημαίνει τινὰ συμβησόμενα ἢ πόλεσιν ἢ ἰδιώτησιν ἢ κακὰ ἢ ἀγαθὰ.¹¹

... prophesy to cities or individuals bad things or good things that will take place.

The author wants nothing to do with this sort of dream, as there are other professionals who are capable enough to interpret them.¹² By thus acknowledging dream interpretation as a true *technê*, the author paves the road for himself to create a specialisation within this *technê* to be occupied only by those who also possess the skills of his own *technê*: that of medicine.¹³ According to him, it is this group of people who should interpret those dreams in which

¹⁰ *Vict.* III.71 (204,5-6 Joly/Byl; 6.610 L.).

¹¹ *Vict.* IV.87 (218,14-5 Joly/Byl; 6.640 L.).

¹² The fact that the author of *On Regimen* wants to distance himself from oneirocritics is reminiscent of what the author of *Prorrhetic* I does with regard to diviners and charlatan physicians in the case of prognosis. Cf. Chapter 1.

¹³ On the acceptance of dream interpretation as a *technê* cf. Lloyd (1979), 227; on the creation of a division of labour, cf. van der Eijk (2004), 197-8.

... ὅσα δὲ ἡ ψυχὴ τοῦ σώματος παθήματα προσημαίνει, πλησμονῆς ἢ κενώσιος ὑπερβολὴν τῶν συμφύτων, ἢ μεταβολὴν τῶν ἀηθέων ...¹⁴

... the soul foretells affections of the body, surfeit or depletion of things that are natural, or change into unaccustomed things...

For although non-medical dream interpreters may have the ability to see that something is amiss – and if we can believe the author, this is not even always the case – they do not possess the (medical) skill to actually do anything with this information, and the help they can provide their clients will consist of a general warning, or at best of the advice to pray to the gods.¹⁵ No, this sort of dream can be put to much better use by a professional physician, whose expert insights will actually aid the dreamer and send him on his way back to health. In order to help those who wish to approach dreams from a medical perspective, the author of *On Regimen* provides in his fourth book a guide to the interpretation of medical dreams.¹⁶ It is, in fact, the earliest dreambook that has come down to us from antiquity.¹⁷

In chapter 88, the author of *On Regimen* introduces one of the most basic principles in the interpretation of medical dreams: similarity of dream images to normality is good, and dissimilarity is bad.¹⁸

¹⁴ *Vict.*IV.87 (218,16-7 Joly/Byl; 6.642 L.).

¹⁵ *Vict.*IV.87 (6.642 L.).

¹⁶ It has been argued that the author of *On Regimen* took old, existing dream imagery from the Greek non-medical oneirocritical tradition and fitted it with a new, rational background to match his medical purposes. Cf. Fredrich (1899), 206-17; Dodds (1951), 119; Joly (1960), 168-178; Oberhelman (1987), 54; Godderis (2000), 591; Holowchak (2001), 395, 398. Potential parallels with divinatory material from other cultures have also been put forward. Cf. Capelle (1925), 381-7; Palm (1933), 83-93; van der Eijk (2004), 206-215. I believe a combination of these two approaches is very likely.

¹⁷ Cf. Lieshout (1980), 100; Oberhelman (1987), 49.

¹⁸ Holowchak points out that Artemidorus adheres to a similar principle in his *Oneirocritica*. Cf. Holowchak (2001), 394-5.

ὅσα τῶν ἐνυπνίων τὰς ἡμερινὰς πράξεις τοῦ ἀνθρώπου ἢ διανοίας ἐς τὴν εὐφρόνην ἀποδίδωσι κατὰ τρόπον γινομένας, ὥσπερ τῆς ἡμέρης ἐπρήχθη ἢ ἐβουλεύθη ἐν δικαίῳ πράγματι, ταῦτα τῷ ἀνθρώπῳ ἀγαθὰ· ὑγίην γὰρ σημαίνει, διότι ἡ ψυχὴ παραμένει ἐν τοῖσιν ἡμερινοῖσι βουλεύμασιν, οὔτε πλησμονῇ κρατηθεῖσα οὔτε κενώσει οὔτε ἄλλῳ οὐδενὶ ἔξωθεν προσπεσόντι. Ὅταν δὲ πρὸς τὰς ἡμερινὰς πράξεις ὑπεναντίωται τὰ ἐνύπνια καὶ ἐγγίνηται περὶ αὐτῶν ἡ μάχη ἢ νίκη, τοῦτο σημαίνει ταραχὴν ἐν τῷ σώματι· καὶ ἦν μὲν ἰσχυρὴ ἦ, ἰσχυρὸν τὸ κακόν, ἦν δὲ φαύλη, ἀσθενέστερον. (...) τὸ δὲ σῶμα τοῦ ἀνθρώπου θεραπεύεσθαι συμβουλεύω· πλησμονῆς γάρ τινος ἐγγενομένης ἀπόκρισις ἐγένετό τις, ἣτις ἐτάραξε τὴν ψυχὴν.¹⁹

Those of the dreams that, at night, repeat someone's day-time actions or thoughts in the way they occurred, just as they were done or planned with regard to an appropriate action during the day, these are good for a man. For they signify health, because the soul persists in the ventures of the day, and is overpowered neither by surfeit nor depletion nor by any other external occurrence. But when dreams are contrary to the acts of the day, and there occurs about them a battle or a triumph, this signifies trouble in the body; if it [sc. the battle] is violent, [it signifies] violent trouble, if moderate, feebler trouble. (...) I advise treatment of the body. For the occurrence of some surfeit has resulted in a secretion that has disturbed the soul.

If things are normal, dreams about the previous day will show images that are true representations of the experiences and thoughts the dreamer had when awake, without any abnormalities. When something is wrong, however, the soul is disturbed and the images seen are of things other than the thoughts and experiences of the previous day. Put differently, the soul relives the past day, unless it is distracted by something out of the ordinary within the body, which, as we have seen, is the only possible source of any impressions – not *sensory* impressions, of course – which may be perceived by the soul without the aid of the body and its sense organs.²⁰ The objective of the recommended treatment is to purge the body, and adjust the

¹⁹ *Vict.* IV.88 (220,1-7, 9-10 Joly/Byl; 6.642 L.).

²⁰ There is great similarity to Aristotle's ideas on dreams, as Cambiano already noted. Cf. Cambiano (1980), 94. The differences between the two theories will become clear in the discussion of Aristotle's views below.

balance between exercise and food so that the effects of surfeit, indicated by the dream, are overcome: depending on the severity of the disturbance – the extent of which can be derived from certain aspects of the dream imagery – an emetic is suggested, accompanied by a light diet and relatively arduous exercises.²¹

The principle of similarity-good/dissimilarity-bad first explored in chapter 88 applies to most of the dream images described in the treatise, most notably to chapters 89 and 90, both of which are to be interpreted following an analogy between microcosmos (the body) and macrocosmos (the world and the universe), based on a generational theory expounded in chapters 9 and 10.²² There, the author has explained that everything – including all animals – is composed of two elements: fire and water. Fire is the driving force, which can instigate movement and change, while water is the nourishing force; one cannot exist without the other.²³ In the construction of the human body, fire arranges everything in the image of the cosmos, and in chapter 10 it is then described how the structure of the human body relates to that of the earth and the universe:

Ἐνὶ δὲ λόγῳ πάντα διεκοσμήσατο κατὰ τρόπον αὐτὸ ἐνωτῶ τὰ ἐν τῷ σώματι τὸ πῦρ, ἀπομίμησιν τοῦ ὅλου, μικρὰ πρὸς μεγάλα καὶ μεγάλα πρὸς μικρά. κοιλίην μὲν τὴν μεγίστην, ὕδατι ξηρῷ καὶ ὑγρῷ ταμεῖον, δοῦναι πᾶσι καὶ λαβεῖν παρὰ πάντων, θαλάσσης δύναμιν, ζώων συμφόρων τροφόν, ἀσυμφόρων δὲ φθορόν. περὶ δὲ ταύτην ὕδατος ψυχροῦ καὶ ὑγροῦ σύστασιν, διέξοδον πνεύματος ψυχροῦ καὶ θερμοῦ, ἀπομίμησιν γῆς, τὰ ἐπεσπίπτοντα πάντα ἀλλοιούσης. καὶ τὰ αναλίσκον, τὰ δὲ αὖξον, σκέδασιν ὕδατος λεπτοῦ καὶ πυρὸς ἐποίησατο ἡερίου, ἀφανέος καὶ φανεροῦ, ἀπὸ τοῦ συνεστηκότος ἀπόκρισιν, ἐν ᾧ

²¹ *Vict.*IV.88 (6.644 L.). There is a clear parallel in this chapter with *Vict.*III.71 (204,1-6 Joly/Byl; 6.610 L.): ὅταν δὲ μὴ δέχεται ἔτι τὸ σῶμα τὴν πλησμονήν, ἀπόκρισιν ἤδη ἀφίησιν ἔσω ὑπὸ βίης τῆς περιόδου, ἥτις ὑπεναντιούμενη τῇ τροφῇ τῇ ἀπὸ τῶν σίτων ταρασσει τὴν ψυχὴν. οὐκ ἔτι δὲ κατὰ τοῦτον τὸν χρόνον ἡδεῖς οἱ ὕπνοι, ἀλλ' ἀνάγκη ταρασσεσθαι τὸν ἄνθρωπον, καὶ δοκεῖν μάχεσθαι. ('But when the body can no longer contain the surfeit, it incites a secretion inward due to the force of the *periodos*, which, opposing the nourishment from food, disturbs the soul. At that moment, sleep is no longer agreeable, but the patient is inevitably disturbed, and thinks he is battling.'

²² Cf. Cambiano (1980), 96; van der Eijk, (2004), 200; Hoessley (2001), 301-2; Oberhelman (1987), 59 and (1993), 132. For a more elaborate discussion of the analogy between microcosmos (the body) and macrocosmos (the world and the universe) in *On regimen*, see Joly (1960), 37-45 and Jouanna (1998).

²³ *Vict.*I.3 (6.472-474 L.).

φερόμενα πάντα ἐς τὸ φανερόν ἀφικνεῖται ἕκαστα μοῖρῃ πεπρωμένη. ἐν δὲ τούτῳ ἐποίησατο <τὸ> πῦρ περιόδους τρισσὰς, περαινούσας πρὸς ἀλλήλας καὶ ἔσω καὶ ἔξω· αἱ μὲν πρὸς τὰ κοῖλα τῶν ὑγρῶν, σελήνης δύναμιν, αἱ δὲ [πρὸς τὴν ἔξω περιφορὴν,] πρὸς τὸν περιέχοντα πάγον, ἄστρων δύναμιν, αἱ δὲ μέσαι καὶ ἔσω καὶ ἔξω περαίνουσai <ἡλίου δύναμιν ἔχουσι>. τὸ θερμότατον καὶ ἰσχυρότατον πῦρ, ὅπερ πάντων κρατεῖ, διέπον ἕκαστα κατὰ φύσιν, ἄθικτον καὶ ὄψει καὶ ψαύσει, ἐν τούτῳ ψυχὴ, νοῦς, φρόνησις, κίνησις, αὔξησις, μείωσις, διάλλαξις, ὕπνος, ἔγερσις. τοῦτο πάντα διὰ παντὸς κυβερνᾷ, καὶ τάδε καὶ ἐκεῖνα, οὐδέποτε ἀτρεμίζον.²⁴

In a word, the fire arranged all things in the body by itself in a way suitable to it, making a copy of the whole, small things in likeness to great things and great things in likeness to small things. [It makes] the belly biggest, a storage place for dry water and moist, to give to all and to take from all, [the belly has] the power of the sea, [providing] food for creatures suited to it, [bringing] destruction to those not suited. And around it [there is] a concretion of cold and moist water, a passage for cold and warm breath, a copy of the earth, which changes all things that fall into it. Consuming some things, and increasing others, it made a scattering of light water and of aerial fire, the invisible and the visible, a secretion from the formed substance, in which all things are carried and come to light, each in its own time. And in this, fire made three groups of circuits, adjoining one another within and without: the [circuits] towards the hollows of the moist, the power of the moon; those towards the enclosing mass, the power of the stars; the middle circuits, bounded both within and without <contain the power of the sun>. The hottest and strongest fire, which controls all things, ordering all things according to nature, inaccessible to sight and touch, therein are soul, mind, thought, growth, decrease, motion, mutation, sleep, waking. This governs all things always, both here and there, and is never at rest.

In this description, the belly is like the sea, and the area of the stomach and the lungs is represented by the earth. Around these, there are three groups of circuits (*periodoi*): that of the moon, that of the Sun, and that of the stars. The circuit of the moon corresponds with the inner circuit of the diaphragm or the peritoneum, the circuit of the stars corresponds with the peripheral circuit, the outer circuit nearest to the skin. The circuit of the sun corresponds with the

²⁴ Vict.I.10 (134,5-20 Joly/Byl; 6.484-6 L.).

intermediary circuit – although this is not made explicit here – probably that of the heart; it is in this circuit, where the hottest and strongest fire is located, that the soul moves.²⁵ Let us now turn to chapters 89 and 90 consecutively, and examine the dream imagery the author describes, and the significance he attributes to specific images.²⁶ In the table below, to which we will refer in the discussion, a systematic overview is provided of the contents of both chapters.

CHAPTER 89						
Dream image			significance		Treatment	underlying theory
1. sun, moon, heavens, stars:	pure and light, appearing normal		health		adhere to the regimen that is already being followed	
	contrast with normality	violent contrast	violent illness		treatment according to more specific descriptions of dream imagery provided in the remainder of the chapter	
		mild contrast	light illness			
2. one of the stars	disfigured, gone or unmoving in its <i>periodos</i>	by mist or clouds	feeble sign	disruption of outer circuit by moist and phlegmatic secretion	frequent increasingly long runs wearing clothes, to enhance sweating; frequent walks after exercise; reduction and gradual increase of food; vapour baths, depending on severity; dry, acrid, astringent and pure foods; drying exercises	trouble is in the outer circuit, necessitating purgation through the skin
		by water (rain) or hail	more powerful sign			
3. moon	idem			disruption of hollow parts of the body	inward revulsion; emetic after acrid, salty and soft foods; sharp circular runs; walks, voice-exercises; reduction and gradual increase of food;	revulsion must be directed inward as the trouble is at the hollow parts of the body
4. sun	idem			relatively powerful affliction that is harder to eliminate	runs on the double and round tracks; walks and all other exercises; reduction and gradual increase of food; additional increase of food over 5 days after emetic	revulsion must be directed inward and outward as the trouble is in the middle circuit
	crushed, seeming to be weak		danger of falling ill		no exercises; humid and softening regimen; baths; rest and sleep until recovery	patient is overcome by the dryness of the circuit

²⁵ Cf. Joly (1960), 41-2.
²⁶ Cf. Jouanna (1998).

5. stars in a clear sky	presence of a fiery and hot influence	influence is dominant / victorious over the stars		illness / illness with fatal outcome	purging with hellebore before change of regimen OR watery regimen, abstention from wine (unless white, thin, soft, and diluted); no hot, acrid, drying or salty food; as much as possible natural exercises and runs wearing clothes; no massage; no wrestling; frequent sleep on a soft bed; rest, apart from the natural exercises; walk after dinner; vapour bath followed by emetic; eating less than appetite for 30 days; after that, 3 times a month emetic after sweet, watery and light foods	the hot influence indicates a bilious secretion
		influence is put to flight, chased by the stars		if no treatment: delirium		
6. a star	wandering about, without apparent reason		disturbance of the soul originating in sorrow		rest; turn the mind to comical things OR to other pleasurable things for two or three days	disturbance of the soul originating in sorrow
7. stars	falling away from their orbit	pure and bright, going towards the east		health		when a pure substance in the body is secreted from a circuit from west to east, all is normal
		dark and dull, moving:	towards the west	disease	reduction of food; emetic followed by gradual increase of food to normal (twice)	<i>we can derive that an impure substance must have been secreted, which is not as it should be</i>
			into the sea	diseases of the bowels		
			into the earth	tumours in the flesh		
			upward	fluxes of the head		
8. heavenly bodies	settling on the dreamer	pure and moist		health		what comes from the air and penetrates the body is pure, and the soul sees it as it is
		black, impure and opaque		illness coming not from surfeit or depletion, but from an intervention by an agent from outside the body	relatively heavy exercises; soft and light diet	prevention of consumption of the body; heavy breathing will help to expel the foreign agent
9. gifts from	pure things from a pure god		health: what enters the body is pure			
						prevention of

a god	impure things from an impure god	unfavourable: what enters the body is diseased	relatively heavy exercises; soft and light diet	consumption of the body; heavy breathing will help to expel the foreign agent
10. weather	gentle rain from a clear sky, no downpour or thunderstorm	health: breath coming from the air is well-proportioned and pure		
	violent rain, thunderstorm, tempest, impure rainwater	illness due to inhaled breath	same regimen, but with much less food	

CHAPTER 90					
Dream imagery		significance		treatment	underlying theory
1a. to see and hear clearly what is on the earth		health			the body, its circuits, conduct, and secretions are normal
1b. to walk or run surely, quickly, and without fear					
1c. to see the earth smooth and well cultivated					
1d. lush trees bearing much fruit					
1e. rivers following their normal course, with pure water, not more and not less than normally					
1f. springs and wells (with pure water, not more and not less than normally)					
2. anything that is the reverse (of the above)		some sort of harm has befallen the body			
3. impaired sight or hearing		disease in the region of the head		in addition to the regimen hitherto followed, more walks in the morning and after dinner	
4. damaged legs				revulsion with emetics; more wrestling in addition to the regimen hitherto followed	
5. rough earth		impure flesh		longer walks after exercises	
6. fruitless trees	shedding leaves	corruption of the human seed		warming and drying regimen	corrupting agent is a moist and cold influence
	healthy foliage	corruption of the human seed		cooling and moistening regimen	corrupting agent is a hot and dry influence
7. rivers/ streams	high water	excess of blood	in circuitry	regimen to decrease blood	
	low water	defect of blood		regimen to increase blood	
		impure water	disturbance of the bowels		runs, walks
8. springs / cisterns		trouble of the bladder		purging by diuretics	

9. troubled sea	disease of the belly	purging by light, soft laxatives	
10. trembling of the earth or of a house	if dreamer is healthy: change from health to illness	change of regimen: emetic; gradual resumption of nourishment	present diet is the cause, hence a change in diet will be beneficial
	if dreamer is sick: change from illness to health	continuation of regimen	the change to health is already in progress
11. earth flooded by water or sea	disease	emetics; no lunch; exercises; dry diet; little food, then gradual increase	much moisture in the body
12. black or scorched earth	danger of catching a violent or even fatal disease	no exercises; no dry, acrid and diuretic foods; well-boiled barley wate; very light meals; much well-diluted white wine; many baths, though not on empty stomach; soft bed; much rest; no chill; no sun; <i>prayer to Earth, Hermes and the Heroes</i>	excess of dryness in the flesh
13. diving in lake, sea, or river	normally: not good	drying regimen; increased exercises	indicates an excess of moisture
	for a fever patient: good sign		heat is quenched by the moisture

In chapter 89, which deals with motion and appearance of the heavenly bodies, the author first shows us the workings of the normal/good –abnormal/bad principle in this chapter: to see the celestial phenomena as they normally are signifies health (κατὰ τρόπον ὁρεόμενα ἕκαστα, ἀγαθὰ), while deviance from normality signifies illness (εἰ δέ τι τούτων ὑπεναντίον γένοιτο, νοῦσόν τινα τῷ σώματι σημαίνει).²⁷ As an *aide memoire*, the author then briefly mentions the order of the celestial phenomena in the cosmos and the circuits in the body to which they correspond:

ἄστρον μὲν οὖν ἢ ἔξω περίοδος, ἡλίου δὲ ἢ μέση, σελήνης δὲ ἢ πρὸς τὰ κοῖλα.²⁸

The stars are in the outer circuit, the sun is in the middle circuit, the moon in the circuit next to the hollow [part of the body].

²⁷ Vict.IV.89 (220,18-21 Joly/Byl; 6.644 L.).

²⁸ Vict.IV.89 (220,22-3 Joly/Byl; 6.644 L.).

This clarified, more specific dream imagery is linked to various conditions of the body, and treatment is recommended accordingly. The way in which abnormality – and with it, trouble – with regard to dream imagery can be discerned and interpreted, is explained in 2 through 10 in the table: not only does the author impart the significance of specific types of (in this chapter mainly celestial) images, he also recommends treatment and often also provides a theoretical background to such treatment, based, first of all, on his microcosmos-macrocosmos understanding of the body. The author has mentioned the correspondence of the heavenly bodies and their *periodoi* to the circuits in the body at the beginning of the chapter, but it is only further down (see in the table under 7) that we encounter additional correlations : images of the sea correspond with the bowels (matching what has been explained in chapter 10), images of the earth with the flesh, and images of high regions with the head. In combination with this microcosmos-macrocosmos theory, we come across the application of a number of other medical theories also encountered elsewhere in the Hippocratic Corpus: the acceptance of the existence of various bodily humours, and their potentially injurious influence on a person's health when present in the body in excessive quantity (2, 3, 4, 5); fluxes (7);²⁹ surfeit and depletion (8); purity/impurity (9);³⁰ and even the potentially healthy or detrimental influence of the air surrounding us (10).³¹ In 6, we encounter a remarkably modern notion, namely the concern for the state of a person's mind, or rather, of his soul (*psychê*). Clearly, the soul can become ill, and so it also needs to be healed.

If we now briefly consider the treatments³² recommended by the author based on the dream images, we find a certain straightforwardness to the logic underlying the majority of them. Trouble in the outer circuit is solved by outward purgation; trouble in the inner circuit is solved

²⁹ For a succinct explanation of the theory of fluxes, cf. Craik (2001), 104ff. Cf. also Nutton (2004), 78.

³⁰ Hoessly argues that the tradition of katharsis takes up an important position in *On Regimen*. Cf. Hoessly (2001), 298-309.

³¹ This of course immediately brings one in mind of *On Breaths*.

³² Joly has analysed the different dietetic measures in book IV, and has shown them to be in general agreement with the information provided on (powers of) foods, sleep, exercise and diet in books II and III. Cf. Joly (1960).

by inward purgation; trouble in the middle circuit is solved by both inward and outward purgation; dryness and bile (hot and dry) are defeated by moistening measures; for sorrow, laughter is the best medicine; an impure substance in the body necessitates purging; a foreign agent in the body requires expulsion. None of these seem to be strange or out of place in the author's frame of reference, and a modern reader can, without too much trouble, follow his train of thought.

At the end of chapter 89, specific gods are suggested, to whom one may direct prayer: Helios, Zeus Ouranios, Zeus Ktesios, Athena Ktesia, Hermes, Apollo, and the Averters of evil: Gaia/Gê, and the heroes. Regarding the reason why these specific gods are to be invoked, van der Eijk compellingly argues:

"As to the identity of the gods mentioned here, the reference to 'celestial' deities such as Helios and Zeus Ouranios, and perhaps that of Apollo, makes good sense considering the 'celestial' contents of the dreams and their correspondence with the microcosmic system of bodily circuits. Zeus Ktesios and Athena Ktesie are invoked probably because of their general protective capacity with regard to a person's private life and livelihood. As to Hermes, who is mentioned again later on, his presence here is to be explained perhaps not so much because of his status as provider of dreams (the relevance of which is dubious in the light of the author's belief in the physical origin of the dreams he is dealing with), but more likely because of his ambivalent role as a mediator between life and death. The latter presumably also explains the invocation of the other 'chthonic' deities Earth and the Heroes."³³

Though the appearance of gods here has long been viewed as a sign of the author's indiscriminate copying of earlier dreambooks,³⁴ it must be recognised that, actually, it precisely follows the recommendations given in chapter 87: while the author concedes that it is prudent to

³³ Van der Eijk (2004), 204. Palm gives an explanation of the use of gods that is based on the assumption that they do not represent *On Regimen's* own opinion. Cf. Palm (1933), 77-79.

³⁴ Cf. Palm (1933), 78.

pray to the gods, he does urge people to do something about things themselves in addition to prayer.³⁵

Chapter 90 deals with the earth and things on it, and is a continuation of the microcosmos-macrocosmos analogy, only 'closer to home'. First, the author presents the reader with a number of images that can be interpreted as favourable, and in which the principle of normality/good – abnormality/bad unmistakably comes to the fore again. However, there seems to be an extra quality to some of the favourable images: to run, not just without stumbling or any other form of impediment, but surely, quickly and fearlessly; the earth, not only undisturbed, but well-cultivated and smooth; trees that are not only bearing rich foliage but also bearing fruit in abundance – while normality is of course good, all of these images show an inclination to excellence that clearly surpasses normal standards. The concept of the *locus amoenus* springs to mind when reading the description of images that signify health. What follows is an introduction to the part of the chapter containing imagery that signifies an unhealthy condition. A relatively elaborate analogy between the macrocosmic dream images and their microcosmic somatic meaning unfolds. Sight and hearing refer to affliction of the head; earth, as in chapter 89, signifies the flesh; fruitless trees have a bearing on a person's fertility; rivers and streams indicate the circuitry in which the blood moves; spring and cisterns are analogous to the bladder; the sea, also seen before in chapter 89, is the belly; a house or the earth can apparently have a bearing on the dreamer's overall condition, for its meaning is change; floods indicate an excess of moisture, while diving in water can mean either an excess or a beneficial amount of moisture; black or scorched earth mean dryness of the flesh. As for treatment, in this chapter, too, the explanations for recommended treatments are for the most part based on an intelligible line of reasoning: moist and cold are counteracted by hot and dry, while hot and dry are neutralised by cold and moist; excess must be followed by decrease, and defect by increase; impurities in the bowels are stirred

³⁵ Cf. van der Eijk (2004), 205.

up by rapid breathing, which in turn facilitates their removal; the bladder is purged by diuretics; the belly is purged by laxatives; a pending change for the worse calls for a change in regimen; excess of moisture requires drying measures, while too much dryness demands moistening measures; heat is suppressed by moisture. In short, opposites cure opposites.

The dream images described in chapters 91-93 are decidedly more symbolical in character, and the microcosmos-macrocosmos principle is not applicable here. The subject of chapter 91 is clothing. Just as in the previous chapters, it is first made clear what sort of clothing indicates health: clothes that are exactly right, not too large, nor too small, garments of white colour, and the most beautiful shoes.³⁶ It is not good to be wearing clothes that are too large or too small – the first means that there is need for a slimming regimen, the latter indicates a need for augmenting regimen. Nor is it favourable to be wearing black clothes in a dream; such an image commands a softening and moistening regimen. New things can be either good or bad, because they indicate change. In the imagery of this chapter we can easily recognise the normal/good – abnormal/bad principle. In addition, the metaphorical element is fairly straightforward: clothes that are too large indicate a need for lessening, while clothes that are too small indicate a want; white is good, black is bad; beauty is good; new represents change. In chapter 92, which deals with the dead, roughly the same applies. The author first states that the dead provide nourishment, growth, and seed. He then explains that when in dreams one sees them clean, wearing white garments, and giving clean things, it means that the body of the dreamer is healthy, and that something clean has entered it. Once more, the norm has been set in terms of what is good. The description that follows instructs the reader that it is unfavourable to see the dead naked, or clothed in black or unclean garments, or taking something out of the house: these things signify disease, and indicate that something harmful has entered the body. Purging is

³⁶ Joly & Byl translate “ses plus belles chaussures”, which suggests that the shoes seen in the dream should be in the dreamer’s possession; I am not convinced this addition in the translation is necessary, although the author’s remark that “new things signify change” may point in that direction.

required, through runs and walks, and an emetic, and a soft and light diet – the metaphors are not too complicated.

Chapter 93 consists of a range of wholly different images, some of which are a step beyond the relatively clear cut and direct metaphors of the previous chapters, others of which are of a separate character entirely; while the other interpretative chapters are arranged around a central theme, chapter 93 has an air of being a collection of the interpretational indications that were leftover³⁷ and could not be fitted in anywhere else.³⁸ The apparently haphazard way in which the various dream images are mentioned strengthens this impression. The chapter starts with a metaphor: to see scary, malformed bodies signifies an excess of unfamiliar foods, a secretion, a bilious flux, and a dangerous disease. The link between imagery and significance is not easily understood: the only immediately recognisable feature is the strangeness of the bodies, which can be linked to the unfamiliarity of the food; perhaps the danger of the disease can, in turn, be linked to the scary quality of the bodies, would already be taking interpretation of the text a step further. Where the significance of secretion and bilious flux come from remains unclear, and we can only guess, which would no longer be interpretation of the text. As for treatment, we can discern a somewhat more direct logic in this: according to the author, the right response to dreams containing such imagery as has just been described would be purgation, followed by a light diet that is not acrid, dry or hot, natural exercises, warm baths, rest, and avoidance of sun and cold. There are certain elements here that can be understood if we take the information provided in the preceding chapters into account: purgation seems to be a logical step, as there is an alien substance in the body, and/or a secretion, both of which require expulsion; in addition, a

³⁷ This of course begs the question “Leftover from what?”. Was there a limited set of dream images the author had to discuss? Theories have been proposed as to the origin of the medical dream imagery discussed in *On Regimen IV* (see also Chapter 3, p.160 n.16), and these could also account for the *choice* of dream images: if it is true that the author used the limited number of images within an existing corpus that point towards physical danger or trouble, and if, in addition, it is true that there is no evidence of an empirical study (as Holowchak contends, cf. (2001), 395, 398), what reason then would there be to discuss imagery outside of that limited set?

³⁸ Others who have noticed the eclectic nature of chapter 93 are e.g. van Lieshout (1980), 189 and Oberhelman (1993), 132.

light diet would be advantageous, both for purgation and excessive bile, and the latter would also warrant the evasion of acrid, dry and hot things. Next comes a section concerned with descriptions of dreams that indicate desires of body and soul, some of which are clearly wish-fulfilments.³⁹ If, in sleep, one seems to be eating or drinking things one would normally eat and drink, a want of nourishment and a desire of the soul are indicated.⁴⁰ This would qualify as a wish-fulfilment dream: something is wanted or needed, and in the dream the desired object is obtained. Eating very strong meat,⁴¹ however, represents a strong excess, and meat that is less strong a lesser excess. The reasoning behind this, the author explains, is that whatever it is good to eat in real life, it is good to see oneself eating in a dream, while whatever it is bad to eat in real life, it is also bad to see oneself eating in a dream. The general gist of such a dream is then of course that one should eat less, because there is an excess, – the opposite of a want – of nourishment,⁴² and this is exactly what the author recommends.⁴³ The same interpretation is, apparently, applicable to dreams that show the dreamer eating bread with cheese and honey.⁴⁴ In the same sphere of food and drink, the author explains that to see oneself drinking clean water does not indicate any harm, but drinking any other kind of water does. And here the familiar principle of normal/good - abnormal/bad comes to the fore again. Having cleared up what dreams of eating and drinking indicate in the way of needs of body and soul – we must bear in mind that, according to this author, the soul is physical and consists of the same elements, fire and water, as

³⁹ Cf. Dodds (1951), 119.

⁴⁰ Littré, Ermerins and Joly/Byl have substituted ἀθυμία with ἐπιθυμία, an option which, though not provided in the manuscript tradition, is very understandable and defensible. Joly & Byl argue that this choice is justifiable by the parallel with 230,2. Cf. Joly/Byl (1984), 300. Jones, on the other hand, has kept ἀθυμία, which is in the manuscripts, but which makes the text more difficult to comprehend.

⁴¹ Joly & Byl explain that 'strong' is used in a pejorative sense here, and is used in antithesis to the things one would normally eat and drink (τῶν συνηθέων ποτῶν ἢ σιτίων). Cf. Joly/Byl (1984), 300.

⁴² Cf. Joly/Byl (1984), 300.

⁴³ The Greek is difficult to understand here, and Littré and Jones both suggest rearrangement of the text. Cf. Jones (1967), 445 n.1. Joly & Byl, however, comment: "Le pensée est cohérente, mais, comme ailleurs, son expression est gauche et archaïque." Cf. Joly/Byl (1984), 301.

⁴⁴ I do not see the logic of this interpretative step. Could it have something to do with the double, and therefore unnecessarily luxurious or superfluous filling?

the body⁴⁵ – the author feels compelled to specify that desires of the soul are not just indicated by dreams about food and drink, but by all familiar things seen in sleep.⁴⁶ The last four metaphors display some similarities with the first one, not only because their imagery appears to be in the same general sphere, but also because some of the recommended treatments are comparable. The first two of these metaphors pertain to the body's circuits. To run away in fear signifies an arrest of the blood flow due to dryness, and calls for drying and cooling of the body. The link between affliction and treatment is comprehensible. Battling, or being pierced or bound by someone else means that a secretion opposed to the *periodos* has been produced in the body. The author recommends vomiting, drying out of the body, walking, light food, and increase of food in five days after the emetic – measures that also occur elsewhere in *On Regimen*.⁴⁷ Crossing rivers, or seeing enemy soldiers, strangely-formed monsters signify illness or madness (*mania*). The recommended treatment following dreams of this type is somewhat difficult to understand: the patient should eat small quantities of light and softening foods, and take an emetic. After that, he should increase nourishment in five days, do frequent natural exercises, except right after dinner. He should avoid taking warm baths, rest, cold, and the sun – all of which, it will be noted, were recommended in the first metaphor. The measures prescribed are difficult to understand mainly because there is no explanatory element in the text, telling us what the author assumes is happening in the patient's body.

It is clear, however, that the author sees a correlation between the way in which something is represented and the meaning of a dream for its dreamer. There is no doubt that the author is convinced that dream interpretation is a great, if not the best, aid to creating a healthy, tailored-to-fit regimen and thus to being able to lead a life free of disease. He states:

⁴⁵ Cf. *Vict.*I.6-9; 35-36 (128,24-134,4; 150,29-156,32 Joly/Byl; 6.478-484; 6.512-524 L.)

⁴⁶ This reading is supported by the repetition of ἐπιθυμία.

⁴⁷ Cf. *Vict.*III.71 (6.610 L.); *Vict.*IV.88 (6.644 L.).

Τούτοις χρεώμενος, ὡς γέγραπται, ὑγιαίνει τὸν βίον.⁴⁸

Using these things, as described, a man will live his life healthily.

For in dreams, the soul speaks to the dreamer, as it were, and forewarns him of any impending bodily problems, the seed of which has already been planted, or informs him of needs that have come into being. If a physician can interpret his patient's dreams correctly, they enable him to cast a *prodiagnôsis*, an evaluation of his patient's condition and identification of the excesses within his body concerning the humours and the primary qualities they represent (hot, cold, wet and dry), *before* any disease has had a chance to manifest itself.⁴⁹ Armed with the interpreted information, the physician is now able to adjust his patient's regimen according to his body's exact needs. This *prodiagnôsis*, however, does not consist of an exact indication of a specific illness. Van der Eijk remarks that

it is striking that the author is using a very descriptive, if not rather 'primitive' nosology: technical terms for diseases, e.g. phrenitis, pneumonia, ileus etc. are absent, and the terms in which the author's pathology is cast – belly, blood, flesh, 'periods' – are very similar to those he used in his anatomical and physiological theories in Books 1-3.⁵⁰

If, however, one considers what the author claims to have invented, his great personal discovery, it will become clear that it is not surprising to find no disease names in *On Dreams*.⁵¹ The author of *On Dreams* believed that by interpreting a patient's dreams, a physician could learn much about the condition of his patient's body and the effects of diet and exercise thereon.

⁴⁸ Vict.IV.93 (230,11 Joly/Byl; 6.662 L.).

⁴⁹ For an explanation of *prodiagnôsis*, see previous chapter. Apparently, it is also possible to detect desire of the soul [Vict.IV.93 (228,27; 230,2 Joly/Byl; 6.660 L.)], but the author seems to do no more than take note of this; there does not seem to be any treatment.

⁵⁰ Van der Eijk (2004), 202.

⁵¹ Incidentally, one is strongly brought in mind of the closing remark of *Prognostic*: "It is not necessary to wish for the name of any disease, just because it happens not to have been written here. (Ποθεῖν δὲ χρὴ οὐδενὸς νοσήματος τοῦνομα, ὅτι μὴ τυγχάνῃ ἐνθάδε γεγραμμένον)" Cf. *Progn.*25 (231,6-7 Alexanderson; 2.190 L.).

Ὑπεναντίας μὲν γὰρ ἀλλήλησιν ἔχει τὰς δυνάμιας σίτα καὶ πόνοι, συμφέρονται δὲ πρὸς ἄλληλα πρὸς ὑγείην· πόνοι μὲν γὰρ πεφύκασιν ἀναλῶσαι τὰ ὑπάρχοντα· σίτα δὲ καὶ ποτὰ ἐκπληρῶσαι τὰ κενωθέντα.⁵²

For food and exercise, possessing opposite powers to one another, work together on the way to health. For it is the nature of exercises to use up the things available, and of food and drink to compensate deficiencies.

In line with the ancient medical belief that illness was a result of imbalance in the elements that constitute the body, he reasoned that if you could diagnose at an early stage which element was in excess, you would be able to know in advance that illness was to ensue in the near future, something the author calls *prodiagnôsis*. This is not the foreknowledge of imminent diseases, but of imminent *disease*, which left the physician-interpreter with some time to adjust any misgivings in the body via adjustments in the patient's regimen. Translators have, in general, opted to translate *prodiagnôsis* as 'prognosis'. However, this is not what the author says or, indeed, means, and use of this term here clashes with both modern and ancient use. *Prodiagnôsis* refers to an understanding of a patient's present condition, *before* any illness manifests itself. Treatment, accordingly, is not treatment of a disease, but of the condition that may lead to disease. This is not to say that the author would not only interpret the dreams of sick people, or only those of healthy people. The example of the dream about a trembling house or trembling earth in chapter 90 (see in table under 10), whose interpretation is different for healthy people – namely illness – and people with fever – namely improvement – makes it clear that the author would also interpret the dreams of those who have already succumbed to illness. The same goes for dreams about diving into water: these mean trouble for a healthy person, but salvation for a fevered patient, because in the latter case, 'the heat is quenched by the moisture'. This last

⁵² *Vict.I.2* (124,6-8 Joly/Byl; 468-470 L.).

example ties in perfectly with the author's idea of *prodiagnôsis*: a dream of this kind indicates a certain state of affairs in the body; for fevered people, it is a beneficial state of affairs, due to which the fever will go down, but for healthy people, the same state of affairs indicates impending illness. And this dual position of such dreams is the reason why fever and its disappearance or impending illness play no role in the dream, literally or metaphorically.

3.1.2 *Epidemics VI*

Within the Hippocratic Corpus, the passage on dreams that seems to display ideas closest to those formulated in *On Regimen* is to be found in the eighth book of *Epidemics VI*. Paragraphs 9 and 10 of this treatise have long been subject to ancient and modern scholarly debate. Two main problems make interpretation of these paragraphs difficult: firstly, the shorthand style of the text inevitably reduces any interpretation to little more than an educated guess, an issue Galen already saw himself faced with; and secondly, the fact that in several places the text is almost certainly corrupt automatically undermines any guesswork. Nonetheless, I believe that the two paragraphs are potentially very interesting to the subject of medical dream interpretation, and a discussion of these passages from that angle seems in order. Until now, the two chapters have been read as follows:

9. 'Ηλίου θάλπος, ψῦχος, τέγξις, ξηρότης· μεταβολή διὰ οἷα, ἐξ οἷων, ἐς οἷα [ἔχει]. πόνοι, ἀργίαι, ὕπνοι, ἀγρυπνίαι. τὰ ἐν ὕπνῳ· ἐνύπνια, κοῖται, καὶ ἐν οἷσι, καὶ ὑφ' οἷων.

10. Καὶ τῆς γνώμης· ξύννοια, αὐτὴ καθ' ἐωυτὴν, χωρὶς τῶν ὀργάνων καὶ τῶν πρηγμάτων, ἄχθεται, καὶ ἥδεται, καὶ φοβεῖται, καὶ θαρσεῖ, καὶ ἐλπίζει, καὶ † ἀδοξέει † οἶον ἢ Ἱπποθόου οἰκουρὸς † τῆς γνώμης αὐτῆς καθ' ἐωυτὴν ἐπίστημος ἐοῦσα † τῶν ἐν τῇ νόσῳ ἐπιγενομένων...⁵³

⁵³ *Epid.* VI.8.9-10 (174,1-8 Manetti/Roselli; 5.346-8 L.).

9. Sun's heat, cold, dampness, dryness, the nature of alteration, on account of what it occurs, from what to what. Pains, lassitude, sleep, restlessness. Phenomena of sleep: dreams, going to bed, both in what circumstances and from what cause.

10. Even the mind's consciousness, itself by itself, distinct from the organs and events, feels misery and joy, is fearful and optimistic, feels hope and despair. Like the servant of Hippothous, although by herself in her mind she was conscious of the things that followed on her disease.⁵⁴

To make these two capita more comprehensible, I would like to propose a change in their subdivision. They belong to the text from a writing tablet containing *σκεπτέα*, things to which a physician should pay attention when treating his patients. As it is, paragraph 9 deals with several different phenomena. First mentioned is the natural influence of the four qualities from the outside – or so we may assume: the author speaks of the sun's heat, which leads us to conclude that the other three qualities mentioned are also influences on the human body from the outside.⁵⁵ Next, the process of change is mentioned, followed by two pairs of opposite events: exertion and rest, sleep and insomnia. As said before, the shorthand style of the text makes it difficult to see what this passage is really about, but I think there is a connection between the two pairs of opposites and the external four qualities, which is formed by the process of change the author mentions, the *μεταβολή διὰ οἶα, ἐξ οἴων, ἐς οἶα*. The notion that this process of change is the connecting link even seems to be supported visually by its position in between the two groups of words. It is clear from the previous chapter that exertion (*πόνοι*) and rest (*ἀργίαι*), and sleep (*ὑπνοι*) and insomnia (*ἀγρυπνίαι*) are just a few of many symptoms on which an eye is to be kept during illness. In addition, the concept of illness as a result of imbalance of the components of the body

⁵⁴ Translation by W.D. Smith.

⁵⁵ Galen sees it differently; he takes sun and *θάλας* to be separate from each other, which leaves him free to interpret the subsequent four qualities as properties of the body, and not as external influences. However, Galen seems to be the only one to read *ἥλιος* instead of *ἡλίου*. Cf. *In Hip.Epid.VI.8* (455 Pfaff); Manetti/Roselli (1982), 174.

is not uncommon in the Corpus.⁵⁶ If we now consider what we have learnt about sleep and waking – the symptoms that are most important to our main research question – in the previous chapter, and what we have learnt about the roles of the four qualities in these processes, it is easily confirmed that the theme of ‘change from one into another’ figures here.⁵⁷

Now that the author is on the subject of sleeping and waking anyway, he smoothly turns to the things that happen in sleep; and it is here that I would like to propose a change in paragraph division. It seems to me that paragraphs 9 and 10 should not be separate at all. Firstly, paragraph 10 begins with *καὶ*, something Manetti and Roselli clearly thought out of the ordinary, as they saw the need to justify its position as the first word of a paragraph. Secondly, the text arrangement as it is now makes the second half of the paragraph quite incomprehensible,⁵⁸ especially if one also takes the corrupt passage into account. And thirdly, if one looks at the two paragraphs with the idea of medical dream interpretation in mind, things become clearer immediately. These changes carried out, I propose the following translation of the merged paragraphs:

Ἡλίου θάλπος, ψυχος, τέγξις, ξηρότης· μεταβολὴ διὰ οἶα, ἐξ οἴων, ἐς οἶα [ἔχει]. πόνοι, ἀργίαι, ὕπνοι, ἀγρυπνίαι. τὰ ἐν ὕπνῳ· ἐνύπνια, κοῖται, καὶ ἐν οἴσι, καὶ ὑφ’ οἴων. καὶ τῆς γνώμης ξύννοια, αὐτὴ καθ’ ἐωυτὴν, χωρὶς τῶν ὀργάνων καὶ τῶν πρηγμάτων, ἄχθεται, καὶ ἥδεται, καὶ φοβεῖται, καὶ θαρσεῖ, καὶ ἐλπίζει, καὶ † ἀδοξέει † οἶον ἢ Ἰπποθόου οἰκουρὸς † τῆς γνώμης αὐτῆς καθ’ ἐωυτὴν ἐπίστημος ἐοῦσα † τῶν ἐν τῇ νόσῳ ἐπιγενομένων...

Heat of the sun, cold, moistness, dryness. Change, due to what, from what to what. Exertion, rest, sleep, insomnia.

Things in sleep: dreams, circumstances in which and because of which one goes to bed, and the meditation of the

⁵⁶ Cf. Jouanna (1999), 326, 328; Nutton (2004), 79-81.

⁵⁷ Galen sees the two pairs of opposites as influencing, not influenced. Cf. *In Hip.Epid.VI.8* (456-457 Pfaff). It is a possibility; maybe one interpretation does not have to exclude the other, in which case the connection could work both ways. This is defensible, seeing as the processes of sleep and waking can fulfill both the role of result of *and* of influence on the qualities in the body.

⁵⁸ Even Galen speaks of ‘dunkle und rätselhafte Worte’. Cf. *In Hip.Epid.VI.8* (460 Pfaff).

intellect on its own: separate from the sense organs and physical activity it worries, is happy, does and does not fear, hopes and despairs, like Hippothoos' servant,⁵⁹ who, while her intellect was on its own, was aware of the things that happened during her illness...

If read in this manner, a change of focus occurs and the text now explains how the things the *γνώμη* experiences in sleep, which constitute dreams, can be of importance to the diagnostic process. Thus, the passage is strongly reminiscent of the beginning paragraph of *On Regimen* IV, where the role of the soul in sleep is explained:

ὅταν δὲ τὸ σῶμα ἡσυχάσῃ, ἡ ψυχὴ κινεομένη καὶ ἐγρηγορεύουσα διοικεῖ τὸν ἐωυτῆς οἶκον καὶ τὰς τοῦ σώματος πρῆξιας ἀπάσας αὐτὴ διαπρήσσεται. τὸ μὲν γὰρ σῶμα καθεῦδον οὐκ αἰσθάνεται, ἡ δ' ἐγρηγορεύουσα γινώσκει πάντα, καὶ ὁρᾷ τε τὰ ὁρητὰ καὶ ἀκούει τὰ ἀκουστὰ, βαδίζει, ψαύει, λυπεῖται, ἐνθυμεῖται, ἐν ὀλίγῳ ἐοῦσα.⁶⁰

But when the body is at rest, the soul, being set in motion and awake, manages her own household, and performs all the activities of the body herself. For the sleeping body does not perceive, but she [sc. the soul], since she is awake, knows all, and sees what is visible, hears what is audible, walks, touches, feels pain, ponders, in her limited dwelling space.

While there is a difference in terminology – *On Regimen* speaks of the soul, *ψυχὴ*, while the *Epidemics* text speaks of the intellect, *γνώμη* –⁶¹ it is beyond doubt that in both cases we are dealing with the concept of independent observation of the body and its condition in sleep by

⁵⁹ Unfortunately, no additional information is available concerning this servant and her condition, or concerning her master.

⁶⁰ *Vict.* IV.86 (218.7-11 Joly/Byl; 6.640 L.).

⁶¹ Galen seems to identify the *γνώμη* with the soul – Pfaff's translation of Galen's commentary reads 'Seele' – which brings paragraphs 9 and 10 from *Epidemics* VI and paragraph 86 from *On Regimen* IV even closer. Additionally, Galen mentions that some interpreters have taken the dreams mentioned in the Hippocratic text to be 'die Traumbilder, die der Kranke während des Schlafes sich vorstellt.' He further paraphrases these interpreters' views on what was to be done with such dreams as follows: 'Man müsse untersuchen, ob sie beunruhigend und beängstigend, ob sie häßlich, widernatürlich oder ob sie gewöhnliche und übliche Visionen sind.' All of these properties we see described in *On Regimen* IV, with recommended treatment to boot. Cf. *In Hip.Epid.* VI.8 (458-460 Pfaff).

some other part of the same individual, which has the ability to act independently of the body; in the case of *Epid.VI.8.9-10* this is the *γνώμη*, and in the case of *On Regimen* the *ψυχή*. In addition, there is one earlier indication that the author was thinking of mental processes in sleep. *Epid.VI.8.5* is closely related to the issues addressed in *Epid.VI.8.9-10*:

Τὰ ἐν τοῖσιν ὕπνοισι παροξυνόμενα, καὶ ὅσοισιν ἄκρεα περιψύχεται καὶ ἡ γνώμη ταρασσεται, καὶ τᾶλλα ὅσα περὶ ὕπνον τοιαῦτα, καὶ οἷσι τάναντία.⁶²

Affections with paroxysms in sleep, and cases in which extremities become cold and the mind disordered, and all other things concerning sleep, and cases in which the opposite happens.

The author mentions a number of symptoms that occur in sleep, among which the cooling off of the extremities and the confusion of the *γνώμη*. From here the step to the actions of the *γνώμη* in sections 9 and 10 is relatively small.⁶³ All things considered, it would seem that *On Regimen IV*, once singled out as an oddity in the *Corpus Hippocraticum*, does not occupy a position of complete isolation after all.

3.1.3 *On the Sacred Disease*

A passage that is most illuminating with regard to the physiological processes surrounding at least one specific type of dream is contained in chapters 14 and 15 of *On the Sacred Disease*. In chapter 14, the author first makes it very clear that the brain is the origin of our joys and pains, but is also the organ that is responsible for perception, thought, and the process of forming an

⁶² *Epid.VI.8.5* (164,5-7 Manetti/Roselli; 5.344 L.). Manetti and Roselli notice the connection as well. Cf. Manetti/Roselli (1982), 165. In addition, there is the potential link to *Epid.IV.43*, mentioned in Chapter 1, p.42 n.90, where the author refers to a patient's ability to know things 'in other ways', which may well include (medical) dreams.

⁶³ Manetti and Roselli also discern a link with *Epid.VI.8.9* (5.346 L.). Cf. Manetti/Roselli (1982), 165.

opinion.⁶⁴ If, however, the brain becomes ‘unwell’, i.e. if the brain becomes too hot, cold, moist, or dry, or if it enters a condition that is in any way different from its normal condition, this can result in madness, delirium, disorientation and suchlike, but also in for instance fears and anxieties (δείματα καὶ φόβοι) that can manifest themselves both in the day and at night:

Τῷ δὲ αὐτῷ τούτῳ καὶ μαινόμεθα καὶ παραφρονέομεν, καὶ δείματα καὶ φόβοι παρίστανται ἡμῖν τὰ μὲν νύκτωρ, τὰ δὲ καὶ μεθ’ ἡμέρην, καὶ ἀγρυπνίαι καὶ πλάνοι ἄκαιροι, καὶ φροντίδες οὐχ ἰκνεύμεναι, καὶ ἀγνωσίαι τῶν καθεσπεύων καὶ ἀηθίαι. Καὶ ταῦτα πάσχομεν ἀπὸ τοῦ ἐγκεφάλου πάντα, ὅταν οὗτος μὴ ὑγιαίνει, ἀλλ’ ἢ θερμότερος τῆς φύσιος γένηται ἢ ψυχρότερος ἢ ὑγρότερος ἢ ξηρότερος, ἢ τι ἄλλο πεπόνθη πάθος παρὰ τὴν φύσιν ὃ μὴ ἐώθει.⁶⁵

And because of that [sc. the brain] that we are mad and delirious, and that fears and anxieties come to us at night, and in the daytime, and sleeplessness, ill-timed fits of uncertainty, unjustified worries, failure to recognise real things, and a sense of not belonging. And we suffer all these things because of the brain, when it is not healthy, but has become warmer than normal, or colder, or moister, or dryer, or suffers from some other unnatural affliction to which it is not accustomed.

A small problem in the text arises at this point, concerning one of the symptoms mentioned. Manuscript M has ἐνύπνια, while θ and Co have ἀγρυπνίαι.⁶⁶ Grensemann chooses ἀγρυπνίαι,⁶⁷ while Jouanna in his Budé edition opts for ἐνύπνια, because he is of the opinion that it fits better into the argument the author is pursuing. He further supports his choice by referring to the ideas on sleep and dreams voiced in the treatise *On Breaths*. I take issue with both these points. First of all, it is only because of the translation ‘nightmares’ that ἐνύπνια would fit into the argument and into the summation better than ἀγρυπνίαι. However, based on the concordance of the Hippocratic

⁶⁴ *Morb.Sac.* 14 (6.386 L.).

⁶⁵ *Morb.Sac.* 14 (26,4-14 Jouanna; 6.386-8 L.).

⁶⁶ At *Morb.Sac.* 14 (26,7 Jouanna; 6.388 L.).

⁶⁷ *Morb.Sac.* 14 (82,43 Grensemann; 6.388 L.).

Corpus and what LSJ give in the way of translation, I do not believe that *ἐνύπνια* should be translated with so strongly negative a word as ‘nightmares’. As far as I can tell, there are no parallels of such a pejorative interpretation in the Corpus, at least not without an additional adjective like *phobera* or some other descriptive word or phrase to the same effect. Should we then translate *ἐνύπνια* simply with ‘dreams’, the whole meaning of the text changes, and dreams *per se* now become a symptom of an unhealthy brain. While this may of course be a possibility, it does not seem to be in keeping with the rest of the author’s argument, as will be shown below. Besides, there is no indication within the text itself that the *δείματα καὶ φόβοι παρίστανται ἡμῖν τὰ μὲν νύκτωρ, τὰ δὲ καὶ μεθ’ ἡμέρην* should be taken to have any bearing on what follows, as the subsequent symptoms are on a par semantically with the *δείματα καὶ φόβοι*. Secondly, the reference to *On Breaths*, appropriate though it may seem since it shares the topic of the ‘disease called sacred’, has no actual relevance here. Even though there is great likeness between the two treatises, there are some fundamental differences, pointed out by Jouanna himself, which make it very difficult to justify an assumption that the two authors are of a like opinion on the matter.⁶⁸ Besides, as shall be pointed out in the discussion of the *On Breaths* passage in question, Jouanna’s explanation of those dreams being a perturbation of thoughts seems to be somewhat imprecise, making the comparison even more unsatisfactory.⁶⁹ I believe it best to follow Grensemann in this case, as *ἀγρυπνίαι* seems to be the most defensible reading here. Sleeplessness fits in seamlessly with the theme of symptoms relating to disturbing or disturbed mental processes, both in the day and at night, whereas having (normal) dreams, which in antiquity too was a relatively normal phenomenon, would not.

⁶⁸ For a more elaborate comparison between the two texts, cf. Jouanna (1988), 34-37.

⁶⁹ Perhaps a more suitable passage for comparison would have been *Gland.* 12 (8.564-566 L.), where it is explained that the retention of fluxes by the brain may cause the intellect to become confused (*ἡ γνώμη ταραττεται*) and the patient to become delirious, have hallucinations and see strange images (*ἀλλοκότοισι φαντάσμασιν*).

The author goes on to explain the effects of a brain that is too moist. More wetness than normal makes a person mad – *μαινόμεθα* – because the brain moves around, which makes perception unstable, and which in turn causes rambling. It is only when the brain is stable that a person maintains his sanity.⁷⁰ In chapter 15, the author continues his clarification of madness,⁷¹ while at the same time embarking upon an explanation of the two main deviations of the brain: deterioration (*διαφθορῇ*) and modification (*μετάστασις*). The first is an elaboration of the matter of madness, which is caused by either bile or phlegm: both humours cause the excess of moistness in the brain that makes the brain move around.⁷² A calm variety of madness has its origin in phlegm, and a tempestuous, rowdy variety is caused by bile.⁷³ This concludes the author's clarification of madness. The case of modification of the brain is slightly more complex; the symptoms are fears and anxieties (again: *δείματα καὶ φόβοι*),⁷⁴ and the causes are heating or cooling of the brain. Phlegm cools the brain, which results in random distress and anguish, and the affection is accompanied by gaps in one's memory.⁷⁵ Heating of the brain, on the other hand may happen when bile rises to the head and enters the brain via the blood vessels.⁷⁶ Fear subsides when the bile leaves the brain again through said vessels.⁷⁷ At night, heating of the brain may also occur. In bilious people, the brain can sometimes be heated suddenly, which causes its owner to cry out and shout. This does not happen to phlegmatic people, from which we can infer that it must have something to do with an influx of bile into the brain, similar to the waking situation described above.⁷⁸ The brain may also become heated when an abundance of blood comes into the brain through the blood vessels and boils there. This happens when the person in question has

⁷⁰ *Morb.Sac.* 14 (26,13-27,4 Jouanna; 6.388 L.).

⁷¹ Cf. Jouanna (2003), 113-115.

⁷² Cf. Jouanna (2003), 116.

⁷³ *Morb.Sac.* 15 (27,5-11 Jouanna; 6.388 L.).

⁷⁴ *Morb.Sac.* 15 (27,11-12 Jouanna; 6.388 L.).

⁷⁵ *Morb.Sac.* 15 (28,4-7 Jouanna; 6.388 L.).

⁷⁶ Jouanna points out that bile has its seat in the liver, and phlegm has its seat in the head. This is why bile has to rise up to the head and phlegm does not. Cf. Jouanna (2003), 115.

⁷⁷ *Morb.Sac.* 15 (27,13-28,4 Jouanna; 6.388 L.).

⁷⁸ *Morb.Sac.* 15 (28,7-10 Jouanna; 6.388-90 L.).

a frightening dream (ἐνύπνιον φοβερόν) and is in distress – the author likens the process to what happens when, in waking, a person's face reddens and his eyes become bloodshot when his γνώμη contemplates doing something bad. This condition, too, ceases when the person wakes up and comes to his senses, and the blood disperses again.⁷⁹

These last two cases are of interest to our present examination. Let us break down the facts. If a person's brain becomes (suddenly) heated at night, he will cry out and scream. This heating of the brain may have either of two causes, the first being that he is of a bilious disposition – from which it seems logical to infer that, in such cases, it must be bile that is the direct cause of the heating of the brain – the second that there has been an influx of blood, the boiling of which makes the temperature of the brain rise. The reason why blood would flow into the brain is the occurrence of a frightening dream. What the author does not share with us, is the cause of such a dream. Or does he?

He did mention that the brain, when out of sorts, may cause fears and anxieties, both in the daytime and at night. He even explained the mechanics of the process, or at least the part that takes place at daytime: bile is responsible for fears and anxieties that occur during the day; at night, bile is responsible for people crying out in their sleep. So can we not conclude from these two pieces of information that the reason why such people cry out is that they are having scary dreams? The other option is that it is the discomfort of the brain being hot which makes people cry out, but this seems unlikely. Surely, if the hotness of the brain caused any discomfort, this would affect people who are awake as well, especially if the discomfort were so great as to make people cry out in their sleep. No, it is far more likely that the reason for the nightly crying out has something to do with the ability of bile to inspire fear, which particular quality of this humour has been dealt with elaborately by the author. The second cause of heating of the brain is surrounded by discussion again. In his interpretation of the text, Jouanna sees the influx of blood merely as a

⁷⁹ *Morb.Sac.*15 (28,10-29,3 Jouanna; 6.390 L.).

second heating factor, leaving the question of the origin of the frightening dreams open.⁸⁰ Grensemann, in my view, is closer to the truth here. By deleting the *καὶ* before *ἐπὶ*, he gives only one cause for the heating of the brain, sc. the influx of blood – a solution of which Jouanna disapproves, and I agree with him on this, for there are certainly two different components of the explanation of the rising temperature in the brain.⁸¹ I believe the key is provided by the author himself. Both Grensemann and Jouanna pass over the question that lies at the basis of the matter, that of the generative cause of the nightmare. If bile is responsible for scary dreams, as the author has just explained, this would mean that it is responsible for further heating of the brain by means of boiling blood. In that case, the heating of the brain by means of boiling blood is additional to and dependent on the heating of the brain by means of bile; it is not a second, but a secondary cause.

For the author of *On the Sacred Disease*, the medical relevance of dreams seems to be small – at least, as far as we can tell from this treatise – and his interest in the contents of dreams appears to be limited to their general nature. He is only interested in dreams when they disturb the patient's sleep as nightmares and make him cry out, because in such cases there are a number of things he can infer with regard to the condition of the brain and the types of humours and qualities that are at work there. We could imagine that based on these findings, the physician is able to draw conclusions about the rest of the body as well, seeing as there must be something wrong with humour management for there to be bile and phlegm in excess in the first place; but such of course remains a matter of conjecture.⁸² Besides, it must be taken into consideration that *On the Sacred Disease* was written from an explanatory, not a diagnostic point of view. This could explain the lack of any apparent interest in the potential significance of dreams with regard to medical diagnosis.

⁸⁰ Cf. Jouanna (2003), 116-7.

⁸¹ Cf. Grensemann (1968), 100; Jouanna (2003), 117.

⁸² In the apocryphal *Letter 19*, the content of *Morb.Sacr.* 14-15 is paraphrased.

3.1.4 *On Breaths*

In the preceding, the view of the author of the treatise *On Breaths* has already come up. It is an interesting view, and the only one that provides a physiological explanation for the occurrence of *normal* dreams. True, there is no medical significance to these dreams, but studying the theory will provide some valuable insights.

The discussion of the dreaming process occurs within a discussion of the ‘disease called sacred’ (τὴν ἱρὴν καλεομένην νοῦσον).⁸³ The author claims that blood, of all the components of the body, contributes most to φρόνησις: if the blood alters in any way, he explains, this has an immediate effect upon φρόνησις.⁸⁴ To prove his point, he invokes the example of what happens in sleep – this being a universal phenomenon facilitates verification. Sleep, he reminds the reader, is known for its chilling effect. When sleep sets in, the blood cools off, and as a result its passage becomes sluggish – this is clear from the fact that the body becomes heavy and slumps. The eyes close, and, as an alteration has occurred in the blood, an alteration occurs in the φρόνησις also:

ἡ φρόνησις ἀλλοιοῦται, δόξαι τε ἕτεραί τινες ἐνδιατρίβουσιν, ἃ δὲ ἐνύπνια καλέονται.⁸⁵

The intelligence is changed, and certain other notions linger, which are called dreams.

The effect of the chilling of the blood is that the φρόνησις is now occupied with other δόξαι, better known as dreams.⁸⁶ Dreams, then, constitute a phenomenon that is inherent in the process of

⁸³ *Flat.* 14 (121,6 Jouanna; 6.110 L.).

⁸⁴ *Flat.* 14 (121,9-13 Jouanna; 6.110 L.).

⁸⁵ *Flat.* 14 (122,4-6 Jouanna; 6.112 L.).

⁸⁶ *Flat.* 14 (121,13-122,6 Jouanna; 6.110-2 L.). In his notes to *Morb.Sac.*, Jouanna states that in *Flat.* “les rêves sont considérés comme des perturbations de la pensée”. Cf. Jouanna (2003), 112. I do not think this is entirely accurate: dreams do not perturb thoughts, they *replace* them.

sleep, and their occurrence is, in itself, no indication of any abnormality. However, besides the chill of sleep, there are other factors which can change the blood: in drunkenness the blood becomes more copious, which has an effect on someone's thoughts,⁸⁷ and apparently there are also circumstances which can effect such disturbance in the blood as to extinguish thought altogether. It would seem that the further we are removed from whatever condition is natural to us, the more our thought processes are affected, up until the point that there is no more *φρόνησις* at all.⁸⁸ At this point, one has to wonder: Does this mean that the absence of dreams could be reason for concern, as it indicates inactivity of *φρόνησις*? And, secondly, is there any way for a physician to learn diagnostically important things from the nature and content of dreams *before* *φρόνησις* ceases? However, the answers to these questions must remain a matter of conjecture. Although, in light of our research question, it seems promising that *On Breaths* considered the quality of the blood to be of direct influence on the occurrence of dreams, there is no indication in the text that this author considered dreams, let alone their contents, to be of value in diagnosis.

3.1.5 *Wet Dreams*

Another text that is most enlightening with regard to the mechanics of dreaming and the effect of the body on the dream images someone sees is *On Generation*. The author sets out to explain the processes that surround the production and excretion of semen. First he explains how semen is formed. When the privy parts are stimulated, all the fluid present in the body becomes hot, liquid and frothy because of the movement:

⁸⁷ *Flat.* 14 (122,6-10 Jouanna; 6.112 L.).

⁸⁸ *Flat.* 14 (122,10-16 Jouanna; 6.112 L.).

τριβομένου δὲ τοῦ αἰδοίου καὶ τοῦ ἀνθρώπου κινευμένου, τὸ ὑγρὸν θερμαίνεται ἐν τῷ σώματι καὶ διαχεῖται καὶ κλονεῖται ὑπὸ τῆς κινήσεως καὶ ἀφρεῖ (...) ⁸⁹

When someone's privy parts are rubbed and he moves around, the fluid is heated up in the body and it is diffused and becomes agitated, because of the movement, and frothy (...).

At this point, the strongest and fattiest part of the fluid separates from the rest and moves to the spinal marrow,⁹⁰ from there to the kidneys, and from the kidneys through the testicles to the pudenda. And it is not via the urethra that ejaculation occurs, but via another route.⁹¹ Now that the technicalities have been clarified, the author briefly turns to the mechanics of the wet dream. When, due to for instance physical exertion, the fluid in someone's body is liquid and hot, it becomes frothy, just as it does during sex. The result of this is that such a person sees erotic scenes in his dreams and ejaculates:

Καὶ οἱ ἐξονειρώσσοντες διὰ τάδε ἐξονειρώσσουσιν· ἐπὴν τὸ ὑγρὸν ἐν τῷ σώματι διακεχυμένον ᾗ καὶ διάθερμον, εἴτε ὑπὸ ταλαιπωρίας, εἴτε καὶ ὑπὸ ἄλλου τινὸς, ἀφρεῖ καὶ ἀποκρινομένου ἀπ' αὐτοῦ ὁρᾶν παρίσταται οἱ ἢ λαγνείῃ· ἔχει γὰρ τὸ ὑγρὸν τοιοῦτο ὅπερ λαγνεύοντι.⁹²

And those who have wet dreams have them because of the following: when the fluid in the body becomes diffuse and heated through, either because of hard labour or because of something else, it becomes frothy. And ejaculation is accompanied by erotic scenes [sc. in dreams]; for the fluid behaves as it would in coitus.

⁸⁹ *Semin.* 1 (44,10-12 Joly; 7.470 L.). It is interesting to note that Aristotle's views on the reproductive processes also feature heat and foam. Cf. e.g. *GA* II.3 ('normal' reproduction); III.11 (spontaneous reproduction).

⁹⁰ Two older theories about the origin of sperm are drawn upon here: 1) sperm is derived from all parts of the body (pangenetic theory) 2) sperm is derived from the brain and the spinal marrow (encephalo-myelogenic theory). Cf. Lesky (1948), 302; 304-305; Lonie (1981), 101-102; Joly (1970), 44 n.4; Jouanna (1983), 257.

⁹¹ *Semin.* 1 (44,14-45,3 Joly; 7.470 L.).

⁹² *Semin.* 1 (45,3-8 Joly; 7.470-2 L.).

So in case of a wet dream, there is a direct link between the bodily humour and the contents of a person's dreams: it is the state of the fluid in the body – hot, liquid and frothy – that leads a person to see erotic dreams and ejaculate in his sleep. However, it is not made exactly clear how these dream images are generated or where they come from. Does the soul perhaps play a role here? The author indicates that he has already dealt with this type of dream elsewhere, but unfortunately the work he is referring to seems to have been lost;⁹³ we can imagine that it might have contained some answers for us.

Wet dreams also occur in other Hippocratic treatises, where they usually figure as symptoms in disease descriptions and individual case histories. There are two elements that occur more than once in these instances, and will therefore receive especial attention: on several occasions, there is mention of the (spinal) marrow;⁹⁴ and the patients invariably suffer from some form of heat or fever.⁹⁵ In *Diseases II*, a patient of dorsal phthisis (consumption of the back) – an affliction that has its origin in the marrow – has wet dreams (ὄνειριάζει), whether or not he sleeps with a woman. He also has involuntary loss of semen when going to the bathroom.⁹⁶ Initially, such a patient has no fever, but, as the disease progresses, he suffers from violent fevers, which lead to his death.⁹⁷ In *Internal Affections*, there are two diseases that are accompanied by nocturnal emissions. In a specific type of typhus, over-heating of the blood-vessels causes them to dry up and prevent the blood from moving through them. The patient frequently has wet dreams (ἐξονειρώσσει), and he also experiences involuntary loss of semen when he is walking.⁹⁸ Elsewhere in the same treatise, a sufferer of one of the 'thick' diseases often passes semen in sleep that is livid and mixed with blood (πολλάκις δὲ καὶ ἐν τῷ ὕπνῳ τὸ λάγνευμα ὕφαιμον

⁹³ *Semin.* 1 (45,8-10 Joly; 7.472 L.).

⁹⁴ A vestige of older generational theories of semen. Cf. Lesky (1948), 302.

⁹⁵ A common assumption in medical authors is the reciprocal causal relation between heat and disturbance or irritation; an example of this is the friction that occurs when the privy parts are rubbed, as discussed above in *On Generation* 1. Cf. Lonie (1981), 100-101; 106.

⁹⁶ *Morb.* II.51 (188,12-15 Jouanna; 7.78 L.).

⁹⁷ *Morb.* II.51 (188,9-10/17-18 Jouanna; 7.78 L.).

⁹⁸ *Int.* 43 (216,17-19 Potter; 7.274 L.).

προέρχεται ὑποπέλιδνον).⁹⁹ The patient has a fever, and suffers from itching, heat, and pain; the heat of the sun and drinking water are pointed out as causes of the disease.¹⁰⁰ *Epidemics* IV tells of one Nicippus, who repeatedly had wet dreams (ἐξωνείρασε) during a fever, but when the fever reached its *krisis*, they stopped. It is juxtaposed with the story of a man who had dreams that caused him erections during a fever, but which, too, stopped after the *krisis*.¹⁰¹ In *Epidemics* VI, a twenty-five year old male frequently has wet dreams (ἐξονειρώσσε πλεονάκις) and diurnal involuntary semen emissions for years on end. When he approaches thirty, he becomes consumptive and dies.¹⁰² *Diseases of Women* II contains a description of dropsy, in which the patient has a fever and involuntary semen emissions.¹⁰³ Lastly, the author of *On Regimen*, in a catalogue of plants and their properties, points out that night-shade helps to prevent nocturnal emissions of semen (ἐξονειρώσσειν) due to its cooling effects. In his commentary on this passage, Joly states: “‘ἐξονειρώσσειν’ a toujours ce même sens dans la Collection. (...) On trouve aussi le simple ὀνειρώσσειν.”¹⁰⁴ There are, in fact, some variations on the verb, as Jouanna explains, but they all mean the same: Tous ces verbes ont un sens technique: ‘avoir des emissions spermatiques en rêvant’.¹⁰⁵ With this in mind, let us consider the other passage in *On Regimen* which may well concern wet dreams, but the interpretation of which is somewhat problematic. The passage in question describes the soul of a person in whom fire has prevailed over water.¹⁰⁶ Because of this, the soul becomes sharp (ὀξέα), and such people are said to ὀνειρώσσειν.¹⁰⁷ The problem lies in the translation of ὀνειρώσσειν. Taking into account Joly’s opinion on the meaning of ἐξονειρώσσειν and ὀνειρώσσειν, i.e. that it always means ‘avoir des pollutions nocturnes’, it is

⁹⁹ *Int.*47 (228,22-23 Potter; 7.282 L.).

¹⁰⁰ *Int.*47 (226,20; 228,5/11-12; 230,1-2 Potter; 7.282 L.).

¹⁰¹ *Epid.*IV.57 (150,1-6 Smith; 5.196 L.).

¹⁰² *Epid.*VI.8.29 (190,5-192,3 Manetti/Roselli;5.354 L.).

¹⁰³ The notion that women, too, produced semen was not uncommon. Cf. Lonie (1981), 119-120. Cf. also *Vict.*I.27 (6.500 L.); *Mul.*I.8 (8.34 L.); 17 (8.56 L.); 24 (8.62 L.).

¹⁰⁴ Joly/Byl (1984), 275.

¹⁰⁵ Jouanna (1983), 258.

¹⁰⁶ For an elucidation of this, see 3.1.1 of this thesis.

¹⁰⁷ *Vict.*I.35 (156,4 Joly/Byl; 6.520 L.).

puzzling to find that, in this passage, he translates the verb *ὄνειρώσσειν* with “ont des cauchemars” – he does not account for his choice in the commentary. While *ὄνειρώσσω* can of course mean ‘to dream’, the meaning ‘to have a nightmare’ seems to be taking things a step too far. Lonie, in his commentary on *On Generation*, argues: “The verb might simply mean ‘dream’ here, but the tendency of the passage suggests that erotic dreams are meant.” If indeed we look at the circumstances of a ‘sharp soul’, we find the presence of heat (the dominance of fire in the body) and inflammation,¹⁰⁸ which both fit in well with what we have already learnt of the circumstances surrounding wet dreams.¹⁰⁹ All this suggests that *On Regimen* I.35 also speaks of wet dreams.

While the spinal marrow features in a few of the passages discussed about, the one constant in all of these instances is the presence of some form of heat. It is not unthinkable, then, that a Hippocratic physician, faced with a patient experiencing wet dreams, may well have immediately drawn the conclusion that his patient had too much heat in his body.

3.1.6 *Imagery*

So far, we have discussed texts that mainly deal with the mechanics underlying the dreaming process. The actual content of dreams has only come up in the *On Generation* passages – besides of course *On Regimen* – and in that case, there was no disease or illness at play. However, in the *Corpus*, there are two text passages that bear a resemblance to some of the imagery described in *On Regimen*. One is the case of anxiety (*φροντις*) described in *Diseases* II. The symptoms seem to manifest themselves both physically and psychologically:

¹⁰⁸ *Vict.*I.35 (156,3/5 Joly/Byl; 6.520-522 L.). There also mention of a condition bordering on madness (*ὑπομαίνεσθαι*), and Lonie explains that there may well be a connection between madness and erotic dreams. Cf. Lonie (1981), 109-110.

¹⁰⁹ It is remarkable that, in his list of occurrences of wet dreams, Jouanna does not mention *Vict.*I.35; on the other hand, he does not mention *Vict.*II.54 either. Cf. Jouanna (1983), 258.

δοκεῖ ἐν τοῖσι σπλάγχνοισιν εἶναι οἶον ἄκανθα καὶ κεντεῖν, καὶ ἄσῃ αὐτὸν λάζυται, καὶ τὸ φῶς φεύγει καὶ τοὺς ἀνθρώπους, καὶ τὸ σκότος φιλεῖ, καὶ φόβος λάζεται, καὶ αἱ φρένες οἰδέουσιν ἐκτὸς, καὶ ἀλγεῖ ψαυόμενος, καὶ φοβεῖται, καὶ δαίματα ὄρα καὶ ὀνείρατα φοβερά καὶ τοὺς τεθνηκότας ἐνίοτε.¹¹⁰

In the viscera there seems to be a thorn pricking, and nausea attacks him, and he flees the light and people, and he loves the dark, and he is attacked by fear, and the diaphragm is distended, and he suffers when touched, and he is scared, and he sees frightening things and scary dreams and sometimes the dead.

The patient is plagued by pricking pains in his intestines, nausea, a distended diaphragm, and over-sensitivity to touch. He is afraid of light and people, prone to anxiousness, sees frightening things (δαίματα), has fearful dreams (ὀνείρατα φοβερά), and sometimes even sees the dead. Although most of the symptoms described do not occur in a state of sleep, the correspondence to some of the imagery described in *On Regimen* IV is striking. However, before proceeding with our analysis of this passage, let us first consider the second passage in question.

Chapter 48 from *Internal Affections* contains a description of a ‘thick disease’ (παχύ). It is interesting to note that in *Critical Days*, this disease description appears practically *verbatim*, but typifies acute diseases (τὰ δὲ ὀξέα τῶν νοσημάτων).¹¹¹ Because *Critical Days* is a compilation, we will focus on the *Internal Affections* passage. The cause of this disease is an accumulation of bile in the liver and in the head. As a result of this, the liver swells up and starts to exert pressure on the diaphragm (ἀναπτύσσεται πρὸς τὰς φρένας); the patient also experiences severe pain in the head, especially in the area of the temples. His perception is impaired, there is fever and shivering, and carphology.¹¹² The point in the disease where things start to become interesting with regard to our research is when the build-up of bile continues and the liver expands even

¹¹⁰ *Morb.* II.72 (211,15-20 Jouanna; 7.108-110 L.).

¹¹¹ *Jud.* 3 (9.300-302 L.).

¹¹² *Int.* 48 (230,18-232,14 Potter; 7.284 L.).

further against the diaphragm. Now the patient begins to display symptoms of a more psychological nature:

Καὶ ὅταν τὸ ἥπαρ μᾶλλον ἀναπτυγῇ πρὸς τὰς φρένας, παραφρονεῖ· καὶ προφαίνεσθαι οἱ δοκέει πρὸ τῶν ὀφθαλμῶν ἔρπετὰ καὶ ἄλλα παντοδαπὰ θηρία καὶ ὀπλῖται μαχόμενοι, καὶ αὐτὸς ἐν αὐτοῖσι δοκέει μάχεσθαι· τοιαῦτα λέγει ὡς ὁρῶν καὶ ἐπέρχεται, καὶ ἀπειλεῖ, ἣν μή τις αὐτὸν ἐᾷ ἔξω ἐξιέναι· (...) καὶ ὅταν καθεύδῃ, ἀναῖσσει ἐκ τοῦ ὕπνου ὅταν ἐνύπνια ἴδῃ φοβερά. τῷδε δὲ γινώσκομεν, ὅτι ἀπὸ ἐνυπνίων αἰσσει καὶ φοβεῖται· ὅταν ἔννοος γένηται, ἀφηγεῖται τὰ ἐνύπνια τοιαῦτα ὁρᾶν ὅποια καὶ τῷ σώματι ἐποίει καὶ τῇ γλώσσει ἔλεγε.¹¹³

And when the liver expands more against the diaphragm, he becomes deranged; and in front of his eyes reptiles seem to appear and beasts of every other kind and fighting hoplites, and he seems to be fighting among them himself; he talks as if he is seeing such things and he attacks and withdraws, if someone does not allow him to go outside; (...) and when he sleeps, he starts up out of his sleep when he sees scary dreams. We know that he starts up and is afraid due to his dreams thanks to the following: when he is in his right mind again, he relates that he has seen such dreams as correspond to what he did with his body and said with his tongue.

The author speaks of derangement (*παραφρονεῖν*), which is apparently directly linked to the repressed position of the diaphragm, which in turn is caused by the expansion of the liver due to the collection of bile there. Curiously, this type of derangement – seeing reptilian creatures, soldiers and fighting, the impression of participating in the fight, and seeing frightening dreams at night – only seems to come on when a certain line in the severity of the affliction is crossed. Additionally, the verification included in the description is intriguing; it is proof of a direct link

¹¹³ *Int.48* (232,14-20/232,22-234,3 Potter; 7.284-286 L.).

between the patient’s actions, which are visible to observers, and the things he sees in his dreams, which are of course unobservable to anyone but the patient.¹¹⁴

If we compare the two passages, we see that they both report problems regarding the diaphragm (αἱ φρένες), and in both cases the patient experiences psychological problems, most notably fears and anxieties, and their dreams are frightening (*Diseases II* has *ὀνείρατα φοβερά*; *Internal Affections* has *ἐνύπνια φοβερά*). Although the content of the dreams is not specifically mentioned, there does seem to be a suggestion of a link between the images seen in waking and those seen in sleep. However, even if this is not the case, there is still an interesting resemblance to chapters 92 and 93 of *On Regimen*. The below table illustrates just how many likenesses there are between the three text passages:

<i>Morb.II.72</i>	<i>Int.48</i>	<i>Vict.92-93</i>
distended diaphragm (αἱ φρένες)	pressure on diaphragm (ἀναπτύσσεται πρὸς τὰς φρένας)	
scary dreams (ὀνείρατα φοβερά)	scary dreams (ἐνύπνια φοβερά)	scary dreams (ἐν τοῖσιν ὕπνοισι φοβεῖ)
seeing the dead (τοὺς τεθνηκότας)		seeing the dead (τοὺς ἀποθανόντας)
seeing of frightening things (δείματα)	seeing reptiles and other beasts (έρπετὰ καὶ ἄλλα παντοδαπὰ θηρία)	strangely shaped, frightening bodies (ἀλλόμορφα σώματα) & strangely shaped monsters (τέρατα ἀλλόμορφα)
fear (φοβεῖται)	fright and fear (αἰσσει καὶ φοβεῖται)	fear (φοβεῖ τὸν ἄνθρωπον)
	collection of bile (χολή) in liver and	bilious flux (χολέραν)

¹¹⁴ The passage from *On Generation* (*Semin.1*) discussed above is the only other concrete example of a direct response of the dreamer’s body to what he sees in his dreams. A potential reference to the concept we find in *Humours* 4, where the author recommends paying attention to a patient’s dreams and what he does in sleep (ἐνύπνια οἶα ἂν ὀρῇ, καὶ ἐν τοῖσιν ὕπνοισιν οἶα ἂν ποιῇ [*Hum.4* (68,19-20 Jones; 5.480-2 L.)]). Incidentally, it is interesting to note that Potter, in his Loeb edition, has *Morb.II.72* describing the symptoms of phrenitis, which is understandable, considering the evidence elsewhere in the Corpus. Cf. *Aff.10* (6.218 L.); *Morb.I.30*; 34 (6.200 L.); *Morb.III.9* (7.128 L.). In turn, the similarity of *Int.48* is doubly interesting for the following reason: on the one hand it is very similar to *Morb.II.72*, which Potter thought to be dealing with phrenitis, on the other it has a fascinating potential to be linked to *Prorrh.I.5*, because it tells us that dreams of those who suffer from phrenitis are vivid (ἐναργής) – as will be discussed below. Phrenitis has the potential to function as the ‘missing link’ here. Elaborate discussion of this topic, however, is beyond the scope of this footnote.

	head	
if untreated, deadly	thick disease (that may end in death)/ acute diseases (= <i>Dieb.Jud.3</i>)	dangerous disease (νοῦσον κινδυνώδεα)
purgative treatment (καθαίρειν)	purgative treatment (hellebore, κλύζειν)	purgative treatment (ἀποκαθαίρεσθαι [92] and ἔμετον ποιήσασθαι [93])
	imagining to be fighting (αὐτὸς δοκέει μάχεσθαι)	To be fighting (μάχεται)
	seeing fighting hoplites (ὀπλῖται μαχόμενοι)	enemy hoplites (ὀπλῖται πολέμιοι)
	derangement (παραφρονέει)	madness (μανίην)
pricking (κεντεῖν) sensation in intestines		being pricked (κεντεῖται) by someone

Chapter 92 clarifies what it means to see the dead in dreams, imagery that is mentioned in *Diseases* II.72 as well. While there is no specification of the images seen in *Diseases* II, *On Regimen* shows some differentiation. There is a distinct difference between the imagery related to health and that related to illness: the colour white and purity in combination with the deceased are qualities that indicate good things and health, whereas the colour black and impurity signify disease. The recommended treatment involves purgation, a method of treatment that also has a prominent place in *Diseases* II.¹¹⁵ The similarities to chapter 93 are more numerous; it mentions strangely shaped, frightening bodies that scare the patient, which indicate a bilious flux and a dangerous disease; purgation is again recommended. In *Internal Diseases*, bile is also the origin of trouble, and the disease it causes is one that may well end in death, so it could be called dangerous. To believe oneself to be fighting in, or to be witness to a fray is imagery we encounter in both *Internal Affections* and *On Regimen*. Derangement or madness seems to be directly linked with it. And lastly, to imagine oneself to be pricked is something *Diseases* II and *On Regimen* have in common, just as the recommended treatment of purgation.

¹¹⁵ Cf. Joly (1960), 196, 200; Hoessly (2001), 307-309.

Of course, the fact that there are a number of similarities between the three passages is no grounds for assuming that the authors' views and underlying theories were of a kind, but there are other indications that a comparison might be fruitful,¹¹⁶ and it does seem to indicate that there were certain ideas that had penetrated wider circles than others. If, for argument's sake, we assume that the three passages complement each other, some interesting information is revealed. An example: bile seems to be the factor that inspires fear. Though in *Morb.II.72* there is no mention of this humour, if we complement the information with that provided in *Int.48* and *Vict.IV.93*, the former provides the missing link: in all three treatises there is fear, in two treatises (*Morb.II* and *Vict.*) there is distension of the diaphragm, and in two treatises (*Int.* and *Vict.*) there is bile at play, from which we can deduce that in *Morb.II*, too, bile may well play a role. If nothing else, the above embeds *On Regimen* more into the Hippocratic tradition and goes towards negating its alleged position as an isolated treatise.

3.1.7 *Dreams as symptoms*

There are four texts left in which dreams are mentioned; in all these cases there is no mention of *specific* dream content, although this does not mean that the contents are not important or left out of consideration.

In a summation of things that are to be paid heed, *On Humours* 4 mentions “the dreams a patient sees” and “what he does in sleep” (ἐνύπνια οἷα ἂν ὁρῇ, καὶ ἐν τοῖσιν ὕπνοισιν οἷα ἂν ποιῇ).¹¹⁷ This harks back to what we have seen in *Internal Affections* 48, where the link between actions in sleep and dream imagery was made explicit. *Humours* does not provide any additional information – which in itself is not surprising as this is a summation – and we are left to assume

¹¹⁶ Joly has already pointed out that *Diseases II*, *Internal Affections*, and *On Regimen* (mainly book III) display remarkable similarities. Cf. Joly (1960), 193-201. Also, Jouanna points out that *Internal Affections* ‘contains wording similar to that of *Diseases II*’. Cf. Jouanna (1999), 395. The likeness of *Morb.II.72* and *Int.48* to chapters 92 and 93 of *On Regimen* has also been noted before, e.g. in the text editions by Littré, Joly/Byl, and Jouanna, and by Palm (1933, 73) but, as far as I know, the three passages have never been subjected to elaborate comparison.

¹¹⁷ *Hum.4* (68,19-20 Jones; 5.480-2 L.).

that the meaning of the two nightly symptoms is either already clear enough not to require further explanation, or made clear elsewhere.¹¹⁸

Prorrhetic I.5 informs us that “in phrenitis, dreams are vivid” (Ἐνύπνια τὰ ἐν φρενιτικοῖς ἐναργέα).¹¹⁹ There is no more information contained in the aphorism, and the surrounding aphorisms are not very helpful either. The only meaning that could be extracted from chapters 3 and 4 is a hint that dryness may play a role here; as it happens, Galen’s explanation of the clarity of dreams also features dryness as an important factor.¹²⁰ This aside, the aphorism also brings us in mind of *Int.*48, where dreams are apparently so vivid as to rouse someone from his sleep. Perhaps this effect was to be expected in cases of phrenitis?

On Ancient Medicine 10-11 relates things that happen in digestion to the sort of dreams that will occur in sleep. A simple change to one’s regimen will cause the body discomfort, and perhaps even illness. Missing lunch may be the cause of many symptoms, such as weakness, hollow eyes, paler and hotter urine, bitter taste in the mouth, hanging bowels, dizziness, depression, and incapacity to work. If after this dinner is taken, it will not be digested well, the food goes down accompanied by colic and noise and burns the stomach. If this is the case, sleep will be bad, and disturbed and turbulent dreams will occur (ἐνυπνιάζονται τεταραγμένα καὶ θορυβώδεα).¹²¹ All these symptoms together will indicate the beginning of illness for many people.¹²² Dreams, then, are one of a collection of symptoms. Their occurrence seems to be closely related to the state of the stomach, a connection which we will encounter in Galen as well.

The last passage in which dreams are mentioned is the by now familiar checklist in *Epidemics* I.10. The author mentions that he has taken into account thoughts, sleep, insomnia,

¹¹⁸ It is interesting to note that in *Tub.* Mb 23, a medieval commentary on the Hippocratic *On Humours*, this little phrase is linked to *Vict.*IV.88 (6.642-644 L.). Thus, if ‘what a patient dreams and what he does in sleep’ is unlike reality, this can indicate an excess or deficiency. The commentary also draws in Plato and Galen, and rejects Aristotle. Cf. Demont (2007), 159-160; 181-182.

¹¹⁹ *Prorrh.*I.5 (75,10-11 Polack; 5.512 L.).

¹²⁰ Gal. *In Hip.Prorrh.*I.1.5 (16.525,11-12 K.).

¹²¹ *Vet.Med.*10 (131,8-9 Jouanna; 1.594 L.).

¹²² *Vet.Med.*10 (129,14-131,10 Jouanna; 1.590-4 L.).

and the type and time of dreams (διανοήμασιν, ὕπνοισιν, οὐχ ὕπνοισιν, ἐνυπνίοισι, οἷοισι καὶ ὅτε).¹²³ Not unexpectedly, there is no further explanation, as it would not suit the summation, but we are brought in mind of the passage from *Epidemics* VI (above). The fact that thought, sleep and dreams are all mentioned in close proximity to one another may indicate a similar train of thought. Yet, even if there is no direct link between these two texts, there is still the author's interest in the content of dreams, which does indicate an intention to link dreams to the condition of or processes within the dreamer's body, especially because the author not only mentions the importance of the type of dream, but also the time of its occurrence.

3.2 Galen

As is well known, dreams were of great importance to Galen, both professionally and personally. He would, for instance, not have become a physician had his father not had a dream that made him send his son away to study medicine; or he would perhaps have followed Marcus Aurelius into war, with all its potential consequences; or he might not have found a cure for the abscess he once had under his diaphragm, which came to him in a dream.¹²⁴ Galen, it seems clear, was a firm believer in the potential value of dreams. What, then, was his professional view on the interpretation of dreams in a medical context? Did he regard them in a way similar to that of *On Regimen*? How did he appreciate dream interpretation as a diagnostic tool? Although there is relatively little evidence of Galen's opinion on the use of dream interpretation for diagnostic purposes, it is still enlightening to consider the passages that are available in those works that have come down to us.

¹²³ *Epid.*I.10 (199,16-18 Kühlewein; 2.668-670 L.).

¹²⁴ *Cur.Ven.Sect.*23 (11.315 K.).

3.2.1 On Diagnosis from Dreams & Galen's Commentary on Epidemics I

In the Galenic Corpus, there is a small independent treatise on dreams called *On Diagnosis from Dreams* (hereafter DD). It has the reputation of being spurious, but Guidorizzi has proven it to be at least likely that it is a compilation or an excerpt from Galen's original work.¹²⁵ An important part of the treatise appears practically *verbatim* in Galen's commentary on the Hippocratic *Epidemics I*, which is attributable to Galen with certainty,¹²⁶ and this contributes to the status of the DD text. Guidorizzi, and later Oberhelman, have argued that the treatise is likely to be a collection of passages on dreams from Galen's oeuvre, most notably from the lost work *On Regimen in Health* (Περὶ διαίτης ὑγεινῶ), which Galen himself mentions as the treatise in which he has dealt more thoroughly with dreams.¹²⁷

In DD, dreams are very clearly presented as an aid to medical diagnosis, as they can be interpreted as an indication of the condition of the humours:

Καὶ ἐνύπνιον δὲ ἡμῖν ἐνδείκνυται διάθεσιν τοῦ σώματος. Πυρκαϊᾶν μὲν <γάρ> τις ὁρῶν ὄναρ ὑπὸ τῆς ξανθῆς ἐνοχλεῖται χολῆς· εἰ δὲ καπνὸν ἢ ἀχλὺν ἢ βαθὺ σκότος, ὑπὸ τῆς μελαίνης χολῆς· ὄμβρος δὲ ψυχρὰν ὑγρότητα πλεονάζειν ἐνδείκνυται· χιὼν δὲ καὶ κρύσταλλος καὶ χάλαζα, φλέγμα ψυχρόν.¹²⁸

¹²⁵ Cf. Guidorizzi (1973).

¹²⁶ Cf. Oberhelman (1983), 40 n.28; (1993), 139; Guidorizzi (1973), 96. Virtually the same passage also appears in the pseudo-Galenic commentary on the Hippocratic *Humours*, which is a Renaissance forgery. Cf. K. Kalbfleisch (1916), 138; Demuth (1972), 53; Guidorizzi (1973), 96; Oberhelman (1983), 40 n.28. Siegel mistakes the origin of the *Epidemics* commentary for that of the *Humours* treatise and asserts that the former is a forgery. Cf. Siegel (1973), 169 n.202.

¹²⁷ In *Hip.Epid.I.3.1* (108,2-3 Wenkebach; 17a.214 K.). Wenkebach suspected DD to be a compilation from the passage in the commentary on *Epidemics I*: "Fragmentum quod adhuc in editionibus circumfertur libelli qui inscribitur Περὶ τῆς ἐξ ἐνυπνίων διαγνώσεως (VI 832sq. K.) ex hoc commentario Epidemiarum I.1 compilatum esse videtur." Cf. Wenkebach (1924), 108. However, Guidorizzi has convincingly proven this not to be the case, as 1) there are parts in the DD text that are not present in the commentary and, most notably the theory on dreams and their causation, and 2) Galen himself states that he deals with dreams in another treatise, with which both DD and the commentary must be connected. Cf. Guidorizzi (1973), 98. Oberhelman agrees with Guidorizzi, though he adds his own interpretation, i.e. that DD is not an extract, but a compilation of passages. Cf. Oberhelman (1993), 139-41. Of course, this must remain a matter of conjecture.

¹²⁸ *Dign.* (103,1-4 Guidorizzi; 6.832 K.). I use the critically edited text provided by Guidorizzi in his 1973 article; occasionally, minor changes have been made to it by me.

And a dream shows us the condition of the body. <For> someone seeing a conflagration in a dream is being plagued by yellow bile; if smoke or mist or deep darkness [appear in a dream], [someone is being plagued by] black bile; torrential rain shows an excess of cold moisture; and snow and ice and hail [show an excess of] cold phlegm.

Analogy of the dream images to the qualities of the dominant humour seems to be the key to interpretation: blood is hot and moist, phlegm is cold and moist, yellow bile is dry, and hot and black bile is dry and cold.¹²⁹ One might think the fact that one quality belongs to two different humours could pose a problem, but the difficulty seems to be surmountable, since the intensity of the quality is apparently not equal, as is attested in Galen's work: we can deduce, for instance, that fire is a metaphor for yellow bile rather than blood because the former is much hotter than blood.¹³⁰ There are, however, other problems. Medical dreams, i.e. dreams that contain metaphorical representations of dominant humours in the body, are only one type of dream; other dreams may have their origin in a person's waking thoughts and actions, while others again may carry some prophetic meaning. To see the difference between type one and two, it is stated, should not be too difficult, as it merely requires filtering out anything that has no connection to waking thoughts and actions. It is the third, prophetic type that complicates things.¹³¹

Ἐπεὶ δὲ καὶ μαντικά τινα συγχωροῦμεν εἶναι, πῶς ἂν ταῦτα διακριθείη τῶν ἀπὸ τοῦ σώματος ὀρμωμένων, οὐ ῥᾶδιον εἶπέν.¹³²

And since we allow for some [dreams] to be prophetic, it is not easy to say how those are to be discerned from the ones that are generated by the body.

¹²⁹ Cf. Siegel (1968), 218.

¹³⁰ Cf. *Temp.* II.2 (1.584 K.).

¹³¹ *Dign.* (103, 13-104,3 Guidorizzi; 6.833 K.).

¹³² *Dign.* (104,21-22 Guidorizzi; 6.833 K.). I made one small correction in the text: Guidorizzi has ῥᾶδιον, but I suspect this to be a typo.

To distinguish between this type and the other two types is so problematic that even those with ample experience in such matters can be deceived.¹³³ However, no direct solution to this problem is offered. Still, to make interpretation of medical dreams as accurate as possible, some helpful suggestions are made. It is important to take into account at least the following factors. One is the time of the dream. It is pointed out that the meaning of a dream can be highly dependent on the moment at which it occurs. An example is provided: if a patient dreams that he is being covered in snow, this can mean two things. Should such a dream occur at the onset of a paroxysm that is accompanied by cold and shivering, the dream is a result of these experiences. However, if it occurs after the acme of the disease, it is much more likely to be an indication of the humour that is most dominant in the body at that time.¹³⁴ In other words, it is possible for the (potential) effects of a dominant humour on dream images to be obscured by more acute, stronger experiences of the body. A second factor consists in the food a person has ingested. Humours in the stomach can be the origin of dream images – a topic discussed more elaborately elsewhere in this chapter – similar to those that would occur if the same humour were dominant in the dreamer's body. Hence, if no phlegm-producing food was consumed prior to a dream featuring snow, it can be concluded that phlegm is dominant in the body, and thus responsible for the dream images seen.¹³⁵

The mechanics underlying these dream processes are also explained. While the soul is responsible for the occurrence of prophetic dreams – it is not explained how exactly this works – the soul is also responsible for the occurrence of dreams that are linked to the condition and the needs of the body:

¹³³ *Dign.* (104,23-26 Guidorizzi; 6.834 K.).

¹³⁴ *Dign.* (103,5-9 Guidorizzi; 6.832-3 K.).

¹³⁵ *Dign.* (103,10-12 Guidorizzi; 6.833 K.).

Ἔοικε γὰρ ἐν τοῖς ὕπνοις εἰς τὸ βάθος τοῦ σώματος ἡ ψυχὴ εἰσδύσα καὶ τῶν ἐκτὸς ἀποχωρήσασα αἰσθητῶν τῆς κατὰ τὸ σῶμα διαθέσεως αἰσθάνεσθαι, πάντων τε ὧν ὀρέγεται, τούτων ὡς ἤδη παρόντων λαμβάνειν φαντασίαν.¹³⁶

For the soul, in sleep having dived into the depth of the body and being severed from outside perception, seems to perceive the situation in the body, and to receive images of all the things it yearns for, as if these things are already present.

This harks back strongly to the view of the Hippocratic *On Regimen*, according to which the soul acts independently of the body during sleep, and perceives the things that happen in the body. But there is a distinct difference between their respective ways of dealing with dreams:

Ἄ τοίνυν ὁρῶσι οἱ κάμνοντες ἐν τοῖς ἐνυπνίοις καὶ πράττειν δοκοῦσι συνενδείξεται πολλάκις ἡμῖν ἐνδείας τε καὶ πλεονεξίας καὶ ποιότητος χυμῶν.¹³⁷

The things, now, that sick people see in their dreams and what they seem to be doing together will often indicate to us defects and excesses and qualities of humours.

The key-word is *κάμνοντες*. It indicates that an interest in dreams from a medical point of view was engendered mainly by a person's poor health. This may seem logical, but we must bear in mind that the author of *On Regimen* clearly thought that it was also important to study the dreams of healthy people, because his is the art of *prodiagnôsis*: although there may not be any manifestation of illness, someone could already be on his way to becoming ill, unbeknownst to himself or his physician. The main difference, then, lies in their respective objectives. That of *On Regimen* is clear: he uses dreams as a way to 'test the waters' both in cases of those who are

¹³⁶ *Dign.* (104,33-36 Guidorizzi; 6.834 K.).

¹³⁷ *Dign.* (105,49-50 Guidorizzi; 6.835 K.).

healthy and in cases of those who are ill – in his dream book, ‘good’ and ‘bad’ dreams both receive ample attention. DD, on the other hand, seems to have a predilection for dreams of those who are already ill. Although DD does provide two examples of dreams that would come to healthy people – people without excess dream that they are flying or running very fast, and people whose bodies do not contain putrid humours or too much feces might think they find themselves in sweet smelling places –¹³⁸ these are merely examples mentioned to illustrate a point to the contrary; they do not receive any further attention and are clearly not part of the central topic of the text, i.e. dreams of sick people, *κάμνοντες*.

Let us, then, consider the passage in Galen’s commentary on the Hippocratic *Epidemics* I.10. It is decidedly shorter and less informative than DD, being a rendering of the same information we encounter in the first part of DD.¹³⁹ A full translation of the passage in the commentary seems appropriate, as there is none yet:

ἀλλὰ καὶ περὶ τῶν ἐνυπνίων προεξήγηται, τῶν τ’ ἄλλων καὶ ὅσα διάθεσιν τινα τοῦ σώματος ἐνδείκνυται, καθάπερ καὶ τῷ Περὶ διαίτης ὑγιεινῷ γέγραπται. πυρκαϊᾶς μὲν γάρ τις ὁρῶν ὄναρ ὑπὸ τῆς ξανθῆς <ἐν>οχλεῖται χολῆς, <εἰ¹⁴⁰ δὲ καπνὸν ἢ ἀχλὺν ἢ βαθὺ σκότος, ὑπὸ τῆς μελαίνης χολῆς> ὄμβρους δὲ ψυχρὰν ὑγρότητα πλεονάζειν ἐνδείκνυται, καθάπερ γε καὶ [εἰ] χιόνα καὶ κρύσταλλον καὶ χάλαζαν, φλέγμα ψυχρόν· ἐν χωρίῳ δ’ ὁ δοκῶν εἶναι δυσώδει σηπεδόνα χυμῶν, λόφους δ’ ἀλεκτρούωνων ἢ τινα πυρρά, αἷμα πλεονάζειν. ζοφώδη δὲ τινα ὁρᾶν ἢ ἐν ζοφώδεσι τόποις ἵστασθαι πνεύματα δηλοῖ <καὶ ἐπὶ τῶν ἄλλων ἀνὰ λόγον.> διὸ καὶ προσέθηκε τῷ ἐνυπνίοισι <τὸ> οἷοισι καὶ ὅτε· τὸ μὲν <οἷ>οισι τὰς διαφορὰς αὐτῶν ἐνδεικνύμενον καὶ μὴ προσθέντος αὐτοῦ πρόδηλον ἦν, τὸ δ’ ὅτε τὸν καιρόν, ἐν ᾧ γίνεται τὰ ἐνυπνια, τουτέστιν εἴτε κατὰ τὴν εἰσβολὴν τῶν παροξυσμῶν εἴτε κατὰ τὴν ἀκμὴν εἴτ’ ἐν ἄλλῳ τινὶ καιρῷ καὶ εἰ μετὰ τροφήν καὶ ποίαν γέ τινα τροφήν εὐθέως ἢ χωρὶς τροφῆς,

¹³⁸ *Dign.* (104,37-43 Guidorizzi; 6.834-5 K.).

¹³⁹ Guidorizzi provides a useful juxtaposition of the passage from Galen’s commentary on *Epid.*I.10 and *DD*. Cf. Guidorizzi (1973), 96-7.

¹⁴⁰ Wenkebach has inserted the entire phrase between brackets. I do not know why Wenkebach has used *ὁ*, but I think *εἰ*, which Guidorizzi also uses in his edition of *DD*, from which, we can assume, Wenkebach copies the inserted phrase, is the more logical choice here.

γίνεται γάρ τις ἔνδειξις ἐκ τούτων. ὁ γοῦν χιονίζεσθαι δοκῶν ἐὰν ἐν εἰσβολῇ παροξυσμοῦ μετὰ ῥίγους ἢ φρίκης ἢ καταψύξεως γιγνομένου τοῦτο φαντασθῇ, τῷ καιρῷ τὸ πλεόν, οὐ τῇ διαθέσει τοῦ σώματος ἀναφέρειν χρή. κατὰ μέντοι τὴν παρακμὴν <ὁ> τοιοῦτον ὄναρ θεασάμενος βεβαιότεραν ἡμῖν ἔνδειξιν ἐργάζεται τῆς τῶν ἐπικρατούντων χυμῶν ψυχρότητος· ἔτι δὲ μᾶλλον, ἐὰν μη<δὲν> ἐδηδοκῶς ἢ τῶν φλεγματικῶν ἐδεσμάτων, ὧν ἐν τῇ γαστρὶ περιεχομένων ἐνδέχεταιί τινι τοιαύτην γίνεσθαι φαντασίαν, καίτοι τῆς ἐν ὅλῳ τῷ σώματι διαθέσεως οὐκ οὔσης ὁμοίας.¹⁴¹

But about dreams I have also spoken before, especially all those that indicate a certain condition of the body, just as has been written in *On Regimen in Health*. For someone who sees conflagrations in a dream is troubled by yellow bile, <if smoke or mist or deep darkness [appear in a dream], [someone is troubled] by black bile>; [seeing] torrential rains shows an excess of cold moisture, just as [seeing] snow and ice and hail [shows an excess of] cold phlegm. Appearing to be in a smelly place [indicates] a rotten humour, [seeing] cock's combs or something red [indicates] an excess of blood. To see something dark or to stand in dark places indicates breaths <and analogously in other cases.> And that is why he has added 'including the kind and time' to 'dreams'. 'The kind' to indicate that there is a difference between them, and if it had not been added, it was clear before; 'the time' [to indicate] the moment in time when the dreams occur, i.e. either in the beginning of the paroxysm, or in the acme, or at some other moment, and whether directly after food – and especially after some particular food – for some indication comes forth from those things. So when someone appears to be covered in snow, if this is imagined at the onset of a paroxysm combined with shivers or shuddering or chill, it must be attributed more to the moment and not to the condition of the body. But if someone sees such a dream after the acme, it will provide a firmer indication to us of the coldness of the dominant humours; more so, even, if [the dreamer] has not eaten any of the phlegmatic foods, which, when contained in the stomach, allow such an image to occur to someone, even though it is not similar to the condition in the whole of the body.

¹⁴¹ *In Hip.Epid.I.3.1* (108,1-24 Wenkebach; 17a.214-5 K.). Oberhelman would rather see 'Wenkebach's meddlesome additions, deletions, and emendations' removed (cf. Oberhelman (1993), 140). While I do agree with both Guidorizzi and Oberhelman that neither of the two texts can have been a source for the other, I do not think Wenkebach's changes – though made from the standpoint that the *Epidemics* commentary was a model for DD and most clearly seen in Guidorizzi's rendering of the text (cf. Guidorizzi (1973), 96-7) – make much difference to the significance of the passage to Galen's views on medical dream interpretation, which is why I have adopted Wenkebach's text, with only some minor changes.

If nothing else, the passage provides an explanation for and some instances of the use of dreams in diagnosis, and gives some helpful hints with regard to the things that need to be taken into account besides the contents of the dreams. It also enhances the understanding of the occurrence of dreams in the Hippocratic diagnostic checklist: the addition of *οἷσι καὶ ὅτε*, for instance, which seems quite unintelligible at first sight, makes sense now – at least from a Galenic point of view, as it can, of course, never be certain that Galen's explanation is similar to what the Hippocratic author had in mind. On the downside, the passage is clearly lacking any explanation of the origin or mechanics of dreaming, as Galen refers us to his *On Regimen in Health* for any more information on dreams. Of course, since we do not have this text, we depend on DD for any additional information, but there is still a chance that this text was not actually written by Galen and only represents his ideas in part – the part that also occurs in the commentary on *Epidemics* I.

Unfortunately, nowhere else in the Galenic Corpus is there any explanation of how dreams work and where they come from. In that respect, it would be most convenient if we were able to rely on DD entirely. However, there are a number of passages with some reference to dreams contained within the Galenic Corpus, and even though these passages are based on an underlying theory that is nowhere made explicit, they might still contribute to a greater understanding of Galen's views on dreams.

3.2.2 *Galen's Commentary on the Hippocratic Epidemics VI*

As Manetti and Roselli point out, the Greek text of Galen's commentary on the Hippocratic *Epidemics* VI is highly fragmentary, a problem Wenkebach and Pfaff have been able to solve by complementing the Greek with a German translation of the Arabic version of the text.¹⁴² The part

¹⁴² Cf. Manetti/Roselli (1982), xl-xliii.

of the commentary that interests us is a part of that Arabic/German complement. The passage of the Hippocratic *Epidemics* in question is VI.8.9, which has already been discussed in detail above. Galen's commentary on it reads as follows:

Hippokrates: Was im Schläfe geschieht, die Träume.

Galen: Einige fügen zwischen 'was im Schläfe geschieht' und 'Träume' ein 'an' ein, verbinden das Ganze und machen daraus einen Satz und behaupten, daß Hippokrates verlange, man solle auf die Träume, welche im Schläfe auftreten, achten. Darunter verstehen sie die Traumbilder, die der Kranke während des Schlafes sich vorstellt. Man müsse untersuchen, ob sie beunruhigend und beängstigend, ob sie häßlich, widernatürlich oder ob sie gewöhnliche und übliche Visionen sind. Manche sagen, wenn er nur von den Träumen hätte reden wollen, hätte er sicher nicht gesagt: 'was im Schläfe geschieht an Träumen', sondern hätte sich begnügt zu sagen 'die Träume', da es ja keine anderen Träume gibt als im Schläfe. Sie sagen, man müsse unter dem Wort 'Träume' das verstehen, was sich der Kranke in seinen Träumen einbilde. Seine Worte aber 'was im Schläfe geschieht' verstehen sie von den Symptomen, die ich jetzt angebe: wenn z.B. etwas von dem Weißen des Auges bei geschlossenen Augenlidern sich zeigt, oder wenn der Ober- vom Unterkiefer zu weit absteht, so daß der Kranke sozusagen seinen Mund etwas offen hat, oder wenn der Kranke gegen seine sonstige Gewohnheit auf dem Bauche liegt, oder wenn er eine Lage über die natürliche Zeit hinaus beibehält. Zu der Zahl dieser Dinge kommt noch hinzu, wenn der Kranke mit den Zähnen knirscht oder röchelt oder schreit, wenn er schwer atmet oder kalte Füße und Hände hat oder die Kälte von den Händen und Füßen nach den höheren Stellen aufsteigt, oder wenn die Farbe des Gesichtes beim Kranken während des Schlafes sich in eine schlechtere, als die zuvor war, wandelt.¹⁴³

Although this passage seems to confirm Galen's interest in dreams and their contents from a diagnostic point of view, it is difficult to distil his personal opinion on dreams from the text, as he seems only to be recounting other people's views – not his own. Apparently, however, it is not those others' assertion that dreams should be heeded as a diagnostic tool, but the fact that they want to draw the two parts of the phrase together. Galen does not correct the notion that the

¹⁴³ In *Hip.Epid.VI.8* (458,28-459,10 Pfaff).

character of the dreams a patient has, must be established: whether they inspire anxiety, fear or disgust, and whether or not they correspond to reality. It is interesting to note here that all of this is remarkably similar to what we have seen in *On Regimen*. It seems acceptable, then, to deduce that on this point, he was in general agreement with those he quotes; such a conclusion is further supported by the views expressed in the texts on dreams discussed above. The point of Galen's criticism is that the people he quotes quite ignore the fact that it is important, besides dreams, to monitor the outward, physical symptoms that are revealed in sleep.

3.2.3 *On the Preservation of Health*

In his treatment of ulcerous fatigue, Galen declares that it is well possible to make a diagnosis with regard to the excess fluids in someone's body from sleep and wakefulness, rather than from dreams. Considering Galen's views on sleep and its properties, and the important role the primary qualities play in the process, this remark is not at all surprising. It is, however, noteworthy at the least to see that while he does mention dreams – or, more precisely, images in sleep – there is no mention of the possibility that interpretation of *these* might also contribute to an accurate diagnosis of the patient's condition:

ὥς τὰ πολλὰ μέντοι καὶ τῶν πλεοναζόντων χυμῶν ἐξ ὕπνου τε καὶ ἀγρυπνίας ἔνεστί σοι λαβεῖν διάγνωσιν. ἐπὶ μὲν γὰρ τοῖς ψυχροῖς τὰ τε κώματα καὶ οἱ μακρότεροι τῶν ὕπνων, ἐπὶ δὲ τοῖς θερμοῖς καὶ δακνῶδεσιν ἀγρυπνία, καὶ εἰ καθυπνώσειέ γέ ποτε, φαντασιώδεις τε καὶ θορυβώδεις ὕπνοι ὑποπίπτουσιν, ὥς ἐξανίστασθαι ταχέως αὐτούς.¹⁴⁴

¹⁴⁴ *San. Tuen.* IV.4 (114,20-25 Koch; 6.259 K.).

For the most part, moreover, it is also possible for you to make a diagnosis of the excess fluids from sleep and wakefulness. For with cold fluids, there is coma and longer sleep, but with warm and acrid fluids there is wakefulness, and if he should fall asleep, dreamful and troubled sleep come upon him, and they rouse [him] quickly.

There are two possible conclusions: one is that Galen did not much care for dream interpretation as part of regular diagnostic activity after all – a topic we will return to in a moment; the other is that dreams are not the same as images (*φαντασίαι*) that appear in sleep. This latter conclusion, however, seems unlikely,¹⁴⁵ and we will assume that images in sleep are, in fact, dreams.

A little earlier in the same chapter, Galen has pointed out that in case of indigestion in ulcerous fatigue, the correct treatment can be inferred from the patient's behaviour during sleep:

*εἰ δὲ καὶ κατὰ τὴν ἑξῆς ἡμέραν ἔτι παραμένει, σκεπτέον ἥδη περὶ βοηθήματος ἰσχυροτέρου, καὶ μάλιστα εἰ διὰ τῆς νυκτὸς ἦτοι κοπώδης ἐπὶ πλέον ἢ ἀσώδης ἢ ἀγρυπνος ἢ ἐν ὕπνοις τισὶ φαντασιώδεσιν τε καὶ ταραχώδεσιν γένοιτο. τοὺς γὰρ τοιούτους σὺν μὲν ἰσχυρᾷ τῇ δυνάμει δυοῖν θάτερον, ἢ φλεβοτομεῖν ἢ καθαίρειν προσήκει (...).*¹⁴⁶

And if on the sixth day circumstances are still thus, one must now consider stronger measures, and especially if during the night [the patient] becomes either more fatigued, or restless, or insomniac, or has the type of sleep that is dreamful and disturbed. For under such circumstances, with strong *dunamis*, one of two things is indicated: either venesection or purgation (...).

One of the symptoms mentioned is disturbed sleep rich in images. That in itself indicates one way of treatment or another. But nowhere is it mentioned that it might be a good idea to see what the images are, and whether or not they indicate a surfeit or depletion of some kind. There seems

¹⁴⁵ See Chapter 3, p.211 n.149.

¹⁴⁶ *San.Tuen.IV* (109,12-17 Koch; 6.247-8 K.).

to be little or no consideration of the contents of dreams, and their occurrence alone seems to be enough information.

3.2.4 *The Art of Medicine*

Much the same occurs in Galen's treatise on the *Art of Medicine*. In an account of one of the compound balances, heat combined with wetness, he describes people in whom both of these qualities have become excessive:

ἐὰν δ' ἐπὶ πλεῖστον ὑγρότητός τε καὶ θερμότητος ἦκωσι, νοσώδης τούτοις ἡ κεφαλὴ, καὶ περιττωματικὴ, καὶ ῥαδίως ὑπὸ τῶν ὑγραινόντων τε καὶ θερμαινόντων βλαπτομένη. νότος δ' αὐτοῖς πολέμιος αἰεὶ. ἄριστα δ' ἐν τοῖς βορείοις διάγουσιν, οὐ μὲν οὐδ' ἐγρηγορέναι δύνανται μέχρι πλείονος, ὕπνῳ τ' ἐπιτρέψαντες ἑαυτοὺς, ἅμα τε κωματώδεις εἰσὶ καὶ ἄγρυπνοι, καὶ φαντασιώδεις τοῖς ὀνείρασιν, καὶ αἱ ὄψεις ἀχλυώδεις, καὶ αἱ αἰσθήσεις οὐκ ἀκριβεῖς.¹⁴⁷

And if they arrive at a great quantity of moistness and heat, the head becomes unhealthy, and full of residue, and easily damaged by things that moisten and things that heat. The south wind is always hostile to them. They are best off in the north winds; they cannot stay awake for long, and when they allow themselves to sleep, they are simultaneously comatose and insomniac, and image-ful in their dreams, and their vision is misty, and their perception is inaccurate.

Again, there seems to be ample opportunity to include the interpretation of dreams in the description, for instance as a means to determine which humours are involved, but there is no mention of using the *ὀνείροι* that make patients *φαντασιώδεις* to such an end.

In chapter 21, a list of signs of incipient disease forms the context of things seen in sleep:

¹⁴⁷ *Ars Med.* 8 (1.327 K.).

οὕτως δὲ καὶ ἡ τῆς διανοίας ἀμβλύτης οὐ κατὰ φύσιν, ἢ ἐπιλησμοσύνη τις ἀήθης, ἢ φαντασιωδέστεροι τῶν ἔμπροσθεν ὕπνοι.¹⁴⁸

So, too, [are] the unnatural dullness of intelligence, or an unusual forgetfulness, or sleep with more dreams than before [signs of incipient disease].

The sign of incipient disease relating to dreams is the fact that sleep contains more images, i.e. dreams, than normal.¹⁴⁹ Could this be an indication that dreams were only considered if there was *reason* to consider them? To be sure, deviation from the norm is the main focus of this passage, but at the same time it suggests that to have dreams is a completely normal thing, provided that their occurrence lies within the norm.

3.2.5 *Phrenitis*

There is one disease in the Galenic Corpus to which dreams and their content are clearly linked: phrenitis. In *On the Affected Parts*, two passages mention a connection between the affliction phrenitis and having very vivid dreams.¹⁵⁰ The first passage concerns a personal experience of

¹⁴⁸ *Ars Med.*21 (1.361 K.).

¹⁴⁹ It is not entirely clear what Galen means by φαντασιώδης. Based on the occurrences within the Galenic Corpus, I am of the opinion that it means as much as ‘image-ful’ – without any positive or negative connotations – and can apply to both waking and sleeping, and both to a state – like the state of sleep – and to people. For instance, in *Ars Med.*8 (1.327 K.), the patient is φαντασιώδης τοῖς ὀνείρασιν, which clearly indicates that his states of *phantasiôdêsness* occurs in sleep, because it concerns dreams; in *San. Tuen.*IV (6.258-9 K.), it is sleep that is *phantasiôdês*, which indicates that the sleeper has many dreams. That *phantasiôdês* can definitely refer to dreams, even if these are not mentioned, is clear from *Ars Med.*21 (1.361 K.), where Galen clearly states that sleep is more *phantasiôdês* than normal, which indicates that being *phantasiôdês* is not necessarily a sign of (incipient) disease. I believe that, to cognates like *phantasma* and *phantasia*, roughly the same applies, in that they can be used of images seen either in sleep or in waking. For instance, the *phantasiai* mentioned in *In Hip. Progn.*I.23 (18b.73-4 K.), which are a result of cataracts in the eyes, or the *phantasmata* in *Loc. Aff.*I.2 (8.21 K.), which are a result of an accumulation of humours in the stomach, both refer to complaints mainly experienced in waking. On the other hand, in *In Hip. Prorrh.*I.1.5 (16.525 K.), Galen speaks of the τὰ κατὰ τοὺς ὕπνους φαντάσματα, and in *In Hip. Aph.*III.24 (17b.628 K.) of ἐν τοῖς ὕπνοις γιγνομένης φαντασίας φοβερὰς. Oberhelman claims that ‘the word *phantasmata* is significant of bodily disorders according to most ancient writers on dreams’, and he cites Aristotle, Artemidorus, and Aristides as sources in support of his claim. Cf. Oberhelman (1983), 46 n.72. While what Oberhelman suggests is of course a possibility, I am not convinced, and I believe such a claim requires a more thorough investigation of the word field.

¹⁵⁰ *Loc. Aff.*IV.2 (8.227 K.); *Loc. Aff.*V.4 (8.329-30 K.).

Galen's. He tells of the time that he was suffering from phrenitis and describes the symptoms he was displaying. One of his symptoms consists in having dreams so troubled that he cries out, and tries to get out of bed. The treatment administered consists of the application of wet dressings to the head.¹⁵¹ The second occurrence is in an account of the nature of phrenitis. Galen sums up the symptoms that accompany phrenitis, because there are certain afflictions that cause a delirium (*παραφροσύνη*) which is a lot like a phrenetic delirium; these are not caused by an inflammation of the diaphragm, but by an inflammation of the brain. It is useful to know that phrenitis is distinguishable from these other afflictions if one but knows the symptoms that precede real phrenitis. Among these symptoms are sleeplessness and sleep that is troubled by vivid dreams:

οὐκ ὀλίγα τε συμπτώματα προηγείται τῆς κατασκευῆς αὐτοῦ, καὶ καλεῖται γε πάντα ταῦτα φρενιτικὰ σημεῖα, καὶ γεγράφασιν αὐτὰ πάντες οἱ πρὸ ἐμοῦ. τοῦτο μὲν γὰρ ἀγρυπνίας ἢ καὶ τινὰς ὕπνου θορυβῶδεις ἐπὶ φαντάσμασιν ἐναργέσιν, ὥς καὶ κράξαι ποτὲ καὶ ἀναπηδῆσαι (...).¹⁵²

Not few symptoms precede its manifestation, and all those are called phrenetic signs, and all those before me have written about them. For sometimes it is insomnia or also certain types of sleep disturbed by such clear images, that [they cause] screaming and jumping up (...)

In addition, these symptoms are useful in diagnosis as well: Galen explains that a phrenetic delirium develops, comes on bit by bit, and does not manifest itself right away.¹⁵³ It is advantageous to diagnose the condition at the earliest stage possible, and it is obvious that to know the symptoms that precede the condition would be of great use in this respect.

We learn more about how it is that phrenitis and vivid dreams go hand-in-hand in Galen's commentary on the Hippocratic *Prorrhetic* I. In this Hippocratic treatise, we have already

¹⁵¹ *Loc.Aff.IV.2* (8.227 K.).

¹⁵² *Loc.Aff.V.4* (8.329-30 K.).

¹⁵³ Cf. *Loc.Aff.V.4* (8.329 K.).

encountered an aphorism that put vivid dreams in the context of phrenitis (*Prorrh.*I.5); in his commentary on *Prorrhetic* I, Galen gives an explanation for the fact that in people suffering from phrenitis, dreams are *ἐναργέα*:

ὅτι μὲν οὖν καὶ ἄλλοι τινὲς ἐκ τῶν ὕπνων ἀνιστάμενοι περιέρχονται, κοιμώμενοι μὲν, ἀναπεπταμένους δὲ τοὺς ὀφθαλμοὺς ἔχοντες ὁμοίως τοῖς ἐγρηγορόσιν, ἐν πολλοῖς ἰστόρηταί τε καὶ γέγραπται· εἰ δὲ τοιαῦτά ἐστι τοῖς φρενιτικοῖς τὰ πραττόμενα, τῶν ἀδήλων ἡμῖν ἐστίν. ὅπως δ' ἂν ἔχῃ τὸ ἀληθές, οὐδὲν εἰς πρόγνωσιν ὀνύνησιν ἢ ἐξήγησις αὕτη.¹⁵⁴

So, it is told and written in many stories that some others too get up and walk around in their sleep, while they are asleep, with open eyes like those who are awake; but whether those are the things that are done by phrenetics, belongs to the things unclear to us. In whichever way there could be truth to them, their interpretation itself does not contribute anything to prognosis.

Everyone is familiar with stories of people who get up in their sleep and walk around, with their eyes open as if they are awake while they are really still asleep. In itself, this need not mean anything, as long as what people – phrenetic or not – are seeing is in keeping with reality. It would seem that on this, Galen takes a leaf out of the Hippocratic author of *On Regimen*'s book: it is useless to interpret such dreams in a medical context, for they will not yield any information that would be of use in prognosis. There are, however, circumstances in which an interpretation of dreams can be of use for prognosis:

εἰ δ' ἐγὼ τὰ προηγούμενα τῶν φρενιτικῶν ἐνύπνια λέγω βλέπεσθαι σαφῶς οὕτως, ὥς ἐκθροεῖσθαι τῶν ὕπνων αὐτοὺς ἀναπηδῶντας ἢ φθεγγομένους διὰ τὴν ἐνάργειαν τῶν φαντασμάτων, χρήσιμον εἰς τὴν τοῦ

¹⁵⁴ In *Hip.Prorrh.*I.1.5 (20,15-20 Diels; 16.525 K.).

πάθους τούτου πρόγνωσιν· ἡ γὰρ ξηρότης αὕτη τῆς ἀγρυπνίας ἐστὶν αἰτία καὶ τῆς τῶν ὀνειράτων ἐμφάσεως.¹⁵⁵

But if I say that the previously mentioned dreams of phrenetics are seen so clearly, that they are startled from their sleep, and jump up and call out because of the clarity of the images, then it is useful [to interpret them] for the purpose of the prognosis of the illness. For dryness itself is the cause of insomnia and of the appearance¹⁵⁶ of dreams.

This is the first explicit mention of interpretation of dreams for the purpose of prognosis outside of the well-known texts of DD and the commentary on *Epidemics* I. Sadly, nothing is said or explained with regard to the interpretation of dreams *per se*; one might have hoped for some suggestions of use, or an example, but it is likely that, at this point, Galen sees no need to repeat what he has already explained elsewhere, probably in that lost text *On Regimen in Health*. He does elaborate on the reason why phrenetic people dream so vividly: it is because of the excessive dryness in their bodies. In the chapter on sleep, we have already learnt that dryness causes insomnia, but apparently it is also the cause of the appearance of dreams the memory of which can be retained by the dreamer. He provides some evidence from experience to support his claim:

οὕτω γοῦν καὶ τοῖς μελαγχολικοῖς διὰ τὴν ξηρότητα πάντως ἐναργῆ φαίνεται τὰ κατὰ τοὺς ὕπνους φαντάσματα. καὶ τῶν ὑγιαίνοντων δὲ τοῖς μὲν ἐνδεῶς διαιτηθεῖσιν ἐναργεῖς οἱ ὄνειροι γίνονται, τοῖς δ' ἐμπεπλησμένοις ἢ μεθύουσιν οὕτως, ὥς ἀφάνταστοι δοκεῖν εἶναι διαρρεόντων αὐτοῖς τῶν φαντασμάτων ὑπ' ἀμυδρότητος, ὥς μηδὲ ἴχνος αὐτῶν καταλιπεῖν εἰς μνήμην. οὕτω καὶ τῶν παθῶν, ὅσα μεθ' ὑγρότητος ἐγκεφάλου γίνεται, κωματώδη τέ ἐστὶ καὶ ὑπνώδη καὶ ἀφάνταστα.¹⁵⁷

¹⁵⁵ In *Hip.Prorrh.*I.1.5 (20,20-24 Diels; 16.525 K.).

¹⁵⁶ This does not mean that dryness is the cause of the appearance of dreams *per se*. It means that because of dryness, dreams will be memorable and will not fade away.

¹⁵⁷ In *Hip.Prorrh.*I.1.5 (20,24-21,2 Diels; 16.525-6 K.).

At least, this is how for melancholics through dryness images in sleep always appear so vivid. And of the healthy people, for those who abide by a strict regimen dreams become vivid, but for those who are full or drunk, it is so that they seem to be without dreams/images as the images fade because of their [sc. these people's] numbness, without leaving a trace of themselves in memory. So it is also for those of the diseases that are caused by wetness of the brain, those are comatose and sleepy and without images.

Firstly, people with a dry constitution, like melancholics¹⁵⁸ – black bile is dry and cold – always have very clear and vivid dreams. Seeing as phrenitis is caused by yellow bile – dry and hot – we can understand why this analogy applies.¹⁵⁹ Additionally, a strict regimen also produces good circumstances in the body for dreams to occur vividly, presumably because there will be no *plêsmônê* in such people. However, people who are full or drunk, or are suffering from a condition that is caused by an excess of wetness in the brain are under the impression that they have no dreams, because dreams in such people cannot be remembered, let alone interpreted. Paraphrasing: dryness in a person makes for vivid dreams; in phrenetics, therefore, dry must be the dominant quality. If these vivid dreams coincide with reality, there is no need to interpret them, as that will contribute nothing to prognosis. If, however, the dreams are so vivid as to provoke a physical reaction in the dreamer, interpretation is useful in the formation of a prognosis. Galen realises that not everyone sees it his way, but, of course, people who are of a different opinion are clearly mistaken:

μοχθηρὸς οὖν ἐστὶν ὁ λόγος τῶν οἰομένων οὐδ' ἐνύπνιον ὁρᾶσθαι τοῖς φρενιτικοῖς ἐναργές, εἴ γέ φασιν, ὡς μὴδ' ὅλως ὁρῶσιν ἐνύπνιον ὡς ἂν μὴ κοιμώμενοι. πρῶτον μὲν γὰρ ἐτοίμως λαμβάνουσι τὸ τὰ συμπεπληρωμένα σὺν τοῖς οἰκείοις μεγέθεσι πάθη μόνα καλεῖσθαι ταῖς ἰδίαις προσηγορίαις, ὑπεριδόντες

¹⁵⁸ It is interesting to note that Aristotle, too, reasoned that melancholics were more receptive to (prophetic) dreams, albeit for entirely different reasons. Cf. Aristotle, *Div.Somn.* 464a32ff.

¹⁵⁹ *Loc.Aff.* III.9 (8.178 K.).

οὐ σμικροῦ λόγου τοῦ κατ' ἀρχὰς ἡμῖν ῥηθέντος, ὥς οὐδὲ προγινώσκειται τι τοῖς ἰατροῖς μέλλον πάθημα τῶν ἤδη μὲν ἀρχὴν γενέσεως ἔχόντων, οὐδέπω δὲ τοῖς πολλοῖς διὰ τὴν σμικρότητα γνωριζομένων.¹⁶⁰

So the story of those who think that phrenetics do not see vivid dreams is wrong, if they say that they cannot see dreams at all because they do not sleep. First of all, overlooking a not unimportant argument made by us in the beginning, they willingly accept the fact that only diseases that have reached their proper magnitude completely are called by their proper names, assuming that, of those [diseases] which are only at the onset of their coming into being but which are not yet recognised by most because of their smallness, no future/impending disease is predicted by physicians.

Those who do not agree with Galen have a number of objections. The first is that phrenetic people are insomniac; clearly this must mean that they do not have any dreams, let alone vivid ones. Secondly, they say that only diseases that have developed completely can be given a proper name; in other words, if a disease has not yet manifested itself fully, it cannot be called anything. Therefore, it is not possible to predict the manifestation of diseases that are so small, so young and unlike their developed self, that they cannot yet be recognised. If, then, a well-trained physician makes the diagnosis of an impending disease, to these people it is as if he is casting a prognosis:

ἢ γενομένη δὲ τοῖς τεχνίταις διάγνωσις ἀπαγγελθεῖσα τοῖς ἰδιώταις πρόγνωσις ὥς πρὸς ἐκείνους ἐστίν, ὥστε καὶ τοὺς φρενιτικούς ἤδη τοῖς τεχνίταις γνωρίζεσθαι τῆς κατὰ τὸν ἐγκέφαλον διαθέσεως ἄρτι συνισταμένης.¹⁶¹

So, a diagnosis made by the specialists, after it has been communicated to the laymen is as a prognosis to them, since phrenetics too are already recognised by the specialists while the condition in the brain is only just being established.

¹⁶⁰ In *Hip.Prorrh.I.1.5* (21,3-10 Diels; 16.526 K.). I insert a full stop here instead of a comma, which is more natural in the argument.

¹⁶¹ In *Hip.Prorrh.I.1.5* (21,10-13 Diels; 16.526 K.).

This explanation brings one in mind of the Hippocratic *On Regimen*, whose author speaks not of diagnosis, nor of prognosis, but of *prodiagnôsis*, though there is of course a difference in the fact that the Hippocratic author has no use for disease names and by means of dreams only indicates what is awry, not which situation it will lead to, while Galen is of the opinion that dreams may actually help to recognise diseases in their very early stages. Nonetheless, both Galen and the Hippocratic author seem to have realised that any information gained from dreams had a different status from information gained through ‘more conventional’ means.

So, Galen believed that vivid dreams can be an indication of imminent phrenitis, even when there are no observable signs of the disease itself yet in the person who has the dreams. He summarises his interpretation of the Hippocratic aphorism as follows:

ἔπειτα δέ, εἰ καὶ μὴ συγχωρεῖ τις ὀνομάζειν φρενιτικούς ἤδη τοὺς μηδέπω σαφῶς παρακόπτοντας, ἀλλ’ ὅτι γε φρενιτικοὶ γενήσονται, προγνῶναι δυνατόν ἐστὶν ἐκ τῶν ἐνυπνίων, ὡς κατὰ τὴν προκειμένην ῥῆσιν ἐγχωρεῖ λελέχθαι τὰ ἐν τοῖς φρενιτικοῖς ἐσομένοις ἐνύπνια προηγούμενα πᾶσιν αὐτοῖς ἐναργῶς ὁρᾶσθαι.¹⁶²

And so, if someone does not agree to call phrenetics those who are not yet clearly mad, it is still possible to know beforehand from their dreams that they will become phrenetics; for the passage in question is likely to mean that in those who will become phrenetics antecedent dreams are seen vividly by all of them.

To sum up: phrenetics, but also those who are on the verge of becoming phrenetic, have vivid dreams because of the predominant dryness in their bodies, which is brought on by an excess of yellow bile. In the case of people who are not yet manifestly phrenetic, these vivid dreams are like beacons that lead the way to a conclusion with regard to what is about to happen, telling the

¹⁶² In *Hip.Prorrh.* I.1.5 (21,13-18 Diels; 16.526-7 K.).

dreamer that phrenitis is imminent. In people who are in fact phrenetic, dreams that are so vivid as to cause a reaction that can be perceived by others should be interpreted, because the information gained can be of use for prognosis – although, unfortunately, it is not explained how exactly this works.

3.2.6 *Dreams and the Stomach*

In his discussion of the potential harmfulness of sleep, Galen mentioned the effects of accumulated humours in the stomach, and implied a link between the accumulated humours in the stomach – or more specifically: at the stomach mouth – and the things we see in sleep. More concretely, we assumed that fear, a result of black bile, had to be experienced through dreams. Let us now investigate in more detail how this might work. In commentary on the Hippocratic Aphorism III.24, Galen explains the occurrence of frightful images in sleep:

οἱ φόβοι δὲ τοῖς παιδίοις γίνονται κατὰ τοὺς ὕπνους καὶ μάλιστα ἐξ αὐτῶν τοῖς ἀδηφάγοις, ὅταν εὐαίσθητα μὲν ᾖ, ἀσθενῇ δ' ὑπάρχη φύσει τὰ κατὰ τὴν γαστέρα χωρία, διαφθείρεται δὲ ἡ τροφή. παρεφυλάξαμεν γὰρ οὐκ ἐπὶ τῶν τηλικούτων μόνον, ἀλλὰ καὶ ἐπὶ τῶν ἤδη τελείων ἐν τοῖς ὕπνοις γιγνομένης φαντασίας φοβεράς, ὅταν πολλοὶ τε ἄμα καὶ μοχθηροὶ χυμοὶ βαρύνουσι καὶ δάκνουσι τὰ κατὰ τὴν γαστέρα, καὶ μάλιστα αὐτῆς τὸ στόμα, τοῦτο γὰρ αὐτῆς ἐστὶ τὸ αἰσθητικώτατον.¹⁶³

But for children, fears occur in sleep, and mostly among the gluttonous ones among them, when they are sensitive [i.e. physically], when the area in the stomach is naturally weak, and when the food [in the stomach] decays. For not only when young, but also when adult we pay close attention to frightening images in sleep, when many bad humours simultaneously weigh down and corrode the stomach's surroundings, and especially its mouth – for that part of it is most sensitive.

¹⁶³ In *Hip.Aph.III.24* (17b.628 K.).

Here, too, the connection between the condition of the stomach(mouth) and the things we see in sleep is clear. In *On the Affected Parts*, too, Galen states that when there is an accumulation of a bad humour at the stomach mouth, this usually causes dreams and troubled sleep, besides delirium (*παράνοια*),¹⁶⁴ and elsewhere in the same treatise, he remarks that, in waking, delirium may ensue as a result of detrimental activity at the stomach mouth.¹⁶⁵ From a number of other passages in the same treatise and in others, we can reconstruct the following explanation for the affection of perception due to a condition of the stomach. An accumulation of humours in the stomach may cause images that disturb vision.¹⁶⁶ These images are a result of vapours that rise from the humours contained within the stomach, because they affect the eyes in a way similar to the way cataracts affect the eyes.¹⁶⁷ This is a matter of sympathy¹⁶⁸ of the eyes as a consequence of the condition of the stomach, and not a primary affection of the eyes. If the latter were the case, the images would not present themselves to both eyes at the same time.¹⁶⁹ Although this explanation does not seem to refer to what people see in their dreams, I believe the information is still significant to the discussion of this topic, especially with regard to the physiological explanation of dream occurrence. Greeks ‘saw’ dreams where we simply ‘have’ them;¹⁷⁰ based on the above evidence, we can infer that Galen, too, thought that dreams were actually *seen*, and that this process most likely actively involved the eyes.

¹⁶⁴ Cf. *Loc.Aff.*V.6 (8.342 K.).

¹⁶⁵ Cf. *Loc.Aff.*V.4 (8.329 K.).

¹⁶⁶ *Loc.Aff.*I.2 (8.21 K.).

¹⁶⁷ *Comp.Med.Loc.*2; 3 (12.540; 642 K.); *Loc.Aff.*I.6 (8.52 K.); *In Hip.Progn.*1.23 (18b.73-4 K.).

¹⁶⁸ Cf. *Loc.Aff.*I.3; III.1 (8.30-31; 137 K.).

¹⁶⁹ *Loc.Aff.*IV.2 (8.221 K.).

¹⁷⁰ Cf. Dodds (1951), 105.

3.3 Aristotle: *On Dreams & On Divination in Sleep*

γίγνεται γὰρ ὁ ὕπνος, ὥσπερ εἴρηται, τοῦ σωματώδους ἀναφερομένου ὑπὸ τοῦ θερμοῦ διὰ τῶν φλεβῶν πρὸς τὴν κεφαλὴν· ὅταν δὲ μηκέτι δύνῃται, ἀλλὰ τῷ πλήθει ὑπερβάλλῃ τὸ ἀναχθέν, πάλιν ἀνταπωθεῖται καὶ κάτω ῥεῖ (...), καὶ ἐπιπεσὼν μὲν ἔκνοιαν ποιεῖ, ὕστερον δὲ φαντασίαν.¹⁷¹

For sleep occurs, as has been said, when the solid matter is carried upward to the head by the heat through the blood vessels; and when that is no longer possible, and the upper region overflows with its quantity, it [sc. the solid matter] is driven back again and flows downward (...), and when it has come down again it causes the loss of one's senses, and afterwards *phantasia*.

This is the tantalising introductory remark to the process of dreaming which we encounter in Aristotle's work on sleep and waking. From it, we can already derive that dreaming appears to be a process with a physiological background – a typically Aristotelian approach.¹⁷² We will now delve a bit deeper into this background; in the course of this section it shall become clear that, along the way, Aristotle moderates views he has previously put forward, but this does not mean he has changed his mind; it is more like watching the ideas unfold in his head. Kahn called this 'the progressive nature of the exposition'.¹⁷³

Based on Aristotle's largely physiological explanation of it, we have come to understand sleep as the incapacitation of the primary sense organ and, the inevitable consequence of this, the incapacitation of all peripheral sense organs. However, this understanding is modified in his explanation of the dreaming process. As it turns out, there are two sides to sleep: one is the deprivation of certain abilities available to us when we are awake, the other is the acquisition of

¹⁷¹ 457b20-26.

¹⁷² Aristotle sees a physical and a psychic side to all processes in the body. Cf. e.g. M. Frede (1992), 96-7, "Aristotle does not make a division between physical doings and mental doings", and van der Eijk (2000), 63, "Perhaps the most fundamental tenet of Aristotle's theory is his opinion that soul and body are not separate entities, but two mutually complementary and inseparably connected aspects". For a more elaborate treatment of Aristotle's soul-body relationship, see van der Eijk's entire (2000) article.

¹⁷³ Any (seeming) inconsistencies are a result of this 'progressive nature of the exposition'. Kahn (1979), 51, 63; cf. van der Eijk (2003A), 39-40; (2005), 202-3.

certain modes of cognition *not* available to us in waking.¹⁷⁴ In addition, it will become clear that sleep and waking are not absolute opposites after all,¹⁷⁵ and that Aristotle acknowledges different ‘gradations’ of sleep which are linked directly to the relative activity of sense-perception, and which indicate the occurrence of (temporary) partial coexistence of sleep and waking. We shall see that it is only when we are *properly* asleep that we can have what Aristotle understands to be a *proper* dream,¹⁷⁶ and thus it is only when we *really* dream that we are *truly* asleep.¹⁷⁷ For Aristotle, the process of dreaming has its origin in daily sense perception. In the chapter on sleep, we have already explored the general workings of it: sense objects produce movements in the peripheral sense organs, and subsequently these movements are transported from the individual sense-organs to the master sense-organ, which is located at the heart. However, it is necessary to review some aspects of sense-perception and explain them in more detail in order to be able to understand Aristotle's explanation of the process of dreaming.

3.3.1 *Sense-perception revisited: aisthêsis and phantasia*

To make Aristotle's explanation of the dreaming process more intelligible, let us have a brief look at the role of the soul in sense-perception. As is well known, Aristotle's soul consists of three parts: the vegetative part (*threptikon*), the sensitive part (*aisthêtikon*), and the intellectual part (*noêtikon*).¹⁷⁸ It is the second of these three, the sensitive part, or more specifically: a part, a

¹⁷⁴ Cf. van der Eijk (2003A), 25; (2005), 171ff.; Holowchak (1996), 417.

¹⁷⁵ This appears to be in conflict with *Somn. Vig.* 453b26-27, where Aristotle states that sleeping and waking are each other's opposites (*ἀντίκειται*) sleep being a sort of deprivation of waking. Wijsenbeek-Wijler, too, notices the inconsistency between Aristotle's explanation of sleep and his explanation of dreams. Cf. Wijsenbeek-Wijler (1978), 215. I refer to Kahn's ‘progressive nature’ explanation here.

¹⁷⁶ Cf. 462a29-31.

¹⁷⁷ Cf. Hubert (1999), 89: “the occurrence of dreams is a testimony to true sleep.”

¹⁷⁸ Van der Eijk explains: “the parts of the soul are not spatially distinguishable in the way Plato allocated the rational part to the brain, the spirited part to the chest, and the appetitive element to the liver. Rather, they are to be seen as powers, or faculties, in whose exercise a number of bodily components are involved, a co-ordinated system. (...) what Aristotle locates in the heart is the ‘principle of perception’ or the ‘principle of the soul’, not the soul itself, nor indeed the intellect, which would by definition defy any allocation to a specific bodily part or organ.” Van der Eijk (2000), 68-9.

capacity even, of this sensitive part, known as the *phantastikon*,¹⁷⁹ that plays an important role in the process of dreaming. Schofield typifies its task succinctly as being concerned with ‘*non-paradigmatic sensory experiences*’.¹⁸⁰

The *phantasia* so casually mentioned in the quoted passage from *On Sleep* is in fact a collection of many different processes (Schofield refers to it as a ‘loose-knit family concept’) generated by the *phantastikon*.¹⁸¹ For instance, it mediates between perception and the intellect – all thought is dependent on it –, it makes memory possible, it enables us to transcend mere sense-perception and to create generalised concepts, it directs desire, and it provides the stuff that dreams are made of – the latter in a very literal sense.¹⁸² The product of *phantasia* and its means to act and function are *phantasmata*.¹⁸³ The easiest way to describe a *phantasma* is as an after-effect. In more Aristotelian terms, a *phantasma* can be seen as a remnant of sense-perception, a lingering sense-movement (*κίνησις*).¹⁸⁴ In visual perception, for example, a *phantasma* would be an after-image, a visual representation of the real object of sense perception, but less vivid and, usually, less accurate.¹⁸⁵ The *phantastikon* comes into action, and *phantasmata* are generated, every time there is an act of sense-perception. In *De Anima*, Aristotle describes the interrelation as follows:

¹⁷⁹ Put simply: the *phantastikon* always coincides with the *aisthêtikon*, but the *aisthêtikon* does not always coincide with the *phantastikon*; the *phantastikon* is, as it were, a subset of the *aisthêtikon*. Modrak describes *phantasia* as a function of the perceptive part of the soul. Cf. Modrak (1987), 81. Kahn sees the faculty of imagination as belonging ‘to the sense-faculty in its broadest extension’. Kahn (1979), 49.

¹⁸⁰ Schofield (1978), 101.

¹⁸¹ Schofield (1978), 106.

¹⁸² Cf. van der Eijk (2000), 65; D. Frede (1992); Modrak (1987), 82ff.; Schofield (1978).

¹⁸³ I have chosen not to translate *phantasma* with, for instance, the much used ‘image’ in order to preclude the impression that *phantasmata* are only visual; all the sense experiences are at play here. There is no suitable word in English that renders the full meaning of the word. Cf. also Schofield (1978), 116ff.

¹⁸⁴ For an in-depth discussion of the sense-organs and of the process of sense-perception, see e.g. Johansen (1998) and Sorabji (1992).

¹⁸⁵ Cf. D. Frede (1992), 284, 291. Frede also points out that it is this inaccuracy that makes generalisation possible. Cf. D. Frede (1992), 291-2.

It is interesting to note that Aristotle derives the name *phantasma* from light (*φῶς*), which in itself of course has a bearing on visual perception alone, even though a *phantasma* refers to all types of sense-perception. He explains he does this because ‘sight is sense-perception *par excellence*’ and ‘without light it is impossible to see’ (429a2-4).

ἡ δὲ φαντασία κίνησις τις δοκεῖ εἶναι καὶ οὐκ ἄνευ αἰσθήσεως γίνεσθαι ἀλλ' αἰσθανομένοις καὶ ὧν αἰσθησις ἔστιν, ἔστι δὲ γίνεσθαι κίνησιν ὑπὸ τῆς ἐνεργείας τῆς αἰσθήσεως, καὶ ταύτην ὁμοίαν ἀνάγκη εἶναι τῇ αἰσθήσει, εἴη ἂν αὕτη ἡ κίνησις οὔτε ἄνευ αἰσθήσεως ἐνδεχομένη οὔτε μὴ αἰσθανομένοις ὑπάρχειν, καὶ πολλὰ κατ' αὐτὴν καὶ ποιεῖν καὶ πάσχειν τὸ ἔχον, καὶ εἶναι καὶ ἀληθὴ καὶ ψευδῆ.

(...)

ἡ φαντασία ἂν εἴη κίνησις ὑπὸ τῆς αἰσθήσεως τῆς κατ' ἐνέργειαν γιγνομένη.¹⁸⁶

Phantasia seems to be some sort of movement and not to occur without sense-perception but only in beings that perceive and of which there is perception, and it is possible for movement to occur due to the activity of sense-perception, and for that [movement] necessarily to be similar to sense-perception, [for] that movement could not possibly exist either without perception or in beings that cannot perceive, and accordingly it is possible for the being that possesses *phantasia* to do and experience many things, which are both true and false.

(...)

Phantasia would be a movement generated by actual sense-perception.

Phantasia, then, cannot exist without sense-perception; it is in fact wholly dependent on it. Without sense-perception, generation of *phantasmata* would not take place, and consequently *phantasia* would not be able to function. Dorothea Frede asserts that *phantasia* “does not have a faculty of its own but is ‘parasitic’ on sense perception”.¹⁸⁷ It is important, however, to realise that although *phantasmata* depend on sense-perception, they can and do exist independently of it after the act of sense-perception has ceased, and are altogether much longer-lived than the ‘real thing’.¹⁸⁸ This particular aspect of *phantasmata* is crucial to Aristotle's explanation of dreams, as we shall see below.

¹⁸⁶ 428b11-17; 429a1-2. Greek from *On the Soul* taken from Ross's edition (1967).

¹⁸⁷ D. Frede (1992), 281.

¹⁸⁸ Cf. 429a4-5: “imagination persists and are similar to perceptions (ἐμμένειν καὶ ὁμοίας εἶναι ταῖς αἰσθήσεσι)”. Cf. also van der Eijk (2003A), 31-2; D. Frede (1992), 285, 291; Holowchak (1996), 408; Hubert (1999), 102; Kahn (1979), 62. Sorabji explains that, in *On the Soul*, *phantasia* is both perceptual and post-perceptual appearance. Sorabji (1992), 197.

But if sense-perception and *phantasia* always occur simultaneously, there must be some way to distinguish between the two. Earlier, we mentioned Schofield's description of *phantasia*'s work field as that of 'non-paradigmatic sensory experiences'. Now is the time to elaborate on that phrase. Modrak helpfully explains:

Whether Aristotle describes a particular sensory apprehension as an instance of *aisthêsis* or of *phantasia* depends upon features of the total situation in which a subject is apprehended; these include states of the percipient and states of the external environment. Aristotle makes the choice depend upon the accuracy with which the external object is apprehended or, more precisely, the likelihood of it being accurately perceived. *Phantasia* occurs under conditions not conducive to veridical perception. (...) Aristotle uses *aisthêsis* and its cognates for cases of veridical perception.¹⁸⁹

Although I largely agree with Modrak's explanation, I would like to slightly moderate the division she puts forward in the last sentences. Since we have seen earlier that with every act of sense perception, *phantasmata* are generated, it seems to me that *phantasia* not so much replaces *aisthêsis*, but that it *prevails* over it under conditions that are not conducive to veridical perception, and that *aisthêsis* prevails in veridical perception. During the act of sense perception, *phantasia* appears to be something the percipient can fall back on if and when correct sense perception is compromised.¹⁹⁰ Aristotle recognises various different circumstances as 'not conducive to veridical perception', circumstances that would cause people to rely on their *phantasia*, like for instance emotional states, illness, or indeed sleep, the last of which is of

¹⁸⁹ Modrak (1987), 85.

¹⁹⁰ Earlier, we noted that the *phantastikon* = *aisthêtikon*, but that it is not always that *aisthêtikon* = *phantastikon*. In the acts of these faculties, matters seem to be reversed: whenever there is *aisthesis*, in the background there is also *phantasia*; but when there is *phantasia*, there is not always *aisthesis*. In the same vein, Schofield observes that "*phantasma* is sometimes contrasted with *aisthema*, as being a term appropriate to occasions where there may be no actual perceiving going on". Schofield (1978), 119.

course what we are concerned with in this chapter.¹⁹¹ Wijsenbeek-Wijler argues that in such abnormal mental states, “the *phantasmata* are not simply representations of the impressions of the common sense-faculty, but free associations which have no connection with reality”.¹⁹² In other words, under abnormal circumstances, when it is appropriate to speak of ‘*non-paradigmatic sensory experiences*’, *phantasia* seems to constitute the process of conjecture. Needless to say that this process cannot provide very reliable information.¹⁹³

Sense-experience, then, both in waking and in the sleeping state, can be divided into two groups:

1. Actual sense-perceptions are what we experience through the sense-organs when we are awake and perceiving under normal circumstances; the *noêtikon* and the *aisthêtikon* are actively at work here. The *phantastikon* plays a role in the background, for *phantasmata* are always formed;
2. In non-standard circumstances, such as illness (in the waking state), or sleep, the *phantastikon* is actively at work, providing *phantasmata* for sensory experiences. All sensory experiences we have in sleep, be they dreams or other sensory experiences, pertain to the *phantastikon*, for sleep is a non-standard condition, causing non-standard sensory experiences, even when it is in temporary partial coexistence with waking.

¹⁹¹ Dodds points out that Aristotle’s realisation that dreams, hallucinations and illusions are all of the same origin is remarkable. Cf. Dodds, 120.

¹⁹² Wijsenbeek-Wijler (1978), 221ff. Cf. also Holowchak (1996), 412: “stimulatory remnants stand in no discernible relation at all to the objects that give rise to them.”

¹⁹³ Schofield points out that the very nature of a *phantasma* compromises its infallibility to a point where it becomes impossible. Cf. Schofield (1978), 115. Modrak emphatically disagrees with this, claiming that “the feature that makes *phantasia* unreliable in some circumstances does not make it unreliable in all circumstances”. (Cf. Modrak, 84ff.) I would have to side with Schofield on this, as Modrak seems to overlook the fact that even if images or information is reasonably reliable, there is still an element of doubt or potential doubt, which is exactly what makes a *phantasma* unreliable; even if it does convey potentially accurate information, the fact that its accuracy is *potential* is reason enough to question it every time. Modrak argues that *aisthêsis* and *phantasia* are different in essence, something I would have to agree with; but that difference, to my mind, lies exactly in its trustworthiness! Aristotle himself states that “[perceptions] are always true, while imaginings are for the most part false” (*εἴτα αἱ [αἰσθησεις] μὲν ἀληθεῖς αἰεὶ, αἱ δὲ φαντασίαι γίνονται αἱ πλείους ψευδεῖς.*) (428a11-12).

To sum up: all effects of sense-experience are either actual sense-perceptions, or sense-movements *arising* from actual sense-perceptions, i.e. *phantasmata*.

3.3.2 Aristotle's dream theory: the mechanics

Aristotle commences his treatise on dreams with the question to which of the parts of the soul (τίνοι τῶν [μορίων] τῆς ψυχῆς) the dream pertains. It is immediately clear to him that there are only two options, the *aisthêtikon* or the *noêtikon*, because, as Aristotle argues, these are the only parts of the soul by which we can know anything.¹⁹⁴ However, in view of what he has explained with regard to sense perception in sleep, and how it is absent, he is quick to conclude that it cannot be the *aisthêtikon* – a conclusion he, somewhat feebly perhaps,¹⁹⁵ supports by putting forward the eyes, which are closed in sleep, as an example representative for all the senses.¹⁹⁶ Nor can it be the *noêtikon*, because opinion (δόξα), the only function of the *noêtikon* which may be affected in dreams,¹⁹⁷ cannot work without the sense information provided by the *aisthêtikon*. Yet experience tells us that there are cases in which we *do* seem to use our perception (αἴσθησις) and δόξα while we are sleeping, when in sleep we sometimes not only experience a *phantasma*, but we also think about that *phantasma* and have a certain *opinion* about it, just like when we are awake. This can, however, not be reconciled with what was concluded earlier, i.e. that our senses are incapacitated during sleep and that the perceptive part of the soul is inoperative. Strictly speaking, if neither the *aisthêtikon* nor the *noêtikon* is involved here, we should not be able to experience anything but dreams. At this point, it is still somewhat difficult to agree or disagree

¹⁹⁴ 458a33-b3. Van der Eijk points out that “the boundaries between the sensitive and the intellectual part of the soul are not always clearly drawn by Aristotle, and it is precisely here that faculties such as the ‘central sense organ’ and the ‘imagination’ are operative”. Cf. van der Eijk (2000), 65. It should not surprise us, then, that he displays such difficulty in identifying the psychic realm to which dreams belong.

¹⁹⁵ Cf. Wijsenbeek-Wijler (1978), 211: “The analogy by which Aristotle wants to prove that in sleep none of the senses perceive is unsound: the eyes are indeed shut and do not see, but this is not the case with the other senses.”

¹⁹⁶ 458b3-9.

¹⁹⁷ For a brief explanatory discussion of the relation between *doxa* and the *noêtikon*, see van der Eijk, 1994, 140-141.

with Aristotle, since he has not yet defined what a dream *is*; all we know so far is that dreams occur in sleep, when there is no possibility of perception, because the sense organs are inoperative, and hence there is no possibility of thought either, because thought depends on perception.¹⁹⁸ How, then, is it that experience contradicts theory? For Aristotle, thinking (*δόξα*), stands apart from the process of dreaming, and his solution to the problem is to acknowledge the possibility that there can be experiences in sleep besides the dream:

ἔτι παρὰ τὸ ἐνύπνιον ἐννοοῦμεν ἄλλο τι (...). οὕτω καὶ ἐν τοῖς ὕπνοις παρὰ τὰ φαντάσματα ἐνίοτε ἄλλα ἐννοοῦμεν.¹⁹⁹

Moreover, besides the dream we think something else (...). And so, in sleep we sometimes think about other things, besides the *phantasmata* [of the dream].

Of course, Aristotle is not speaking of thoughts that occur *in* a dream, but of thoughts that occur outside of the dream proper – although he does acknowledge they can, and usually do, have a bearing on it.²⁰⁰ From all this, it is clear to Aristotle that not all experiences in sleep fall under the heading of ‘dream’:²⁰¹

ὥστε δῆλον ὅτι οὐκ ἐνύπνιον πᾶν τὸ ἐν ὕπνῳ φάντασμα (...).²⁰²

Thus it is clear that not every *phantasma* in sleep is a dream (...).

¹⁹⁸ 458b10-15.

¹⁹⁹ 458b15/17-18. Cf. Wijsenbeek-Wijler (1978), 213. Van der Eijk points out that thinking does not know fatigue (van der Eijk (2003A), 29; (2005), 176-7); it should not surprise us, then, that this faculty can still be exercised in sleep.

²⁰⁰ Cf. van der Eijk (1994), 143.

²⁰¹ Cf. Wijsenbeek-Wijler (1978) 213: “Aristotle is ready to admit that the *δόξα* may interfere in a dream, but since he is wedded to the conviction that dreams are such belonged to the realm of the imagination alone, which is a function of the sensitive faculty of the soul, he is forced to set the phenomenon apart from the dream proper.”

²⁰² 458b24-5.

With such a statement, he does suggest, however, that every dream *is* a *phantasma*.²⁰³ This brings the astute reader in mind of the complicated relation between the *aisthêtikon* and the *phantastikon*, and it is possible, with previous information on *phantasia* in mind, to anticipate where Aristotle is going with his argument.²⁰⁴ An additional point of interest here is the fact that, apparently, dreams and other types of experience in sleep can occur *simultaneously*. In the course of the treatise, it becomes clear that this is directly linked to the different ‘gradations’ of sleep mentioned earlier.

However, the images we see in sleep, Aristotle muses, must be a form of perception, some particular way in which the *aisthêtikon* is utilised. But it cannot be the normal way, or otherwise we would just perceive in sleep. Aristotle's solution is as follows: it may be true that in sleep we do not perceive, but it is not true that the *aisthêtikon* is unaffected.²⁰⁵ To account for this new turn of events, Aristotle now introduces the *phantastikon* into the discussion. As we have seen above, this faculty is the driving force behind imagination, and as such, it also plays a key role in the deception of the senses. As has been said, the field of operation for the *phantastikon* is that of Schofield's ‘non-paradigmatic sensory experiences’, and here Aristotle gives an explanation of how that works, with a focus on this deceptive power of *phantasia*.²⁰⁶ Not only in a condition of illness – when in hallucination we see distorted images or even things that are not there – but also when, in a state of full health, we think, for instance, that the sun is only a foot wide, although in truth it is of course much larger, the *phantastikon* may mislead us in waking; so, too, it may do in sleep. That is how, in sleep, we sometimes experience *phantasmata* which

²⁰³ Aristotle suggests as much in 459a18-19, and confirms it in 462a15-16.

²⁰⁴ Aristotle presupposes familiarity with the study of the soul (459a14-15); it is even possible that the *De Anima* and the *Parva Naturalia* are part of one continuous exposition. Cf. van der Eijk (2005), 175; Kahn (1979), 49, 61; Lloyd (1978), 215; Wijsenbeek-Wijler (1978), 214.

²⁰⁵ 458b25-459a3.

²⁰⁶ Cf. Wijsenbeek-Wijler (1978), 221.

have their origin in real sense objects but have, because of sleep, become distorted.²⁰⁷ However, as stated before, such experiences cannot be dreams, for it has been established that we do not use sense-perception (*αἴσθησις*) in sleep. Or do we?

Now that the dormancy of the *aisthêtikon* has been modified, it is only logical that Aristotle should move on to re-evaluate the state of the peripheral sense-organs. Maybe it is true that we do not actively *perceive* during sleep, Aristotle puts forward, but not true that the senses are *unaffected*.²⁰⁸ In light of the premise that the sense organs are indeed inoperative, but also taking into account that experience teaches that we somehow experience sense-impressions at the same time, it could be that each of the sense affections (*πάσχειν τι*) somehow makes an impression upon the *aisthêtikon*, though not quite in the same way as when we are awake, or we would be able to see and hear normally when asleep. And sometimes we know in sleep that what we perceive is not correct, because *δόξα* tells us so – another hint that there must be more to the condition of the senses, seeing as it has been established that judgment is based on sense-perception – and sometimes, when this function is clouded, we do not.²⁰⁹ This would mean, Aristotle admits, that contrary to earlier suppositions, dreaming *does* belong to the *aisthêtikon* although not in the normal sense: dreaming, the experience of seeing images while the senses do not perceive, must be an activity of the *phantastikon*, and a dream a sort of image (*τὸ δ' ἐνύπνιον φάντασμα τι φαίνεται εἶναι*).²¹⁰ So, although dreams are a product of the *aisthêtikon*, they are that only as far as this faculty's function coincides with that of the *phantastikon*.²¹¹

It is the preservation of sense-movements (*κινήσεις*) – *phantasmata* – that makes it possible for the *aisthêtikon* to function, through the *phantastikon*, when there is no sense-

²⁰⁷ 458b26-459a1.

²⁰⁸ 459a1-3. Cf. van der Eijk (2003A), 30.

²⁰⁹ 459a7-8.

²¹⁰ 459a18-19.

²¹¹ 459a15-22.

perception.²¹² Aristotle likens this preservation, or persistence, to the continued movement of projectiles after they have been thrown,²¹³ heat that is passed on after it has left its source,²¹⁴ images that remain visible even after perception,²¹⁵ and strong sensations, such as sound and smell, which may linger or even cause permanent damage to sense-organs.²¹⁶ Not only do sense-movements persist after sense-perception has ceased, they are also generated quickly and as a result of even the slightest differences (ὅτι μὲν οὖν καὶ ὑπὸ τῶν μικρῶν διαφορῶν γίνεται κίνησις, καὶ ὅτι ταχεῖα ἡ αἴσθησις).²¹⁷ As has already been said in our discussion of *phantasia*, the standard workings of the *aisthêtikon* may be compromised by emotional or physical conditions. In excitement, for instance, we may perceive things differently, even falsely; or perception may be manipulated under the influence of our emotions, or due to illness – because when *aisthêsis* cannot function properly, the *phantastikon* comes into action; and the workings of *phantasia* are based upon resemblance, which allows error.²¹⁸ We recognise these circumstances as classic cases of non-standard sensory experience. The stronger the emotions are, or the heavier the illness – in short: the less standard sensory experiences are – the less resemblance is necessary between the actual sense-object and the object we think we perceive.²¹⁹ When the confusing influence is not too strong, and the perceptual circumstances are closer to standard, we will realise that what we see is not real. Yet sometimes, we do not come to this realisation, and fail to recognise that what we perceive is not what we thought it was, or is in fact not there at all.²²⁰

²¹² 459a23-27; 459b6-8.

²¹³ 459a29-459b1.

²¹⁴ 459b2-6.

²¹⁵ 459b8-21.

²¹⁶ 459b21-23. Aristotle has the interesting notion that perception is both passive and active, and that perception leaves an effect on the object of sense-perception, just as the object of sense-perception leaves an effect on the organ by which it is perceived. Vision, for example, is not only affected by the object seen, it also has an effect upon it, which remains after the act of perception as well. He explains this using the example of mirrors, which turn red when a woman in her menstrual period looks at them (459b24-460a23) and wines and perfumes that easily assume the scent of things in their vicinity (460a27-33).

²¹⁷ 460a23-4.

²¹⁸ Cf. Modrak (1987), 104.

²¹⁹ 460a4-8.

²²⁰ 460a14-16.

Deception is usually avoided because the discerning principle (κύριον [αἰσθητήριον]) normally ‘tests’ images for correctness.²²¹ In doing this, it does not base judgement on just the information provided by the perceiving sense-organ, the perceiving power (δύναμις), but also on the information provided by other senses – and that is just as well, or we would always believe everything we perceive (or think we perceive).²²² If one sense has more authority than another, the information coming from the ‘inferior’ sense is overruled. But if the discerning principle itself is hindered in some way, the result is that all perception is held to be true, since there is nothing to verify it. And this is exactly what happens in sleep, because sleep itself is a confounding influence on the discerning principle and causes non-standard sensory experiences.²²³

It is clear now that sense-movements that arise from sense-perception – i.e. *phantasmata* –, both those with an external origin, and those with an internal origin (such as sensations of pain and pleasure),²²⁴ may be presented to us not only when we are awake, but also, and even more so, when we are asleep.²²⁵ During the day, they are eclipsed due to the activity of the senses and the intellect.²²⁶ In sleep, however, when the senses are inactive,²²⁷ and the heat changes its course

²²¹ Van der Eijk explains as follows: “the central sense faculty is responsible for coordinating the individual senses, for sensational awareness, for judging the truth of our perceptions, and for deciding between conflicting sense-data; it is also responsible for perception of the so-called common sensibles, such as number, size, shape, movement, and rest.” See van der Eijk (2000), 65. With regard to the dominant position of the common sensorium D. Frede states: “the dominant role of the common sense is only indicated in the *On the Soul* and further elaborated in the *Parva Naturalia*. (...) the inner sense is not a faculty above the different senses but only their centre, where all the different perceptions converge.” D. Frede (1992), 284. Cf. also Hubert (1999), 77; Kahn (1979), 56; Modrak (1987), 55ff.

²²² 460b16-22.

²²³ Aristotle makes an interesting point with regard to the origin of the stimulus: deception can occur, he argues, not only when the object of perception provides the stimulus, but also when the stimulus comes from the perceiving sense itself (460b23-7). See discussion on this in van der Eijk, 1994, 202-4.

²²⁴ Wijsenbeek-Wijler interprets the sense-movements that have an internal origin to refer to “the involuntary movements due to bodily processes, particularly the digestive process”. Cf. Wijsenbeek-Wijler (1978), 226. I do not believe that bodily processes are meant here, and I agree with van der Eijk (1994), 208 that sensations like pain or pleasure are indicated, because these deviate from normality, whereas processes like digestion are natural to it. It would be absurd for the body to (have to) notice/perceive all the autonomous processes that are going on within it at all times; pain and pleasure, on the other hand, are anomalous, which makes it worthwhile to notice those.

²²⁵ 460b28-461a8.

²²⁶ 460b32-461a1.

towards the inner regions of the body – as does the blood²²⁸ – the sense-movements that have persisted in the individual sense-organs, even the smallest ones (καὶ τὰ μικρά), become noticeable, and it is these lingering movements that form the basis of the experience of the dream.²²⁹ They are ‘latent’, so to say, during the day, from the moment of their formation to the moment at which sleep sets in; and when that happens, they are ‘re-activated’ – or, as van der Eijk has it, they receive a ‘second chance’ to be perceived.²³⁰ Aristotle explains the mechanics of this process as follows. Any lingering sense-movements are set in motion in what blood is left in the sense-organs, and are very much like (ἔχουσιν ὁμοιότητα) the original sense-impression. However, if there is too much turbulence within the body, caused by, for example, hot matter arising from the digestive process,²³¹ the sense-movements are disturbed and the images that arise may be corrupted and form dreams with representations of monstrosities or other confused and morbid depictions. It is also possible that a movement is borne away completely, and that it never produces an image.²³² People in whom there is much turbulence and movement – such as people with fever or intoxication, or melancholics, all “airy” (πνευματώδης) conditions that produce much movement and commotion²³³ – are logically more prone to experiencing dreams containing distorted imagery or no dreams at all.²³⁴ On the other hand, people whose bodies contain little

²²⁷ Van der Eijk correctly observes here that Aristotle fails to determine the state of the mind (διάνοια) during sleep, and whether it is inactive as the senses are, and thus fails to explain why the mind is no factor of disturbance to the sense-movements in sleep. See van der Eijk (1994), 211; (2003A), 28.

²²⁸ 461b11. See Chapter 2, p.136 n.204 on the role of the blood in sense perception.

²²⁹ One of the problems van der Eijk points out here concerns the nature of the sense-movements that constitute dreams. He wonders whether Aristotle means *all* types of left-over movements, or just those that have their origin in small, weak sense-movements. I have opted for the former, i.e. that lingering sense-movements, *arising* from sense-perceptions, are weaker *per se* than actual sense-perceptions, and as such they belong to the group of small movements. Further to this, see the discussion of the role of dreams in medical practice below. Cf. van der Eijk (1994), 205, 210, 213ff.

²³⁰ Cf. van der Eijk (2003A), 31.

²³¹ Cf. e.g. 457b1-4. See also van der Eijk (1994), 211-212.

²³² 461a17-25. Van der Eijk (2003A), 27 observes: “The connection between what we perceive in the daytime and what appears to us in sleep is rarely straightforward.”

²³³ 461a22-25.

²³⁴ 462b4-5.

turbulence will experience clearer and even prophetic imagery: melancholics, surprisingly,²³⁵ also fall into this latter category. We will return to them in a moment. As we have seen, the discerning principle (*τὸ κύριον αἰσθητήριον*) verifies the reports from each sense before confirming them, giving them truth-status only when they are not contradicted by more authoritative information. Should this discerning principle in some way be impeded, then all reports receive truth-status. Sleep, as we have seen, forms such an impediment upon the discerning principle. It is because of this that the images we see in sleep, even when there are no disturbances in the body, only require a very remote resemblance to the object itself to be confused with it.²³⁶ On the other hand, it is also possible that ‘something in the soul’ (*τι ἐν τῇ ψυχῇ*) will tell the dreamer that he is asleep.²³⁷

Recapitulating, Aristotle declares that it is now clear that the dream is a product of the *φανταστικόν*, one that has its manifestation in sleep.²³⁸ It is, however, only one of several forms of mental images in sleep,²³⁹ for all the images we see in sleep when the senses are operational are not dreams.²⁴⁰ Aristotle concludes:

*ἀλλὰ τὸ φάντασμα τὸ ἀπὸ τῆς κινήσεως τῶν αἰσθημάτων, ὅταν ἐν τῷ καθεύδειν ᾗ, ᾗ καθεύδει, τοῦτ' ἐστὶν ἐνύπνιον.*²⁴¹

²³⁵ This inconsistency has also been acknowledged in previous scholarship. A possible explanation for its occurrence is provided by van der Eijk, who suggests that whether a dream is clear or disturbed depends on the melancholic's physiological condition at the time of its occurrence. Cf. van der Eijk (1990), esp. 39-46.

²³⁶ 461b3-11.

²³⁷ 462a5-7.

²³⁸ Cox Miller's remark that according to Aristotle, in essence, dreams are a product of the digestive process is ultimately incorrect. True, it is due to digestive processes that sleep ensues, and that the movement of heat, and so of blood, provides a vehicle for sense-movements, but it is only the conditions thus created, not the digestive processes, that play a part in the formation of dreams. I would even say that the digestive processes disturb rather than produce dreams (cf. 462a17-25). Cf. Cox Miller, 43

²³⁹ 462a16-17.

²⁴⁰ It is perhaps better to call this a state between sleeping and waking, as the senses do not work in a state of *complete* sleep. Not so much in sleep but on the way to waking up, in a state of half-waking, can we perceive. So it turns out that the distinction between sleep and waking is not a rigid one, and that we can be 'partly' asleep, or 'partly' awake. Cf. van der Eijk, 2003A, 32-33; Godderis, 597

²⁴¹ 462a30-32.

But [it is] only the *phantasma* made up of the movement of sense-perceptions, when one is asleep, in so far one is asleep, that is a dream.

And here we see evidence of Aristotle's remarkably modern notion of different degrees of sleep mentioned in the beginning of this section. Since he has established that the senses are not operational during sleep proper, but there are still processes in sleep that indicate a certain perceptual activity, it is evident that there must be different degrees of sleep, since we cannot be *properly* asleep when we perceive things.²⁴²

3.3.3 *Dreams and melancholy*

Let us briefly consider the position of melancholics in Aristotle's account of dreams and divination.²⁴³ According to Aristotle, melancholics are a group of people especially likely to have clear and prophetic dreams: they are *προορατικοί* and *εὐθυόνειροι*.²⁴⁴ Aristotle offers a fragmented tripartite explanation for this spread over his works on sleep and dreams.²⁴⁵

The first part we find in *On Sleep and Waking*. Aristotle explains that people in whom melancholy, black bile, is dominant, are not prone to sleep, because the nutrient area (*θρεπτικὸς τόπος*) is cold due to the presence of black bile – which is very cold by nature. As a result of this lack of heat, there is no mass exhalation (*πλῆθος ἀναθυμιάσεως*), which, as we have seen, is a requirement for sleep to set in.²⁴⁶ If they do sleep,²⁴⁷ the fact that there is no mass exhalation also

²⁴² Cf. van der Eijk (2003A), 33; Hubert (1999), 81-90.

²⁴³ To discuss melancholy in Aristotelian thought is beyond the scope of this thesis. For a thorough discussion, cf. van der Eijk (1990). Cf. also *Problema* XXX.1 (953a10-955a40), which treats of melancholy and its effects. Cf. Klibansky/Panowsky/Saxl (1964); Pigeaud (1988B); Flashar (1962); van der Eijk (2001).

²⁴⁴ 463b16-17.

²⁴⁵ I say tripartite, since the only other mention of melancholics, in *On Dreams*, goes toward an explanation of how dreams can contain disturbed imagery.

²⁴⁶ 457a27-33.

²⁴⁷ How sleep can come about for melancholics remains unclear, though that they must sleep on occasion is a given, as otherwise they would not experience dreams. It seems likely that what little exhalation there is still somehow manages to incapacitate the primary sense organ.

means that there is no, or very little, turbulence to disturb the sense-movements on their way to resurface as dreams, which makes their path straight (εὐθύς) – and the dreamer εὐθυόνειρος.²⁴⁸ The second part we encounter in *On Divination in Sleep*, where it is pointed out that dreams cannot be sent by God, because he would not send them to ordinary people, but to the best and wisest.²⁴⁹ Dreams are, however, daemonic, for nature is daemonic, and it is by nature that we have dreams at all. It is also by nature that melancholics have prophetic dreams. Due to their changeable nature, melancholics have all kinds of visions (πάντοδαπὰς ὅψεις ὁρῶσιν) – as do people who have a talkative nature (λάλος φύσις). The reasoning behind this is that their powers of association are so strong that they can jump from one vision to another in a split second, much faster than any ‘normal’ person would be able to do. Thus, they experience so many sense-movements, that, statistically, for some of these to have a bearing on real events is practically unavoidable: after all, when throwing dice often enough, one eventually will be lucky.²⁵⁰ This characteristic speedy changeability (μεταβλητικὸν ταχὺ),²⁵¹ ties in beautifully with the last part of Aristotle’s explanation for the frequency of melancholics’ clear and prophetic dreams. For it is not enough to experience a great quantity of sense-movements, one must also have the ability to focus on them, or, as Aristotle puts it, one must have enough intensity (τὸ σφοδρόν) to keep one movement from being knocked out of the way by another.²⁵² The intensity refers to the melancholic’s ability to stay with his own ‘chain of association’, without being disturbed by other movements in the body, sensory or otherwise.²⁵³ To paraphrase: due to their cool interiors, melancholics’ bodies contain less movements that can disturb the sense-movements dreams are made of; in addition, they experience a much greater number of sense-movements than a ‘normal’ person, but they are

²⁴⁸ Cf. van der Eijk (1990), 43. Van der Eijk also rightly observes here that a dream image need not be undisturbed to be prophetic, even though disturbance obviously complicates interpretation.

²⁴⁹ Cf. 462b20-22.

²⁵⁰ 463b16-22. In reference to this, see also 453a18-22, where Aristotle points out that melancholics have little to no control over the surfacing of sense-movements in the process of remembering.

²⁵¹ 464b1.

²⁵² 464a32-464b6.

²⁵³ Cf. van der Eijk (1990), 41. This is an extremely complicated passage.

also naturally adept at navigating their way through these by means of swift association. Owing to the great quantity of sense-movements they experience, a melancholic is, statistically, more likely to have a prophetic dream, which is why they receive the epithets *προορατικοί* and *εὐθυόνειροι*.²⁵⁴

It would seem that Aristotle had a sound bio-physiological explanation for the fact that some types of people are more prone to having clear and prophetic dreams than others. The observant reader may have been brought in mind of the way phrenitis was associated with vivid (*ἐναργής*) dreams by the Hippocratic *Prorrhetic* I, and later by Galen.²⁵⁵ They saw in vivid dreams a sign of dryness of the body and (impending) phrenitis. If we reserve Aristotle's line of inquiry, he could be suggesting something similar, i.e. that people who often have clear and prophetic dreams are likely to be melancholics; it is doubtful, however, that he, not being a physician, would ever find it necessary to pursue such a course of action. That is not to say that his reasoning could not go some way towards explaining Aristotle's belief in the potential medical importance of dreams, other than the prominent status of the physicians who authored this notion.²⁵⁶

3.3.4 *The usefulness of dreams*

Now that Aristotle has provided three of the four causes of dreams – the material cause: *phantasmata*, the efficient cause: *phantasia*, and the formal cause: a definition of what a dream is – it is only logical that he would go in search of the fourth and last cause, the final cause. He seems to be doing this in *On Divination from Sleep*. Based on contemporary popular opinion, dream divination is a likely candidate. Aristotle, however, is extremely sceptical of this practice:

²⁵⁴ For a more elaborate treatment of melancholy in the *Parva Naturalia*, cf. van der Eijk (1990), 36-45.

²⁵⁵ Cf. *Hip.Prorrh.I.1.5* (5.512 L.); *Gal.Loc.Aff.IV.2*; *V.4* (8.227; 329-30 K.); *In Hip.Prorrh.I.1.5* (16.525-6 K.).

²⁵⁶ 463a3-7. See also 3.3.4. below.

even though many people believe in it, and even though there have been cases in which the future was foreseen in dreams, showing that it is not a case of blind belief, but one based on empirical evidence, there is no one *reasonable* explanation for the possibility that knowledge of the future could be contained in dreams. The only other option, namely that God would be responsible for prophetic dreams, Aristotle finds preposterous.²⁵⁷ That said, Aristotle goes on to refute the possibility of dream divination by systematically discussing all possibilities.

As Aristotle sees it, there are three possibilities: dreams can be causes (*αἴτια*), signs (*σημεῖα*) or coincidences (*συμπτώματα*). A combination of two or all of these may also occur. Dreams can be causes in the sense that they can incite the dreamer to do what he dreams; it is a perfect example of the self-fulfilling prophecy. As signs, dreams may be the result of events or thoughts that occurred during the day or of something that is in the process of happening.²⁵⁸ The two functions of cause and sign may be combined in a dream as follows: on the one hand, a dream may arise as a sign of something that was contemplated or (in the process of being) done during the previous day, and on the other hand a dream – or more precisely: the same dream – may be the cause of some action that will be undertaken the next day, *because* the dreamer dreamt of it.²⁵⁹ Most ‘prophetic’ dreams, however, belong in the last group, that of coincidences, especially dreams that are concerned with things outside the dreamer’s life and scope of experience, and those whose cause simply cannot have their origin in the dreamer. It is apparent, in such cases, that there is no link between the dreamer and the subject of the dream, and this can easily be recognised as a case of coincidence. Divination through such dreams, therefore, is also

²⁵⁷ 462b12-24.
²⁵⁸ 462b28-32. If one were to think of the occurrence of an event as a timeline, cause C would logically *only* be located at the beginning of the timeline, while sign S could appear anywhere on the timeline *except* at the beginning, for if it were located there, it would be a cause:
 0 _____ end
 C|-----S----->|
²⁵⁹ 463a22-32. To further the analogue of the timeline: in this combination of functions, sign S has been placed at the beginning of a timeline – not the beginning of *the same* timeline on which it functioned as a sign, but the beginning of *another* timeline – and has therefore become a cause *as well* as a sign.

purely coincidental, even though it may seem purposeful. The reason why many dreams have no fulfilment is that it very seldom occurs that a dream is actually followed by an event that matches it.²⁶⁰

In all his scepticism, however, Aristotle makes one exception: dreams could be of use in medical practice:

ἀρ' οὖν ἐστὶ τῶν ἐνυπνίων τὰ μὲν αἷτια, τὰ δὲ σημεῖα, οἷον τῶν περὶ τὸ σῶμα συμβαινόντων; λέγουσι γοῦν καὶ τῶν ἰατρῶν οἱ χαρίεντες ὅτι δεῖ σφόδρα προσέχειν τοῖς ἐνυπνίοις· εὖλογον δὲ οὕτως ὑπολαβεῖν καὶ τοῖς μὴ τεχνίταις μὲν, σκοπουμένοις δέ τι καὶ φιλοσοφοῦσιν.²⁶¹

Is it true, then, that some dreams are causes, and others signs, for instance of things that are happening with regard to the body? In any case, the distinguished among physicians²⁶² also say that it is necessary to pay close attention to dreams. And it makes good sense to think that way, even for those non-specialists who are taking an interest in something and examining it.

While Aristotle seems to be well aware of the medical views of his time,²⁶³ this does not mean he copied them. In the case of dreams, he provides a theoretical background of his own to accommodate the view that it is possible to gain medical information from a patient's dreams, based on the information about the dreaming process provided in *On Dreams*. It is this theoretical background that is of particular interest to us in our current investigation.

Further to what he has explained in 460b32-461a3, Aristotle now points out that, by day, small, weak sense-perceptions may be eclipsed by larger, stronger sense-perceptions. The

²⁶⁰ 462b32-463a2; 463b1-11.

²⁶¹ 463a3-7.

²⁶² For a more elaborate discussion of Aristotle's usage of the word combination 'distinguished physicians', see van der Eijk (1995). Van der Eijk observes that it is possibly a reference to the Hippocratic author of *On Regimen*. Cf. van der Eijk (1993A), 158; (1995), 451; (2005), 198. While I do not deny this, I would suggest a broader approach: as we have seen in the first section of this chapter, the author of *On Regimen* appeared not to be alone in his views.

²⁶³ On Aristotle's familiarity with contemporary medical views, see Oser-Grote (2004), and Lloyd (1978).

difference with the passage from *On Dreams* lies in the fact that, in that particular passage, he was referring to the dominance of sense-perceptions over movements *arising* from sense-perceptions, while, here, he distinguishes between smaller and greater sense-perceptions. In sleep, however, matters are reversed (ἐν δὲ τῷ καθεύδειν τοῦναντίον), and small sense-perceptions seem to be big. To support this proposition, he even provides empirical evidence: in sleep, people may think there is lightning and thunder, while in reality they are hearing only soft sounds; or they may think they taste honey and sweet things, while in truth a small drop of phlegm runs down their throats; or they may even think that they are walking through fire and experience great heat, when really only some parts of their bodies are warming up a little.²⁶⁴

At this point, it is necessary to clarify a few things. There appears to be an oversight in Aristotle's reasoning: if it is true that small sense-perceptions are magnified in sleep, what happens to large sense perceptions? In his commentary, van der Eijk provides several possible solutions to this problem, all depending on the interpretation of τοῦναντίον. Possibility 1: the sense-movements that have arisen from the small sense-perceptions that were eclipsed in waking become clearly noticeable during sleep in the form of dreams. Possibility 2: in sleep, strong sense-perceptions remain unnoticed, while weak sense-perceptions are all the more clear. This second possibility is subdivided: either Aristotle is referring to sense-movements that have arisen *from* diurnal sense-perceptions, i.e. *phantasmata*, and we only notice those that have their origin in small ones, because the larger ones have already been 'processed' in the waking state; or he is referring to *actual* sense-perceptions in sleep, indicating that strong sense-perceptions go unnoticed in sleep, while weak sense-perceptions are experienced – in this case, sleep apparently provides some sort of filter that keeps large sense-perceptions out, and magnifies small ones.²⁶⁵ Van der Eijk dismisses this last option on the grounds that it is in contradiction with the dream

²⁶⁴ 463a8-17.

²⁶⁵ Van der Eijk (1994), 274-5.

theory postulated in *On Dreams*, while the other options are easily reconciled with it. Aristotle, however, never indicates that he is talking about *dreams* here, yet this is exactly what most interpreters assume.²⁶⁶ In commentary on passage 462a15-31 from *On Dreams*, Gallop observes that it is a 'Freudian misreading of Aristotle to suppose that in this paragraph he is considering the type of dream in which external stimuli become woven into its content in altered form'.²⁶⁷ I would suggest that the same applies here. The examples in support of Aristotle's argument cannot be dreams – apart from the fact that they are actual sense-perceptions, this may also be indicated by the use of *οἶονται*, which could betray activity of the *noêtikon* –,²⁶⁸ which to me suggests that the *κινήσεις* he is talking about here concern actual sense-perceptions. If that is the case, then van der Eijk's last possibility could apply – and I think it does: Aristotle is speaking of the antithetic properties of sleep, rather than of dreams. As a bonus, this option even accommodates Aristotle's seemingly contradictory remark in 462a19-26, about perception in sleep being '*ἀσθενικῶς καὶ οἶον πόρρωθεν*': if it is true that sleep inverts any perceptual experiences, it seems only reasonable that normal sense-perceptions would be experienced as being 'faint and as it were from far away', while small sense-perceptions become all the more noticeable – perhaps Aristotle's theory is more consistent than it seems. All this is not to say that van der Eijk's other two options are obsolete. It is as Aristotle argues: all *ἀρχαί* are small, so, too, are the *ἀρχαί* of diseases and other anomalies within the body; and as he has just proven that the condition of sleep allows for the perception of even the smallest movements, it seems only logical that any beginning affection of the body is more likely to be noticed in sleep than in waking, be it an actual sense-perception, or a sense-movement *arising* from a sense-perception,

²⁶⁶ E.g. Kany-Turpin-Pellegrin (1989), 225, 237; Wijsenbeek-Wijler (1978), 240. Gallop also notes that Aristotle does *not* call these experiences dreams. Cf. Gallop (1996), 160.

²⁶⁷ Gallop (1996), 154. Van der Eijk gives a more elaborate account of this misunderstanding. Cf. van der Eijk (1994), 214.

²⁶⁸ Cf. van der Eijk (1994), 275.

i.e. a *phantasma*, or dream.²⁶⁹ A final problem with this passage could be posed by the fact that Aristotle is giving this whole explanation to account for distinguished physicians' belief in the use of *dreams* for medical practice. I believe there is an easy solution to this problem, as for everyone but Aristotle all experiences in sleep would fall under the heading of dreams (*en-hupnia*, 'things in sleep'); it seems highly unlikely that anyone but Aristotle would make such a clear distinction between dreams and other sensory experiences in sleep. The only thing our philosopher can then be accused of is not applying his own definitions consistently.

In the second book of the treatise, Aristotle adds an element of caution for those who would trust too much in the information contained in dreams. As said before, it has not escaped Aristotle's notice that many, even most dreams do not 'come true', but he does not find this surprising at all. For Aristotle, there is no difference between signs concerning the body (*τῶν ἐν τοῖς σώμασι σημείων*), or signs that appear in the heavens, like for instance those that indicate rain and wind. In all cases, Aristotle's reasoning is the same: signs of things may present themselves, but after that, these signs may be annihilated (*διελύθη*) by more powerful signs, so that the event that was supposed to follow the first sign will in fact be replaced by the event that follows the second sign – unless, of course, that sign is overshadowed as well. So it can be that what was going to happen in the past is not necessarily what is happening now, just as what is now going to happen is not necessarily what will be happening in the future.²⁷⁰ In the end, this is only good news for the medical profession, because it means that if a patient's dreams indicate a certain affection of the body, it is not inevitable that this affection will eventually manifest itself; the future is not set, and it does indeed matter whether a patient is treated or not – although this may put some pressure on a correct understanding of the signs.

²⁶⁹ 463a18-21.

²⁷⁰ 463b23-32. Aristotle expresses the difference between what is going to happen and what will in fact happen by contrasting *τὸ μέλλον* and *τὸ ἐσόμενον*. Cf. van der Eijk (1994), 303.

And this brings us to the last point of interest within this treatise: the interpretation of dreams. Aristotle does not seem to display any interest in the contents of dreams,²⁷¹ and on the whole seems to consider them poor sources of information. However, although it is true that Aristotle does not speak of the contents of dreams in an interpretive fashion, we have to recognise the fact that the whole of *On Divination in Sleep* is of course dedicated to dream content – though perhaps not in the strict sense he has expounded in *On Dreams*. It has been mentioned that, in his explanation of the medical uses of dreams, Aristotle may have been referring to the fourth book of *On Regimen*, whose author expressly concerns himself with the interpretation of dream-images. We have to realise that in this Hippocratic treatise, there is an underlying process of conversion which is not explained, a translation from physical ailments to allegorical imagery. It should be noted that Aristotle does not say anything about the *phantasmata* connected to the ‘beginnings of illnesses’, although his theory seems to suggest that they would be anything but visual. If indeed he is attempting to accommodate the theory of medical dreams as put forward in *On Regimen*, he seems to be overlooking the detail of conversion as well. More likely is that he merely wants to provide a reason why physicians say that ‘close attention should be paid to dreams’, without having to agree with the interpretative methods employed in for instance *On Regimen*. Nonetheless, he does give some indication as to the sort of people who would make good dream interpreters:

τεχνικώτατος δ' ἐστὶ κριτὴς ἐνυπνίων ὅστις δύναται τὰς ὁμοιότητας θεωρεῖν.²⁷²

But the most skilled interpreter of dreams is he who can spot similarities.

²⁷¹ Cf. van der Eijk (2005), 171.

²⁷² 464b5-7.

Anyone can interpret clear dreams (*εὐθυνοειρίας*), but it is a whole different matter to detect similarities between dreams and reality when the likeness between the two is heavily distorted and very remote, something we have seen is only too often the case.

Let us now briefly reconsider the topic of Aristotle's four causes, or more precisely, the final cause of dreams. According to his maxim, 'nature does nothing in vain',²⁷³ one would expect Aristotle to have come up with a specific function for dreams. But in this, it would seem we are sorely disappointed. For although Aristotle is not unwilling to allow some function for dreams, an underlying teleological pattern is missing.²⁷⁴

The way Aristotle approaches the phenomenon of the dream, taking up a standpoint against the ruling belief that dreams were a way of the gods to disclose truth and future events to man, is atypical of the ancient world, though not atypical of the budding 'scientific' approach we also encountered in the Hippocratic Corpus. But despite the sceptical attitude he adopts, he still seems to have believed in the possibility – however small – that dreams might have some prophetic value, and he does his utmost to provide a rational explanation for prophetic dream experiences, the existence of which he reluctantly acknowledges,²⁷⁵ in lieu of the popular superstitions that he rejects as being absurd. In addition to that, he feels the need to accommodate the views of his colleagues in rationality, the 'distinguished physicians', and finds a way to fit their appreciation of the dream into his altogether dismissive theory. Noteworthy is that, although Aristotle does recognise the *use* of medical dreams, he does not seem to think they exist expressly for that

²⁷³ For references, see Gallop (1989) 259 n.3.

²⁷⁴ Cf. Wijsenbeek-Wijler (1978), 216, 234ff.; Gallop (1989), 262ff., 272; van der Eijk ('2005), 179, 204; Morel (2007), 62. Not everyone agrees here; Polansky, for instance, remarks: "Aristotle hardly offers argument that functionality of dreams is impossible, and I doubt he would ever do so." He further believes that "if the imagination has an important function, which it surely does, then the various types of imagination should not be functionless." Cf. Polansky (1989), 294ff. It does seem strange that Aristotle would not assign dreams any purpose – what he *does*, is expressly *deny* them the purpose of being vehicles for divine communication (463b12-15). Interesting is that, apparently, there is room for an almost Democritean type of quasi-prophetic dreams. Cf. 464a1-27. Cf. Morel (2007), 56.

²⁷⁵ Van der Eijk points out that Aristotle does not speak of actual *knowledge* of the future; clairvoyance is a matter of pure luck and therefore cannot be of much use to anyone. Cf. van der Eijk (2003B), 34.

purpose. They are merely the product of physiological processes, which may or may not be used to our advantage.

3.4 Conclusions to chapter 3

3.4.1 *Hippocratics*

In *On Regimen*, dreams are presented as a diagnostic tool. Not all dreams, however, are of this nature; some dreams are prophetic rather than medical. The origin of medical, diagnostic dreams is the soul, which, autonomous in sleep, observes the body and ‘reports’ any impending trouble via dreams. If a physician can interpret such dreams correctly, he will be able to cast a *prodiagnôsis*, and based on that adapt his patient’s regimen so as to prevent disease. In the interpretation of dreams, the author of *On Regimen* sees a correlation between the way in which dream-images are portrayed and their meaning for the dreamer. In the dream book, various dream principles can be recognised – sometimes overlapping – which aid the interpretation of medical dreams, most notably: similarity is good, dissimilarity is bad; there may be a microcosmos-macrocosmos relation between a dream and its meaning; a dream may contain symbolism; and lastly, a dream can be wishfulfilment.

After analysis of all the passages in the Hippocratic Corpus that mention dreams in one way or another, we see that *On Regimen* was not the only one interested in the medical significance of dreams. In *Epidemics VI*, for instance, we also encounter the notion of the autonomously operating soul in sleep; in *On the Sacred Disease* we find a wholly physiological explanation for the occurrence of nightly fears and anxieties, and a special interest in dreams that disturb sleep, like nightmares; *On Breaths* provides a physiological explanation for the occurrence of dreams in general; *On Generation* gives the physiological details of the process that leads to wet dreams, which may well have been considered as a sign of heat in the body by a

number of Hippocratic authors; and in *Diseases*, *Internal Affections* and *On Regimen* IV alike, there appears to be a link between bile and fear. There are also several treatises that merely emphasise the importance of dreams in medical practice: *Humours* points out that one should pay attention to a patient's dreams and actions in sleep; *Prorrhetic* I calls attention to the fact that clear, vivid dreams are a symptom of phrenitis; *Ancient Medicine* sees a connection between the state of the stomach and experiencing turbulent dreams, and warns that such dreams often indicate oncoming illness; and of course, the *Epidemics* I checklist features the type and time of dreams in the summation of symptoms. Among these various different views on dreams and their content, and on the use to which dreams were to be put, we can distinguish two different aspects of dreams: dream *imagery*, which, in a medical context, can be interpreted to reveal information about the condition of the body of the dreamer (notably *Vict.*IV and *Epid.*VI.8.9-10), and the *character* of dreams, to which a direct meaning is attached, varying from precise (e.g. fear indicates bile, or clear dreams indicate phrenitis) to vague (e.g. troubled dreams are a bad sign). Imagery and specific dream content are of secondary importance with regard to the latter aspect, and only of interest because of the *effect* they produce on the dreamer, which functions as a symptom on which conclusions are based.

It is now clear that the medical interest in dreams is not only to be found in *On Regimen*, and that aspects of his theories, such as a belief in the independent role of the soul in sleep, the potentially physiological origin of dreams, and most notably, the interest in dreams as symptoms within disease processes, are also represented in a number of other Hippocratic treatises. To be sure, this number is only small, but if we consider that in the period of time covered by the Hippocratic Corpus, new theories were postulated, and that such new impulses generated new ways of thinking about the causes and symptoms of diseases,²⁷⁶ this could allow us to explain why a relatively new theory like that of medical dream interpretation had not been fully

²⁷⁶ Cf. Langholf (1990), 74ff.

integrated yet. We can understand why book four of *On Regimen* is the only elaboration of how to use dream interpretation in medical diagnosis. As it turns out, then, its status is one of less isolation than has been assumed by some,²⁷⁷ and at the same time probably less representative of a general tradition than has been presupposed by others.²⁷⁸

3.4.2 Galen

Galen's views on dreams and their interpretation are reminiscent of *On Regimen* on several counts: in his commentary on the Hippocratic *Epidemics* I, just as in the probably spurious *De Dignotione ex Insomniis*, Galen puts dreams forward as a diagnostic tool; if we assume that *DD* is a correct representation of Galen's views, Galen, too, believed that the soul is the generator of (medical) dreams; not all dreams are medical, some dreams are prophetic, others merely a representation of the dreamer's diurnal thoughts and actions; and, lastly, in his commentary on *Epidemics* VI, Galen applies the interpretive principle that similarity to reality is good, and dissimilarity bad. All in all, there are enough parallels to suspect familiarity with the Hippocratic *On Regimen*. Of course, there are also a number of ways in which Galen's views differ from those of *On Regimen*. He admits, for instance, that it is difficult to distinguish medical dreams from other types of dream, and recommends that the interpreter pay attention to the time of the dream and verify whether or not food was ingested prior to the dream experience, since these factors are of import to a correct interpretation of the condition of the patient. Galen also appears to be interested specifically in dreams of sick people, and not so much in dreams of healthy people, while *On Regimen*, with the objective of *prodiagnôsis*, saw a necessity to interpret dreams of healthy and sick people alike. It seems that for Galen, there had to be a reason to look

²⁷⁷ Cf. Kudlien (1977), 274; Nörenberg (1968), 78; Longrigg (1993), 230-1; Jouanna (1969), 15-16; van der Eijk (2004), 188.

²⁷⁸ As is pointed out in the introduction, there is a tendency in modern scholarship to present dream interpretation as a part of 'standard Hippocratic procedure'.

at dreams or dream content, as for instance in case of the vivid dreams of phrenetics (to be), or when there are more dreams than normal, which in itself is already a symptom of incipient disease. This is exemplified in his treatment of the vivid dreams of phrenetics in his commentary on *Prorrhetic* I. Phrenetics, and those who are about to become phrenetic, can be recognised by the fact that their dreams are so vivid that they cause the dreamer to act upon them whilst asleep. It is no use, he says, to interpret dreams whose contents coincide with reality, for such dreams have no prognostic value. If, however, clear dreams provoke a physical reaction in a dreamer, they are certainly worth interpreting. Some unclarity remains as to what Galen thinks he can learn from these dreams, as it is already obvious that clear dreams are caused by excessive dryness. Incidentally, dreams of phrenetics, clear through dryness, are the type of dream that is best retained in memory; moistness causes dreams to be vague and easily forgotten. Galen does not provide much in the way of an explanation of the dreaming process, but there is one type of dream he does explain: dreams may occur as a result of a condition of *sympatheia* in the eyes, due to the vapours that rise upward from the humours in the stomach. It would seem that the soul plays no role here. Any other type of dream, for instance a dream that predicts the loss of a limb,²⁷⁹ would be the territory of the soul.

If we now consider Galen's overall attitude towards dream interpretation, he does not seem overly enthused. There is one clear instance that may well say it all. In *The Art of Preserving Health*, there is ample opportunity to interpret his patient's dreams to gain insight in the patient's condition, but Galen does not even consider this, and opts for what he can learn from his patient's sleeping behaviour instead. Based on this example, and on the fact that nowhere in his works he really solves any cases by means of dream interpretation – if he mentions dreams or dream interpretation, it is usually as an extra option, or even an afterthought

²⁷⁹ *Dign.* (6.834 K.).

– could we infer that, if Galen were faced with a choice between interpretation of dreams and interpretation of more concrete and direct symptoms, he would probably choose the latter?

3.4.3 Aristotle

Further to his explanation of sense-perception, Aristotle's sense-experiences can be divided into two groups: actual sense-perceptions, which are a combined activity of the *noêtikon* and the *aisthêtikon*, with the *phantastikon* at work in the background, and the experiencing of *phantasmata*, which is an activity of the *phantastikon*. Dreams are a product of the *aisthêtikon*, but only as far as it coincides with the *phantastikon*, and the lingering sense-movements, i.e. *phantasmata*, are the stuff dreams are literally made of. We can only have proper dreams, i.e. experiences that are made up entirely of lingering *phantasmata*, when we are truly asleep. Everything we experience in sleep through the activity of the sense-organs are not dreams; indeed, it is impossible to be asleep in the proper sense of the word when the senses are operational, even if their activity is minimal. When we do perceive in sleep, we do not experience actual sense-perceptions, but always as sense-movements arising from actual sense-perceptions, because sleep acts as a distorting influence on sense-perception.

According to Aristotle, there is no reasonable explanation for the verity of dream-divination as it is practised by his contemporaries. Dreams are causes, signs, or coincidences. It is in the function of signs that they can be of use in medicine: small sense-perceptions are more easily perceived in sleep; all beginnings are small, so too the beginnings of illnesses in the body; these beginnings of illnesses, then, are also more easily perceived in sleep, either as *phantasmata*, i.e. proper dreams, or as sense-movements arising from actual sense-perceptions. Dreams that are signs do not indicate an inevitable future, and thus signs of diseases do not indicate inevitable

illness either. This is good news for the medical profession, for it means that treatment does matter.

Conclusion

Without a doubt, Aristotle's is still the clearest ancient account of sleep and dreams available to us. Not only does he give a coherent physiological explanation of the inception and termination of sleep, he also provides an account of dreams that is closely connected with it. Two aspects of the processes surrounding sleep are of direct import to dreams. Firstly, the *anathumiasis* has a positive and a negative influence on dreams. On the one hand, it takes away the sleeper's capacity to perceive, i.e. it initiates sleep, and thus paves the way for dreams to occur at all. On the other hand, if there is too much *anathumiasis*, the sense-movements that are on their way to form dreams can become unstable, meaning that the sleeper will have troubled or strange dreams. Secondly, that wondrous characteristic of sleep which, somehow, inverts the effect of any sense-experiences is vital to the occurrence of dreams that are medically significant. As a result of the fact that very small things appear to be large and *vice versa*, the beginnings of diseases can be noticed and fulfill the role of sign. Thus Aristotle exhibits a positive attitude towards the use of dreams in medical diagnosis or prognosis, and provides theoretical and empirical support to the opinion of the 'distinguished physicians'. This may well be proof of the good standing of medical dream interpretation in Aristotle's time: perhaps there was a general belief in its use so widespread that Aristotle was hard-pressed to ignore it, and considering his overall sympathetic attitude to medicine, he saw good reason to verify the truth of the matter in the opinions of highly regarded physicians.

The connection between sleep and dreams as encountered in Aristotle's *Parva Naturalia* we find neither in the Hippocratic Corpus nor in Galen's oeuvre. However, various Hippocratics did have more than a few thoughts on the matter. *On Regimen* – and by association *Epidemics VI* –

postulates that sleep is a precondition for the soul to act on its own and perform all the activities of the body; it is these actions that constitute dreams. *On Breaths* physiologically links the sleeping process to the natural occurrence of dreams, and explains that when the intelligence is altered due to the chilling of the blood brought on by sleep, dreams appear. As for the other Hippocratic treatises, while they do not make an explicit connection between sleep and dreams, this does of course not mean that they denied such a connection. After all, the fact that dreams occur in sleep is hard to miss. Throughout the *Corpus*, we encounter the view that natural, sound sleep was beneficial, while troubled sleep was unfavourable; and the latter usually referred to sleep disturbed by dreams that were in some way out of the ordinary, even if that particular correlation was not made explicit.

Since most of Galen's remarks on dreams have been lost with *On Regimen in Health*, we have to be careful in drawing conclusions based solely on the lack of any *explicit* comments on his part on a connection between sleep and dreams. Indeed, the close relation of Galen's sleep theory to Aristotle's makes the existence of a physiological link similar to that in Aristotle's theory of sleep and dreams very plausible. According to Galen, sleep is a matter of the movement of the *dunameis*, the agents of the soul. Galen also believed that the soul was, in some way, responsible for the generation of (medical) dreams. As said, dreams occur in sleep, and so Galen may well have had an explanation of the (potential) link between the activity of the soul in sleep – and it has been pointed out that, in sleep, the soul is indeed active – and the occurrence of dreams.

In the matter of diagnosis and prognosis, we have learnt that both the Hippocratics and Galen applied sensory observation and semiotic inference, in which the intellect played a key-role. They combined universal, external information, concerning matters like the weather and the

environment, with individual information such as a patient's symptoms, his regimen and, of central interest here, on occasion a patient's dreams.

In the Hippocratic Corpus, a number of authors displayed a marked awareness of the fact that the occurrence and type of dreams could sometimes supply invaluable information on their patients' well-being. Their various approaches to dreams show much greater consistency than has previously been suggested. Of the Hippocratics who display an interest in dreams, the author of *On Regimen* provides the clearest evidence of a vivid interest in the contents of his patients' dreams: his proficiency, after all, was in the interpretation of dreams, i.e. the association of specific dream images with a predetermined meaning, and in giving *prodiagnôseis*, uncovering the makings of illness before it had had a chance to manifest itself. Other physicians seem to have had a less systematic interest in the contents of their patients' dreams and appear to make enquiries if and when they saw a need for it. Such a need might be prompted by the observation of a dreamer's behaviour in sleep, an approach that clearly focuses on dreams *per se*. Dreams of a certain character could have a discernible effect upon the dreamer. Nightmares and otherwise troubled dreams, but also overly vivid and clear dreams – which were all considered to be unfavourable – could cause a dreamer to display some form of physical activity in their sleep; sometimes it was possible to verify the link between dreams and this physical activity, as is done, for instance, in *Internal Affections* 48. Another type of outwardly recognisable unfavourable dreams were of course wet dreams, which indicated an overabundance of heat in the body. Conversely, a physician's approach may have focused on a pre-existing familiarity with the circumstances of a specific disease, rather than on the symptom of dreams, and thus provide a reason for closer inspection of a patient's dreams. An example of this is phrenitis: *Prorrhetic* I pointed out that sufferers of this disease experience vivid dreams, and with that information, it was, in all likelihood, possible either to verify an already present suspicion, or to achieve a new

diagnosis. Although *On Regimen* IV remains the only Hippocratic guide to actual dream interpretation, it has been shown that the author's beliefs had their basis in a more widely accepted medical interest in dreams, and that he was not as unique as has previously been suggested. In a broad spectrum of views, *On Regimen* most strongly emphasised the role of dreams as significant indicators of the dreamer's physical condition, and gave dreams the most prominent status in his (pro)diagnostic theory.

Much of Galen's approach to dreams is similar to what we have encountered in the Hippocratic Corpus, with a few changes and elaborations. While his account of diagnosis from dreams is reminiscent of *On Regimen* IV on several counts, it should be noted that Galen's interpretation of dream images is much more direct than *On Regimen*'s. The dream images Galen mentions have qualities that are directly attributable to the specific humours they represent, while *On Regimen* takes the far more metaphorical microcosmos-macrocosmos approach. An important aspect of Galen's method is the fact that he strongly based his interpretations on factors from outside of the dream, such as the dreamer's habits, what he has been eating, and possibly any already available information of the patient's physical condition. This indicates that dreams are unlikely to have been the first thing Galen considered in a new case. Like the majority of the Hippocratic authors, Galen, too, only appears to have employed the interpretation of dreams when he saw the need for it. It should also be considered that more than a few instances show Galen *not* employing dream interpretation and favouring other, unquestionably more straightforward and tangible diagnostic and prognostic approaches instead. In addition to that, he points out how difficult it is to distinguish between medical dreams and prophetic dreams or dreams that reflect a person's daily thoughts and actions. It is a well-known fact that Galen was a great believer in dreams of all kind, and that this belief definitely extended to medical dreams. However, above all Galen valued concurrence of various sources of information – which might or might not include dreams. If all

pointed in the same direction, he would confidently cast his diagnosis and prognosis. The evidence we have seems to show that dream interpretation had a comparatively low priority on Galen's list of diagnostic procedures, partly because he had other, more reliable methods at his disposal, such as the inspection of urine and the pulse, and partly because it was difficult to distinguish medically relevant dreams from other types of dreams. It would appear, however, that he did make some exceptions, as the case of phrenetics exemplifies.

Thanks to some unambiguous evidence, there needs to be no doubt about the ancient medical interest in dreams and the existence of medical dream interpretation, but its overall status as a diagnostic or prognostic tool should be assessed with caution. If, based on the evidence, we were to conjecture when dream interpretation was used, non-acute cases, in which time was not of the essence, would dominate. The perfect example of this is of course *On Regimen* IV, in which the lack of acuteness of the situation is exemplified in the fact that actual diseases play no role. Dream interpretation may also have been employed in corroboration of a diagnosis or prognosis that was also indicated by other symptoms – the clearest example of which is phrenitis.

In conclusion, then, I believe that matters should be viewed as follows. Thanks to their alleged divine origin, dreams had a good reputation to begin with. When, at the time of the Hippocratic Corpus, a more rational approach to dreams came to be, this fit in well with other new developments, such as for instance that of regimen treatment as a new branch of the medical *technê*, and that of a theory of humours as components of the human body. What we have discovered in the Hippocratic Corpus, then, are the foundations of a medical use for dream interpretation in the text passages outside *On Regimen*, and perhaps one of the first attempts at making this theory a concrete part of medicine in *On Regimen*. Seeing as Aristotle was well aware of the medical theories of his day, it is not at all surprising to find traces of this theory in

his work as well. Galen, in turn, familiar with both Hippocratic and Aristotelian lore and a great believer in the veracity and significance of dreams, also accepts that dreams and their interpretation can be of value in medical practice, but at the same time realised the enormous difficulty one would have not only in deciding which dream was relevant and which was not, but also in correctly interpreting such a dream. For Galen, a true logician, this must have weakened the position of medical dream interpretation considerably. All in all, though the potential of dream interpretation was, in itself, widely recognised, and its usage in medical practice is attested in the evidence, this thesis has shown that when put into the context of medical diagnostic and prognostic procedures, its status was less prevalent than has hitherto been suggested.

Appendix A: Diagnosis versus Prognosis

In a discussion of ancient diagnosis and prognosis, a discussion of the relation in which the former stands to the latter should not be omitted. As regards the Hippocratic Corpus, the question of whether or not diagnosis was practised by its authors has been a topic of scholarly debate for quite some time now. A minority believes that the Hippocratic authors dispensed with diagnosis as we know it entirely in favour of prognosis,¹ some take a stand at the opposite side of the spectrum and claimed to have found the epitome of diagnosis in the Hippocratic *Prognosticon* – although this view seems to have been all but abandoned by now.² A relatively large group, consisting mainly of scholars with a medical background, opted for a compromise and supports the view that diagnosis was incorporated in Hippocratic prognosis, which was its objective, its *raison d'être*:³ seen from a modern point of view, especially one enhanced by hands-on experience, diagnosis *needs* to be inherent in ancient prognosis. Here, however, lies a problem concerning terminology. What *is* diagnosis? Technically, this is a question in itself difficult enough to answer, for, even today, there is debate about the meaning of diagnosis.⁴ Still, let us consider the modern approach for a moment. In the introduction to his book *In de Spreekkamer van de Psychiater*, René Kahn, professor of psychiatry at Utrecht University, visits the subject and explains that

Medicine, and therefore psychiatry, begins with diagnostics. For there is no treatment without a diagnosis. That is the main reason why we go through the trouble of arriving at a diagnosis. And even when there is no effective treatment

¹ Cf. Diller (1964); Vust-Mussard (1970).

² This view plays a role in the historical interpretation of *Prognostic*. Cf. Edelstein (1967), 80.

³ Daremberg points out that this standpoint was first adopted by Etienne the Philosopher. Cf. Daremberg, 120. Advocates of this view are for instance Lichtenthaeler, Grmek and Graumann, all MD's. Cf. Lichtenthaeler (1982), 144-149; Grmek (1989), 292-5; Graumann, 63-66.

⁴ Cf. Graumann (2000), 63.

available, we can at least say something about the expected progression of the disease, the prognosis. A diagnosis is based on the assumption that there is a disease present, an affliction with a cause, a progression and possibly a treatment. Incidentally, it is not necessary to know the cause of a disease to be able to make a diagnosis and predict its progression. Nor is it a given that each diagnosis leads to treatment. A diagnosis does indicate that every physician in the world means the same by it. A diagnosis of angina pectoris in Delhi means the same in Delft, the symptoms of colitis ulcerosa in Bern are identical to those in Bergen, and a grand mal insult meets the same criteria in York and in New York.⁵

From this brief passage, it is immediately clear that there are some aspects to modern diagnosis that cannot have obtained at the time of the Hippocratic Corpus, or only obtained to a certain extent. Firstly, Kahn speaks of a worldwide nosological consensus – the one thing that certainly cannot be found among the authors of the Hippocratic Corpus, for there was great discord among the Hippocratic authors, both with regard to the nature and structure of the body, and to the way in which diseases were to be diagnosed – which underlies modern (differential)⁶ diagnosis. Secondly, Kahn contends that there can be no prognosis without diagnosis in modern medicine. Such explains why Grmek would say that ‘Hippocratic prognosis is partly diagnosis in disguise’.⁷ Though it is, of course, always imperative to maintain caution in applying modern experience to an ancient situation, there is still some validity to this supposition: in order to be able to say anything about a patient’s condition – past, present, or future – a physician has to know, at least

⁵ ‘De geneeskunde, en dus de psychiatrie, begint met de diagnostiek. Want zonder diagnose is er geen behandeling. Dat is ook de belangrijkste reden dat we al die moeite nemen om tot een diagnose te komen. En zelfs wanneer we niet over een effectieve behandeling beschikken, kunnen we op zijn minst iets mededelen over het te verwachten beloop, de prognose. Een diagnose gaat ervan uit dat er een ziekte aanwezig is, een aandoening met een oorzaak, een bepaald beloop en een eventuele behandeling. Overigens hoeven we niet altijd de oorzaak van een ziekte te weten om een diagnose te kunnen stellen en het beloop ervan te kunnen voorspellen. Evenmin is het een gegeven dat voor elke diagnose een behandeling voorhanden is. Maar wel betekent een diagnose dat iedere arts op de wereld er hetzelfde mee bedoelt. Zo is de diagnose angina pectoris in Delhi hetzelfde als in Delft, zijn de verschijnselen van colitis ulcerosa in Bern identiek aan die in Bergen, en voldoet een grand mal insult aan dezelfde criteria in York en New York.’ Kahn (2008), 15.

⁶ The definition of differential diagnosis given by Kloosterhuis in his medical dictionary is as follows: “differentiële diagnose: het stellen van een diagnose door de kenmerken van verschillende ziekten te vergelijken (making a diagnosis by comparing the signs/symptoms of different diseases).” From G. Kloosterhuis, Coelho Zakwoordenboek der Geneeskunde, 23rd revised edn., Gouda, 1989, 188.

⁷ Grmek (1989), 293.

to a certain extent, what he is dealing with. Although it was not possible for a Hippocratic physician exactly to identify every disease he encountered⁸, let alone formulate a specific diagnosis of cause, it would be possible to base a prognosis on *diagnostic findings*. And for that, a diagnostic *element* indeed needs to be incorporated in prognosis, even if one would be hard pressed to specifically identify the coverage of this element. Therefore, I would argue that, although an actual *diagnosis* was not an integral part of medical practice, there can be no doubt about the presence of *diagnostic activity* in Hippocratic practice. And here is a third discrepancy between the modern reality pictured by Kahn and Hippocratic medicine: diagnosis as the outcome of diagnostic activity simply did not always need to occur. Of course, it is impossible to verify if the Hippocratics practised what they preached, as there is no way to reconstruct the actual ancient process; based solely on the Hippocratic texts, however, we should be able to assume that there must have been diagnostic activity. Therefore, I propose an adaptation of our modern terminology to the ancient Hippocratic situation, and insert a division between diagnosis – the conscious identification of a specific disease or ailment – and diagnostic *activity* – i.e. the process leading up to such an identification – specifically because in Hippocratic times, the latter did not necessarily culminate in the former, and often had to be left out because there was no answer available, causing a physician to proceed immediately to prognosis. The diagnostic activity is there, not in aid of diagnosis, but of prognosis. This new distinction can now be used to elucidate the ancient Hippocratic situation.

Up till now, scholarship has generally subscribed to the view that prognosis had the upper hand in the Hippocratic Corpus, and that diagnosis was subordinate to it. However, to speak of diagnosis or prognosis in such general terms would be a grave misrepresentation of the reality presented to us in the widely varied Corpus. Not only because of the use of anachronistic

⁸ Cf. *Progn.*25 (2.188 L.), where the author explains that there is no need for disease names, as it is enough to know the consequences of symptoms that accompany acute diseases, and he able to act upon those.

terminology, but also because there was of course no such thing as ‘Hippocratic’ prognosis or diagnosis to which it could be applied, a difficulty of which Edelstein proves to be well aware:

The meaning of prognosis in Hippocratic medicine can only be demonstrated by assembling all the writings and all the isolated utterances about it and by attempting in this way to gain an insight into its nature.⁹

What is more, Edelstein shows that not even all Hippocratic authors believed that foreknowledge of the future was possible, and that some of them were of the opinion that in some diseases, there is no prognostic knowledge.¹⁰ He does not, however, mention diagnosis in any way. In his famous book *Hippocrates*, Jouanna, much like Edelstein, skirts the topic of diagnosis *per se*, although he does note that the practice of the physician meant ‘to take into account the full range of signs in order to arrive at an evaluation of the patient’s condition’ – which, incidentally, would constitute diagnosis! – ‘and to formulate a prognosis.’¹¹ Potter, on the other hand, does not seem to have any problems accepting diagnosis into Hippocratic practice. In his *Short Handbook of Hippocratic Medicine*, he creates an ‘overview of clinical reasoning’ for the Hippocratic writings, in which diagnosis is assigned its very own place,¹² but he does not seem to recognise Edelstein’s discovery that prognosis was not always forthcoming, thus still putting diagnosis in an inferior position. None of these views fully accommodate the ancient Hippocratic situation, which is why it is necessary to deploy the new taxonomy. In my opinion, there were three possible courses of medical action:

1. diagnostic activity => prognosis => treatment
2. diagnostic activity => diagnosis => treatment
3. diagnostic activity => diagnosis => prognosis => treatment

⁹ Edelstein (1967), 69.

¹⁰ Edelstein (1967), 73, 75.

¹¹ Jouanna (1999), 303.

¹² Potter (1988), 52-3.

An excellent example of the first course of action is the treatise *Prognostic*, in which the author groups together all sorts of symptoms, which can be identified as indicating or leading to a certain condition. He does not use disease names and specifically tells his reader not to regret this,

ἅπαντα γὰρ ὁκόσα ἐν τοῖσι χρόνοισι τοῖσι προειρημένοισι κρίνεται, γνώσῃ τοῖσιν αὐτέοισι σημείοισιν.

For all [diseases], which come to a *krisis* at the times that have been stated, you will recognise by the same symptoms.¹³

Thus he implies that there is no need even for a diagnosis. Before discussing the second and third options, it is useful first to consider the emergence of the concept of diagnosis among some of the Hippocratic writers.

That the Hippocratics were keen observers is clear; the Corpus is positively teeming with examples of all the details to which they paid attention; in fact, one could almost say that these examples are what the Corpus is made of. For a relatively elaborate discussion of the Hippocratic situation, I refer the reader to chapter one of this thesis. There is no need for such a discussion here, and it will suffice to have a general idea of the sort of things the process leading up to diagnosis and/or prognosis may have encompassed. A rough division can be made into general details and individual details. ‘General’ included things like the seasons, the weather, the wind, the lie of the land, the climate, and so on. All these could be taken into account even before seeing a patient. They provided a physician with a sense of medical orientation, some idea of the sort of diseases he might encounter, but also of what might be the predominant characteristics of local people’s constitutions. ‘Individual’ were of course the patient’s symptoms, but also factors

¹³ *Progn.*25 (231,7-8 Alexanderson; 2.190 L.)

like age, gender and regimen belong in this sphere.¹⁴ The one passage that provides a detailed impression of the sort of things to which a Hippocratic physician might have paid attention is the ‘checklist’ provided by the author of *Epidemics I*, which it is useful to quote again in full:

Τὰ δὲ περὶ τὰ νοσήματα, ἐξ ὧν διεγινώσκομεν, μαθόντες ἐκ τῆς κοινῆς φύσιος ἀπάντων καὶ τῆς ἰδίας ἐκάστου, ἐκ τοῦ νοσήματος, ἐκ τοῦ νοσέοντος, ἐκ τῶν προσφερομένων, ἐκ τοῦ προσφέροντος – ἐπὶ τὸ ῥᾶον γὰρ καὶ χαλεπώτερον ἐκ τούτων –, ἐκ τῆς καταστάσιος ὅλης καὶ κατὰ μέρη τῶν οὐρανίων καὶ χώρης ἐκάστης, ἐκ τοῦ ἔθους, ἐκ τῆς διαίτης, ἐκ τῶν ἐπιτηδευμάτων, ἐκ τῆς ἡλικίας ἐκάστου, λόγοισι, τρόποισι, σιγῇ, διανοήμασιν, ὕπνοισιν, οὐχ ὕπνοισιν, ἐνυπνίοισιν, οἷοισι καὶ ὅτε, τιλμοῖσι, κνησμοῖσι, δακρύσιν, ἐκ τῶν παροξυσμῶν, διαχωρήμασιν, οὔροισιν, πτυάλοισιν, ἐμέτοισι, καὶ ὅσαι ἐξ οἶων ἐς οἶα διαδοχαὶ νοσημάτων καὶ ἀποστάσιες ἐπὶ τὸ ὀλέθριον καὶ κρίσιμον, ἰδρώς, ῥίγος, ψύξις, βήξ, πταρμοί, λυγμοί, πνεύματα, ἐρεύξεις, φύσαι, σιγῶσαι, ψοφώδεις, αἰμορραγίαι, αἰμορροΐδες. ἐκ τούτων καὶ ὅσα διὰ τούτων σκεπτέον.¹⁵

The circumstances of the diseases, from which we have diagnosed, having learned from the common nature of all [persons and things] and from the individual nature of each [person and thing]; from the disease, from the patient, from the things administered, from the one who administers – because these things, too, contribute to an easier or more difficult development –, from the entire constitution (*katástasis*) and according to the parts of the heavens and of each country; from habits, regimen, occupational activities, and age of each [patient]; through utterances, manners, silence; thoughts, sleep, insomnia, dreams – including their kind and timing –; plucking, itching, tears; from the paroxysms, stools, urines, excretions, vomits; the successions of diseases – including their number and which kinds led to which – and their culminations in death or *krísis*; sweat, rigor, chill, cough, sneezing, hiccups, breaths, belchings, flatulence – with or without a noise? – nose-bleedings, haemorrhoids. And based on these things [mentioned above], the things that happen because of these things [mentioned above] must be considered.

¹⁴ It should be noted that the similarity between my terminology (general and individual) does not coincide with the terminology in *Epid.I.10* (common and individual; τῆς κοινῆς καὶ τῆς ἰδίας). While my ‘general’ and ‘individual’ are distinctions between what is outside of the individual and what is directly to do with the individual, the distinction *Epid.I* is making refers to experiences that are the same for all individuals versus experiences that are individual-specific.

¹⁵ *Epid.I.10* (199,8-200,2 Kühlewein; 2.668-670 L.).

This passage is one of the most succinct representations of Hippocratic examination in the Corpus, and it illustrates the investigation of both general and individual elements. Despite the fact that the taxonomy of anamnesis (ἀνάμνησις), diagnosis (διάγνωσις) and prognosis (πρόγνωσις) was not really ‘invented’ until well after the time of the Hippocratic Corpus, it is also an excellent example and proof not only of the existence of a *concept* of diagnosis in the Corpus, but of the accompanying terminology as well. While it is true that most of the Hippocratic authors use διάγνωσις and διαγιγνώσκειν in the more literal meaning of ‘distinguish’, ‘discern’, and ‘recognise’,¹⁶ there are some examples in the Corpus that have a different feel to them and already betray an inclination towards the more modern understanding of (the concept of) diagnosis.¹⁷ The *Epidemics* ‘checklist’ above is probably the most compelling instance of this. All the elements on the list were considered by the author for him form a diagnosis (ἐξ ὧν διεγιγνώσκουμεν). This use of διαγιγνώσκειν perfectly fits the modern mold; prognosis is not even (clumsily) referred to until the very last sentence of the passage.

The author of *On Wounds in the Head* makes a distinction between the diagnosis (διάγνωσιν ποιεῖσθαι) of impending death and the prediction (προλέγειν) of how this death is going to come about.

“Ὅστις δὲ μέλλει ἐκ τραυμάτων ἐν κεφαλῇ ἀποθνήσκειν καὶ μὴ δυνατόν αὐτὸν ὑγιᾶ γενέσθαι μηδὲ σωθῆναι, ἐκ τῶνδε τῶν σημείων χρὴ τὴν διάγνωσιν ποιεῖσθαι τοῦ μέλλοντος ἀποθνήσκειν καὶ προλέγειν τὸ μέλλον ἔσεσθαι. Πάσχει γὰρ τάδε· ὁπόταν τις ὀστέον κατεηγὸς ἢ ἐρῥωγὸς ἢ πεφλασμένον ἢ ὅτῳ γοῦν τρόπῳ κατεηγὸς μὴ ἐννοήσας ἀμάρτη καὶ μήτε ξύση μήτε πρίση τμήτε δεόμενον, μεθῇ δὲ ὥς ὑγιέος ἐόντος τοῦ ὀστέου, πρὸ τῶν τεσσαρεσκαίδεκα ἡμερέων πυρετὸς ἐπιλήψεται ὥς ἐπὶ πολὺ ἐν χειμῶνι, ἐν δὲ τῷ θέρει μετὰ τὰς ἐπτὰ ἡμέρας ὁ πυρετὸς ἐπιλαμβάνει. καὶ ἐπειδὰν τοῦτο γένηται, τὸ ἔλκος ἄχρουν γίνεται καὶ ἐξ αὐτοῦ ἰχὼρ ῥεῖ σμικρὸς καὶ τὸ φλεγμαῖνον ἐκτέθνηκεν ἐξ αὐτοῦ καὶ

¹⁶ Daremberg (1855), 120.

¹⁷ Preiser already pointed out that *diagnôsis* and *diagignôskein* ‘waren jedoch keine festgelegten Begriffen der ärztliche Fachsprache jener Zeit für ein Krankheitserkennen’. Cf. Preiser (1978), 96.

βλιχῶδες γίνεται καὶ φαίνεται ὥσπερ τάριχος χροίην πυρρὸν, ὑποπέλιον· καὶ τὸ ὀστέον σφακελίζειν
τηνικαῦτα ἄρχεται καὶ γίνεται περκνόν, λείον ἐόν, τελευταῖον δὲ ἅπαν ὥχρὸν γενόμενον ἢ ἔκλευκον.
ὅταν δ' ἤδη ὑπόπυον ᾗ, ἐπὶ τῇ γλώσση φλυκταῖναι γίνονται καὶ παραφρονέων τελευτᾷ.¹⁸

He who is likely to die from his head wounds and for whom becoming healthy and being saved are impossible, it is necessary to make a diagnosis that he is about to die from the following signs, and say in advance what is going to happen. For he suffers the following things: when someone – having recognised that the bone has been injured, either broken or crushed or in any case in some way injured – makes a mistake and neither scrapes nor trephines †as if it were not necessary, and abandons it† as if the bone were healthy, in most cases fever seizes [the patient] within fourteen days in winter, and in summer fever seizes him after seven days. And when this has happened, the wound becomes discoloured and a little serous discharge flows from it and the inflamed tissue dies out of it and becomes glutinous and looks like salted fish, its colour red, livid. Then the bone begins to necrose, and, while remaining smooth, it becomes dark-coloured and finally becomes entirely pale or off-white. But when it is tending to suppuration, blisters occur on the tongue and the patient dies delirious.

The reader is provided with a number of different scenarios containing various signs, symptoms and other matters of importance, enabling the recognition of the scenario most applicable to any individual patient; this in turn culminates in a diagnosis and *subsequent* prognosis.

Another treatise in which diagnosis is set apart is *On Regimen*. Its author proudly explains:

Ἄλλὰ γὰρ αἱ διαγνώσεις ἔμοιγε ἐξευρημέναι εἰσὶ τῶν ἐπικρατεόντων ἐν τῷ σώματι, ἣν τε οἱ πόνοι ἐπικρατέωσι τῶν σίτων, ἣν τε τὰ σῖτα τῶν πόνων (...) ¹⁹

¹⁸ *Cap. Vuln.* 19 (86,32-88,10 Hanson; 3.250-4 L.). The use of diagnosis in a modern sense in the surgical treatises was already recognised. Cf. Hartmann (1977), 141; Jouanna (1996), 66; Graumann (2000), 65.

¹⁹ *Vict.* III.67 (194,10-12 Joly/Byl; 6.592 L.).

But the diagnoses discovered by me are those of the things that are dominant in the body: either exercises are dominant over food, or food over exercises.

Τόδε δὲ τὸ ἐξεύρημα καλὸν μὲν ἐμοὶ τῷ εὐρόντι, ὠφέλιμον δὲ τοῖσι μαθοῦσιν, οὐδεὶς δὲ πω τῶν πρότερον οὐδὲ ἐπεχείρησε συνεῖναι, πρὸς ἅπαντα δὲ τὰλλα κρίνω αὐτο εἶναι πολλοῦ ἄξιον· ἔστι δὲ προδιάγνωσις μὲν πρὸ τοῦ κάμνειν, διάγνωσις δὲ τῶν σωμάτων τί πέπονθε, πότερον τὸ σιτίον κρατεῖ τοὺς πόνους ἢ οἱ πόνοι τὰ σιτία ἢ μετρίως ἔχει πρὸς ἄλληλα.²⁰

And this discovery is good for me, its discoverer, and is useful to those who have learnt it, but none of my predecessors has ever attempted to learn it, though I judge it to be of great value with regard to all other things. It is *prodiagnôsis* before being ill and diagnosis of what is the matter with the body, whether food overpowers exercise, or exercise overpowers food, or whether they are duly proportioned to one another.

In the great discovery mentioned by the author, the use of dreams in a medical context plays an important role. By interpreting a patient's dreams, the author is convinced, one can learn much about the condition of his patient's bodily humours and the effects of exercise and food thereon. In line with the ancient medical belief that illness was a result of an imbalance in the body,²¹ he reasoned that if you could diagnose at an early stage which element was in excess, you would be able to know in advance that illness was to ensue in the near future, something the author calls *προδιάγνωσις*. Translators have, in general, opted to translate *προδιάγνωσις* as 'prognosis'. However, this is not what the author says or, indeed, means, and use of the term 'prognosis' here clashes with both modern and ancient use. *προδιάγνωσις* refers to an understanding of a patient's present condition, *before* any illness manifests itself. Treatment, accordingly, is not treatment of a disease, but of the condition that may lead to disease.

²⁰ *Vict.* III.69 (200,28-32 Joly/Byl; 6.606 L.).

²¹ Cf. Hankinson (1998), 53.

Lastly, *On Regimen in Acute Diseases* wishes to see in physicians the knowledge of the signs and symptoms based on which they will be able to recognise – i.e. diagnose – diseases:

Οὐδὲ γὰρ τῶν τοιούτων ὁρῶ ἐμπείρους τοὺς ἰητροὺς, ὥς χρὴ διαγινώσκειν τὰς ἀσθενείας ἐν τῇσι νόσοισιν, αἷ τε διὰ κενεαγγίην ἀσθενέονται, αἷ τε δι' ἄλλον τινὰ ἐρεθισμόν, αἷ τε διὰ πόνον καὶ ὑπὸ ὀξύτητος τῆς νόσου, ὅσα τε ἡμέων ἢ φύσις καὶ ἢ ἔξις ἐκάστοισιν ἐκτεκνοῖ πάθεα καὶ εἶδεα παντοῖα· καίτοι σωτηρίην ἢ θάνατον φέρει γινωσκόμενα ἢ ἀγνοεόμενα τὰ τοιάδε. (...) Γεγράφεται οὖν καὶ περὶ τούτων σημῆια, οἷσι χρὴ ἕκαστα τούτων διαγινώσκειν.²²

For I do not see physicians experienced in such things, in the way as is necessary to diagnose the weaknesses in the diseases: those that come forth from abstinence, or from some other irritation, or from complaints and by the acuteness of the disease, or as many afflictions, and all their forms, that our nature and attitude may engender; and indeed, knowing or not knowing these things brings succour or death respectively. (...) And so it has been written about the signs of those [cases], by which it is necessary to diagnose each of them.

Considering the examples from these four treatises, it seems clear that the concept and terminology of diagnosis did have a place in the Hippocratic Corpus separable from any role diagnosis may have played in service of prognosis.

Though it may sound slightly paradoxical, the presence of diagnosis in the Corpus is further illustrated by a consideration of the use and significance of prognosis (of the future): it anticipated whether or not a patient's condition was going to end in death, and sometimes, but not always, it predicted the manner in which this end was going to be reached. Earlier, we touched upon the fact that not all Hippocratic authors set store by medical prediction. The author of *Diseases I* makes his sentiments on the matter quite clear:

²² *Vict.Morb.Acut.* 11 (54,18-25/55,12-13 Joly; 2.314-18 L.).

Οὐκ οὐκ ἐστὶ τὸ ἀκριβὲς εἰδέναι καὶ τυχεῖν εἴπαντα τοῦ χρόνου, ἐν ὅσῳ ἀπόλλυνται, οὔτε εἰ πολλόν, οὔτ' εἰ ὀλίγον· οὐδὲ γὰρ οὗτος ὁ χρόνος ἀκριβής, ὃν ἔνιοι λέγουσιν, ὡς τὰ πολλὰ, οὐδὲ αὐτὸ τοῦτο ἐκποιεῖ· διαφέρει γὰρ καὶ ἔτος ἔτεος, καὶ ὥρη ὥρης· ἀλλ' ἢν τις ἐθέλῃ περὶ αὐτῶν ὀρθῶς γινώσκειν καὶ λέγειν, γινώσεται οὕτω πᾶσαν ὥρην καὶ ἀπολλυμένους καὶ περιγινομένους καὶ πάσχοντας ἃ ἂν πάσχωσιν.²³

It is certainly not possible to know the precise thing and to state correctly the period within which they will die, not if it will be long, nor if it will be short. For the period of time, which some give, is not precise in most cases, and this in itself is not enough; for each year is different from another, and each season from another. But if someone wants to know and speak about those things correctly, he will have to recognise that in all seasons they die, recover, and suffer whatever they suffer.

For this author, medical prediction, i.e. what today we would understand to constitute prognosis, is just too uncertain to rely on. In the end, he reasons, the physician is usually almost as much in the dark about what is going to happen as is his patient.²⁴ Of course, this is only one example, one view put forward by one author. But it does imply that prognosis of the future was not as inherent in ancient practice nor as useful to it as we have mostly been led to believe. Edelstein concluded that the value of prognosis lay primarily in the social sphere: “When the Greek physician makes prognoses of the outcome of diseases,” he says, “it is only the human element – not the medical considerations – which concerns him.”²⁵ He characterises the matter aptly:

Prognosis and prediction are ... of significance for *people*, for the physician and the patient, and only thereby for the curing of disease itself. In the therapeutic procedure prognosis is, therefore, important not as knowledge from which to derive other knowledge; its importance is psychological.²⁶

²³ *Morb.I.16* (42,14-44,3 Wittern; 6.170 L.).

²⁴ Cf. Edelstein (1967), 74.

²⁵ Edelstein (1967), 77.

²⁶ Edelstein (1967), 70.

If from this we can conclude that for some authors the future element of prognosis can be downplayed, which in turn allows the past and present elements to come to the fore, it would seem that the importance of the diagnostic element in 'Hippocratic' prognosis is more prominent than has been recognised until now, and that it deserves a more significant position in the discussion.

Returning to the three possible course of action, *Epidemics* I.10 and *On Wounds in the Head* 19 are clear examples of option three (diagnostic activity => diagnosis => prognosis), while *On Regimen in Acute Diseases* perfectly fits option two (diagnostic activity => diagnosis). *On Regimen* is less easy to categorise, because there is both an element of diagnosis and of prediction. We could say, therefore, that it fits both option two and three.²⁷

With a few exceptions, scholarship on Hippocratic diagnosis and prognosis has been of a generalising persuasion. But now more than ever is it clear to us that the diversity of the Corpus often, if not always, makes it impossible to speak of anything 'Hippocratic' in the sense that something is equally applicable to all the treatises in the Corpus. Therefore, I believe it is only right to admit that there is no such thing as 'Hippocratic prognosis' or 'Hippocratic diagnosis', but that there are courses of action, which are not exclusive, but could co-exist and complement one another in practice.

This symbiotic situation is reflected in the way Hippocratic authors approached diagnosis and prognosis. Previous scholarship used to distinguish between authors adopting a nosological approach and authors taking a more direct approach, which shall be referred to as the 'other' approach.²⁸ Nosology attempted to define and describe specific diseases in order to facilitate quick and easy disease recognition, which would lead to a swift prognosis followed by the

²⁷ It would be interesting to do an extensive investigation of the three options in the Corpus and see how the percentual relations would be.

²⁸ There is no real antonym available here, not in the least of course because there is no real antithesis. Nosology and the other approach are not opposites; they are complements, as shall be argued below. In his (1983) article on the subject, Langholf refers to this other approach as 'die Zweite Methode', for probably the same reason.

necessary treatment.²⁹ Alternatively, the ‘other’ approach did not name or identify diseases, but leapt directly from symptoms to diagnosis, prognosis and treatment, skipping the step of grouping symptoms together into a disease pattern.³⁰ Langholf identifies the main difference with regard to the role of symptoms in both methods:

Nach den nosologischen Lehrbüchern waren bei einer bestimmten Krankheit nur eine begrenzte Anzahl von Symptomen zu berücksichtigen, die restlichen Krankheitszeichen spielten für die Identifikation der Krankheit grundsätzlich keine Rolle. In der “zweiten Methode” [i.e. the ‘other’ approach] konnte *jedes* Zeichen bedeutungsvoll sein.³¹

The wish to differentiate approaches has much to do with the Cos versus Cnidos debate – which was abandoned some time ago as unresolvable.³² More recent scholarship has proven that the two approaches were not mutually exclusive, or that one group of physicians uses one approach and another group the other: the two complemented each other. Robert summarises the current attitude towards the subject as follows:

On ne dira plus: ‘Les uns pensent qu’il n’y a pas de maladies et qu’il n’y a que des malades, les autres pensent qu’il s’agit pour les médecins de discerner, de nommer et d’étiqueter le plus grand nombre de maladies possible’; on dira: ‘Tous pensent qu’il y a un certain nombre de maladies que l’expérience a permis de discerner en leur donnant des noms, et qu’il convient de savoir les reconnaître. Mais l’école de Cos est celle des médecins qui recueillent le plus possible d’observations sur les cas qui échappent à cette forme de savoir.’³³

²⁹ Our modern medical system is based on nosology; difficult cases are solved through the process of differential diagnosis, i.e. identification of a disease by elimination of possible candidates. Cf. Appendix, p.257 n.6.

³⁰ Both approaches can easily be recognised in Potter’s ‘overview of clinical reasoning in the Hippocratic Writings’. Potter (1988), 52-53.

³¹ Langholf (1983), 112. Cf. also Langholf (1990), 150-164.

³² There were many attempts to divide the Hippocratic treatises into those belonging to the Coan school and those belonging to the Cnidian school. Ultimately, this proved to be impossible. Cf. Langholf (1990), 4-5. There is a clear discussion of the debate in Langholf (1990), 12-36.

³³ Robert (1983), 104.

Potter's research into the principles of Hippocratic nosology support this: his findings indicate that in the Hippocratic Corpus

there is no conceptual framework within which most or even very many of the specific diseases can be ordered, i.e. that could serve as the basis of a general disease classification.³⁴

Hippocratic physicians, then, would have had no choice but to employ the 'other' approach whenever they encountered a disease they could not identify, which makes the complementary nature of available approaches apparent and any attempts at classification of the Hippocratic treatises fruitless.³⁵

The Hippocratic authors' ideas on medicine vary greatly – even, or perhaps especially, when it comes to the most basic principles. In the end, all we can really do is map out different approaches to general concepts, which we must always do our utmost to avoid the intrusion of anachronistic associations, as only too often, the tendency to try and catch ancient thought patterns in modern terminology is a recipe for misunderstanding. Concepts like diagnosis and prognosis in the Hippocratic Corpus are, therefore, elusive at best; attempts of interpretive scholarship to catch these two terms in a generalising definition or description have, necessarily, been fruitful only in part, and most scholars have – wisely perhaps – chosen to pass over the whole discussion. In addition, the brief semantic study of *διαγιγνώσκειν* and *διάγνωσις* above illustrates the need for a better understanding and appreciation of independent strands of thought in the Corpus. In this case, it has become clear that diagnosis, if at all, not always played the

³⁴ Potter (1990), 253.

³⁵ Of course, in the period of time covered by the Hippocratic Corpus, new theories – most notably the theory of the humours and the theory of the primary qualities (hot, cold, moist, and dry) – were conceived of and incorporated along the way, and such new impulses generated new ways of thinking about the causes and symptoms of diseases. Cf. Langholf (1990), 74ff.

subservient part it had been allotted in previous scholarship, and that it deserves its own place in the Hippocratic diagnostic-prognostic spectrum. If, then, we still want to make a – necessarily inadequate – attempt at generalisation, we should say that it is probably true that from most Hippocratic authors prognosis received emphasis, yet that this was not because there was no diagnostic activity or diagnosis, but because of its varied social and professional advantages. After all, prognosis was ‘an excellent thing for physician to practice’.

The problem regarding terminology and conceptualisation is somewhat less pressing in the Galenic Corpus. For one, of course, because it has just one author, who does his utmost to convey his views and intentions in everything he writes, but also, and perhaps more importantly, because Galen’s usage of the word diagnosis is much closer to our modern understanding of it. Still, some of the unclarity surrounding ‘Hippocratic’ diagnosis and prognosis seems to have remained: even García-Ballester, who has studied Galenic diagnosis *in extenso*, is not conclusive on this point. In the beginning of his overview he says that prognosis is “one of the essential problems and most important objectives of Galenic diagnosis”³⁶ – which harks back to the current scholarly attitude towards the Hippocratic Corpus mentioned above. In his conclusion, however, an element of confusion is introduced when he asserts that “Galenic prognosis, like that of the Hippocratics, was foreknowledge and so a form of knowledge in the service of both diagnosis and treatment”. Similar confusion occurs in Dean-Jones’ brief treatment of the subject in the introduction to his translation of and commentary on *De Constitutione Medicinae*: he first clearly states that “The part of medicine that deals with symptomatology is divided into diagnosis and prognosis”, yet also points out that they are “two sides of the same coin and work hand in hand with therapy”; he then goes on to explain that “The first side of the coin is the determination of what is present, and the second is the forecast of what is to come; for disease cannot be treated successfully unless the

³⁶ García-Ballester (1994), 1640.

physician first diagnoses it, nor can the physician treat it properly until he knows when its *krisis* will come or what course the disease will take.”³⁷ Still, the matter seems decided: first there is diagnosis, then prognosis, followed by treatment – much like modern practice as described by Kahn. Before long, however, Dean-Jones confounds this clear-cut arrangement by saying that “prognosis is an important aspect of diagnosis,”³⁸ and later following this up with the statement that “prognosis assists treatment not only by identifying the illness, but also by giving the physician a better understanding of the possible course of a disease.”³⁹ If prognosis is an aspect of diagnosis, how, then, can the two be seen as separate processes? And, surely, identifying an illness would constitute diagnosis? It would seem that Dean-Jones’ argument derails when he so easily likens Galen’s method to ‘the’ complex Hippocratic situation, while it should never be overlooked that there is a fundamental difference: a shift in focus, or perhaps better: an expansion of focus has occurred. While in most treatises of the Hippocratic Corpus, there is unclarity about the very existence of diagnosis, and certainty only about the use and importance of prognosis, for Galen – who certainly practises prognosis; the import of it for his medical practice is unmistakable – diagnosis is firmly established in his medical practice alongside prognosis, i.e. the intellectual accomplishment subsequent to and based on the conclusions that amount to diagnosis, and are drawn from assembled data:

προσέχει γὰρ ὁ ἰατρὸς αἰεὶ δύο τούτοις ὥσπερ ἀντιπάλους, τῷ τε νοσήματι καὶ τῇ φύσει. καὶ πρῶτον μὲν τοῦ σωθήσεσθαι τὸν ἄνθρωπον ἢ ἀπολεῖσθαι τὴν πρόγνωσιν ἐκ τοῦ διαγνῶναι τὸ ἰσχυρότερον, ἔπειτα δὲ καὶ τῆς προθεσμίας ἐκ τοῦ πόσῳ θάτερον ἰσχυρότερόν ἐστι ποιεῖται. (...) προγνώσεται μὲν οὖν ὁ ἰατρὸς ὑγείαν τε καὶ θάνατον οὐκ ἐξ ἄλλων ἀσκημάτων ἢ τοῦ γνωρίζειν ἀκριβῶς ἰσχὺν νοσήματος τε καὶ φύσεως· ἐκ δὲ τῶν αὐτῶν τούτων καὶ τὴν ἐκατέρου προθεσμίαν ἐξευρήσει.⁴⁰

³⁷ Dean-Jones (1993), 48.

³⁸ Dean-Jones (1993), 49.

³⁹ Dean-Jones (1993), 50.

⁴⁰ *Const.Med.*17 (116,12-15/21-24 Fortuna; 1.292-3 K.).

For the physician always pays attention the two things, which are like adversaries: the disease and to [the] nature [of the body]. And first he makes a prognosis of the patient's recovery or death from a *diagnosis* of which is stronger, and then [he makes a prognosis] of the duration from how much one is stronger than the other. (...) So the physician prognosticates health and death based on no other experience than knowing accurately the strength of the disease and the nature [of the body]; and from those same things he will also discover the duration of each.

In other words, while for only some of the authors in the Hippocratic Corpus a distinct diagnosis step followed diagnostic activity and preceded prognosis, the impression we get from Galen is that he always landed on diagnosis first before proceeding to prognosis. That is not to say that Galen always identified a specific *disease* – an approach which, in the above, we have termed nosological.

García-Ballester and Dean-Jones do not appear to acknowledge the expansion of focus. While it may be true that for both Galen and the Hippocratic authors the art of prognosis endeavours “to establish in a rational (...) way the connection between the present (that of the examination of the patient), a past (the history of the morbid process) and a future (that of the disease and of the patient)”,⁴¹ in the many forms of practice represented in the Hippocratic corpus prognosis is most often used as an overarching term for all the processes, tools, and techniques that ultimately enable a physician to forecast his patient's medical future, whereas Galen has made a clear distinction between diagnosis and prognosis, basically severing the past and the present from the future, and giving prognosis a more modern meaning.

⁴¹ García-Ballester (1994), 1669; Laín Entralgo (1970), 275.

Appendix B: Abbreviations of Primary Sources Used

Aristotle

<i>Anim.</i>	<i>On the Soul</i>
<i>APo.</i>	<i>Posterior Analytics</i>
<i>Div.Somn.</i>	<i>On Divination in Sleep</i>
<i>GA</i>	<i>On the Generation of Animals</i>
<i>Insomn.</i>	<i>On Dreams</i>
<i>Metaphys.</i>	<i>Metaphysics</i>
<i>Phys.</i>	<i>Physics</i>
<i>Somn.</i>	<i>On Sleep and Waking</i>

Cicero

<i>Div.</i>	<i>On Divination</i>
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Hippocratic Corpus

<i>Aer.Aq.Loc.</i>	<i>On Airs, Waters, and Places</i>
<i>Aff.</i>	<i>Affections</i>
<i>Aph.</i>	<i>Aphorisms</i>
<i>Art.</i>	<i>On the Art</i>
<i>Carn.</i>	<i>On Fleshes</i>
<i>Coa.</i>	<i>Coan Prenotions</i>
<i>Epid.</i>	<i>Epidemics</i>
<i>Flat.</i>	<i>On Breaths</i>
<i>Hum.</i>	<i>On Humours</i>
<i>Int.</i>	<i>Internal Affections</i>
<i>Jud.</i>	<i>On Critical Days</i>
<i>Loc.Hom.</i>	<i>On Places in Man</i>
<i>Morb.</i>	<i>Diseases</i>
<i>Morb.Sac.</i>	<i>On the Sacred Disease</i>
<i>Mul.</i>	<i>On Diseases of Women</i>
<i>Nat.Hom.</i>	<i>On the Nature of Man</i>
<i>Nat.Puer.</i>	<i>On the Nature of the Child</i>
<i>Off.Med.</i>	<i>On the Surgery</i>
<i>Progn.</i>	<i>Prognostic</i>
<i>Prorrh.</i>	<i>Prorrhetic</i>
<i>Semin.</i>	<i>On Generation</i>
<i>Vet.Med.</i>	<i>On Ancient Medicine</i>
<i>Vict.</i>	<i>On Regimen</i>
<i>Vict.Morb.Acut.</i>	<i>On Regimen in Acute Diseases</i>
<i>Vict.Sal.</i>	<i>On Regimen in Health</i>

Galenic Corpus

<i>Alim.Fac.</i>	<i>On the Powers of Foods</i>
<i>Ars Med.</i>	<i>The Art of Medicine</i>
<i>Caus.Puls.</i>	<i>On the Causes of Pulses</i>
<i>Comp.Med.Loc.</i>	<i>On the Composition of Medicines According to the Parts</i>

<i>Const.Med.</i>	<i>To Patrophilus on the Constitution of the Art of Medicine</i>
<i>Cur.Ven.Sect.</i>	<i>On Treatment by Venesection</i>
<i>Diff.Puls.</i>	<i>On the Differences of Pulses</i>
<i>Dign.</i>	<i>On Diagnosis from Dreams</i>
<i>Glauc.Meth.</i>	<i>To Glaucôn on the Therapeutic Method</i>
<i>In Hip.Aph.</i>	<i>On Hippocrates' "Aphorisms"</i>
<i>In Hip.Artic.</i>	<i>On Hippocrates' "On Joints"</i>
<i>In Hip.Epid.</i>	<i>On Hippocrates' "Epidemics"</i>
<i>In Hip.Med.Off.</i>	<i>On Hippocrates' "In the Surgery"</i>
<i>In Hip.Nat.Hom.</i>	<i>On Hippocrates' "On the Nature of Man"</i>
<i>In Hip.Progn.</i>	<i>On Hippocrates' "Prognostic"</i>
<i>In Hip.Prorrh.</i>	<i>On Hippocrates' "Prorrhetic"</i>
<i>In Hip.Vict.Acut.</i>	<i>On Hippocrates' "On Regimen in Acute Diseases"</i>
<i>In Hip.Vict.Sal.</i>	<i>On Hippocrates' or Polybius' "On Regimen in Health"</i>
<i>Instrum.Od.</i>	<i>On the Olfactory Organ</i>
<i>Loc.Aff.</i>	<i>On the Affected Parts</i>
<i>Maras.</i>	<i>On Marasmus</i>
<i>Meth.Med.</i>	<i>On the Therapeutic Method</i>
<i>Mot.Musc.</i>	<i>On the Movement of the Muscles</i>
<i>Opt.Sect.</i>	<i>On the Best Sect</i>
<i>Plac.Hip.Plat.</i>	<i>On the Opinions of Hippocrates and Plato</i>
<i>Plen.</i>	<i>On Fullness</i>
<i>Praecogn.</i>	<i>Prognostic</i>
<i>San.Tuen.</i>	<i>On the Preservation of Health</i>
<i>Simpl.Med.Fac.</i>	<i>On the Powers of Simple Medicines</i>
<i>Sympt.Caus.</i>	<i>On the Causes of Symptoms</i>
<i>Temp.</i>	<i>On Mixtures</i>
<i>Thras.</i>	<i>To Thrasyboulos: is Healthiness a Part of Medicine or of Gymnastics?</i>
<i>Usu Part.</i>	<i>On the Usefulness of the Parts</i>
 Rufus Ephesius	
<i>Quaest.Med.</i>	<i>Medical Questions</i>

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